

year	event number	description
2016	INC2016-031	"On March 31, 2016 a TransCanada Technician visited the Rivercourse Meter Station #1510 to perform a gas quality check for H2S after finalized lab analysis showed 15.41 ppm of H2S in the composite gas sample. This meter station has a NGTL Tariff limit of 23 mg/m3 or 16 ppm H2S. Initially the Technician tested the gas with sniffer tubes, which did not indicate any presence of H2S. The Technician then used a RKI GX 2003 gas monitor to confirm the H2S reading that was measured at 33.0 ppm. He performed two other confirmation gas quality checks that detected an H2S level of 36.0 ppm H2S, and 37.5 ppm H2S, respectively. No damage to the pipeline, property or environment occurred as a result of this event. "
2016	INC2016-029	B waste heat boiler had a leak of boiler feed water to the ground due to the train being down. This leak was discovered and the vent valve was closed to stop the leak. The manual superheater vent valve was re-opened. This caused another steam condensate spill (boiler feed water) to the ground. The valve was closed again and a do not operate do not operate sign was hung on the valve to stop anyone else from opening the valve.
2016	INC2016-028	"Upon arrival at a customer metering facility, the employee heard a minor gas leak at a tube switching valve which turned out to be the threads from a piping nipple on the top of the supply gas filter/dryer mounted on the valve actuator. "
2016	INC2016-027	"At a customer M&R station (Tufts Cove Generation Station, Nova Scotia Power), the customer stopped taking product (sweet natural gas). The pressure control valve (worker valve) closed but did not seal 100%, causing the station outlet piping pressure to slowly increase until it reached the station outlet PSV set pressure of 66 psi. Field staff on-site responded quickly and closed in pressure cutting run. Note, the approx. volume recovered is required for final submission, however will not submit unless a quantity greater than zero is provided. "
2016	INC2016-026	"During construction activities, a welding crew was grinding casing pipe at Shoo-Fly 2A when sparks from the grinder were scattered outwards to a grassy area off the right of way approximately 10m away. "
2016	INC2016-025	"As part of the Construction project, equipment maintenance crew was refueling equipment. Fuel truck helper handed the fuel hose to the driver of the fuel truck to begin fueling of Excavator. After the helper handed the fuel hose to the driver, he took a step backwards onto a large clump of mud and rolled his left ankle. The worker was taken from site to camp and then was transported to Valley view Hospital via medic and ambulance. The worker was x-rayed where it was discovered he had fractured his fibula in his left leg. This is an initial report, more information to follow. "
2016	INC2016-024	"On Saturday, February 13, 2016 at approx. 1330 MST, CCO received a 20% (LEL) gas alarm from Line 2B pump shelter at the Cromer Manitoba Terminal. CCO contacted the Gauger on site to investigate. The Gauger confirmed a release of product within the Line 2B pump shelter. There are no environmental impacts and no injuries. There are no impacts to any members of the public or local communities. "
2016	INC2016-023	"While closing meter isolation valve , a small leak was noticed on the valve around the stem . Valve stem was not leaking prior to moving the vale towards the closed position. "
2016	INC2016-022	"At 10:12am MST on Feb 12, 2016 CCO receives a 20% gas alarm at Strome Line 1 pump station and shuts down Line 1 as a result. CCO contacts field personnel to investigate at which point a small NGL leak at unit #2 suction flange is confirmed . Field personnel immediately isolated the unit. Line 1 was restarted with Strome station bypassed. An investigation is currently underway."
2016	INC2016-021	High H2S in B AG enclosure alarm. B sulphur plant sulphur seal leaking H2S and SO2.

2016	INC2016-020	"Floor drain piping froze and split above ground pipe, releasing steam condensate to ground, damage to environment is minimal, a vac truck was dispatched and was able to recover the majority of the spill of water which had a PH of 8.8. Cracked section of pipe will be replaced, steam tracing on this section will be turned back on. "
2016	INC2016-019	"During normal operations the First Order ESD switch failed. This caused the Compressor station to ESD and vent sweet natural gas to atmosphere and burn sour natural gas in the flare pit. there was no damage to the environment, property or pipeline. All safety system sequences and valves operated as intended."
2016	INC2016-018	"Compressor Station 1 provides compression for 3 of the 4 pipelines that feed McMahon Gas Plant. The fourth pipeline ties in downstream of station 1 and has a very little H2S in the gas stream. Compressor Station 1 experienced a first order shutdown due to a component failure. The Station 1 Operators felt they could get back online quickly so McMahon did not shutin and continued to process the fourth pipeline's gas. The required H2S ratio to run the sulphur plant dropped quickly and McMahon Plant Operators made the decision to block in until Station 1 was operational again. When the acid gas was swung from the sulphur plant to the acid gas flare, it had low BTU and did not fully combust. One Operator downstream of the stack received a reading on his Personal Gas Monitor of 17.2ppm H2S and 0 LEL. No other readings were recorded."
2016	INC2016-017	"During pipeline construction, horizontal directional drilling (HDD) operations were required under a man-made drainage canal (non-fish bearing and frozen to bottom) from the NW-12-050-28 W3M to NE-12-050-28 W3M. During HDD operations a frac out (approximately 200L) occurred and was immediately identified on the east bank of the canal (NW-12-050-28 W3M). HDD operations were immediately suspended and the Husky HDD Execution Matrix for the Loss of Drilling Fluid was implemented. The released fresh water based drilling fluid was contained and recovered. Upon confirmation of no environmental adverse effects, drilling operations resumed on Feb 4th. During reaming, drilling fluid (approximately 200L) was identified at the surface of a geotechnical borehole drilled prior to the HDD (NE-12-050-28 W3M). Again the Husky HDD Execution Matrix for the Loss of Drilling Fluid was implemented and the released fluid was contained and cleaned up. "
2016	INC2016-015	"While performing routine maintenance on an adjacent pipeline, an operator at the Rigel Booster Station near Fort St. John, B.C. heard an alarm in the Unit 4 compressor building sounded. It was unclear as to why the alarm sounded, since the compressor at the station has been out of service since April 2015. Unit 4 compressor was locked out and blinded. A part of the Unit 4 compressor lid had lifted off. "
2016	INC2016-013	"As part of a Cooler addition project, worker making cut with oxy-acetylene and pipe beveller on a 36" pipe located When worker began cutting and started approaching the bottom of the pipe, liquid (methanol-water mix) that was left inside the pipe following Hydrotesting, began to come out and ignited causing small fire. Pipe was heated where the cut was to take place to minimize the amount of liquid remaining inside the pipe. The piping was monitored for the presence of gas and it was clear of Methane. This is part of a construction site, all safety measures were in place, no impact to people, environment or facilities. This was initially reported as a Near-Hit by the contractor, further review indicated that reporting was required. That is the cause of late reporting."
2016	INC2016-012	"Steam condensate piping failure on Train 11 Reaction Furnace blowdown header tracing, resulting in hot steam condensate spraying to ground "

2016	INC2016-010	<p>"As part of the Pipeline Maintenance Program, Post ILI digs were being completed on the Nova Gas Transmission Ltd (NGTL) NPS 20 Peace River Mainline segment between Valves PRML 120 and PRML 112. On January 19, around 10:30 AM MST, while preparing an identified feature for Non Destructive Examination (NDE) assessment, a small pinhole leak was identified. All work at the site was stopped and all workers evacuated to muster points. The Emergency Response Center was activated and conference calls to address the immediate and short term concerns were held. Incident occurred in an isolated area, approximately 17 kms north of the Botha East Meter Station. As part of the excavation procedure line pressure was reduced and discovery pressure was around 2800 kpa, a further reduction of 20% was put in place after discovery. Isolation plans are being reviewed, and will be implemented in the next hours. Closest populated centers are Keg River, AB (~50 kms NE), Manning, AB (~70 kms SE) and Paddle Prairie, AB (~100 kms NE). Impacted producers (~20) are being informed of the isolation and no delivery to communities will be impacted. "</p>
2016	INC2016-009	<p>"While commissioning a new boiler, FG heater rupture switch initiated station blow down. Operations personnel were doing maintenance on the station glycol system. While this work was being done, an operator heard the station alarm and saw gas venting from the station blowdown valve."</p>

2016	INC2016-008	<p>"At approximately 1450 ET, while delivering low sulfur diesel to the Oakville Station, a portion of the pipeline section from Nanticoke to Oakville experienced an over pressure of 1037 psi or 111% which was recorded at the Oakville Mainline pressure transmitter and 1048 psi or 112% at the Oakville Station pressure transmitter. The temporary operating pressure of this section of the pipeline is 935 psi. This pipeline section is currently in the application stage to return to the full operating pressure of 1285 psi, as a result, all features have already been assessed and repaired ready for full operating pressure. The pipeline is operating at reduced pressure as a result of Order # T217-03-2010. Engineering estimates an approximate 1.6 kilometers of pressure over 110% percent on the pipeline west of the Oakville delivery station. Operational Timeline - February 10,2016 (investigation completed) All events listed below occurred on January 13, 2016 14:44:16 Generator On alarm received (beginning of PLC test) 14:50:05 OD Transformer Shutdown Alarm 14:50:10 OD Sudden Stop Alarm 14:50:10 NK Sudden Stop Alarm de-energizing NK pump units 14:50:10 V24 Uncommanded Valve Alarm signifying valve 24 starts to close 14:50:10 OD Control Valve Close position target set to 100% 14:50:40 V24 status changes to closed 14:50:49. NK_DI0 Nanticoke Booster Pump is shut down Event Summary - February 10, 2016 (completed investigation) - A change in PLC logic that could impact an emergency shutdown system was implemented during a live delivery without a formal design review or management of change procedure. - The Station Fault and Sudden Stop alarms were issued by the OA PLC and SCADA respectively as designed. - The immediate responses of pipeline operations, maintenance, and engineering were performed correctly. The condition of the line was verified and pipeline integrity response procedures were followed before the pipeline was put back into operation. - The overpressure set points were correctly implemented and also correctly modified based upon the reduced MOP. - The valve closure times of both the OD control Valve and V24 were different than those used in the overpressure protection system. - The sequence of valve closing and pressure trends were not able to be fully reproduced as SCADA either doesn't log all required information or the recording frequency is too coarse for a full recreation. There is no local data historian to record more complete and higher resolution data. - There is a discrepancy between the documented OD control valve closure time of 12 seconds and field test results of 20 seconds. - The magnitude of the water hammer was greater than that predicted in the Transient Hydraulics Report (2). This may be due to one or more of the following factors. 1) Actual valves closure times being less than the values used in the analysis, 2) V24 closing before the OD control valve as intended, or 3) delivery rates being higher than those used in the analysis. - Changes to the closure times of valves used in the emergency shutdown system were changed without using the management of change process. - The Transient Hydraulic Report (2) did include the scenario in which the overpressure event occurred. Therefore a like to like comparison of the predicted pipeline behavior upon which the overpressure protection system was designed and the actual behavior is not possible. "</p>
2016	INC2016-006	<p>An existing small steam condensate leak on the pipe rack had increased suddenly. PH of the steam condensate was measured at 8.8 and due to cold ambient conditions quickly formed ice. The initial water spill was contained to a localized area due to the freezing conditions. Spill trays were used to contain leak and direct water to the closed drain system fully containing the spill. The condensate return pipe is located on a congested pipe rack.</p>
2016	INC2016-004	<p>"Upon startup of Line 2, upsets occurred. Mainline unit unexpectedly shutdown triggering the PLC to stop the booster pumps. Immediately following the shutdown, a booster pump was started. The relief valve failed to relieve the pressure at the intended set point resulting in a 115.2% over pressure. An alarm was received at the control center of the over pressure and field personnel were notified. A visual inspection showed no sign of leakage or damage. An investigation is on going to ensure this does not happen again. "</p>

2016	INC2016-003	"At approximately 06:20 MST on January 2, 2016, Line 1 at Edmonton Terminal went down and CCO contacted area maintenance on call to assess the situation. The maintenance employee arrived on site and completed checks of the Line 1 ESB and associated equipment. There were no issues identified during the check. At approximately 07:30 MST, the employee attempted to reset the breaker that had tripped and when this was done an arc flash occurred on the 5 kilovolt cables that feed the Line 1 ESB. The electrical fault has resulted in Line 1 being down and inoperative. There were no injuries or environmental impacts as a result of this incident."
2016	INC2016-002	"At approximately 16:22 h MST on December 31, 2015, an area resident called Alliance's 24-hour emergency number to report that there was a loud noise occurring at the company's Taylor Junction Compressor Station in northeastern British Columbia. Alliance proceeded to dispatch a technician to site and determined that the noise was being caused by a natural gas release from the pressure safety valve (PSV) at the station. Upon this discovery, the technician isolated the pressure safety valve, thereby stopping the venting."
2016	INC2016-001	"Enbridge Oil contacted TransCanada with regards to a landowner noise complaint in the vicinity of the Lennox Meter Station. A TransCanada Technician immediately went to the Lennox Meter Station and once on site, the technician heard the noise, which was due to a leak in the meter station's upstream isolation valve's body bleed valve. The technician bypassed the failed valve and the noise stopped. The failed component was removed and replaced, and the meter station resumed normal operation. "
2015	INC2015-152	"On December 30, 2015, during construction of the Liege Lateral Loop 2 pipeline, a contract operator noticed an unusual smell while operating a mulcher. The operator turned to look at the back of the equipment and noticed flames emerging from the engine. The operator immediately stopped the equipment, exited the vehicle with the fire extinguisher and attempted to put out the fire. "
2015	INC2015-150	"While preparing McMahon Sulphur Plant ""B"" waste heat boiler for maintenance, the boiler feed water was being drained to a 200 BBL temporary storage tank. The tank overflowed and approximately 32,000 liters of boiler feed water (pH 8.8 - tested & confirmed by on site lab) was spilled to the ground. The spill was contained entirely within company property. "
2015	INC2015-148	"- At 15:21 MST Optec open the enclosure door to Gas Turbine driven Generator Unit #3 to retrieve an oil sample he notice a small fire on top of the gas generator. - Optec closed the enclosure door and activated the ESD and CO2 fire suppression system; unit immediately shutdown and CO2 extinguished the fire. - Control Room, supervisor and One Window reporting (Gas Control) were notified. - At 15:50 a team of Optecs donned SCBA reopened the enclosure door and verified that the fire was extinguished. - Investigation commenced. Other noted: - Plant operation were not impacted; there are redundant generators. - The fire was contained entirely within the Gas Turbine driven Generator Unit #3 enclosure. - Unit was inspected December 21, 2015 by the OEM; initial investigations suggest that damage within the enclosure was minor. - Public or Plant Personnel were NOT impacted "
2015	INC2015-147	"While doing routine rounds, our Spectra Operator found the flare valve on the 12"" Murray River Pipeline Receiving Barrel passing gas to flare. As the flow of gas from the passing valve was very small, combustion at the flare stack did not occur (below design flare volume of stack), thus resulting in a small sour gas release. Flare stack and flare ignition system was operational as verified by a site flaring test. Note this is a BC provincial EMBC reportable as the threshold volume of 5 kg was exceeded. This is NOT a significant event and due to very low volume of release no measurable volume of combustible or H2S was detected on the lease or in the vicinity. No impact to public or personnel."

2015	INC2015-146	"An H2S gas analyzer measured a spike of 68ppm of H2S gas. This caused the H2S analyzer to alarm and send a signal to close the meter station block valve. The block valve started to close and stopped closing at 70%. The block valve did not close completely. Producer noticed the reading and stopped flowing, flared and cleaned up the gas. Gas Control received an alarm, notified the Area, and a TransCanada employee was dispatched. "
2015	INC2015-145	"At 18:51 MST on December 11, 2015, the flow control valve 150-FCV-11 in manifold 150-10 at Hardisty Terminal unexpectedly closed on the L2A delivery flow path. The valve was manually opened by the operator and the pressure was reduced to allow for the pipeline to continue flowing. At 18:57 MST the flow control valve 150-FCV-11 unexpectedly closed again. The valve closure resulted in a peak pressure of 323 psi which resulted in a 117.5% overpressure on PN 20 piping rated for 275 psi. L2A was shut down and an investigation was started. The second unexpected closure of the flow control valve and subsequent pressure increase occurred within a short timeframe. This did not allow adequate time for the nitrogen system controlling relief valve 812-PSV-4427 to readjust to the appropriate set-point. The investigation concluded that the cause of the obstruction and closure of the flow control valve 150-FCV-11 was due to a loose wire on the output controller. This resulted in a false status indication within the device and the unexpected closure of the flow control valve. The overpressure occurred as a result of the nitrogen system that was controlling 812-PSV-4427 not being able to re-balance in the short amount of time between the two valve closures. This is suspected to have resulted in nitrogen pressure exceeding that required for the set-point, which did not allow relief valve 812-PSV-4427 to protect the system from overpressure during the second obstruction. "
2015	INC2015-144	"While completing work on 41 D Plant, a TransCanada pipeline technician heard gas leaking from the compressor. An investigation into this incident found that there was a leaking thermowell on the discharge side of the compressor."
2015	INC2015-143	"On December 09, 2015 at 11:15 EST a contractor's Hitachi excavator (Model BH-76) was clearing brush from the work area as part of the Kings North Connection project, when a piece of brush/debris plugged the exhaust vent on the bottom of the machine, causing the engine oil to over-pressure. This over-pressure blew some engine oil up through the dip stick, onto the hot turbo engine which then ignited causing a minor oil fire and smoke. A small amount (10 ml) of engine oil had leaked onto the ground and within the engine compartment. There was no damage to the excavator, and after inspection of the equipment by a qualified mechanic, the excavator was cleared to return to work."
2015	INC2015-142	"On December 2, 2015, during construction activities on the Liege Lateral Loop 2 (Thornbury Section), a Michels Canada (Michels), the Prime contractor, contract worker was cleaning sections of pipe with acetone to prepare it for coating application. The worker then went to use the tiger torch and his glove ignited as a result of residual vapours contained in the glove material, which were leather palm and cotton back. No injuries or first aid were required as the glove was immediately removed and the flame self-extinguished. No damage to the pipeline, property or environment occurred. "

2015	INC2015-141	"On December 2, 2015, a contractor on the Liege Lateral Loop 2 (Thornbury Section) construction project was performing a pre-work inspection of the ground conditions in a Utility Task Vehicle (UTV) to identify soft spots or other hazards for the construction crew. The contractor travelled to km 18 on a temporary access road, Shoofly 4 (SF4) and then turned around. When the contractor was approximately 9km from the start of the road he noticed flames outside of the driver's side door. The worker immediately applied the brakes and exited the cab. He then called the contractor team leader and asked him to inform the TransCanada inspector. The worker then called the project manager and asked him to inform the safety department. The worker monitored the fire. Within minutes the UTV was completely engulfed in flames. The fire burned for approximately 25 minutes before it self-extinguished. The contractor monitored the vegetation in the surrounding area and prevented the fire from spreading. Once the fire self-extinguished, the contractor removed the UTV debris, ash and contaminated soil from the location and disposed of the materials in an approved facility. There was no injury or first aid required. There was no damage to the pipeline or significant adverse effects to the environment."
2015	INC2015-140	"While clearing a pipeline right-of-way for the new Liege Lateral Loop 2 construction project, a hydraulic hose fitting on a contractor's excavator came loose. The loosened fitting allowed hydraulic fluid to leak onto the turbo casing. The fluid ignited upon contact with the hot casing. The hydraulic hose fitting was damaged during the fire, but there were no other consequences to the pipeline, property or the environment."
2015	INC2015-139	"A pipeline technician was closing & opening a block valve looking for the lost pig in the pipeline when a leak developed on the stem packing on the block valve. As a result propane vapor was released. No consequences were inflicted on the pipeline, property or the environment. No volume was recovered however I was unable to submit this report without providing a numeric value in the ""Approximate volume recovered"" box. The online submission portal would not accept 0. "
2015	INC2015-138	"The plant had experienced a process upset. Train 3 Process had been shut down by Operations personnel as a precaution. Subsequently, Train 3 Process was put back on low pressure circulation to keep it warm for possible startup. 15 minutes after circulation was started, a vapour cloud was observed emanating from the vicinity of the Train 3 Process amine surge tank. Impacts: Site personnel: - Based on available information including people reporting smell of vapour in their offices, approximately 55 people were possibly exposed to the vapour. - 3 people have reported symptoms to date, either respiratory irritation or lightheadedness. - 1 person confirmed he did not intend to seek medical attention, 1 person is reported to not be seeking medical attention, and 1 person was taken to the hospital in Chetwynd. Update as of 17:00 MST: the person at hospital received oxygen and was going to stay under observation for 3 to 4 hours, and then be released if symptoms had subsided - On December 4, 2015, a former employee also contacted Spectra Energy Human Resources indicating (s)he would be seeking medical attention for symptoms (nausea, dry throat, headache and pain) she believed were associated with the incident. HR has not received any further updates from this person. - No one reported to First Aid at the work site. Plant production was stopped pending investigation. There were no initial reports of damage. Note: re: 'substance released'. No personal or fixed gas detection monitors are reported to have registered anything (e.g. H2S, SO2). Approx. 10 minutes of release "

2015	INC2015-137	"This incident occurred during the clearing work of the right-of-way during construction of the Simonette Lateral Loop pipeline. This work was being completed for NOVA Gas Transmission Ltd. (NGTL) by Sturgeon Lake Resources who was sub-contracted to the Prime Contractor, Somerville Aecon joint-venture. On November 24th 2015 at approximately 18:00 HRS the operator of a John Deere 748GIII Grapple Skidder (Skidder) informed the Foreman that the Skidder had unexpectedly shut down on the pipeline right-of-way. The Skidder failed to restart even though there was a quarter tank of fuel showing on the gauge. The Operator was informed by the Foreman to leave the skidder on the right-of-way until the next morning; the skidder would be fueled up and inspected by a mechanic. That evening, at approximately 23:40 HRS an operator walking an excavator to brush piles noticed flames coming from the skidder and immediately notified the Foreman. Upon arrival, the Foreman assessed the situation and they attempted to extinguish the fire using seven fire extinguishers. They were unsuccessful in completely extinguishing the fire, but considered it was contained and under control. The vehicle was monitored until it the remaining fire extinguished itself. There were no injuries to personnel. The Skidder sustained substantial fire damage to the cabin and engine compartments as well as the front tires. There were no liquid spills from the equipment and the environmental impact was limited to the fire residue and fire extinguisher dry powder chemicals. The area where the equipment was parked was open, and snow packed; and away from vegetation (trees). There were no burn piles within 300m of the Skidder. "
2015	INC2015-136	Leaking 3 inch drain valve for sulfur run down knockout pot over flowed containment tray. Leaking valve capped with blind flange. Sulfur was contained to lease and cleaned up.
2015	INC2015-135	Operator transferring sulfur inadvertently over-filled transfer pit.
2015	INC2015-134	"E-112 exchanger failed resulting in 1.9m3 of NGL's releasing into the freshwater cooling water. Engineered controls detected the NGL's immediately shutting the settling pond valve and preventing water from the settling pond from releasing to the river. No impacted water was released to the river, however, a portion of the NGL's would have become air borne from the settling pond during freshwater recycle."
2015	INC2015-133	3rd Party Oil and Gas company was at site and reported that there was an H2S smell in the area. CNR employees examined their equipment (site is shared) and called Spectra Energy Gas Control to report the odour was suspected to be coming from a passing valve. CNR introduced pilot gas to keep flare lit and Spectra personnel were dispatched to site. Valve Service personnel were able to readjust valve to reduce bypassing gas to very low limits and ordered the valve rebuild kit. Parts arrive Monday and kit will be installed immediately. No environmental damage or pipeline damage occurred.
2015	INC2015-132	Maintenance and Operations were performing a sweepout on A Train at Pine River Gas Plant. The procedure was to switch from Acid gas to fuel gas to sweep out the train for future maintenance. During the switch from acid gas to fuel gas the incinerator high temperature shutdown activated and a release of H2S gas from the incinerator stack occurred. The event lasted 27 minutes and the volume is being determined through Operations Engineering. No harm to personnel the environment or company property resulted from this action.
2015	INC2015-131	"On November 13, 2015 at approximately 9:00PM an operator discovered a release from a glycol heat trace line. Volume released is approximately 140L (100L was contained). "

2015	INC2015-130	" For mitigation against drilling fluid release during a Horizontal Directional Drill, a 6" submersible pump with a fish screen and a velocity box was placed in the release zone of a frac-out in the Athabasca River for sediment recovery. The pump discharge was located approximately 160m away in a forested area east of the river, north of the right-of-way at approximately KP 1+440. As a result of the sedimentation recovery dewatering activities a frozen chunk of saturated ground broke free resulting in a slope failure causing sediment laden water to flow downhill to the Athabasca River. Sediment laden water traveled down the ephemeral draw channel to the Athabasca, however the failure chute was limited to ~10m x 30m within the forested area. Sedimentation control measures were installed at the discharge location to the river. Additionally erosion was evident at the high level water mark long the bank of the Athabasca River due to the volume of water released. "
2015	INC2015-129	"At 12:55pm MST during Horizontal Directional Drilling (HDD), Environmental Inspectors visually confirmed that a sediment release had occurred in the Athabasca River. This was correlated with remote data logger observations. After mitigation measures failed and turbidity levels exceeded CCME guidelines the rig was shut down at 14:00. This incident occurred at the same location as the November 1st (NEB INC 2015-125) and 7th sediment releases (NEB INC 2015-128). The AER Emergency Hotline was notified of the release. Information was added to the same file as the November 1st release. Reference Number 305272. "
2015	INC2015-128	"During Horizontal Directional Drilling (HDD), environmental inspectors noticed elevated readings on the remote loggers and visually confirmed that a sediment release had occurred at the same location as the November 1st event in the Athabasca River. (NEB INC 2015-125) The drilling operation was shut down immediately. The AER Emergency Hotline was notified of the release. Information was added to the same file as the November 1st release. Reference Number 305272. "
2015	INC2015-127	"On November 8, 2015, the TransCanada emergency line received a call from a landowner who observed frost on the ground in a field and thought it was in the vicinity of the pipeline. Gas Control immediately dispatched Technicians to investigate and have confirmed the presence of gas. [REDACTED] [REDACTED] The Lateral was isolated at the discovery pressure of 7135 kPa at approximately 22:00 MST. Currently there are no producers impacted and no communities impacted by the isolation. The nearest residence is located approximately 1.0 km from the suspected leak location and the nearest road is located approximately 0.8 km from the site. [REDACTED] There is no safety concern for the public or environment. "
2015	INC2015-126	"Through a proactive, system-wide review of pipeline Maximum Operating Pressures (MOP), it was determined that the segment of Line 3 running from Mile Post 771.99 (Gretna Station) to 773.72 (the Canada/United States international border) has been operated at pressures that exceed the National Energy Board approved MOP of 835 psi (5757 kPa) by more than 110% and potentially up to 1283 psi (8846 kPa). This segment of Line 3 was installed in 2014 as an Operations and Maintenance activity, replacing the prior existing pipeline segment. The pipeline segment was designed and subsequently hydrostatically tested pursuant CSA Z662-11 to accommodate an operating pressure up to 1972.71 psi (13,601.85 kPa). While the operating pressures have exceeded the NEB approved MOP, they have been well below the limits for which the Line 3 pipeline segment was designed and qualified (by strength and leak test). As a result there has been no damage to the pipeline, property or the environment and no safety risks have arisen as a result of exceeding the NEB approved MOP."

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2015	INC2015-125	"During Horizontal Directional Drilling near the Athabasca River, the Construction Manager, was notified that there were visual signs of sediment in the vicinity of the drill path in the Athabasca River. The drilling operation was immediately halted. The environmental inspectors travelled with the boat to performed an investigation to confirm that the sediment was a result of TransCanada's drilling operation. Once on the water, TransCanada pressured the hole and resumed drilling. No sediment release was observed, so TransCanada was instructed to continue drilling. Approximately 20 minutes after TransCanada resumed drilling, a mud release was observed in the Athabasca River. The drilling had already stopped as TransCanada was completing a pipe connection at the time of the release. The environmental inspectors proceeded to collect water samples. The Alberta Energy Regulator was notified on November 1, 2015 and DFO was notified on November 2, 2015. "
2015	INC2015-124	Normal Operations Threaded 1 1/2" nipple failed on D carb pump recycle line resulting in the potassium Carbonate spill to ground.
2015	INC2015-123	While prepping for a project onsite at Horizon Meter Station(HOT TAP INSTALL) completing leak checks a small leak was detected using snoop. The leak is not audible nor can you smell it - it is only detected using snoop leak detection. The leak location is on a weld of a weldolet on above ground pipe.
2015	INC2015-122	"During pump upgrade project under Section 58 streamlining, while advancing a screw pile a buried 20" inlet/outlet facility pipeline (connects facility tank123 to a header) was contacted resulting in a release of crude oil. The volume of release product is 4.0m3. The screw pile locations were to be hydrovaced and the below ground facilities visualized, however for this pile location we cannot validate if the location had been hydrovaced or if the facilities were visualized as there was no documentation to indicate they were. The contractor advanced the pile based on a pin that had been placed in the ground at the recommended dig location. The contractor and supervisor would have had the area surveyed, however if the line wasn't visualized the survey location should have been verified. Again we cannot demonstrate this visualization occurred. A Plains supervisor was on site during the activities, however at the time of the line strike he was preoccupied with another activity. The contractor also had a supervisor on site to monitor the work being performed. The release occurred within the facility boundaries and all product was confined to the immediate release area within the tank farm. "

2015	INC2015-121	<p>"On October 26, 2015 at approximately 15:00 hrs two TransCanada technicians were at the NGTL Gold Creek Compressor Station in order to blow down the valve body on gate valve GPM80-0-ST. 1) Valve GPM80-0-ST was closed prior to the incident to permit the isolation of the launcher 2) As part of the isolation procedure, the technician proceeded to vent the GPM80-0-ST body cavity, which was pressurized to pipeline pressure at the time. There are two bleed/vent valves available to accomplish this task. a. Valve [A] is a NPS ½ ball valve, tapped into the bottom of valve GPM80-0-ST and acts as a body vent and drain; b. Valve [B] is a NPS ½ ball valve, tapped into the top (bonnet) of valve GPM80-0-ST and acts as a body vent; c. Both valve [A] and [B] are equipped, as found, with a 90 deg. elbow and a solid pipe plug in the outboard ends. 3) The technician opened valve [A] first in case there may have been any liquids in the body cavity. Once valve [A] was opened, the liquids were vented into containers to avoid spillage to the ground. 4) To avoid the possibility of discharging further trace liquids from the valve body, the technician closed valve [A] and used valve [B] to vent the body cavity to atmosphere. 5) The technician removed the solid pipe plug on valve [B], and opened valve [B]. The venting gas impinged on the gravel in the yard. The technician then closed valve [B] and installed a short pipe nipple into the 90 deg elbow to focus the gas stream and avoid disturbing the gravel. 6) Upon re-opening valve [B], the entire valve/nipple assembly quickly began to rotate counterclockwise several times and subsequently unscrewed itself from the top (bonnet) of valve GPM80-0-ST. 7) Due to leakage by the upstream (pipeline side) seat of valve GPM80-0-ST, the venting gas did not subside and continued to vent to atmosphere. Observations prior to and subsequent to the incident: - Subsequent analysis of the vent valve [B] assembly by 3rd party laboratory revealed a bent condition of the threaded portion of the pipe nipple that was installed in the tapped opening in the line valve. - Vent valve [B] was not observed to be noticeably bent or damaged in any way prior to the incident. It was projecting only a couple inches above the graveled yard, thus minor deflection from vertical would not have been obvious. - Subsequent to this incident and after the GPM pipeline was returned to service, valve GPM80-0-ST was found to seal adequately to isolate the pig trap, however the valve body would not vent to zero. This demonstrates seal integrity on the downstream seat (towards the trap), and inadequate seat to slab contact on the upstream (towards the pipeline) seat. This is not unusual behavior with slab type gate valves, due to physical shifting of the slab under pressure differential conditions. - The upstream seat leakage on GPM80-0-ST is unrelated to the disconnection of the valve [B] from the bonnet, as it occurred nearly immediately upon opening. It takes approximately 30-90 seconds for a large diameter valve body to depressurize in any event. - The upstream leakage on GPM80-0-ST was contributory to the continuous gas flow from the open tap and the need to depressurize the upstream pipeline segment to stop the gas flow."</p>
2015	INC2015-120	<p>"During Horizontal Directional Drilling near the Athabasca River, a grey mud plume was observed in the water. The plume was located 20m downstream of the ditch line and was approximately 15m wide and dispersing downstream. The drilling rig was shut down from mud pumping immediately and the environmental inspectors proceeded to the water to collect samples and initiate an environmental investigation. The plume subsided once the drilling activities were stopped. The Alberta Energy Regulator was notified on October 23, 2015 at 17:30 MDT and DFO was notified on October 24, 2015. The TSB and NEB were notified on October 25, 2015 at 9:00 MDT. Rick Turner from the NEB has been in contact with TransCanada to further clarify the details of the event. The drilling rig will not resume activities without regulatory approval."</p>

2015	INC2015-119	"The contractor employees were working on a project for the Enbridge integrity dig program and were hauling materials to a laydown yard for the project. The contractor vehicle, pulling an 18' dump trailer, was travelling West on Highway 48 from the MP 484.7935 site to the White City laydown yard to drop materials off. As the contractor vehicle with driver and passenger approached a crossroad, a third party truck with one occupant proceeded North through a stop sign without stopping, in an attempt to cross the highway. The contractor vehicle applied the brakes, however contacted the passenger side of the third party truck. The third party truck rolled onto its driver's side and into the North ditch of Highway 48. The contractor truck also came to rest in the North ditch of Highway 48. An individual who was nearby at the time heard the vehicle collision but did not witness the collision event. When the same individual arrived at the scene, they immediately called 911. The passenger of the contractor vehicle was air lifted to Regina General Hospital. This worker had resulting surgery the next day, however their injuries were not life threatening. The driver of the contractor vehicle was taken by ground ambulance to Regina General Hospital. They were released later that day with no injuries. Post-incident Alcohol and Drug testing was conducted by the contractor. The driver of the third party truck was not injured. "
2015	INC2015-118	"On Thursday, October 15, 2015 at approximately 9:15 am MST, local PLM crews at Enbridge's Cromer Terminal (Manitoba) were conducting a tie-in on Tank 107 discharge line. While removing a blind flange approximately 30 m3 of crude oil was released into the tank lot. All product was contained within the tank lot. There were no offsite environmental impacts or impacts to employees. No employee injuries occurred.. Line 65 was shut down as a result of this incident and subsequently restarted at 11:50 am MST. "
2015	INC2015-117	"Contractor working on Island 1 identified a ~ 6" flame from the packing of a ¾" gate valve, extinguished flame and contacted operations. Operations confirmed that the valve and piping were segregated from the main process line by a check valve. Valve leak was assessed to be below monitor alarm point (<10% LEL), packing was tightened and no further LEL was detected. There was welding activity in proximity (~2 feet) to the valve on Thursday October 8th, this was a potential ignition source. As per Imperial Oil permit process (Hot Work/Fire Watch checklist) area was monitored for 30 minutes after the completion of welding activities, regular rounds were completed on Friday October 9th no flame was observed. "
2015	INC2015-116	"A steam pressure washer was being used to clean a pump for maintenance work. A small fire (6 cm) developed in the burner area. The cause is under investigation but initial belief is there may be a small leak in the diesel fuel line feeding the burner. The pressure washer has been taken in for repair and to confirm the cause of the fire. The service dealer believes a faulty solenoid may have caused excessive fuel to enter the combustion chamber while the unit was idling and then when it went back to full power, the extra fuel ignited causing the fire. The solenoid was replaced and no problems have occurred since. The unit is stored in a warm storage area and well maintained."
2015	INC2015-115	"At the indicated time, Alliance Gas Control received a 5% LEL gas detector pre-alarm in the fuel gas building for the Alameda Compressor Station. Upon investigation by a company technician, the cause of the small-scale leak was found to be a loose instrument tubing fitting between PDT-1420 and the new fuel gas coalescing filter FL1420. "
2015	INC2015-114	"This unintended natural gas release event occurred during the back end of a regular maintenance outage at Alliance's Alameda Compressor Station in southeastern Saskatchewan. During loading of the yard post-outage, a leak in the PSV pilot supply line was observed. The pressure of the yard was at approximately 500 psi (3,450 kPa). The supply line to the pilot was isolated, and the leak reduced pilot pressure causing the pilot to actuate the PSV."

2015	INC2015-113	"Occurred during normal operations. While performing normal round checks, the operator visually noted a small misting of process gas leak from the expansion joint on the #4A sulfur condenser inlet piping. Personal gas monitor did not detect gas until it was placed very close to the leak point on the expansion joint. "
2015	INC2015-112	"Emergency one-call received at 1:34am on Tuesday September 22, 2015. On-call field technical dispatched to investigate the reports of a vapour cloud over MNP facility located in Moncton NB. Strong smell of gas reported. It was determined that no gas leaks had occurred, however the smell of mercaptan persisted at this site. The approximate volume released less than 1ml."
2015	INC2015-110	"An operator was depressurizing and flaring inlet sour gas lines as part of a scheduled plant outage. During this activity, the area was being monitored by another operator using a live camera. The operator observed a gas plume being released adjacent to the edge of the east flare pit above the exit point of the 10 inch Sahtaneh flare line. The gas plume immediately ignited, causing a small fire within the restricted area of the flare pit. "
2015	INC2015-109	"On Wednesday, September 16, 2015 at approximately 07:53 am MST, Control Center Operations (CCO) received gas alarms (20% LEL and 40% LEL) from the Cromer Terminal Line 1 Pump Building. No damage to any facilities or property occurred."
2015	INC2015-108	"On Monday, September 14, 2015 at approximately 00:45 am CST, Control Center Operations (CCO) received gas alarms (20% LEL and 40% LEL) from the Regina Terminal Line 1 Pump Building. No damage to any facilities or property occurred."
2015	INC2015-107	"On September 9, 2015 during a scheduled instrumented aerial leak patrol, readings of 4.5 ppm methane was identified over the NPS6 Viking West Lateral. The Lateral is located approximately 9 KM north east of the town of Bruce, Alberta. The leak is located at LDS SE 01-49-14-W4. Regional Technicians were dispatched to the location on September 11, 2015 and were able to confirm the presence of gas in the area of the lateral. The lateral was isolated at the discovery pressure of 7720 kPa. There is one producer impacted by the isolation. No communities are impacted. The nearest residence is approximately 1 KM outside of the leak location. The site has been secured and there is no safety concern for the public or environment. "
2015	INC2015-105	"Third-party heard slight hissing noise out the exhaust of a gas over hydraulic powered actuator during routine onsite inspection. Confirmed presence of gas using gas detector at exit of the exhaust. Very small leak of sweet natural gas, no environmental impact. Duration of leak is unknown but same person was on site a week before on Sep 2 and did not notice any leak then. Estimated volume reported (198m3) is conservative, it assumes a leak duration of one week. "
2015	INC2015-104	"On September 4, 2015 during a scheduled instrumented aerial leak patrol, readings of 10ppm methane was identified over the NPS6 Saddle Lake West Lateral. The Lateral is located approx. 25 KM west of the town of St. Paul, Alberta. The leak is located within the First Nations Saddle Lake Settlement. LDS is 10-057-12-W4. Regional Technician were dispatched to the location on September 5, 2015 and were able to confirm the presence of gas in the area of the lateral. The lateral was isolated at the discovery pressure of 6770 kPa. There is one producer (Long Run Exploration) and no communities are impacted by the isolation. The nearest residence is approx. 450m south of the leak location. The site has been secured and there is no safety concern for the public or environment. "

2015	INC2015-103	"From a nearby crew quarters, the station Operator heard what sounded like gas venting. He went to the station control room. He observed that the station data displayed on the control HMI screens were frozen. The operator called his leader for guidance. They agreed that there was possibly a station control system PLC failure. The operator observed depressurization venting continuing beyond expected length of time and proceeded to check for proper station valve positions and depressurization. The operator found all the station isolation valves were closed except for the 30" suction isolation valve MOV-0401. "
2015	INC2015-102	"- Operator decided to start a Boiler B to warm up heat medium system due as weather was cooling. (boilers shut down for the summer months as normal operation) - Approximately 2-3 minutes later the operator was approaching boiler when a large rupture of the exhaust system occurred - No flame was observed but the building immediately started to fill with exhaust and dust from the piping insulation - Operator assessed that there was no further risk to the station. - All power sources to the boilers, B & C were disconnected and the fuel supply to all boilers isolated. The glycol valves to boiler B were isolated. - Operations personnel stood down and area ribboned off. - Operations support and HS support sent to site to assist in preliminary investigation. - Operator taken to hospital for observation, as a precaution. - No environmental impacts - Property damage (boiler system)"
2015	INC2015-101	"The local area to the Smoky Lake Compressor Station encountered very active electrical storms the night of August 27, 2015. Upon arrival to the Smoky Lake Compressor Station on August 28, 2015, the site Controls Technician observed flames emitting from the Unit D7 booster vent stack. The Technician activated a station Emergency Shut Down (ESD). The ESD shut down the compressor unit and safely vented the station piping through the station emergency blowdown vent, which was a safe distance and downwind from the open flame. Once the station and unit piping de-pressured the vent fire self-extinguished. No damage was done to site equipment, property or the environment. "
2015	INC2015-100	"On 25 August 2015, a TransCanada Pipeline Technician (Technician) was performing routine valve maintenance on the power gas supply valve at Mainline Valve (MLV) 145A, when he noticed a small gas leak coming from a Schedule 80 NPS ½ pipe nipple on the power gas supply. The Technician isolated and depressurized the affected section of power gas piping before removing the pipe nipple. Once the nipple was removed, he observed a small crack near the top of the threads. There was no damage incurred to the pipeline, property, or the environment due to this incident."
2015	INC2015-099	Operator discovered a release of ~ 200L of lube oil from an open drain valve. Release was contained inside the TG#3 building.
2015	INC2015-098	"Normal operations. Found a small leak to atmosphere from the grease fitting on the PSV isolation plug valve on the inlet separator. No impact on the production, property or the environment."
2015	INC2015-097	"At approximately 20:20 MST on Aug 19, 2015 the phase B fuse of the current limiter in 410-BUS-1 blew causing electricity flow to Lines 2, 13 and Manifold 202 to cease. Maintenance personnel replaced the blown phase B fuse. Upon energization at 15:24 MST on August 20, the same current limiter blew again affecting the same assets. Upon investigation, maintenance personnel found that the outgoing feeder cables had experienced a Line-to-Line short circuit between 13-CP-002-2 phase C and 13-CP-002-1 phase B. The incident led to some cable damage, but there was no damage to the switchgear or the environment."

2015	INC2015-096	"On August 21, 2016, during a routine maintenance inspection of Foothills Crossover NPS 30, a TransCanada technician noticed gas venting from the differential pressure switch on the valve actuator for valve ATS10-M-MD. This valve is used to switch modes from sales to receipt at an ATCO Gas Interchange. The valve in question is normally closed during the summer months. . The gas was leaking from the tattletale hole on the differential pressure switch that prevents the valve from opening with too high of a differential pressure. The tattletale hole is designed to leak when the pressure switch's primary seal is no longer sealing. "
2015	INC2015-095	"TransCanada Pipeline Technicians responded to an aerial leak detection notification on 17 August 2015 and proceeded to the location of the suspected leak. Upon arrival on site, they probed the NPS 16 North West Mainline Loop (Bear Canyon) located at Latitude: 56.337317 Longitude -119.910103 and detected gas when probing the area. Dead vegetation and frosty ground was also noticed. The Pipeline Technicians notified Gas Control and the pipeline's pressure was maintained at a discovery pressure of 7000 kPa. A Regional EOC was established at 21:00 on 17 August and they were advised accordingly of the suspected leak. The affected line was isolated at 23:02 on 17 August. The site was secured. The pipeline was isolated and blown down from the discovery pressure of 7000 kPa. The nearest residence is more than 10 km away. "
2015	INC2015-094	Produced water release was discovered at LPT1 on the mainland portion of the lease. Volume is estimated at 3.7 m3.
2015	INC2015-093	Operator notice small gas plume coming off of the T1 Propane Accumulator Dryer PSV vent line.
2015	INC2015-092	"While performing an annual planned facility inspection at Station 144, TransCanada Technicians noted high natural gas readings in the Unit A to B Discharge Crossover valve hut. The source of the leak was determined to be crack on the ½" body bleed valve nipple schedule 160. No damage to the pipeline, property or the environment occurred. "
2015	INC2015-091	"August 16, 2015 at 12:00 mst Operators discovered a pinhole leak to atmosphere on the train #3 amine flash tank vent line to the PSV. It was estimated this leak had occurred over a 6 hour period before discovery. An estimated 23 mscf (651.3 M3) of a 60/40 H2S/Methane mix was released."
2015	INC2015-090	"On the morning of August 5, 2015, an upset at the Keyera Simonette Gas Plant resulted in off-spec natural gas containing hydrogen sulphide being delivered into the Alliance pipeline system at the Simonette (AB33) receipt point. This set in motion a series of events that culminated in the controlled flaring of the off-spec natural gas stream at two locations in southeastern Saskatchewan. "
2015	INC2015-088	"The NEB issued Safety Order SG-N081-001-2014 (Order) on January 11, 2013 as a result of a corrosion anomaly leak reported to the NEB under TransCanada Incident & Issue Number 240081 on September 1, 2012. The Order mandated TransCanada to operate the NGTL NPS 30 Grande Prairie Mainline Loop from GPM90 to GPM82 section (Loop) at the derated pressure of 6760 kPa. On July 30, 2015 the pressure in the Loop reached a maximum of 6902 kPa (102.1%) of the NEB imposed derated pressure due to the loss of compression at the upstream Wolf Lake Compressor Station. The follow-up investigation indicates the Primary Power Unit (PPU) failed, which resulted in a low oil pressure event, causing the compressor unit to shut down as designed. The overpressure event was immediately identified by Gas Control through the Supervisory Control and Data Acquisition (SCADA) system. TransCanada implemented its Overpressure Procedure. The overpressure event occurred between 21:05 on July 29, 2015 and 00:25 (MDT) July 30, 2015. There was no risk to the public, personnel, damage to the pipeline, associated facilities or equipment, property or the environment as a result of the event. "

2015	INC2015-087	"On normal round checks, area operator noticed water accumulating in the containment verticle culvert access over underground isolation valve for process waste water pipe to the effluent plant. Temporary pump was put in place to remove the water and transfer it to the effluent plant. A crack was found in the pipe near the isolation valve."
2015	INC2015-085	"During a severe hail storm, hail struck a manual push button Emergency Shut Down (ESD) device located outside the maintenance shop door at the 9A Kerrobert Compressor Station initiating station ESD procedures. Station shut down followed with the closing of the station isolation valves to isolate the station from the mainline and the opening of the station blow down valve to allow the blow down of station piping. All systems operated in accordance with ESD procedures."
2015	INC2015-084	"On July 20th, 2015 at approximately 6:25 am, Enbridge Control Center Operations (Edmonton) received gas alarms (20% LEL) from the Regina Terminal Line 1 Pump Building. At 6:50 am, local personnel confirmed an inboard seal failure on the Unit #2 pump that resulted in approximately 50 ml of NGL being released. No free product was on the ground. Line 1 was shutdown at the time of the incident due to deliveries so no pipeline interruptions resulted from the incident. "
2015	INC2015-083	"An operator doing rounds found a small leak from the pigging barrel door. This event was originally estimated as a fugitive emission of about 75 L and reported provincially. The low original estimate was below threshold to report to TSB/NEB. However, a subsequent calculation just completed provided a release amount of 13.4 m3, so this is now being reported to TSB/NEB."
2015	INC2015-082	"Pine river had a shut down after loss of generators, lines cooled sufficiently that sulphur valve had inadequate heat which plugged valve. During plant re-start after a total plant outage the previous day, sulphur was found on the ground in A sulphur plant. The sulphur had spilled out of the rundown look boxes."
2015	INC2015-081	"The NEB issued Safety Order SG-N081-001-2014 (Order) on January 11, 2013 as a result of a corrosion anomaly leak reported to the NEB under TransCanada Incident & Issue Number 240081 on September 1, 2012. The Order mandated TransCanada to operate the NGTL NPS 30 Grande Prairie Mainline Loop from GPM90 to GPM82 section (Loop) at the derated pressure of 6760 kPa. On July 10, 2015 the pressure in the Loop reached a maximum of 6922 kPa (102.4%) of the NEB imposed derated pressure due to an unplanned shutdown at the downstream NGTL Gold Creek Compressor Station which caused the pressure to rise in the Loop. The overpressure event was immediately identified by Gas Control through the Supervisory Control and Data Acquisition (SCADA) system. TransCanada implemented its Overpressure Procedure. The overpressure event occurred between 13:40 and 17:22 (MDT) on 10 July 2015. There was no risk to the public, personnel, damage to the pipeline, associated facilities or equipment, property or the environment as a result of the event. "

2015	INC2015-080	"In response to a high temperature gas alarm received at Alliance's Gas Control centre, the valve at the interconnect between the Alliance facilities at its Karr Receipt Point and the upstream interconnect was closed. An Alliance maintenance technician was called out to the Karr Receipt Point to equalize the pressure between the Alliance facilities and those of the upstream interconnect to allow the re-opening of the valve. While in the process of equalizing the pressure around the station isolation valve (GOV-1004) and with the 1" bypass open, the upstream natural gas processing plant pressurized the interconnect facilities, causing the pressure safety valve (PSV 1500) at the Karr Receipt Point to open. The maximum pressure reached was below the MAOP of all associated facilities. The technician closed the bypass valve and after approximately two minutes of venting, the PSV then closed. The upstream interconnect was depressurized to the point where the GOV-1004 could be equalized and opened, and the facilities were returned to normal operations."
2015	INC2015-079	"During normal facility operation of the site compression, the associated energy recovery generation (ERG) system was down for maintenance. Maintenance work was being performed on the Unit 10 exhaust ducting diverter valve and guillotine valve. Workers closed the guillotine valve to the waste heat oil heater (WHOH) as part of maintenance checks. The workers then adjusted the diverter valve that diverts exhaust to either atmosphere or the WHOH. Immediately after, 3 expansion joints on the exhaust ducting failed and vented. The unit shut down immediately on high enclosure temperature. One employee who received minor bruises to his arm while climbing down from a work platform was taken to the hospital for evaluation and released after examination by a doctor. All involved workers returned to work the same day."
2015	INC2015-078	"There was a full plant shutdown due to tripping of the plant electrical generators. Flaring occurred related to the plant de-pressuring. After the flaring event, some staining from liquid droplets was found on soil and foliage in the flare stack area."
2015	INC2015-077	During flaring of Pine River Plant Flare a small grass fire was noted in the blackened area under the flare.
2015	INC2015-075	"During an unplanned shutdown of Station 1, the station depressurized to the flare pit. In the previously blackened flare pit area, there was still some dead grass, and the flare caused a grass fire."
2015	INC2015-074	A Spectra Energy employee doing work near the plant pigging barrel area noted an H2S smell and his personal monitor went into alarm. He vacated the area and advised the control room. Subsequent check of the area located a leak from an inlet pigging barrel area piping sample probe assembly.

2015	INC2015-073	"Gibson Energy transfers custody to Express on their lease (SW-29-042-09 W4M). A 42" line from Gibson tankage reaches a gate valve at which point custody transfers to Express. The 42" pipeline reduces to 20" with 3 expansion joints to connect 3 transfer pumps. The system has auxiliary ¾", 1", and 10" piping. In May of 2014 Express replaced the 3 expansion joints to allow for higher pressure ratings as a result of additional tankage at the Gibson Terminal facility. During the installation it was noted that the new expansion joints could not be installed without modification to the tie rod kits. There were 4 tie rods with welded nuts on each joint; the rods were too long preventing the joints from being installed between the existing flanges. After consulting a manufacturer representative, (onsite at the Express Hardisty Terminal) the nuts and tie rods were cut off and the joints compressed to allow for installation. On May 25, 2015 an inspection identified that one of three expansion joints (for booster pump 3) had moved approximately 2.5 cm out of alignment. After discovery of the movement, booster pump 3 (BP3) was shut in and locked and tagged out. After consultation with Express engineers it was determined that the joint was still fit for service and BP3 was returned to service. Daily visual inspections did not indicate any additional movement until the incident (including an inspection the morning of June 26th). Sometime between the evening of June 26th and the morning of June 27th between two batches from Gibson, the 42" pipeline sheered welded supports and shifted approximately 44 cm."
2015	INC2015-071	"Black staining was discovered in two spots on the ground inside the flare pit area, approximately 30 feet west of the Station 1 flare pit."
2015	INC2015-070	"The subject incident occurred at Alliance's Estlin Compressor Station, which is situated to the southeast of Regina, Saskatchewan (within 4-15-15-18 W2M). Alliance was in the process of updating its control system at the station, and for that purpose had isolated the mainline compressor unit. The station was placed on bypass during this required outage and flow continued through the NPS 36 transmission mainline pipeline. During the commissioning of the updated local control system (known as JetPac), it was discovered that a very small amount of residual natural gas had inadvertently released. While the unit piping had been blown down at the start of the outage, there was still residual natural gas trapped inside a double-block valve which had not bled off. During the commissioning process, this small amount of residual natural gas was inadvertently released. "
2015	INC2015-069	There was no release of any substance as a result of this incident. Plains notified the NEB as a precaution due to a identified pressure drop. Please note that the release volume and recovered section is incorrect. I was forced to enter these volumes as system will not allow me to enter 0.
2015	INC2015-067	"On June 16, 2015 at approximately 11:00AM an ~ 157L crude oil release occurred at the loading station for Tank 001. Release occurred while transferring fluids from the skim tank to the vacuum truck. "
2015	INC2015-066	"On June 5, 2015 a 3L hydraulic leak occurred on the gravel ramp on Island 4. At the time of the incident a containment tray was put under the vehicle to prevent further loss. "
2015	INC2015-064	high level lead to overflow of equalization pond in effluent plant - process effluent lost to ground.
2015	INC2015-063	Operations received an LEL detection in the control system for 2 process buildings. The operator sent to investigate saw the PSV on the propane accumulator filter (accumulator located outdoors) venting to atmosphere. The PSV appeared to have lifted 40 psi below expected setpoint. The vapour release dissipated on the plant site. Preliminary assessment of the removed PSV indicates a weak internal spring/spring failure.

2015	INC2015-062	"Please note: Every effort was made to report this event within the required reporting window. The Initial Submission event report was initiated at 3:30 PM 5/22/2015, by the Enbridge Pipeline Compliance Group. Completion of the Initial Submission was attempted the evening of 5/22/2015; however, the OERS portal was not accessible. A second submission effort was made during the morning of 5/23/2015. Following several failed attempts to complete the OERS report, Enbridge contacted the NEB on 5/23/2015 to identify a possible IT issue. NEB On-Call employee Ryan Petersen responded and confirmed that there had been planned maintenance for the OERS site. NEB representative, Ryan Peterson, advised Enbridge to continue access attempts every few hours to complete the initial event submission. On the morning of 5/25/2015, the OERS site became accessible and the initial report was completed. Event Description: On May 22, 2015, at 11:20 AM, a contractor was removing a piece of steel previously used as a cable support on the south side of Manifold 201. The worker was using an oxygen-acetylene torch to cut off the section of steel and utilized a fire blanket in the work area. A spark watch was in position on top of the manifold deck and assisted in lifting the steel once it was cut. The worker was using the torch to clean the cut edge of the remaining steel after the cut had been completed. During this activity, an orange tarp nearby, began to smolder and a small fire occurred. All pipelines remained operational."
2015	INC2015-061	"Employees were in the process of cutting the shipping tacks off of a flange that was attached to a 24" spool using a cutting disc tool. After the cut was complete, they were setting the flange down and noticed a small fire approximately 36 feet away. All pipelines remained operational. "
2015	INC2015-060	"On 18 May 2015, a TransCanada Pipeline Technician (Technician) discovered that a B Plant unit had shut down due to low Power Turbine lube oil pressure at Compressor Station 75. The Technician entered the B Plant and found that oil had sprayed on the wall and toolbox on the east side of the building and had flowed into the cable trenches (Trenwa) around the unit. The source of the oil was deemed to be a failed NPS ½ pipe nipple on the drain side of a mechanical pump for the lube oil piping. The failed nipple attached to the valve is used to drain the oil, which can then be returned to the lube oil tank during compressor unit downtime. At the time of discovery and during the initial investigation and cleanup, TransCanada personnel believed that the released oil was fully contained within the building as there was no obvious visible evidence of the oil loss. On May 21, 2015 TransCanada personnel arranged for Potters Environmental (Potters) to clean up the oil release with a vacuum truck and dispose of it at an approved land fill site. Potters removed the oil from the cable trenches within the 'B' Plant compressor building. The event was not reported to the NEB at that time because it was believed the oil release was less than the 1.5 cubic metre reporting threshold under the definition of the National Energy Board Onshore Pipeline Regulations and the release was contained onsite with no adverse environmental impact. On May 21, 2015, while further reviewing the site, personnel lifted the Trenwa cable trench outside of the 'B' Plant and discovered additional oil in the trench. Personnel determined that the lube oil had leaked along the electrical conduit through the building wall to the exterior trench. It is estimated approximately 2000 litres were released into the trench and the soil underneath the trench. Due to this discovery, an initial incident event report was submitted to the NEB on May 22, 2015. The released oil is believed to be contained on station property with no impacts offsite or to water sources. The nearest water source is Keemle Lake which is located 223 metres from the station. "
2015	INC2015-059	"During routine retrieval of smart tool from receiver, smoke was observed from contractor vacuum truck that was used to pull vapours away from receiving barrel. Once smoke was observed from pump of vacuum truck work was ceased. Fire was immediately extinguished with extinguishers and equipment was cooled with water. Incident was closed at 9:04 AM local time. Damage was isolated to the immediate vicinity of the fire (pump and hose on vacuum truck). Burnaby Fire Department was onsite at 9:10 Am and no further action was required. No environmental damage or pipeline disruption occurred."

2015	INC2015-058	"The EP North Booster Pit booster pumps 43 and 44 discharge valves were isolated due to Field work Request, Edmonton Terminal #2383 (FWR-EP- 2383). At 08:53 MST, booster pump 43 discharge pressure alarm rang in at 250psi and was acknowledged as pressure was rising due to thermal heat. The operator called the field to discuss options at this point and they agreed that there was an expectation of the PSV to activate at 275 psi. At 09:17 MST, Pressure reached 275 psi and remained there for 5 minutes on the SCADA system, the operator notified the Tech advisor and staff were called out to investigate. At 09:22 MST booster pump 43 discharge pressure transmitter failed to zero, once on site the field confirmed the pressure of the on-site gauge was 299psi. When they relieved the pressure it had reached 310 psi which is a 112.7% overpressure. The field gauge was verified to be accurate. "
2015	INC2015-057	At approximately 13:50 a subcontractor had two of its welders working in windy conditions welding and cutting sheet piles along the south perimeter road. A sheet of plywood was set up as spark containment for the cutting activities but some sparks managed to get up over the plywood and ignite the dry grass along the snow fence approximately 12 feet from the cutting activities.
2015	INC2015-056	"At approximately 23:00 MDT on 11 May 2015, TransCanada Gas Control noticed a decrease in pressure north of Medicine Hat, Alberta and contacted Regional personnel. Personnel were immediately sent to the area to determine the location of the leak and commence isolation of various lines in the area. It was subsequently determined that the source of the leak is on the west bank of the South Saskatchewan River on the NPS 12 Suffield Lateral, approximately 15 kilometres north-east of Medicine Hat. The damage and any associated consequences is currently under investigation. "
2015	INC2015-055	A TransCanada employee was on site at Compressor Station 55 (Dryden) performing routine maintenance when he noticed a minor gas leak indicated on the instrument valve of the C Plant discharge piping. Arrangements were made with Gas Control to take the plant off-line to determine the cause of the leak. The cause of the leak was determined to be a crack on the ½" NPT instrument valve body near the thread.
2015	INC2015-054	"NOTE: Re: volume above, an amount could not actually be calculated as the leak is very minor/fugitive and has been occurring for an undetermined period of time. The OERS system will not process without a number volume. An area resident phoned that there was a leak at the valve site, which is located in a rural area. SET personnel dispatched to investigate found a small leak on a pipe cap on the 16" blowdown riser in the valve yard. "
2015	INC2015-053	A 3rd party contracted company just finished working on a Line 4 trap when they noticed a small fire in the side toolbox of their truck. This toolbox housed electrical wiring for an auxiliary hydraulic heater. The small fire appeared to have been started by an electrical short in the wiring. Minor damage to the wiring harness of the heater occurred.
2015	INC2015-052	"At 17:38 Mountain Time on May 9, 2015 Enbridge CCO received a call from a 3rd party company near Rosetown Saskatchewan indicating that they had lost power to their facility as a result of a tractor striking a powerline pole on a farm. As a result, a grass fire started and spread on top of Enbridge Right Of Way (ROW) between Mile Post 276-277. All pipelines remained operational. "
2015	INC2015-051	"At about 2:25 pm PST, butane vapour was observed releasing from at or near a butane bullet located in the tank farm area of McMahon Gas Plant. Responding facility personnel observed a vapour plume and measured increasing LEL in the area. Emergency response was initiated (detailed below). The plume dissipated as the butane bullet depressured. By between 3:30 - 3:45 pm PST, LEL levels were below detectable and emissions from the leak source had substantially decreased."

2015	INC2015-050	Gas control noted a low low outlet pressure alarm at the Corridor Meter station MR33026 at 3:30 am. Technician travelled to site in the morning and found relief on regulator supplying control valve acuator had failed and was relieving gas below set pressure.
2015	INC2015-049	"A TransCanada Pipeline Technician was on-site at Saddle Hills Compressor Station performing routine maintenance work when he observed a high gas reading in the Unit 2 building. The yard was depressurized to enable an investigation of this incident. Upon further investigation, a leak point was discovered at an instrument sensing location on the compressor discharge piping. The sensing point consists of a valve assembly where the pipe nipple screws into the valve and the compressor discharge pipe. The leak was found at the point where the pipe nipple screws into the valve. "
2015	INC2015-046	"On 3 May 2015, at 10:00 Mountain Time, a Producer called the TransCanada Calgary Gas Control to report the sound of gas venting at the NOVA Gas Transmission Ltd. Marguerite Lake Sales Meter Station. Gas Control dispatched the local on-call technician to investigate the occurrence. The responding technician discovered a broken connection to a NPS 1 control valve. The technician isolated the affected piping to stop the further release of sweet natural gas to the atmosphere. There was no impact to the safety of the public or the environment as a result of the incident. There is no loss of throughput and the operation of the meter station is not impacted as a result of isolating the gas source. "
2015	INC2015-045	"During routine inspections, an operator discovered a pressure safety valve (PSV) at the Grand Point Pump Station, part of the Plains Windsor to Sarnia Pipeline, was lifting to atmosphere. The PSV is set to release at 955psi, trending the transmitters showed that the pipeline pressure never exceeded 887psi. There were no safety or environmental consequences resulting from this event."
2015	INC2015-044	During the replacement of carbon in the amine carbon filters (Spectra internal Incident #23824) Operations accidentally put the carbon filters back online with a drain open to the Effluent trench. After this condition was corrected it was later discovered that a 3/4" drain valve had also been left open resulting in a previously unreported amine solution loss to ground (in addition to the original amine solution loss to the effluent system). The loss was identified by the presence of a stain on the ground. It was estimated by Engineering that 2500 Liters of 17% amine solution was lost to ground. Soil samples identified the presence of amine in the stained soil confirming a spill to ground had ocured.
2015	INC2015-043	Contract worker was clearing access road to right of way. Slipped and broke forearm.
2015	INC2015-042	On nightshift rounds an operator found the power house trench to the effluent area overflowing to the ground.
2015	INC2015-041	"Event occurred at our Spirit River pump station location. Construction activities were underway. A vacuum truck was sucking on a test vessel to clean it our after containing product. A worker was moving a genie lift to a new location and drove through the area where a vacuum truck vent line was expelling. The genie lift stalled, the worker tried to start the unit again and the fumes were ignited by the lift. The worker exited the lift and the fire was quickly extinguished. No injuries to report."
2015	INC2015-038	"The manifold 103 prover at Cromer Terminal experienced an overpressure due to thermal expansion of product on April 14, 2015. The thermal pressure relief valve activated to relieve thermal pressure, but pressure still reached 797 psi, or a 110.8% overpressure. "

2015	INC2015-037	"As part of normal routine maintenance work, while running the PS23 injection skid, the injection pump motor stopped. Motor testing revealed that there was a ground fault on the motor or wiring. Investigation revealed that a short occurred between a wire supplying electrical power to the motor and ground. This caused a small localized arc flash that was contained within the electric motor connection junction box mounted on the motor. A raised edge was present within the junction box that, through normal operation and vibration of the motor, contributed to the degradation of the insulating characteristics of the original connection. Damage is minimal and was limited to the connectors/wiring and some superficial heat damage to the inside of the enclosure. There was no damage that threatened the environment, property or the integrity of the pipeline system. "
2015	INC2015-036	"On 7 April 2015, a TransCanada pipeline technician received a phone call from TransCanada's Gas Control regarding a low level gas alarm in the C Plant of Canadian Mainline Compressor Station 55 located near Dryden, Ontario. While investigating the occurrence, the technician noticed a broken NPS 1/2 discharge sensing line. The unit was shut down to replace the broken tubing. The unit was restarted and checked for leaks. No leaks were found. "
2015	INC2015-035	"Plains Midstream started their pipeline against a closed valve. The closed valve was located in the Enbridge Edmonton Terminal. The relief valve failed to open resulting in a 116% overpressure. An alarm was received in the control center and Plains Midstream was contacted to shut down their pipeline. A visual inspection showed no signs of leakage. Pressure monitoring does not show any signs of leakage. Investigation is ongoing. Please note, Enbridge had initially reported an overpressure value of 135.5%. This value is not correct as it does not reflect the pressure experienced by the process piping that was subject to the overpressure condition but rather reflects the pressure experienced by connected sample loop piping that has a higher pressure rating than the process piping (and was, therefore, not subject to overpressure). The pressure reading related to the 135.5% overpressure value was taken from a section of the sampler loop piping that is rated for PN100 and was not subject to overpressure. Pressure readings taken from the PN20 rated process piping, which was the piping actually subject to the overpressure condition, yielded an overpressure value of 116%. As such, Enbridge is correcting its NEB OERS INC 2015-035 Initial Submission to reflect the actual overpressure experienced in the affected process piping. "
2015	INC2015-034	"An " Infra-red Flame Detector" was being re-installed at Farrans Point (FT) March 31/2015, during the testing of the newly installed equipment a Fire alarm and subsequent " Shut Down" occurred at approximately 12:35 PM, V1 at FT Closed, followed by " Sudden Stop" initiated by a high, high pressure alarm at Cornwall causing pressure to rise between FT and Montreal until all units shut down. It should be noted that the pressure restriction was lifted in the Montreal to Farrans Point section in January 2014, however the full MOP in the Cornwall area is 1000 PSI. As a result of this event the Cornwall pressure reached a value of 1111 PSI or 111% of Maximum Operating Pressure for this section. "
2015	INC2015-033	"On March 30, 2015 at approximately 12:45PM a drilling fluid release occurred from a vacuum truck on GIT 7 on Goose Island. Estimated volume release was ~145L and confined to the GIT 7 pad. Release was stopped immediately. "
2015	INC2015-032	Normal compressor station and pipeline conditions existed at the time of the incident. Fort St John Gas Control received an H2S alarm from Kobes compressor station pigging area. Operator responded. A 1" vent valve was found partially open and passing to the atmosphere.

2015	INC2015-031	"On 30 March 2015, a TransCanada pipeline technician was on-site performing routine maintenance at Canadian Mainline Compressor Station #55 - Dryden when he discovered (barely audible) sweet natural gas leaking from the 55C plant discharge transmitter tubing. Gas Control was contacted and asked to shutdown the unit to enable an investigation to be carried out. The upstream valve was closed and the tubing was vented. A small pinhole, barely noticeable to the naked eye, was observed. The tubing was replaced and the unit was restarted and checked for leaks. No leaks were found. "
2015	INC2015-030	"At 1:30 am, Canadian Custom officers indicated they advised the mill of a leak on a pipeline on the international bridge. After investigation, the leak was from a vacuum breaker on the Sulfite white water return line, located on the last part of the horizontal leg on the Canadian side of the bridge. The flow was estimated at 10 gpm and was stopped at 4:20 am this morning. Most of the warm water entered the ground around the pipeline and only a small amount (approx 45 gal) is frozen at the site. No water reached the St-John River. The ground slope of the area under the bridge is not towards the River. The vacuum breaker seal failed due to a flow variation. The Coast Guards were advised of the situation at 2:45 am. The white water is not a hazardous material and is neutral in pH. The area affected by the leak is approximately 10 feet by 5 feet. "
2015	INC2015-029	At approx. 1235 MST Enbridge CCO received a call from a 3rd party contractor who was working at MP 762.43 that a small release of what appeared to be white vapor coming from the vicinity of a Line 1 block valve had occurred. CCO immediately shut down Line 1 and as a precaution Lines 2 and 3 were also shut down as those lines were exposed as a result of an ongoing integrity dig at this location. Lines 2 and 3 have since been restarted.

2015	INC2015-028	<p>"On January 16, 2015 at 19:00 MST, TransCanada local Field Operations personnel, through an hourly planned monitoring program during commissioning, identified that sweet crude oil had released from the Motor Operated Valve (MOV) 2050, which is located on the inlet of meter bank (MB) #1 header (Hardisty East Campus-Husky ACS). The product flowed into a secondary containment tote (tote volume 1000L), and then, exceeding the tote capacity, to ground (compacted soil at an industrial terminal). Initial release volume at the time of discovery was estimated at 73L, within a 14m2 area. At the time of release, MOV 2050 was providing boundary isolation to the Husky ACS header. The release occurred during a 72-hour seal verification test, which was being undertaken to confirm valve sealing capability prior to the turnover of MOV 2050 to commercial service. The seal verification test was initiated on January 15, 2015 at 17:00 MST. In accordance with the seal verification scheme, the body bleed of MOV 2050 was in an open position at the outset of the seal verification test. Field Operations personnel completed visual inspection of MOV 2050 at hourly intervals from the start of the seal verification test. On January 16, 2015 at 17:00, approximately 24 hours after the start of the seal verification test, during a normal operational swing from MB #3 to MB #1 the inlet header experienced an increase in operating pressure. This change in operating pressure unexpectedly displaced the internal seal of MOV 2050 and allowed for bypass of product into the valve body cavity. As MOV 2050 was assembled with the open body bleed, and as a secondary (closed) valve was not fitted on the basin end of the flex hose, product had a direct path to the secondary containment tote and then to the ground surface when the tote overflowed. Upon discovery of the release at 19:00 MST January 16, 2015, TransCanada Field Operations secured the area and applied absorbent padding to the affected ground area. All product was contained on site within the TransCanada Terminal. There were no impacts to normal operations as a result of the release. During subsequent excavation, TransCanada was able to better assess the impacts of the release and on March 12, 2015 the potential volume released through the NPS 1 body bleed of MOV 2050 was re-estimated at 1500 liters. The Initial Submission was submitted to the National Energy Board (NEB) Online Event Reporting System on March 12, 2015. Following the completion of excavation and further modeling of the incident, which accounted for the size of the body bleed (NPS 1), and the maximum release time (60 minutes, being the maximum possible time between recorded visual inspections), a conservative approach was taken and the volume released was re-estimated to a maximum potential volume of 2300 liters. "</p>
2015	INC2015-027	<p>"McMahon Gas Plant. Propane storage tanks. Propane storage tank is equipped with blanket gas pressure regulator which controls tank pressure, a back-pressure regulator which relieves excess pressure to the plant flare system, and is also equipped with PSV for overpressure protection. Pressure in the tanks rose to PSV set pressure. The PSV relieved to atmosphere for approx 2 seconds. A problem with the blanket or back pressure regulator is suspected, resulting in PSV relieving to atmosphere."</p>
2015	INC2015-026	<p>"Spectra Pine River Gas Plant was circulating train 3 Amine Process on March 9 2015 to sweeten the solution before shutting down for the planned maintenance on sulphur plant train3. During the sweetening process there was a high level in the amine surge tank that caused the low pressure gas treating system gas outlet valve to close and the system to go to flare. High flow gas, carrying some liquids, released at the LP flare stack. Settlement of unburned liquid mist and small particulates on top of the snow on the ground area around the flare stack. Approx 200 meter x 350 meter area affected."</p>
2015	INC2015-025	<p>"On 5 Mar 15, at approximately 14:45hrs a Contractor worker was setting up copper bars inside the tank 80 5th course in preparation for a vertical weld. The worker inside was doing no hot work. At that vertical seam on the outside of the tank, another Contractor worker was preheating the weld in preparation for welding. The inside Contractor worker noticed his propane hose flash and began to roll it up to the top of the shell. At this time a Contractor ground worker walked to the propane header and shut the line off. "</p>

2015	INC2015-024	"At approximately 09:30, a contractor worker was heating a welded a new pipe joint preparing for coating application. The sections of pipe are set on skid piles at surface location and had previously been welded. The worker was using a propane torch connected to a 30 pound propane bottle to preheat the area for coating. The temperature in the hoarding was rising so the worker opened the end of the hoarding when he noticed a propane leak from the tank that was positioned outside the hoarding. The worker exited the hoarding to turn off the propane bottle and as the worker left the hoarding the leaking propane fuel ignited from the flame off the torch causing a flare effect that caused burns to the workers face. Worker received second degree burns by his lip and tip of his nose. He was prescribed a medicated ointment for treatment."
2015	INC2015-023	At approximately 0913 MST while conducting regular maintenance on pump unit LP-1-U-1 at the Line 1 Glenboro Station (Manitoba) maintenance personnel were draining lube oil from the inboard bearing housing when NGL was released. Maintenance personnel exited the building and closed the unit suction valve from the ESB. The release activated the building's gas alarm. Alarms were received by Control Centre Operations (CCO) and the station was automatically shut down. CCO then shut down the line based on a 40% LEL gas alarm. The vapour release occurred within the Line 1 pump building (concrete floor) with no liquid observed and no off-property impact. Site evacuation was not required. Landowner and public notification was not required. Line 1 has been restarted with Glenboro Station on by-pass. The incident has been verbally reported to the TSB.
2015	INC2015-022	"On February 27th, 2015 at 4:00PM local time, a start command was issued to 4-U-3 at Mildred Station. The unit immediately locked out and a fire alarm was received at Edmonton CCO. First responders were called out to investigate the fire alarm and lockout. First responders reported smoke coming out of the Line 4 electrical switchgear building (ESB) and some bent metal was found when surveying the outside of the Line 4 ESB. The first responders requested additional support from Operations and then entered the Line 4 ESB. It was discovered that unit 4-U-3 had experienced an arc flash event and the front panel had been blown off the frame of the switchgear. Substantial burn marks were found from the arc flash event on the floor and inside 4-U-3's contactor cell. Unit 4-U-3 has been locked out and restrictions have been placed on 4-U-4 until an investigation is completed."
2015	INC2015-021	"A minor gas leak was detected during a scheduled inspection on the NPS 24 Grande Prairie Mainline Loop near GWD 5330, approximately 35 km west of Grande Prairie, Alberta. Crews had excavated the site, removed the coating and had started the secondary assessment of the pipeline (wire brushing by hand), when the leak was noted. The purpose of the dig was to investigate and remediate three cluster corrosion features that were identified by a Baker Hughes MFL run. The pipeline pressure during the dig was 5725 kPa and the calculated safe pressure during the dig was 6390 kPa. A leak check was performed before and during the excavation and after removal of the P-tape coating. No leak was detected until after wire brushing had commenced. The safe dig pressure and dig-related activities (gas monitoring and removal of coating) were all conducted as per TransCanada's procedures to ensure safety of construction personnel. Following discovery, the site was secured and the pipeline was isolated and blown down. The nearest residence is 1.4 km away. Landowners within a 2 kilometre radius and three aboriginal communities were notified of this incident. The Transportation Safety Board (TSB) was contacted as noted earlier. The incident occurred in a field and there are no consequences to property or the environment. No customers were impacted by this incident. "
2015	INC2015-020	"On February 24, 2015, While conducting rounds at 1920hrs, the Outside Operator identified a leak on an isolation valve at the top of the C1190 Absorber tower. The plant was subsequently shut-in and Absorber tower was de-pressured at 2130hrs. Operations and Maintenance support were dispatched to site to support. No personnel evacuated, no impact to the surrounding community. Released volume was confirmed by calculation on February 26, 2015."

2015	INC2015-018	Open drain from Cogen to P/H ponds filled with mud and debris diverting water from drain south into the radiant heat zone of the ground flares following natural drainage channel
2015	INC2015-017	"On February 14, 2015 at approximately 15:30 while doing surveillance on Bear Island an operator discovered a release along the right-of-way of the Q-43-1X flowline (above ground flowline). Approximate volume released was 10.5 m3 (10.0 m3 produced water, 0.5 m3 oil). Operator immediately isolated the line and initiated clean up. "
2015	INC2015-016	"On 26 November 2013, an in-service failure occurred on the NPS 16 Flat Lake Lateral Loop (Loop) at NW 03-64-18 W4M near Boyle, Alberta. On 10 December 2013, the NEB issued Inspection Officer Order KF-002-2013 (Order), whereby it was recognized that TransCanada had voluntarily committed to returning the Loop and the two adjacent pipelines to normal operation at 80% of failure pressure (6560 kPa). The Order also required TransCanada to provide an Engineering Assessment (EA) to the NEB to demonstrate that the adjacent pipelines could safely operate above 6560 kPa. If the Order was still in effect on 10 June 2014, TransCanada was required to submit another EA to the NEB demonstrating that the Loop could continue to safely operate at the restricted pressure of 6560 kPa. On 10 June 2014, TransCanada submitted this assessment. At the end of January 2015, a new engineering assessment was issued to the NEB indicating that TransCanada voluntarily committed to another 5% de-rate (6232 kPa) effective 1 February 2015, pending the completion of an MFL ILI run on the Loop. On 7 February 2015, TransCanada's aerial instrumented leak detection patrol reported a possible in-service leak at Latitude 54.534 Longitude -112.668 (Legal Land Description SW-16-064-18 W4M), approximately 12 kilometres southwest of Boyle, Alberta. The discovery pressure was 5246 kPa. Technicians were not able to go to the site in the dark and went to the location on 8 February 2015 at which time they identified a potential gas leak near the Loop. Excavation and visual inspection of the leak confirmed it to be the result of a pinhole external metal loss feature on the NPS 16 SS #1383101 segment of the Loop. The Loop was subsequently blown down on 10 February 2015 to repair the affected segment of pipe. On 17 February 2015, following the repair, the Loop was returned to service at 5246 kPa (90% of 60- day high prior to the leak). The affected pipe section was cut out and shipped to Baker Hughes for analysis. The predominant threat of concern for the Loop is external corrosion. In assessing the external corrosion threat, a Modified B31G leak versus rupture analysis was completed to determine the effect of the pressure reduction. The results revealed that the Loop would not reach unacceptable risk levels until September 2016. TransCanada has also investigated the Loop for the presence of stress corrosion cracking (SCC) by performing investigative digs. The inspection performed at these dig sites did not reveal any SCC indications. The SCC threat is considered to be moderate for the Loop, and will be managed by condition monitoring. A System Wide Risk Assessment (SWRA) review was completed in 2014 for the structures located along the Loop's segments SS #1383100 and SS #1383101. The results of this analysis indicated that there are no occupied structures along the Loop. There are no areas on the Loop that exceed individual or societal risk criteria. There are no known mechanical damage concerns for the Loop. On 23 April 2015, pressure was increased to 5537 kPa (95% of 60-day high at the time of discovery), a 16% reduction from a derate of 6560 kPa (10 December 2013), and a 12% reduction from the pressure (6230 kPa) established on 29 January 2015. "
2015	INC2015-015	"On February 4, 2015 at approximately 20:25 a plant operator discovered a release from the 12" inlet pig receiver located in the confines of Central Processing Facility (CPF). Release was estimated at 2.2 m3 1.9 m2 Produced Water, 0.3 m3 oil. 2.0 m3 was contained and recovered in the building's sumps 0.2 m3 was released to the ground beneath. Source of the release was found to be an open vent line on the 12" inlet pig receiver. Ice Build up in the vent valve off the pig receiver prevented the valve from completely sealing. "

2015	INC2015-014	A section of pipe in the Edmonton Terminal was blocked off. Heat tracing caused thermal expansion of the product which caused an increase in local system pressure. The existing relief valve failed to open to relieve the pressure resulting in a 111.6% overpressure. An alarm was received in the control center and field personnel were notified to investigate.
2015	INC2015-013	"Gas Control called with low temperature alarm at Halifax Pressure Reducing Station. Technician was dispatched to site and discovered commercial power was out, which took the boilers off line. Regulator on the fuel gas line (60 psig) did not achieve 100% seal, so gas passed by the regulator and with no fuel demand, pressure in the fuel supply line increased until the relief valve operated at its set pressure of 90 psig."
2015	INC2015-010	"TransCanada employees were on site to perform project-related work on 25 January 2015. They walked past the Station 92 Yard Line 1 discharge blow-off (L1-DB) and heard a sound. It appeared to be coming from the NPS 2 sensing line on the blow-off. The incident occurred at some stage after the last routine inspection on 23 January 2015 as there was no indication of a leak during that previous routine inspection. The Station 92 Yard Line 1 discharge side of the station yard piping was isolated and blown down following discovery. The incident was investigated and it was determined that due to frost heaving, a 1/32" crack had occurred on the NPS 2 sensing line on the blow-off. The NPS 2 piping will be repaired and drainage in the area will be improved to reduce/eliminate the risk of future frost heaves. The ground surface will be raised and a bracket will be placed on the blow-off and attached to the NPS 2 piping. This is expected to occur by the end of September 2015. "
2015	INC2015-006	"Two welders welding on a 16" slip on flange on a vertical riser in preparation for installation of new Dan Flow valve. The vapor tool was inserted into the 16" riser with a vent fitting through the center of the tool with a quick connect fitting on the end. The quick connect fitting would be used if vented through the tool, but the tool was vented at another vent point. Water was sitting on the face of the vapor tool to keep tool cool during welding. During the welding, a welder noticed a small flame at the tip of the quick connect. The welder extinguished the fire using water from inside the riser. "
2015	INC2015-002	"During electrical and instrumentation High Voltage Maintenance at the Bowmanville Pumping Station, the original uninterruptable power supply (UPS) was found not be holding a charge. Maintenance was scheduled to replace the UPS with a new unit. Shortly after installation of the new UPS there were reports of un-commanded emergency stops at the station. When it was discovered that the UPS was causing the emergency stops the settings were adjusted. During this troubleshooting and testing of the setting changes, the Bowmanville Station was placed into emergency stop, and multiple resetting attempts of the emergency stop/alarms occurred. One of these resets happened at the wrong time in the emergency stop sequence, allowing the PLC to command V1 mainline bypass valve closed, while V3 suction valve had just started going closed, creating a mainline blockage at the Bowmanville Pumping Station, that resulted in an over pressure condition (113% MAOP) at Ganaraska River Check and Block Valve sites. There was no equipment and pipeline failure and the PLC safety system functioned as designed."
2015	INC2015-001	"Equipment Pressure Relief Valve on a supply gas regulator lifted due to regulator freeze off. As per field staff, extreme weather transitions increased demand on supply gas preheating equipment which we believe was also a factor. There was no damage to report as the equipment PSV operated as per designed application."

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2014	INC2014-155	"A pipeline technician arrived at Mainline Valve 49-3 at 06:00 a.m. and heard a natural gas leak from a 3/8-inch diameter solenoid vent. The control room shut in the power gas valve. Repairs are currently under way. There is no estimate of the gas volume lost but TransCanada expects it to be minimal and is confident that the line was leaking for only a couple hours maximum because it had technicians at the site late the previous day. There were no injuries, no off-site impacts, no other responders and no impacts to public safety or the environment. A detailed incident report will be filed by TransCanada at a later date."
2014	INC2014-154	"The control room received a call from the Irving Tissue Station on the Saint John lateral, near Mill Street in the City of Saint John, NB. Technicians arrived on site and smelled sweet natural gas and heard a hissing sound. A 60 psi relief valve to the boiler fuel gas line had failed. No estimate on volume released but expected to be minimal. The line was isolated and a new relief valve will be installed today (23rd). There was no fire, no injuries, no other responders and no risk to public safety or environment."
2014	INC2014-153	"Odour complaint received by the Control Room from Consumer Cooperative Refinery. Staff attended and discovered crude oil on the company property. Line 4/ Pump Station was shut down. Estimated volume is 50 barrels of Suncor BHB Heavy Crude. Some of the oil has migrated to the onsite water retention pond and has collected on top of the ice in the pond. 1:48 MST Call to Company contact for further information. They are entering the clean-up phase with additional staff and vacuum trucks being deployed. No first responders and no media attention at this time. The product is contained within the Regina Terminal site and the Company is confident there is no opportunity for the product to leave the site. The water retention pond does not flow off the site, water would need to be pumped. At this time, some of the oil has collected on top of the ice in the pond. The line was isolated at 23:55 CST and remains shut down. Source of the leak is still unknown. At 1350hrs on December 17, 2014 a call was received from [REDACTED], the Enbridge Liaison Officer under ICS, who has been assigned to this incident. He provided the following update: - Now that Enbridge has been able to safely measure the oil in the retention pond, the estimated volume has been revised to 214 m3 (1350 barrels). - The footprint remains the same with all product contained onsite. - As of this morning, approximately 18 m3 of crude oil has been recovered, with the majority of the oil yet to be recovered located on the ice in the retention pond. - The cause/source of the leak is still unknown and is under investigation. - Air quality monitoring is ongoing with 0 levels for Benzene, H2S and LEL. - No media inquiries to date. - Enbridge has also provided notification to the TSB, Saskatchewan Environment, City of Regina EMO/Fire and Police. - [REDACTED] is the company contact for this and can be reached at the a/n number. - Enbridge is using ICS and plan to work through the night. Preliminary estimate at 50 barrels. Product is Suncor BHB Heavy Crude"
2014	INC2014-151	"Artmore Lateral is restricted to 5861 kPA (from 8462) due to Schedule C Order. Line was isolated and being brought up to pressure and reached 114 % of restricted MAOP. No time, cause, or duration provided. Location at the Artmore Sales Tap."
2014	INC2014-150	Construction related flash fire. Workers were cutting in a pipe support when a flash fire occurred at the base of the support. Hole had been open for quite some time so could not determine why the fire occurred. Three was no product released. A 2" valve was to be changed out.
2014	INC2014-149	"Flare Event - A pressure control valve to the train 3 sulphur plant reaction furnace failed closed. This caused a plant upset. As part of the upset and recovery process, the company had to flare gas from all 3 trains. Calculated 9.06 tonnes of SO2 released as a result of the flare. Reported to B.C. Ministry of Environment. Flare event 9.06 Tonnes"

2014	INC2014-148	"From PIR/DIR 5 December 2014: A TransCanada technician was onsite at Kenora Compressor Station (Station 49) performing routine maintenance work when he heard an audible gas leak. When he investigated this, he noted that the source of the leak was from a 3/8" tube which supplies the unit's discharge pressure gauge. The failure mechanism was determined to be the tube rubbing on its support bracket which resulted in a small hole, barely noticeable to the naked eye. The incident did not result in any injuries or impact to the terrain, wildlife or their habitats, or any interruption of or reduction in service. The amount of sweet gas that was released is negligible. "
2014	INC2014-147	"From Company Email December 09, 2014: Upon arriving at site in the morning, Alliance technicians discovered that the station pressure safety valve was "weeping" (i.e. venting natural gas in a restrained manner). The natural gas venting was small scale, and a volumetric estimate of the release has not been determined. The compressor station remained in normal service throughout the time that the PSV was isolated. As such, there was no impact on service through the Alliance mainline."
2014	INC2014-146	A back pressure control valve was stuck open at 10% causing acid gas to be sent to flare. Spectra cut back the gas flow to minimize the flaring and monitored emissions until the control valve was repaired. Elapsed time for event was 48 minutes. Estimates of SO ₂ amounts were .5Mscf and 28.9 Tons of SO ₂ released to atmosphere. Provincial Emergency Program (PEP) was notified. SO ₂ released to atmosphere
2014	INC2014-142	"Operations discovered the M-08X surface casing vent tote had overflowed, releasing approximately 150 L of oil on the the ground surrounding the tote. M-08X is located on GIT 7 on Goose Island. Released fluids were confined to the GIT 7 pad. . "
2014	INC2014-141	"Landowner performing maintenance on own property hit pipe with an excavator. No rupture, no injuries, no release of product but the report refers to pipe as damaged without further description or details of action taken by company. Pipe was at 480 kPa. Product is sweet natural gas. No time provided for incident."
2014	INC2014-139	"An electrical failure caused a trip to the main transformer, resulting in the plant to shut down. Repairs have begun. Some parts of the plant are slowly being restarted. Shut down resulted in in emergency flaring. Estimated loss unknown. Loss to be calculated next day."
2014	INC2014-138	"While doing routine surveillance on Bear Island an operator heard a hissing sound and proceeded to walk the line. Upon investigation he found the O-43X flowline had been compromised which resulted in several releases along a 180 m stretch. The O-43X flowline is located ~ 30 ft from an unknown creek. Released fluids did not reach the creek but travelled 15 ft from the flowline in the direction of the creek. Approximately 4.5 m ³ (0.8m ³ oil, 3.8m ³ produced water) was released on to the flowline right of way. Operator immediately isolated the flowline, reported internally and initiated clean up. Mechanism of failure is internal corrosion."
2014	INC2014-137	"The meter station was isolated for upgrades. When station was pressuring up, a leak was detected. The leak was identified at the ball valve of the 1" weldolet. The nearest residence is 150 m away. No danger to the public or environment. The leak was so minor it could not be measured."
2014	INC2014-136	Pressure release valve released gas at a lower then intended pressure. Defective valve was isolated and being replaced.

2014	INC2014-134	"From Company PIR 4 November 2014: TransCanada technicians arrived at Compressor Station 1206 at approximately 05:00 MST, on 3 November 2014 to perform routine maintenance work. Upon arrival, a whistling sound was heard from behind the B Plant. The source of the sound was located and it was discovered that the NPS 3/8 tubing leading to the elbow flow transmitter had broken away from the fitting. The incident did not result in any injuries or impact to the terrain, wildlife or their habitats, or any interruption of or reduction in service. The environmental impact of this incident is related to greenhouse gas emissions to atmosphere. The amount of gas released is currently being calculated and will be included in the Detailed Incident Report and in the annual greenhouse gas emission report to Environment Canada. "
2014	INC2014-132	"From Company Email October 27, 2014: While unloading supplies in the shop, an Alliance technician noticed a hissing sound coming from the direction of the station inlet scrubber. He investigated and found the sight glass on the inlet side level controller to be leaking natural gas. No liquids had leaked. The leak was extremely small scale, and a volumetric estimate of the gas release has not been determined. The occurrence has had no impact on natural gas flows through the compressor station. As such, there has been no impact on service."
2014	INC2014-131	"During a flyover, a landslide was noticed perpendicular to the RoW. Staff walked the line and determined the pipeline likely moved. Alliance conducted a precautionary shut-down of the pipeline and vented from 2 valve sites, AB36 and AB2-3. Alliance will do some work on the pipeline next week. The NEB was notified of this event by the AER at 16:14 MDT. The AER wanted to know if we needed their assistance to respond to the emergency and informed us that Alliance was to commence depressuring the line and would be venting gas for over 4 hours from two locations; SW 5 63 21 W5 and NW 28 59 22 W5. RCMP and others had been contacted, however the TSB and NEB had not. Responder contacted Alliance and requested a report. The report reached the TSB at 19:45 EDT. Volume not provided at time of report."
2014	INC2014-130	"An alarm was received from the building gas monitoring of a sulphur gas release. Blower motor on the sulphur bed motor tripped off. There was a leak on a gasket, allowing gas to leak to atmosphere. Amount is not known at this time. There were no injuries and no evacuation and no activation of EOC. Calculation of amount of gas is being determined."
2014	INC2014-129	"While picking-up a slip-on flange and blind flange to place on a pallet, the slip-on flange fell over on to an employee's arm. The employee was taken to hospital where x-rays confirmed a fracture. Lost Time"
2014	INC2014-128	"From PIR/DIR 11 December 2014: CCO initiated a Line 21 shut down as a result of two observed leak alarms. Commands to isolate the valve at the Thermo-Electric Generator (TEG) building at KP 494 were not being received due to a communication failure with the site. During the shutdown, the pressures on the Line were monitored by CCO and it was determined that there may be an obstruction at KP 494. On call personnel in Fort Simpson were informed that an obstruction was suspected at KP 494 and were asked to field verify. 1) No injuries or fatalities 2) Environmental impacts were limited to air emissions (smoke) emitted by the fire. 3) Line 21 was automatically shut down by the valve on site and was restarted the following day. The valve was closed prior to the discovery of the fire. The valve at KP 494 will be treated as a manual operation (by Northern Region PLM) until further notice. (Further information is in the DIR.) 4) The TEG Building and all components within it were destroyed. Pipeline components and instrumentation damaged by the fire include: a thermo-electric generator (TEG), the building which houses the TEG, six dry-cell batteries, PLC rack, SCADA communication racks, breaker rack, current limiter and solar panel controller and a hand pump complete with a 20 liter holding tank."

1995	INC1995-068	"Contractor employee, while operating a hydraulic ram, fractured his leg. "
1995	INC1995-070	"Flooding east of Hope east BC, left 100m of a 24" TMPL pipe exposed. The line has been shutdown for inspection and repairs and has caused interruption to service."
1995	INC1995-073	"An employee of a producer company detected sour gas leak from pig sending barrel, at MP 0.0 on Hossiti Pipeline. "
1995	INC1995-080	Emulsion line internal corrosion spilled pure salt water. located 07-13-06-11W2M Estavan. 15M3
2014	INC2014-127	"While repairing a pump seal within a building approximately 3.5 litres of sour water was released. The sour vapours tripped the H2S alarm within the building. The products is being cleaned up, and repairs to the expansion joint are underway. There were no offsite impacts, no injuries, no fire, no environmental impacts and no other responders."
2014	INC2014-126	"A vacuum truck operated by Big Eagle Trucking Co. under sub-contract to Enbridge Pipelines Inc. and working on the Edmonton to Hardisty Pipeline Project rolled into the ditch, injuring the driver and passenger. The truck hit a soft spot on the shoulder of the road, which pulled the truck into the ditch where it rolled. The driver and passenger needed to be extricated from the truck by emergency services. They were immediately taken to hospital in Camrose with undetermined injuries. There were no environmental impacts, no fire, no public impacts and no ongoing threat to the safety of persons or the environment."
2014	INC2014-124	"A seal leak occurred on the sulphur condenser at the Pine River Gas Plant, 23 km west of Chetwynd B.C.. Approximately 700 kilograms (.382 m3) of liquid sulphur was spilled and contained within company property. The process train was shut down, the products is being cleaned up, and repairs are underway. There were no offsite impacts, no injuries, no fire, no environmental impacts and no other responders."
2014	INC2014-123	"According to the Company Incident Report: ""At 11:34 hrs on Sept 29th NTB meter station went down on a high manifold pressure fault. This shut down resulted in the overpressure of the Metro Line at the Humber River block valve, the NTB line pressure transmitter (between the NTB take off and control valves) and the 8" west pressure transmitter just outside the NTB take off valve. The maximum observed pressures at each location were HWB 1078 psi (112.3% of the MOP), NTB line pressure 1042 psi (108.5% of the MOP) and 8" west 1045 psi (108.9% of the MOP).""
2014	INC2014-121	"During a pigging operation, the seal on the launcher barrel door failed, causing the release of 10 cubic feet (0.3 cubic metres) of sweet natural gas. The pressure at the time of the release was 500 psi. Barrel was isolated and blown down, and a new door seal was installed. No injuries reported."
2014	INC2014-120	"Flaring Event, faulty level transmitter caused a process drip of the train free sulphur plant, resulting in a flare releasing 8.07 tonnes of SO2."
2014	INC2014-112	Fire - Technician was walking by the c-plant and noticed a flame from the vent stack between C3 and C4. Flame was about 6' high. Technicians closed valve to the vent and the flame self-extinguished. Cause of ignition unknown and under investigation.
2014	INC2014-111	Company reported a fatality of an employee who was discovered by a roving patrol in his vehicle in the plant parking lot. Ambulance was called but the individual could not be revived. No details of the medical distress available or for the time of discovery.
2014	INC2014-110	"Operator noticed leak of liquid sulphur (>25 kg, but specific amount not determined as yet). Contained on plant property and clean-up is underway No risk to waterways or public. Glycol (amount note determined as yet) also spilled to ground. A and B process trains have been shut in."

2014	INC2014-106	"A leak of NGL from the densitometer pump in the Sampler Building caused an alarm (20%) and automatic shutdown of Line 1. Volume reported as minimal and was contained in the building. Staff attended, repairs were completed and the line is back in service. Volume unknown, reported as minimal amount of NGL contained in the sampler building"
2014	INC2014-105	A fire within the engine compartment of the Zoom Boom(Forklift). The operator stopped the equipment and the fire was extinguished with a fire extinguisher. There were no injuries.
2014	INC2014-104	"On 4 August 2014 a Westcoast operator discovered liquid sulphur flowing from a 1.5 inch nipple mounted on a sulphur transfer pump discharge line. Approximately 63 m3 of sulphur was leaked, covering a large area of ground before flowing through a drainage ditch and five culverts and entering a sulphur tank guard pond. The transfer pump was isolated and clean-up initiated. "
2014	INC2014-101	Technician doing routine maintenance became aware of audible leak that he suspected was a sealant failure. Eventually traced to a small crack in a nipple on fuel run piping leaking sweet natural gas. Technician took unit out of service to make repair. No injuries or fire . Technician reported at end of shift. Preliminary report will be issued on August 05. No volume available
1967	INC1967-083	Station crew noticed flames coming from #12 booster pump pit at 12:40 am September 30. Extinguishers unable to contain the fire. Fire rigs from Sherwood Park and Edmonton responded to call. Damage extensive but contained to pump and pit area.
2014	INC2014-097	"Worker noticed a fire at line break valve site AS 36; grey smoke from a generator at a remote facility. Fuel to the generator was isolated, extinguishing the fire. Generator powers the line break valve communications. Line break valve on bypass will still close on low flow even without the generator.. No injuries, only damage to the generator."
2014	INC2014-096	"NGTL received a call from a third party reporting ""a hole in a field and gas appeared to be leaking/escaping"". TransCanada field staff responded, the line has been isolated and is being blown down. The 500 meter pipeline ties in 2 producers(Alta Gas and TAQA North) to a meter station (btd Crossfield Meter Station). Both producers have shut-in production. TAQA has a pipeline in the same ROW as the Crossfield East Lateral. It has not been confirmed which line is leaking, but NGTL is responding as if it is their pipeline. Product is sweet NG. NGTL has not activated their EOC and police/fire have not been involved. July 7th - NGTL advised Doug O. that the leak was on NGTL Crossfield East Lateral 8"" not reported"
2014	INC2014-095	"While starting a portable compressor at Valve #1216, the gas detector indicated the presence of natural gas. The work was stopped and staff found a small crack on a scrubber nipple. The nipple has been replaced. The new part will be tested and put back in-service. U/K amount"
2014	INC2014-094	"A summer student fainted while tightening a flange on a re-boiler. She was transported to Chetwynd hospital, treated and released, and cleared to return to work. No further information, incident will be entered into PID as reportable under the PPR at this time. Pre existing - medical aid"
2014	INC2014-093	"Release of sweet natural gas. Employee called out due to high LEL alarm. When the site door was opened, and audible hiss was heard. Employee discovered leak on pressure gauge on low side of regulator. Investigation included isolation of sample line. Failure determined to be internal to the gauge. Gauge was replaced, pressured up and tested okay. unknown volume"

2014	INC2014-092	"Small fire occurred when excavator removing impacted soil in area south of bio pile caused vapours to briefly ignite. The fire was immediately put out (<10 seconds). Per Company protocol, the fire department was called. Fire department responded and confirmed fire had been extinguished. No injuries reported."
2014	INC2014-091	An uncontrolled release of sweet natural gas was discovered by employees that were performing a fugitive emission test - they discovered a 1/2 inch crack in the final thread of a pipe. The pipe was part of the low guide sensing path for the B plant compressor elbow. Leak was not audible and was discovered by the leak detection equipment. B plant was on standby mode and was removed from service and isolated when the leak was discovered which stopped the leak. Four feet of stainless steel pipe was removed and replaced. Connections were tested and plant returned to service. volume undetermined
2014	INC2014-090	"Fire - while getting ready to do some trap loading, the picker truck caught fire. Company employees discharged two 30 lb. fire extinguishers to put out the fire. One employee sustained minor burns to his lower right arm and was sent to the hospital for evaluation. The fire was under the hood of the truck. The truck was not actively working, but was idling."
2014	INC2014-089	Sweet natural gas release was discovered in the B-plant by personnel working at the compressor station. They heard the gas venting and went into the building and found a broken 3/8 inch tubing on the normal vent valve was broken at a fitting as a result of a broken bracket. The gas detector indicated an 8% LEL because the vent fans were running at the time. No injury or other impacts. volume indetermined.
2014	INC2014-086	Plant exceeded MOP for 30 minutes reaching 1043 psig (under 110%). Overpressure occurred during plant upset in the Booster 12 inlet area.
2014	INC2014-087	"Lightning ignited residual gas in vent stack while station was already down and venting. Fire was extinguished with portable fire extinguishers. No injuries or damage. Prophet River, BC. Fugitive emissions released from pigging barrel valves via vent stacks"
2014	INC2014-084	"A TCPL employee and a contractor were performing routine maintenance at the Goodfare M/S that included closing the downstream isolation valve. When the valve was closed gas vented from the ground around the valve. The operators evacuated the site without injury or ignition. No rate of venting is available. The M/S is being isolated. The upstream supplier is shutting in. When depressurization is complete and blowdown is confirmed, operators will be able to approach the site. One access road is presently blocked but there are no residents within 750m of the site. The company has activated the regional and corporate EOCs. Released from the ground around the downstream isolation valve at Goodfare M/S"
2014	INC2014-083	"Operator responding to alarm at Sunset C/S (#16) due to low oil level on generator #1, noticed puffs of smoke and fire from the electrical housing on the Kim Hot Start for generator #2. Operator isolated power from the hot start and to the oil supply for the engine generator. He shut down generator #2 and started generator #1. No injuries reported and the fire was contained. Unit 2 hot start heater"
2014	INC2014-082	"Operator received a 20% gas alarm from the sampling building. Tech sent to site and noticed that the sample system had over pressured and the safety relief had activated in the canister system. Sampling system was isolated and company is investigating as to cause. Amount of release unknown at this time. No injuries, no fire, no threat to the public or environment."

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2014	INC2014-081	"Local Landowner identified a frost puck on the ground in the vicinity of Nova Gas's 6" Killam North Lateral pipeline. And at 01:00 MDT on 06/03/2014, TCPL staff confirmed that it was their pipeline. Security is in place and a hydro vac is on site with plans to daylighting to identify the source of the leak. MOP was reported to be 8255 Kpa, pressure at detection was reported to be 7750 Kpa, at 04:35 pressure was dropped to 4900 Kpa and presently (12:00 MDT) pressure is at 700 Kpa. TCPL has categorized it to be a Category 3 leak. Amount release is unknown at this time. Pipe was described to be 6" 1976 vintage with poly tape coating. N/A at this time"
2014	INC2014-080	"The Oakville station was delivering distillate via the 10" line to the Oakville terminal. An electrical problem resulted in the valve to not fully open. This caused the line to shut down. Staff did an inspection on June 1 at 08:55 EDT and determined that there was no loss of product. Technicians are investigating the cause of the electrical problem. Upon further info, this has been updated to reflect Reportable ""Date and time of occurrence: 31 May 2014 23:54 ET Review of data June 1st and 2nd resulted in the external report of overpressure being made (over 110% of current MAOP) While delivering into Oakville terminal there were apparent electrical problems at the receiving location causing valves to not fully open or close which caused the pipeline to shut down due to a sudden stop. TNPI Field Service staff completed their site visits to facilities to ensure no release by 8:55 am ET 1 June 2014. Internal Investigation underway into cause of incident."" on loss of product, line was shut down no loss of product"
2014	INC2014-079	"Possible lightning strike as an audible bang and arc marks observed on equipment parked on site. Grass fires had to be extinguished. Hydro Quebec also attended the site. Line 9 was not active, charged with nitrogen, no product. No injuries. "
2014	INC2014-078	"Local landowner reported the sound of a high pressure jet engine from the direction of the Alliance compressor station. Landowner reported to company and to TSB. Landowner name recorded as [REDACTED] Landowner (closest to C/S) had previously heard the same sound from the station during previous release. NEB contacted Alliance Gas Control and spoke with [REDACTED], who confirmed that staff was on site and that at least one valve had let loose just prior to midnight local. Called by [REDACTED] the Alliance Operations Mgr for Morinville ([REDACTED]) who advised that the Primary Safety Valve had lifted prematurely, cause unknown as serviced by contractor in May. Valve released gas for approximately 17 minutes from 23:50 to 12:07 local when noise stopped. By then the compressor had been slowed by Gas Control. Tech has confirmed that the valve reseated itself. Valve has now been isolated and staff will remain on site overnight and valve will be serviced in the morning. There is currently no gas being released. There were no injuries or ignition. The compressor station is under control and there is no risk to the public. premature lifting of PSV"
2014	INC2014-076	Landowner phoned to complain about noise from station. Dispatched tech found the 100-4 suction blowoff and 100-4 discharge blowoff venting sweet natural gas to atmosphere. Venting was due to the loss of 24 volt DC power to the programmable logic controller during a utility power upset. The station was free flowing. There was no ignition and no injuries and no other issues of public concern. Technician closed the valves to stop the venting. The duration of the venting and the volume will be determined.
2014	INC2014-074	Landowner advised land rep of area of dead vegetation. Tech dispatched to site detected small amount of gas and 25X75 metre area of dead vegetation 800 metres from landowner's house. Suspected old leak. Pipeline has been isolated and held at discovery pressure of 7650 kPa. Fencing and signage will be erected. Pipeline will be blown down. Reported to TSB at 1 AM May 27 14 Operators suspect that this is an old leak.

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2014	INC2014-071	"On May 12, workers noticed water at the bottom of a valve pit. On May 13 they hydrovacced and determined that a 3/4" nipple on a 3/4" steam line had broken. Steam line was connected to a 10" effluent line. About 19 m3 of water and effluent was removed from the pit. Both lines were isolated and the nipple was repaired. The company determined that the water that was removed contained 5.7% H2S and had a PH of 5.46. No LEL detected. Water was light brown indicating the presence of hydrocarbons. The company thought the pit contained ground water which is why the report was delayed."
2014	INC2014-068	"Routine maintenance discovered a pinhole leak within the Fisher 3584 valve positioner. Bellows was replaced with new and system was put back into service. No injuries, no threat to public, no fire."
2014	INC2014-067	"Contractor leaving site pressed ESD button instead of intercom button. Action resulted in compressor being stopped, station being shutdown and natural gas being vented to atmosphere. No further details at this time."
2014	INC2014-065	"Two cracks discovered in 1/2" below-ground pipe. During routine maintenance, technician discovered bubbling in water. Further investigation included isolating valve, blowing it down, and daylighting the area. Cracks discovered in small vent pipe. Pipe section was removed and repairs are underway. No injuries reported."
2014	INC2014-064	"Spill of 6,500 L (6.5 m3) of MDEA (Methyl diethanolamine). During maintenance of main cooler, a 3/4" nipple was broken off. The spill has been cleaned up. No injuries were reported."
2014	INC2014-062	"Negligible amount of sweet natural gas released from pinhole leak on hot tap during construction from Graham Lateral. Project is Sunday Creek South Lateral Loop #3. Area is cordoned off. No fire or injuries reported. The Engineering Assessment submitted by TransCanada on May 7, 2014 concluded the leak originated from a stopple tee circumferential weld defect."
2014	INC2014-061	Release of sweet natural gas detected on the power gas grid piping which supplies gas to the hydraulics on MLV92-L2D. Line 100-2 which had been not been in service. Release volume unknown. Repairs underway. Volume Unknown
2014	INC2014-060	A pressure regulator on a line supplying fuel gas to a building at MLV 76 failed causing a pressure relief valve to release sweet natural gas. Leak was stopped at 22:00 ADT. No injury or threat to public. Release volume is estimated to be 56 m3.
2014	INC2014-059	"- Release volume is closer to 15 m3. It mixed with some water in the tank lot. About 10 m3 has been recovered so far. Recovery operations continue. - All product is contained to a lined tank lot. The lot is equipped with a drain, which is closed and confirmed to be sealed. - Should that drain fail, a second drain (also closed) located within on site drainage system will prevent water/oil from escaping offsite. - Enbridge confirms they isolated the failed seal and stopped the leak. "
2014	INC2014-058	"Pressure safety valve tripped at below pressure and did not reset. Sweet natural gas was vented to atmosphere. No estimated volume released at this time. No fire, no injuries. Locked out relief valve and shut down station. No impact to supply as another station was started up to compensate. Not available at time of initial report Unknown at Initial report time"
2014	INC2014-056	"Operator found a drain hose valve open and the hose connected to header and valve on header was also left open. An Estimated 3,000 litres of sulfinol was released on site. There was no injuries, no fire. Clean up with vacuum truck, absorbents and snow removal. ~3000 L. Sulfinol"

2014	INC2014-055	"Gas release from a leak from a relief valve. Odourised sweet natural gas. Neighbours reported. Minor leak not audible, only detected by odour and thru monitoring. Personnel were able to reseal valve for replacement today. No injuries, no fire. Volume not available at this time."
2014	INC2014-053	There was a fire at the outside designated smoking area. Someone put an unextinguished cigarette in the garbage pale . Resulting fiire was immediately put out with a fire extinguisher. There was no damage to structures or other facilities and no injuries to personnel.
2014	INC2014-052	".KM personnel were recharging Elbow station which was previously blown down for maintenance work on pump seals. During recharging process, personnel notice that a leak occurred at a fitting on the station suction valve. Facility was isolated by shutting down mainline and closing remote operated mainline block valves at milepost 332 and 375. Prior to release, station had reached approx. pressure of 44 psig and was steady at 34 psig. Pressure on mainline was approx. 312 psig. KM secured the site and were monitoring for LEL's. Local fire dept. called as a precaution. Propane amount unknown. Km personnel on site when occurred. No injuries, no fire. Propane loss unknown quantity 36 gallons of propane"
2014	INC2014-050	Personnel doing rounds discovered oil on the ground. Investigation revealed valve on line 2 had sustained crack in small fitting on foot of valve. Frost is 5 feet deep and suspected frost heave to be the cause. Hydro vac was used to clean up oil. Repairs have been made and line is estimated to go back in service by 16:00 MDT. Remedial activities included removal and landfill disposal of approximately 50m3 soil. Soil was excavated based on visual observation of free productand was limited by the presence of other infrastructure. Notification of contamination was received as remedial closure (to meet environmental guidelines) was not possible due to other infrastructure. Remediation will be tracked using REM-0284. 50 m3 soil was excavated and disposed at landfill. Contaminated soil remains on site as complete remediation was not possible due to existing infrastructure. Refer to REM-0284. Release occurred at a cracked nipple used for pipe seat sealant at the Line 2 block valve. Product released: Edmonton High Sour (SHE). Approx 50 m3 impacted soil was excavated and disposed of during remediation. Refer to REM-0284.
2014	INC2014-048	"On March 27, TransCanada personnel detected natural gas inside the Bassano Meter Station compound (gas reading 47% of LEL). Lateral held to discovery pressure overnight to continue gas supply to Town of Bassano. On March 28 the Bassano South Lateral was shut in and the line pressure reduced to 80% of discovery pressure. Hydrovac activities commenced and personnel confirmed gas was leaking from the NPS 1 1/2 screwed ANSI 600 Cameron Ball Valve and a NPS 1 1/2 2000# W.O.G. socket valve union. A temporary bypass was set up. Staff blew down the isolated segment of piping to perform repairs. Both gas leaks were repaired and normal gas supply was resumed. "
2014	INC2014-047	There was a failure of a 2 inch thick valve packing that resulted in a release of propane. the pipeline depressured from 270 psi to 70 psi. Pipe has been isolated and workers are on site. No injuries. Volume released unknown at this time.

2014	INC2014-045	"At about midnight Saturday evening, 22 March 2014, the Fort Nelson Gas Plant detected a leak on a 24-inch ball valve at MLV 405 near mile 285 of the Alaska Highway. Pressure on the 24-inch Beaver River Pipeline was reduced and a crew worked on the valve to control the leak but was unable to control the leak. At about noon on 23 March, Westcoast determined that the valve would need to be isolated in order to complete the repairs and the 24-inch Beaver River Pipeline was shut down. Westcoast then reported the incident to the TSB. It reported that the leak was very minor however over 500 standard cubic feet of sour gas was released. Repairs are underway and Westcoast is in consultation with shippers on the line to determine alternate arrangements. There was no risk to the public or environment, no fire and no other responders to the incident. Estimated 224,662 scf of sour gas released, resulting in ~9kg of H2S, 1000 kg of CO2 and 3900kg of methane being released. Composition of the gas was 0.09% H2S and 8.6% CO2 with the remainder as methane."
2014	INC2014-044	"While off-loading oil from a truck, an alarm went, however, the driver did not immediately follow procedures and allowed the truck to continue pumping. The hose from the truck disengaged and caused a spill. The driver shut off the pump, called the Enbridge control and Enbridge responded to the incident. Approximately 1.75 cubic metres of oil was spilled and was contained within the company property. There were no injuries, no fire, no offsite impacts, and no environmental effects. Enbridge is investigating the cause of the incident. Release was from a tanker truck during off-loading oil."
2014	INC2014-043	Outboard seal on pump unit #2 failed and leaked natural gas into the building. Gas alarm set off / line shut down Personnel sent to investigate found frost on the pump seal. Unit to be repaired when safe to do so. A small volume was released into the atmosphere with no recovery of the release
2014	INC2014-042	Thermal relief valve released natural gas when water got under the seat and froze. No estimate of volumes lost. Problem was resolved by the company.
2014	INC2014-041	"Fire began in a cigarette ash receptacle. The fire was put out with a fire extinguisher and doused with water and removed from service. Receptacle will be replaced with a heavy duty, more efficient receptacle."
2014	INC2014-040	"TCPL personnel conducting integrity testing on the compressor station glycol lines discovered a leak of glycol to the ground. A cleanup contractor is on site. There were no injuries, no fires and no immediate receptors of concern. the CS is fenced in. 1365 litres released from one of the glycol lines."
2014	INC2014-038	"Propane leak from tiger torch ignited with spark from grinder. Fire put out with fire extinguisher. No injuries reported. Crew doing integrity work under hoarding on Right-of-Way. A 4'x4' melt of the hoarding occurred. KP 2218.6607 of Line 9 (near Saint-Eustache, QC)."
2002	INC2002-214	North Winds Industries spilled over 23 litres of diesel fuel at Pete's Creek. 02-252
2014	INC2014-033	Gas control received a pressure drop alarm indicating a rupture at 05:10 on the Ferried North Lateral 18" line. Line has been isolated. First responders are on-route. No indication of fire or injuries. Loss undetermined. TCPL regional EOC established in Rocky Mountain House. 2 producers effected.
2014	INC2014-031	Release on Tank #16 of crude oil estimated at 5 m3. Leak was from gasket at water draw valve. Contained in tank berm and clean up and recovery underway. Contaminated soil in tank bay. Final clean up to be done once ground has thawed in spring.
2006	INC2006-117	18000 litres of fresh water spilled at Goose Island Lateral 4. NWT spill # 06-236.
2006	INC2006-112	420 litres of hydraulic oil was spilled at Stewart -D57. NWT spill # 06-051.
2006	INC2006-113	500 litres of invert spilled at Stewart D-57. NWT spill # 06-058
2006	INC2006-114	560 litres of ucaetherm (glycol-water) spilled at the Mainline heater 2. NWT spill # 06-059.
2006	INC2006-116	200 litres of water spilled at CPF tank 201-202 berm. NWT spill # 2006-184.

2014	INC2014-025	Fire on a 3rd party hydro vac truck. The pilot light ignited a burp of diesel fuel. It was put out by portable extinguishers. The fire was small enough it would have gone out on its own. Incident being investigated by Enbridge and 3rd party.
2014	INC2014-024	"At the Waasic MS outside Fredericton NB a solenoid valve leaked and vented to atmosphere. No shutdown of system. Repair immediate. No injuries. No volume estimated, would be minimal amount. "
2006	INC2006-108	1 Litre of oil was spilled at Stewart D.57. NWT spill # 2006-046.
2006	INC2006-109	1 Litre of transmission fluid was spilled at Stewart D-57. NWT spill 2006-047.
2006	INC2006-110	1 litre of gear lube spilled at Stewart D-57 NWT spill # 2006-048.
2006	INC2006-111	20 litres of invert 100 spilled at Stewart D-57. NWT Spill # 2006-049.
2006	INC2006-107	1 litre of diesel fuel ws spilled at Stewart Lake D-57 Well. NWT spill # 2006-040
2014	INC2014-018	"TransCanada Gas Control detected a pressure drop on the TransCanada Mainline 400-1 between MLV 402 and MLV 403. A fireball erupted due to ignition of the sweet natural gas from the line. The line was isolated. TransCanada will determine, as a safety measure, if reduced operating pressure is required for other lines in the right-of-way. TCPL, RCMP, Manitoba Hydro and local fire department are on site. As of 03:30 MST the line had significantly depressurized but there was still a flame of about 10 metres in height that prevented TransCanada from getting close to site to commence investigation. TSB investigator will be responding to the site and NEB has deployed 4 staff, including 2 emergency management specialists, a safety specialist and a pipeline integrity specialist. NEB is preparing media lines."
2014	INC2014-017	"The Chip Lake Pump Station is located about 2 km west of the town of Wildrose, Alberta. While conducting maintenance work on a pig unit at the Chip Lake Pump Station, using a hot tap machine, a 2-inch fitting on an above ground pipe leaked oil. Approximately 50 bbl (8 m3) of oil spilled within the containment berm before the section of line could be isolated. The line is currently shut down. There was no fire/explosion, no environmental impacts, no impacts to the public and no response agencies involved. Vacuum trucks are on site for cleanup and investigation is underway."
2014	INC2014-016	Landowner reported a crude oil leak flowing from a station. Line isolated up and downstream at pressure reduced to zero. Oil is visible in a snow covered field. company is mobilizing workers to respond. 15-20 m3 - sweet synthetic
2014	INC2014-015	Gas control had a report of a leak at the Saint John Pressure Reducing Station. Workers discovered a leakng pipe fitting that they tightened. The leak went from audible to barely there to and only detectable using a gas detector. Repairs will be completed on 17 January 2014.
2014	INC2014-014	"Natural gas was released when a flange was opened. The section had been isolated for planned repair / replacement of a section of the supply line and when the flange was opened, and undetermined volume of natural gas was released and activated a gas alarm. "
2014	INC2014-013	Leak of sweet natural gas from the back of the f processing unt. Between 6-10 shoulder plugs were leaking. Unit was depressurized to stop the leak and the company will assess tomorrow and arrange for repairs. Update voume of 190 kg from the original report of 10 kg released.
2014	INC2014-012	Construction equipment caught fire - an o ring on the recycled oil heater on the asphalt plant failed and resulted in a flash fire. Extinguished with a 5lb. extinguisher. No injuries. 1 barrel of waste oil released. Potzus Construction - South Edmonton Terminal Expansion Project. waste oil from an asphalt paving plant

2014	INC2014-010	"According to the company's detailed incident report (DIR) - refer to p.1: ""On 10 January 2014 at approximately 14:50 MST, there was a power outage which affected operations at the Frenchman River Compressor Station 393 (Station), approximately 25km north of Bracken, Saskatchewan. The auxiliary power unit (APU) and main breakers did not transfer as designed after the power outage occurred and as a result, the air compressors ceased operation causing the compressed air supply pressure to slowly bleed down. Upon loss of the compressed air pressure, the unit valve vent cycled open as designed and approximately 429 cubic metres of sweet natural gas was released to the atmosphere. The station operating pressure was 7430kPa at the time of the incident. The unit suction and discharge valves could not close because the actuators are electrically driven. TransCanada personnel were dispatched to the site by TransCanada Gas Control to investigate the occurrence. The technicians manually closed the station side valves to prevent the further release of natural gas to the atmosphere. The remaining gas in the station yard was blown down through the four NPS 12 station yard blowdown valves. SaskPower personnel were contacted to enable the switch gear from the utility company to be isolated so that the technicians could rectify the transfer issue. The transfer system was repaired and tested and the unit was returned to service at 21:19 MST on 10 January 2014."
2014	INC2014-008	"Audible release detected and confirmed by TC staff near a tie-in from Crossroads Gas Co-op ¾" line. Nearest residence is 400 meters away. Follow-up phone call with company revealed that during the TransCanada response it was determined the source of the release was a valve on the Crossroads line. As a result this is not reportable under the OPR. Phone call placed to the AER 24 hr line and details provided. UPDATE, at 1835 Company advised the release was on the NOVA System from a 1" valve with a crack."
2014	INC2014-007	"A truck driver was loading propane and left the vent open on the truck. 1780 liters of liquid propane was released. The temperature was -20 C. 90% of the propane vaporized immediately and the company is performing a residue capture of the remaining 10%. No fire and no injuries. 90% vaporized to atmosphere,"
2014	INC2014-006	"ARC flash explosion in the F-Plant(electrical substation) resulted in parts of an insulator to perforate the transformer cooling fins. Approximately 250 litres of transmission oil leaked out, the oil was contained in the berm around the transformer. The F-Plant is shut down but deliveries are being maintained. No damage to the environment. the substation is a 115kv feed. 20 January 2014 - An update from TransCanada was reported to the TSB. TransCanada has revised the estimate of oil spilled from 250 litres to 2000 litres. The oil was hydrovaced and environmental remediation continues. Not other response activities were required, there is no ongoing hazard to the environment or public. TransCanada continues to investigate the incident. The TransCanada contact is [REDACTED] TransCanada originally reported 250 liters of transformer oil spilled. On 20 January 2014, TransCanada reported to the TSB a revised volume of 2000 litres spilled."
2014	INC2014-004	Two (2) inch crack detected on an elbow on the 30" sale gas line in the Train 3B Sulfur Plant. This is the line to the thermal oxidizer. Product was a mix of carbon dioxide and sulfur dioxide. Volume released is unknown but the company believes it to be a small amount. The line has been shut down and plans are to repair by encapsulating the elbow. Product was a mix of carbon dioxide and sulphur dioxide
2014	INC2014-003	"Regulator valve froze causing the relief valve to release. Product was sweet natural gas, volume unknown at this time. Valve has been repaired and pressure has been reduced to 60 psi. No injuries or threat to the environment. Approx 23 SCF"

s.19(1)

2013	INC2013-175	"Elko, BC Compressor Station Unit A shut down on high levels of gas in the building. An on-call technician responded to investigate and found a crack on a fitting on a 1" fuel gas supply line on Unit A skid. Unit A was taken out of service for repairs. The volume of sweet natural gas lost is unknown. There were no injuries or fatalities; no near-by residences. Unknown volume of sweet natural gas in Unit A building"
2013	INC2013-170	Product Release. Relief valve of the isolation valve failed immaturely. Loss estimated at 2000m3 of sweet natural gas. Site is secured. Line is currently blowing down and the valve will be replaced today. Note: Encana originally called the NEB and TSB directly of notification at 06:15 MST. The initial incident impacted the facility by alarms resulting in a response (Level I at the Deep Panuke off-shore terminus facility of the on-shore pipeline). The incident was where the Encana and M&NP lines meet. It was then determined it was M&NP and follow-up was conduct
2013	INC2013-169	Product Release. Regulator on fuel gas line failed which resulted in the pressure release valve to blow. Value loss unknown but estimated at minimal. No risk to public.
2013	INC2013-168	A small leak was detected coming from a ½" suction sensing valve. TCPL technicians noticed a small crack in the treads on the valve. Valve was replaced with no further leaks. Estimate .017 m3 gas escaped. 0.017m3 sweet natural gas
2013	INC2013-167	"A suspected oil fire in the gas generator resulted in a release of fire suppression gas (Inergen), that suppressed the suspected oil fire. There was no secondary fire, no first response was made, no impact to employees or the public, no environmental effects. Station is unmanned. Unit was shut down and locked out pending further investigation."
2013	INC2013-165	"An overpressure of 199% on a light synthetic crude line was detected on a delivery line from the COOP refinery connecting line to the Enbridge Regina Terminal. It was confirmed that it was the Enbridge line that was over-pressured. The pump equipment is located just outside the Enbridge property fence. Oil was found on the affected gasket and the amount is estimated as a cup of synthetic crude. Line is isolated until further investigation is conducted. Supply is not immediately affected at this time, but duration of investigation may affect supply. Less than a cup of Synthetic crude. Line shut down and isolated volume released = 0.00024 m3 volume unrecovered = 0.00024 m3"
2013	INC2013-164	"In order to test a new tank at the Edmonton terminal, Kinder Morgan commenced filling the tank by injecting 12m3 heating oil from a truck. While filling, the crew observed oil near the tank and suspended pumping. It appeared that the underground line near the tank had an ice plug and ruptured, however the size of the break is not known until it is excavated. The oil was contained entirely within the tank berm. Although it is dead oil Kinder Morgan commenced vapour monitoring for benzene and H2S. There are no odours from the oil and Kinder Morgan has not received any phone calls from the public. Vacuum truck is on site, oil recovery is underway. There were no injuries, no fire, no other responders, no off-site impacts. up to 12 m3 released from oil truck pumping to tank."

2013	INC2013-162	"At 23:24 on 26 November 2013, TransCanada Gas Control detected a pressure drop on the Flat Lake lateral pipeline, loop 2. At 8:42 on 27 November 2013 the line was isolated. When light conditions allowed, TransCanada deployed a helicopter to fly the pipeline right-of-way to locate the site of the incident. TransCanada found the incident site, took aerial photos and was able to land the helicopter at the site. There is a crater of approximately 20 metres long by 10 metres wide by 3 metres deep. The site is remote and TransCanada has deployed ground crews to the secure and assess the site. Before it can enter the site, TransCanada needs to receive access to the site from the local aboriginal community and is in the process of acquiring access. There was no explosion or fire, the nearest resident is approximately 9.4 km away, the nearest community is Boyle, Alberta approximately 14 km to the NW, TransCanada has notified the two aboriginal groups in the area, there are no other response agencies involved or required, no injuries, no environmental damages and the company has not received any calls from the public or media. TransCanada is also in the process of notifying other area landowners. TransCanada has activated its emergency operations centre. TransCanada is not yet able to provide reason for the delay in isolating the line after the noted pressure drop. "
2013	INC2013-161	"An oil leak was discovered at a manifold valve downstream from tank 26. Enbridge's initial estimate is approximately 15 bbl (2.25 m3) crude oil leaked from the valve. The oil is contained within the tank pit and a vacuum truck is currently onsite recovering the oil. No product has left the pit or Enbridge property, no other responders were required, no threat to the public or environment, no fire and no injuries. There have been no calls from the public or media and no odour complaints. Enbridge suspects that since this valve was installed about one week ago, either the gasket failed or the bolts were not properly torqued. Vacuum truck on site recovering the product within one hour of discovery of release. product contained in pit."
2013	INC2013-160	"Workers discovered a leak of acid gas near the overhead cooling bundle of the still. Company shut off the gas and depressurized and is investigating. This is part of the processing chain at the plant. Constituents of the acid gas were 85% water; 13% carbon dioxide; 1.5% methane; 0.27% H2S. 10,200m3 estimated release volume: 1.1 kg H2S, 71 kg CO2, 2.6 kg methane."
2013	INC2013-159	Overpressure - One of the suppliers had a pressure problem which pressurized the pipe up to 763 psig for 3-5 minutes. The pressure was immediately decreased to 300 psi. At 15:28 the company declared normal operations resumed. The operator exceeded the pressure allowed in the NEB Safety Order.
2013	INC2013-158	"During an integrity dig, a Frost Fighter IDF 500 caught fire after a worker had difficulty keeping it running. The fire was isolated to the combustion chamber and was put out using a fire extinguisher. The Frost Fighter will be taken to a mechanic for assessment. It was approximately -20c."
2013	INC2013-157	"While operations employees were troubleshooting steam flow problems in the steam system associated with the train E reboiler, sweet natural gas was detected at the non-condensable drain in the processing building. The source of the gas was found to be coming from the dehydration regeneration gas heater. The heater was then isolated and taken out of service."
2004	INC2004-112	3000 litres of oil spilled at the Imperial Central Processing Facility. 04-093
2013	INC2013-155	Technician investigating smell of gas (which was reported to the company) found a release valve malfunctioning. Valve was repaired with minor volume (but unknown at this time) of sweet gas released for approximately one hour. There was no overpressure or injuries related to the incident. Note: Staff at Home Hardware across the street had heard a loud noise and called technician. (From DIR) Volume provided in DIR.
2004	INC2004-111	Wellco received a new 400bbls tank to store effluent while waiting for testing results. After transferring 2000 litres of effluent to the tank it was discovered the manhole cover was insufficiently blotted and had no gasket installed and the entire volume was released. NWT spill number 04-692

2013	INC2013-154	"Release of sweet natural gas. Technician completing maintenance on a valve cluster detected a minor gas leak from a sensing line supply tubing on line 1-2 discharge cross over valve. It was isolated and vented the sensing line, and a small crack was detected in the stainless steel tubing just above tubing nut and ferrul. The line was removed and replaced and tested new line and returned to service."
2013	INC2013-153	"Welding spark fire. During a cold cut out of a line, residual oil estimated at 2 gallons collected to the bottom of a ditch. During the start of the weld the oil caught fire. The fire was immediately extinguished. No injuries."
2013	INC2013-152	"A technician noticed a release of sweet natural gas originating from a threaded 1/2 inch valve plug. The technician removed the plug, cleaned the threads, re-wrapped the threads, and reinstalled the plug. These actions stopped the leak. Volume provided in DIR."
2013	INC2013-150	Natural gas leak suspected near MLV 2+3.3km on line 100-4 3km NW of Burstall. A third party contractor was conducting gas detection for CNRL and detected gas near the TCPL line. TCPL confirmed the leak at 21:00 MDT and isolated the line between MLV 2 and 3. Gas not audible or detectable. TCPL intends to leave the line at 4130 kPa - this is a reduced pressure for planned maintenance from the 5520 kPa operating pressure - 60% of MOP. Security is in place overnight. Blowdown will take place in the morning. A courtesy call has been placed with the mayor of Burstall. Nearest landowner is 1.6 km away and range road 293 is 50 metres from the leak site. Road authority will be contacted and road blocked. undetermined volume
2004	INC2004-110	"800 litres of produced water spilled at F33X Well - Mainland, due to a corroded flange on a well. NWT spill number 05-001. Error location should be in 2005"
2005	INC2005-070	800 litres of produced water spilled due to a corroded flange on well at F33X Well - Mainland. NWT spill number 05-001.
2005	INC2005-071	15000 litres of drilling mud line came off while pumping at Burnt Lake Umiak N-05. NWT spill number 05-011.
2005	INC2005-072	400 litres of antifreeze spilled from a punctured side of sea can with forks on zoom boom at Umiak N-05. NWT spill number 05-013.
2005	INC2005-074	5000 m3 of sour gas released into the atmosphere due to a ruptured cooling tube at K29 Site New Cooler (2K29). NWT spill number 05-027.
2005	INC2005-075	160 litres of hydraulic oil spilled due to a leaking fitting on automated catwalk at Umiak N05 Drill Site. NWT spill number 05-048.
2005	INC2005-076	"240 litres of drilling mud spilled while cleanout hatch started to leak when pre-mix tank was full at Umiak no 5-drill site, NWT spill number 05-055."
2005	INC2005-077	1 litre of gasoline/oil spill at Lake 29 69:11N 134:47W. NWR spill number 05-060.
2005	INC2005-078	Northrock/Drilling Operations spilled 2000 litres of oil by trip gas at Sah Cho L-71 64:20N 125:44W. NWT spill number 05-064.
2005	INC2005-079	300 litres of produced water spilled due to a welded nipple on a flange that developed a pin-hole leak at F25 Plant site 69:24 N 123:35W. Fort Liard NWT spill number 05-068
2005	INC2005-080	500 litres of drilling mud spilled due to a suspected frozen suction hose taken off at Umiak N05 69:24:54N 134:17:48W. NWT spill number 05-069.
2005	INC2005-081	500 litres of drilling mud spilled from a overflow at Umiak N-16 Drill Site. NWT spill number 05-072
2005	INC2005-083	150 litres of oil/product and water spilled due to a pipe split during repair at Central Processing Facility NWT spill number 05-082. Norman Wells.
2005	INC2005-084	2000 litres of drilling mud spilled while offloading mud with vac-truck due to a cam lock fitting coming apart at Umiak N05 Drill site (crown) . NWT spill number 05-083.
2005	INC2005-085	1000 litres of drilling mud spilled due to equipment failure while off-loading mud at Umiak N-05. NWT spill number 05-087.
2005	INC2005-086	3 litres of motor oil spilled at Mason Bay 69:31:12.0N 134:08:43.2. NWT spill number 05-088.

2005	INC2005-087	Apache spilled 150 litres of distilato 822 oil overflowed from a 4000 bbl tank at Lac Maunoir L-80. NWT spill number 05-094.
2005	INC2005-088	Northrock spilled 16000 litres of water based drilling fluid due to loss of generator at Sah Cho L-71: N 64 Deg 30': W125 deg 45'. NWT spill number 05-100.
2005	INC2005-089	165 litres of crude oil spilled due to a faulty liquid gauge Glass on enclosed rig tank at M-28X Artificial Island. NWT spill number 05-108.
2005	INC2005-090	25000 litres of brine (NaCl) spilled due to a broken fitting at tank farm Umiak N-16. NWT spill 05-110
2005	INC2005-091	200 litres of treated water spilled due water pipe being hit while removing snow at Umiak -05. NWT spill number 05-111.
2005	INC2005-092	Chevron camp sewage life station sank 30 cm into the ice pad allowing 23000 litres of domestic sewage to flow over the top of the lift station at Olivier H-01. NWT spill number 05-113.
2005	INC2005-093	430 litres of produced water spilled due to piping corrosion at Mainland LPT1. NWT spill number 05-115. Norman Wells.
2005	INC2005-094	12000 litres of sewage spilled due to a broken line at Umiak no-05. NWT spill number 05-121.
2005	INC2005-095	10 litres of hydraulic oil spilled due to a broken hydraulic hose on truck hydraulic system at Ellice I-48 ice pad (within grid area N 690 30' W 13530'. NWT spill number 05-122.
2005	INC2005-096	100 litres of inhibited water spilled due to a tank truck hauling water overflowed from the truck hatch (external indicator gauge frozen) not work at Ellice I-48 ice pad (within grid area N 690 30' W 135 30'. NWT spill number 05-123. Ellice.
2005	INC2005-097	"1000 litres of oil/water spilled as operator failure, Vac Operator mistakenly dumped oil products in the swump at Umiak N-05 Swump (Crown Land) . NWT spill number 05-125."
2005	INC2005-098	Northrock spilled 15 litres of condensate momentary carryover from flare stack at Summit Creek B-44 N 64 deg 23' W 125 deg 53'. NWT spill number 05-132.
2005	INC2005-099	600 litres of fresh water spilled causing dead leg froze & bolts lifted when thawed at DIT 4. NWT spill number 05-140.
2005	INC2005-100	300 litres of CaCl2 spilled due to clamo-on hose end came off while trasferring fluid from service rig tank to a 64M3 tank at Ellice I-48 ice pad (within grid area N 690 30' W 135 30'. NWT spill number 05-148.
2005	INC2005-101	"210 litres of water-based drilling fluid spilled at the centrifuge feed pump vale at Olivier H-01, NWT spill number 05-169"
2005	INC2005-102	2000 litres of fresh water spilled and froze the bonnet on Y-strainer at Goose ROX9 wellsite. NWT spill number 05-174.
2005	INC2005-103	500 litres of produced water spilled caused internal corrosion at Island 2 flowline. NWT spill number 05-175.
2005	INC2005-104	Imperial split a pipe while diverting water from a pipe and spilled 36000 litres of surface water at the former Refinery Impound Basin . NWT spill number 05-202. Norman Wells
2005	INC2005-105	"205 litres of fresh water spilled while bull plug dislodged, valve leaked upon thawing at GIT 7, -L-13X well. NWT spill number 05-239"
2005	INC2005-106	320 litres of oil water spilled due to Union on pipe failure at GIT 9 - S-22X well. NWT spill number 05-343. Goose Island.
2005	INC2005-107	400 litres of produced water spilled due to a dump pump failure at CPF Free Water Knockout Bldg. NWT spill number 05-360.
2005	INC2005-108	Apache Canada Ltd spilled 30 litres of calcium (not for sure) at Maunoir L-80 well site. NWT spill number 05-372
2005	INC2005-109	Apache Canada ltd spilled 700 - 1000 litres of drilling mud at Maunoir L-80 well site. NWT spill number 05-373.
2005	INC2005-110	170 litres of HCl (acid) spilled from equipment failure at Goose Is 0-14X. NWT spill number 05-424.

2005	INC2005-111	325 litres of oily rainwater spilled due to the drain dyke valve failure at CPF tank 201/202 berm. NWT spill number 05-443.
2005	INC2005-112	2000 litres of fresh water spilled causing frozen wing valve on wellhead. NWT spill number 05-542.
2005	INC2005-113	70000 litres of produced water spilled at Line 405 west of C-38X. NWT spill number 05-548. Norman Wells.
2003	INC2003-210	Shehtah Drilling spilled 75 litres of hydraulic oil at Imperial Oil Operations G30X. NWT spill number 03-717.
2003	INC2003-211	40 litres of condensate water spilled at F-36 30 South of Fort Liard. NWT spill number 03-739.
2003	INC2003-212	15 litres of oil spilled at Cameron Hills H-03 Plantsite. NWT spill number 03-752.
2003	INC2003-213	20 litres of oil spilled at Cameron Hills H-03. NWT spill number 03-753.
2003	INC2003-214	2 litres of oil spilled at Cameron Hills H-03. NWT spill number 03-754.
2003	INC2003-215	Dillar Projects spilled 22 litres of glucol? at H-03 Plat site 60:10N 117:30W. NWT spill number 03-756.
2004	INC2004-072	150 litres of ethylene glycol spilled at Island 4. NWT spill number 04-059.
2004	INC2004-073	20 litres of oil spilled at Central Processing Facility. NWT spill number 04-062.
2004	INC2004-074	45 litres of diesel fuel spilled at Kp 548 on Enbridge Pipelines ROW. NWT spill number 04-065.
2004	INC2004-075	80 kg of calcium carbonate spilled at Ellice I-48 68:07:34.04N 135:55:33.5W. NWT spill number 04-067
2004	INC2004-076	132m3 of natural gas h2s was release in the atmosphere at K29 facility. NWT spill number 04-071.
2004	INC2004-077	Akita spilled 1500 litres of organic Xanthan gum with water/polymer at 69:07:37.4N 133:55:30.5W. NWT spill number 04-072.
2004	INC2004-078	Akita Drilling spilled less than a litre of drilling oil at 3K-29 drilling location. NWT spill number 04-085.
2004	INC2004-079	6600 litres of water/glycol spilled at Central Processing Facility. NWT spill number 04-086.
2004	INC2004-080	2000 litres of water/glycol spilled at the Central Processing Plant. NWT spill number 04-089.
2004	INC2004-081	200 litres of oil/produced water spilled at the Central Prcessing facility. NWT spill number 04-115.
2004	INC2004-082	150 litres of calcium chloride spilled at Akita Burnt Lk. Umiak N16 Drilling Pad. NWT spill number 04-121.
2004	INC2004-083	Pokiak spilled 180 litres of hydraulic oil at Ellice I-48. NWT spill number 04-124.
2004	INC2004-084	44 M3 of natural gas released into atmosphere at Chevron Texaco K29 Facility. NWT spill number 04-131.
2004	INC2004-085	Akita spilled 100 litres of drilling mud at Ellice I-48 NE side of Rig Beside Shale Tank. NWT spill number 04-134.
2004	INC2004-086	Akita Drilling spilled 200 litres of KCl drilling fluid at 69:07 0N 135:55:33.5W. NWT spill number. NWT spill number 04-143.
2004	INC2004-087	88m3 of natural gas ws released into the atmosphere at Chevron Texaco K29 Facility. NWT spill number 04-147.
2004	INC2004-088	2000 litres of produced water spilled at Well E35X. NWT spill number 04-148
2004	INC2004-089	Apache Paramount spilled 3000 litres of diesel fuel at Apache Paramount Nogha B23 66:32:05N 125:40:33W. NWT spill number 04-149.
2004	INC2004-090	2 Litres of hydraulic fluid spilled at KP318 on Enbridge Pipeline ROW. NWT spill number 04-161.
2004	INC2004-092	Huskey Transport spilled 1600 litres of produced water at K-29. NWT spill number 04-168.
2004	INC2004-093	1000 litres of sweet light crude spilled at E-33-1X. NWT spill number 04-207.

2004	INC2004-094	100 litres of fresh water spilled at Imperial Central Facility. NWT spill number 04-208.
2004	INC2004-095	Dowel Schlumberger spilled 200 litres of cement retarder D-13 at Burnt Lake Umial N-16. NWT spill number 04-231.
2004	INC2004-096	Akita spilled 7000 litres of drilling mud at Chevron 2H-25. NWT spill number 04-256.
2004	INC2004-097	320 litres of produced water spilled at GIT-7 Goose Island. NWT spill number 04-263.
2004	INC2004-098	200 litres of fresh water spilled at G35X Norman Wells. NWT spill number 04-273.
2004	INC2004-099	160 litres of water/carbon spilled at Central Processing Facility. NWT spill number 04-307.
2004	INC2004-100	100 litres of crude oil spilled at Norman Wells C34X. NWT spill number -04-355.
2004	INC2004-101	1m3 of natural gas ws released into the atmosphere at Central Processing Facility. NWT spill number 04-377.
2004	INC2004-102	1500 litre of produced water spilled at CPP Produced Water Injection Building. NWT spill number -04-460.
2004	INC2004-103	"12000 litres, 2 m3 of crude oil spilled at KP 529.4 pipeline ROW 8 km from Fort Simpson. NWT spill number 04-463."
2004	INC2004-104	200 litres of produced water spilled at M-36 Central Production Facility. NWT spill number 04-577.
2004	INC2004-105	400 litres of oil/water spilled at Cameron Hills H-03 Well site. NWT spill number 04-644.
2004	INC2004-106	40 litres of diesel fuel spilled at Ellice Island 69N 135W. NWR spill number 04-656.
2004	INC2004-107	44000 UK of ground water spilled at S. of B40X Well site in Utilidor ditch. NWT spill number 04-663
2004	INC2004-108	20000 m3 of natural gas released into the atmosphere at K-29 Well site. NWT spill number 04-671
2004	INC2004-109	6000 litres of potassium chloride (KCl) at Chevron Olivier H1 69:20N 136:00W. NWT spill number 04-685.
2003	INC2003-131	Hurley Well Services /Ace Production Testing spilled 60 litres of procuded oil at C-19. NWT spill number 03-191.
2003	INC2003-132	Coyote Oilfield Rentals spilled 182 litres of drilling mud behind Mud tank -30. NWT spill number 03-196.
2003	INC2003-133	25 kg of calcium chloride spilled at Chevron 2K-19. NWT spill number 03-200.
2003	INC2003-134	Akita Drilling spilled 20 litres of hydraulic oil at Fort Liard 2K-29. NWT spill number 03-201.
2003	INC2003-135	Ace Production Testing spilled 100 litres of produced oil at D-49 60:08:446N 117:39:176W. NWT spill number 03-217.
2003	INC2003-136	Carduity Trucking spilled 80 litres of produced water at H-58:60:07:597N 117:39:019W. NWT spill number 03-218.
2003	INC2003-137	2 litres of power steering fluid spilled at Chevron 2K-29 Well site. NWT spill number 03-224.
2003	INC2003-138	9 litres of methanol water spilled at Liard 2 K29 Well site. NWT spill number 03-226.
2003	INC2003-139	Akita Drilling spilled 9000 litres of drilling fluid at Langley K-30. NWT spill number 03-227.
2003	INC2003-140	Akita Drilling spilled 2000 litres of drilling mud at Langley K-30 Rig Sub. 03-228
2003	INC2003-141	Akita Drilling spilled 3000 litres of drilling mud at Langley K-30 Mud Tank. NWT spill number 03-229.
2003	INC2003-142	Northwind Industries spilled 500 litres of drilling mud at North Langley K-30. NWT spill number 03-231.
2003	INC2003-143	Paramount Resources Ltd. spilled 1 litre of ethylene glycol at H-03 60:10N 117:30W Lease Cameron Hills. NWT spill number 03-232.
2003	INC2003-144	Akita Drilling spilled 187 litres of diesel fuel at Canadian Forest Mt Codty 2 K 02 60:20N 123:30W. NWT spill number 03-233.

2003	INC2003-145	Northland Energy spilled 2 litres pf methanol/water at Chevron 2-K 29 Wellsite. NWT spill number 03-234.
2003	INC2003-146	Akita Drilling spilled 1 litre of fuel at the edge of Lease 400 Barrel Tank. NWT spill number 03-235.
2003	INC2003-147	Akita Drilling spilled 1 litres of gear lube at Pump 1 skid. NWT spill number 03-237.
2003	INC2003-148	CFOL spilled less than 1 litre of motor oil at Liard. NWT spill number 03-238.
2003	INC2003-149	Canadian Forest Oil spilled less than 1 litre of motor oil at the station. NWT spill number 03-241.
2003	INC2003-150	Northland Energy spilled 2 litres of produced water at 2K-29 wellsite. NWT spill number 03-242.
2003	INC2003-151	150 litres of oil spilled at 60:10N 117:30W. NWT spill number 03-278.
2003	INC2003-152	5700 litres of fresh water spilled at Goose Island T-11. NWT spill number 03-280.
2003	INC2003-153	Paramount spilled 36729 litres of crude oil at Cameron Hills H-03. Pipeline cause unknown. NWT spill number -03-285.
2003	INC2003-154	320 litres of ethylene glycol spilled due to internal corrosion in heat. at CPF. NWT spill number 03-289.
2003	INC2003-155	Veco spilled 1 litre of hydraulic fluid at Chevron 2K - 29 Facility. NWT spill number 03-291.
2003	INC2003-156	Akita spilled 2 litres of diesel fuel at Canadian Forest Mt Coty 2K. NWT spill number 03-298.
2003	INC2003-157	Akita Drilling spilled 6 litres of glycol at Canadian Forest Mt Coty 2K. NWT spill number 03-299.
2003	INC2003-158	2 litres of corrosion inhibitor spilled at Liard -K-29 due to tubbing not fitting. NWT spill number 03-301.
2003	INC2003-159	Canadian Natural Resources Ltd spilled 400 litres of hydraulic oil at Liard P-66B. NWT spill number 03-309
2003	INC2003-160	Beaver Entepriises spilled 1 litre of motor oil at Canadian Forest Mt Coty. NWT spill number 03-316.
2003	INC2003-161	Akita Drilling spilled 8 litres of hydraulic oil at Canadian Forest Mt Coty. NWT spill number 03-317.
2003	INC2003-162	Akita drilling spilled 1 litre of hydraulic oil at Canadian Forest Mt Coty. NWT spill number 03-318.
2003	INC2003-163	Akita Drilling spilled 1 litre of gear lube at Canadian Forest Mt-Coty NWT spill number 03-319.
2003	INC2003-164	Akita Drilling spilled 8 litres of hydraulic fluid at Canadian Forest Mt-Coty. NWT spill number 03-320.
2003	INC2003-165	Akita Drilling spilled 8 litres of glycol at Canadian Forest Mt Coty. NWT spill number 03-321.
2003	INC2003-166	Akita Drilling spilled 1 litre of diesel fuel at Canadian Forest Mt-Coty. NWT spill number 03-322.
2003	INC2003-167	1 Litre of Corrosion inhibitor spilled at K29. NWT spill number 03-328.
2003	INC2003-168	2000 litres of fresh water spilled at Central Processing Facility. NWT spill number 03-329.
2003	INC2003-169	Cameron Operations Group spilled 40 litres of production oil at Cameron Hills H-30. NWT spill number 03-334.
2003	INC2003-170	Akita Drilling spilled 200 litres of invert at Canadian Forest Mt Coty. NWT spill number 03-355.
2003	INC2003-171	25 litres of various petroleum products spilled at Chevron K-29. NWT spill number 03-356.
2003	INC2003-172	WSC spilled 1 litre of hydraulic oil at Akita 62A Mt-Coty. NWT spill number 03-364.
2003	INC2003-173	WSC (Well Site Coordinator) spilled 1 litre of diesel fuel at CFO Mt Coty Camp for Akita Rig # 62. NWT spill number 03-365.
2003	INC2003-174	WSC (Well Site Coordinator) spilled 8 litres of gear lube at Akita 62 CFO at Mt Coty. NWT spill number 03-366.

2003	INC2003-175	Akita Drilling spilled 1 litre of diesel fuel at CF Mt Coty. NWT spill number 03-367.
2003	INC2003-176	1 litre of transmission fluid spilled at Mount Coty 2K-02. NWT spill number 03-368.
2003	INC2003-177	Formula Trucking spilled less than a litre of antifreeze at CFP campsite. NWT spill number 03-369.
2003	INC2003-178	Formula has spilled less than 1 litre of oil at CFO Camp East Side. NWT spill number 03-370.
2003	INC2003-179	Formula Trucking spilled less than 1 litre of antifreeze at Barge Landing. NWT spill number 03-371.
2003	INC2003-180	Less than 1 litre of KCl spilled at Narge Landing Paramount West Liard. NWT spill number 03-372.
2003	INC2003-181	DG trucking spilled 1 litre of Amodrill Drilling Fluid at Canadian Forest Mt Coty . NWT spill number 03-373.
2003	INC2003-182	1 litre of diesel fuel spilled at Canadian Forest Mt Coty. NWT spill number 03-374.
2003	INC2003-183	Akita WSC (Well Site Coordinator) spilled 2 litres of diesel at Canadian Forest Mt Coty. NWT spilled number 03-375.
2003	INC2003-184	Formula Trucking spilled 1 litre of motor oil from a pressure release from a vacuum truck at Mount Coty 2K-02. NWT spill number 03-376.
2003	INC2003-185	1 liter of oil spilled at Canadian Forest Mt Coty NWT spill number 03-377.
2003	INC2003-186	Akita Drilling spilled 5 litres of calcium carbonate at Canadian Forest Mt Coty. WNT spill number 03-378.
2003	INC2003-187	Akita Drilling spilled 8 litres of automatic transmission fluid. NWT spill number 03-379.
2003	INC2003-188	Akita Drilling spilled 18 litres of automatic transmission fluid at Canadian Forest Mt Coty. NWT spill number 03-380.
2003	INC2003-189	Premium Oilfield Inspection spilled 1 litre of varsol at Canadian Forest Mt Coty. NWT spill number 03-381.
2003	INC2003-190	Akita Grilling spilled 3 litres of invert at Canadian Forest Mt Coty. NWT spill number 03-382.
2003	INC2003-191	2 litres of hydraulic fluid spilled at Canadian Forest Mt Coty. NWT spill number 03-383
2003	INC2003-192	Formula spilled 2 liters of motor oil at Canadian Forest Mt Coty. NWT spill number 03-395.
2003	INC2003-193	3 litres of hydraulic oil leaked from a fitting at Mount Coty 2K - 02. NWT spill number 03-396.
2001	INC2001-140	2 liters of oil spilled at Mount Coty 2K - 02.
2003	INC2003-194	Akita Drilling spilled 2 litres of oil at Mount Coty 2K - 02. NWT spill number 03-397.
2003	INC2003-195	2 litres of diesel fuel spilled at Chevron K 29 Plant site. NWT spill number 03-434.
2003	INC2003-196	176000 litres of fresh water spilled at Goose Island R-27X. NWT spill number 03-456.
2003	INC2003-197	Veco Construction spilled less than 1 litre of condensated water at K-29 Plant site. NWT spill number 03-463
2003	INC2003-198	20 litres of salt water spilled at M25 Fort Liard. NWT spill number 03-468.
2003	INC2003-199	Purcell Energy spilled 3 litres of diesel at F 25 Wellsite. NWT spill number 03-470
2003	INC2003-200	Larry's Vacuum Truck Service spilled 2 litres of glycol at BP Pointed Mountain Near A-3 Well. 03-486.
2003	INC2003-201	3 litres of hydraulic fluid spilled at A# Pointed Mountain 60:21:268N 123:56:46W. NWT spill number 03-515.
2003	INC2003-202	18 litres of hydraulic oil spilled at Chevron Ft Liard M-25. NWT spill number 03-535.
2003	INC2003-203	300 litres of produced oil spilled at Norman Wells Gas Plant Facility. NWT spill number 03-576.

2003	INC2003-204	10000 litres of fresh water spilled at Bear Island. NWT spill number 03-585.
2003	INC2003-205	1420 litres of produced water/oil spilled at Bear Island. NWT spill number 03-595.
2003	INC2003-206	2 litres of antifreeze spilled at K 74 Oil Well 60:N 117:15W. NWT spill number 03-601.
2003	INC2003-207	6 litres of hydraulic fluid spilled at K 74 Oil Well 60:10N NWT spill number 03-602
2003	INC2003-208	10 litres of condensated water spilled at E-74 Lease area 60:10N 117:15W. NWT spill number 03-645
2003	INC2003-209	1000 litres of condensate water spilled at F-36 Wellsite 60:05:46N 132:22:11W. NWT spill number 03-662
2013	INC2013-148	"Leak discovered by crew investigating magnetic flux anomaly from ILI pig run in August 2013. Penn West Gas Plant in 700 M southwest of leak site. Site is on private land and landowner has been notified. Readings of 2.5% LEL in 4 M radius of leak site. Pressure at time of discovery was 4130 KPA (normal is 8453). Isolation process is underway. Line will be blown down. No fire, no injuries and no evacuation. Emergency response plan has not been activated. Undetermined volume"
2002	INC2002-167	Delta Trace Ltd Anadarko spilled 25 litres of diesel fuel at Kamik 2D Staging site # 1 69:15:482N 134:04:920W. NWT spill number 02-221.
2002	INC2002-168	10 litres of antifreeze spilled at Staging 4 685465E 7681759N. NWT spill number 02-222.
2002	INC2002-169	75 litres of hydraulic fluid spilled at C74 60:10:00N 117:15:00W. NWT spill number 02-223.
2002	INC2002-170	800 litres of oil spilled at C74 60:10:00N 117:15:00W. NWT spill number 02-224.
2002	INC2002-171	Less than 1 litre of diesel fuel spilled at 68:58:25N 133:31:1:10W. NWT spill number 02-225.
2002	INC2002-172	10 litres of diesel fuel spilled at Cameron Hills camp 60:18:10N 117:34:45W. NWT spill number 02-229.
2002	INC2002-173	60 litres of diesel fuel spilled at 60:08:00N 117:34:38W. NWT spill number 02-230.
2002	INC2002-174	1 litre of ethylen glycol spilled at H-03 facility 60:02: 158N 117:30:01W. NWT spill number 02-232.
2002	INC2002-175	40 litres of diesel fuel spilled at Malik 3D Camp 69:23:492N 134:41:597W. NWT spill number 02-233.
2002	INC2002-176	20 litres of diesel fuel spilled at 69:02:314N 133:21 209W staging site # 1. NWT spill number 02-234.
2002	INC2002-177	North Wind Industriels Ltd/Westerngeco spilled 23 litres of diesel fuel at Pete's Creek 69:00:368N 133:47:311W. NWT spill number 02-252
2002	INC2002-178	5 litres of hydraulic oil spilled at Southern Parsons Lake 68:51N 133:52W. NWT spill number 02-253.
2002	INC2002-179	Lawrence Welding's spilled 8 litres of hydraulic oil at Cameron Hills H-03 60:02:158N 117:30:010W. NWT spill nuber 02-292.
2002	INC2002-180	"2 Litres of gear oil spilled at Parson Lake, leak from a seal on rear drive. NWT spill number 02-254."
2002	INC2002-181	3 litres of hydraulic oil spilled at Parson's Lake from a hydraulic hose. NWT spill number 02-255.
2002	INC2002-182	1 litre of motor oil spilled from 69:07:362N 133:31:160W. NWT spill number 02-236.
2002	INC2002-183	1 litre of diesel fuel spiled at Chevron M25 Lease Sit SE Corner. NWT spill number 02-246.
2002	INC2002-184	Anadarko Canada Energy spilled 136 litres of gasoline at 122:41:39W 60:47:04N. NWT spill number 02-249.
2002	INC2002-185	Delta Trace Ltd/AEC West Ltd. spilled 4 litres of diesel fuel at Kamik 2D 69:16N 134:07W. NWT spill number 02-259.
2002	INC2002-186	"15000 litres of produced water/crude oil spilled at Mainland LT-7, LT11, line #11. NWT spill number 02-266."

2002	INC2002-187	1 litre of diesel fuel spilled at Ice Road on east access on Nuna 3D. NWT spill Number 02-267.
2002	INC2002-188	Less than 1 litre of motor oil spilled at Ice Road on east Access on Nuna 3D NWT spill number 02-268.
2002	INC2002-189	Less than 1 litre of motor oil spilled at East Access Ice Road. NWT spill number 02-269.
2002	INC2002-190	Less than 1 litre oil motor oil spilled at 68:59:846N 133:24:944W. NWT spill number - 02-270.
2002	INC2002-191	8 Litres of dieselfuel/motor oil/gear oil spilled at East Staging # 2 on East Access Nuna 3D. NWT spill number 02-271.
2002	INC2002-192	Delta Trace Ltd/AEC West Ltd spilled 100 litres of diesel fuel at Kamik 2D 69:00:807 133:44:212W. NWT spill number 02-273.
2002	INC2002-193	1 litre of diesel fuel/motor Oil /Exhaust spilled at West Access Road Nuna 3 D Staging #4. NWR spill number 02-274.
2002	INC2002-194	Less than a litre of grease spilled at East Access Nuna 3D. NWT spill number 02-280.
2002	INC2002-195	1 litre of diesel fuel spilled at 69:02:023N 133:22:946W East access on Nuna 3D. NWT spill number 02-281.
2002	INC2002-196	20 litres of rusty water spilled at H-03 60:02N 177:30W. NWT spill number 02-287.
2002	INC2002-197	Lawrence Welding spilled 2 litres of hydraulic fluid at H03 60:02N 177:30W. NWT spill number 02-288.
2002	INC2002-198	30 litres of methanol/water spilled at J-37 60:10N 117:30W. NWT spill number 02-289.
2002	INC2002-199	12000 litres of fresh water spilled at CPF. NWT spill number 02-300.
2002	INC2002-200	200 litres of condensate water spilled at C-50 Pig Receiver 1-50. NWT spill number 02-305.
2002	INC2002-201	1200000 litres of fresh water spilled at Goose Island line # 569 to Well R27X. NWT spill number 02-340
2002	INC2002-202	Unknown amount of natural gas/sour gas was release at Cameron Hills C 50 60:N 117:30W. NWT spill number 02-342
2002	INC2002-203	5 litres of salt water spilled at Chevron Texaco KM 18 pipeline junction. NWT spill number 02-379.
2002	INC2002-204	Less than 1 litre of water spilled at Pointed Mountain Plant site. NWT spill number 02-389.
2002	INC2002-205	"160 litres of produced water spilled at Mailand, Norman Wells. LT-1-. NWT spill number 02-407."
2002	INC2002-206	Veritas DGC Land/Veri/Illuq Geophysical Ltd spilled 10 Litres of motor oil at Malik Bay 69:23:816N 134:41:814W. NWT spill number 02-443.
2002	INC2002-207	25 litres of diesel & motor oil spilled from a fuel bowser at Parson's Lake. NWT spill number 02-448.
2002	INC2002-208	11 kg of Halon spilled at Biname Barge Tug Boat. Norman Wells. NWT spill number 02-470.
2002	INC2002-209	Unknown company spilled 23 litres of diesel fuel at KP708 Enbridge PL NW Inc. ROW. NWT spill number 02-472.
2002	INC2002-210	"2 litres of contaminated oil contaminated water spilled at S26X & 144X Well site. Goose Island, NWT spill number 02-485."
2002	INC2002-211	10 litres of Aluminex spilled at Norman Wells Central Processing facilities. NWT spill number 02-562.
2002	INC2002-212	Unknown amount of produced water spill at Norman Wells Field C-27. NWT spill number 02-593.
2002	INC2002-213	10 litres of antifreeze spilled at Chevron Texaco Lease Site K-29. NWT spill number 02-600.
2003	INC2003-071	70000 litres of fresh water spilled at Goose Island Line 497 to Well T0X9. NWT spill number 03-002.
2003	INC2003-072	5 litres of hydraulic oil spilled at Chevron K-29 site. NWT spill number 03-028.
2003	INC2003-073	1 litre of diesel fuel spilled at Chevron Fort Liard 2K29. NWT spill number 03-035.

2003	INC2003-074	1 litre of diesel fuel spilled at Chevron Liard 2K-29. NWT spill number 03-040.
2003	INC2003-075	Anadarko spilled 1 litre of torquerim lubricant at Anadarko Liard P-16. NWT spill number 03-043.
2003	INC2003-076	Shehtah-Wilson Drilling spilled 50 litres of antifreeze at Arrowhead 1-75 Drill Site 60:34:42.3N. 122:58:32.6W. NWT spill number 03-044.
2003	INC2003-077	Anadarko Canada Corp spilled 40 litres of hydraulic oil at Fort Liard P-16 60:25:50N 123:31:58.3W. NWT spill number 03-041.
2003	INC2003-078	Shehtah-Wison Drilling spilled 480 litres of HT 40N Invert Drilling mud at Arrowhead 1-75 drill site 60:34:42.3N 122:58:32.6W. NWT spill number 03-047.
2003	INC2003-079	Shehtah-Wison Drilling spilled 1500 litres of HT 40N invert drilling mud. at Arrowhead 1-75 drill site 60:34:42.3N 122:58:32.6W. NWT spill number 03-050.
2003	INC2003-080	Falcon Pressure Testers spilled 1 litres of glycol at Fort Liard 2K-29. NWT spill number 03-058.
2003	INC2003-081	Falcon Pressure Testers spilled less than 1 litre of glycol at Fort Liard 2-K29. NWT spill number 03-059.
2003	INC2003-082	1 litre of oil spilled in Fort Liard 2K29. NWT spill number 03-060.
2003	INC2003-083	Schlumberger spilled 1 litre of motor oil at Fort Liard 2L29. NWT spill number 03-061.
2003	INC2003-084	Less than a litre of oil spilled at Liard Ice Crossing. NWT spill number 03-062.
2003	INC2003-085	1 litre of transmission fluid spilled at Fort Liard M-25 Road KP 1.5. NWT spill number 03-063
2003	INC2003-086	Less than 1 litre of hydraulic oil spilled at KM 605 Chevron Road. NWT spill number 03-064.
2003	INC2003-087	Less than 1 litre of hydraulic oil spilled at 0-80 disposal well. NWT spill number 03-065
2003	INC2003-088	Akita spilled 1 litre of hydraulic oil at the accumulator. NWT spill number 03-067.
2003	INC2003-089	1 litre of hydraulic oil spilled at 2K-29 Fort Liard. NW spill number 03-068.
2003	INC2003-090	Akita spilled 91 litres of HT-40 invert at 2K29 Fort Liard. NWT spill number 03-070.
2003	INC2003-091	Chevron spilled 100 litres of Invert HT-40 due to skimmer malfunction at Fort Liard 2K-29. NWT spill number 03-071
2003	INC2003-092	Anadarko spilled a unkown amount of drilling fluid at Anadarko Liard P-16. NWT spill number 03-072.
2003	INC2003-093	1 litre of transmission fluid spilled at Liard -F-25. NWT spill number 03-073.
2003	INC2003-094	700 litres of fesh water spilled at Norman Wells Goose Island. NWT spill number 03-078.
2003	INC2003-095	2000 litres of fresh water spilled at Bear Island BIT # 4. NWT spill number 03-079.
2003	INC2003-096	Anadarko spilled 100 litres of drilling fluid at Anadarko Liard P-16 Drilling. NWT spill number 03-081.
2003	INC2003-097	Try-City Drilling spilled 70 litres of diesel fuel at Tree River C-36. NWT spill number 03-084.
2003	INC2003-098	Anadarko spilled less than 1 litre of drilling mud at Anadarko Liard P-16. NWT spill number 03-085.
2003	INC2003-099	Anadarko Canada Corp spilled 500 litres of drilling fluid at Anadako Liard P16. NWT spill number 03-089.
2003	INC2003-100	Anadarko spilled 100 litres of invert ar Anadarko Nobao O-38. NWT spill number 03-092.
2003	INC2003-101	Anadarko spilled 400 litres of invert at Fort Liard P-16. NWT spill number 03-096.
2003	INC2003-102	Shehtah-Wilson Drilling spilled 80 litres of invert mud at Arrowhead River c-55. NWT spill number 03-102.
2003	INC2003-103	Nabors Drilling spilled 40 lites of invert drilling fluid at Anadarko O-38. NWt spill number 03-104.

2003	INC2003-104	Pokiak spilled 4 litres of diesel due to an operator 's error at Swimming Point. NWT spill number 03-105.
2003	INC2003-105	Devlan Exploration spilled water & spent acid due to a leaking valve at Tree River B-10. NWT spill number 03-108.
2003	INC2003-106	700 litres of produced water spilled due to line froze and seperated at CPF tank 202. NWT spill number 03-112.
2003	INC2003-108	"114 litres of engine oil spilled due to sump over flow, region SAH. NWT spill number 03-118."
2003	INC2003-109	Delvan Exploration spilled 300 litres of water & spent acid due to a leak in weld on 400 bbls tank at Tree River B-10. NWT spill number 03-122.
2003	INC2003-110	400 litres of water/methanol spilled at Chevron KP 7+500 O-80 to K-29 ROW. NWT spill number 03-125.
2003	INC2003-111	15 litres of invert/water spilled at 2K 29 Liard. NWT spilled number 03-126.
2003	INC2003-112	10000 litres of water/methanol spilled at Chevron KP 7+500 O-80 to K-29 ROW. NWT spill number 03-127.
2003	INC2003-113	Akita Drilling spilled 5 litres of invert at Chevron Fort Liard K-29. NWT spill number 03-130.
2003	INC2003-114	5 litres of diesel fuel spilled at H-03 Battery Lease Cameron Hills. NWT spill number 03-131.
2003	INC2003-115	180 litres of produced water spilled at D-49 Cameron Hills. NWT spill number 03-134.
2003	INC2003-116	Unknown amount of oil spilled at O-80 Wel Site . NWT spill number 03-135.
2003	INC2003-117	2000 litres of water based Polymer Drilling Mud spilled at Itiginkpak F-29 68:28 18.3N 134:36:31.8N NWT spill number 03-138.
2003	INC2003-118	7 litres of antifreeze spilled at KM 27.5 on Chevron Road. NWT spill number 03-140.
2003	INC2003-119	5 litres of engine oil spilled at D-49 Lease Cameron Hills. NWT spill number 03-144
2003	INC2003-120	30 litres of methanol spilled at H-30 Plat Site Cameron Hills. NWT spill number 03-145
2003	INC2003-121	CNRL spilled unknown amount of diesel due to a laking fuel fliter at Liard K-29. NWT spill number 03-156.
2003	INC2003-122	Akita drilling spilled 114 litres of diesel fuel at Langley K-30. NWT spill number 03-161.
2003	INC2003-123	Northwind Industry spilled 1 litre of glycol at Langley K-30. NWT spill number 03-167.
2003	INC2003-124	Mullen Trucking spilled 1 litre o potassium nitrate at Langley K-30 well site. NWT spill number 03-168.
2003	INC2003-125	Fiberspar spilled 1 litre of engine oil at O-80 lease. NWT spill number 03-172.
2003	INC2003-126	Akita Drilling spilled 20 litres of Polymer Drilling Mud at Langley K-30. NWT spill number 03-182.
2003	INC2003-127	Canadian Natural Resources Ltd. spilled 20 litres of diesel at Liard P-66a. NWT spill 03-185
2003	INC2003-128	Anadarko spilled 1000 litres of KCl water due to a kick well tripping at Arrowhead M-35. NWT spill number 03-188.
2003	INC2003-129	Hurley Well Servicing spilled 510 litres of hydraulic fluid at M-49. NWT spill number 03-189
2003	INC2003-130	Hurley Well Servicing spilled 100 litres of produced oil at C-75 Cameron Hills. NWT spill number 03-190.
2013	INC2013-147	During flyover of NCC 36 PL (2013-146) an exposed section of pipe on the NCC 24 Loop was noted. The exposed section had a buckle. Discovery was made during period when NCC 24 pipe was being brought back up to pressure after incident on adjacent NCC 36 pipeline.

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2013	INC2013-146	"Pipeline rupture of sweet gas PL in remote area west of Ft McMurray in north central PL corridor near Woodenhouse Compressor Station. Line is depressurized to zero. Volume of loss not available. No fire reported, No injuries or fatalities reported but not confirmed. Responders en route to site by snowmobile as soon as sufficient light for safe travel with ETA 1 hr from time of report. Company contact [REDACTED] en route to Calgary EOC and may not be accessible during travel. Sweet natural gas"
2002	INC2002-099	Westerngeco spilled 1 litre of hydraulic fluid at 58:0039E 7681068N NAD 27. NWT spill number 02-072
2002	INC2002-100	Bertram Drilling spilled 4 litres of hydraulic fluid 50km South of Tuktoyaktuk. NWT spill number 02-074.
2002	INC2002-101	Westerngeco spilled less than one litre of hydraulic fluid at 580381E 782891N NAD 27. NWT spill number 02-075.
2002	INC2002-103	Westerngeco spilled 1 litre of hydraulic fluid at 582218 7681769N NAD 27. NWT spill number 02-076
2002	INC2002-104	Bertram Drilling spilled 12 litres of ATF at 567582.72 7662854.78. NWT spill number 02-078.
2002	INC2002-105	Bertram Drilling spilled less than 1 litre of antifreeze 50km South of Tuktoyaktuk. NWT Spill number 02-079.
2002	INC2002-106	Bertram drilling spilled less than 1 litre of ATF 50km South of Tuktoyaktuk. NWT spill number 02-082.
2002	INC2002-107	Bertram Drilling spilled 1 litre of diesel fuel at the drill staging 69:55:50aN 133:27:93. NWT spill number 02-256.
2002	INC2002-108	Westerngeco spilled 7 litres of hydraulic oil at 581346 768427N NAD 27. NWT spill number 02-085.
2002	INC2002-109	Westerngeco spilled 9 litres of motor oil at 580522E 7681368N NAD 27. NWT spill number 02-088.
2002	INC2002-110	200 litres of produced water spilled at CPF produced water injection building. NWT spill number 02-093.
2002	INC2002-111	Raymac Surveys spilled 1 litre of engine oil at Ogruknang 3 D prospect 51km North of Inuvik 68:48N 134:22W. NWT spill number 02-095.
2002	INC2002-112	Less than 1 litre of produced water spilled at Bear Island @ BPT #2 N-44 flowline. NWT spill number 02-101.
2002	INC2002-113	75 Litres of diesel fuel spilled at K-74 60:10W 117:15N campsite. NWT spill number 02-104.
2002	INC2002-114	Westerngeco spilled 1 litre of antifreeze at 69:01:698N 135:30:698W. NWT spill number 02-109.
2002	INC2002-115	1 litre of ATF spilled at 69:00:37N 135:25:196W. NWT spill number 02-110.
2002	INC2002-116	1 litre of ATF spilled 68:59:612N 132:25:3:46W. NWT spill number 02-111.
2002	INC2002-117	1 litre of gear lube spilled at 69:03: 128N 135:50:663W. NWT spill number 02-112.
2002	INC2002-118	1 litre of motor oil spilled at 69:01:878N 135:21:116W. NWT spill number 02-113.
2002	INC2002-119	5 litres of diesel fuel spilled at staging Area Arrowhead 3D Line 27 station 228. NWT spil number 02-114.
2002	INC2002-120	8 litres of engine oil spilled at 69:02:12N 133:21:55W. NWT spill number 02-115.
2002	INC2002-121	500 litres of potassium chloride spilled at 60:10N 117:32W N28 Wellsite Cameron Hills NWT spill number 02-118.
2002	INC2002-122	1 litre of gear lube spilled at 69:02256N 135:22:03W. NWT spilled number 02-119.
2002	INC2002-123	15 litres of antifreeze spilled at Cameron Hills Winter Road km 12.9. 02-127
2002	INC2002-124	20 litres of diesel fuel spilled at K-74 60:10W 117:15N. NWT spilled number 02-130.
2002	INC2002-125	1 litre of motor oil spilled at 69:02:558N 135:19:243W. NWT spill number 02-131.

2002	INC2002-126	1 litre of ATF spilled at 69:01:400N 135:20:096W. NWT spill number 02-132.
2002	INC2002-127	1 litre of ATF (jet fuel) 69:02:402N 135:19:024W. NWT spill number -02-133.
2002	INC2002-128	1 litre of ATF (jet fuel) spilled at 69:00:839N 135:14849W. NWT spill number 02-134.
2002	INC2002-129	1 litre of UK spilled at 69:02:680N 135:12:124W. NWT spill number 02-135.
2002	INC2002-130	1 litre of diesel fuel spilled at 69:01:271N 135:16:4N. NWT spill number 02-136.
2002	INC2002-131	Delta Trace /Anadarko 20 litres of oil spilled at Immerk 2D Program 69:24:168N 135:37:598W. NWT spill number 02-137.
2002	INC2002-132	Delta Trace spilled 1 litre of antifreeze at Immerk 2D Program 69:25:335N 135:18:310W. NWT spill number 02-138.
2002	INC2002-133	Delta Trace / Anadarko spilled 4 litres of diesel at Immerk 2D Program 69:25:328N 135:420W. NWT spill number 02-139.
2002	INC2002-134	2 litres of ATF (jet fuel) spilled at 68:59:318N 524W. NWR spill number 02-142.
2002	INC2002-135	5 litres of motor oil spilled at 69:01 878N 135:21: 116W. NWT spill number 02-144.
2002	INC2002-136	Less than 1 litre of oil/diesel spilled at 69:03:092N 135:32:05aW. NWT spill number 02-145.
2002	INC2002-137	Less than a litre of oil/diesel/ATF spilled at 69:00:850N 135:33:942W. NWT spill number 02-146.
2002	INC2002-138	Less than a litre of oil/diesel/ATF spilled at 69:00 850N 135:26:511W. NWT spill number 02-147.
2002	INC2002-139	Less than 1 litre of oil/diesel.ATF spilled at 68:58:757N 135:28:152W. NWT spill number 02-148.
2002	INC2002-140	Less than 1 litre of oil/diesel/ATF spilled at 68:09:846N 135:27:086W. NWT spill number 02-149.
2002	INC2002-141	Less than 1 litre of oil/diesel/ATF spilled at 68:02:723N 135:18:785W. NWT spill number 02-150.
2002	INC2002-142	Less than 1 litre of oil/diesel/ATF spilled at 69:00:316N 135:30:770W. NWT spill number 02-151
2002	INC2002-143	Delta Trace /Anadarko spilled 10 litres of antifreeze at 69:23:076N 135:21:770W Immerk 2 D. NWT spill number 02-152.
2002	INC2002-144	6 litres of antifreeze spilled at M-3 60:10:00N 117:15:00W. NWT spill number 02-153.
2002	INC2002-145	27 litres of diesel fuel/Engine oil spilled at Paramount Winter Road Cameron River Bodge. NWT spill number 02-155.
2002	INC2002-146	7 litres of ATF (jet Fuel) spilled at C 50 Wellsite 60:09:04>059 117:38:37.802W. NWT spill number 02-158.
2002	INC2002-147	20 litres of antifreeze spilled at C 50 Wellsite 60:09:04.059 117:38:37.802W. NWT spill number 02-159
2002	INC2002-148	1 litre of hydraulic oil spilled at Main Plant Site H 03 Paramount. NWT spill number 02-157
2002	INC2002-149	22 litres of engine oil spilled at Paramount pipeline ROW Cameron Hills. NWT spill number 02-165.
2002	INC2002-150	2 litres of antifreeze spilled at Jamison and West Jamison Creeks 68:48N 135:12W. NWT spill number 02-170.
2002	INC2002-151	Anadarko - Norm Gallant spilled 8 litres of ATF (jet fuel) at line 242 station 463 on Liard River 2D. NWT spill number 02-177.
2002	INC2002-152	10 litres of diesel fuel spilled at Cameron Hills Camp 60:18:10N 117:34:45W. NWT spill number 02-178.
2002	INC2002-153	Veritas Anadarko spilled 1 litre of gear lube at line 241 50M East of HWT # 7 Station 343. NWT spill number 02-179.
2002	INC2002-154	Veritas for Anadarko spilled less than 1 litre of ATF (fuel Jet) at Line 201 581 on Liard 2D. NWT spill number 02-180.
2002	INC2002-155	Anadarko spilled 6 litres of hydraulic fluid spilled at Immerk 2D Program LN 10 Taglu Camp. NWT spill number 02-185.

2002	INC2002-156	5 litres of diesel fuel spilled at Cameron Hill . NWT spill number 02-189.
2002	INC2002-157	Less than 1 litre of diesel spilled at Rec 1133 # Source 5296 % 5304 68:57:572N 133:39:085W. NWT spill number 02-199.
2002	INC2002-158	Delta Trace Ltd/Anadarko spilled 8 litres of antifreeze at Immerk 2D Program 69:28:114N 135:00 698W. NWT spill number 02-200.
2002	INC2002-159	3 litres of diesel fuel spilled at 69:02:188N 133:21:125W. NWT spill number 02-202.
2002	INC2002-160	1 litre of methanol spilled at Cameron Hills 60:06 088N 117:30:63W. NWT spill number 02-205.
2002	INC2002-161	20 Litres of methanol spilled at Cameron River Bridge 60:06:12N 117:30:054W. NWT spill number 02-209.
2002	INC2002-162	5 litres of glycol spill at C-50 lease 60:09:046N 117:38:378W. NWT spill number 02-211.
2002	INC2002-163	Traces Energy spilled 5 litres of diesel fuel at 60:06:00N 117:34:36W. NWT spill number 02-212.
2002	INC2002-164	30 litres of producted water/oil spilled at B-08 60:10:10:00N 117:33:00W. NWT spill number 02-213.
2002	INC2002-165	"3 litres of ATF (jetfuel) spilled at the receiver Line 192, station 132-134 South Tuk 3D. NWT spill number 02-219."
2002	INC2002-166	Delta Trace Ltd/Anadarko spilled 150 litres of diesel fuel at Immerk 2D Camp site 69:29:231N 134:43:573W. NWT spill number 02-220.
2001	INC2001-106	Westerngeco spilled 2 litres of diesel fuel on R 92 Access Road. NWT spill number 01-053.
2001	INC2001-107	50 litres of produced water spilled at K-29 Wellsite Fort Liard. NWT spill number 01-064
2001	INC2001-108	100 litres of triethylene glycol spill at K-29 wellsite Fort Liard. NWT spill number 01-068.
2001	INC2001-109	Allen Services spilled 23 litres of motor oil at Mackenzie Delta Lat 68:49 Long 135.:06. NWT spill number 01-069.
2001	INC2001-110	12 litres of glycol spilled at F-36 60:05N 122:22W. NWT spill number 01-071.
2001	INC2001-111	Trace Explorers spilled 20 litres of motor oil at 66:36N 125:58W GPS. NWT spill number 01-079.
2001	INC2001-112	Grubens Transport spilled 15 litres of hydraulic fluid at Line 76 Station 211 on Kugkid 3D.01-080
2001	INC2001-113	Westerngeco spilled 220 litres of diesel fuel 51.8km North of Inuvik East Channel (Ikhil area sleigh camp) NWT spill number 01-090.
2001	INC2001-114	500 litres of hydraulic fluid spill at P.X. Anderson Kurk M-15. NWT spill number 01-097.
2001	INC2001-115	Beaver Entepriises spilled 25 litres of diesel fuel at F-25 Road KM 2 Fort Liard. NWT spill number 01-098.
2001	INC2001-116	10 litres of mehtanol/water spilled at F-36 Wellsite Riser for 4"" pipeline 60:10N 123:15W. NWT spill number-01-099.
2001	INC2001-117	7000 litres of production fluid spilled at B38X Production flowline. NWT spii number 01-112.
2001	INC2001-118	300 litres of crude oil spilled at LT # 11 Satellite Facility. NWT spill number 01-119.
2001	INC2001-119	300 litres of triethylene glycol spilled a Chevron Canada Resources K-29. NWT spill number 01-129.
2001	INC2001-120	100 litres of use compressor lube oil spilled at CPF V119 Suction scrubber. NWT spill number 01-140.
2001	INC2001-121	Beaver Entepriises spilled 30 litres of hydraulic fluid at KM 0.8 F25 Road. While truck rolled over. NWT spill number 01-165.
2001	INC2001-122	75m3 of natural gas released into the atmosphere at Pointed Mountain A-1 Pipeline. NWT spill number 01-167.
2001	INC2001-123	Alta-Gas Utilities spilled 25 litres of motor oil at Ikhil - Inuvik. NWT spill number 2001-182
2001	INC2001-124	10 litres of lube oil spilled at Chevron Site K-29. NWT spill number 01-189.

2001	INC2001-125	Beaver Enterprises 500 litres of triethylene glycol spilled at Chevron K-29 Dehydration facility. NWT spill number 01-192.
2001	INC2001-126	Unknown amount of diesel fuel/sludge spilled at Chevron K-29. NWT spill number 01-202.
2001	INC2001-127	200 litres of fresh water/oil spilled at F-31 injection station. NWT spill number 01-245.
2001	INC2001-128	Unknown amount of glycol/water spilled at Imperial Central Processing facility. NWT spill number 01-246.
2001	INC2001-129	10000 litres of oil/water spilled at D42 X ? D44X flowline. NWT spill number 01-254.
2001	INC2001-130	2500 litres of hydrochloric acid spilled at N-18X. NWT spill number 01-286
2001	INC2001-131	3000 litres of production fluid (oil and water) spilled at E-36X. NWT spill number 01-293.
2001	INC2001-132	1000 litres of hydrocarbon and water mixture spilled at Mailand LT - 7 Line # 11. NWT spill number 01-307.
2001	INC2001-133	800 litres of hydrocarbon and water mixture spilled at mailand C52/D-42 Line 1025. NWT spill number 01-312.
2001	INC2001-134	500 litres of methanol spilled at the Mehtanol Storage tank. NWT spill number 01-336.
2001	INC2001-135	20000 litres of propane/methanol spilled at Mainland Well F23X. NWT spill number 01-344.
2001	INC2001-136	10 litres of wellhead inhibitor spilled at Chevron K-29. NWT spill number 01-349.
2001	INC2001-137	Weterngeco spilled 1 Litre of glycol spill at Boss Camp Dock Tuk harbour - Tuktoyaktuk. NWT spill number 01-352.
2001	INC2001-138	"150 litres of condensate water spill at Well site location F-36 near Fort Liard, NWT spill number 01-359."
2002	INC2002-067	1 litre of diesel spilled at the fuel pump at Conoco Parson 's Lake. NWT spill number 02-003
2002	INC2002-068	225 litres of grey water and sewage spilled at the Conoco parson's Lake. NWT spill number 02-014.
2002	INC2002-069	20000 litres of product fluid spilled at bear Island. NWT spill number 02-005.
2002	INC2002-070	117 litres of hydraulic fluid spilled at PC Anderson Kurk M-15 69:0451.315N 135:19:23.665W. NWT spill number 02-012
2002	INC2002-071	4 Litres of antifreeze spilled at Seismic Line S-7 @ R-18 68:43:46 N 135:12:42 W. NWT spill number 02-022.
2002	INC2002-072	5000 litres of product fluid spilled at CPF. NWT spill number 02-028.
2002	INC2002-073	10 litres of hydraulic oil spill at PC Anderson Kurk N=M-15 69:04:51N 135:19:23W. NWT spill number 02-029.
2002	INC2002-074	8 Litres of antifreeze spilled at Shell's Shallow Rd 68:42:53N 134:55:54W. NWT spill number 02-031.
2002	INC2002-075	Westerngeco spilled 1 litre of hydraulic fluid at 582150E 7578451N NAD 27. NWT spill number 02-032.
2002	INC2002-076	Westerngeco spilled 1 litre of hydraulic fuid at 580096E 768191N NAD 27. NWT spill number 02-033.
2002	INC2002-077	10 litres of gear lube spilled 50km South of Tukyaktuk on Petro Canada Siesmic. NWT spill number 02-037
2002	INC2002-078	5 Litres of hydraulic fluid spilled at Bertram Drilling # 234 60km South of Tuk. NWT spill number 02-045.
2002	INC2002-079	Petro-Canada spilled 2 litres of ATF at Staging 1 North East Corner Titakik 3D. NWT spill number 02-058.
2002	INC2002-080	Petro-Canada spilled 2 litres of oil at staging 2 Westerngeco Titalik 3 D. NWT spill number 02-059.
2002	INC2002-081	Westerngeco spilled 1 litre of hydraulic oil at staging #2 site 69:06:23N 135:25:422W. NWT spill number 02-060.
2002	INC2002-082	Westerngeco spilled 2 litres of ethylene glycol caused by engine failure at Parson's Lake. NWT spill number 02-046

2002	INC2002-083	8 litres of motor oil spilled due to a engine block at Parson's Lake. NWT spill number 02-115
2002	INC2002-084	1 litre of diesel spilled due to over fueling at Parson's Lake. NWT spill number 02-256.
2002	INC2002-085	1 litre of diesel fuel spilled 70km South of Tuktoyaktuk Petro-Canada Siesmic Nuna 3 D. NWT spill number 02-050.
2002	INC2002-086	Westerngeco spilled 1 litre of hydraulic fluid at NAD 27 581994E 7678269N. NWT spill number 02-056.
2002	INC2002-087	Anderson Rentals spilled 1 litre of hydraulic fluid at 583027E 7877150N NAD 27. NWT spill number 02-057.
2002	INC2002-088	Petro-Canada spilled 2 litres of other product at Tilatik 3 D S-716 Sta 118 69:05:561N 135:33:65W. NWT spill number 02-061.
2002	INC2002-089	100 litres of hydraulic oil spilled at 68:59:425N 135:34:192W. NWT spill number 02-062
2002	INC2002-090	100 litres of hydraulic oil spilled by Westerngeco at 68:58:778N 135:34:27W. NWT spill number 02-063.
2002	INC2002-091	45 litres of hydraulic oil spilled at 68:16:50 132:49:00W. NWT spill number 02-064.
2002	INC2002-092	1 litre of motor oil spilled at 69:06:319N 135:28:633W. on Crown land. NWT spill number 02-065.
2002	INC2002-093	1 litre of motor oil spilled at 69:05:078N 135:33:285W. NWT spill number 02-066.
2002	INC2002-094	1 litre of ATF spill at 69:05:460N 135:33:472W. NWT spill number 02-067.
2002	INC2002-095	1 litre of ATF spilled at 69:01:111N 135:33:769W Crown Land. NWT spill number 02-068.
2002	INC2002-096	1 litre of ATF spilled at 69:00:07N 135:34:269W crpwn Land. NWT spill number 02-069
2002	INC2002-097	1 litre of motor oil spilled at 69:05:078N 135:33:285W Crown Land. NWT spill number 02-070.
2002	INC2002-098	1 litre of ATF spilled at 69:00:7:29N 135:30:111W. NWT spill number 02-071.
2000	INC2000-106	Braidnor Construction spilled 5 Litres of diesel at KP 1+120 on M-25 Lateral Line ROW. NWT spill number 00-218.
2000	INC2000-107	BP Cnanda Energy spilled 2000 litres of salt water at Pointed Mountain Plant Site. NWT spill number 00-230.
2000	INC2000-108	Bernies Water Hauling spilled 2 Litres of antifreeze at F-25 Facility Work Site. NWT spill number 00-232.
2000	INC2000-109	1 litre of hydraulic fluid spilled at M -25 to F-25 pipeline ROW @ NKP 3+975. NWT spill number 00-235.
2000	INC2000-110	Schlumberger spilled 1 litre of hydraulic fluid at Parsons Lake (68 56 71N 133 34 20W) NWT spill number 00-241.
2000	INC2000-111	Bernies Tank Truck has spilled 5 litres of methanol/water at K29 Wellsite. NWT spill number 00-244.
2000	INC2000-112	1 litre of paint spilled at Chevron F-25 Gas Facility . NET spill number 00-248.
2000	INC2000-113	Unknown amount of triethylene glycol spilled at K-29 dehydration facility. NWT spill number 00-250.
2000	INC2000-114	70 litres of diesel P-50 spilled at Chevron Base Camp Barge Landing. NWT spill number 00-251.
2000	INC2000-115	30 litres of diesel fuel spilled at the Chevron East camp. NWT spill number 00-256.
2000	INC2000-116	Cobra Trucking spilled 50 Litres of refined oil at H-25 wellsite. NWT spill number 00-261
2000	INC2000-117	Drive Well Servicing spilled 50 litres of refined oil at M-25 wellsite. NWT spill number 00-262.
2000	INC2000-118	150 litres of diesel fuel/hydraulic oil spilled approx. KM # 2 in East Ditch Chevron Access Rd. NWT spill number 00-263.
2000	INC2000-119	20 litres if refined hydraulic oil spilled at Chevron Liard M 25 Wellsite. NWT spill number 00-265.

2000	INC2000-120	Unknown amount of diesel fuel spilled at Chevron for Liard Operation Road. NWT spill number 00-278.
2000	INC2000-121	8 Litres of crude oil spilled at Chevron Barge Landing area. NWT spill numberr 00-279.
2000	INC2000-122	14 litres of diesel fuel spilled at Chevron M-25 wellsite 30M West of Wellhead. NWT spill number 00-281.
2000	INC2000-123	9 Litres of diesel fuel spilled at KM 28 Private Road Chevron. NWT spill number 00-282.
2000	INC2000-124	3500 litres of crude oil/water mixture spilled at Mainland LT-11. NWT spill number 00-287.
2000	INC2000-125	2 litres of diesel fuel spilled at Chevron Fort Liard F-25. NWT spill number 00-288.
2000	INC2000-126	500 litres of ethylene glycol/water spilled. NWT spill number 00-291.
2000	INC2000-127	110000 litres of produced water spilled at B-40X wellsite. NWT spill number 00-318.
2001	INC2001-094	37 m 3 of natural gas released at Pointed Mountain A-1 Well PL. NWT spill number 01-001.
2001	INC2001-095	160 litres of produced water spilled at LT # 7 Satellite Building (B-40X line) NWT spill number 01-004.
2001	INC2001-096	Beavers Enterprises spilled 300 litres of diesel fuel at 60:24:22N 123:35:8W F25A Purcell. NWT spill number 01-010.
2001	INC2001-097	Petro - Canada Haliburton Energy Services spilled 2000 litres of acids at Purcell et al Liard F-25A 60:24:22N 123:35:8W. NWT spill number 01-015.
2001	INC2001-098	1 litre of engine oil spilled at Mackenzie Delta 68:51 :349N 153:03:791W. NWT spill number 01-022.
2001	INC2001-099	231 litres of salt water spilled at Pointed Mountain A-1 Well PL. NWT spill number 01-028.
2001	INC2001-100	30 litres of hydraulic oil spilled at Pointed Mountain A-ZA (K45A) NWT spill number 01-031.
2001	INC2001-101	200 litres of glycol spilled at PC Anderson Kuak M-15 69:04N 135:19W. NWT spill number 01-037.
2001	INC2001-102	"Canadian Natural Resources Ltd, spilled 1000 litres of salt water at P-66 A North 60:31W 123:30 Near Fort Liard. NWT spill number 01-041."
2001	INC2001-103	BP Canada spilled 60 litres of hydraulic oil at Pointed Mountain A -2A (K45A) NWT spill number 01-043.
2001	INC2001-104	Bertram spilled 3 Litres of ATF at Northwest Access Road Receiver 102 Heading North. NWT spill number 01-049.
2001	INC2001-105	Westerngeco spilled 3 litres od ATF at WesternGeco Sleigh Camp Location 54.1 km N Inuvik. NWT spill number 01-050.
2000	INC2000-092	Braidnor Construction spilled 1 litre of hydraulic oil at KP 4-425 Well tie-in pipeline ROW. NWT spill number 00-160
2000	INC2000-094	Braidnor Construction spilled 1 litre of diesel fuel at KP-2 + 675 on M-25 pipeline. NWT spill number 00-170.
2000	INC2000-095	320 litres of produced water spilled at E-25X. NWT spill number 00-180.
2000	INC2000-096	10 litres spilled at KP 18.6 Chevron K-29 Access Road. NWT spill number 00-182.
2000	INC2000-097	40 Litres of diesel fuel spilled between KP 18.4 & KP 5.8 Chevron K-29 Access Rd. NWT spill number 00-184.
2000	INC2000-098	Flint Energy Services - Braidnor Construction spilled 5 litres of hydraulic fluid on pipeline ROW form M-25 to F-25 at 3+700M. NWT spill number 00-185.
2000	INC2000-099	Profiles Inc. spilled 3 litres of hydraulic fluid at the facility site KP 3+100M-25 Access Middle Level of F-25. NWT spill number 00-188.
2000	INC2000-100	Profile Inc. spilled 3 litres of gear oil at M-25 Pipeline Juction. NWT spill number 00-186
2000	INC2000-101	200 litres of crude oil spilled at Central Processing Facility. NWT spill number 00-190.
2000	INC2000-102	Lee Tool (Schlumberger) spilled an unknown amount of automatic transmission fluid. NWT spill number 00-194.

2000	INC2000-103	500 litres of production fluid spilled on Bear Island flowline from 0-41X. NWT spill number 00-195.
2000	INC2000-104	329000 litres of fresh water spilled at Goose Island Water Injection Line form R-27X. NWT spill number 00-203.
2000	INC2000-105	Braidnor Construction spilled 5 litres of hydraulic fluid at M-25 pipeline 0+700M. NWT spill number 00-211.
2013	INC2013-177	Undiscovered OBDL incident related to INC2013-126 - pressure 312 psi which is 113% of MAOP
2013	INC2013-178	Undiscovered OBDL incident related to INC2013-126 - pressure 327 psi which is 119% of MAOP
2013	INC2013-179	Undiscovered OBDL incident related to INC2013-126 - pressure 334 psi which is 121% of MAOP
2013	INC2013-180	Undiscovered OBDL incident related to INC2013-126 - pressure 304 psi which is 111% of MAOP
2013	INC2013-181	Undiscovered OBDL incident related to INC2013-126 - pressure 330 psi which is 120% of MAOP
2013	INC2013-182	Undiscovered OBDL incident related to INC2013-126 - pressure 322 psi which is 117% of MAOP
2013	INC2013-201	Undiscovered OBDL incident related to INC2013-126 - pressure 307 psi which is 112% of MAOP
2013	INC2013-195	Undiscovered OBDL incident related to INC2013-126 - pressure 336 psi which is 122% of MAOP
2013	INC2013-196	Undiscovered OBDL incident related to INC2013-126 - pressure 311 psi which is 113% of MAOP
2013	INC2013-197	Undiscovered OBDL incident related to INC2013-126 - pressure 305 psi which is 111% of MAOP
2013	INC2013-198	Undiscovered OBDL incident related to INC2013-126 - pressure 307 psi which is 112% of MAOP
2013	INC2013-199	Undiscovered OBDL incident related to INC2013-126 - pressure 302 psi which is 110% of MAOP
2013	INC2013-200	Undiscovered OBDL incident related to INC2013-126 - pressure 302 psi which is 110% of MAOP
2013	INC2013-189	Undiscovered OBDL incident related to INC2013-126 - pressure 317 psi which is 115% of MAOP
2013	INC2013-190	Undiscovered OBDL incident related to INC2013-126 - pressure 309 psi which is 112% of MAOP
2013	INC2013-191	Undiscovered OBDL incident related to INC2013-126 - pressure 305 psi which is 111% of MAOP
2013	INC2013-192	Undiscovered OBDL incident related to INC2013-126 - pressure 312 psi which is 113% of MAOP
2013	INC2013-193	Undiscovered OBDL incident related to INC2013-126 - pressure 315 psi which is 115% of MAOP
2013	INC2013-194	Undiscovered OBDL incident related to INC2013-126 - pressure 314 psi which is 114% of MAOP
2013	INC2013-183	Undiscovered OBDL incident related to INC2013-126 - pressure 316 psi which is 115% of MAOP
2013	INC2013-184	Undiscovered OBDL incident related to INC2013-126 - pressure 307 psi which is 112% of MAOP
2013	INC2013-185	Undiscovered OBDL incident related to INC2013-126 - pressure 310 psi which is 113% of MAOP
2013	INC2013-186	Undiscovered OBDL incident related to INC2013-126 - pressure 309 psi which is 112% of MAOP
2013	INC2013-187	Undiscovered OBDL incident related to INC2013-126 - pressure 317 psi which is 115% of MAOP
2013	INC2013-188	Undiscovered OBDL incident related to INC2013-126 - pressure 314 psi which is 114% of MAOP
1997	INC1997-098	397000 litres of crude oil spilled at the transfer line form CPF to tank 401. NWT spill number 97-078.
1997	INC1997-099	50 Litres of crude oil spilled at the B-36 X Production Well mainland. NWT spill number 97-082.

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1997	INC1997-100	200 litres of T8062 corrosion inhibitor spill at the Pointed Mountain Gas Plant. NWT spill number 97-083.
1997	INC1997-101	13000 litres of treated fresh water spill at 75M to 90M S of BIT # 4 (Bear Island) NWT spill number 97-099.
1997	INC1997-102	1137 litres of diesel P-40 spilled at the IPL NW Ltd. McKenzie Pump station. NWT spill number 97-132.
1997	INC1997-103	40 litres of diesel fuel spilled at the Bear Island O-34 X Production Well. NWT spill number 97-154.
1997	INC1997-104	900 litres of produced water spilled at the Utilidor near LT #10- Produced Water Pipeline. NWT spill number 97-173.
1997	INC1997-105	"300 litres of diesel-produced water 90/10, spilled at North Beaver River 124:00 60:10:00. NWT spill number 97-187."
1997	INC1997-106	"700 litres of crude oil - produced water spilled at Bear Island Line no. 139, O-45X Well. NWT spill number 97-226."
1997	INC1997-107	160 litres of crude oil spilled at the F-31 Injection Facility Mainland. NWT spill number 97-234.
1997	INC1997-108	Unknown amount of multiphase fluid (oil and water) spilled at Goose Island Terminal #9. NWT spill number 97-235.
1997	INC1997-109	200 litres of crude oil - fresh water spilled at CPF Inlet Plot Edge Pipeing. NWT spill number 97-242.
1997	INC1997-110	600 litres of crude oil spill at Tank 209 (Slop Oil Tank) CPF. NWT spill number 97-246.
1997	INC1997-111	16000 litres of fresh treated water spilled approximately 45-60 M SW of BIT # 4. NWT spill number 97-247.
1997	INC1997-112	Unknown amount of fresh treated water spill at BIT # 3 Line no 516/517. NWT spill number 97-248.
1997	INC1997-113	100 liter of crude oil spilled at Artificial Island # 2. NWT spill number 97-251.
1997	INC1997-114	200 litres of crude oil spill at Tank 110 @ Tank farm near Old Refinery Site. NWT spill number 97-253.
1997	INC1997-115	23000 litres of produced water spilled at N -25X Goose Island. NWT spill number 97-269.
1998	INC1998-081	40000 liters of produced water spilled at Line 531 on Mainland. NWT spill number 98-005.
1998	INC1998-082	80 litres of crude oil /methanol spilled at the Central Processing Facility. NWT spill number 98-006.
1998	INC1998-083	200 litres of crude oil/methanol spilled at the Land Terminal # 2. NWT spill number 98-007.
1998	INC1998-084	4800 litres of produced water spilled at CPF - Water Injection Building. NWT spill number 98-023
1998	INC1998-085	1600 litres of produced water spilled at CPF Tank 206 - Slop Oil Tank. NWT spill number 98-024.
1998	INC1998-086	200 litre of diesel spilled at Diesel Forward Pumps near TK 103. NWT spill number 98-045.
1998	INC1998-087	40 litres of motor oil spilled at the Bypass Road (approx. 90M E. of main Production) NWT spill number 98-046.
1998	INC1998-088	Unknown amount of produced water spilled near Bosworth Creek. NWT spill number 98-048.
1998	INC1998-089	1000 litres of diesel P-40 spilled at Wrigley Pump Station. NWT spill number 98-077.
1998	INC1998-090	100 litres of produced water spilled at H 21X Produced Water Injection Well. NWT spill number 98-087.
1998	INC1998-091	40 litres of crude oil spilled at the E-32-X Multiphase Producing Well - Mainland. NWT spill number 98-101.
1998	INC1998-092	100 litres of oil/water spilled at well N 42 X Bear Island. NWT spill number 98-110.
1998	INC1998-093	48000 litres of fresh treated water spilled at 400M West of BIT # 3. NWT spill number 98-121.
1998	INC1998-094	1600 litres of JET B spilled at 100M West of C-41 X. NWT spill number 98-134.

1998	INC1998-095	20 litres of crude oil spilled at Tank 110 - Refinery Tank Farm. NWT spill number 98-159.
1998	INC1998-096	48000 litres of produced fluid spilled at Line 140 North of well o-46X. NWT spilled number 98-153.
1998	INC1998-097	200 litres of produced water/wax spilled at Tank 114 at CPF. NWT spill number 98-165.
1998	INC1998-098	100 litres of glycol spilled at Imperial General Processing Facility. NWT spill number 98-172.
1998	INC1998-099	1000 litres of crude oil spilled at CPF Tank 114 (Sales Crude Oil) NWT spill number 98-175.
1998	INC1998-100	5 litres of ethylene glycol spilled at the Air Compressor Building. NWT spilled number 98-176.
1999	INC1999-084	Unknown amount of ethelene glycol spilled at the CPF South of MCC # 1 Building. NWT spill number 99-001.
1999	INC1999-085	500 litres of crude oil spilled at the Imperial Central Processing Facility. NWT spill number 99-002.
1999	INC1999-086	400 litres of methanol-water spilled at the refinery tank farm. NWT spill number 99-019.
1999	INC1999-087	5000 litres of crude oil spilled at the flowline from o-41 to BIT 4 - 200M North of 0-41. NWT spill number 99-036.
1999	INC1999-088	200 litres of fresh water spilled at Island 3 Well L'21 X. NWT spill number 99-045.
1999	INC1999-089	200 litres of crude oil spilled at land Terminal # 11. NWT spill number 99-063.
1999	INC1999-090	20 litres of glycol spilled at the Imperial Central Processing Facility. NWT spill number 99-083.
1999	INC1999-091	1000 litres of crude oil spilled at the D-39X. NWT spill number 99-097.
1999	INC1999-092	10000 litres of crude oil/water spilled at O-41 X . NWT spill number 99-103.
1999	INC1999-093	2000 litres of crude oil/water spilled at O-43X. NWT spill number 99-106.
1999	INC1999-094	1000 litres of oil/produced water spilled at O-45X. NWT spill number 99-108.
1999	INC1999-095	60M3 of natural gas escaped at Imperial Central Processing Facility. NWT spill number 99-116.
1999	INC1999-096	1000 litres of crude oil /produced fluid spilled at D-42X. NWT spill number 99-128.
1999	INC1999-097	100 litres of glycol spilled at the Imperial Central Processing Facility. NWT number 99-129.
1999	INC1999-098	500 litres of production fluid spilled at the Refinery Tank # 109. NWT spill number 99-130.
1999	INC1999-099	200 litres of hydraulic fluid spilled at F-31X. NWT spill number 99-138
1999	INC1999-100	De Cho spilled 9 litres of JET B 100 metres S of K-29 Lease Site. NWT spill number 99-151.
1999	INC1999-101	2000 litres of produced water spilled at H-27 X Water Injection Well. NWT spill number 99-152.
1999	INC1999-102	1000 litres of water spilled at Imperial Central Processing Facility. NWT spill number 99-165.
2000	INC2000-080	30 litres of crude oil/water spilled at Island # 4 ell I-30 X. NWT spill number 00-017.
2000	INC2000-081	3180 litres of crude oil/produced water spilled at C75 60:04:09N 117:34:73W Cameron Hill. NWT spill number 00-036.
2000	INC2000-082	500 litres of produced water spilled at Imperial Central Processing Facility. NWT spill number 00-041.
2000	INC2000-083	800 litres of fresh water spilled at Imperial Central Processing Facility . NWT spill number 00-077.
2000	INC2000-084	500 litres of treated fesh water spilled at Goose Island Terminal # 8 Well T-23X. NWT spill number 00-079.

2000	INC2000-085	Braidnor Contstruction (Chevron) spill diesel fuel at the Chevron Pipeline ROW KP 20-720. NWT spill number 00-090.
2000	INC2000-086	Unknown amount of hydraulic fluid spilled at Chevron Pipeline Project KP 20+900. NWT spill number 00-091.
2000	INC2000-087	3 Litres of diesel spilled at Boneyard KP 10+150 Chevron ROW. NWT spill number 00-094.
2000	INC2000-088	500 litres of methanol/water KP 0+16 North along Ranger P66/Chevron K29 ROW. NWT spill number 00-098.
2000	INC2000-089	2 litres of diesel spilled at the Ranger Oil K-29 P-66 Service Road. NWT spill number 00-102.
2000	INC2000-090	21000 litres of produced water spilled at Island # 3. NWT spill number 00-111.
2000	INC2000-091	100 litres of diesel fuel spilled at Ranger Oil P-66A Well Site. NWT spill number 00-112.
1995	INC1995-081	5000 litres of fresh treated water spilled at the Central Processing Facility. NWT spill number 95-011.
1995	INC1995-082	5000 litres of production fluid spilled at the Well Site D-42 X. NWT spill number 95-015.
1995	INC1995-083	Unknown amount of production fluid spilled at the Well C-36C Flow Line. NWT spilled number 95-043.
1995	INC1995-084	500 Litres of crude oil spilled at the South of C-32X Pumpjack Bosworth Creek. NWT spill inumber 95-046.
1995	INC1995-085	Unknown amount of ethyl antioxicdant 733-toluene spilled at the refinery storage area. NWT number 95-057.
1995	INC1995-086	5 Litres of varsol spilled a the Artificial Island # 3. NWT spill number 95-065.
1995	INC1995-087	"300 liters of bunker C spilled at the Refinery tank far,. NWT spill number 95-071."
1995	INC1995-088	158 litres of crude oil -water spill at the well site F-31 X. NWT spill number 95-079.
1995	INC1995-089	40 Litres of Surflo 519784 spilled at the Production Warehouse Chemincal Dock (storage place). NWT spill number 95-105.
1995	INC1995-090	Mother Nature spilled an unknown amount of crude oil around the Goverment Dock. NWT spill number 95-121.
1995	INC1995-091	300 litres of fresh treated water spilled between Bear Island Terminals - BIT # & 4. NWT spill number 95-140.
1995	INC1995-092	1000 litres of fresh water spilled in the Production department. NWT spill number 95-202.
1995	INC1995-093	3000 litres of produced water spilled at the Utilidor near Well Sight B 40 X. NWT spill number 95-204.
1995	INC1995-094	140 litres of glycol spilled on Island # 2 . NWT spill number 95-205.
1996	INC1996-070	3m3 of fresh treated water spilled at the LPT 1 building. NWT spill number 96-010.
1996	INC1996-071	900 litres of ethylene glycol spilled at Pointed Mountain. NWT spill number 96-019.
1996	INC1996-072	"103000 litres of produced water - 100000 litres of crude and 3000 litres of oil, spilled at the Imperial C-32 X Flowline in Utilidor. NWT spill number 96-026."
1996	INC1996-073	10 litres of isopropyl alcohol spilled at the Imperial Warehouse Chemical Dock. NWT spill number 96-093. Norman Wells
1996	INC1996-074	3200 litres of produced water - oil spilled at the LT-10 Water Injection Building. NWT spill number 96-129.
1996	INC1996-075	1000 litres of water- fresh chlorinated spilled at the 30 M North of 0-14 X Goose Island line. NWT spilled number 96-140.
1996	INC1996-076	"5600 litres of produced water spilled at the LT- 1 Produced Water Header Building, NWT spill number 96-154."
1996	INC1996-077	"600,000 litres of fresh water spilled at the 30 M North of P-44 X on Bear Island. NWT spill number 96-224."
1996	INC1996-078	"200,000 litres of fresh water spilled 70M West of N-47 X of Bear Island, NWT spill number 96-225."

1996	INC1996-079	4000 litre of fresh water spilled of the Fresh Water Injection Well O- 70X on Goose Island. NWT spill number 96-230.
1996	INC1996-080	160 litres of ethylene glycol spilled at the Norman Wells Warehouse Barrel Dock. NWT spill number 96-235.
1996	INC1996-081	3000 litres of fresh water spilled out of hte Goose Island O-23X Fresh Water Injection Well. NWT spill number 96-241.
1996	INC1996-082	200 litres of crude oil spilled 46 meters NW of Bosworth Creek on Main Utilidor. NWT spill number 96-244.
1996	INC1996-083	140 litres of Natco EC6622A Bactericide spilled at the Chemical Storage Warehouse. NWT spill number 96-245.
1996	INC1996-084	310 litres of crude oil spilled at the Crude Oil Chiller Skid. NWT spill number 96-248.
1996	INC1996-085	19000 litres of crude oil produced water spilled at the Bear Island 340 Meters NW if O-46 X well. NWT spill number 96-249.
1997	INC1997-089	160 litres of crude oil spilled approximately 340M NW of O-46 X on Bear Island. NWT spill number 97-005.
1997	INC1997-090	227 litres of diesel P-40 at the IPL (NW) Ltd Wrigley Pump station. NWT spill number 97-025.
1997	INC1997-091	Shehtah Drilling spilled 3 Litres of engine oil at the H-21X wellsite. NWT spill number 97-026.
1997	INC1997-092	3000 litres of 75% oil and 25% water spilled at the CPF tank 211. NWT spill number 97-030. Flint Construction/Imperial Oil Resources.
1997	INC1997-093	1600 litres of crude oil spilled on Artificial Island # 5. NWT spill number 97-033.
1997	INC1997-094	140 Litres of water-oil spilled at Goose Island Terminal. NWT spill number 97-049.
1997	INC1997-095	80 Litres of crude oil spilled a the CPF Boneyard. NWT spill number 97-054.
1997	INC1997-096	240 litres of crude oil spilled E 35 X at the injection well on Mainlaid. NWT spill number 97-057.
1997	INC1997-097	40 litres of crude oil spilled at the S28X (Production Well) on Bear Island. NWT spill number 97-063.
2013	INC2013-142	"Leak of sweet natural gas was detected along line (upstream approximately 350 m from a recent leak (NEB incident 2013-139)) while crews were conducting a line walk along the line in the vicinity of a recent line leak. Pressure at the time of the leak detection was 182 kPa as pressure had been restricted due to previous leak. The line was isolated and being vented. Once line has been blown down, hydrovacating will commence to determine the cause of the leak. It is suspected that corrosion is the cause and the plan is to cut out the section and replace. Supply is not of a concern as alternate measures were taken during the previous leak to ensure residents have supply. There was no danger to the public, no environmental concerns, no fire and the EOC was not activated. "
2013	INC2013-141	"Line leak detected on 6"" Ukalta lateral through farmer's observation of a frost boil in field beside his road. On Sept 26, 2013, a farmer noticed what he thought was plastic in the field beside his road (10-15 metres away from road edge). On September 28, 2013, at 10:30 MDT, upon further inspection by the farmer he determined it was frost boil probably caused by gas condensation. Farmer contacted TCPL who arrived on site at approx. 12:30 MDT. TCPL tested the area and detected a reading of 20% LEL immediately in the frost boil, but 0% LEL in area adjacent to site. Operating pressure at the time of the detection was 7270 kPa, but is being reduced to 5500 kPa (20%) as per TCPL procedures for a Category III leak. TCPL is investigating and has requested that the Apache Gas Plant to shut down to the line. There are approximately +600 residential uses that are being supplied with gas. TCPL is working with COOP to bleed down gas thru usage rather than venting and TCPL personnel have been sent to Smokey Lake compressor station to reconfigure valving or obtain shipments of propane to supply the residential users. undetermined volume"

2013	INC2013-139	"Maintenance crew was hydro-vac'ing 8" line to examine an anomaly that was detected during a magflux in-line inspection. Maximum Pressure Allowed on the line was reported to be 7537 kPa. Operating pressure at time of inspection run was 5919 kPa. Pressure was dropped 10% when anomaly report was initially received. Pressure was dropped an additional 10% prior to hydro-vac'ing line. During hydro vac operations, a reading of 11% LEL was recorded. Operations were stopped, area evacuated and secured. Ten meters away LEL readings are undetectable. The pressure was dropped an additional 10%. Pressure is approximately <4400 kPa and being reduced to 3500 kPa by morning. This line was not shut down as it is the only supply to Slave Lake. Operators in the area have been notified. The Incident Command Center has not been activated. First responders have not been dispatched. TCPL is handling internally. Access is by TCPL access road and this has been blocked and security is being managed by TCPL crew on site. Continuous gas monitoring is being conducted. There is no threat to the public, no injuries and no fire. This was deemed to be a Level II because "Imminent control of the released product is likely but not yet established" Release is estimated to be 10m3 at time of reporting and under the present pressure deductions is described as a slow percolating leak in the standing water in the trench. The 8" Pipe was installed in 1970 has a 3.96mm wall thickness, and has single wrap polyethylene tape coating. The go forward plan is to tie into a 6" feeder line that is parallel to the lateral that has been affected. undetermined volume"
2013	INC2013-137	"A sweet methane gas leak found in a gas reheater in H-Gas Processing Train. The volume is unknown, though not large. The train was shut down and depressurized to remove gasket. Facility is currently shut in to fix it. No injuries reported. 245 kg of methane released approx. 12,200 scf of sweet gas"
2013	INC2013-136	"A pump seal leak was detected. There was a release of natural gas liquid. Detectors shut down station and isolated leak. Line 1 was shut down by Edmonton control centre. Technicians responded, and left valve closed and valve pump out of service. Line 1 was restarted with another pump. Leak was minimal. undetermined volume"
2013	INC2013-133	"Possible gas leak (but may be swamp gas). Company has been monitoring since Friday (September 13) and is trying to determine source. Technician who was en route to meter station noticed possible leak at junction of Kaybab Lateral and Western Alberta Extension. Ethane detectors en route. Valves were greased and cycled, and blowdown body bleeds were completed, but no change in leak. Also completed blowdown of the Kaybob Lateral and lateral loop Monday morning. Pipeline was evacuated and operation has been shut down. Line pressure is being held at 90% of discovered pressure. Company has classified incident as Class 2 leak, and are holding pressure at 4,667 kPa. Daylighting to occur Tuesday. There was no fire, no injuries and no risk to the public. undetermined volume"
2013	INC2013-131	"Release - During routine maintenance a technician found a crack in the threads on a 1 1/2" riser, resulting in a small natural gas leak. Riser has been isolated for repairs."
2013	INC2013-129	"On September 2, 2013, the Pine River Sulphur Plant was shut down for maintenance. During a sweep clean out of the sulphur plant, on September 3, 2013, there was a temperature alarm that indicated that temperatures rose to shutdown temperature. During the investigation it was determined that the reheater in the sulphur plant had a hole in it."
2013	INC2013-126	"Overpressure of 117.8% of MOP in injection piping serving multiple pipelines at Enbridge Terminal 1.5 kms North of Cromer, SK. product was medium crude.. Shutdown performed and line suspended pending investigation. Integrity check will be performed prior to restart. overpressure event"

2013	INC2013-125	Unintended fire during plant start-up. Flaring caused four fires in grass. Approximate area of fire 15'x15' . On-site personnel extinguished fire. No damage or injuries reported.
2013	INC2013-124	"Leak on top of blind flange. During regular inspection, two plugs on top of blind flange were found to be leaking. The leak was minimal since the last inspection was less than one month ago. No estimate of product provided. No injuries / fire reported. undetermined volume"
2013	INC2013-123	"NGTL was conducting an In Line Inspection (ILI) of the Etzicom Pipeline. As part of the ILI, sweet natural gas was sent to a flare stack. Fluids erupted from the stack, causing a fire in the adjacent field. Approximately 80 acres of grass/crop were burned. The fire was extinguished by NGTL and contractor personnel. No emergency services were required, there was no damage to any buildings, no injuries, no environmental impacts and no threat to the public. The land belongs to the local Hutterite colony, NGTL has contacted the colony and is working with the colony to resolve the damages and NGTL will investigate the incident to determine the cause(s). Not a release of pipeline product. Carry-over of fluids from flare stack."
2013	INC2013-120	A contractor investigated an odour and detected an NGL leak coming from a flange on a prover. Company personnel isolated the prover and the leak stopped. Repairs will be conducted on Tuesday. volume undetermined.
2013	INC2013-119	a release of NGL occurred as a result of a seal failure on Line 1 Unit 3. The release set the alarms off. Unit 3 is out of service and has been isolated. Repairs will be done Tuesday. volume undetermined.
2013	INC2013-118	Natural gas liquids were going to the sump because a drain valve was stuck open. The higher concentration of gas in the sump drifted into the pump house and set off a high gas alarm. The line was shut down. The company determined that the drain line valve on the second unit was leaking. The seal were tightened on the valve and the unit placed back in service at about 10:00 MDT. There were no injuries reported and no further incidents. NGL undetermined
2013	INC2013-117	"Incident occurred while performing maintenance at the Vegreville Pump Station. An abandoned 1"" steel pipe was discovered that was not on the drawings and not connected to the active pipeline. While cutting the pipe with a grinder, a small, flash fire occurred for 3 seconds and self extinguished. The vapour type is unknown. There were no injuries and no additional vapours were found."
2013	INC2013-202	Undiscovered OBDL incident related to INC2013-101 - pressure 635 psi which is 111% of MAOP
2013	INC2013-203	Undiscovered OBDL incident related to INC2013-101 - pressure 645 psi which is 113% of MAOP
2013	INC2013-115	"Overpressure occurred on 12"" Highway pipeline on Sunday evening, July 23rd while shut-in for a tie in of a new compressor. The bypass of the compressor station results in the pressure reaching 1013 psi (exceeding the normal operating pressure of 1000 psi). The company reduced pressure to 950 psi at 11:50 PST."
2013	INC2013-114	"While conducting fugitive emissions testing in the area, ATCO Gas reported a gas leak to NGTL. A through-wall sweet natural gas leak occurred on the South Lateral 2"" line in a remote rural area, near Coaldale, AB. The area is cordoned off and NGTL has reduced the pressure in the line to 1500 kPa. NGTL indicates that there is no danger to the public. Sweet natural gas Through-wall leak"
2013	INC2013-113	"Enbridge Control Centre received 3 alarms indicating gas at 20% in the Kerrobert, SK Pump Station. Isolation and remote shut-down was implemented. Enbridge team found pressure control valve leaking at the stem seal. Enbridge indicated that there were no injuries and no danger to public or the environment. undetermined volume"

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2013	INC2013-112	A compression fitting on a 3/8" lube oil line failed resulting in a 1.9m3 release of lube oil in the D plant. The company is investigating.
2013	INC2013-111	Failure of thermal release valves at new MS. Engineering assessment concluded type not required. Offending valves capped. No volume for loss of SNG. [REDACTED] undetermined volume
2013	INC2013-107	Technician on return flight from maintenance at fly-in site noted exposed pipe that appeared to be bent in an area of muskeg. The product is sweet natural gas and there were no signs of a leak. The line will be blown down and then the site will be investigated. Site is remote. No risk to public. near the Moose Portage MS on the Paul Lake Crossover PL. undetermined volume
2013	INC2013-110	"A rupture disc on the inlet gas gathering system (operating at 991 psig) at Spectra Energy's Fort Nelson Gas Plant prematurely failed. This released gas was directed to one of the two flare pits through an 8" line. Site visit confirmed that the radiant effects of this consequent fireball exceeded the flare pit's limits, and had the potential to cause fatalities and damage to environment and infrastructure. Owing to quick action by a senior operator, the gas release was stopped by isolating the rupture disc. However, fire extinguishing team was required to extinguish the wild grass which had caught fire well outside the confines of the pit. The operator isolated another rupture disc in the system to prevent its potential burst and causing another fire. The company did not report as required by the PPR, CLC COHS and TSB regulations. An Engg. study is pending completion by Spectra which will define load capacity and safe periphery around pits. Completion date has been repeatedly pushed forward from 15 Sep. to 01 Oct. to 15 Oct. to 31 Oct. It now stands open at biweekly reporting beginning Nov. 20. "
2013	INC2013-104	"Crude oil release during Tank tie -in: Contractors were tying in a line between Hardisty tanks A and B. While preparing for tie-in, the level of oil in the tank was lowered. When the valve was opened for the tie-in, it was discovered that the level of the oil in the tank was still too high and 10 bbls of crude was released. There was construction pit on site as well as a vac truck at the site for the operations. The crude was contained on site and cleaned up with the vac truck. 10 barrels at time of report"
2013	INC2013-103	"Sweet Natural gas was escaping from threads around a thermal relief valve. Valve was isolated and leak was repaired. Station is regularly inspected and monitored ; therefore, time between occurrence and detected believed to be limited. There was no impact to supply and no injuries or environmental impact. undetermined volume"
2013	INC2013-101	"Over pressure of line during start-up. Occurred at DVJ station near Montreal , Quebec 0.3 mile on Montreal mainline. Normal pressure is 530 psi, during start-up pressure peaked at 620 psi. Line was shut down and incident is under investigation. No release of product, no injuries."
2013	INC2013-099	"Release detected during Integrity dig: TPU crews were excavating an anomaly detected in line. Oil residue was discovered at site excavation on the ground surrounding the pipeline and on the pipeline. The line has been shut down and crews are investigating . The closest water body is the Coquihalla River which was reported by Kinder Morgan to be approximately 134 feet away from the site of the incident. There is no volume to report at this time. There are no water bodies that are impacted or at risk. Site is in a remote area, not visible from the highway and no appreciable vapours have been detected from air sampling. In response to this incident and Incident 2013-092, on 1 August 2013 the NEB issued Safety Order SO-T260-005-2013 (RDIMS#771575) which contained five safety measures including ordering KMC to maintain a pressure restriction of 80% of the maximum pressure experienced during the last 90 days of unrestricted operation prior to 13 June 2013. Kinder Morgan subsequently received approval to lift the pressure restriction in stages."

2013	INC2013-097	"Release of unprocessed natural gas from a flange leak on the 20 th Louise pipeline. The line was in the process of being restarted and pressurized after it was down for a turn around. Flange was tightened and leaked stopped. Estimated loss is unknown but minimal. CH ₄ , small quantity of H ₂ S and CO ₂ volume not provided at time of incident report"
2013	INC2013-096	"Release - A lightning strike caused Unit C to trip. Gas is designed to vent, however the isolation valve failed to close completely. Gas is estimated to have released for 10 minutes. Volume loss is estimated at 5000 cubic square metres. Technician on site closed valve completely. Unit remains shut down for investigation. Sweet natural gas release 10 minute release"
2013	INC2013-094	"During routine maintenance, a small leak was discovered on a plug on top of a blind flange. Small release is estimated, volume unknown. approx 0.3 mcf"
2013	INC2013-095	"During routine maintenance a small leak was discovered on tubing on a filter pressure differential gage. Small release is estimated, volume unknown."
2013	INC2013-091	"Release - Technician discovered sweet natural gas leak during routine maintenance at ½" master flow ball valve. Further inspection, there was a small crack which threaded into valve. It was replaced and unit back on line. No estimate of release volume. undetermined volume"
2013	INC2013-088	"Release - During routine maintenance a small leak was discovered from lose tubing on a lose ½" fitting. Release volume of sweet natural gas is unknown. It is assumed the leak has not been occurring for long, as it was not detected at prior check a few weeks ago. Pressure at time of leak was 500 lbs."
2013	INC2013-089	"Release - During routine maintenance a small leak was discovered from a flange. Release volume of sweet natural gas is unknown. It is assumed the leak has not been occurring for long, as it was not detected at prior check a few weeks ago. Mainline Valve 109"
2013	INC2013-087	"Fatality of one subcontractor employee / serious injury to second subcontractor employee. Single vehicle rollover near Swan Lake, MB. Three "Subcan" employees were travelling to worksite when vehicle rolled into ditch. One person dies at the scene, one person was airlifted to medical facility, and one had minor injuries. Location was on Highway 23, 1 km east of Highway 34 (near KP 696.34 of Lines 1, 2, 3, 4, 13). RCMP and air ambulance were on scene. Media : http://winnipeg.ctvnews.ca/man-killed-2-others-injured-in-in-rollover-in-rm-of-lorne-on-highway-23-1.1315561 "
2013	INC2013-086	"According to the company detailed incident report: The control centre operator was performing a maneuver to swing from NGL to a buffer batch at the Edmonton Terminal location to be injected into Line 1 using Booster Pump 20 in Manifold 208. A valve opening sequence started late resulting in an overpressure. Between the discharge side of the booster pump and the valve analysis determined that the magnitude was 120% (2280kPa). During transfer from Line 1 to Line 2 via a booster pump, a valve which should have been open but was closed caused an overpressure event.The system was shut down for investigation. Technical details: Pipe rating (BN-20); Booster pump (208BP20); Section valve (7P1); Manifold (108)"
2013	INC2013-083	"Company reported an overpressure at the pump station while cleaning a pig trap. Volume of crude oil went into the sump and sump automatically turned on - pumped the volume into the station piping which was isolated to prevent wax build up. Pressure climbed to 115.6% (of MOP). Mop of line 1440 psi. Line was shut in, visual inspection conducted and pressure monitored. Line restarted 11:01 MST. No release of product; no injury; crude oil in line. Line 21 Kp 336"
2013	INC2013-079	During routine maintenance a small leak was found on a tube fitting. No volume provided. <0.01mcf
2013	INC2013-077	During routine maintenance a small leak was found on a valve actuator. No volume available. Undetermined volume and release time
2013	INC2013-078	During routine maintenance a small leak was found on a tube fitting at MLV#268. <0.01 MCFD
2013	INC2013-080	During routine maintenance a small leak was found on a tube fitting. No volume reported. <0.01mcf

2013	INC2013-075	"Sweet natural gas (approximately 5.7 x 103 cubic metres) was released from a broken 1/2"" tubing on a reciprocating compressor. The gas was released into the unmanned station building, The gas detection initiated an emergency shutdown and all critical valves closed as designed. The responding technician replaced the tubing and the unit was put back in service. There was no injuries or threat to the public. The environmental impact of this gas release is related to greenhouse gas emissions to atmosphere. This incident resulted in an estimated emission of 3.9 tonnes of methane which corresponds to 82 tonnes of CO2 equivalents. The gas released from this incident will be included in the NGTL annual greenhouse gas emission reports to Alberta Environment and Environment Canada. approximately 5.7 x 103 cubic meters."
2013	INC2013-074	"Control engineer in Edmonton terminal called to report an over pressure recorded at 240% of MOP on an isolated section of pipe at the Kerrobert, Sask terminal. Cause is believed to be due to thermal expansion. During a walk around at the Kerrobert terminal, it was noticed on a pressure gauge on an isolated 25 foot section of 30"" receiving line from Plains Midstream. There were some small product leaks at some gaskets. The Line is isolated and the pressure is being bleed down, pending an engineering review. Temp at the time of the incident was 13 degrees C. Enbridge stated that there was low commercial need for several months on the receiving line and that the last time the line was run was January 2013. There were no environmental concerns, and no injuries."
2013	INC2013-073	"During routine maintenance, several small gas leaks were detected on tubing and fittings. These leaks were addressed during maintenance. Amount was approx. <.001 Mcf/d. Last maintenance was a month ago and leaks were not present at that time. Actual occurrence date is unknown. There were no injuries, no danger to the public and minor release of product < .001 mcf/d"
2013	INC2013-072	"Fire at unit D of compressor station. Technician was starting up unit. It is suspected there was a seal failure in power turbine which resulted in engine oil coming in contact with exhaust collector. The technician noticed smoke and a small fire where the oil came in contact. The unit was shut down and the tech extinguished the fire. The unit remains shut down for further investigation. No damage, no injuries reported. "
2013	INC2013-071	A contractor on site witnessed a cigarette-butt container on fire. An employee extinguished the fire with a fire extinguisher. Fire fully contained and put out with no damage
2013	INC2013-070	Smoke alarm went off. Field personnel went to investigate and found a variable frequency drive on the booster pump had an electrical failure. Damaged was a result of overheating. Investigation is on-going.
2013	INC2013-069	A temporary H2S analyzer detected 40 ppm coming from an upstream producer. Calgary Gas Control shut down station and asked producer to shut down their station. Lines were shut in. The producer had a new well on-line which encountered sour gas. The producer is no pulling the gas and is believed to be fully contained in the lateral.
2013	INC2013-067	Over pressure of 111% (2113 kPa) on the check valve due to thermal expansion caused a crude oil leak from the upstream flange on booster pump discharge valve. The system was down at the time and the thermal release valve was isolated when it should not have been. 3 L of oil is on the ground. Company is investigating why the thermal release valve was isolated at the time. The system remains down.
2013	INC2013-066	Release valve functioned as required for 1 hour 20 minutes to reduce pressure by releasing gas. Meter station was taken offline to isolate the problem and is now back online and functioning. Company is investigating further. 736 m3 natural gas released. 736 m3 sweet natural gas released to air

2013	INC2013-064	A release of 4m3 of crude oil leaked from the sump pump system. Line 4 has been shut in between Hardisty and Regina and the pipe is isolated. The sump bump system is (at the time of the call) being isolated. Not recovered at time of incident call.
2013	INC2013-063	"Body bleed fitting became loose over time. During a routine inspection, the fitting was discovered and retightened by a technician. Sweet natural gas <.001 mcf was released. <0.001 mcf"
2013	INC2013-062	"Over pressure at 110% of the operating restriction pressure happened on 9 April between 10:30 and 15:42 at the Windsor Meter Station. The Meter Station was and still shut down due to Plains Midstream Canada ULC incident (2013-056). On Saturday 13 April, the controller noticed that the pressure was rising at the Meter Station. Staff found out the 9 April over pressure in reviewing records. KM Cochin is in communication with Plains to resolve the issue. KM Cochin indicated that the overpressure was not an operating issue and was limited to two transmitters in the meter station and did not affect the pipeline. KM Cochin will continue its investigation on Monday. No fire, no venting, no injury. No release"
2013	INC2013-059	Employee performing routine maintenance at the meter station (sweet natural gas facility) and detected sour gas at 23 kg m3 (above tariff). The producer was shut-in and notified. The sour gas was from a new well and the producer failed to notify Nova of its sour content. Nova is communicating with the company regarding other wells in the area.
2013	INC2013-058	"Tubing fire. Third party observed that an outside tubing from L5 Services' washroom trailer caught fire. The tubing links the trailer to the septic tank. Third party notified the construction yard security personnel whom disconnected the tubing and extinguished the fire with a fire extinguisher. L5 Services will make the repairs. No injury, no damage to the trailer. TransCanada Keystone safety group will investigate. None"
2013	INC2013-056	"Plains Midstream reported a suspected failure of the downhole stringer in the injection well for the E1 cavern storage at its terminal at Windsor Ontario. The failure resulted in a slug of brine and gas being released and routed to the flare pit where it ignited. The fire also ignited a nearby power pole. Responders on site included the Ontario Ministry of Environment, Ontario Ministry of Natural Resources and the Windsor Fire Department. There was no release off site, no environmental damages, no injuries and the release was immediately contained. There was local media interest. Undetermined volume of gas"
2013	INC2013-053	During hot tap (NPS 6) into 20 inch lateral the drill rod broke and a section was ejected from the pipe releasing gas. Gas escaped for approx 3 mins until the Alliance inspector on site closed a valve in the tap assembly. There was no ignition but two employees of the contractor Red Flame Inc sustained minor injuries (a scratched cheek and a scraped wrist). Tapping operations were suspended with the incident and the workers reported to a local clinic "on the way home". The gas flow in the 20 inch lateral was not interrupted. Site is secure. Release volume not estimated
2013	INC2013-052	"Serious Injury (burn) to Company employee. During a valve replacement on a depressurized section, a mud plug which had been installed let go, causing a fire and injury. (Pipeline is part of South Nelson Gathering system.) Line is still burning. Four workers were assessed by medical and one was taken to Fort Nelson Clinic for further evaluation. Investigation into failure of mud plug is ongoing. Pipeline product is raw natural gas."
2013	INC2013-047	"An overpressure of 114% occurred during swinging of valving from Husky interconnect at 25 degree product to Enbridge interconnect at much lower temperature. Resulting thermal expansion caused overpressure and auto shutdown. Technician inspected and found no leaks or damage. No fire, injury or environmental impact."

2013	INC2013-044	"A new compressor station had just been commissioned Friday (March 15, 2013). Station was not up and running yet. During a walk-around by the construction manager and the mechanical inspector, it was noticed that there was a small fire on the insulation blanket on the scrubber. Eleven workers were evacuated from the immediate site. Upon further investigation, it was determined that the heat trace wire on the gas scrubber had shorted out and ignited the isolation. Once the site was cleared, the workers were allowed back in the station."
2013	INC2013-043	"Spill of approximately 2000 litres of condensate. While loading condensate onto a tanker truck, the vent on the tanker truck iced up. When the operator manually relieved the pressure on the tank, approximately 2000 litres of condensate was released on the surrounding snow and ice. The product was contained on the site and the product was cleaned up with a vacuum truck. "
2013	INC2013-041	"Routine inspection found a domestic fuel gas release vent leaking sweet natural gas. Technician closed-in supply to reduce pressure, which stopped the leak. Plans are to disassemble the vent to determine cause. Volume unknown, however btb very small. No injuries, no fire. U/K amount, believed to be very small"
2013	INC2013-039	Employees observed a Sulfur Dioxide (SO2) cloud above the plant. The source was identified as the 42 inch line that carries SO2 within the Unit B Sulfur Plant. Unit B was immediately shutdown. There were no SO2 readings at ground level. The wind was light/breezy with the direction due east. The cloud dispersed to atmosphere. Cause and volume are unknown at time of reporting. Amount unknown at reporting
2013	INC2013-038	"During routine inspection on the B Plant, technician heard audible leak coming from 3/8 tubing. A small sweet natural gas leak was detected. The tubing was isolated and replaced by the technician. Early estimate at 1 cubic foot of sweet NG"
2013	INC2013-031	"Compressor Station B Plant shutdown due to a faulty gas detector. One of the shutdown isolation valves did not completely closed allowing a release of gas to atmosphere. On-going investigation as to why the valve did not close. Volume release unknown. Release volume not estimated, release duration not estimated"
2013	INC2013-030	"Gas gage leaking. Technician found a gas gage leaking in the building. Technician vented the building, isolated the valve, installed a plug on the gage and returned the meter in service. No fire, no injury, no danger to the public. TransCanada submitted that this incident resulted in a maximum emission of 43 tonnes of methane which corresponds to 909 tonnes of CO2 equivalents. Release volume not estimated, release duration not estimated TransCanada submitted that this incident resulted in a maximum emission of 43 tonnes of methane which corresponds to 909 tonnes of CO2 equivalents."
2013	INC2013-028	"Gas Release. Areal patrol pilot from Penwest Exploration reported to TCPL a possible leak on right-of-way (no snow coverage). TCPL send technicians that confirmed at 17:00 MST an uncontrolled release of natural gas. There was no noise and no geyser on the right-of-way. Isolation procedures of the line were started and should be taking approximately two hours. Once isolated, the line will be blowdown. A remote location N55 12.88 - W 114 34.842 . The second pipe is still flowing. No impact to the public, No impact to the producers, No municipality impacted. Release volume not estimated, release duration not estimated"
2013	INC2013-025	"On February 12, 2013 during testing of Unit A-1 at restart of Unit, the filler cap on the oil lube tank blew off. A rag resting on the unit caught fire. The Fire Eye System detected the fire. The fire self-extinguished. The Unit is isorated. No injuries reported."

2013	INC2013-024	Syncrude workers heard an audible leak coming from the area of MLV 21. TC staff have confirmed a leak and are working to isolate the area of the release. Product is sweet natural gas. Call to company contact for further information: The leak is underground but the exact location has not been identified. Product is presently venting through the blow-downs at both up and downstream locations. TC has opened their EOC at Athabasca until their isolation plan is complete. TC staff need to access additional valves up/downstream to complete depressurization. There has been no evacuation and no police/fire responders but TC has asked for a NOTAM until 1000hrs tomorrow. No immediate threat to public/workers or to Syncrude property. Amount of product released is not available at this time. The line is the TC 16 Pelican Line and the company contact advised this is a TransCanada pipeline-not NGTL. Unknown volume Unknown volume
2013	INC2013-018	"Condensate spill. Edmonton Control Centre received an alarm for a drop in pressure on line 13. The line was operating between 60-80 psi. First responders were dispatched to the site. Estimated volume between 10-15 barrels. Possible cause, fitting on a pressure transmitter broke and release condensate. Fitting located in culvert (10 feet deep by 5 feet in diameter) within the pump station, the spill is contained within the property limit. Enbridge did not activate its EOC. Vapour reading LEL are low. Repair and clean-up crews in transit. Weather: heavy snow pack with blizzard condition. Wind from the South East, No fire, fire department not required, local police advised, no media. UPDATE 2013-02-02 18:22 The first responders (Enbridge staff) were from Glenavon and the recovery and repair crew were from Regina. Between 6 to 7 barrels of free product were recuperated. Less than one m3 remaining on the ground. Initial cleanup is done and further work to be done this week. Investigation to the cause is ongoing. First assumption, the culvert shifted due to frost, which put pressure on the fitting and resulting of a cracked fitting. Line will be back in operation shortly. estimated release 8 -10 barrels recoverd 6-7 barrels - PIR indicated release material was condensate From detailed report 7.7m3 released and 0.75m3 recovered. - DIR indicated the release material was crude oil."
2013	INC2013-016	"Gas release - During routine maintenance, technician found gas leaking from a release valve on a 3/8 fuel gas line tubing that supply a fuel heater. Technician depressurized 10 feet of 3/8 tubing."
2013	INC2013-015	"Contractor worker injury. An insulator from Albrico slip and fell to the ground from a five feet height scaffolding. The worker broke his left humerus. He was transported to the Fort Nelson hospital on Tuesday. Once stabilised, he was flown to the Fort St-John hospital on Wednesday. Note: The EOC was not activated and no Safety Officer was deployed. Criteria: Contractor injury is not under NEB's jurisdiction and the incident happened yesterday. No update will be issued. "
2013	INC2013-011	Technician doing maintenance heard gas leak traced to a cracked 1/2 in pipe fitting. Technician shut down the pipe stopping the leak of sweet natural gas. Release estimated at 1 m3. Pipe will be repaired 26/01/13.
2013	INC2013-012	"Technician responding to shutdown of C/S identified cracked 1/2 in pipe nipple leaking SWNG. Technician isolated and depressurized the pipe and replaced the nipple. Line has been repressurized and the C/S is back on line. Volume loss was minimal. Unknown volume Volume not estimated, duration not estimates - company states ""minimal volume"" "
2013	INC2013-010	"Company has identified an audible leak of sweet natural gas. NGTL personnel are on site and in contact with gas control as line is being depressurized. Leak is at a fenced in facility in farmland and is currently cordoned off. No volume estimate is available. No injuries. Leaking line has been confirmed, as could have been a COOP line. An unknown volume of sweet natural gas has been released. No volume estimate or duration available"

2013	INC2013-007	"Operator coming on shift at 06:00 MST discovered spill of stabilized hydrocarbon condensate estimated at 9,100 L. Source of leak ws a 3/4 in bleed nipple. Line was isolated and purged and will be repaired. Absorbent pads were applied and two (2) vacuum trucks were on scene. Vacuum trucks were on scene"
2013	INC2013-005	"Cracked seal on supply line. Technician noticed a gas release from a cracked seal on a supply line in the C plant. The unit was shut down pending repairs. No danger to public, no evacuation Unknown volume Volume not estimated, duration not estimated"
2013	INC2013-004	"Where there was 2 pipe runs, one was shut down but not depressurized. On the isolated and unpressurized line, the pressure relief valve (PRV) released gas to atmosphere at a recorded reading of 1400 psi. The valve setting for the PRV was 1440 psi. Company reports that the atmospheric temperature went from -22 degrees C to +4 C. There was no damage and no injuries. The volume of released gas in the atmosphere was estimated to be 679 m3"
2012	INC2012-175	"At a directional drill location, under the Credit River near Mississauga, Ontario, electrical wires on a contractor's rental light stand caught fire. A fire extinguisher was used to extinguish the fire. There was no environmental damage or personal injuries."
2013	INC2013-003	"A technician reported smoke coming from a fire on underside of a manifold jacket on a compressor unit. Unit was shut down and fire self -extinguished. There were no injuries, environmental concerns or damage to the unit. 1/4 inch lube oil tubing needed to be replaced"
2012	INC2012-174	"ESD failed and fire occurred. Enbridge Control Centre received a failure alarm for a ESD on line 4 and contacted field staff. Small fire in the ESD building occurred with fire and smoke damaging the electrical equipment. Wire in the gear box shorter out. Investigation on going. No injury, no evacuation. UPDATE: Please note that ESD is incorrectly entered in description above, should read ESB for Electric Switchgear Building. Pump unit #4 switchgear was damaged. no release"
2012	INC2012-173	"Sweet natural gas release. A commercial power outage occurred. Technician responded and found the auxiliary unit off line and the blow off valve was opened and releasing gas. Technician isolated the valve, closed it and stopped the release of gas. Company is investigating. Volume unknown"
2012	INC2012-171	"Ankle Injury: Contractors had completed tack welds to join two 36"" pipes as part of construction work, however the tack welds broke resulting in the pipes dropping approximately 8"". A pipe then rolled and hit the ankle of a contractor. When complaining of discomfort later, the contractor was taken to hospital for examination and admitted for observation. Initial review by Company indicated the incident was not reportable. The contractor required outpatient surgery earlier today. No age or gender of the contractor was provided. (A v-mail message has been left for the Company contact to get additional information.) "
2012	INC2012-168	"During regular maintenance, a technician discovered a small leak at a ½ valve on a filter. Product sweet natural gas, volume of release unknown and leak was stopped by tightening the fitting. Volume unknown, reported as a very small leak"
2012	INC2012-166	Sweet natural gas leaked from a flange to an inlet tube to 2 filter separators. Estimated duration 1 month. Estimated loss .2 mcf.
2012	INC2012-164	"Terminal controll centre received gas alarm on Line 1 (piezometer)which was shipping NGL at HVP. Technician responding noted freezing on sample pump, and seal failure on small piezometer but no visible liquid. Building was vented and pump isolated and taken out of service until it can be repaired. Alarm was cleared. No injuries reported and no risk to public. Minor release of NGL which dissipated almost immediately."

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2012	INC2012-162	"During transfer of SNG from line 700-1 to 700-2 a leak was detected in a 1 1/2 in pipe nipple near the vent piping at the discharge connection. No line pressure provided, no time available. Estimated loss at 1 m3. System was isolated and nipple repaired. No injuries reported. Site at transfer compressor near MLV 706"
2012	INC2012-161	"A pile of wood chips on the construction site caught fire. Workers extinguished the fire without injuries or further damage or risk to public. Wood chips were then hauled away. Parkway is 5kms SE of Kitcher On , 2 kms S of Hwy 8."
2012	INC2012-159	"Release of sour gas from below ground piping. 10 to 50 ppm H2S detected at a 200 meter radius beside the compressor station pigging facility. Company has blown down the piping. Two company workers responded using SCBA with 2 workers from another company providing back-up using SCBA. No H2S detected at gate and Bullmoose mine road closed. No threat to public. 22 Nov calculations provided by [REDACTED]. From 2100 hrs Nov 17 to 0700 hrs Nov 18 5025 kgs of gas released at 26% hydrogen sulphide resulting in release of 1550 kgs of hydrogen Sulphide. Line pressure reduced from 1,000 psi to 880 psi. Volume undetermined"
2012	INC2012-158	"Gas reslease due to a faulty seal on a unit discharge valve. A compressor case was loading and venting and wasn't supposed to. Gas control received a shut down report and dispatched a technician to site. No fire, ER services, public risk or injury. Maximum emission of 420 tonnes of methane"
2012	INC2012-157	"Sweet gas was released when a 1/2 "" pipe nipple broke on the unit dishcharge pressure transmitter supply causing a gas release in the building which tripped the high gas detection resulting in an emergency shut down. worker diagnosed the problem, replaced the pipe nipple, reinstaffed a 1/2"" valve and returned the unit to service. No other impacts and not emergency response. Compressor down for a few hours. Volume undetermined."
2012	INC2012-156	Sweet gas was released when workers were pressurizing of a piece of pipe and the regulator on the power supply to the control valves leaked. The leak lasted about 2 seconds from a 1/2"" fittling. volume undetermined
2012	INC2012-155	A construction worker discovered a fire at midnight from the stack of a frost fighter (type of construction heater). The worker extinguished the fire and put the device out of service. No injuries; no evacuation. Device out of service pending an investigation.
2012	INC2012-154	A technician arrived on site to complete regular maintenance and detected a small leak of sweet gas from a ½"" treaded fitting that had become loose. The fitting was tightened and the leak was stopped. Technician was there last week and there was not gas leaking at that time. Fitting became loose over time. 0.0005 mef
1971	INC1971-026	"During a flowing test being conducted by the Company, a leakage of oil was discovered on the surface of a slough which it is estimated is about five barrels and it was obviously not a major leak. Located MP 696 near Manitou pump station. Originally this incident was given number 1971-004 but the number was also given to a TCPL incident and now changed to 1971-026"

2012	INC2012-153	"Gas release. The valve is located within a building in a remote location on the Marten Lateral. Technician used the gas entry procedures and had a reading of 50% LEL. Operator vented the building to evacuate gas. Was not able to find the source of the leak as he did not have ""snop"" (Water and soap solution) with him. 2012-11-02 09:15 call for update. Technician is returning to the valve site. It is a two hour drive. TCPL will call back for an update. 2012-11-02 14:55 update. Technician was on site to cycle a combination of bloc and control valve at the Gas control request. To test the valve he has to go to the building which contain the valve MA50-0-CV. As per TCPL gas entry procedure the technician took a gas reading and had a result of 50% LEL. He opened the door to ventilate the building. He then took a second reading and had a result of 0 % LEL. Note: contrary to the first report the technician had ""snop"". However, the solution was for summer temperature and the actual temperature was below zero Celsius. The valve MA50-0-CV is vented to outside when it cycle. The technician suspects that one or two of the an ""O"" ring failed and which allowed gas to migrate through the electrical conduit back to the building. TCPL ordered a Fisher 546i-p controller to replace the equipment. It should be at the station on Monday. Volume unknown"
2012	INC2012-152	Leak from a seal gas. Technician conducting an annual seal gas skid inspection when he smell gas as he was switching the primary to the secondary filter. Subsequent inspection determined that there were a small crack in the secondary filter housing. Technician isolated the housing and waiting for repair. Unknown
2012	INC2012-151	4 inch valve leak in closing position. During a pre-outage valve inspection the operator noticed that the 4 in valve body will not sit in the close position and started to leak when closing the valve. The leak stopped in the open position. The valve was left in the open position until a decision could be reached on the next step. Volume unknow
2012	INC2012-150	"Leak of the tie over valve between Line 100-1 and 100-2. On 25 October, Technicians responded to a leak from the tie-over valve between Line 100-1 and 100-2. Technicians blew down and greased the tie-over valve and stopped the leak. The tie-over valve was then locked in close position. Today the valve was excavated using hydro vac trucks. Technicians confirmed a broken ½ inch tubing caused the leak. Verify PID, incident was not reported on the 25 October 2012. vloume unknow"
2012	INC2012-149	Seal failed on a tank 202 mixer. 7.44 m3 leak into the property internal ditch network during the night and passed the valve of the containment berm. Oil and water was contained within the property. Enbridge is pumping clear water from the ditch into adjacent berm lot. Three vac trucks on site. Mutual aid was informed of the situation. No odour call received. Reporting was delayed as Enbridge first spill estimate was under 1.5m3. A revised estimate trigger the notification at 13:35.
2012	INC2012-148	An undetermined volume of gasoline was released when the take-lff from the line downstream from the pressure control valve to meter manifold overpressured. Pressure went from 275 to 375 psi - 136% overpressure. A small overpressure also occurred on the meter manifold piping: 275 to 316 psi - 114% overpressure. There was a delivery to Suncor when a Suncor valve closed causing a blockage. The pressure release rupture disc burst and released product into a tank. Operator in Edmonton initiated shtdown within 1 minute. Field operator responded and alo noted a 1 inch drain valve off the meter prover released 215 ml of gasoline onto a concrete pad. The drain valve will be replaced. 1. undetermined volume gasoline 2. 215 ml gasoline

2012	INC2012-146	operation beyond design limits - H2S slug entered system from a failed block valve allowing gas to enter the system. Failure is due to suspected ice. Valve actuator vented small amounts. Gas control prior to notification contacted 3rd party gas plant and asked them to stop sending gas. Gas was successfully pulled back.
2012	INC2012-144	"While excavating, gas indicator on site detected gas in the area approx 9:30 am. Staff in area was evacuated until confirmation of gas was swamp gas or sweet natural gas from the line. Further monitoring confirmed at 17:15 the product was sweet natural gas. Delay in confirmation was due to mobilizing specialized detectors. The line was isolated between valve 46 and 47. Plan is to blow down line and continue excavation. Suspect possible dent in pipe leading to release. Loss unknown and rate of loss unknown. No injuries to report. Area cleared of staff. Unknown volume released"
2012	INC2012-142	Fire - Employee was sandblasting the pipe. A cardboard box caught on fire which resulted in burnt wiring on the sandblast compressor. The fire was extinguished and repairs done to the wiring. No injuries to report.
2012	INC2012-141	"Release NGL - Technicians were preparing to work on a sample pump that had seized during shipping of Natural Gas Liquid product. After it seized the 1" line and pump were flushed with OSA prior to repairing. The pump and line were isolated for repairs. When the system was opened to drain the OSA, residual trapped NGL vaporized to atmosphere causing the detection alarm to go off. The alarm detection device was located directly over the area, no threat to staff. Building was well ventilated. No injuries to report. No threat to staff or public."
2012	INC2012-140	"Release - Sweet Natural Gas - A landowner phoned in a report to gas control of dead vegetation of 20x20m on his land where there is a pipeline crossing. NGTL reports that gas monitoring has recorded 20 % methane at one metre soil depth, 6 % methane near the soil surface and no methane readings in the air. The line is still operational and left at the discovery pressure of 4800kPa. There are two land owners within 1 km of the area. They have been notified with appropriate actions to be taken. The nearest public country road is 800 m from site. There is no evidence of third party damage. The line is located 5' in the ground. The area has been ribboned off. NGTL is working on bringing in fencing to block off area with warning signage. NGTL feels the risk is minimal and there is no ignition source in the area. NGTL is in the process of arranging a crew from Calgary to dispatch and repair the line. NGTL will notify all gas co-op customers and producers prior to fully depressurizing the line. Then it will expose the depressurized line for repairs. Unknown volume of gas released to atmosphere Unknown volume released"
2012	INC2012-139	"Operation beyond design limit - Occurrence of a sour gas spike resulting in sour gas block valve to react to spike. Reading was 15.8 ppm. Block valve attempted to close as it neared limit switch and returned back to open. Technician found selector switch in manual open position. Cause was of H2S spike was lost amine pump. Result, gas control blended sour gas slug to blow 6ppm on Worsley Lateral. Incident not on sales tap, thus no impact to customers. No release to atmosphere. Service has been return back to normal."
2012	INC2012-138	"Release sweet natural gas - Through body leak on orifice plate holder. Detected during monthly inspection. Technician isolated run and blew down line. No ignition, no first responders, no environmental effects, no injuries. Unknown volume released"
2012	INC2012-137	"Description: Release - estimated 2 cubic metres of natural gas. While a unit test run was being conducted, during a walk around inside the compressor station a gas release could be heard. On further inspection revealed the seal for the filter differential pressure switch had a small crack. Crack was from 3/8" tubing. Personnel isolated the tubing and stopped further release. No ignition, no first responder, no environmental effects, no injuries."

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2012	INC2012-135	A wooden skid pile had burned overnight on the Parkway East Project. The fire was away from the pipe under construction but adjacent to it. No damage to the coating occurred but soot was found on the coating. No injuries reported.
2012	INC2012-134	"An overpressure of 108.4% of contract pressure occurred on 09 September 2012, which is not reportable. Further review of the incident has shown that the overpressure was actually 110.7% of contract pressure, which is reportable. A phone message was left with ██████████ of TCPL at 17:15, 28 September 2012 in order to attain further information on the timeline and background of the report. Message was not immediately returned. "
2012	INC2012-133	"Packing around a valve stem was found leaking, product is sweet natural gas. No fire or injuries, no estimate of volume released. Was found during routine maintenance and the valve stem was tightened."
2012	INC2012-132	"A fire occurred when liquids travelled up and left a flare stack during flaring operations. The valve to the stack was closed immediately and the fire self extinguished, no fire suppression was used. The fire caused damage to control cable, no injuries or risk to the public was reported."
2012	INC2012-131	"A leak was discovered by a technician from a crack in the threading on a needle valve, the product is sweet natural gas and the estimated loss to the atmosphere is 10 cubic meters. The technician was investigating a source of a potential leak on line 100-3 and discovered the leaking needle valve on a riser ""toilet seat"" downstream of the Rapid City Compressor Station. The bypass piping was blown down, the fitting is being isolated and will be replaced. Confirmation of the incident was not received from the field until the morning of the 27th and was reported to TSB shortly after. "
2012	INC2012-130	"Overpressure of 12% (to 112% of MOP) occurred while bringing online a fourth pump unit at the Lakesend Pump Stn. The station was shut down and isolated. The company is conducting a four hour leak check, no leaks have been identified."
2012	INC2012-128	"During maintenance, personnel heard a loud noise from the maintenance building. There was a lot of smoke and a small flame inside a battery charger. a 30 lb extinguisher was used to put out the fire. Secondary damage included a couple of ruptured capacitors. No injuries and no emergency response initiated."
2012	INC2012-127	Technician on site for regular maintenance discovered a leak of sweet natural gas from a 6"" flange. No volume or release duration was given. The leak was subsequently fixed. Undetermined volume of sweet natural gas Volume released not estimated
1971	INC1971-025	"Unauthorised crossing of our pipe line with a drainage culvert in mining location WD 343 Township of Strathy , district of Nipissing, Ontario."
2012	INC2012-125	"While taking off a sample of NGL, approximately 1 L of NGL was released as a vapour and set off the floor-level gas detectors in the densitometer building at the Plains Midstream takeoff. 1 L of NGL vapourized"
2012	INC2012-124	"Technician conducting a routine inspection discovered 4% to 5% LEL gas readings on the east enclosure gas monitor when the enclosure fans were operating at low speed. A pin hole was found on a burner feed pipe from the fuel gas manifold. The unit was shut down, isolated the fuel gas and replaced the faulty burner pipe. The unit was returned to service. Volume of released sweet natural gas was not estimated, but was thought to be negligible. Volume of sweet natural gas was not determined. Volume not determined."
2012	INC2012-123	Fugitive emissions of sweet natural gas were reported from a leaking fitting on a flange. It was discovered due to leaked product on tubing prior to recoating. Volume of sweet natural gas was not determined. No injuries reported. Volume undetermined.
2012	INC2012-122	Arc Flash - An arc flash occurred at the service station transformer which shorted to ground resulting in damage to the transformer. The cause is unknown. The pump station is being shut down today for repairs and investigation. No injuries to report.

2012	INC2012-121	Fugitive emissions from a leaking gasket at an isolated tank barrel door was reported. Volume of sweet natural gas is believed to be minimal. No injuries reported. M&NP has a crew on site. Undetermined Volume
2012	INC2012-120	"Release of H2S sour gas - The H2S detection system activated in the reaction furnace room of the facility. Operator initiated shut down. Staff evacuated to control room. After venting the building and initial inspection, it was determined a ¾" nipple had failed on a 13 psi line and leaked for approx 10 minutes. Volume release to be determined. The nipple was repaired and the system has been restarted. No injuries or threat to public. No emergency services needed. 48.8 Kg"
2012	INC2012-119	"Fire - A grass fire occurred along the RoW. Approx 15'x100' along Row and next to a walking path. The Regina Fire Department was notified and extinguished fire. Once fire was out, the Fire Dept contacted Enbridge of the occurrence. Enbridge inspected the area and determined no threat to the line, and pressure was not reduced. No injuries to report."
2012	INC2012-118	"Small Welders Fire - While contractor was welding, the cable sheeting on contractor equipment caught on fire. The flame was small and immediately extinguished. Possible reason is heavier rods are being used causing the cable to overheat. Still to be investigated. No injuries."
2012	INC2012-116	A gas release was discovered during routine maintenance. A company rep was conducting monthly maintenance at a meter station and was close to some tubing when he heard an audible leak. Further inspection determined debris got into the filter and caused a leak at the filter. Sweet gas released at 1 nsf/day. volume undetermined - non-odorized sweet natural gas
2012	INC2012-115	Landowner reported a release of sweet natural gas from the 10" Elmworth Gathering system in Alberta to the owning company. The release is from the pipe. Station U (d-43-H/93-P-1) to Elmworth Gas Plant (01-08-70-11 W6M Line; AO-1-XG-1-86 purchased by Conoco Phillips but operating as Burlington Resources. Volume undetermined.
2012	INC2012-114	"Sweet natural gas release from fuel gas relief valve due to failed fuel gas regulator while plant was off line but fuel gas lines remained pressurized. Detected by technician who heard gas venting and stopped leak by isolating the fuel gas run piping. Fuel gas relief valves are designed to release if fuel gas regulator fails. Will need to determine which regulator failed. Volume and duration of release will be determined from period that plant was off line. No injuries, no evacuations, no risk to public and TCPL emergency plan was not activated. Volume and duration to be determined based on time that plant was off line."
2012	INC2012-113	SO2 leak from 30in process pipe leading to sulphur recovery unit at Ft Nelson Gas plant. On stripping insulation from pipe technicians found 12 small holes around a weld in an area of approx 1/2 in diameter. No duration for leak but a rate of 42 kg/hr estimated. Pressure in pipe has been reduced and a temporary patch will be affixed to the leak. Area has been cordoned off and air monitoring will continue. Readings at 10ppm currently. Operator reports no injuries and indicates that there is no risk to the public. SO2 from 30 in process pipe leading to sulphur recovery unit
2012	INC2012-112	"Employee en route to rectifier encountered grass fire in ditch and called 911. Fire was extinguished by contract employees on site but FD did respond and watered down the area to prevent re ignition. Fire caused minor scorching to tech cables to rectifier. No injuries: no ignition. Location is 3 kms south of Cabri, SK Grass fire damaged cathodic protection tech cables"

2012	INC2012-111	AC power interrupted during intense electrical storm. Backup auxiliary failed and unit shut down. Suction and discharge remained open and as air system pressure dropped the unit vent valve opened. Sweet natural gas was vented to atmosphere for 20 mins until a technician could restart the unit and stop the blow off. Estimated volume of release at 34.9 m3. No ignition or injuries. Volume estimated at 34.9 m3
2012	INC2012-110	A grass fire in the city of Regina burned the RoW and over the pipeline at KP 436.5 (line#4). Fire was extinguished by the Regina FD. No apparent damage to the line which remained in service. No injuries reported. No cause reported.
2012	INC2012-109	"Sweet natural gas leak detected at MLV 78.1 (+5.7) during sandblasting in area of pipe anomaly. Pressure at 930 kPa. Work stopped and area evacuated without ignition or injury. Area from MLV 78.1 to MLV 78.9 currently isolated while leak is being investigated. MLV 78.1 is 20 kms east of Jellicoe, ON. Unknown volume or duration"
2012	INC2012-107	Technician doing routine inspection found and repaired a small natural gas leak in a 1/2 in body bleed valve within the station. No estimate of volume or duration available. Estimated quantity of sweet natural gas leaking - 2 MCF. Described as small leak from 1/2 in valve Estimate of volume or duration not available
2012	INC2012-106	2 welders were fabricating a support beam for a flange using ox -acetylene torches. A welder's helper was grinding a gusset. Spray from the grinder ignited a hose from the gas bottles. The welders turned off the valves to the gas bottles and extinguished the fire using water. No injuries or other damage reported.
2012	INC2012-101	A winch box on a lawnmower trailer caught fire and was put out with a fire extinguisher.
2012	INC2012-100	"Prior to commencing scheduled coating on the pipeline, a gas monitor check detected the presence of natural gas. A small leak was located at a flange on the pipeline that had been jacked-up for the coating work. The jacks have been lowered and repairs are to be completed. No volume available at this time, reported as a small leak. Small leak - volume unknown but this is a minor flange leak."
2012	INC2012-099	Technician was completing routine maintenance when he detected a leak at a nipple and valve connection. Technician repaired the leak while on site by tightening the fitting and the leak stopped. Estimated volume 0.001 MMsf 0.001 MMsf
2012	INC2012-098	Relief valve releases sweet natural gas on the domestic run at the station. Technician close the regulator to stop the leak. Estimated volume 100m3
2012	INC2012-097	"Exhaust stack silencer caught fire. Technician using a fire extinguisher extinguished the fire twice as the hot pipe re-ignite the silencer a second time. No injury, no damage. An unknown volume of sweet natural gas has burnt before the fire was randomly discovered. Unknown volume"
2012	INC2012-095	Battery Explosion - Battery from 24 volt power supply system had exploded at Grand Coulee Receipt Meter Station. A measurement technician arrived on site to perform monthly maintenance and discovered battery acid on the floor. The battery bank was disconnected and put out of service for repairs and inspection. The Meter Station is running on utility power.
2012	INC2012-094	"Release of Elemental Sulphur - An estimate of 20 tonnes of sulphur was released. Sulphur had migrated from steam system. As a result, technician had to drain 20 tonnes of sulphur from piping into temporary berm. It was drained as a liquid and cooled and cleaned as a solid. No injuries to report, and no environmental effects, no safety concerns. * Follow up with company with regards to delayed reporting. At the time of staff reporting the incident to supervisor it was stated the product was released into the berm and it was a controlled release. Further inquiry from the supervisor it was actually released onto gravel causing it to become an uncontrolled release making it reportable. 20 tons of liquid sulphur"

2012	INC2012-093	"Battery Explosion - Power supply indicator in control room activated low power indication. Gas technician was dispatched to site. On arrival one battery was observed to have exploded and one battery is leaking. There was nobody in the building at the time of explosion. No injuries, no environmental effects. It has been isolated and an investigation is ongoing at this time."
2012	INC2012-091	"A technician responded to an alarm from the TCPL Mainline Grenfell C.S. A power outage caused an emergency shutdown. The ESD worked appropriately except one isolation valve that did not seal properly. The technician did an inspection and reset the system. TCPL is still investigating. Estimated 1,400 m3 of sweet natural gas was released. There were no injuries and no fatalities. Estimated 1,400 m3 sweet natural gas"
2012	INC2012-090	"A tree fell on one of the power lines to the meter station, tripping the circuit. Two batteries exploded in the Meter Station. The incident was fully contained in the Station. There were no fires, gas leaks or injuries. The batteries have been replaced. NGTL will inspect the Station for any other possible damage."
2012	INC2012-089	"As a result of issues during the start-up of the plant, employees were performing repairs which required the draining of sulphur. Approximately 8 tons (to be confirmed) of liquid sulphur was released into gravel on the company property. The sulphur solidified and has been removed along with the contaminated soil. 20 tons of sulphur were lost from the process piping and flushed out of the feedwater system to the ground within the Plant boundary. 20 tons of sulphur were lost from the process piping and flushed out of the feedwater system to the ground within the Plant boundary."
2012	INC2012-086	"Employees discovered a leak on a 1" stainless steel line from the dry seal filter to the compressor. Approx. 5 cubic meters of sweet natural gas released. Isolated/depressurized compressor and replaced O-ring. Employees then discovered a small crack in the block flange weld. The flange has been removed for repairs. There were no injuries, no fire, no environmental effects and no emergency response required."
2012	INC2012-084	"NGTL reports that a single battery within a bank of batteries experienced a power surge potentially caused by lightning strike. The single battery blew and some acid was spilled on the floor and walls within the electrical building. The batteries provide power to instruments. There were no injuries, no fire, no environmental effects and no emergency response required. no loss no release from station"
2012	INC2012-083	"The incident occurred at the Dryden creek compressor station. The TCPL technician was having trouble starting the PPU, the unit battery blew up. The battery was contained within a metal case so no release of acid or battery parts. The acid and battery were disposed, the battery replaced and the unit was started. There were no injuries, no fire, no environmental effects and no emergency response required. no loss no release"
2012	INC2012-082	"Gas release suspected from a check valve gasket on the mainline between mp 20.8 and 22 where the 6" Monias pipeline connects with the mainline. Odor complaint received. Valve has been shut in and the producer is shutting in. Two employees monitoring air quality - pipeline runs 1% h2s, which is local to the site of the release. Volume undetermined."
2012	INC2012-081	"Rupture - pressure dropped at 22:57. Bonavista Operator reported a large fire to gas control. Nig Compressor Station has been isolated. rupture is 1/2 mile from the station with nearest resident 3 to 4 km distant. Suspect fire has migrated into the trees. Forestry has been called. Stearing Committee: Joe P., Dan Barghshoon, Chris van Egmond with other available staff filling in during absences. "
2012	INC2012-080	A 12 volt battery exploded during the start up of a portable power unit. The unit had 2 batteries and only one was affected. Acid was released and contained within the protected shield with a small amount spilled onto the floor. No injuries - the room had been emptied for unit start up as per procedure. Area is being flushed and the battery has been removed.

2012	INC2012-079	Hydrocarbon condensate leak occurred on E1055A inlet de-ethanizer reboiler. The leak was contained within the insulation and no liquid was spilled to ground. The system has been shut down with plans underway to prepare for inspection to determine exact location and cause of the leak. This will take 2 to 3 days for the erection of scaffold and other preparations. No volume is available until the insulation has been stripped from the vessel. Leak was contained within insulation 576 KG of gas
2012	INC2012-078	"Burned injuries. Two Westcoast employees were doing maintenance on a motorized valve when gas escaped causing a flash fire. Both staff were burned on their hands and face. First aid was on site and decision was made to have both staff medivac to Fort St-John Hospital. Maintenance work was ongoing at the compressor station. The site has been secured and is in safe mode. Note the incident happen sometime in the morning and no time was reported. Follow-up call to Westcoast: Westcoast HSO and Team Leader are travelling to the site. Ask for staff condition. Darren will call me back when he received an update. 2012-06-23 18:06 MST. Workers status: First worker: burned on his hands. Will be staying at the Fort St-John Hospital. Second worker: burned on his hands and face. Will be medivac to the Vancouver's burned unit. Incident: Staff were performing annual maintenance on a electrical operating valve. To set the valve operating limits staff need to be open the explosion proof enclosure. The valve stem leaked and gas found an ignition source. At 18:06 MST, the valve stem is still leaking and Westcoast is working on a plan to isolate and vent the valve. The valve is located within a 12 X 12 feet enclosure (roof and walls) for weather protection in the compressor station yard. NEB staff: equested that Westcoast takes photos of the valve and surrounding area. Westcoast should provide a second update later on tonight. 2012-06-23 20:42 Workers status: First worker: Released from the Fort St-John hospital and went home. He lives in Fort St-John. Second worker: Medicvac to Vancouver. Actual condition unknown as Westcoast staff was not able to speak with a practitioner at this time. Incident: Piping and valve are isolated and depressurized at this time. Westcoast started its investigation and should have the detailed station log on Monday. Note: No NEB staff were dispatched to the field. The NEB EOC was not activated. Flash Fire"
2012	INC2012-074	"1/2 inch fitting corroded, part of a body bled on a valve. Fitting was repaired on site by technician. Sweet natural gas at a pressure of 1330 psi. Volume unknown. Volume unknown"
2012	INC2012-075	Corroded plug on a heat exchanger leaked. Release volume unknown. Pressure 1300 psi. Volume unknown
1988	INC1988-039	"During excavation for installation of line # 22 (8" Naphtha to Shell Oil) at Shell. Rail spur bored crossing, backhoe damaged adjacent line # 19 APR, Propylene (line nor released for service yet). Reason Excavation approximately 20' deep, line #19 bow's to west. Hoe operator unable to detect bow in line, hole unsafe for Labourer to be until excavation opened up. For future crossings at this location, install casing 30' further south. This will aallow the excavation to be opened up t allow safe entry to exavation without endangering Shell rail spur."
2012	INC2012-073	"Broken 3/8 piece of power gas tubing which supply the section valve released unknown volume of sweet natural gas. The system was blown down, the tubing was removed and replaced. The technician discovered a crack in the tubing. No injury, no fire. Volume unknown "

2012	INC2012-072	"A tarp caught fire during welding operations on an elevated platform, no injuries reported. The enclosure was located on a platform being used for work on Tank #10 at the Greenfield Site, the welder was not inside when the fire occurred. The area was evacuated and after the fire was extinguished a safety stand-down was initiated. An investigation is ongoing and a report has been filed with appropriate provincial safety authorities. Note: On 2012-06-11 11:05 EST TransCanada Keystone Pipeline GP Ltd. reported the same incident to the TSB. The incident was reported on Friday directly to the NEB. Note added by Robert LeMay."
2012	INC2012-071	"A fire occurred in unit A1 (E-house) control cabinet, resulting in damage to the control wiring and high voltage monitoring equipment. The control panel has been locked out and no injuries or evacuation occurred. An investigation is under way to determine the cause of the fire."
2012	INC2012-070	"A sub contractor was welding a grating on to a pipestand. The pipestand kicked out and the grating fell on to the welder's leg. The welder sustained a broken leg and was transported to hospital in Dawson Creek. Sunset Creek Compressor Station is 33 kms west of Dawson Creek, BC on Hwy 97. No other injuries reported. Time of incident not reported."
2012	INC2012-069	"A slug of H2S gas at 40 ppm was measured at the Knight CS, exceeding the receipt level by 16 ppm. H2S was measured at 8 ppm downstream in the Schrader Creek CS. Alberta Delivery has been alerted that the gas has higher than contract specified H2S concentration. A blending operation is being undertaken to dissipate the H2S. NGTL is unsure which incoming line brought in the slug of H2S. The H2S is contained in the CS and downstream piping. No injuries or fatalities. No release from or at teh facility"
2012	INC2012-068	"NGTL construction manager discovered a minor leak of sweet natural gas from a valve on the Sloat section of Lateral Loop 2.. A team was sent to repair it. Volume lost is minimal. No injuries, no fatalities. Unknown volume, estimated minor."
2012	INC2012-067	Breaker cabinet at the Kabob South Metre Station was damaged from a grass fire that started adjacent to the station but outside of the fence. The grass fire started when a power line was taken down due to wind. The fire was extinguished and there were no injuries and no volume lost. The Metre Station is currently not operating awaiting repairs to the breaker cabinet..
2012	INC2012-065	Yard employee detected a leak in 3/8 in stainless tubing on the suction side of Unit C. Unit was isolated and the tubing was removed and replaced. Estimated loss at 500m3. No injuries or fire. 0.600 tonnes of sweet natural gas released.
2012	INC2012-064	Technician performing fugitive emissions testing /inspection discovered a broken stem on a 1/2 in valve causing stem and valve to leak SNG. Technician blew down the valve and removed and replaced the unit. Estimated loss at 1m3. No injuries or other damage. This incident resulted in a negligible volume of gas released.
2012	INC2012-063	"Technician responding to noise complaint identified failed regulator valve for plant fuel system causing relief valve to open blowing off sweet natural gas. Technician took plant out of service and isolated fuel system. Estimated release at 200 cubic meters. Ramore is approx10-12 kms SE of Matheson, ON. No duration available. Response to noise complaint."
2012	INC2012-062	A small fire occurred in pads being used by welder due to muddy conditions. Fire immediately extinguished by fire watch officer with no injuries or further damage. Glenavon pump sttion is 1 1/2 M sw of town of Glenavon at mile #504. not applicable not applicable

2012	INC2012-061	Gas release was discovered by highway construction crews working adjacent to the pipeline RoW when they noticed bubbles in the water and reported the leak to the company on 2 May 2012. Excavation occurred on 8 May - leak confirmed. Minor leak on 1.5" cap off the mainline. Pipe has been daylighted - repairs underway. No impacts to people. volume undetermined
2012	INC2012-060	Gas release was discovered by a technician when he heard a hissing and discovered a minor leak on a gasket on the bonnet of the monitor. The station had been inspected 30 April with no leak detected at that time. The leak has been isolated and repairs scheduled. Volume of release undetermined. Reported sweet natural gas leaked to atmosphere estimated at 0.005 mcf. volume undetermined
2012	INC2012-059	A leak was discovered during planned hydrovac and excavation of the lateral to replace 800 m of pipe. The pipe was operating at a derated pressure of 5400 kPa when the leak was discovered at 8% of LEL and worked was stopped. The area was evacuated and fenced off. Line remains in service and the company may lower the operating pressure further. The pipe will be evacuated of gas and cut out on May 28. No emergency response; no ignition; no injuries. Undetermined volume.
2012	INC2012-057	"Small oil fire on a gas turbine. Small misting of oil from a leak on a shaft seal of the turbine allowed oil onto the insulation around the exhaust. When the turbine shut down, the oil began to smolder which tripped the Fire Eye System. The operator responded and found a very small fire which he extinguished by placing his gloved hand over the area."
2012	INC2012-056	"During an inspection, a relief valve was discovered to be leaking sweet natural gas. No other information provided. OCR contacted the company contact to gather additional information. Company indicated their employee was responding to an odor complaint. Upon arrival, found a small amount of gas was escaping by the valve. No estimate on volume or duration of leak. Plans are in place to replace the valve today. Company notified local responders due to odor complaint but no third party response. 0.001 mcf release of sweet natural gas. Unknown amount"
2012	INC2012-053	Welders were working in a ditch conducting maintenance work when the negative terminal of the welder caught fire. The crane operator at the job site saw the fire and extinguished the fire with a 30 pound extinguisher that was on-site. No loss No release
2012	INC2012-054	"TNPI experienced an over-pressure incident on the Toronto Airport Junction pipeline. The pipeline was blocked-in, due to hydraulic expansion the pressure in the line rose to 1000 psi, the thermal relief valve did not release at 1000 psi, pressure continued to rise to 1123 psi and was then released by line control by opening the line 9 valve. The over-pressure occurred on 19th but there was no time provided. No loss"
2012	INC2012-051	"Pipeline technicians discovered gas leaking from a valve at the valve stem packing, the technician tightened the packing and the station remains in operation. Fugitive gas emissions continue however the station cannot be shut down until regularly scheduled maintenance in August. No adverse effects expected and the valve will be monitored until repair can take place. 2 MCF release of sweet natural gas."
2009	INC2009-153	"Employee slipped and ""rolled"" his ankle. Ankle fractured and employee underwent corrective surgery the following day. Workers were cleaning the area of scrap metals when the employee, walking up a slight incline slipped on the ice."
2009	INC2009-154	"Part of a ditch wall collapsed and a worker, attempting to get out of the way, got one foot trapped in the mud and hyperextended his lower leg resulting in a fractured fibula, four broken bones in his foot and a dislocated toe."

2009	INC2009-155	"Worker suffered a fractured tibia, sprained ankle and separated shoulder when a pipe fell out of the clamps that were holding it, and rolled along the ground striking the worker below the knees and knocking him to the ground."
2012	INC2012-049	"Pipeline technicians discovered gas leaking from a fitting on a valve, While trying to tighten the fitting to stop the leak, technicians found the 1/2" weathered nipple was cracked at the threads. The technicians blew down the valve, stopped the leak and isolated the valve. The volume of gas leaked is undetermined, but anticipated to be low, possibly leaking for about one day. TCPL did not report whether there were any injuries or other impacts. Undetermined volume of sweet natural gas released to atmosphere. Undetermined volume"
2012	INC2012-048	"Bobcat backfilling a newly installed pipe, was backed into a 2" riser, breaking off a 1/2" nipple, resulting in venting of sweet natural gas for a couple of minutes. The technician closed the valve and stopped the leak. No fire, no injuries. The contractor will conduct a follow-up investigation. The amount of gas released is undetermined at this time. Undetermined volume of natural gas vented to the atmosphere Undetermined volume released for a couple of minutes."
2012	INC2012-045	Workers discovered packing in a control valve leaking. Repairs are currently under way. Undetermined release of natural gas. undetermined volume
2012	INC2012-044	Terminal piping system was overpressured by 120%. No visual damage. System has been shut down for inspection. No release of product.
2012	INC2012-043	"Small tarp caught fire. During operation of the horizontal directional drilling, a tarp came in contact with a motor and caught fire. The fire was extinguished with a fire extinguisher. No injury, no equipment damage, no other fire. Note this incident is on the Keystone XL Pipeline project in construction phase. Non applicable Not applicable"
2012	INC2012-041	"A technician responded to a "no reading" report at the Belloy West meter station on the NGTL Alberta System. There was no gas pressure to the thermal electric generator in the instrument building. Safety precautions were taken, hand-held meter readings indicated sweet natural gas was present within the building. The building was vented and the source of the gas leak was found to be a frozen and cracked pressure regulator. The regulator normally operates at 138 KPa. No estimates of the volume of gas released. The regulator was isolated and replaced. There were no injuries, no fire, no environmental effects and no emergency response required. Unknown quantity No estimate of volume released."
2012	INC2012-040	"A vent valve was inadvertently closed which resulted in 1400 m3 of sweet power gas being released to atmosphere. The TCPL technician isolated the vent valve and it is currently out of service. There were no injuries, no fire, no environmental effects and no emergency response required. sweet natural gas"
2012	INC2012-038	"A meter regulator failed at the Flat Lake station, which is in a remote location in northern Alberta. Sweet natural gas vented through a 1/8 - inch line on a power valve. NGTL isolated the valve and it is currently waiting for repair. There were no injuries, no fire, no environmental effects and no emergency response required. sweet natural gas vented to atmosphere"
2012	INC2012-176	Undiscovered OBDL incident related to INC2012-004 - pressure 336 psi which is 122.2% of MAOP
2012	INC2012-177	Undiscovered OBDL incident related to INC2012-004 - pressure 323 psi which is 117.5% of MAOP
2012	INC2012-178	Undiscovered OBDL incident related to INC2012-004 - pressure 310 psi which is 112.7% of MAOP
2012	INC2012-179	Undiscovered OBDL incident related to INC2012-004 - pressure 304 psi which is 110.5% of MAOP
2012	INC2012-180	Undiscovered OBDL incident related to INC2012-004 - pressure 321 psi which is 116.7% of MAOP

2012	INC2012-181	Undiscovered OBDL incident related to INC2012-004 - pressure 326 psi which is 118.5% of MAOP
2012	INC2012-200	Undiscovered OBDL incident related to INC2012-004 - pressure 363 psi which is 132% of MAOP
2012	INC2012-201	Undiscovered OBDL incident related to INC2012-004 - pressure 349 psi which is 126.9% of MAOP
2012	INC2012-202	Undiscovered OBDL incident related to INC2012-004 - pressure 315 psi which is 114.5% of MAOP
2012	INC2012-194	Undiscovered OBDL incident related to INC2012-004 - pressure 373 psi which is 135.6% of MAOP
2012	INC2012-195	Undiscovered OBDL incident related to INC2012-004 - pressure 322 psi which is 117.1% of MAOP
2012	INC2012-196	Undiscovered OBDL incident related to INC2012-004 - pressure 339 psi which is 123.3% of MAOP
2012	INC2012-197	Undiscovered OBDL incident related to INC2012-004 - pressure 330 psi which is 120% of MAOP
2012	INC2012-198	Undiscovered OBDL incident related to INC2012-004 - pressure 359 psi which is 130.5% of MAOP
2012	INC2012-199	Undiscovered OBDL incident related to INC2012-004 - pressure 317 psi which is 115.3% of MAOP
2012	INC2012-188	Undiscovered OBDL incident related to INC2012-004 - pressure 354 psi which is 128.7% of MAOP
2012	INC2012-189	Undiscovered OBDL incident related to INC2012-004 - pressure 306 psi which is 111.3% of MAOP
2012	INC2012-190	Undiscovered OBDL incident related to INC2012-004 - pressure 316 psi which is 114.9% of MAOP
2012	INC2012-191	Undiscovered OBDL incident related to INC2012-004 - pressure 341 psi which is 124% of MAOP
2012	INC2012-192	Undiscovered OBDL incident related to INC2012-004 - pressure 341 psi which is 124% of MAOP
2012	INC2012-193	Undiscovered OBDL incident related to INC2012-004 - pressure 356 psi which is 129.5% of MAOP
2012	INC2012-182	Undiscovered OBDL incident related to INC2012-004 - pressure 303 psi which is 110.2% of MAOP
2012	INC2012-183	Undiscovered OBDL incident related to INC2012-004 - pressure 342 psi which is 124.4% of MAOP
2012	INC2012-184	Undiscovered OBDL incident related to INC2012-004 - pressure 336 psi which is 122.2% of MAOP
2012	INC2012-185	Undiscovered OBDL incident related to INC2012-004 - pressure 392 psi which is 142.5% of MAOP
2012	INC2012-186	Undiscovered OBDL incident related to INC2012-004 - pressure 353 psi which is 128.4% of MAOP
2012	INC2012-187	Undiscovered OBDL incident related to INC2012-004 - pressure 316 psi which is 114.9% of MAOP
2012	INC2012-032	Leak discovered on ½" needle valve on the b-plant discharge piping. Technician was doing maintenance and discovered leak. He blew it down and removed from service and repaired it. The cause of the leak was a crack in the needle valve. Unknown volume Unknown volume
2012	INC2012-031	"A small fire occurred when a technician left a clipboard on top of a jet after completing a 2000-hour borescope inspection and the unit was restarted. The fire was detected by two fire eyes resulting in an emergency shut-down of the unit. The technician put the fire out and wetted down the area, reset the fire eyes and emergency shut-down control and re-started the unit. There was no secondary damage or evacuation of people. 13,000 m3 of natural gas from the compressor and unit piping was released to atmosphere. 13,000 m3 natural gas released to atmosphere 13,000 m3 natural gas"
2012	INC2012-029	"Technician on site at the Fredericton PRS (outskirts of Fredericton) noticed ice around the relief valve from a 'miniscule' sweet natural gas leak. Leak is being repaired. No injuries, no fire or loss of throughput reported. Unknown, suspected small quantity of sweet natural gas. Unknown"

2012	INC2012-027	"Technician on site noticed the 52 A-Plant fuel gas relief valve was venting sweet natural gas to atmosphere. The release was eliminated by adjusting the upstream regulator from 3550 kPa to 3375 kPa. Sweet natural gas, volume unknown Volume unknown"
2012	INC2012-028	"MLV 52-1 was venting from the power operator gas used to cycle the valve. The technician adjusted the stops on the valve manually, eliminating the problem. Nearest occupancy is a restaurant about 5 km away. There were no calls from the public, no injuries. Unknown volume. TCPL is unaware of the volume released"
1995	INC1995-072	Condensate line leak due to external corrosion. A crew doing an investigation dig at this site noticed the soil was saturated with oil. A pinhole leak was found and repaired with a clamp.
1995	INC1995-078	"Valve shaft seal failure released NGL. An employee noted mist off of line 1 pressure control valve. Valve isolated and seal failure determined to be cause of leak. Update. An ""O"" Ring failed on a pressure control valve at IPS's Cromer Pump Station resulting in a release of 1.5m3 of NGL. No onsite NEB investigation conducted. Thus, no NEB filed or final investigative reports were produced. This was the second such similar incident (see incident no 1995-017) on IPL's system involving the same type of valve. A meeting between NEB staff and IPL staff had been held 30 August 1995 in Regina, regarding the first incident (Reference memo dated 31 August 1995, minutes of meetings on File no 3750-J001). As well, IR's dated 2 May 1995 and 6 September (File no 3750-J001) had been prepared and forwarded to IPL regarding the first incident. IR regarding this incident was prepared and forwarded to IPL (reference letter dated 8 January 1997). Incident Close-out Memo dated 15 march 1996. TSB did not conduct an investigation into this incident. Thus, it did not issue and investgative report . "
1995	INC1995-079	Pump inboard seal failure released NGL. Edmonton control cent. received gas alarm and co. fld personel investigated inboard seal failure on unit 1.2 determined to be cause of the leak.
2012	INC2012-026	"Worker injury. A worker was knocked down due to H2S exposure. The worker had received the pig and removed from barrel, the barrel was closed and purged. Working was walking behind the pig and passed out. The worker is currently stable and under observations at the hospital. ██████████"
2012	INC2012-024	"Fire. Technician on was on site doing maintenance and repairs. While heating a flange using a portable propane heater, the heater was left on for 5 minutes. The ducting hose caught fire from the heater. The heater was unplugged and the fire was extinguished. The only damaged was contained to the duct hose. No injuries to report. ██████████"
2012	INC2012-023	A fire occurred on a copper bus between the overhead airbrake switch and circuit switcher. The fire-department is on site. Fire is currently still going. Technicians are in the process of opening the switch which will cut power out to diminish the electrical fire. The fire is located to the circuits at the back of the building. Damage has not been determined at this point. There is no additional threat to the rest of the facility. The nearest residence is 1 home across the street from the station approx 150-200 m away. There is no current threat to landowners.The station is currently shut down. The station will be by-passed which will result in reduced to flow to Line 7. ██████████ Fire was put out at 22:25 EST
2012	INC2012-022	Heating torch leak and caught on fire. Contractor worker was heating a pipe with a heating torch when he noticed a leak near the head of the torch. Worker put his glove over the leak and when he moved his glove the gas ignited and the glove caught on fire. The worker dropped his glove in the snow. No injury. not applicable

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2012	INC2012-021	"Gas leaking from pig receiver door. Technician was performing pre-work for up-coming in-line inspection and found that the pig receiver door had a small leak. On 2012-02-03 the O ring was replaced, the door was closed, and the trap was re-pressured resulting in no more leaks. Volume negligible, no injury, no fatality. Volume negligible"
2012	INC2012-088	"A fire occurred during maintenance hydrotest activities a contracted employee attempted to light a flame heater on the right-of-way. When the heater failed to ignite the employee checked the valve on the propane tank. The employee noticed that the valve on the tank was open however two of three valves on the vaporizer were closed. The employee proceeded to open all the closed valves allowing propane to travel from the vaporizer to three separate heaters. The employee was not aware that one of the hoses connected to one of the now opened valves was disconnected from one of the heaters. When the employee then attempted to ignite that flame heater, the propane that had leaked from the disconnected hose ignited. The employee quickly extinguished the fire with a fire extinguisher and closed the valve leading to the heater. There was no equipment damage or injuries because of the incident."
2012	INC2012-020	"During clearing, worker was seriously injured when a logger felled a tree in the workers direction and a branch struck the worker in the head. Worker briefly lost consciousness. The medic performed first aid and worker was sent to the hospital in Fort McMurray and released the next day. Worker is on light duty. Medical aid, overnight in hospital, resulted in restricted work/light duty."
2012	INC2012-019	Sweet natural gas was released through a stem valve. Leak discovered during routine inspection with the last inspection 3 weeks ago - no leak detected. Spectra Energy reported a volume of 2 McF (Mcf (thousand cubic feet)
2012	INC2012-017	Fire occurred when propane tank leaked when contractor used propane torch to melt ice and the propane leak ignited. Extinguisher used to put out fire. Tank and torch tagged out of service. It was -31c. Horn River pipeline project. GC-117
2012	INC2012-018	Fire occurred when a hydraulic hose on the arm of an loader leaked oil while placing brush on a burning brush pile. Brush was being cleared during the day and burned at night with loader tending the burn piles. Loader moved away from the pile and oil sprayed on the ground and caught fire. Extinguisher was used to extinguish the fire. Loader tagged out of service. Out of service until repaired.
2012	INC2012-016	"Large release of product occurred during a delivery receipt with alarms received at 03:40, 05:10 and 06:47. Worker went to site at 07:50 and confirmed oil coming from the roof drain valve. H2S and benzene levels checked and worker was able to close the valve and stop the release. Estimate 110 m3 oil is contained within the tank berm. Odor complaints have been received so the company will apply foam to reduce the odor. Vac trucks are on site. Estimate 2 to 3 days to remove the free product. Product covers 20x80 ft. within the berm. The NEB is sending personnel to site. The incident command center has been established at site. Company provided the NEB with early notification of a potential release at 09:16 with the confirmation received from the TSB at 10:21 MST. KMC Calgary is contacting local agencies regarding the ERP. KM conducted an integrity test of the lined berm last year so expect it to perform as designed. Currently the release is fully contained with no migration observed. No other agencies on site and currently only Kinder Morgan personnel on site. All safety precautions being taken. Monitoring for benzene, LEL's and H2S. Safety plan being developed. Weather - Rain. Working to the company's benefit as it is keeping the oil suspended allowing for easier recovery. 90 m3 was released within the secondary containment."
2012	INC2012-015	An employee/contractor for Louisburg Pipeline Inc. (a welders helper) was preheating pipe when he unknowing lit his pants on fire. Another employee saw what happened and rolled him snow. There are no injuries to report. There is no damage to report. [REDACTED]

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2012	INC2012-011	"A welder employed by Louisburg Pipeline Inc. was preparing to cut a joint with oxyacetylene cutter. A hose blew out from the regulator, and a small fire ensued in the hose. Fellow employee turned off the oxygen and the fire auto-extinguished. No injuries. TSB Contact: Dan Holbrook (Hot Line 819-997-7887) Company Contact: [REDACTED] Loss of 100 feet of hose."
2012	INC2012-013	A small generator mounted to a Louisburg Pipeline Inc. vehicle caught fire. Fire extinguishers were used but were not successful. Fire was eventually put out. No injuries. TSB Contact: Dan Holbrook (Hot Line 819-997-7887) Company Contact: [REDACTED]
2012	INC2012-014	A third-party person was starting a Herman-Nelson heater when it caught fire. Flames were noticed and heater was unplugged. A fire extinguisher was used to put out the fire. No injuries. TSB Contact: Dan Holbrook (Hot Line 819-997-7887) Company Contact: [REDACTED] (Compliance Engineer; [REDACTED])
2012	INC2012-010	"An unknown amount of sweet natural gas was released when a starter gas relief valve failed. There was no ignition, no impact, and no loss of throughput. The valve has been shipped to repair shop. TSB Contact: Glen Pilon (Hot Line 819-997-7887) Company Contact: [REDACTED] According to TransCanada, this incident resulted in a maximum emission of 71 tonnes of methane which corresponds to 1.497 tonnes of CO2 equivalents. Unknown volume"
2012	INC2012-007	"At approximately 07:30 PST, Spectra Energy gas control received a phone call from a third party to report an odour in the area of line break valve #7 on the 20" Grizzly sour gas pipeline. Spectra dispatched 2 technicians to the site. The technicians discovered a leaking transmitter on the line break valve within a building. The transmitter was replaced. There was no estimate on the volume of sour gas released. There was no shut down of the facilities, no fire or explosion, no environmental effects, no injuries and no emergency responders involved. No estimate of the volume released."
2012	INC2012-004	"Over Pressure. The operator was trying to swing the main line unit online when the unit failed to start. Pressure travelled back to the terminal and over-pressured the terminal piping. The normal max is 275 psi, the o/p went to 318 psi before shut-down. The pipes involved are in the terminal - size of pipes unknown at time of reporting. The product is usually crude oil but this has not been confirmed. Enbridge is still investigating why the unit failed to start. No release, no injuries, pipes to be visually inspected prior to restart. No release of product"
2012	INC2012-003	"Company tech was responding to a report of a gas release and observed one of the regulators was frozen and sweet natural gas escaping from a grease fitting. The tech isolated the gas source, disconnected the tubing, cleared the valve of ice/moisture and returned the valve to service. Release volume estimated at 6 m3."
2012	INC2012-002	"Company techs were onsite to investigate why the C-Plant would not start and determined the power gas vent valve was frozen and sweet natural gas was venting to atmosphere. Release volume estimated at 55.4 10(3) m3. Repairs/investigation to be conducted. (Note: In MOE email regarding this incident, it was reported the occurrence date as possibly Dec 23/2011) 55.4 (3) M3"
2011	INC2011-186	"A natural gas odor complaint report was received by the company from the Saint John Fire Department. Two technicians were dispatched to Beavercourt Meter Station where they discovered gas flowing from a relief valve inside the compound. The valve was isolated and the flow was stopped., no estimate of volume released at this time. 236 mcf."

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2011	INC2011-185	Release of sweet natural gas. A technician on site heard an audible gas leak in station yard. Found the nipple on the bottom of the line 1 power gas filter housing had broken off and was leaking gas. He isolated it by turning off the upstream and downstream valves to stop the leak. Repairs are underway. [REDACTED] Approximately 3.4 tonnes of methane was released.
2011	INC2011-183	"2 cubic meters of crude oil was released onto the ground/gravel at the truck loading facility. It was due to 3rd party damage from Johnston Tank Truck Limited. When truck driver arrived on site, he did not put the parking brake on. The truck rolled back during transfer and hose disconnected and resulted in release of product. [REDACTED]"
2011	INC2011-180	A release of about 3m3 crude oil was discovered coming from the packing on a station valve by an operator during a routine inspection. Line 2 was shut down. Oil was confined to an excavation around the valve that was for an unrelated maintenance matter. Company is cleaning up the oil and water.
2011	INC2011-179	A landowner heard noise from the pipeline and called the emergency line. Technicians attended and confirmed a leak. Pipeline was shut down. There was a depression around the site. Technicians dispatched to conduct a dig tomorrow (7 Dec 2011). The lateral ties into 2 producers. Volume undetermined at time of initial report
2011	INC2011-178	"During a purge and load activity a leak was discovered coming from a crack in a threaded fitting on a pressure warning device on MLV 120-2-UB toilet seat assembly. Technician locked out the jumper assembly - vented gas to atmosphere, removed and sent the assembly to North Bay for repair. No impacts on people or the environment. amount of release undetermined"
2011	INC2011-177	"During a welding operation on a blind flange, gas seeping through an isolation valve ignited. Extinguisher was used to put out the fire. No injury, no property damage, no estimated volume of gas release. No estimated volume"
2011	INC2011-175	"At 12:42 MST, while upgrading the programmable logic control (PLC) at Portage La Prairie, MB Pump Station 25 (KP 2099.9), a valve closure occurred causing a back-up all the way to the Hardisty, AB Terminal. Pressure at Hardisty briefly reached 2096 kPa; 110.34% above normal operating pressure. SCADA showed only a brief overpressure, dropping back to normal in under 1 minute. Pump Station 22 (KP 939.7) at Crandall, MB registered high suction causing the line to shut-down. Excess oil was released to a tank at Hardisty Terminal. No product was released. Line is expected to be shut down for about 4 hours or more while TransCanada investigates the cause."
2011	INC2011-174	"Gas Control registered a Unit shut-down due to high temperature on a turbine. An oil mist at a leaking exhaust gasket resulted in a flash fire underneath the insulating blanket (cladding). Repair was expected to take about a week. Nearest residence is less than 1 km. No loss of throughput. No danger to the public, no injuries."
2011	INC2011-173	"A broken fitting on the turbine on Unit 1-A elbow resulted in an approximate 6 hour release of natural gas. An estimated 4 m3 gas was released. A technician repaired it. No loss of throughput. No danger to the public, no injuries. 4 m3 sweet natural gas released 6 hour approximate release"
2011	INC2011-171	2 inches valve leaking. A third party reported to gas control a leak at the meter station. Technician found a 2" valve leaking. Valve was isolated. Estimated volume 50 m3.
2011	INC2011-172	Relief valve venting. A third party reported to gas control that gas was venting at the meter station. Technician found a relief valve venting due to a regulator malfunction. Valve was isolated. No estimated volume. No estimate provided

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2011	INC2011-168	"Technician responded to a fire alarm at the station. Upon entry could smell something burning and heard a noise coming from the UPS. Tech removed a panel to expose the battery and saw flames/smoke. A fire extinguisher was used to put the fire out. The battery bank was disconnected and removed - no other fire. No injuries, no other responders. NOTE: Location : Ease Kootenay Exchange Meter Stn"
2011	INC2011-167	TransCanada staff were hydro testing at the noted location when a generator being used to run the pump had an electrical short. There was no open fire and no injuries.
2011	INC2011-166	At the Gem South Meter Station a technician went for a routine visit. On arrival air monitoring in the station detected a gas reading. The building was vented. On approach a faulty regulator was discovered. The regulator was a Fisher 1301G ¼" NPT. It was removed and replaced. The last inspection was July 6th. Estimated loss of 1 cubic metre. [REDACTED] undetermined volume
2011	INC2011-165	"During scheduled work on Line 1 of installation of a sectioning valve, the line was shut down at 11:30 MDT. At 19:10 section valve and line were put in place. During pre-heating with a tagger torch at the weld a small pop was heard and a small flame was ignited and extinguished itself. Area was evacuated and staff stayed away for 15 mins. There was no need for a fire extinguisher. There was confirmation that there was no product in the pipe. Inspection of mud plug determined it was ok and functional. It is suspected that methyl-hydrate was trapped in valve from manufacturer. [REDACTED]"
2011	INC2011-163	"While working on a thermal electric generator, employee noticed a propane leak from the expansion tank spit valve. Approx 1 L of propane was lost. There were no injuries. The faulty spit valve is being replaced. 1 L propane vented in the air."
2011	INC2011-162	"An Enbridge Supervisor reported a release of 0.5 litres of propane, due to a failed valve stem, at remote valve site kp 228, approximately 78 km north of Wrigley, NT 0.5 L propane released."
2011	INC2011-160	"Brine stringer damage on Well EO-1 (License 4327). The incident occurred when the cavern emergency shutdown valves (ESDV) were activated on high brine pressure. The Operator isolated the brine master valve in addition to the ESDV, which both remain closed. Detail on the situation are as follows: The cavern is in propane service with inventory at 42,433 m3. Cavern E-1 last workover and nitrogen M.I.T. in 2009. BP is developing a plan to empty the cavern. The plan will cover brine piping fit for service and monitoring pressure conditions that could result in cavern fracture. BP will provide appropriate notification to Ministry when BP has completed its plans and developed a brine string replacement program. Note: the notification was sent by letter to the Ministry of Natural Resources, Petroleum Resource Centre attention to Jug Manocha and c.c to NEB staff Henry Simoneau. "
2011	INC2011-158	"Gage on top of the valve of a propane tank failed. Technician was preparing to start a thermo electric generator at a remote valve site. The gage on top of the valve of a propane tank failed releasing half a cubic litre to atmosphere. Technician closed the valve. Gage needs to be replaced. No injury, no environmental contamination. Note: Spill was reported to both the spill line and the TSB. The estimated volume released is 0.0005 cubic meters."

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2011	INC2011-157	"Fatality. Contractor employee was cutting grass on the right-of-way when he drove off the retaining wall of the St-Clair River. He fell onto the embankment and was pinned under the mower. The employee, from Braun-valley Associate employee, was transported to a Sarnia hospital and was declared death. There was no witness to the accident. A nearby landowner when looking after the contractor when he noticed that the employee was not coming back out the right of way. The pipeline operated by Enbridge gas Distribution is located across the St-Clair River between Michigan state and Ontario. Note: Enbridge reported the incident to the NEB first and then to the TSB. Enbridge notified Ontario Minister of Labour, Ontario Provincial Police, and the coroner. The mower was removed from the incident site by the Ontario Minister of Labour. The employee from Braun-valley Associate employee,"
2011	INC2011-155	"When technician arrived on site, he heard a noise and proceeded to isolate the power gas line for MLV 130-2. It is unknown how long it has been leaking or how much gas was released. There was no impact to the public, and no impact to throughput. No further information provided. (Sweet Natural Gas) Company Contact: [REDACTED] TSB Contact: Darlene Roosenboom; 819-953-1635 / 613-720-0119 0.0034 tonnes of methane"
2011	INC2011-154	"Technician discovered a cracked 3" stainless steel tube between the discharge pipe and the discharge pressurization transmitter. The unit was shut down, the booster was depressurized, the cracked tubing was replaced, and the unit was restarted. No leak was observed. Company Contact: [REDACTED] TSB Contact: Dan Holbrook (819-997-5920) undetermined volume"
2011	INC2011-153	A technician discovered a small leak on the grease button of a 2" valve. The valve was on the outlet to the filter of the station. Grease was applied to stop the leak. The product released was unscented natural gas. Company Contact: [REDACTED] TSB Contact: Dan Holbrook undetermined volume
2011	INC2011-152	During routine maintenance the station experienced an emergency shutdown due to a high gas alarm. Investigation revealed a nipple valve had broken causing a slow leak resulting in the alarm. The valve has been replaced and the station is back in service. Unknown amount of sweet natural gas released. Unknown amount but estimated less than 30m3. An update to be provided when the company completes the investigation.
2011	INC2011-146	"Construction crew welding using an internal clamp powered by an air compressor. While switching compressors, a small flash fire occurred inside the pipe. the fire lasted 30 seconds before going out on its own. No injuries, some damage to the internal clamp. Work has stopped and the incident is under investigation"
2011	INC2011-142	Employees working at the site as part of the recoating program identified a gas leak coming from a 1 inch fitting on a gas power supply. Product is sweet natural gas. Unknown how long it has been leaking or how much gas was released. No further information provided. U/K amount
2011	INC2011-143	Employees working at the site as part of the recoating program identified a gas leak coming from a 1 inch fitting on a gas power supply. Product is sweet natural gas. Unknown how long it has been leaking or how much gas was released. No further information provided. Unknown amount
2011	INC2011-141	Employees working at the site as part of the recoating program identified a gas leak coming from the threads on a ¼ fitting. Product is sweet natural gas. Unknown how long it has been leaking or how much gas was released. No further information provided. Unknown amount released
2011	INC2011-138	A leak was detected by a third party working close by. They heard the relief valve go off and contacted gas control. The on-call technician identified the relief valve that was venting from ½" tubing. It is estimated it vented for 2 hours. Approx 7000 cubic meters of sweet natural gas was vented. It has been repaired and the meter station is back in service. No adverse effects. [REDACTED] undetermined volume

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2011	INC2011-136	"Contract worker was injured when he jumped from a vehicle that was out of control due to a mechanical failure. The third party contractor had been brushing and drilling for adodes, had finished and was demobilizing. Something went wrong with one of the timberjacks as they were moving off the right-of-way and the operator lost control and jumped free of the vehicle as it was heading toward a ditch. Operator was taken to hospital and treated for a broken arm, sprained ankle and cuts to the head requiring stitches. No loss of consciousness and worker was cleared from hospital the same day. This is a lost time injury."
2011	INC2011-135	A construction team during activity of building a new tie-in to the Gold Creek lateral heard gas escaping from an open excavation area. The area was evacuated. The plant and line were shut down. There were no injuries or immediate risk to the public. It was a through-wall leak originating from the bottom of the pipe of the lateral. All construction has stopped until the line is repaired. The section that has been excavated will be inspected before construction resumes. [REDACTED] Unknown volume
2011	INC2011-134	"Third party contractors were using a Rhino machine for harrowing top soil, approx 30m from a grid road. The check engine light came on and the driver attempted to move the machine closer to the road. A small fire was detected under the console. The machine was shut off and the fire was extinguished. [REDACTED]"
2011	INC2011-133	"During maintenance, the main breaker on one of the generators showed signs of arcing. The associated wiring and breaker showed evidence of overheating, but no evidence of fire. The generator has been locked out for repair. There was no disruption to service."
2011	INC2011-132	A contractor traced a short (blown fuse) to the control wiring in the furnace section of the make-up air unit. When the burner unit was opened it was discovered that fire had come outside of the fire box and damaged some of the control wiring. The fire was already out. The unit is locked and tagged - to be repaired. There was no disruption to service.
2011	INC2011-131	"Saskatchewan Power was re-energizing the Power Supply to compressor station 17 and caused the transformer to blow and catch fire. The fire self extinguished. Less than 1 litre of oil leaked onto the ground from a small compressor. The station is in lock-down. Mineral oil from electrical transformer. Reported due to fire, not the release. Release volume does not meet reporting requirements."
2011	INC2011-129	"Over pressure. All communications were lost with the Toronto North Station when a contractor working on a subway station cut a local communication cable. The station was isolated as a preventive measure. Upon arrival to the station the technician noticed a mist of oil. Two thermal release valves, one on the pump and one on the feeder line, did not release causing an overpressure. Communication with the station was re-established at 17:00 on 2011-08-16. Technician release the pressure. Testing company for the thermal release valves are scheduled for Wednesday 2011-08-18. (This was an overpressure of station piping as per the DIR) oil Volume unknown"
2011	INC2011-127	"Natural sweet gas was venting from a meter station. TCPL gas control received a call from a producer, who heard a hissing sound from the meter station. Technician was dispatched with a gas detector. Gas was venting through a tubing outside the meter station. No gas leak was found in the building, the gas sampler had ice build-up and the gas was diverted outside the building. The system was isolated. TCPL is considering replacement of the gas sampler. unknown"

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2011	INC2011-125	"A technician was investigating a short in an electrical services building when a paper air filter came loos, touched the heating element and caught on fire. The fire was extinguished and the company is investigatirng."
2011	INC2011-119	"As part of doing retrofits with the line out of service at Monitoring Pump Station #7 / KP 105.0 (Oyen, AB), welding was being done in conjunction with mud plugs. A small fire occurred, which immediately extinguished itself when the welding was stopped. LEL monitoring is continuing. It is suspected the pipe heated up, the mud plugs separated from the pipe wall, and the residual oil in the pipeline provided a fuel source. After the purge was finished, the work was completed. No safety concerns were identified. TSB Contact: Darlene Roosenboom; 819-953-1635 / 613-720-0119 Company Contact: ██████████"
2011	INC2011-120	"A small fire occurred while welding a tap on a previously plugged and tested section of pipe at Pump Station #8 / KP 163.7 (Oyen, AB). The flame was noticed beside the flange, and when the work stopped, the fire extinguished itself. The work was completed and the incident is under investigation. No injuries were reported. TSB Contact: Darlene Roosenboom (819-953-1635 / 613-720-0119) Company Contact: ██████████"
2011	INC2011-116	"While welding was being done on a 2" station discharge transmitter piping, a 4" flame occurred on the outside of pipe. The torch was turned off and the flame went out (therefore non-sustainable). A mud plug used to contain oil was determined to have dried out, allowing fumes to escape. The pipe was re-injected with nitrogen and the mud plug was replaced. LEL monitoring was conducted, and the work was subsequently completed. Incident occurred at KP 464.6. Company contact: ██████████ TSB Contact: Glen Pilon; 819-210-1174)"
2011	INC2011-115	"While performing coating activities at MLV 518 (100 Mill Road, Flume Ridge, NB), a leak survey was conducted. The survey found leaks at five (5) fittings, with the release being estimated at 0.032 mcf/day for an eight-day period. The leaks have been repaired and work is continuing at the site. TSB Contact: Glen Pilon; 819-210-1174 Company Contact: ██████████ 0.032 MCF/DAY"
2011	INC2011-114	"A lightening strike on the cathodic isolation tubing occurred at KP 77 of the Halifax lateral. The site has been isolated, with repairs underway. (Stewiacke is approximately 65 km north-northeast of Halifax, NS.) There was a loss of some sweet natural gas, but the amount has not been determined. Company Contact: ██████████ TSB Contact: Glen Pilon; 819-953-1632"
2011	INC2011-109	"During a routine site visit, an operator heard a small gas leak coming from a 12" bypass flange. The operator blew down a 15' section of pipe, isolated the valve and greased it to stop the leak. The site was secured with repair and maintenance anticipated to take place by 23 July 2011. The valve is located in an isolated area and is currently not in service."
2011	INC2011-106	"During routine maintenance of the station, bubbling was found coming from an area over the valve that is underground. The valve was excavated on June 21st. A grease fitting head broke off allowing gas to release. Valve was removed and repaired same day. It is suspected freeze and thaw created break of fitting. Estimated release of 2 cubic feet. ██████████ undetermined volume"
2011	INC2011-105	"Blue flame coming from a booster vent valve stack. Technician was doing repeat maintenance on unit 4. While leaving site he noticed a blue flame coming from a booster vent valve stack. Technician closed the valve which extinguish the flame. Unit 4 not operational at the time, NOVA had recently a blow down and some gas remained in the stack. NOVA believes that lightning cause the ignition. Lightings present in the area at that time. No damage, no sign of other ignition. Further inspection scheduled for tomorrow undetermined volume"

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2011	INC2011-104	TCPL believes it to be a slow leak; unknown volume and unknown duration. Small natural gas leak in an agricultural field was reported to TransCanada Pipelines by a Quicksilver technician. TCPL dispatched a technician to the site who found dead vegetation but no audible evidence or other visible evidence of a release. TCPL cordoned-off the area and reduced pressure in the line and has begun an investigation. Nearest residence is about 500 m west of the site. TCPL indicates no risk to the public. Unknown volume and duration of gas released Unknown volume and duration
2011	INC2011-100	"M&NE is preparing a re-coating of several of its stations and, while snooping each station, has detected a number of fugitive emission leaks. This report is for: - 22 June, 2011 from 1/2" tubing MLV 458, Lincoln N.B.; The total number of leaks at the location and the volumes release is to be determined. volume undetermined."
2011	INC2011-101	"M&NE is preparing a re-coating of several of its stations and, while snooping each station, has detected a number of fugitive emission leaks. This report is for: - 22 June 2011 from Fredericton Meter Station Pressure Relief System (PRS) , Lincoln, N.B. The total number of leaks at the station and the volumes release is to be determined. volume undetermined"
2011	INC2011-102	"M&NE is preparing a re-coating of several of its stations and, while snooping each station, has detected a number of fugitive emission leaks. This report is for: - 23 June 2011 from MLV 387, Gaspereau, N.B. The total number of leaks at each at the site and the volumes release is to be determined. 0.023 MCF/DAY"
2011	INC2011-099	"M&NE is preparing a re-coating of several of its stations and, while snooping each station, has detected a number of fugitive emission leaks. This report is for: - 15 June, 2011 from a 1" fitting on a valve at the Grandview Meter Station, St. John N.B.; The total number of leaks at each station and the volumes release is to be determined. volume undetermined"
2011	INC2011-095	"The pump station was switching from suction to discharge when a vibration tripped a relief valve. The valve did not work properly, creating an overpressure of 110% of maximum operating pressure for approximately three (3) seconds. Less than 5 gallons of oil was released into the surge tank as designed. The valve was found to be not fitted properly. The station was shut down and the technicians followed the manufacturer's suggested procedure to restore the valve function. The company expected the station would return to service by 16:10 today. "
2011	INC2011-094	"A third party odour complaint was received by the OGC and relayed, leading to a company response. It was determined that the source was a small leak from a 1/2" pipe nipple tied into a gauge on a riser at MP 19.3, outside Ft. St. John. The pipe has been isolated and they are investigating and will resume operations when repaired. No volume has been determined at this time. undetermined volume"
2011	INC2011-092	An instrument line went down at the Taylor Gas Plant causing the plant to shut down. Technicians were aware the acid flare went out when the H2S alarms sounded. It is estimated the flare was for 7-10 minutes. The flare was ignited with flare guns. Plant went into recycle. Cause is still unknown what caused the instrument line error. Estimates are still being calculated. A rough estimate is approx 2 ½ tones of sulfur went out and 0.28 million standard cubic feet of acid gas. Composition was 30% H2S. There was one odour complaint which was phoned into plant security. Plant is now operational. Root cause is under investigation. There was a team of engineers on site all night. Acid gas emitted to atmosphere had a 36-37% H2S concentration.

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2011	INC2011-090	"Update New Information: Fatality. The buggy had slid down the bank and two Cats were brought to pull (D6 Cat) and push (D8 Cat) the buggy back up the berm. Buggy operator then descended to unhook tow chains, D8 Cat bumped the back of the buggy and the buggy operator was caught between the D6 and the buggy, sustaining fatal injuries. Fatality. Site was in control by Aecon and sub-contracted by D.Loewen Enterprise. Sub-contractor employee was scraping material off the berm when buggy slipped off the side of bank. Employee was caught underneath. DC CAT was brought in to pull buggy out. Employee was caught between the CAT and buggy and sustained fatal injuries. Ambulance was called on site. RCMP is on site investigating. Aecon has notified WCB. [REDACTED]"
2011	INC2011-089	A call was received from gas control with odorant alarm. Technician responded and entered the odorant building and discovered sweet natural gas being released on one of the pumps. The bolts on the pump had come lose allowing gas to leak. Pump was placed on stand-by and leak was stopped. An investigation is to follow. LEL detector in the building did not detect any significant levels. Loss of product is estimated to be minimal. [REDACTED]
2011	INC2011-087	"Farmer reported bubbles in his field on the pipeline ROW. Crews were dispatched to verify and identify pipeline. Area was cordoned off, line isolated and depressured. Plan is to excavate today June 5, 2011 and investigate . Volume and cause are not known at this time.. An undetermined volume of gas was released."
2011	INC2011-085	A valve leak was discovered. The leak was monitored. A blow down was conducted and sealant was added. The leak was still present. Yesterday @ 15:45 the line was excavated and a crack was discovered on the transverse weld between the 16" lateral and 2" return run. Either today or tomorrow the section will be completely replaced. Estimated 2 cubic meters was lost. No injuries to report. [REDACTED] The incident resulted in a maximum emission of 0.001 t of methane which corresponds to 0.02 t of CO2 equivalents.
2011	INC2011-082	A CH2M Hill contract employee passed out while walking on site; appears at this time to be a seizure. An air ambulance has transported the person to the Fort Nelson Hospital. Company Contact: [REDACTED] TSB Contact: Glen Pilon (819-953-1632)
2011	INC2011-075	"On the 5 May 2011, at 12:53 MST, while Enbridge personnel were manually filling a station sump tank for testing, they unintentionally opened a drain line instead of closing it. This caused overflowing of the sump tank thereby releasing crude oil. The crude oil was contained within the station containment berms. The volume released was 4 m3."
2011	INC2011-074	"Spill line received a report that approximately 407 litres of crude oil had been discovered at KP 380. The product is contained to an area 60X20 meters on the ROW. Staff are on site and report no hazard to persons or property. Additional staff and equipment will be brought to the site. On call responder contacted the company contact and received the following update: - At approx. 1130 hrs today Enbridge received an odour complaint from the Chief of Wrigley - Staff arranged for a helicopter and at approx 1335 hrs confirmed oil on the ROW - Cause is unknown at this time NWT spill 11-144. - All oil is contained on the ROW, the oil isn't migrating, - There is a duck pond/slough approx 500 yards away. - No wildlife migratory birds have been impacted. - Enbridge plans to have staff remain on site over night. - The location is approx 3000 yards from the highway. They will need to clear and walk equipment into the site. They also plan to sling some equipment into the site. - The line had been down since the Plains rupture (btb April 29th). Contaminated soil was stripped from site. Air, surface water, soil and groundwater monitoring and/or sampling programs were implemented. 1628 barrels of product recovered from the affected site"

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2011	INC2011-073	"Third party, Yellowhead Gas Co-op, notified NGTL of a leak at the Ansell Metre Station at 15:00 MDT on 6 May 2011. An NGTL technician was dispatched and found what appeared to be a crack on a ½" ball valve on a small line and made the repair. NGTL estimates 10 m3 of sweet natural gas was released. There is no threat to the public and no service disruption. 10 m3 sweet natural gas released. Estimated 10 m3 sweet NG released"
2011	INC2011-071	"Employee heard a whistling sound, discovered escaping product. Approx 50 cubic meters of sweet natural gas has been released. Gas escaping from a cracked thread on a swedge lock fitting of the c-plant cooler (#13). Gas was isolated from the cooler and allowed to bleed off, C-plant is out of service. No loss of thru-put. No reports of ignition or injuries. Under investigation. ██████████"
2011	INC2011-070	There was a small fire and a release of product. No EM services were dispatched. Technician went to investigate gas chromatograph alarm. Could hear leak in building. Discovered a 4" flame coming from ¼" tubing attached to the chromatograph. Gas was at 15 psi. Technician opened second door to building and flame went out. Gas supply was isolated. Tubing is to be replaced. An investigation will be conducted. Contact ██████████ 0.034 tonnes of methane
2011	INC2011-068	"Arc flash occurred while workers were completing repairs to an arc flash incident of January. Repairs were just completed, building was empty, and capacitors were being recharged. When the power was shut down, the fuses and capacitors sustained a high voltage fault. One capacitor ruptured and a second one was damaged. Vendor was on site. Cause being investigated."
2011	INC2011-066	"Acid gas leak at the meter skid going into the acid gas injection well. Line pressure dropped from 765 psi to atmospheric pressure over 300 ft. of 6 inch pipe. Suspect cause a valve stem defect in a 6x4 ball valve. PL and facility isolated and technicians sent to site and confirmed preliminary cause. H2S detection shut down the skid. No population but one industrial plant nearby. Monitoring for H2S. 2000 kg of acid gas released, 77% H2S, CO2 and trace methane"
2011	INC2011-067	A broken 1/4" nipple on the fuel gas piping release sweet natural gas. Unit was shut down and piping isolated. Repairs were completed and unit on standby pending investigation. No loss of throughput. No threats. volume undetermined.
2011	INC2011-065	"A landowner reported oil in a creek near Chip Lake which is approximately 2hrs west of Edmonton. It was suspected the oil was coming from Trans Mountain Pipeline. ERCB contacted Trans Mountain who shut down the line and sent staff to investigate. The location is SW-25 -531-1 W5. Kinder Morgan activated their ERP and an IC Post will be established in Stony Plain. They have 2 OSCARS and a Hydro Vac on route. A further update was received from company staff on site, there is no LEL reading, no H2S but they can smell oil. There is a culvert on Hwy 16 north of the creek and no oil has been detected at this location. TSB, Alberta Environment and the NEB are responding. Recovered via remedial excavation."
2011	INC2011-064	"Upstream producer heard gas venting from the location and discovered that the Peace River Mainline #170 relief valve opened prematurely. Pressure was 5312 kPa. The relief valve reclosed at 07:40 when the pressure reached 3400 kPa. Valve was set to open at 5336 kPa and close at 4900 kPa. Upon hearing the release the producer blocked access to the plant. No impact to the plant, people, or environment. Volume undetermined."
2011	INC2011-063	"Technician on site heard venting of sweet natural gas. Technician found a leak on the 2-3 tie-over valve upstream. There was significant frosting on the end-of-site, end-of-stroke relay, and three-way relay exhaust vents. The technician cycled the auto / normal valve, which stopped some of the venting. The technician then operated the release valve on the regulator, isolated the power, vented the remaining gas, re-pressurized the system, confirmed the venting had stopped, and returned the system to service. TSB Contact: Glen Pilon (819-953-1632) Volume unknown at time of reporting"

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2011	INC2011-061	"Further to investigation digs and cut-out activities between MLV100 and MLV101, a technician was re-pressurizing the section to 100 kpa when he heard gas escaping. Through the use of a snoop bottle, a crack was discovered in the thread of a high pressure warning device. The upstream side of the line was then closed. The line remains out of service due to additional planned investigative digs further downstream. The warning device will be replaced after these additional digs. A preliminary report is expected to be sent tomorrow. Unknown volume."
2011	INC2011-059	A small leak of NGL was detected on the small valve and fitting near unit 2 suction valve. The gas alarm on the adjacent unit activated. Technicians went in with gas detectors and did not detect product where the alarm had activated. Further investigation they discovered the leak. The unit was shut down. Repairs have been completed and in the process of starting unit up again. Unknown estimated loss of product. No injuries reported. ██████████ Enbridge personnel were unable to quantify the exact volume of the release
2011	INC2011-058	"At the pressure reduction station at the Halifax Lateral a failure of the fuel gas regulator seat resulted in an overpressure of the boiler fuel gas line. It is unknown the estimated release of sweet gas. It was released to atmosphere. No injuries to report, no environmental effects noted. *This is the same reoccurrence as incident 2011-056 "
2011	INC2011-056	"At the pressure reduction station at the Halifax Lateral a failure of the fuel gas regulator seat resulted in an overpressure of the boiler fuel gas line. It is unknown the estimated release of sweet gas. It was released to atmosphere. Occurred approximately 30 meters from building. No injuries to report, no environmental effects noted. (This is similar to incident 2011-032) undetermined volume"
2011	INC2011-054	An employee (welders helper) working for contractor Louisburg left TCPL site in a contractor truck. The truck drove off the ROW and onto the highway. Once on the public road stopped the vehicle and got out to clean his boots in front of the truck. A second contractor truck stopped in front of the already stopped vehicle and backed up. The driver did not see the employee and backed into him causing fatal injuries. This is an unconfirmed report. NGTL Cutbank Project NEB Order XG-N081-19-2010. Further details will be provided when they are available. Alternate contact is ██████████
2011	INC2011-055	A natural gas leak occurred on a small threaded line into the filter housing inside the meter station. The line had cracked and released product. It was detected by audible noise noticed by on-site technicians. The line was isolated upstream and downstream within the meter station. Waited for gas to vent and disconnected broken line. Put in pleco plug. TCPL is conducting an investigation and will do a permanent repair. Volume undetermined
2011	INC2011-053	There was an uncontrolled release of natural gas estimated at 1000 cubic meters. Technician discovered a leaking unit discharge gage c-clamp. Isolated valve and gage. Removed gage with plug to stop the leak. TCPL is investigating. Natural gas released into atmosphere.
2011	INC2011-048	"At 9:58 CDT a land owner reported to Alliance hearing a natural gas leak which occurred on the 36" mainline at KP 1337.42, 60 KM south of Regina. The sweet natural gas leak was from a 1/4" fitting feed to the pressure transmitter on mainline block valve (MLBV) 13-1. The line was isolated at 11:15 CDT and repaired at 11:45 CDT. Alliance estimated that the leak had been in progress for up to 62 hours and a maximum of 6 MM cu. feet of gas was lost. Alliance contact is ██████████ It is estimated that amounts upwards of approx. this volume were released."

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2011	INC2011-046	"A person from an Encana gas plant alerted Spectra Energy of a leak of natural gas from the Yoyo pipeline about 200 m from the Encana plant. Spectra sent personnel to the site about 52 km east-northeast of Fort Nelson, BC. A culvert surrounding a pipeline tap valve had experienced frost heave, which broke off a nipple from a body blow-down valve. The valve was closed and the line will be depressurized to repair the nipple this week. Unknown volume of gas released. The Encana Plant was shut down approximately one hour after discovery of the leak."
2011	INC2011-045	"While conducting an investigative dig regarding a dent detected during a pigging operation, employees heard an audible gas leak through the pipe wall. Company reports the leak was most likely caused by rock damage. Pipe was originally laid in sand at this location but over time the sand has washed away exposing the pipe to rock. Unknown amount of sweet natural gas released. There was no danger to the public. During an investigative dig, a small leak was detected, u/k amount of gas released."
2011	INC2011-044	"While conducting an investigative dig regarding a dent detected during a pigging operation, employees received an indication of a gas leak - LEL 30%. Company reports the leak was most likely caused by a rock but at this time it is unknown if the leak started prior to the dig or as a result of the excavation. Line was already isolated and the process for repairing the line is underway. Unknown amount of sweet natural gas released. There was no danger to the public. U/K amount released, also u/k if the pipe was leaking prior to the excavation or as a result of the dig."
2011	INC2011-042	"A third party called NGTL emergency line to report gas venting at a valve site. A technician investigated and confirmed sweet natural gas leaking from a power gas riser. A 1/2' tubing had become unfastened from the power gas filter. The technician immediately closed the 1/2" power supply gas valve to the filter housing, stopping the leak. The leak was repaired shortly after. No danger to the public. Loss of 21 tonnes of sweet natural gas. The incident resulted in an emission of 21 tonnes of methane which corresponds to 444 tonnes of CO2 equivalents."
2011	INC2011-038	"After discovering 4 L of oil in a ditch at the Kinder Morgan Trans Mountain Kamloops Terminal, it was found that the oil was leaking from a small diameter pipe, a return line for waste oil. Excavation has begun around the leak and 1.4 m3 of oil has already been recovered. Kinder Morgan indicates that the oil is contained on site and that there is no impact to surface water and the excavation is not deep enough to affect ground water. Underlying soil is relatively impermeable and the oil appears to be contained in the disturbed trench line. Kinder morgan continues to excavate the contaminated soil. At least 1.4 m3 oil recovered. Estimated volume of oil released from a waste oil return pipe as per March 31, 2011 letter."
2011	INC2011-036	A gas release from 1/2 inch tubing on a valve actuator at 30 - 50 psi. Leak was detected by a BP operator passing by the valve site and reported to TCPL on the emergency line. Worker responded and shut of the gas supply to prevent further release of gas to atmosphere. Cause unknown. Unknown quantity Unknown quantity
2011	INC2011-035	A tarp was placed over the caterpillar compressor to keep it warm. The tarp slipped onto the side of the compressor near the manifold and caught fire. Worker driving by noticed the fire and extinguished it. Compressor removed from service. No injuries. Contractor: Ledcor.
2011	INC2011-032	"A failure of the fuel gas regulator seat resulted in an overpressure of the boiler fuel gas line and resulted in a 2 hour release of gas through the relief valve. Loss of 3m3 of gas. Regulator seat was repaired and regulator put back in service. Natural gas release,"

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2011	INC2011-030	"Technician responding to site found sweet gas venting to atmosphere due to gas leaking from the closed side of an actuator. Found: 1 (isolation valve did not seat properly; 2) valve was closing at 9 ppm rather than 14 ppm. The plant shut itself in, and there were no fire or safety issues. The technician reset the H2S sensor. TSB Contact: Ken Miller (819-997-7887 / 613-371-9197) undetermined volume"
2011	INC2011-029	"36"" gas line ruptured, with ensuing fire. Line has been isolated and the fire is burning down. Command Post has been set up in Beardmore, ON, and a 4-km evacuation radius has been set up. TSB Contact: Ken Miller (613-371-9197) Update #2: Per my conversation with ██████████ TransCanada EOC in Calgary has been activated. ██████████ is on a conference call. Evacuation radius is 1 km, not 4 km as shown below. Fire is diminishing. ██████████ has spoken with Ontario Provincial Police. Five (5) technicians are on site. Valve positions are being confirming. Low pressure shut-offs worked as designed. Situation is under control. Update #3: NEB is sending two inspectors to the scene, Robert LeMay and Erin Doerffer are leaving Calgary at 09:30 and should be on site at ~19:00 on February 20th At 01:45, February 20th, ██████████ (TransCanada) provided the following update: - On-site company contact will be ██████████. - Fire is ongoing - ~40' in the air. - There is no secondary fire. - There is a tie-over valve that is not sealing completely, allowing gas from Line 3 to back-feed into Line 2 and feed the flame. - Once the flame is extinguished, they will work on access to the site, approximately MLV 76+10; exact location will not be confirmed until access is obtained. - From maps, Lines 2+3 are believed to be in the same corridor (~ 9-10 metres apart) while Line 1 is further away. Again this cannot be confirmed until crews confirm exact location. Lines 1 and 3 will not be brought back in service until visual inspection confirms they were not impacted. Presently both lines are holding pressure. - Command Post in Beardmore is staffed by the OPP, local Fire and TransCanada. - TSB has advised that Don Mustard will attend with three other TSB staff pending. Update #4: At 10:45 MST, ██████████ (TransCanada) provided the following information: - The fire was extinguished at 06:15 MST - At 06:45, the TransCanada EOC in Calgary was stood-down and the process started to put Line 100-1 back into service. Lines 100-2 and 100-3 remain out of service. - On-site TransCanada staff have confirmed integrity of Lines 100-1 and 100-3. Line 100-1 is 70 feet away from Line #2 and Line 100-3 is 35 feet away from Line 2 - full ground cover remains for both Lines 100-1 and 100-3 - neither line was exposed or impacted. - As previously reported MLV 76- 2 to -3 downstream tie-over had a sealing issue, TransCanada is now reporting that 2-3 upstream tie-over is also suspect, as a result Line 100-3 will remain out of service until maintenance is completed on both tie-in valves (maintenance crews onsite) - Line 100-3 and 100-2 are shut-in between Compressor Stations 75 and 76. Presently there is no gas in Line 100-3 that can back-feed into Line 100-2. - TransCanada intends to bring Line 100-3 back into service as soon as maintenance is completed on tie-in valves. At that time, monitoring will be conducted at rupture location to

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		<p>ensure gas is not bleeding back into Line #2. - If Line 100-3 remains out of service for an extended period, there could be supply issues for eastern Canada Line (100-3 is the largest pipe 42") - Re-routing options are First option is to get Line 3 operating, then there will be no supply issues Second option is to check at Winnipeg to see if there is capacity to increase flow through the Great Lakes Gas Transmission System (yet to be determined) - Lead safety person for TransCanada will be [REDACTED] when he arrives at incident - [REDACTED] confirmed that there were no pressure reductions in place for any of the Lines CBC Radio - Thunder Bay has called the NEB Incident phone and response will be through our Communication person. Update #5: At 13:05, MST [REDACTED] (TransCanada) provided the following information: - Line 100-3 remains impacted and out of service due to the rupture of Line 100-2 - As reported, MLV 76 2:3 downstream tie-over which is a gate valve is not sealing and MLV 76A 2:3 upstream tie-over remains suspect. Both are gate valves - single seal - with no provision for double block and bleed. As a result, they will be relying on Chameleon Grease to fill any release points / gaps. - TransCanada has 14 pails of Chameleon Grease in transit from North Bay, 20 pails from Thunder Bay and a further 31 pails from Spruce Grove, AB. (A challenge will be introducing the grease into an unpressurized line.) - TransCanada is constructing temporary structures around the valves to contain heat that will be introduced through ducting from portable heaters. - On MLV's up and downstream from the rupture, air movers will be installed on the risers. - The earliest Line 3 will be in-service is Monday, there is insufficient grease on scene today to ensure both valves are sealed. - Firm deliveries will not be impacted on February 20th nomination day and the outlook for February 21st is presently positive. - Discretionary deliveries are impacted, the impact today is 600gj of discretionary service. The local distribution companies (LDC's) will have their own contingency plan to deal with the shortfall. - TransCanada is not in a force majeure situation for February 20th and the situation for February 21st is dependent on whether firm service demands increase. - As reported in update 4, the Great Lakes system is not/not an option, there is no spare capacity. The only option is to have Line 100-3 back in service. - Presently there is no vehicle access to the site, snowmobile access only, 2 kms from the nearest access point. - Limited supplies available in the community. - A flyover will be attempted tomorrow once TSB and NEB Staff arrive. - TransCanada continues to protect the scene, nothing is being disturbed pending TSB/NEB arrival. The only activity is building an access road. - No evidence of third party interference. - The rupture appears to be at an over-bend at the crest of a hill. Trench is filled with shot-rock but TransCanada staff have observed a swamp weight exposed. - Flyover to provide exact GPS location. - TransCanada will provide photographs. - Three TransCanada integrity staff travelling to the scene, [REDACTED] - TransCanada has a conference call planned for 08:00 MST on February 21st and will provide a further update at that time. Update #6: Sunday 2011-02-21 at 12:00 MST - Update #6 At 10:15, MST [REDACTED] (TransCanada) provided the following information: - No personnel at the rupture site this AM until safety assured. - Communications on site is an issue with Bell being the only provider available in the area. - Firm deliveries will be met on the February 21st nomination day and an update will be provided later in the day for tomorrow's outlook. - TransCanada has ceased discretionary deliveries. - At this time, the earliest that TransCanada estimates that line 100-3 will be brought back into service is Tuesday evening. - ICS roles and contact information have been provided to the NEB by TransCanada. - 20 pails of Chameleon grease have been pumped into MLV 76-2:3. - 12 pails of Chameleon grease have been pumped into MLV 76A-2:3. - Air movers are currently being used at MLV 76 and MLV 76-A in 100-2 to expel residual gas. - Pipe may have filled with water and created an ice plug. Currently there are no pumps at the site to empty water from the pit. - Topographical and investigative survey of the rupture site will be conducted over the next two days. - Muster point will be designated on ROW. - Helicopter is on route from Toronto and a fly over is planned for this afternoon. - OPP is currently on site and will be until 20:00, TransCanada has arranged for private security to take over 24x7 from then on. "</p>
2011	INC2011-027	<p>Pressure relief valve was reported as not functioning (possibly due to a complaint from a member of the public). Technicians were dispatched and found ice had built up under the seat of the valve. The ice was cleared out and the valve returned to normal. Quantity of product released is under investigation. MNP: [REDACTED] TSB: Dan Holbrook (613-724-1611) undetermined volume</p>

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2011	INC2011-026	"Technician responding to a high gas alarm determined it was coming from a fuel gas building adjacent to two portable units. Cause was determined to be a metal plug on a differential pressure gauge on a PICO filter. Technician isolated the filter and blew down the valve. One m3 of sweet natural gas is estimated to have been released. There was no impact on Public Safety. TSB Contact: Dan Holbrook (613-724-1611 / 819-997-5920) 0.000068 tonnes of methane The maximum release of methane was estimated to be 0.000068 tonnes, which corresponds to 0.0014 tonnes of CO2 equivalents"
2011	INC2011-019	Power outage at pump station due to Arc Flash. No injuries no one present at time of incident .
2011	INC2011-018	A release of sweet gas occurred when a release valve blew down for 10 seconds as a result of a power surge that cause the facility to go into fail safe mode. undetermined volume
2011	INC2011-017	"Tech onsite for routine maintenance and noticed a frost-ball at a fitting on a piece of pipe. Once they were able to thaw the frost-ball, it was confirmed natural gas was leaking from a threaded fitting. The site was last visited on Dec 16th and the company estimates approx 2.83 m3 of natural gas was released per day. The company estimates the leak started halfway between Dec 16/2010 and Jan 28/2011. This was not reported to the TSB, it came in on a fax directly to the Board. It is unclear if the company has completed repairs at this time. Volume not known, if we base 2.83 m3 per day over 28 days the amount would be approx 80 m3. "
2011	INC2011-016	"A high gas alarm was received from the meter station located at the noted compressor station. Technician found sweet natural gas leaking from the stem packing on both of the first cut regulators. As well, gas was noted leaking from the bonnet from the second regulator on the second cut. Response: the technician tightened the stem packing, as well as the bonnet. No further leaks detected. Estimated 2 m3 of sweet natural gas released."
2011	INC2011-014	"During start-up of the second pump, there was a sudden surge which caused an arc flash. The flash caused a loud bang and a smoke alarm from the SVC bundle was activated. Staff in Calgary were consulted and the pumps remained running with the station in service. No evacuation, injuries or loss of product. Company reported that this was the first time the second pump was started at this location."
2011	INC2011-013	"At 1700hrs an operator was completing maintenance on equipment at the McMahon Plant. At 1900hrs another operator came on shift and found a bleed valve had been left open from the earlier maintenance and propane was venting to atmosphere. The valve was closed - estimated approximately 37,000 litres of propane vaporized to atmosphere. Estimated 37,000 litres of propane vaporized to atmosphere for approximately 2 hours."
2011	INC2011-011	Producer contacted company to advise of venting at meter station. Station was no longer venting when tech arrived and found that a station block valve open solenoid had failed which allowed the block valve to stay open. Cause yet to be determined. No injuries and no evacuation. U/K amount of sweet natural gas released. Duration of venting is also unknown at this time. Duration and amount unknown
2011	INC2011-012	"On January 29, 2011 at 04:02:37, at the end of a jet fuel delivery to Toronto Airport Terminal from Sun-Canadian Pipe Line, TNPI closed Valve 9 at Toronto Airport Junction and Valve 3 at Toronto Airport Terminal on instruction from SCPL. Shortly after this event, SCPL advised that they had a communication failure and were unable to close Valve 10 or shutdown their upstream pump station, which SCPL controls from Waterdown, Ontario. At 04:12:26 SCPL was able to close valve 10. During the interim 10 minute period the pressure within the pipeline segment, located between V9 and V10 rose to a maximum value of 1446 psi. The initial MOP for this portion of the line is 1200psi but a 20% reduction under NEB Order SO-T217-03-2010 places a temporary operating pressure restriction of 932 psi to this piping segment."

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1996	INC1996-014	"TCPL's line 100-2 failed at [REDACTED]. The break appears to have occurred in the center of the LaSalle River that spans some 40 feet. The river is currently running at a high level. A 4-foot section of pipe was blown out of the river. Following the rupture a fire occurred which appears to have caused 2 unoccupied buildings, about 100m to the south of the site, to catch fire. The local fire department confirmed the buildings were unoccupied. There were no fatalities or injuries as a result of the rupture and fire. The fire self extinguished at about 20:00 C.D.T. Line 100-2 rupture near St-Norbert. Update, The TSB has not yet issued its report indicating the cause of this incident. Onsite NEB investigation conducted by staff. NEB field investigative report prepared and completed 10 May 1996. No NEB final investigative report prepared. No Incident Close-out Memo had been prepared. TSB conducted a field investigation of this incident but has yet issued its report to be number P96H0012."
2011	INC2011-008	"An estimated 1000 cubic meters of sweet natural gas was released. Two calls were placed to TCPL about excessive noise. A responding tech discovered a discharge valve left open. The high pressure switch was full of ice causing faulty operations. No injuries, no fire and no emergency response services involved. Company Contact: [REDACTED] Sweet gas released into atmosphere."
2011	s.19(1) INC2011-007	A spill of 4500 litres of 50/50 mix of hydrocarbon and water at the McMahon Gas Plant. A 3" pipe on the hydrocarbon still cracked open. Spill is contained on site and vac-truck is on route to clean-up. There are no injuries to report. No threat to the environment. There are several stakeholders in the area. Stakeholders are not at risk. No potential for spill to migrate of site. [REDACTED] Large cloud of hydrocarbon (mostly propane) was released from the Hydrocarbon Still Water Separator at the plant and dispersed without ignition. s.19(1)
2011	INC2011-004	"Release of 192 m3 sweet natural gas to the atmosphere at start-up of a unit that was being put back in service. The release triggered an emergency shut-down of the station. There was no fire, no threat to personnel or the public. 192 m3 sweet natural gas. 192 m3 sweet natural gas released to atmosphere"
2011	INC2011-003	"Flash fire with minor injury. A high liquid alarm from the inlet separator was received. An employee was dispatched and noticed a higher quantity of liquid than normal. He started to drain the liquid into holding tank. While doing so a flash fire occurred and the employee was burned in the lower back. The employee closed the valve and shutdown the metre station. A second employee was dispatched to the metre station at 21:40 MST. The injured employee started driving toward Grande Prairie and met the second employee on the road, he then transferred vehicle and left his truck on the side of the road. Second staff transported him the Queen Elizabeth II (QEII) Hospital in Grande Prairie. They arrived at 23:00 on 8 January at QEII emergency room, was treated and discharged at 01:47 on 9 January. The injury, one inch wide strip burn, is localised to his lower back. Described as a bad sunburn with blisters. Injury was treated with cream and bandage. Employee is back to work on Sunday 9 January 2011 "
2010	INC2010-165	"Contractor doing an acid gas wash at the permit shack reported a cut above the eye that he believes occurred when he was overcome by H2S and fell. He was sent to hospital and released. A WCB report has been filed and the company is investigating. Operations detected high H2S levels in the area. Shell flushed and washed out to mitigate further H2S in the area. The H2S was ""richer"" than anticipated, but the company would not provide the TSB with levels and when asked about PPE, the company indicated that they didn't have information on hand regarding the procedures the contractor was working under. (The procedures would outline PPE required.) release volume undetermined."
2010	INC2010-164	A probe regulator had failed and the relief valve vented sweet gas. The regulator was replaced and returned to service. The duration of the venting is not known at this time. TSB Contact: Ron Clark (819-997-7887) unknown

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2010	INC2010-159	"A gas leak was detected at a relief valve at the meter station. The amount or duration is unknown. The valve was isolated, repaired and put back into service."
2010	INC2010-158	Technician went to determine why pumps were not available. It was determined that there had been an arc flash at the electrical control panel (4160 Volt AC). Investigation is underway. No one was present in the immediate area at the time of the electrical fault. There was minimal damage limited to the area of the control panel.
2010	INC2010-157	"When Nova Scotia Power's boiler (receiver) was shut down, the pneumatic pressure sensor closed off the supply which lead to a pressure build-up at the metter station which caused a ¼ inch pressure relief valve to release a small amount of gas. Valve did not seat properly and when removed and rebuilt, a score was noticed on the seat of the valve. Volume of gas release was estimated to be small and undetermined. Volume estimated"
2010	INC2010-156	"Staff discovered hydrocarbon in the cooling water that had migrated into the skimming bay which leads to the Peace River. Staff immediately began to remove/skim the hydrocarbons. Unknown if any product made it to the Peace River. Product was C5 Plus - Condensate. Spectra are investigating to determine quantity of product released and has notified BC Ministry of Environment. Follow-up call to with ██████████ who provided the following information: -The skimming bay was checked at 1300hrs and there was no evidence of hydrocarbons. Discovered at 1430hrs and isolated by 1500hrs, clean-up commenced immediately and all product was removed from the skimming bay within the next hour. Staff immediately went to the Peace River and there was no evidence that product made it to the river. No sheen on water or banks of river, photos taken and staff monitored the river for signs of hydrocarbons through the night. The outflow/outlet in the skimming bay is below the surface which would have reduced the opportunity for product to leave the bay. BC Environment has not indicated they will attend at this time. While the source was immediately identified and isolated, the cause is still under investigation. Product was C5 - Condensate that made its way into the skimming bay, unknown (no evidence) if any of the contaminated water made it into the Peace River"
2010	INC2010-155	High Gas Leak from the downstream Block Valve caused by heavy ice accumulation around the solenoid. The valve could not cycle properly which caused it to vent sweet natural gas. The valve was manually operated to remove the accumulation of ice and the associated tubing was thawed. Company is reporting a small volume of gas released but the amount is unknown at this time. U/K amount released.
2010	INC2010-153	"During the start-up of D Plant the gas starter did not disengage resulting in significant damage to the starter and the release of 2.8m3 of sweet natural gas. It was a Hillier Gas Starter on a RB 211 Unit. No injuries, no ignition. The incident resulted in a maximum emission of 0.002 t of methane which corresponds to 0.042 t of CO2 equivalents."
2010	INC2010-151	Staff received an indication of an overpressure on the 20" (sour) Louise Pipeline downstream of the Cabin Lake Comp Stn. Testing revealed that the MOP of 1100 psi was exceeded to 1182 for a period of nine hours. No further information at this time. The NEB preliminary report indicated the occurrence date was 5 Nov 2010 in error.

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2010	INC2010-150	"Uncontrolled sweet gas release occurred when Gas Control attempted to remotely close Valve 119-2 on the TransCanada Mainline. The end-of-station valve was frozen and did not complete the cycle to the closed position. Gas Control continued remote commands until valve closed, with excess gas released to the atmosphere. A third party reported the release to the Ontario Provincial Police, who in turn notified TC Gas Control. A technician was dispatched and the gas power was isolated. The technician disassembled the valve, cleaned it and re-installed it. The power was then restored and the technician confirmed the valve was operating normally. TSB Contact: Glen Pilon (819-210-1174) TransCanada indicated that the incident resulted in a maximum emission of 0.003 tonnes of methane which corresponds to 0.06 tonnes of CO2 equivalents."
2009	INC2009-148	Company employee slipped on black ice at the terminal office buildings. The slip resulted in a fall and a broken tibia and fibula. This incident was included in the Safety Performance Indicator report and TMPL does not know why they missed reporting it to the NEB.
2010	INC2010-149	"Manifold 167-20 experienced an overpressure of 10.7% over max operating pressure. This resulted from a sectionalizing valve that was showing closed on the SCADA, resulting in a shutdown of the mainline pump. It was later determined that the valve did not actually close."
2010	INC2010-148	Sweet natural gas leak from the blowout valve. The valve has been isolated and repairs will take place shortly. An investigation will take place next week. An undetermined volume of gas was released.
2010	INC2010-147	A call came in to the call centre from a neighboring land owner of a "hissing" sound and a technician was sent to investigate. He found a problem with the relief on first cut of the fuel gas of boiler. Seat was taken out of service and will be repaired tomorrow.
2010	INC2010-145	A regulator failed at the Farrel Lake Compressor Station and the pressure release valve opened releasing sweet natural gas. The release lasted 1 hour and 30 minutes. Undetermined Volume
2010	INC2010-143	Station relief valve vented for approximately 15 minutes. The valve has been isolated and was secured at 0930 MST. Quantity unknown. Volume released unknown.
2010	INC2010-141	A vent on the compressor leaked and discharged sweet natural gas. The incident was isolated and a crew sent to investigate and make repairs. No danger to the public. Undetermined volume of sweet natural gas released. undetermined volume released.
2010	INC2010-139	"An overpressure occurred (115%) at the Edmonton Terminal. The operator responded almost immediately to bring the pressure back down. The overpressure is due to equipment failure (valve). On inspection, there were no leaks and no adverse consequences."
2010	INC2010-137	TCPL sent an employee to its Main Line Valve 19 site in response to a noise complaint received at Gas Control. A small gas leak was found on a low pressure regulator. The gas flow was isolated by shutting off the power gas on the valve. Undetermined volume of natural gas. Undetermined volume.
2010	INC2010-135	"Spectra Energy Gas control received a sour gas odor complaint at 11:00 MST. Personnel were dispatched to MP 13.6 of the Grizzly Pipeline south of Tumbler Ridge, B.C. Spectra Energy reports a minor leak from a nipple on a pipeline pressure transmitter at the line break valve. A repair crew is being dispatched from Chetwynd, BC. It is unknown as to how long it has been leaking or how much gas has leaked. The pipeline is still pressured. There is no danger to the public. Undetermined volume and duration. Minor, undetermined volume and duration."

2010	INC2010-134	"Glycol spilled on the ground. Volume estimated was 400 to 800 litres. While commissioning the pipeline the line heater overheated and the temperature indicator did not work properly resulting of spilling glycol. Incident happen between 17:00 November 18th and 07:00 November 19th, 2010. The site was shut down due to the H2S release from vacuum truck. (see incident 2010-133) and there was no night shift on site. No clean up activity at this time. A better estimate of the time of the incident may be determined during the investigation. Volume estimated was 400 to 800 litres."
2010	INC2010-131	Small leak on half inch pipe PVS connecting filter was noticed by technician. Will be replace today. Volume released unknown estimated release volume
2010	INC2010-130	"Leak from a discharge valve, inside a building. Low amount release, gas detection alarm did not detect the gas. Leak was detected by staff. Staff took few times to reset the valve. unknown not detected by the gas dection system"
2010	INC2010-129	Fuel gas system grease fitting on valve leaked sweet natural gas. Staff heard hissing noise. Removed insulation and discovered the leak. Valve was isolated. Classic 100 2 inches ball valve. Volume unknown unknown
2010	INC2010-128	Leak from a port of a valve actuator. Leak for approximately one hour. Estimated volume less that 1 cubic meter
2010	INC2010-127	125 volts DC charging component blew and created an arc flash. No injury
2009	INC2009-149	Overpressure of Line 4 to 129% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2010	INC2010-167	Overpressure of Line 4 to 129% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2009	INC2009-150	Overpressure of Line 4 to 113% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2009	INC2009-151	Overpressure of Line 4 to 114%. Discovered during a historic review of control system records performed as part of the investigation into overpressure incident 2010-102.
2009	INC2009-152	Overpressure of Line 4 to 115% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2010	INC2010-168	Overpressure of Line 4 to 112% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2010	INC2010-169	Overpressure of Line 4 to 115% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2010	INC2010-170	Overpressure of Line 4 to 121% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2010	INC2010-171	Overpressure of Line 4 to 110% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2010	INC2010-172	Overpressure of Line 4 to 110% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2010	INC2010-173	Overpressure of Line 4 to 121% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2010	INC2010-174	Overpressure of Line 4 to 115% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2010	INC2010-175	Overpressure of Line 4 to 111% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2010	INC2010-176	Overpressure of Line 4 to 113% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2010	INC2010-177	Overpressure of Line 4 to 119% of MOP. Discovered during a historical record review performed by Enbridge as part of the investigation of incident 2010-102.
2010	INC2010-124	"39 ppm of H2S entered NGTL system at the Gordondale Meter Station. H2S gas from a third party producer was transferred from Westcoast Energy Inc., carrying on business as Spectra Energy Transmission to NOVA Gas Transmission Ltd. (Cut down by TCPL gas Control. No high H2S left NGTL system). No direct release. Flared and blended only."

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2010	INC2010-123	"Sub-contractor staff tripped over strapping and fell from a truck onto the ground. Worker broke his right humerus and lost two teeth. Co-worker call paramedic, first aid was provided, and worker was transported to Fort Neilson hospital. Worker returned to work on modify duty. Investigation was completed and detail report will be send. Worker broke his right humerus and lost two teeth."
2010	INC2010-122	Power gas actuator of MLV 19 line 400 froze off. Gas release was reported by a landowner. The actuator was isolated and bypass. Volume of gas release unknown.
2010	INC2010-121	"Gas leak from a stainless steel tubing which supply discharge pressure to seal gas terminal in unit B 1. Upon inspection tubing was cracked. Unit was stopped, replaced tubing swage lock fitting, unit was pressurized, leak test done and unit was restarted. Gas release volume unknown. Note: gas detector did not detect leak. unknown"
2010	INC2010-119	"Confirmed leak of sweet gas at Receipt Meter Station Bayhurst #2, east of Bayhurst Compressor Station #2. Producer has been shut in and line to producer has been isolated. An evacuation was not conducted, and there were no injuries. Not considered an emergency at this time. Investigation is continuing. Spoke with [REDACTED] and received additional information. A ½" pressure relief valve had malfunctioned causing the leak. The valve is new and thus warranting further investigation. The local fire department had responded but has stood down. RCMP were also in the area, but traffic is not being re-directed at this time. A Preliminary Incident Report is being produced. 2 miles east of Bayhurst Meter Station / 3 miles west of Liebenthal, SK (~160 km NW of Swift Current, SK) "
2010	INC2010-118	"Arc flash caused by water leaking through roof into breaker panel. 100A breaker damaged, but no secondary fire and no injuries."
2010	INC2010-117	"During start-up of Line 4, an over-pressure of 111.25% was noted at mile marker 100.43. The line was shut down at 21:13. After confirming no leaks were present on the line, a controlled start-up was completed at 23:55."
2010	INC2010-116	There was a natural gas leak at the 3/8 tubing which feeds the heater to the pipeline at the Widdifield Station. No estimated release. No threat to public or environment. It is currently being repaired. [REDACTED] is the company contact. Volume undetermined.
2010	INC2010-114	"Crude oil spill estimated at 5000 ltrs* at the Nanticoke Refinery. Sample valve was left open off the metre bank. The high level alarm failed to activate. The spill is contained to company property. The oil is in the drainage ditches. The ditches are 3'x3'. There was estimated 1' of water prior to the spill. The ditches have been bermed with sand with absorbent socks placed in front of the berms. The valves in the ditches have been closed to prevent further spread. There is a grass area between the metering facility and the refinery. There is no evidence the oil is moving across the grass from the metering facility to the refinery. The facility neighbors farm land. The nearest resident is 500m. There is one vac truck onsite. One vac truck is ordered for tomorrow along with excavators. 3-4 more vac trucks are expected to be ordered tomorrow for rotation on site. There are no safety concerns at this time. No injuries and no threat to public or ongoing threat to the environment at this time. Company Contact: [REDACTED] *UPDATE by G. Mesar (Jan 12, 2011) - As per the company's Detailed Incident Report - release = 17.5m3 crude oil. Contaminated soil was removed from a 200 m2 area for transport to a waste treatment facility. All affected ditches had contaminated soil and vegetation removed."

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2010	INC2010-113	"45 minutes North along Alaska HWY @ KM Post 93 in the pigging yard adjacent to the Kobes Compressor Station, a small fire and explosion occurred when pigging crew were preparing to load the pig into the sending barrel. It was a 20" pig and a 20" sending barrel. Source of the ignition is unknown at this time. Fire and explosion was not severe. One crew member did receive singed hair. The crew member was sent to hospital as a precaution and did not require extra medical attention. Crew member was driven by the Compressor Stations operator in a pick-up truck to the hospital. No injuries are reported at this time. No first responders dispatched. No ongoing threat to staff or public. An investigation team for the company is on scene. Company Contact: [REDACTED] No loss, fire contained and extinguished quickly."
2010	INC2010-112	"There was a cracked fitting on a fuel gas hose into the engine that runs into the compressor. The engine was shut down, the hose was replaced and the engine was started up again. There was no safety or environmental concerns at the time. [REDACTED] No significant damage to people, property or the environment. The release amount will be indicated in the TransCanada annual greenhouse gas emission report to Environment Canada."
2010	INC2010-111	There was a high scrubber alarm at the station. Employee responded and upon arrival discovered venting of gas at the block valve actuator. Block valve was manually opened to stop leak. Station has been returned to service. There is no estimate of loss. No threat to public or environment or infrastructure. [REDACTED]
2010	INC2010-110	Incident occurred completely within the compressor station yard. Occurred on line 100-1 on the suction side valve. Minor bubbling was discovered at the base of the valve. At the time it was undetermined if it was swamp gas or a leak. Yesterday the pipe was daylighted and found a pin hole leak in the each weld of the body bleed plug at the bottom of the valve. Weld was grinded out and plug was removed. Applied pipe dope and reinstalled plug. Pipe was recoated and valve returned to service. There is no estimate of product lost. Unknown quantity. But TransCanada believes that it was a negligible volume of gas released.
2010	INC2010-107	"A pipeline technician discovered a crack in a ½" pipe nipple between the fuel gas regulator and the pilot valve. Leak was audible but release was negligible and unknown amount of sweet natural gas was released to atmosphere. The tech isolated the fuel gas run and removed the scheduled 80 pipe nipple and replaced it with scheduled 160 pipe nipple. The fuel gas run was then returned to service. The nearest dwelling was 3 kms north. Detected on a/n date, unknown when it occurred U/k amount but reported as negligible."
2010	INC2010-106	"A relief valve was continuously venting sweet natural gas as a result of an up-stream regulator that failed to reseal itself. The technician rotated the valve 90 degrees and it resealed. The relief valve has been replaced and is back in service. Volume released is unknown, no public places nearby and no danger to the public. Release was originally detected by arial patrol. U/K amount released"
2010	INC2010-105	"A pipeline technician noted dead vegetation on the ROW and further testing confirmed the presence of sweet natural gas. The line will be shut-in and drawn down from the top end. Plans are to daylight the pipe, once a Hydro Vac truck can be moved to the site (Friday - Monday). There is no sign of soil disturbance and a gas detection reading of 6% of the lower explosive limit (LEL) was measured from the soil. They are unable to test atmosphere readings due to the winds in the area. The nearest community is Spirit River, AB approx 65 kms away, no danger to public and the volume lost is u/k. U/K volume"

2010	INC2010-104	"An uncontrolled gas release was discovered on 22 September 2010 (time to be provided) during an aerial patrol. The sweet natural gas leak on the NGTL Retlaw South Lateral Loop was confirmed on 23 September 2010 (time to be provided). The location is 2-4-13-19W4. The nearest community is Enchant, AB. A 3.7 m diameter zone of dead vegetation above the 8" diameter pipeline is located in a farmer's field, on very wet ground. There is no audible gas releasing and a gas detection reading of 3% of the lower explosive limit (LEL) was measured at the perimeter of the dead vegetation. No gas was detected in the centre of the dead zone. The area has been fenced-off and warning tape put up. TransCanada will alert the previous land owner and the recent new owner. The nearest road is approx 200 m away. There are no near-by residences and TransCanada indicates that there is no threat to the landowner or the public. The line will be shut-in for repairs, possibly next week. Undetermined volume of sweet NG released. Undetermined volume released."
2010	INC2010-103	"A contractor doing coating of an above ground facility at the St. George, NB Meter station discovered a bubble leak on a 2" threaded fitting on the filter inlet. In order to fix the problem, the unodorized sweet natural gas at the filter will bypass the filter and be flared. Delivery service will not be interrupted for the repair. No injuries and no impacts reported. Nearest residence is approximately 100 m from the station. Unknown volume of sweet, unodorized natural gas Estimated volume"
2010	INC2010-102	"An overpressure of 118% (325 psi) was detected by Enbridge's control center when a downstream pump at the Edmonton, AB Terminal pump station tripped and the pipeline shut down. The dispatched operator did not detect any visible leaks and pumping was restarted. PLC work was occurring downstream of the pump station and one of the 4 transmitters was out of the loop, possibly resulting in an erroneous signal sent and causing the overpressure (to be verified). No injuries or impacts were reported."
2010	INC2010-101	"A ¾ inch plastic Sask-Energy gas line was stroked while conducting Phase 2 construction work at Alida Terminal. At approximately 11:30 - 11:45 am today, while excavating, a track hoe came into contact with a ¾ inch plastic Sask-Energy gas line. Approximately 80 PSI. This line was severed at time of contact. The Alida site was evacuated, Sask-Energy was called to site at which time they clamped the line stopping the gas release. There were no personal injuries or property damage other than the gas line. A further more detailed report will be submitted once the investigation is complete. Note: 3/4 inches pipeline was stroked. flowing at approximately 80 PSI"
2010	INC2010-098	Staff were getting ready to do a pig run and noticed gas bubbling around the pipe. Staff isolated the line. A meeting was scheduled on Monday to discuss the steps forward. Location at the tie -in of the Chinchaga Lateral (12"") and the Peace River mail line (30""). Follow-up Monday meeting: GTL is planning to blow down the line and Hydro-vacuum around the line to find the source of the leak. This activity should take place within the next 48 hrs. A preliminary report should be send in on Tuesday. Unknown quantity.
2010	INC2010-097	Reciprocating engine starter supply line cracked at the 1" nipple. Leak was automatically detected. Undetermined volume of sweet natural gas released. Unit isolated and fitting repaired by responding on-call technician. No impact on people or the environment. The delay was due to the technician not being aware that the release met reporting requirements and reporting was determined 8 Sept. by the regulatory department. Follow-up may be required. Volume undetermined.

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2010	INC2010-096	"Meter station shut down due to an increase of H2S from the producer. A technician responded and noted that the block valve did not seat resulting in a release of 3 m3 of sweet natural gas to atmosphere. The technician opened and closed the valve and the release stopped. The valve is now operating as it should and is scheduled to be inspected by a valve technician on September 21, 2010. The station is 20 km SE of Carstairs."
2010	INC2010-092	At the Cobourg meter station (#2398) a pin hole leak was discovered in the downstream isolation valve. The escaping product is sweet natural gas. Unknown volume of loss. Unsure when leak started. The station has been isolated and the valve will be replaced. There is no threat to the public or environment at this time. Unknown volume of sweet natural gas lost to the atmosphere. Both the time the leak initiated and the volume released to the atmosphere are unknown.
2010	INC2010-091	"TNPI received odor complaint near valve site near old country road 19811/ #17. Valve location is Raisin River East. Personal found underground vault contained product. Valve site was shut down at 09:30 EDT. Unsure if product is diesel or gasoline. Rough estimate 100 ltrs outside of vault. There is a sheen 25 ft north of vault and 75 ft south in the road side ditch. Booms are in the area. There is a tile drainage in field. No evidence of product in drain, TNPI will excavate to ensure no product is in drain. Vac truck is on site and vault is partially emptied. Ground is currently saturated in field due to heavy rains. Company Contact: [REDACTED] [REDACTED] Release: 100 L - off RoW 25m3 contained in Vault suspected to have been leaking longer than one day. Clean up efforts included excavating impacting area, obtaining confirmatory soil samples and installing groundwater monitoring wells. All soil samples were within applicable guidelines. Groundwater monitoring program consisted of four sampling periods, all within acceptable limits. Residual contamination remains beneath the vault but could not be removed due to infrastructure issues. GW monitoring confirmed that this contamination is immobile. Remediation Closure letter issued on 14 December 2011."
2010	INC2010-090	"When a technician was probing the atmosphere of the metering station prior to entry, he detected 50% LEL on his gas detector. The metering station was vented and upon investigation a crack was detected on a 25 lb pressure relief valve. System was shut in and Nova Gas is investigation the cause. Product released was sweet natural gas. There was no danger to the public, workers or environment. Amount that was release is unknown at this time."
2010	INC2010-089	"A leak was detected ant the Gold Creek Compressor Station. A broken ½" nipple on the station piping resulted in a small leak of unknown quantity of natural gas. The unit is presently down for repairs. NEB phoned [REDACTED] and was informed technician was to get back to him regarding the reason for failure of the nipple. Once the cause if known, the NEB will be contacted. I will update at that time. Unknown quantity of natural gas released."
2010	INC2010-084	"Sweet Natural Gas was released at the Redhead Meter Station. Neighbouring company Canaport LNG detected an odour and reported it to Spectra's 1-800 Emergency #. Technician went to site and leak was detected by SNOOP near the threaded fitting location. Lower levels were detected. Technician tightened fittings that were safe to do so. There is still trace amounts of leaking occurring along the untightened fittings. Line is still operating and under pressure. There is no damage and cause is undetermined. No evacuation was issued, no injuries to report. Spectra Energy Contact: [REDACTED]"
2010	INC2010-079	"At compressor station #130 an uncontrolled release of sweet natural gas occurred, estimated 100 cubic meters. Technician found a broken piece of tubing on the A2 isolation valve on the outside of the building. It was isolated and repaired and is back in service. Line 100 runs through the station. TCPL Contact: [REDACTED]"

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2010	INC2010-074	"Landowner adjacent to Valve site 101, 10 km SE of Cochrane ON, reported to TCPL gas control , hearing gas coming from the site. On-duty technician was dispatched to site. Gas supply was isolated. Leak was coming from the body bleed vent on the #2 to #3 tie-over valve due to loss of seal. The seal was greased to repair it. TCPL reports 3.3 E3 m3 of sweet natural gas was released. No other near-by residents, no fire, no danger to the public, no other impact to the environment. There was no disruption to service as the tie-over valve was already closed due to downstream work. Sweet natural gas 3.3 E3 m3 sweet natural gas released to atmosphere"
2010	INC2010-073	"At 14:20 EDT a local inspection noticed dead vegetation on TNPI's RoW at MP 2.12 of the Montreal feeder system. The location is within the Shell Canada refinery compound in the Montreal East, P.Q. industrial area. TNPI notified line locators, TNPI's emergency crew and contractors and brought in backhoes to excavate the site and determine if there is a line leak. Product collected at surface has a density consistent with jet fuel shipped in the line. Suspected leak is 300 to 400 m south of Metropolitan Blvd and several kms from the nearest residence. An inactive quarry about 100 m to S.W. has product seeping into it from what was initially thought to be from a February 2010 Shell Canada tank or line spill. TNPI indicates no danger to the public. Further information will be provided once the feeder line has been day-lighted. Suspected jet fuel product - to be dertermined."
2010	INC2010-066	"During a site inspection, a minor leak was detected on a threaded grease fitting on a blow down valve (16"" line). Duration of the leak is unknown, company estimates ½ m3 of sweet natural gas was released to atmosphere. Company staff have notified a nearby resident and repairs are underway. Estimated"
2010	INC2010-063	A compressor shut down (reason unknown at this time) resulting in a lube oil fire on the power turbine. Fire extinguished by the operator and damage was minor. Compressor unit remains shut down while the incident is investigated by company staff. No injuries and no danger to the public. Fire/police did not respond.
2010	INC2010-062	"A pressure relief valve popped and then failed to reseal allowing sweet natural gas to continue venting. Gas control received a call from someone working in the area and dispatched a technician. The valve was isolated-bypassed and the station was put back into service. At this time the company does not know how much gas was released but indicated the line was at 150psi and estimated gas vented for approximately 7 hrs. No damage to property, no injuries, and no danger to the public. Fire/police did not respond. Amount u/k at this time, however company advised release was on a 150psi line for 7 hours."
2010	INC2010-061	"As a result of a complaint from the public, Enbridge staff attended the noted site to investigate and found that the pipe closure on the ascending trap was leaking. Line 4 was shut down, the component isolated and the line is now back in service. Approximately 60 barrels of crude oil (Wabasca Heavy) leaked from the trap and the company is reporting that the oil is confined to their property. Staff are on site conducting cleanup operations, cause of the failure is still under investigation. Fire/police did not respond. Wabasca Heavy crude oil."
2010	INC2010-060	"Staff had completed scheduled work on the ""E"" Plant Compressor and were returning the unit to service. After loading the compressor to perform a leak test, staff were venting to atmosphere when a sudden thunder storm rolled in and lightning ignited the gas. The fire involved only the gas that was vented, no damage to property, no injuries, and no danger to the public. Fire/police did not respond. As per summary, staff were conducting a planned release of gas during the start-up procedure for unit E when lightning ignited the gas."

2010	INC2010-059	"Maritime NE Pipeline reported to Emera Brunswick a reduction in the odorant facility. During investigation, 1 odorant pump was leaking gas due to lose screws in the piston. Pump had recently been rebuilt. There is no estimate of product lost. Leak was estimated to occur at a rate of 2 cc a min. When leak started is undetermined. Area was checked Wednesday at 10 am and no leak was detected. It was correct by 1300-1400hr Friday. No volume reported."
2010	INC2010-057	"During an inspection of the PTC pipeline within proximity to KM post 35, dead vegetation was discovered (approx 6 ft in diameter). After excavation a pinhole leak was identified. The line was repaired June 14th. Unkown amount of product released, unknown contamination of area. Line carries propane and butane."
2010	INC2010-058	"An employee working in the area noticed a small leak, isolated line, attempted to remove valve, but it broke off (1 ¼" NPT fitting) upstream of #2 blowout discharge sensing line. There is no estimated amount of product released. No impact to public, environment and wildlife."
2010	INC2010-055	Sweet gas and oil released due to malfunction of a block valve. An upstream producer reported a high scrubber warning alarm that shut in the producer. A technician was dispatched and on arrival to site discovered the cellar block valve closed and the shafer operator venting gas and oil. No estimate of gas released but about 20 litres of oil was released. Nearest water 5 miles from site. Not impact to public or environment. Oil contained to site. Oily gas mist was venting. volume undetermined.
2010	INC2010-054	"Technician making an isolation testing on valve over torque and crack the nipple /treads. Leak lasted 3 minutes with minimum amount of sweet natural gas release. The valve was shut down, replaced and put it in service. Still waiting on information on which line the incident occurred. "
2010	INC2010-053	"Tubing in the heat exchanger leaked resulting in natural gas mixing with glycol. The alarm sound, the system was shut down, the heat exchanger was replaced and the unit put back in operation. Small natural gas release. "
2010	INC2010-052	"During a routine excavation to remove two pipeline repair clamps installed in the late 1960's on the Petroleum Transmission Pipeline, a pinhole leak was round at each clamp. There had not been any surface evidence of the leak (i.e. dead vegetation). The release was very small and did not affect the surrounding area. The repair clamps were removed and replaced with pre-tested pipe. Volume undetermined."
2010	INC2010-051	PRV popped earlier than its set point and vented for two hours. The yard was blown down and the PRV fixed/replaced. Station back up and running with the technician remaining on site to ensure everything functioning appropriately. Volume undetermined.
2010	INC2010-050	"While conducting a planned emergency shutdown, a fire occurred at the blowdown silencer. This resulted in a small grass fire that was subsequently extinguished. The silencer was locked out for repair and being investigated as to the cause of the fire. The were no injuries to workers or the public. Only type of silencer in system- permanently removed from system. "
2010	INC2010-048	"An unintended fire occurred during preparation for a hydro-test. Between MLV 135 and 136 on 100-1, pipe had been isolated and evacuated of gas. The pipe was hot cut at 135 and air movers were installed and operated for 4 hours. After a further 45 minutes, a zero LEL reading was detected. The pipe was cut at MLV 136 in readiness to install the test head. After removal of the pipe, the welder and helper observed a flash in the pipe. The technician at 135 took readings which were 6% LEL and one minute later a 0% LEL. The pipe ends were sealed with rain caps for the night and gas tests the following morning revealed 0% LEL. The flame self extinguished. No threat to the public. TCPL is investigating. Contact at TCPL is [REDACTED]"

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2010	INC2010-047	"TCPL was conducting an investigative dig at a colony of stress corrosion cracking (SCC). The location is MLV 103-2 + 0.447 km., approximately 10 km east of Pourquois Junction, Ontario. TCPL isolated the section of line, reduced pressure to 3050 kPa, exposed the line, removed the coating and sandblasted the line. During this process there was no indication of a leak and no gas was picked up by gas monitors. When TCPL commenced RTD operations workers noticed very faint bubbles from the SCC area however there was very little gas leaking. Workers evacuated the area. The pressure on the line remains at 3050 kPa and the line is still isolated. TCPL is preparing a depressurization and cutout plan to repair the line. There was no injuries, no responders, no fire and no environmental impacts. Volume released is negligible (i.e. through SCC through wall crack)"
2010	INC2010-045	"TCPL reported that while conducting a compressor blow-down, approximately 100m3 of sweet natural gas was released to the atmosphere. Although the suction and discharge valves were closed, sweet natural gas bled through the suction valve. The station was isolated on April 1, 2010 and station remains isolated pending further investigation. TCPL has waiting for appropriate grease to service valve to determine if valve issue has an integrity or a service issue. Due to the delay in reporting, TCPL will be submitting Preliminary Report and Final Report at the same time."
2010	INC2010-044	"Westcoast reported that a plume of residue (mist) was expelled from the flare stack on the plant site when ""B"" jet generator tripped off. With the B jet offline, there is not enough power to run the two reciprocating engines and steam generators. This resulted in load shedding and a shut down of sulphur trains A and #3. The shut down resulted in product being diverted to knock out drum and flare stack. Amines, sulphanol, some hydrocarbons and residues were included in the low pressure release to atmosphere (100' into air which sprayed on company property site approx. 150' x 500' in aerial extent). Mist lasted approx. 5-10 min. All product was contained on site and some went into melt water swell and into a site retention pond. There was no release off site, no injuries occurred. A small absorbent boom was deployed and a vacuum truck which was on site collected approx one barrel of mixed water, gravel and product. Westcoast will be steam cleaning contaminated structures."
2010	INC2010-042	"Ron Clark from TSB called April 12, 2:07 MT Tel: 613-298-6128 to report that TransCanada reported that on Saturday April 10th at approx 08:00 MT at Caron Compressor station in Saskatchewan, a 3/8 inch gas tube came out of fitting supplying gas to recycle valve. Technician isolated the tubing and incident presently being investigated. Preliminary incident report to be filed shortly. No injuries, No environmental issues. ██████████"
2010	INC2010-041	There was a precautionary shut down of one of the compressor unit due to a loss of power. Smoke was noted coming from an exhaust vent at the time of shut down but the source of the smoke could not be determined and there is currently no smoke present. No injuries or evacuation. The unit is isolation up and downstream of the station. and service personnel will be on site Monday.
2010	INC2010-040	Workers were using a cutting torch to cut off seized bolts from a flange. A fire occurred as approximately 1 litre of crude was released from the pipe. The workers were prepared for this event and the fire was immediately extinguished. Contact: ██████████

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2010	INC2010-034	"Company responded to a call from Suncor staff of a possible leak on the TNPI ROW (Ontario Hydro corridor) in Oakville. Company staff attended and observed product, btd gasoline that had migrated down the east bank of Bronte Creek and covered approximately 30-40 meters along the bank. Company operates a 10" line at this location and it crosses under the Bronte Creek. No indication that the product has entered the creek at this time however company advises it is probable. Company advised the product in the pipe is ""RBOB"", which is essentially gasoline ready to be blended with ethanol. Estimate of volume released has not been made and cause/source of the leak has not been determined. The pipeline was not operating when the leak was detected, product remains in the pipe and pressure has been reduced to 2-4 psi. Ontario MOE and Halton Regional Municipality Environmental Services are responding. TSB has indicated that they are still gathering information but intend to send an investigator. Police and fire have not responded. TNPI has staff onsite and a crew downstream in the event product is found in the creek. Suspected to be greater than one day for duration release. Batched product (Gasoline, diesel fuel)"
2010	INC2010-033	"NGTL maintenance staff were on site conducting routine work when they noticed a small leak at a 1/2-inch sweet gas fitting. The 1/2-inch tube was leaking at the ferrule fitting. The tubing was cut-off and the ferrule fitting re-installed. There was a small crack in the tubing at the fitting. TCPL reports negligible amount of sweet gas was lost, no emergency response was required and no impacts off-site."
2010	INC2010-032	A sour block valve operator was venting to atmosphere a gas/oil mixture. Gas vented to atmosphere and oil residue went to ground. The amount is unknown. The spill was contained and gas is no longer venting. TransCanada is investigating the cause of the operator failure. Amount and duration unknown
2010	INC2010-029	"16 inches valve located in a vault leaked. First Product (oil - heating oil) flow in a small creek and into Riviere des Prairies. Friday, Environment Quebec receive complaint of oil in the river. Env. Quebec dispatch crew and deployed boom in creek. Env. Canada onsite this morning investigate the origin of leak and identify TNPL sign nearby. Leak came from a vault. EC phone TNPL control at 12:20 EST. Pipeline was shut down immediately. 13:30 EST confirmation gasoline (second product) in creek. TNPL dispatch crew from Landcaster On ETA. Vacuum trucks on site. TNPL was shipping oil yesterday and started to ship gasoline on Friday night. New release from Min of environment Quebec. Oil in the Riviere des Prairies about 250 metre mix. Vault 6 x6x10 Estimate volume about 100M3 17:15 confirm the leak is from a flange. Mission env. (TNPLK consultant is on site) NEB staff dispatch to site Saturday Robert LeMay Sunday Jeremy Demitruk Oil leaked into creek Lapiniere and Rivière des Praries. Approximately 250 m of shoreline was contaminated with oil. Dead oily duck was discovered and second oiled duck captured and sent for cleaning; noted signs of beaver activities in the creek. Batched product: Low sulfur stove, ULSD, RBOB gasoline, and RUL gasoline"
2010	INC2010-028	"North booster pump leaked 50 m3 of condensate from an upstream flange. Leak contained on site and flow was diverted to other manifold. Vacuum trucks on site. No injury, no danger to the public Updated Volume: 150m3 of refined product (gasoline, diesel, fuel oil) all recovered. Update based on company DIR. Release of 150m3 of refined product (gasoline, diesel, fuel oil or other petroleum product) from a cracked nipple into approximately 80 m2 of the containment area. All product was recovered."

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2010	INC2010-025	"There was an emergency shutdown of the ""A"" Plant caused by a failure of the detronic monitoring equipment. During the venting of the plant, the suction side valve failed to completely seal which then resulted in a complete yard shutdown. A technician responded and was able to seal the valve manually. Loss of natural gas estimated at 51.4 cubic metres. Plant is isolated and off-line, TCPL is looking to replace the UVIR component on the monitor. Note: Augusta Fire Dept. attended to the station main gate as a result of noise complaints from the public. This is classified as a level 1 at this time as the Fire Department was not directly involved in the incident response. Estimated volume. 90 minutes for the release."
2010	INC2010-024	"Lube oil from the ""oil level sight glass"" sprayed on to a hot power turbine and ignited, resulting in an automatic shutdown of the plant. Staff member onsite responded to the ESD and put out what was left of the fire with an extinguisher. It is believed at this time that the gasket that holds the glass to the flange failed causing the oil to spray onto the turbine. No injuries, a small amount of insulation was burnt and the plant is back on line. Approx. 30 gallons of lube oil collected in the catch basin below the turbine. Approx 30 gallons of lube oil caught in a catch basin. During the ESD natural gas may have been vented to atmosphere but no information obtained in this regard."
2010	INC2010-022	"Operator came on-site at pump station and noticed frost on flange. Pipeline was depressured and repairs are underway. A very small amount of C2+ (Ethane, Propane) was released. There was no ignition and no one was injured. Pipeline depressurized within 2 hours of leak discovery to allow for repairs. Volume estimated at less than 0.25 m3. Last Taylor station routine visit 3 days prior; leak lasted 3 hours after discovery."
2010	INC2010-021	"The Operator of the Devon Wapiti plant contacted TCPL to advise that he heard an audible leak from the TCPL mainline valve # 90 on the NGTL system. TCPL investigated and found sweet gas leaking from a valve close relay. TCPL isolated the leak, the gas line was tagged out of service and repairs are to be conducted. No off site impacts, no injuries, no estimate on volumes of gas released"
2010	INC2010-019	"An M&NP technical was working at mainline valve 40 on the M&NP Saint John lateral. He observed a small hissing gas leak from a pressure relief valve on a sweet gas fuel line to the thermal electric generator. The relief pressure was set for 525 psi but the operating pressure was only 300 psi. The technician removed the relief valve and routed the fuel gas through an alternate relief valve. The valve will be replaced. There was negligilbe volume released, no off site impacts, no environmental impacts, no other response required."
2010	INC2010-018	"Spectra Energy Gas Control received an odour complaint from a resident in the Tumber Ridge area. Westcoast field staff investigated a nearby pig receiving barrel on the Grizzly Valley pipeline. An isolation valve to the flare stack revealed a ""whisper leak"" that was audible. Westcoast staff could smell the H2S from the leak, however their personal monitors did not detect H2S. The valve was isolated then examined, repairs are to be conducted. Westcoast indicates that the leak was at a very low rate and of negligible volume. No injuries, no hazard to the public, no offsite impacts other than the odour complaint, no other responders required, and no impacts to deliveries. NOTE (by G.Mesar): As per the telephone conversation with [REDACTED] from Spectra, it was confirmed that the incident occured at receiving barrel of the 12"" Lower Murray River Pipeline, and not on Grizzly Valley Pipeline as was originally reported."
2010	INC2010-016	"The Gold Creek Compressor Station is located 50 km south east of Grande Prairie. During investigation work on bearings, the maintenance crew discovered a sweet gas leak from a cracked fitting on a one-inch compressor supply line. The fitting was replaced on the spot. The volume of gas and duration of the leak are unknown. There were no injuries, no off-site impacts and no response necessary."

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2010	INC2010-014	An arc flash mark on a Variable Frequency Drive number 2 (VFD-2) in Hardisty pump station was discovered by a Siemens representative. The Arc to ground produces secondary damages. No injury. Pump is isolated and in lock down.
2010	INC2010-013	Facility experience false shut-in due to H2S analyser failure. Block valve close. However the up stream producer valve fails to open. Producer shut down the compressor but other wells continued to flow resulting in an over pressure of 116% over MOP on the Provost North Lateral. Overpressure lasted at least 2 hrs. No release of gas. NGTL determined on Monday that the line affected was their own. Integrity check will be performed.
2010	INC2010-012	"A possible gas leak at the Agnes facility at the Leige warehouse yard. The system was isolated and, it was determined that a relief valve on the utility gas pressure reduction manifold was releasing pressure. It was determined that the regulator was working properly but the relief valve released before the set pressure point (20psi). The relief valve adjustment set screw body threads had failed and the screw had backed off. A replacement was ordered and will be replaced next week. There was no environmental impact. Location is isolated and approx. 250 km SW of Ft. McMurray , near Pelican Lake, Alta."
2010	INC2010-009	"The pipeline overpressured between Oakville Terminal and Bowmanville Pump Station during a product delivery switch at Oakville Term. One of the valves within the terminal failed to close crating an incomplete tank valve sequence alarm. The alarm logic commanded the valve to close, followed by the station take-off valve. These valve closures allowed pressure to build up in the pipeline between Oakville and Bowmanville. Pressure at Oakville exceeded the MOP by 16.1% for 8.5 seconds. The pressure at the Oshawa block valve exceeded the limit set by the NEB by 11.7% (the pressure however was below the MOP.) Company checked the station manifolds and block valves between discharge pressure at north Tornot while it investigates the occurrence."
2010	INC2010-006	"An electrical fault in a GE 300 hp electric motor caused a fire within a building at the Belleville Compressor Station near Belleville Ontario. The fire was contained to the windings in the motor and was automatically extinguished by the fire suppression system within the building. The unit shut down automatically, resulting in a minimal volume of sweet natural gas released to atmosphere for a few seconds. Closest residence is approximately 1 km from the station. There was no damage to the building, no impact on deliveries, no environmental impacts, no other responders and no threat to the public. TCPL is investigating the cause."
2010	INC2010-005	"Block valve at NGTL Wolverine River, AB Meter Station failed to close completely, although computer system showed the valve as closed . Detector recorded 18.3 ppm H2S; which had been leaking in small amounts for about a day from the block valve. The block valve had to be manually closed. No report of injuries, adverse environmental effects or other damage. Undetermine quantity of H2S leaked from partial closed valve for about a day."
2010	INC2010-003	"A report of water pooling on adjacent property was received. Investigation revealed that a bonnet gasket on a block valve had failed and sprayed boiler feed water that travelled onto the Alta Gas property next to the plant. The valve was isolated, replaced and put back in service. Water was tested and PH levels of 9.25 were recorded. Approximately 200 barrels spilled onto the ground. Approx. 200 bls of boiler feed water"

2010	INC2010-004	"TSB advised they had received a call from TCPL regarding a diesel fuel spill on a construction project in Northern AB. Due to the volume TSB deemed it non-reportable and took company contact information only. Follow-up with the company revealed that a fuel truck on the North Central Corridor Project had its own fuel tank punctured, resulting in 30-50 litres of diesel to spill onto the ground and then onto the ice of a nearby creek channel (Class C). Company reported incident to Alberta Environment and DFO. Contaminated snow removed and absorbent pads and a Hydro vac truck utilized in the clean-up. As the product entered onto a frozen water body this is now deemed reportable. 30-50 litres of Diesel Fuel - Company reports all fuel except for residue on the bank has been recovered."
2010	INC2010-001	"Gas Control detected gas venting from a release valve at the Boundary Lake meter station. A technician attended, blocked in the valve, then removed the valve and seat for recalibration. At this time the company suspects the release resulted from a frozen weeping pilot valve. No response from fire/police, no injuries and no threat to environment. Estimated 125 e3m3 natural gas released. The gas release resulted in max. emission of 89 t of methane which corresponds to 1869 t of CO2 equivalents"
2009	INC2009-147	"H2S alarm sounded on incoming line at a/n meter station. The H2S block valve did not close when alarm sounded resulting in 25 ppm H2S flowing for approximately one minute. Contacted TCPL staff who advised that gas control has indicated it was a temporary spike with the H2S content dropping to 10 ppm after one minute. TCPL further advised that the block valve should have closed at 16 ppm. The temperature was -38 on the day of the incident and when the tech tested the valve it failed to close. The tech returned the next day, temperature had warmed up to -21 and the valve was working properly when tested. Company contact advised that there was no adverse impact on downstream operations. TCPL is continuing to investigate this incident. No release."
2009	INC2009-144	"At approximately 13:00 MST on 8 December 2009, during a routine sniffer test at the Dancing Lake Receipt Meter Station, a slightly higher concentration of H2S, 24 to 30 ppm, was detected and emergency shut-down (ESD) activated. Arrangements were made for Husky Oil to draw production back to their facility. NGTL installed a temporary H2S detector on site for on-going monitor in case another slug of H2S comes in from the Husky facility. The Receipt Meter Station was re-opened on 14 December 2009. Reporting delay was because NGTL was unsure if the event was reportable. No release."
2009	INC2009-145	"At approximately 6:00 MST on 12 December 2009, the Doris Creek Meter Station H2S detector detected sour natural gas in the facility, triggering an emergency shut-down (ESD) and isolation of the meter station. By the time a responding NGTL employee arrived on site, AltaGas was already pulling back its gas to the station and no more H2S was being detected in the station. The NGTL employee opened the valves that had been triggered to close and found that the upstream gas valve was already opened (had not operated as intended). Valve solenoid was replaced on 14 December 2009 and the valve operated properly. The station was put back in operation."
2009	INC2009-143	"Plant operators noticed that a blower was not operating properly due to a partial blockage of a SO2 gas pipe and the operators were not able to move all of the SO2 to the incinerator. Consequently, SO2 back-flowed through a fresh air vent and is being released. Monitoring shows SO2 concentrations of less than 1 ppm. Spectra Energy personnel have been trying to clear the partial blockage throughout the day, but had not succeeded by 15:30 MST on 17 December 2009. The gas line continues to be used intermittently to continue plant production (no apparent loss of production). SO2 release - volume unknown SO2 releasing throughout the day - volume unknown, Concentrations monitored at less than 1 ppm."

2009	INC2009-140	"A flash fire occurred at the NGTL Lodgepole, AB Compressor Station on 14 December 2009 at 6:00 MST. Oil misting, as discovered on the power turbine accessory gear box, is suspected to have contacted the exhaust sheathing, resulting in the flash fire and emergency shutdown of the compressor. NGTL is investigating the source of the oil and will effect a repair before re-starting the unit. There is no impact on throughput, no injuries, and no threat to the public or any noticeable environmental effects."
2009	INC2009-139	"On Saturday, 12 December 2009, for 5 hours starting at 12:38 MST, the 8B-L1, 30"" and the 8B-L2, 36"" sweet natural gas lines downstream of Hope, BC Compressor Station 8B, operated at 783 psi; 3 psi over operating pressure (780 psi). The company changed the set points and reduced the pressure to operating limits. Spectra is investigating why the lines operated for 5 hours over pressure before being corrected. There were no injuries and no danger to the public."
2009	INC2009-137	"Release of 69 cubic metres of natural gas on line 100-1 due to the opening of a pressure release valve. On site technician heard the gas release, shut down the pipeline, repaired the valve and put back the line in service. The technician found moisture in the valve. No injuries, No impact on delivery "
2009	INC2009-141	"During routine monthly tests, gas with a concentration level of 60 ppm was detected. The station is a sweet gas facility without H2S sensing or gas shut off capability. The technician immediately shut in the station and reported the incursion to the producers. Producers took action to clear the sour gas and notify downstream customers. The incident was covered by the media."
2009	INC2009-136	"Release of sweet natural gas occurred from the wet seal oil system on a compressor unit. The on call technician noticed that the gas detector indicated gas in the building. The gas detector indicated less than 10% and did not trigger the shut down of the unit. The on-call technician shut down the unit manually. Note: The release was discovered on the 6 December. Reported to TCPL on 8 December and then reported to TSB on the 10 December 2009. No injuries, No impact on delivery Incident detail report should be filed on Friday 11 December. un know"
2009	INC2009-135	"A significant electrical fault in the electrical switch gear (ESG) building cause the air to ionise resulting in a fire that destroyed the interior of the building (15 X 20 feet) housing the ESGs. ESGs are used for line number 4 three pumping units. Line 4 is still in operation and it is by-passing the Loreburn pumping station. Volunteer fire department responded at Enbridge's request. The fire burn itself out. Enbridge also activated its emergency response procedures. No injuries, No release of product. Enbridge is working toward temporary repairs and planning to bring by Tuesday 15 December a back up ESG unit from Regina. "
2009	INC2009-134	A fitting failed due to cold temperatures resulted in a 3m3 spill of condensate in the pump building. Some condensate migrated outside the building contaminating the soil.
2009	INC2009-132	"During construction, a backhoe caught on fire while clearing brush. Workers attempted to extinguish the fire but could not put it out. The backhoe was destroyed. The contractor is North American Pipelines and the hoe belonged to EOS Pipeline Facilities Inc. Backhoe"
2009	INC2009-129	Emera Brunswick Pipeline Company reported a leak of sweet natural gas at the new Redhead meter station. Basket streamers had been installed backwards and work was planned to rectify the error. Work was planned during a shut down and modifications were required in the vent piping. The fittings were not tightened down properly resulting a leak of sweet natural gas. Approximate duration of the leak was 1-11/2 days resulting in a release of approximately 4-5 cubic feet of SNG. Fittings have been tightened and the leak has been resolved.

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2009	INC2009-128	"M&NP reported a small natural gas leak on the M&NP mainline at its Sackville compressor station located about 10 km from Sackville NB. The technician arrived on site in the morning and when he was in the vicinity of a flange, he could hear a leak. The leak was minor in nature and posed no risk to the public, the environment or workers on site. No fire and no gas volumes were determined. Repairs are underway on 18 November 2009. NEB staff discussed with M&NP the need to ensure that even minor leaks are reported to the TSB as soon as possible. M&NP Contact: ██████████ A small undetermined volume of gas was released to the atmosphere. A small undetermined volume of natural gas was release."
2009	INC2009-133	"A worker sustained a compound fracture to his left ankle when he jumped from an excavator, that was on a lowboy, onto the ground. This occurred during repositioning of the excavator. The lowboy driver and pilot truck driver were taking the 330 excavator from road 95 to road 75. Driver was travelling west on Hwy 201 and before turning north onto Hwy 32, the lowboy driver stopped to remove the blind on the rear of the cab window to facilitate backing up when reaching the destination. The driver removed the blind and reentered the cab to proceed to location unaware that the pilot truck driver had climbed onto the back of the lowboy to remove the blind from the back of the excavator. The pilot driver jumped from the excavator when it started to move. The lowboy driver saw the pilot driver in the ditch and call for assistance. The pilot truck driver sustained a compound fracture to the ankle and required two surgeries and extra days in the hospital to ensure that infection did not set in before putting on a cast. Compound fracture - ankle - feet/toes. Surgery required."
2009	INC2009-126	"Uncontrolled gas release at the compressor station resulted when a tubing line broke free from the fitting on cylinder 3 of unit 1. A technician was called by gas control to respond to an ESD of the station as the unit had shut down on a high gas alarm. Once entering the building the technician observed the broken fitting resulting in gas in the building with the gas detectors ESD'ing the building. The fitting and tubing was replaced and the compressor returned to service. No danger to the public, no ignition. No estimate of gas release volume at this time. Unit was out of service for part of the day until the repair was completed. Undetermined."
2009	INC2009-123	"While attempting to change a catalytic heater at the metre station an employee opened a line that was assumed to be shut in. The line contained product and a very small amount gas was vent to atmosphere. The employee immediately closed the line. There was not enough product released to activate LEL detectors and the employee was not injured. No fire and no threat to public. A small, undetermined volume of gas was released to the atmosphere. A very small, undetermined volume of gas was released"
2009	INC2009-121	"A weld cracked on a discharge pipe coming out of the TransCanada Pipeline's station 62 in Upsala, Ontario. Approximately 100 m3 of sweet natural gas was released. Gas control immediately shut down the station. Repairs are under way. No injuries, no fire. Approximately 100 m3 of natural gas was released to the atmosphere."
2009	INC2009-120	"At 6:17 MDT at the Berland River, AB Compressor Station, a scrubber high-level alarm caused an automatic dump valve to open. The level transmitter hung up (got stuck) and did not reach a low enough level to turn off the dump valve resulting in the scrubber venting sweet natural gas to atmosphere for 2 hours 40 minutes until a TCPL employee, dispatched from Edson, AB manually shut the valve to stop the venting. Vented sweet natural gas for 2 hours 40 minutes. 0.003 kt of sweet natural gas released"

2009	INC2009-119	"Enbridge reported that a switch gear on Line 4 at the Strome, AB Pump Station had an electrical fault at 11:30 MDT, resulting in smoke in the pump station. Line 4 is currently on by-pass at a reduced flow. A repair schedule was not provided. There were no injuries, no other environmental impacts and no near-by residences."
2009	INC2009-118	"An uncontrolled release of natural gas occurred when a Fisher 630 regulator diaphragm, on the metre station run, malfunctioned. The excess flow from the unregulated metre run began venting. A service employee was on-site at the time and changed out the diaphragm, repairing the regulator. No injuries or other impacts reported. Volume undetermined Volume undetermined."
2009	INC2009-130	"A worker fractured the left tibia, sprained his right ankle and separated his left shoulder when he used his arm to brace himself when he landed on the ground during line up operations. A crew was working on the 8" fill line and were attempting to line up a 90 elbow with an excavator operator 16m away. The pipe was in the clamps when the operator signaled he was moving to adjust the position of the pipe. The pipe fell out of the clamps and hit the worker below the knees, rolled down scratching his shins and landed on his ankles forcing the worker to fall to the ground. The worker was treated in hospital and released. The worker arrived at work the following day using a walking cast and accepted modified duties. Fractured left tibia, sprained right ankle, dislocated left shoulder."
2009	INC2009-115	"Suspected sour gas leak on a valve of a plug on a receiving line on one inch tubing on a piggin barrel located 38 km SW of Tumbler Ridge, BC. Reported to the company by a operator of an adjacent plant who smelled the sour gas.. volume undetermined"
2009	INC2009-113	"Refine product (Gasoline) leaking from the 12 inch Ottawa lateral. The product covers an area of approximately is 20 feet by 20 feet on Right-of-Way. Pipeline is shut in and a main line valve 500 feet downstream was shut down by hand. Spill was reported by Local Drainage contractor who was walking the property for a future proposed drain tile system. Contractor noticed the odour and phoned TNPL. Location. Lot 87 Concession 6 Township of Osnabruck United county of Stormont, Dundas, Glengary Mile Post 6 - note Mile Post O is at the Farrant Point Pumping station on the main line Property is not title drain. TNPL Notified TSB, NEB, Ontario Spill line, Environment Canada, local municipality. TNPL staff is on site, walk the property to ensure that no product is flowing in ditches. Product is on R/W pooling in a small depression. TNPL is mobilising contractor to excavate the Pipe and calling an Environment consultant Local Drainage contractor report to TNPI an Odour and possible leak. Landowners Landowner is aware and TNPL will notified 3 others landowners in the area. Closest Resident approximately 300 metres Closest road approximately 600 to 700 metres (need to be verified). No media at this time. TNPL did not request emergency service: Police fire department, Impact on Customer - To early to state at this time. Note: The Ottawa lateral is the only supply of gasoline and jet fuel to Ottawa region and airport. 3 m3 of gasoline contaminated the surrounding soil and water. Impacted soils were removed and the property was restored. Refer to TNPI's Remediation Closure Report dated 9 September 2010, approved by NEB oin November 2010. Leak detected at 15:50 on 5 October 2009 (not sure when leak started), pipeline shut-down at 16:06 and cleanup began after 18:00 in the evening of 5 October 2009."
2009	INC2009-112	Contractor conducting planned work at Lisgar Gate Stn near Brampton when 2" blow-off valve on 24" line was damaged. A fire started at the gate station building (Approx 12'X8'). Gas was shut off and the local fire department responded. Fire was extinguished at 1150hrs EDT. No injuries or danger to public. Local/Regional media interest. (formerly Consumers Gas - operated by Enbridge Gas Distribution. Building. Damage status to be determined. undetermined - resulted in fire

2009	INC2009-111	"Enbridge Pipelines Inc. received a call from a landowner reporting that he smelled oil near the Odessa pump station. Enbridge did not see a pressure drop on any lines at the Odessa pump station but deployed a crew to investigate and shut in all pipelines at the location. Crews arrived on site and determined an area of about 100m x 400m impacted by oil, however they have not determine the volume of oil spilled. The impacted areas are off company lands. There is a nearby low area but no standing water. Enbridge has activated its emergency operations centre, is setting up a command post near the site and has dispatched its response trailers and environmental crews. It will excavate the lines to determine the nature of the leak and to initiate repairs. The spill location is about 2 km downstream (SE) of the Odessa pump station. The spill is in a sparsely populated area and there have been no public complaints or concerns other than the initial odour report. Enbridge is deploying land agents to respond to any public concerns. There have been no injuries, no media interest, no other emergency responders (Fire, police etc) and the spill poses a low hazard to the public. Enbridge has initiated contact with other provincial and federal agencies as necessary. Line 2 Estimated volume after initial site survey = 1240 cubic meters. Updated by Anne-Marie Bourassa Mota on 12 January 2011: According to TSB Investigation Report, 175 cubic meters of crude oil was released, of which most was recovered. Information above has been modified to reflect this finding."
2009	INC2009-109	"Rupture, on Line# 1 (30" gas pipeline), between MLV 111a and 112, resulting in an explosion. The site is approximately 50 km outside of Haileybury, Ontario. There is no fire at this time but Ministry of Natural Resources Ontario fire crews are standing by near the site. The Ontario Provincial Police have isolated the site. The company reports that there is visible damage to the surrounding forest. The company reports that the section of pipe that was blown out is approximately 50 m in length. At this time there is also a small leak at MLV112 which the company is working to repair. Undetermined."
2009	INC2009-107	"An apprentice welder was shutting of a propane welding torch when he noticed the flame would not go out. He attempted to close the valve on the torch but the valve broke and propane began flowing from it and caught fire. The apprentice then ran to the propane tank and shut it off. This extinguished the fire. There was a small burn area where the torch was sitting. The apprentice was not injured and the fire did not spread. Moira contacted [REDACTED] Senior Regulatory Compliance Specialist at TCPL Tuesday March 23, 2010 to discuss corrective actions and recommendations of this incident. It was discussed that while the initial report identified that there were no unsafe acts or conditions contributing to the incident (g) there actually were as identified further on in the report (f). [REDACTED] agreed and indicated that legal missed that as well. It was also discussed that the report identified that all torches were inspected after the incident, which is somewhat reactive and it would have been nice to see a somewhat more proactive approach identified to preventing future incidents of this nature. [REDACTED] agreed, and will keep that in mind for future program enhancement."
2009	INC2009-106	At 14:10 MDT the air combustion feed failed to one of the thermal oxidizers in the sulphur plant at the McMahon Gas Plant. This caused the unit to shut down and caused 2.4 million cubic feet of sour natural gas to be released to the atmosphere. The sulphur plant was isolated and flow was eventually shifted to another oxidizer. The unit that failed in under going repairs. There were no injuries and no fire was reported. The company reports no impacts off site. Sour gas released into atmosphere.

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2009	INC2009-105	"At 09:57 MDT a failure of a pipe fitting on a case pressure transmitter on Enbridge Line 65 failed causing a release of approximately 4.75 m3 of crude oil. The release occurred at Enbridge's Glenboro pump station in Manitoba. The line has been isolated and is awaiting repair. The spill was contained to site. There were no injuries and no fire was reported. This is the area of affected soil listed in the report. In the incident report the ""Estimated Volume Recovered"" is listed as 0.0 m3, yet in the report they state that all of the free product was removed using vacuum trucks and that the contaminated soil was placed in a lined, containment area for future disposal at a registered waste treatment facility."
2009	INC2009-104	"Station lost air pressure causing unit 3 to enter emergency shutdown. The unit discharge valve to its limit stops but did not fully close allowing sweet natural gas to vent directly to atmosphere for 45 minutes. Release detected by gas control in Calgary, an employee was dispatched and manually closed the valve. Volume TBD,, no impact to public or environment due to remote location of station. Gas vented to the atmosphere during an ESD. Volume TBD, vented for 45 minutes."
2009	INC2009-103	"Technician conducting M24 inspection on valve and valve operator. When tech cycled line 100-2 (upstream blow-off on jumper assembly). The jumper pressurized and gas began to leak from the top of line 100-2 (downstream blow-off Table Turn flange) Investigation determined that the leak was from the pressure indicator release fitting on the downstream blow-off, appears there is a crack in the threaded portion of the release vent. Gas has been vented from the jumper assembly, and it is tagged out awaiting repair. Estimated .10m3 released, no injuries, no danger to public/environment and no disruption to service. Natural Gas released to the atmosphere. .10 m3 released"
2009	INC2009-102	"During routine inspection, technician approached the station and could hear an audible leak. It was determined that the leak was coming from an arco gas sampler inside the station. The building was vented, the line was isolated, and repairs have not been completed at this time. TCPL report this as a minor incident, no other information is available at this time. An unknown volume of natural gas was released to the atmosphere. Unknown amount released at this time - leak found during monthly inspection."
2009	INC2009-101	"A mouse entered the switch gear and shorted the phases which resulted in a reduction on Line 4. Enbridge bypassed the station, removed the damaged electrical cell and repaired it. The line 4 station switchgear station was de-energized for approximately 20 hours after the incident to remove the affected cell for inspection and testing. No release, just a reduced rate on line 4"
2009	INC2009-100	"During routine equipment inspection staff noted that a deep cycle battery on the auxiliary power set had exploded. No injuries, damage was contained inside of the building and no impact on operations."
2009	INC2009-096	TCPL received report of gas bubbles coming out of ground on 36" Line #2. near mainline valve #41. Section has been isolated and pressure reduced. Responders are on site and investigating cause. not known at this time
2009	INC2009-095	"TCPL reported a rupture, on Line# 2 (30" gas pipeline), approximately 5.4 km downstream from Station 107, resulting in an explosion and fire. Pipeline has been isolated. A brush fire resulted from the explosion. Ontario Provincial Police, Fire department are on site as well as TCPL responders. TCPL has activated its EOC in North Bay Ontario. Water-bombers have been called to fight the fire. House siding damaged. to be determined"

2009	INC2009-092	"Electrical emission resulted in a large amount of smoke, in an electrical building. System was isolated and Line 4 is under total shut down resulting in a product back up at Edmonton. Significant damage to electrical systems in building. Production still exists eastward on line. There was no visible fire. There was no injuries, or environmental damage. Enbridge was waiting for smoke to clear before investigating."
2009	INC2009-090	"Pressure relief valve on compressed fuel gas was not resetting correctly and vented approx. 100m3 of fuel gas. The line was blocked, venting had stopped and repairs are being initiated. Western Alberta System (WAS)."
2009	INC2009-089	"Fuel gas venting from relief valve as designed. Alarm at gas compressor station, public complaint of gas smell followed by response from Fire Department. Spectra is investigating. Amount and duration unknown at time of call. Plant was in turn around at time of incident. No business loss. Bleed down and isolated to investigate. No visible cracking."
2009	INC2009-088	"1" soffet weld fitting leaking and release approx. 20,000 ft3 sweet natural gas. at the Burstall, Sask recompression/decompression station on the Foothills Pipeline. Facility was taken down and depressurized to implement repairs. BP Canada reported for TransCanada as it owns and operates the facility. The incident resulted in a maximum emission of 0.008 kt of methane from time of discovery, which corresponds to 0.17 kt of CO2 equivalents. 2000 scf natural gas released."
2009	INC2009-086	"A pressure relief valve malfunctioned and would not reseal. Approx. .5m3 sweet natural gas was released over a 2 hour period. Valve was isolated, and valve was replaced. Location was at the Hanna Alberta south sales meter station. Sweet natural gas that was released to the atmosphere. approx. .5 m3 sweet natural gas over 2 hr release period"
2009	INC2009-087	"Gas leak on a 8" pipe on weld at 45o elbow. Approximate release of 10 m3 sweet natural gas. TransCanada received a call from Apache who was during an corrosion inspection on the line. During the inspection, an audible leak was detected. TransCanada responded, isolated the #3 meter station and station is out of service until pipe repairs have been completed. Location is approx. 200 m from plant. "
2009	INC2009-084	Dan Holbrook of TSB called to report A Spectra sweet natural gas leak at compressor stn 6A. Facility had been shutdown on turnaround and upon restarting operators noted a natural gas leak from a 2" riser off the 42 inch pipeline. Leak was because of a crack in a weld. Compressor Stn has been shutdown and deressured and Engineering services are investigating and making arrangements for repair. No estimate of volumve yet. Contact: [REDACTED] Undetermined.
2009	INC2009-080	Fire cause by an electrical arc flash. TCPL technician was performing an emergency shutdown test on a variable frequency drive (VFD) which is located on a separate room of Compressor Station 134. As the technician pushed the reset button on the VFD the button arc and started a fire. Fire was extinguished with CO2. TCPL shut down the electrical supply to the plant. Investigation will begin on Wednesday 12 August.

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2009	INC2009-079	"Power outage and pipelines overpressure. Pine River Gas plant lost power and shut down. This event causes an overpressure above MOP on the pipeline system less than 10% for over 2 hours. During maintenance on Train 3, the Uninterrupted Power Supply (UPS) inverter system had a power interruption due to a fail card. ESD valve to the generator fuel lost power and went to safe mode. Pine River Gas plant lost power and shut down. This event causes an overpressure above MOP on the pipeline system less than 10% for over 2 hours. 20 inch OD: 1178 PSI; 24 inch OD loop: 190 PSI; 24 inch OD main line: 1180 PSI. Westcoast is working to bring the gas plant back on line. Train A was back on line at 23:50 PDT on 2009-08-10; Train B was back on line at 07:35 PDT on 2009-08-11; Train 3 Staff is still working on it"
2009	INC2009-078	"Crude oil storage tank number 210 sustained a large dent due to a high wind event. Tank 210 was empty at the time and was taken out of service. No release, no danger to public, no environmental damage. The dent is approximately 20 by 30 feet and lean a couple of feet into the tank. Tank 210 has a floating roof and was put on limited service at this time. The swath path created by the wind impacted Enbridge, BP and Imperial Oil terminals. Environment Canada as yet to determine whether it qualify as a tornado. Dent on Tank 210"
2002	INC2002-064	"High pressure SCADA alarm received in Gas control. MOP = 8275, Highest pressure recorded = 9375 (110% MOP). NGTL - 125501"
2005	INC2005-069	"After H2S shut-in at a meter station, Gas Control identified an over-pressure situation on meter station piping. NGTL - 146550"
2009	INC2009-076	"At 15:52 MDT on August 1st a tree fell on a 1 inch line going in to the Anslu metre station near Edson, Alberta. The line vented for approximately an hour before it was plugged. The tree was then removed. The total volume of released gas was 2.9 cubic metres. There were no injuries. This is the estimate volume of gas released in to the atmosphere."
2001	INC2001-091	Corrosion leak detected on the NPS 24 North Lateral. NGTL - 127215
2001	INC2001-092	Leak discovered during 3rd party aerial patrol. Attributed to SCC. NGTL - 127605
2002	INC2002-062	Leak detected at Cragiend M/S through gas bubbled in the surface water. NGTL - 129372
2002	INC2002-063	Leak detected on NPS 2 return line at Retlaw M/S. Attributed to inadequate CP and incorrect installation kit. NGTL - 129833
2005	INC2005-066	"During above ground leak detection survey, 10 leaks were discovered. Result of wall imperfections (penetrators) in the ERW seam. NGTL - 144381 Operating pressure lowered during repairs. unknown amount/duration of natural gas release."
2005	INC2005-067	"Leak discovered on the Central Alberta System Loop - NPS 42. Suspected cause of excessive longitudinal stresses on pipe at time of welding, resulting in cracking. NGTL - 147407 Vegetation harmed by natural gas leak. Unknown amount/duration of natural gas leak."
2005	INC2005-068	"PPU shutdown caused the air compressor to stop, which caused the fail safe fuel vent valve to open Gas release to atmosphere. NGTL - 145796"
2009	INC2009-075	"NOVA Gas Transmission Ltd. reported an approximate 2 minute venting of 1400 ft3 (40 m3) sweet natural gas at the Clarkson Valley, AB Compressor Station. A storm in the area knocked out power to the compressor station. The auxiliary power unit initially engaged but then shut-down, resulting in the release of gas. Power was restored and the compressor and pipeline are running normally. There are no residences in the area, no injuries and no other environmental impacts. NGTL Contact: [REDACTED] Sweet natural gas released. 1400 ft3 (40 m3) sweet natural gas released."
2000	INC2000-076	"Corrosion leak detected on the NPS 12 Worsley Lateral, approx. 11.2 km east of the Worsley East Meter Station. NGTL - 122383"
2000	INC2000-077	Corrosion leak detected on NPS 10 Greencourt Lateral. NGTL - 123090

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2000	INC2000-078	Leak detected near valve section N70-1-BV. Attributed to Hydrogen assisted cracking. NGTL - N/A
2001	INC2001-088	"During leak detection activities, corrosion leak detected between valve sites PRM70-0-BV and PRM80-0-BV. NGTL - 124165"
2001	INC2001-090	Corrosion Leak discovered on NPS 20 Peace River Mainline (SE 4 98 1 W6). NGTL - 126672
2005	INC2005-065	"Wainright APU Batteries attempted to test run on APU. Immediately after, 2 batteries exploded leaking battery acid onto the floor which was later neutralized. No workers in the area at time of explosion. NGTL - 145885 / 146010 Batteries Battery acid."
2009	INC2009-072	Dan Holbrook of TSB called to inform of an incident on Westcoast Comp N4 station. Fire burned down a storage shed on 23 July 2009 @ 2100 MST. Suspect electrical. This is unrelated to the any release of product. Contact: [REDACTED] Mech TL Transmission north Tel: [REDACTED]
2002	INC2002-061	An in-service rupture occurred on the NPS 20 Peace River Mainline. The cause was attributed to localized microbial corrosion beneath disbanded tape coatings. A recalibration of their ILI data was then done and additional maintenance activities were performed. The line had ILI's performed in 2004 and 2006 with corresponding maintenance being performed. Incident reported as per GC - 113 NGTL incident number 130968
2000	INC2000-074	During the purge and pressuring process of bringing the Worsley Lateral Extension back into service a rupture occurred. The rupture was caused by the ignition of gases within the pipe due to ideal gas to air ratios and pyrophoric iron (II) sulfides. The resulting fire caused extensive damage to the Ray Lake Meter Station with one employee receiving fairly mild burns (equivalent to a sunburn). Incident reported as per GC - 113 NGTL incident number 122455 Man received mild burns but when brought to hospital refused medical aid. His burn was of the same severity as a sunburn.
2002	INC2002-060	"TransCanada employee and 3 contractors arrived on work site (PMRL dig #5). In preparing for the day's activities, 2 contractors entered the construction trailer to put on their PPE. When the light was turned on it arced causing a flash fire. Both workers suffered 1st and 2nd degree burns. Numerous safe work protocols were then put in place. Incident reported as per GC - 113 NGTL incident number 128086"
2009	INC2009-068	"Ken Miller of TSB called @ 1640 MST on 21 July 2009 to inform of a NGTL 36" Western Alberta System loop leak which was discovered on 20 July @ 1030 MST. Atco gas pipeline with TCPL discovered natural gas leak during inspection on 36" Western Alberta System Loop near Crowsnest Pass. It is a remote site with nearby local road. Closest land owner is 1 km away. 21 July 2009 probe down 3 feet into the ground recorded 100% reading natural gas. Suspect integrity issue with pipe fusion bond epoxy pipe which was built in 1989. this pipe has had no prior issues. Pipe can not be shut in. Currently the mop is 4680 kpa. Leak is not audible and gas is not moving any dirt from the probe hole. The plan is to ribbon off site, post a no smoking sign, Post security, Hand dig to expose pipe on Thursday 23 July 2009. Contact: [REDACTED] Tel: [REDACTED] Cel: [REDACTED] Volume released is not known. Release duration unknown."
2009	INC2009-067	"Ken Miller of TSB called in an incident on Westcoast Energy operating Brunswick pipeline at Red Head meter station in St John, New Brunswick. Leak was detected leak @ Odorant injection point back along threads. Planning to replace fitting in 2 to 3 weeks time when Canaport Plant shuts down. Contact: [REDACTED] Tel: [REDACTED] [REDACTED] A small, undetermined volume of gas was released to the atmosphere. A small, undetermined volume of natural gas was released at a faulty fitting after a meter station came on-line."
2009	INC2009-066	Pipeline rupture and fire on the 20" sweet natural gas mainline 30 miles south of Hay River near Rainbow Lake. Three company personnel are responding. No injuries and no nearby residents. 2 hectares of surrounding vegetation burned in the rupture. Company estimate.

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2001	INC2001-085	The NPS 6 St. Lina North Lateral ruptured while in service. The polyethylene tape was in fair condition for the most part. There was some disbondment were the pipe wrinkled due to soil stresses. This allowed for the development of an 80% corrosion feature. The event is considered low priority since the failure of small OD pipelines in this manner is not common. Incident reported as per GC - 113 NGTL incident number 125544
2009	INC2009-065	"Description: The insulator blanket on the generator at the Wainwright compressor station caught fire. No injuries or third responders, fire was extinguished immediately with damage only to the blanket. There was no product lost and TCPL is investigating to determine cause. nil none"
2009	INC2009-063	"During a biweekly weekly operational check, staff detected a small release of sweet natural gas from a pneumatic switch on a 3 way reversing relay. Minimal product released and repairs to the switch have been completed. A small undetermined volume of gas was released to the atmosphere Very small leak, amount not measureable"
2009	INC2009-060	"TSB advised that a pigging crew observed sour gas leaking into the muskeg from a 10 inch pipeline located 100kms NE of Fort Nelson. The line was presently being depressurized and no further information was available. Contacted the company rep who advised that when the crew arrived on site they noted ""spitting foaming salt water gurgling up in the muskeg"". It is a low pressure 10"" line that is presently leased to PetroCan. The crew was on site two days earlier and did not notice anything at that time. Estimated that 1000 gallons of H2S gas/water mixture was released and the company reports that all is contained on the ROW. It is a very remote site that can only be accessed by air or ATV's in the summer. The company will fly in an environmental specialist tomorrow to conduct a further assessment. At this time the company believes probable cause is internal corrosion of the pipeline. No injuries, no third party response and company is reporting spill is contained on ROW Estimated 1000 gallons of H2S - water mixture into muskeg. Approx 1000 gallons of H2S and water released. Release occurred within the past 48 hrs."
2001	INC2001-084	An in-service rupture occurred on the NPS 10 Carson Creek Lateral. The failure was due to external corrosion that had been accelerated by periodic changes in the water level inside the casing of the highway crossing. In the areas where the coatings became disbonded corrosion features occurred up to a depth of 44%. Incident reported as per GC - 113 NGTL incident number 125478
2009	INC2009-058	"Nova Gas Transmission Ltd. notified the TSB of a confirmed leak and fire on its 6" Contracosta Lake Lateral near Hanna, AB and approximately 400 m from the Hutterian Brethren Church (Hutterite Colony). There was lightening in the area at the time of the event. A producer in the area contacted the Company's 24-hour emergency number. The Company in turn called 911. The Hanna Fire Department has been notified but is not confirmed to be on site. The line was isolated at 1:30 MDT. There 20 km between the valve sites and will take a period of time to bleed down. There are 2 Company personnel on site to keep the public at a distance from the site. Company indicates no injuries and no danger to the public. 17,000 m3"
2009	INC2009-057	"Trans-Northern reported that a block valve at its Oka Transition, MP 29 from the Montreal Pump Station, shut down during thunderstorm activity in the Montreal area. Communication with the valve was lost at about 18:45 EDT and pumping continued for approximately 5 minutes before pumping was shut-down at Montreal resulting in an over-pressure circumstance (1240 psi vs. MOP of 1000 psi) on a 4-mile segment of its Montreal Line through Saint Eustache, Quebec. The 4-mile segment of line has the same specifications as the 10"" line both upstream and downstream of it, but has been restricted by certificate to 1000 psi through the municipality of Saint Eustache. MOP was not exceeded elsewhere. A technician was sent to the site and disconnected the supply to the valve and manually opened the block valve. Product in the line at the time was gasoline."

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2009	INC2009-056	"Spectra Energy discovered a sour gas leak at 20:30 PDT on 27 June 2009 from an outside 3/8" tubing on a pressure relief valve at Booster Station 3 - Kobes Creek, B.C. The leak began sometime between 15:00 after personnel left the station and 20:30 when personnel returned; consequently the volume leaked is undetermined. The line was shut in for approximately 30 minutes and the leak repaired. The line was returned to service at approximately 21:00 PDT. There are no nearby residences to the Booster Station. There were no injuries and no other environmental impacts. Unknown volume of sour gas released to atmosphere The leak occurred between 15:00 PDT and 20:30 PDT; volume is undetermined."
2009	INC2009-055	"1.8 m3 crude oil was released from an inline valve on Line 9 at the Hilton Station. The oil was contained on site. Free product has been recovered. Line 9 is shut-in for repairs and is expected to be returned to service by approximately 23:00 EDT (21:00 MDT). Nearest residence in the rural area is approximately 500 m away. No injuries reported, no fire or other issues. All contaminated soil was to be removed and transported to a registered waste treatment facility. Possible residual soil contamination. All free product recovered and discharged into the station sump tank. All contaminated soil will be removed and transported to a registered waste treatment facility. All but one of the documents list the volume released as 1.8 m3. The other one list the volume released as 1.9 m3."
2009	INC2009-054	"A three inch domestic fuel gas skip ruptured. This is part of the system to the bring pressure down from line pressure , 6074 KPa, to the building heating system pressure. (not for the compressor building.) TCPL employee arriving on site noticed the leak. The line was isolated by closing the upstream valve. Sweet gas release to atmosphere. Volume not specified. Volume not specified."
1999	INC1999-083	An in service rupture occured on the Edson Mainline Loop [REDACTED] The mode of failure was SCC. Upon investigation they that the crack depth average was 31.5% and the maximum depth was 82%. There was also minor external corrosion on the pipe as well. The repair consisted of pipe replacement and as well as a hydrotest. Incident reported as per GC - 113 NGTL incident number 104442
1999	INC1999-082	"When valve 15 of the Peace River Mainline's 1.5 plug plug was removed from the well, the stub was sniffed and indicated the line was clear. They then started a propane torch for heating and caused a small explosion. Work was shut down. The matter was resolved with the use of a mud plug on the small inch risers Incident reported as per GC - 113 NGTL incident number 113707"
2002	INC2002-057	An MCC unit alarm alerted gas control to have the on call operator travel to site to investigate. Upon arrival an MCC fire was discovered. Both the PPU and the APU were tripped. A multilink breaker from a 120 VAC UPS panel was also tripped. Burnt parts were removed and replaced. The source of the fire was never established due to the damage caused. Incident reported as per GC - 113 NGTL incident number 128582
2002	INC2002-058	While pushing piles to facilitate burning of bush for the new right of way construction the stump pan of a D7 CAT caught fire. Attempts to put out the fire failed and the D7 CAT was destroyed. No other injuries or losses. The fire started because the CAT got too close and sparks/embers got into the engine compartment. Incident reported as per GC - 113 NGTL incident number 128417
2002	INC2002-059	During the start up procedures of Smokey B6 an oil leak aft of the power turbine came in contact with the exhaust line causing an oil fire. The leak was caused by a improper oil plug installation. Incident reported as per GC - 113 NGTL incident number 128101

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2009	INC2009-053	Gas control received an alarm indicating a reading of gas in the compressor building. The compressor was shut down and a crack in the weld was discovered where a 1/2 " pipe connected to a 1/2 " nipple in the 12 " hot recycle line; repaired seal welding a plug in the nipple. Back in service 10:00 a.m. June 20th. An undetermined volume of natural gas was released. It was stated that the volume would have been minimal. volume undetermined.
2001	INC2001-083	Unit 4 started up under normal start up sequence. Unit ran for 12 minutes before the 'A' station ESD due to fire detection. The unit building was found filled with smoke. Investigation found Left Bank #5 cylinder air start check valve melted and the pipe check valve dropped out. This caused the unit to severely overheat and eventually set off the fire detection in place. Info submitted as per GC - 113 NGTL incident number 123680
2002	INC2002-056	"Employee was dismounting from a 330 tracked hoe when his foot slipped on the track. Employee could not get a good grip on the hand rail as he was wearing winter gloves. Employee slid to the ground and twisted his ankle upon landing. Employee sustained a fractured fibula. Employee reviewed operator's manual and shared findings with fellow employees. In the future all hoe operators, in addition to holding onto the hand rail they must ensure their footing is secure prior to putting their full body weight onto the foot that is on the track. Info submitted as per GC - 113 NGTL incident number 128447"
2000	INC2000-072	An employee walked out the Spruce Grove truck stop and slipped on some snow covered ice. The employee fell to the ground and fractured his right upper arm. Info submitted as per GC-113 NGTL incident number 123335
2009	INC2009-052	"A flange was left open and a spill occurred at the flange which resulted in approximately 250 liters of Potassium Hydroxide Residue being spilled on the ground at the flange opening. The spill was contained to the site, and clean up was underway. Volume recovered unknown"
2009	INC2009-049	"A technician was in the compressor building at the Berns Lake station when he noticed a hairline crack on a 3/8" differential pressure switch. The switch was isolated and replaced. TCPL estimates a negligible amount of gas was released. No environmental impacts, no injuries, no other responders. A small unknown volume of gas was released to the atmosphere. An unknown volume of gas was release."
2009	INC2009-048	"A leak occurred on a regulator diaphragm at the North Duncan Metre Station, 100 Km North of Lac La Biche. The leak was detected by sensors in the buiding. The regulator was repaired. The were no injuries. An unknow volume of gas was released into the environment. An unknown volume of gas was released."
2009	INC2009-047	"A small fire occurred on the train 3 acid gas scrubber pump at the Pine River Gas Plant near Chetwynd, B.C. The pump failed, overheated and then caught fire. It was immediately extinguished with a hand held extinguisher. The pump was isolated and is being examined. No product left the company property, no injuries or environmental impacts, no other responders and no public safety concerns. TSB Contact: Glenn Pilon, 613-997-7887 Westcoast Contact: ██████████"
2009	INC2009-045	"The Sovereign Station is 5 km south and 17 km east of Rosetown, Saskatchewan. At approximatley 05:00 a propane leak occurred from a 3/8 " tubing fitting connected to a pressure transmitter. At approximately 06:00 the leak was observed in the Control Room via on-site security cameras and the equipment was immediately shut-in from the control room. Kinder Morgan estimates about 5 imperial gallons of propane was released to atmosphere. There are no nearby residents, no injuries, no environmental impacts and no other responders were involved. Hydrates formed on the outside of the fitting and Kinder Morgan is waiting for it to melt before it can determine the cause for the failure of the fitting. Kinder Morgan was not sure if the release was reportable to the TSB, it called the NEB first and then contacted the TSB. The TSB, in turn, called the NEB incident cell."

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2009	INC2009-043	Rob Johnston of TSB called in to report that Spectra Energy at Fort Nelson Gas Plant had experienced a fire. Fort Nelson Gas Plant is located at mile 285 of the Alaska Highway. After stripping piping on the sulphur train; wooden planking from the scaffolding caught fire when the sulphur train reactor went into regeneration. Fire was noted by operating personnel and immediately extinguished. Contact: [REDACTED]
2009	INC2009-042	"Daphne Snelgrove of TSB called in at 1305 MST to report a TCPL sweet gas leak at Candiac, Quebec at Compressor Station 802 that happened on 7 May 2009 @ 9:15 MT. Calgary, Headoffice have just been notified 14 May 2009. It was an audible of negligible amount from a valve stem. TCPL contact: [REDACTED] Cell: [REDACTED] Volume unknown"
2009	INC2009-041	"On 11 May 2009 a sweet gas leak was noted by aerial patrol at approx 8:15 MT on pipeline approx 14 km south of Valeyview, Ab in farmers field. LSD 12-35-68-22 W5M. Farmer's home is approx 4 km from leak. The area has been flagged off. Initial testing recorded 30% concentration @ ground, leak is not audible, 15% concentration @ 6" above ground, 80% LEL @ 12" above ground. Arrangements are being made with the landowner with a potential equipment on site scheduled for tuesday 12 May 2009. TCPL contact: [REDACTED] Cell: [REDACTED] Unknown volume."
2009	INC2009-039	"A 3/8 inch high pressure tube on a fitting failed (blew out) at the NGTL Ben's Lake Compressor Station, near vegreville, AB. Natural gas leaked into the compressor station building and the station gas detectors triggered an emergency shut down. The lone operator evacuated the building until the gas was vented. The operator carried out repairs and restored pipeline service. No injuries, no anticipated environmental effects, temporary service disruption. TCPL contact [REDACTED] Undetermined volume of natural gas released. Undetermined volume of natural gas released."
2009	INC2009-040	"At 22:00 a third party contractor cleaning a tank, reported to the Kinder Morgan (Terasen) Burnaby Control Room, a failure of a one inch fitting on the suction pump. Light sweet crude leaked at a rate of 100 cubic metres/hr from a 150,000 barrel (24,500 m3) tank into primary containment. Kinder Morgan notified the Burnaby and Metro Vancouver Fire Departments and sent Kinder Morgan staff to monitor vapours at the fence line. Leak was stopped at 3:25 MDT. The fire department started to apply foam to the spill from 6:00 to 8:00. File closed with environment remedial actions ongoing. A small volume of oil entered the groundwater suppression system and surface water drainage system. Post-remedial groundwater monitoring and sampling was conducted."
2009	INC2009-037	"Due to a frost heave that had cracked threads on a HVAC supply line, there was a small release of natural gas. The supply line was isolated, the repairs were completed and the line was put back in service in a short period of time. No injuries, first responders were not required and no damage to the environment due to the negligible amount of gas released. A small undetermined amount of natural gas was released to the atmosphere. Small crack, detected very quickly - company reports that loss was so small it was unable to measure amount."
2009	INC2009-036	"Incinerator stack (suspected pilot light) went out and H2S continued to flow without being combusted. Flow was shut off upon discovery, no noticeable or detectable impact at ground level. Calculated volume of .4 tons released. Weather aided in dispersion. No injuries, evacuation or first responders attended. Westcoast contact is [REDACTED] .4 tons H2S"
2009	INC2009-034	"Workers changes the filters on the seal gas supply. Four days later when the unit was being put back in service, the workers discovered a broken one inch (NPS 1) stainless steel pipe. The unit was blown down and the filters unit locked out for repairs. No threat to people or the environment. volume undetermined"

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2009	INC2009-035	"While conducting maintenance work, smoke was discovered coming from under a previous repair patch on the #1 reactor top header and 3 to 4 litres of sulphur had spilled out of the cladding. When the cladding was removed, the liquid sulphur ignited. The fire was extinguished with water. As the work continued, one worker noticed a pain on his leg and discovered that his jeans had caught fire. Though he wore FRC coveralls, the jeans were exposed below the cuff. The worker sustained a loonie sized second degree burn to his shin and did not require transport to medical aid. 3 to 5 litres"
2009	INC2009-032	"During an M12 facility inspection, a leak of sweet natural gas was discovered at Main Line Valve 92-2 inside of a valve hut. The gas concentration was measured at 20-50% LEL. Staff noted through a window that gas was coming from the power gas manifold lead on Line 100-2 Suction Valve which was severely "frost heaved". Staff removed four wall panels from the hut to lower the gas concentration. Entry was gained to close the power gas lead and install an alternative power gas lead. The yard has been isolated and a crew will re-tube the power gas lead tomorrow. No injuries, no emergency response, remote site and no danger to the public. Unknown how much gas was released. An undetermined volume of natural gas was released to the atmosphere. Unknown amount released."
2009	INC2009-031	"Employees noted the odour of H2S gas and determined that gas was bypassing the isolation valve going to the flare line at the Lower Murray pigging barrel site. The valve was isolated and Spectra employees are now servicing the valve. Amount of the release is unknown but employees believe that it was a very small amount, due to the H2S not being detected by the onsite instruments. No fire, no injuries and no danger to public. Volume undetermined."
2009	INC2009-026	Small Sour Gas leak noted on 10" Dahl Pipeline meter station CNRL on 23 March 2009. Reported to TSB at 18:30 EDT Investigation determined 1/4" nipple on check valve was leaking. Unit was isolated and nipple replaced and returned to service. Spectra contact: [REDACTED] No injuries. undetermined volume
2009	INC2009-024	"A company employee, a gauger, was travelling from the Sarnia Terminal to the Shell Refinery when he drove off the road on a curve and entered the ditch. The gauger was engaged in work at the time. It is unknown at this time why he went off the road as he was discovered in the ditch by persons unknown and the police and emergency personnel attended the scene. The worker was taken to the Bluewater Health facility in Sarnia. The police called Enbridge control which started the Enbridge internal call process with the workers general manager finally being reached. TSB reported that the person was found unconscious and may have broken bones (ribs). Enbridge is unsure if this incident meets the requirements of the OPR and reported it to ensure due diligence. A company employee, a gauger, was travelling from the Sarnia Terminal to the Shell Refinery when he drove off the road on a curve and entered the ditch. The gauger was engaged in work at the time. It is unknown at this time why he went off the road as he was discovered in the ditch by persons unknown and the police and emergency personnel attended the scene. The worker was taken to the Bluewater Health facility in Sarnia. The police called Enbridge control which started the Enbridge internal call process with the workers general manager finally being reached. TSB reported that the person was found unconscious and may have broken bones (ribs). Enbridge is unsure if this incident meets the requirements of the OPR and reported it to ensure due diligence. "

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2009	INC2009-021	"A technician discovered gas venting from a discharge valve crossover tubing (broken sensor line) at the compressor station, which is approximately 10 km northwest of Iroquois Falls, ON. Sensor line was isolated and supply gas turned off. Technician to return later today to effect repair. Unknown gas quantity released. Nearest residence about 1 km east. No risk to the public, no injuries, no environmental damage. Unknown volume released. Unknown volume released."
2009	INC2009-019	"Nipple on a turbine failed causing 2500 L (2.5 cubic metres) of lube oil to leak out into building. The spill was contained to the building and has been cleaned up. No injuries, no risk to public. The power turbine was out of service for an unspecified period of time while repairs were made."
2009	INC2009-015	"While working at a pig launching facility at Mile Post 111 on the Westcoast 18" Alaska Sour gas pipeline, a failure occurred which resulted in the release of an unknown volume of sour gas. Two employees were on site, were under auxiliary air during the incident and were overcome by gas. The employees self evacuated from the site and were then transported to the Fort St. John Hospital where they were observed. The two employees are conscious and are expected to fully recover. Westcoast immediately activated its emergency response plan and its emergency operations center in Ft. St. John. Westcoast has contacted the BC provincial emergency program, RCMP, Transportation Safety Board and the BC Oil and Gas Commission. The incident occurred in a remote locations and no evacuation of residents or other persons was required. The RCMP have closed the alaska highway until the area is safe for travel. Westcoast also dispatched a helicopter to conduct areal reconnaissance. The TSB has dispatched an investigator and the NEB has dispatched an inspection officer and a health and safety officer. The facilities have been shut-in and isolated by Westcoast and as of approximately 10:45 MST gas was no longer being released. Westcoast continues to monitor for residual gas and is working with the RCMP to open the highway. There is some local media interest. Upon receiving the incident report from the Transportation Safety Board, the NEB assessed the incident and determined it to be a level II for the following reasons: - there were injuries sustained by two company employees - the sour gas left company property - there was third party responders dispatched (RCMP) - there is some media interest. The NEB activated its emergency operations centre at approximately 09:20 a.m. NEB staff have been dispatched to the site and will coordinate their investigation activities with the Transportation Safety Board, Westcoast and other agencies. At the time of the incident, both employees were blown back from the pressure of the gas being released and their air masks may have been moved, resulting in the exposure to gas. One employee will be held overnight at the Ft. St. John Hospital for observation, the other has been released. Westcoast has indicated that the cause of the incident is related to mechanical failure. However, the RCMP will put together a plan to determine if there were any external parties involved in the incident. The Alaska Highway opened at 11:15 MST. The emergency condition was stood down by Westcoast at 11:30 MST. The NEB stood down its emergency operations centre at 11:40 MST. The NEB will continue to monitor the status of the incident, the condition of the Westcoast employees and it will continue its investigation with the TSB, Westcoast and other agencies. HVP sour gas - volume undetermined."

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2009	INC2009-009	<p>"Incident occurred at the Waschuk yard (Prime Contractor) near White City. A semi tractor was backing up to a trailer when a Waschuk employee was pinned between the units. The employee was transported via ambulance to hospital in Regina. Initial indications are that the employee suffered a severe fracture to one leg. Saskatchewan OHS attended but have released the scene back to Washcuk - NFI. [REDACTED], Project Safety Supervisor for Enbridge is enroute this evening from Edmonton. He has ordered that the scene be secured until he receives further information from the NEB. Contacts [REDACTED] Project Safety Supervisor Enbridge [REDACTED] Incident occurred at the Waschuk yard (Prime Contractor) near White City. A semi tractor was backing up to a trailer when a Waschuk employee was pinned between the units. The employee was transported via ambulance to hospital in Regina. Initial indications are that the employee suffered a severe fracture to one leg. Saskatchewan OHS attended but have released the scene back to Washcuk - NFI. [REDACTED] Project Safety Supervisor for Enbridge is enroute this evening from Edmonton. He has ordered that the scene be secured until he receives further information from the NEB. "</p>
2009	INC2009-010	<p>"A release of sweet natural gas in C-Plant Bldg was detected by Gas Control in Calgary by a high gas shutdown alarm. Two employees were dispatched and found a supply filter housing support bracket had broken and caused the supply tubing to separate from its connection and fuel gas to enter the building. They isolated fuel gas run #2, replaced the bracket, repaired the tubing and returned the plant to service. No fire, no injuries and no danger to public. Negligible amount of gas released. An undetermined (negligible) volume of fuel gas was released to the atmosphere. The station piping had to be blown down (released to atmosphere) to allow repairs. Negligible amount. The station piping was also blown down to allow for repairs."</p>
2009	INC2009-002	<p>"A leak of sweet natural gas had occurred that shut down the station compressor unit on high LEL. There were no injuries and no danger to public. Field personnel were dispatched to investigate a shutdown on high gas alarm. Operator found broken Thermoweld on compressor discharge casing. Compressor case vented normally then RTD and Thermoweld were replaced. Unit was restarted without incident. The Thermowell and RID were replaced and the station was returned to normal functioning. An 8000 hour inspection program is to be instituted for the C601 Thermowells which cannot be relocated to the suction/discharge pipe. Thermowells which can be relocated to the pipe will be changed out. No detailed incident report (DIR) was provided by TCPL regarding this incident. However, it is the opinion of the investigator that all other documentation (IRs, email correspondences, PIR, etc.) associated with the incident has provided adequate information to close it out. It is therefore recommended that the incident be officially closed out. Released volume not calculated Released volume not calculated"</p>
2008	INC2008-128	<p>"On three occasions in 2008, a minor underground gas leak was discovered on station property. The company suspected a release of swamp gas; however, when the area was daylighted it was discovered that frost heave had caused cracking at: 100-2 discharge side valve body vent, NPS 2 purge and pressurizing line and the common power gas supply manifold piping. Upon discovery of the first leak, the station was isolated. Repairs were completed on 14 December 2008. A small undetermined volume of natural gas was released to atmosphere. Undetermined volume."</p>

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2008	INC2008-123	"While a contractor was working on the construction of a new tank at the Enbridge Edmonton Tank Farm, the contractors' air compressor caught fire. The unit was outside of the tank and workers immediately responded with fire extinguishers, however, the fire was large enough that it destroyed the compressor. The compressor was a small unit, mounted on a two wheel trailer that is pulled behind a pickup truck. The value of the unit was between \$8,000 and \$9,000. The manufacturer, Ingersoll Rand has taken the compressor to its shop where it will investigate the cause of the fire. The fire was contained to the site, no other responders were required, cleanup of the fire extinguisher fluids is underway, no injuries and no impact on deliveries. Company contact is [REDACTED] [REDACTED] An air compressor was completely destroyed by the fire. "
2008	INC2008-121	"A dredge unit attached to a barge was operating approx 100 meters off of EnCana's land-fall area when the bucket system attached to the barge had a mechanical failure. The bolts holding the cap of the cylinder sheared, causing the packing of the cylinder to fail and the hydraulic fluid contained in the cylinder and lines emptied into the moon pool (approx 15 litres). Absorbent pads were used to p/u 85-90%. The product is Chevron Clarity Hydraulic Oil and is completely biodegradable. Encana originally reported the incident to the Coast Guard. Rick Turner from the NEB is onsite this week and advised the company that this was reportable to the NEB 15 litres lost, 85 to 90% recovered"
2008	INC2008-120	"A technician heard an audible gas leak and determined that a grease nipple had cracked. The swedge nipple and valve assembly were installed at a 90 degree fitting on the valve. The swedge nipple was 1/4 to 1/2 inch in size. The assembly was in a dry well filled with frozen water, the freezing action cracked the fitting, causing gas to release. The ice was melted and the nipple was greased, stopping the leak. The swedge nipple and valve assembly were replaced as a short term solution. TCPL to extend pipe above ground in the future. No injuries, no danger to public and no other responders to the site. Unknown at this time how much product was released. U/k amount of product lost at this time"
2008	INC2008-119	"On discharge piping of compressor #5 a 1 X 2 1/2 inch nipple fractured resulting in a gas leak inside the compressor building. The leak was detected by the gas detector, triggering automatic shut down and venting of the building. No injuries, no danger to public and no other responders to the site. Unknown at this time how much product was released. Spectra is currently investigating the cause. TSB Contact: Glenn Pilon WEI contact: [REDACTED] Volume undetermined. Estimated amount was 2270 kg."
2008	INC2008-115	"Spectra was starting the Unit 3 compressor on the Kobes gathering system when the generator backfired causing the inlet suction screen to catch fire. A fire extinguisher was used to immediately put the fire out. Spectra is investigating the cause of the fire. No injuries, no environmental impact, no danger to public and no other responders to the site. Location is near mile 101 on the Alaska Highway B.C. "
2008	INC2008-114	"TCPL Line #1 was being backfilled with shading sand when a lump of hardened sand rolled downgrade and made contact with a pressurized body bleed valve. A very small amount of gas escaped from the PLIDCO valve. Equipment was immediately shut down and non-essential personnel evacuated. Inspection of the valve determined it was open about 1/4 turn due possible from ice build-up. The volume of gas release was miniscule. No injuries, no environmental impact, no danger to public and no other responders to the site. Location of incident was at the TCPL Steinbach Sales Meter Station about 42 km east of Winnipeg. A ""miniscule amount"" of gas was released to the atmosphere. TCPL estimates negligible amount of gas released."
2008	INC2008-113	"A leak from a heating system caused a spil of 2000 litres of glycol. The spill was contained to the plant site, a vacuum truck cleaned up the spill. No environmental damages, no injuries, no other responders. Company contact is [REDACTED]"

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2008	INC2008-112	Staff were restarting a unit at the Compressor Station after a overhaul when they detected a small oil leak that sprayed onto the PT. A small flash fire started but was immediately extinguished with the use of a 30lb fire extinguisher. No damage to equipment and no injuries. No outside agency involvement. Reported to Darlene Rosenboom at TSB. Spectra contact is [REDACTED] Minute amount of oil sprayed from compressor unit and started a flash fire that was extinguished immediately
2008	INC2008-111	"In the Train Three-Cooler Building (cooler bundles), there was a connection failure at the heading of one set of tubes. Approximately Ten m3 of Sulfinol leaked into the building, as well, approximately 500 liters escaped the building and leaked into the soil outside of pony wall surrounding the building. None of the product was able to enter ground water or left company property. A third party was contracted to vacuum product and remove contaminated soil. Spectra contact is [REDACTED] Environmental Specialist TSB Contact is Glen Pilon Soil impacted subsequent to release. Preliminary report states the impacted soil was removed. The substance was Sulfinol which is a cooling agent like Glycol. 100 L leaked into the building while 500 L outside on company property."
2008	INC2008-110	"A valve was not close properly at the condensate loading facility. Ten m3 or 10,000 litres of crude condensate blend (1267) flowed onto the ground and was contained within the berm. A third party was contracted to vacuum, wash the area and remove contaminated soil. PEP was notified. WEI incident #7586. Crude condensate blend I.D. 1267"
2008	INC2008-109	"While attempting to clean a site port on a temperature scanner in the sulphur plant, the block valve did not seal resulting in the release of hot gasses. This caused the sheathing on adjacent electrical lines to ignite. The C sulphur train tripped; the fires was extinguished with portabe fire extinguishers; the side port was repaired and the train was restarted. The company is investigating. No injuries or impact to the environment or public. volume undetermined."
2008	INC2008-103	"Trans Canada Pipelines Limited reported that at compressor station #43 in Spruce Manitoba, 60 km East of Winnipeg that there was an uncontrolled release of sweet Natural Gas from a pressure relief valve in ""B"" plant that released (as designed) on a 2"" valve. Examination revealed that a Fisher Regulator Model #310 had failed allowing the pressure to exceed setting on the relief valve. The regulator was repaired without further incident at 14:20 MST November 3, 2008. Amount is undetermined. However reports state that a maximum of 35.5 kt of methane was released during the incident. Amount is undetermined. However reports state that a maximum of 35.5 kt of methane was released during the incident."
2008	INC2008-100	"Release of approximately 15 cubic metre of produced water leaking for a flange on the piping going to the well head. Looking at charts it appears that the pump was down, start again, down, start again, etc. .The employee has estimated two litters per minute at the time the leak was discovered. Leak was isolated and poses no further risk to environment or person. Investigation is ongoing and information will be provided when available. Meets reporting requirements as there is a risk to the environment. NWT Spill 08-512 "

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2008	INC2008-098	"A sheet of plywood left behind by a sand-blasting crew was knocked into a valve by a loader operator, causing a release of a small amount of natural gas from a 1/2" pipe fitting on 20' or 24" valve . TCPL's immediate action was to stop work at the site and evacuate the immediate work area. Two TCPL technicians performed a job safety analysis (JSA); then tried to grease the valve but the leak increased rather than slowed. The technicians terminated their process. Line 100-2, between MLV 34-2 and MLV 36-2 is empty and parallel line is pressurized. TCPL plans to depressurize one line and re-pressurize the other line in an attempt to get the valve to re-seat and stop the leak. If this does not work, TCPL will have to depressure (vent to atmosphere) 9 km of line to access the valve for servicing. Site around the valve was filling with water (no explanation provided). TCPL will provide an update tomorrow, 17 October 2008. Nearest dwelling is 1 km away. No injuries, no danger to the public. Natural gas release to atmosphere, volume undetermined. Slow release, volume undetermined."
2008	INC2008-097	"While conducting its corrosion diagnostic testing program, a TCPL maintenance staff noticed the top of an electrical pole was burned. Inspection showed that there was damage to the rectifier box on the pole, TCPL suspects that water entered the rectifier box, causing a short which ignited the pole. TCPL has contacted the utility and repairs are underway. No injuries, no environmental damages, no other responders, fire was contained to TCPL lands. Rectifier box and power pole."
2008	INC2008-095	"Uncontrolled leak @mainline 45-1 + 17.429 km East of Falcon Lake compressor station. During a planned investigation dig on Line 100-1 to locate a dent, the inspector while durinhg a periodic leak test, discovered a small leak area. Dig was shut down and the area evacuated. Intial reading was 20 ppm of sweet Natural gas. reading rose to 294 ppm. Pressure was reduced to 2713 kPa (30% of Specific Minimum Yield Strength). TCPL is waiting for a gas transfer unit to reduce the pressure further and then vent the remaining gas. This is expected that will be early next week. There were no injuries, no ignition and the area has been isolated and is remote. An undetermined volume of gas was relesed to atmosphere during the cut-out and replacement of a small section of pipeline. There was an undetermined volume of gas released to atmosphere during the cut-out and replacement of a section of pipeline."
2008	INC2008-092	"Kinder Morgan reported the incident directly to the NEB. On 16 September 2008 around 17:00 PDT, a worker employed by Testco suffered a broken ankle on the pipeline project. The pipe was being set up pipe for the hydro test. Two sections about 25 feet each and about 10 inch in diameter were involved. One section was set on a pipe stand plastic style cone about 36 inches tall the other section was on the ground. The worker was standing between the pipe sections, not straddling the pipe with one foot planted between both, as previously reported. The pipe on the stand fell off the pipe stand and struck and broke his ankle. The worker was taken to Jasper by ambulance for x-rays and further evaluation. Contract worker suffered a broken ankle. Surgery required."
2008	INC2008-091	"On 15 September 2008 in the afternoon (specific time not yet determined), a contract-employee was injured while loading pipe on a truck at the Emera-Brunswick pipe yard on the north side of Highway 1, Pennfield N.B. (not on ROW). When cinching the tie-down strap, the strap broke and the employee fell backward, breaking his tibia. However, the fibula is not broken as initially reported to the TSB. The employee was taken to hospital and the injury is still being evaluated for a possible cast. Contract employee suffered broken tibia."

2008	INC2008-088	<p>"A Yukon territorial government employee doing seismic line research in the NWT discovered a slowly dripping oil-like substance from the wellhead assembly of the CFOL et al Mt. Coty well. The well is located at least 5 km southwest of the Hamlet of Fort Liard, NT and separated by the Muskeg River. There was no apparent oily odour. No liquid volume or spill area was estimated or provided. There was no report of injuries and no first responders activated. However, the initial report was given to the Government of the Northwest Territories Department of Environment and Natural Resources who in turn reported the incident to the NT-NU 24-hour Spill Report Line NWT Spill 08-435. Volume and area affected is presently unknown. Appears to be oil but does not have an oily odour."</p>
2008	INC2008-087	<p>"A dump truck struck four overhead pipelines, denting 3 lines and puncturing one butane line. Less 100 litres of butane were lost. A contractor hauling sand hit four pipelines with a dump truck. The driver did not notice a first that he hit the pipelines. However, on his way back using the same road he noticed a stain of approximate 10 square feet on the road and that a pipe was dripping. He called in the incident. Spectra Emergency Response was activated. A 250 feet safety zone on either side was implemented. The line and the butanizer were depressurized and the product rerouted. LEL measures were taken. In the afternoon when there was no danger of ignition source, 5 cubic meter of contaminated soil was removed. Projected repairs: 100 feet of the line to be replace on each of the four damaged pipelines. No interruption of service. The nearest public road (Alaska Highway) was at 800 m from the incident. Before and after pictures on the incident site will be forward to the NEB over the weekend. Note: This incident is classified as a Level II due to the fact that the Spectra Emergency Response was activated. The NEB EOC was not activated and no Emergency Response officer was dispatched to the site. Most of the product evaporated."</p>
2008	INC2008-085	<p>"An electrical ARC and small brief fire occurred during a running test on the motor of a new pump. The high voltage electric ARC triggered the main breaker and shut down all 3 pumping units of the Mildens, SK pumping station. Enbridge is in the process to commission a new pump on the line 4. The driven motor was uncoupled from the motor and Enbridge was doing a running test of the motor. There was a flash and small brief fire occurred in the contactor cell. Two pumps were out of service for three hours. The third pump is still out of service at 08:00 on September 5th with no estimate time to put it back in service. The incident is under investigation to find out the cause. No one was present in the switch gear building at the time of the incident. No injuries and no impact on service. "</p>

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2008	INC2008-086	<p>"TCPL reported a release of sweet natural gas at an integrity dig location as a result of a small corrosion pit in the 6:00 o'clock position on the pipe. TCPL conducted an in-line inspection of the 9-100-1 mainline during Q1 2008 and identified defects in the pipe at MLV50 + 11.3 km near Vermillion Bay, Ontario. The pipe was daylighted and found to be resting on bedrock. The crew was in the process of air lifting the pipe to examine the defect when the leak occurred. During the lift, LEL readings of 3.6 % were detected and the crew immediately evacuated the trench. The operating pressure was reduced to 2510 KPa (40% of MAOP) and the pipe was gently set back down in the trench. The leak was reduced to a minor gas trickle and remained stable. TCPL suspects a corrosion pit, this is not a rupture. TCPL indicated that this is asphalt coated pipe, constructed during 1957-58. TCPL is evaluating whether to blow down the line or to use a portable gas transfer compressor to remove the gas from the line prior to repair. As the conditions at the site are wet, it may be difficult to move in a portable compressor, therefore TCPL expects this will be a blow down operation. No volume of gas was reported but TCPL expects it has been minor. The location is in an unpopulated area, and the site has been flagged and fenced. There were no injuries, no environmental impacts, no other responders, no product that left TCPL lands and no public interest. NEB staff requested TCPL to call the incident line to keep the Board apprised of the blowdown operation, repairs and any further developments. TSB Contact: Rob Johnston TransCanada contact: [REDACTED]"</p>
2008	INC2008-084	<p>"A contractor was walking a cat between Enbridge sites for integrity dig work near MP 252 on mainline. The cat started to smoke from under the cowl, the operator shut it down, he left the machine and then the cat started on fire. The operator used a 30 lb extinguisher and had the help of a local farmer to put the fire out. Extensive damage to the cat. The operator had a sore hand, went to local hospital and was released without treatment. There were no other responders, the fire was contained to the cat, no environmental damage, no other injuries. Enbridge was not sure if this was reportable. The D-6 Caterpillar Dozer was completely destroyed in the fire. This piece of equipment was owned by a contractor company working for Enbridge. "</p>
2008	INC2008-081	<p>"A pipe fitting failed on a power turbine lube oil skid that caused oil to leak/spray on the hot surface of the turbine which ignited the oil resulting in an emergency shutdown of the station. A large amount of oil also leaked onto the floor but was contained in the building. Upon contacting TCPL it was determined that no one was onsite at the time. it was a flash fire, not sustained, that self-extinguished without any foam or First Responders attending. It was detected through SCADA and all their shut down systems functioned properly. The extent of the damage is still to be determined but appears limited to some discoloration on the insulation blankets. Approximately 200 gallons of Turbine 32 Mineral Oil was released onto the floor of the building, with the majority contained within the 4" curbs. However, a small amount did leak through the man doors onto the gravel just outside the building and is being cleaned-up by the company at this time. The company advised they hope to have the compressor up and running by tomorrow. "</p>

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2008	INC2008-080	"Unexpectedly a parked sideboom began to roll down a slight incline. The operator attempted to access the cab via the track to apply the brakes and slipped falling backwards onto the track. The operator was drug through a space of ~ 7'" and sustained multiple fractures, ""disabling injuries"" as defined under CLC 15.1; 3 pelvis fractures, 6 ribs, sternum, cheeks and jaw, the operators tongue was also severed off. Operator was hospitalized for 2 months. Investigation deemed to be Provincial, then determined to have occurred on NEB ROW, and orders given to North American were rescinded by WorkSafe BC. This information was not shared with NEB Investigators. Investigation has since returned to WorkSafe BC as jurisdiction was deemed to be theirs. The site was secured, however 2 (two) North American and 1 (one) Kindermorgan employee entered the secured site and started up the sideboom to inspect the brakes. This was in violation of CLC 127. (1). Initial investigation was conducted by Henri Simoneau and ██████████ (Worksafe BC). Final NEB investigation conducted by Moira Schrader. Investigation ongoing. Initial call from TSB stated that a side boom operator had fallen from a sideboom tractor and was medivaced by helicopter to Jasper, Alberta. Upon calling Trans Mountain, it was learned that a side boom tractor operator (North American subcontractor) had set the brake on the side boom tractor and when dismounting, the tractor moved. The operator fell between the boom and the ground and was stuck in the face by the boom. This resulted in a broken jaw and nose. The company emergency response plan was activated and the injured eoperator was transported via helicopter to the Jasper hospital. A mechanic had made recent repairs to the brakes earlier in the day. Trans Mountain was advised by the NEB to ensure Worksafe BC (WCB) had been contacted. The RCMP were called and responded. The site has been secured. NEB EOC has not been activated. The NEB will be dispatching a health and safety officer to investigate. "
2008	INC2008-079	An LPG gasket failed resulting in the release of propane. The hydrocarbon sensor detected the release.
2008	INC2008-078	"TCPL personnel entering the compressor station discovered gas venting through the 1/4'" relief valve on the first-cut regulator on the domestic fuel skid. The gas supplies fuel to the primary power unit. Gas was venting inside the valve enclosure. Actions taken: isolated fuel gas skid, depressurized piping, opened valve enclosure to let the gas dissipate, opened second run (backup regulator) to fuel gas skid. Regulator failure is suspected. Regulator will be disassembled and examined to determine the cause. No emergency response was initiated. There were no injuries and no threat to the public. Undetermined volume of natural gas Undetermined volume"
2008	INC2008-075	2000 liters of diesel over flow within a containment area at the Edmonton terminal when Uniman's employee was transferring diesel from the contractor 1000 gallons tank to an electric generator. The preliminary information is that the employee was not paying attention. Detailed report to follow. Uniman is a coating contractor working for Enbridge. No danger to the public. Cleaning in progress and contaminated gravel is place in bins. Cleaning in progress and contaminated gravel is place in on-site bins for later transfer to Hazco Environmental Service facility for proper disposal.. No product recovered could be returned to the system. All free product was removed using absorbent material and vacuum trucks. All contaminated soil was removed and placed in on-site bins to be later transferred to Hazco Environmental Service facility for proper disposal. An environmental consultant was analyzing the contaminated soil as it was being removed to ensure complete remediation of the site.
2008	INC2008-072	"The operator heard venting from the station and determined the station pressure relief valve was venting. The valve had opened prematurely. The valve was isolated using a hand close off valve and reset to the correct pressure. During a planned shutdown of 15 July, the valve was removed and sent to the shop, inspected, reset, then reinstalled. The incident was discovered during a review of files. No threat to public; no environmental impact. Estimated volume of natural gas was released to the atmosphere. Estimated volume of gas released."

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2008	INC2008-070	Workers were investigation starting issues with a generator and discovered gas escaping from a 3/8" fitting between the fuel line and the upstream regulator. The generator was not running; no ignition; minimal product lost. The fuel gas line was closed and the remaining gas was vented. A 3/8" nipple broke 3.4" around its circumference. Fitting was replaced. An undetermined volume of gas was released to the atmosphere. Volume undetermined.
2008	INC2008-067	"40 m3 of crude oil overflow by the roof vent on the roof of tank number 25 at Edmonton terminal as Enbridge was receiving crude oil from Syncrude. It appears that the oil contained residual of nitrogen which causes the oil to overflow. The tank was isolated, no additional product was released and roof was static (equilibrium). The clean up was underway and a vacuum truck was ordered. Enbridge monitored the odor around the tank farm and test results were that no odor was apparent. Enbridge emergency response was activated. Tank 25 was out of service for approximately 12 hours while the crude oil was removed from the tank roof."
2008	INC2008-066	The belt on a pump from a drilling hopper failed resulting in an overflow of 5.5 m3 Gel-Chem Drilling mud on approximately 20 m2 area. The spill was within the containment constructed for the drilling activity. Vacuum truck was on site and recovered free fluid from lease. Material released is a water-based fluid that has not yet come into contact with the wellbore. No adverse effect is expected and no additional remediation of the site is anticipated to be required. NWT spill 08-318. Gel-Chem Drilling Mud
2008	INC2008-063	"A mechanic working for Greg's Contracting Services was on route from Hershel, SK to Biggar, SK to pick up parts for a job. The worker lost control of the vehicle which slid into the ditch and the worker was injured fatally. The NEB has started an investigation. No one from NEB has been dispatched to the site at this time and the NEB EOC has not been activated. [REDACTED] a mechanic with Greg's Contracting Services, was fatally injured when his vehicle went out of control and into the ditch."
2008	INC2008-062	"TCPL reported an enclosure fire occurred at the rear end of a power turbine at the Moyie Compressor Stn 2B, D-Unit when a scavenging pump did not effectively remove oil and some of the oil migrated into the insulating cladding and ignited at 20:06 PDT. All safety devices functioned; the CO2 fire suppression system discharged; and the emergency shut-down was initiated. No major damage. No injuries. No public or environmental impact. No disruption to deliveries. The fire was contained within the enclosure. Pump is being checked for needed repairs and should be back in service in 36 to 48 hours after the fire. TCPL contact: [REDACTED] [REDACTED] Fire damage to scavenging pump An undetermined volume of gas was released to atmosphere during a compressor station emergency shutdown."
2008	INC2008-060	"Area resident called TCPL to report a noise coming from the facility. TCPL dispatched a technician to the site. Upon arrival noticed that a 2" fuel gas relief valve on the 34D compressor station on the mainline was venting. An investigation is pending to determine the cause of the valve activation. It is estimated that the valve was open for approximately 4 hrs. A report is to be filed with TSB. There were no injuries, no evacuation and no outside parties involved. An undetermined, yet "significant", volume of natural gas was released to atmosphere. An undetermined volume of gas was released over a period of approximately 4 hours. The report stated that if was a "significant volume", but did not list any actual estimations as to what that volume would be."
2008	INC2008-059	"A pressure drop on a meter was observed at the Central Processing Facility. The line was immediately shut in. Investigation verified a spill of approximately 2.06 m3 of produced water from a flow line. A Vac truck is on site removing the free fluid. Spill is contained on site. Imperial has updated as of June 12, 2008 @ 14:00 MDT the spill to be approximately 9m3. Imperial is washing the area and cleaning up site with a vacuum truck. NWT spill # 08-280. "

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2008	INC2008-058	"A backhoe was pulling a temporary bridge over a creek when a hydraulic pressure line blew and about 250 ml of hydraulic fluid entered Mohannes Stream with some fluid also being released on land. A boom and absorbant pads were immediately deployed and all contaminants were removed. No contaminants migrated downstream. The stream was at high water, but at low flow. The Coast Guard and the Provincial Department of the Environment were informed. 250 ml"
2008	INC2008-057	"The incident occurred 10 km northwest of the town of Maple, Ontario, at the Maple Compressor Station #130. Gas control called for Unit 4 to come on-line. The operator at the Maple station attempted to start the Clark reciprocating compressor and received a low lube oil alarm. Upon investigation the operator found a gas leak from the discharge piping from unit 4. There was a through crack of about 2"" in length adjacent to a weld, located at a 90 degree elbow. The building was evacuated, locked out and piping depressured. TCPL is investigating further. TCPL estimates the gas volume lost to be negligible. There were no injuries, no damage to equipment, no environmental impacts and no impact to deliveries. "
2008	INC2008-056	"A tank mixer seal leaked causing a spill of 8m3 of oil that was contained within the tank berm. Enbridge immediately started clean-up. Vacuum truck recovered 6 m3 the evening of 5th June and the remaining 2m3 oil and soil mix is being recovered this morning. Nearest residence is about 1 km. No effects outside company property, no injuries, no public concerns, no impacts on deliveries. The mixer was removed, a blind flange was installed over the tank opening, and tank 3 was placed back in service. All free product was recovered to the system. All contaminated soil was removed to a lined storage area within the Edmonton Terminal, to be transported at a later time to a registered disposal facility in accordance with the Enbridge Waste Management Plan. Area affected was approximately 10 m2. This contaminated soil was removed and stored in a lined storage area within the Edmonton Terminal, where it was to later be transported to a registered disposal facility. 6 m3 was recovered on the evening of June 5, 2008 with the remaining 2 m3 (oil and soil mix) was recovered on June 6, 2008."
2008	INC2008-055	"3rd party noticed some leakage into swamp of oily substance from the Spectra Siphon booster station #14 near Fort St John, BC. and contacted Spectra at 13:15 MDT May 31. Spectra reported the incident to Darlene Rosenboom with the TSB at 1730 EDT May 31st. Approx volume 100 liters of used engine oil was lost from a decommissioned underground tank. Spectra contact [REDACTED] Site supervisor: [REDACTED] Oil leaked into swamp. approximately 100 litres of used motor oil was lost from an underground tank. Company was recovering spill."
2008	INC2008-052	"At the Emerson sales Meter station on MLV 404 the auxiliary power unit caught fire. The unit self extinguished and the company is investigating. No injuries, release of gas or interruption in service. TCPL contact: [REDACTED] Auxillary power unit (APU) and APU room were damaged. There was no release"
2008	INC2008-051	"As a result of river flooding on Bear Island, the 0-46 pumpjack gearbox has been partially submerged resulting in a lube oil sheen on the water surface. There is no free fluid associated with the incident. Volume estimate, less than 3 L, is calculated based on extent of the sheen (31.5 m2 - observed from a helicopter) and assumed sheen thickness. High water levels and current preclude any product recovery. NWT spill 08-205. Estimated 3 L of lube oil into the Mackenzie River flood waters based on 31.5 m2 sheen area. Estimated 3 L based on 31.5 m2 sheen"

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2008	INC2008-049	Spring thaw resulted in the island being flooded with flowing ice. The flow line was isolated and purged as best as possible on 12 May 2008. The line was monitored in the a.m. of the 13th and the leak was detected. Ice pushed up against the flow line during break up resulting in the leak. Floating ice and water makes recover of oil a safety concern at this time. An undetermined amount of emulsion was released. NWT Spill #08-196. Estimated at less than 1 m3 emulsion (oil/water = 40/60) estimates that less than 1 m3 of emulsion (oil/water = 40/60). Revised to 200 L.
2008	INC2008-048	"Estimated loss of 7m3 of crude oil at existing excavation site at #4 metering system. Crude oil was discovered and a faulty thermal relief valve on the metering system is suspected as the cause resulting in the release. All the product was contained on Enbridge property and Enbridge has initialed gathering spill crude with a vacuum truck. 0.1 m3 of crude oil had overflowed from a temporary sump tank and contaminated a small amount of soil. Soil was removed and temporarily stored in lined containment area at the Regina Terminal until arrangements could be made to haul it to an approved soil disposal facility. 6.9 m3 of product was captured in the temporary sump tank. There was only a small amount of contaminated soil, which was removed from the excavation and stored in a lined containment area until arrangements could be made fo haul and dispose of it at an approved facility."
2008	INC2008-045	"Contractor while working in the area noticed a release of oil (approximately 3m3) (Cold Lake Crude) at a 1"" hose that was attached to a sump pump. The contractor notified the controller to shut down and isolate the line immediately. Enbridge responded and a vacuum truck was used to clean up the spill. The failed hose was replaced. All contaminated soil was removed and transferred to a registered disposal facility in accordance with the Enbridge Waste Management Plan. To prevent similar incidents in the future, Enbridge Facilities Integrity Department planned to issue an incident update to field and construction staff describing the results of the lab investigation including C-FER Technologies' recommendations for inspecting similar installations and to remind them about proper installation methods. Location of Incident: Pump station @ Herschel Sask. MP 257 Pipeline #3 "
2008	INC2008-043	"During a controlled flare off, a flare was used to ignite the plume. The flare ignited, and overshot the plume, also igniting the grasslands behind the plume. The fire was extinguished in 15 minutes by company staff and contractors on site. Three acres of company property were burned. No evacuations and no danger to the public. Within approximately 30 minutes, the fire was extinguished by on site Enbridge personnel and contract staff using on site equipment. The installation of an electronic flare ignition system was planned for year 2009 such that a flare pistol and signal flare would no longer have to be used. An area of ~ 12000m2 of grass was consumed in a fire."
2008	INC2008-041	"At approximately 12:00 noon PDT, while testing a line break valve at Km 12 of the Goodrich liquified acid injection gas line (80% H2S; 18% CO2; 2% CH4) it was found that the valve would not close beyond 50%. Upon excavating the valve, staining of an unknown nature was discovered on the valve. The remaining valve sites on the 30 km pipeline were inspected and two additional valves were found to have staining. The valves are equipped with H2S detectors which were not activated and did not record any presence of H2S. As a precaution, the line was taken out of service on 15 April 2008 and could remain out of service for up to 10 more days (to 5 May 2008). Reporting was delayed as it is uncertain whether there was any release of product. WEI is testing the first valve and will decide whether to replace the valves in question. Line was taken out of service on 15 April 2008 for investigation and repair. Exact time unknown. Unknown"

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2008	INC2008-040	" [REDACTED] Director Gas Injections, reported to the TSB that a leak of sour natural gas was discovered at Receipt Point 2632, KP 15.2 (approximately 6 km north of Charlie Lake, BC) on a 26" Alaska Hwy raw gas pipeline. The leak was on a 4" isolation valve in a 1/2" body bleed. Responders bled down the valve and replace the body bleed by 22:45 PDT. One family left the area of their own accord due to the smell of sour gas. Volume and H2S content of gas is not known Volume released is not known"
2008	INC2008-039	"At approximately 07:00 MDT an estimate 4.0 m3 of crude oil was released from a failed valve on a pig sender on the Wascana Pipeline, Regina, SK, The oil was released onto the company's storage yard (NW 33-17-19 W2). The oil has been contained on the company's property, a vacuum truck and steamer are on site and the contaminated soil is to be removed to a third party waste treatment facility today, 22 April 2008. There are no nearby residences (Regina industrial area), no reported injuries reported and no environmental effects anticipated. Plains Marketing has also reported the release to Saskatchewan Energy and Resources, Saskatchewan Environment and Environment Canada. Plains Midstream contact: [REDACTED] (Office) [REDACTED] (Cell) Release was contained on company property, free product collected by vacuum truck and contaminated soil to be removed to waste management facility. 4.0 m3 crude oil released from failed pig launcher valve."
2008	INC2008-037	"While conducting a fugitive emissions test, TCPL workers detected a leak from a cracked pipe nipple on a riser. The riser was depressurized and the nipple replaced. The volume lost was negligible. No impact on deliveries, no environmental effects, no injuries. An unknown volume of gas was released to the atmosphere. Volume of gas released unknown."
2008	INC2008-034	"While conducting a hydrotest between MLV 100 and 110, a worker discovered a gas release at the line 1 suction side valve on the upstream side of the compressor station. The tubing was isolated and the release was stopped. The company suspects the release a result of frost heave and will be daylighting the valve. An undetermined volume of gas was released to the atmosphere. Volume undetermined."
2008	INC2008-033	Melted waste snow (about 500 litres) from lease clean-up operations was released due to a split in the evaporator fire tube. The released water was allowed to freeze and removed for proper disposal. NT Spill #08-111.
2008	INC2008-032	Valve spring released during pumping operations due to weight on 90 degree elbow. Release of 500 liters of drilling mud on the rig matting underlain by a poly liner. Material was recovered and place into cutting berm for disposal after the completion of the project. NWT spill # 08-097. Drilling mud
2008	INC2008-030	"While racking out (removing breaker to cut electrical power) electrical pump unit 4.3 in the line 4 switch gear cubicle, the electrician made contact with live power and was electrocuted. Other workers on-site immediately gave CPR and contacted EMS. The electrician succumbed to the injury Karen Duckworth is investigating for CLC. Shane Richardson is investigating for NEB. Witness could not return to work due to critical incident stress."
2008	INC2008-027	"A small crack was discovered in a 2 inch piece of pipe at MLV 30-4 near Rapid City MN. The pressure was reduced to 80% The piping was cut out and replaced using a weldolet in place of an extruded tee. The leak is inside the fenced area and there are no injuries & no fire. TransCanada contact: [REDACTED] An undetermined, small, amount of natural gas was released to atmosphere. An undetermined, yet small, volume of natural gas was release to the atmosphere."
2008	INC2008-021	A Public Citizen reported a minor gas leak from the Mainline valve #97. The valve was Isolated and by-passed. The leak was coming from the control Box on the Valve. No interruption in service or harm to Public. TransCanada is investigating the Cause. Duration of Release is unknown.

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2008	INC2008-020	"A Gas detector discovered a small leak inside the portable gas compressor on Station 55. It was found that the leak was caused by a crack in the housing of the PECO filter (Model 85-1-FG 36) on the compressor. The Compressor was shut in and is now under repair. The Cause of the crack is unknown at this time. A small undisclosed volume of gas was released to atmosphere. A small, undetermined amount of sweet natural gas was released from a crack in the weld on the NPS 2 branch connection of the NPS 6 fuel gas filter. From the time the gas detector alarm went off until this section of piping was isolated was only a few minutes."
2008	INC2008-018	A release of natural gas occured at plidco plug upstream of the tie-over. The company believes that the plidco plug was left open by contractors that were on site earlier in the day. The plug was closed and the release stopped. Volume was determined in the TSB Occurrence Report (#330488)
2008	INC2008-016	Minor Valve leak was noticed on the foothills system back in January 2008. Work Order was put in. Minor leak can only be repaired properly by shutting down the whole pipeline system. Product: sweet gas contact: [REDACTED] An undetermined volume of gas was released into the atmosphere over the course of a couple of months. Undetermined volume of gas release. Listed as a minor amount.
2008	INC2008-019	"At approximately 05:00 MST, 1 m3 of emulsion liquid carried over through the flare stack when the compressor went down. 250 m2 snow-covered area below the flare stack was impacted. Spill was cleaned up by February 17, 2008. NT Spill # 08-047. 250 m2 of snow-covered area impacted and cleaned up. 1 m3 (1,000 L) emulsion carried over the flare stack, impacting 250 m2 of snow-covered area. Spill was cleaned up on February 17, 2008."
2008	INC2008-009	"Sometime after midnight on 27 January 2008, a loss of less than 1200 L of caustic hydroxide was discovered. The leak occurred in the lean caustic cooling system that eventually discharges to the Peace River at Taylor BC. Westcoast estimates that the leak would have occurred over a 3.5 hour period during which approximately 15,000, 000 L of cooling water was discharged. The discharge is a result of equipment failure due to corrosion of the heat exchange bundle. Caustic cooling unit has been taken off line. The gas plant continues to operate. No reported injuries or effects. < 1.2 m3 sodium hydroxide released into cooling water and Peace River < 1.2 m3 sodium hydroxide released into the cooling water and Peace River"
2008	INC2008-008	"Employees observed sweet natural gas accumulation believed to be from an insulated flange that is wrapped and buried at Prophet River Stn FNL-1 south of Fort Nelso, BC. Temperatures have dropped from minus 35 degrees C to minus 44 degrees C. Pipeline continues to operate and Westcoast is monitoring the site waiting for the weather to break. Nearest residence is 4 km away. No danger to the public. Release volume undetermined Release volume undetermined"
2008	INC2008-004	"Release of 600-700 bbls of crude resulting from an above ground flange gasket on pump elbow of unit 4 U3 on line 4. Have not determined exact cause. Release predominantly contained within the building with some migrating outside - all on station property. Vac trucks and steam cleaners on site. Initially, all lines shut down and isolated, then all except line 4 restarted. No injury; no fire. 10 m3 of crude oil remianed in the frozen soil contained with in the Cromer Terminal. As the weather conditions allowed, this contaminated soil was to be removed and hauled to Hazco Waste Management Facility in Virden, MB. The amount of soil that had to be removed was not mentioned. An area of approximately 700 m2 was affected. 95-111 m3 of crude oil was spilled. 90 m3 of free product with melted snow was recovered using a vacuum truck and contained on-site in a contaminated crude oil tank.10 m3 of crude oil remained in the frozen soil contained within the Cromer Terminal. As the weather conditions allowed, contaminated soil was to be removed and hauled to the Hazco Waste Management Facility in Virden, MB."

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2007	INC2007-097	"During routine calibration of a fixed gas detector in the Gold Creek, AB Meter Station, personnel discovered a minor gas leak from the threads on a 3/4 inch nipple on the compressor start gas fuel line. The compressor was shut down for about 2 hours, 15 minutes to repair the leak. Gas detector readings were not high enough to trigger automatic shut-down. No injuries, no nearby residents, no evacuation, no environmental effects,. Volume of gas released is undetermined. Volume undetermined."
2008	INC2008-001	Eight cubic metres (8m3) of crude oil released as a spray leak from a flange on a booster pump. Oil is contained within the terminal. There are no injuries and no danger to the public. A vacuum truck is being brought fro clean-up. Release contained in the terminal 8m3 crude oil sprayed from a flange on a booster pump.
2007	INC2007-098	"An employee used a portable heater to warm a company truck that would not start due to extreme cold temperature which resulted in a fire and destruction of the truck. The truck was parked at the home of the employee who was on-call during the holidays. The heater, commonly used for pre-heating frozen equipment, was a self contained unit consisting of a kerosene burner, electric fan, flexible duct and fuel tank. The employee set the heater up approximately 1.5 meters from the truck, directing the flexible duct under the engine compartment of the vehicle. After the heater had been operating and observed for approximately 10 minutes the employee left the area for additional fuel; leaving the heater running. Upon his return he noticed that the truck had started fire. An attempt was made to put out the fire using dry chemical fire extinguishers, but was unsuccessful. The local volunteer fire department was called and responded at 09:15 MST, extinguishing the fire. Loss of a pick-up truck."
2007	INC2007-095	"While installing a UT Meter on the Mainline within the Edmonton Terminal there was an unintended ignition within the Pipe. They suspect that some vapors got past the mud plugs. All work was stopped and then the the section was subsequently cold cut out, and then the process was started over again with new mud plugs. ***The pipeline was drained down at the time. No Injuries, no product lost or environmental concerns. ██████████
2007	INC2007-093	"On 8 Dec at 1100 PT at compressor stn 7 (Savanna, BC) overpressured pipe to 978 psi (mop 936 psi). There were no failure, no injuries and no product lost. PLC program failed (CPU card) malfunctioned Spectra Contact: ██████████ No release."
2007	INC2007-092	Failure of an electrical vacuum breaker caused an arc flash on the line 2 substation. The breaker catastrophically failed causing the panel to blow open. No injuries and the company suspects downstream cables may be damaged. There was extensive damage to the 5kV vacuum circuit breaker and it was out of service until a replacement could be installed.
2007	INC2007-091	A valve or expansion fitting on T-204 failed resulting in a spill of 1.6m3 produced water/oil. (Slim line off produced water tank). Area of contamination was 3m2. Spill is frozen and contained within tank berm on the plant site. Spill will be cleaned up and any ground contamination removed. NWT spill # 07-546. 1600 L produced water with trace oil (20 L) 1600 L of produced water with trace oil (20 L)
2007	INC2007-090	Pipeline froze off due to hydrates. Procedures required controlled flaring and a minimum of 24 hours with the pipeline shut down. They plan to bring the pipeline back on line later today or tomorrow. They are strictly following operational procedures and have enough personnel on site to conduct operations in a safe manner. No safety or environmental concerns.

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2007	INC2007-089	"Station 30-C Plant Mainline Valve #30 near Brandon Manitoba. High gas alarm went off in the compressor building which set off the alarm in the control room. Operator investigated and found 1/4 inch nipple broken on the recycle valve. The piping was isolated, the nipple was replaced and system was returned to service with no further incident. An undetermined volume of sweet natural gas was released to atmosphere. Volume undetermined."
2007	INC2007-088	While starting the compressor the operator observed a 2" fuel gas line crack and come apart and some fuel gas was lost. The operator shut the unit down immediately. Amount was so small that the gas detectors did not detect any product. Fluid was sweet fuel gas. At Whitecourt Alta AB47 A small undetermined volume of gas was released to the environment. Volume undetermined. The amount was so small that gas detectors were unable to detect the presence of any gas.
2007	INC2007-087	"200 L release of mixed produced water and fresh water occurred within Imperial Oil Resources Norman Wells Central Processing Facility plant, from a sump drain line and impacted an area of 1.75 m2. Four samples contained 33 to 130 ppm chloride. No adverse environmental effects anticipated and the impacted area will be cleaned up. NWT spill # 07-522. IOR Contact: [REDACTED] 200 L of produced/fresh water mix impacted a 1.75 m2 area 200 L of produced/fresh water mix"
2007	INC2007-085	"At 10:43 MST, a gas detector alarmed in the control room indicating gas in the fuel gas building that services unit # 1 at Station 394. TCPL shutin the upstream and downstream valves and opened the doors to vent any gas in the building. Leaking gas could be heard only if the door was open. TCPL suspects a thread leak from the downstream 3" isolation ball valve. As a precautionary measure, TCPL is reporting the leak in case it is more than a minor fugative leak. The valve assembly has been shipped to Edmonton for testing and confirmation of the leak source. There are no nearby residences. No injuries, no threat to public, no environmental impact and no disruption to service. Unknown volume of sweet natural gas released Unknown volume"
2007	INC2007-084	"A contractor doing brush work for Enbridge, using a skid steer with a forest head at about 17:30 EST, was burned up on the RoW of Lines 7, 8, & 9, at KP 3006.5, approx. 15 km NW of Hamilton, ON. In addition to destroying the skid steer, the fire burned about 15' x 20' of RoW but did not extend off RoW. The Hamilton Fire department responded and extinguished the fire using a dry chemical. The Landwoner has been notified and has not expressed any concerns. Nearest residence is Gulliver's Trailer Park, approx 0.8 km from the site . There were no injuries, no evacuation and no damage to pipeline equipment or infrastructure. Skidsteer excavator was destroyed by fire"
2007	INC2007-083	"Paramount reported a spill of 200 L of Norkool, a glycol-water mix, from a loose fitting in the compressor building. About a 4 m2 under the compressor building is impacted. No injuries or affected parties reported. Paramount field contact is [REDACTED] 200 L Norkool, a glycol-water mix. 200 L of Norkool, a glycol-water mix was released at an unknown time and discovered around 08:30 on 14 November 2007."
2007	INC2007-082	A Hughes 500 helicopter experienced engine problems when leaving the hanger area at Norman Wells NT Great Slave Helicopter base. The helicopter was carrying a gravity meter at the end of a 150' longline cable. At a height of approximately 175' the helicopter experienced de-acceleration and was forced to release the cable and gravity meter and experience a hard landing. There were no injuries to either the passenger or pilot and damage is believed to be only with the engine at this time. Weight of the cable and meter did not exceed the lift capacity of the helicopter. Transport Canada was informed and will be investigating.

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2007	INC2007-081	"During construction of the Anchor Loop project a contractor employee was struck by a side boom and sustained a an open compound fracture of the leg. The employee was air lifted by air ambulance to the Hinton Hospital. The employee is stable and conscious. This is a serious injury as defined in the Onshore Pipeline Regulations-1999. NEB staff called Kinder Morgan for more details however there is not alot of information KM can provide at this point. The company is investigating the incident, taking photographs of the site and statements from workers. The incident occurred at 17:15 MDT on 22 October 2007. Please see PID for further details. Boom track ran over foreman's right leg to knee area resulting in amputation at hospital."
2007	INC2007-080	"An employee at the Cactus Lake pump station found a leaking gasket in a buried check-valve. Approximately 3.18 m3 of crude oil was released. The oil was contained and remediated within the Enbridge's site. One nearby landowner has been notified in the event there are any odours. No reported injuries, no damage to equipment, no impact on deliveries and no anticipated environmental impacts. The 3.18 m3 crude oil leak affected an 18.6 m3 area. All contaminated soil and gravel was removed and transported to a lined containment area. approximately 20 bbl initial estimate by Enbridge"
2007	INC2007-079	█ of Imperial Oil Resources reported a small spill of Ucartherm (glycol and water mixture) on artifical island #3. The source of spill was Heating system pump seal failure. A small area of approx 4.375 sq meters was contaminated. Volume determined to be 170 L. NWT spill # 07-485. █ Tel: █ Ops Superintendent: █ 170 L of Ucartherm (glcol) from pumps seal failure on Norman Wells Artificial Island #3 170 L of Ucartherm (glcol) from pumps seal failure on Norman Wells Artificial Island #3
2007	INC2007-078	"After removing a MFL tool from a pig receiver trap a four inche drain valve was left opened. Upon re-pressuring the pig receiver 18 barrels of oil were spilled, the oil overflowed the sump tank and flow into a nearby excavation. The excavation was part of another project that is been executed by Enbridge within the pump station. A vacuum truck was on site at the time of the incident, the oil was recuperated the same day. There was no injury Soil removed from the affected area."
2007	INC2007-077	"Local farmer, █ reported to Spectra Energy that he could hear gas escaping inside a Spectra Energy metre station near Compressor Station 5, Kersley BC. The metre station distributes fuel gas, via a 1/2 inch 60 psi line, for the residence and a water pump. A work crew located and repaired a cracked nipple on the fuel gas line and, shortly after 15:00 PDT, reported the gas leak to Spectra's gas control. No injuries, no evacuation, no danger to the public. Spectra Contact: █ Volume of the release - approx 20 scf Approximately 20 scf was released"
2007	INC2007-076	One marine mammal observer was using binoculars for his job on a marine seismic operation in the Beaufort Sea. He had conjunctivitis (pink eye) which was transmitted to the binoculars. Two other marine mammal observers used the binoculars and contracted conjunctivitic which is highly contagious. All three observers were transported to a support vessel. They were quarantined and treated. They were not able to report to work the following day. It was determined that this was three hazardous occurences under the definition of the Oil and Gas Occupational Safety and Health Regulations. It was entered into PID as one occurrence and as three separate reportable incidents for HRSDC reporting purposes.
2007	INC2007-075	Trans Canada was doing an investigative dig on their pipeline between Bowmanville and Cobourg Ontario (135.1 + 19.3km) and had depressured the line to 4780 kPa . It was discovered that there was a leak on the long seam weld. The line was isolated and depressured further and repairs commenced. There were no injuries or additional damage. Event Type updated to Environemntal Release (█ Volume undetermined.

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2007	INC2007-074	A pinhole leak in a weld was discovered during routine maintenance. The pipe will be cut out and the defect will be evaluated. Suspect the defect may be porosity. Undetermined though minor amount of gas.
2007	INC2007-073	2 workers at the CNRL receipt point at Mile 1.4 of the 8 inch Monias Pipeline discovered a pinhole leak in a ¼ inch steel tubing coming off the valve going to a grease nipple. Spectra dispatched staff to the site and replaced the ¼ steel tubing at the receipt point. No injuries Contact: [REDACTED]
2007	INC2007-072	"Westcoast reported, that while conducting a dig at the mainline station 2B they discovered soil contamination. Contact: [REDACTED] Ken-pac casing fluid."
2007	INC2007-071	Gas bubbling to the ground from the 36 inches sweet gas main line at 48 KP South of McMahon Gas Plant (7 kilometers NE of Pine River crossing). Westcoast reduced the operation pressure from 825 to 750 Kcal. The line will stay in service all night. Westcoast is mobilizing staff and equipment to be on site in the morning. The line will shut down when the repairs are executed. Westcoast is looking at option to reroute the gas through TCPL since it will have the shut down the McMahon Gas Plant to execute repairs. The leak is in a remote area. Closest residence is 6.2 km. Staff were sent to secure the area and kept possible hunters away from the site. The leak is located near the Stewart Lake where Westcoast installed a 36 inches pipe and took out of service its 30 inches due to slope stability. Line Break valve located at 36.5Kp and manual block valve at 49.4Kp Weather: Rain and thunderstorms. Helicopters are grounded No impact on water No damage to the public No evacuation Volume undetermined.
2007	INC2007-070	"The 24 inches pipeline between Husky and Kinder Morgan storage facilities leaked and spilled 3.15 m3 of crude oil. It appears the cause is internal corrosion. The spill was contained within Husky's facility and source of the leak shut off. Husky and KM staff on site and clean-up crew (vacuum truck) were called in. The line will stay shut until repairs are completed. KM contact indicated that it wants to run a smart pig before opening the line again. An unspecified amount of soil was removed during the clean-up. All visually impacted soil was excavated and transported to the Newalta Corporation facility in Elk Point, AB. Kinder Morgan Canada did confirmatory sampling within the extent of the spill area to verify that the excavations met the provincial and federal requirements."
2007	INC2007-069	Farmer was cultivating his hay field on the east side of the river when his cultivator hooked a guard protecting the valves and pulled it across two valves (6" and 4"). A 4" stem off the 6" valve was broken off and gas was leaking out a 3/4" vent pipe 4' above ground. The line was depressured from 600 to 350 psi. Security was on site and a Brandon Manitoba crew with Manitoba Hydro Gas Division was dispatched to the site. Gas release increased in volume as the pipe was exposed. Crew was on site to replace a section of pipe that was connected to the valve and the valve will be replaced at a later date. Volume undetermined.
2007	INC2007-068	An operation problem at the sulphur plant affected the gas train process; the H2S level increased which resulted in an emergency flaring. Grass ignited within the flare pit. The plan fire truck was on site and it was decided to monitor the fire and let it self extinguish. Westcoast will produce a detailed incident report. It appeared that there was a problem at the sulphur plan earlier during the week. The cause of today problem is still unknown. No damage to the public. No evacuation

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2007	INC2007-067	"While checking a pipeline anomaly 40 km south of Chetwyn B.C., a maintenance crew discovered a pin-hole leak at KP 0.8 near Station 2 on the sweet gas 30" Fort Nelson Mainline. WEI is isolating the pipe section and will blow it down. Residents in the area are being notified that there will be a loud noise during blow-down. One residence is approximately 0.6 km from the leak and in the EPZ. No injuries, no fire, no explosion, no property damage, no impact to the highway, and no evacuation is necessary. Pipeline repairs will be made as soon as possible. Spectra Energy contact [REDACTED] Sween natural gas release, volume undetermined. Pin-hole leak discovered during maintenance. Volume undetermined."
2007	INC2007-066	"During an annual maintenance, a vent valve on the section pressure transmitter was accidentally left open. Sweet natural gas was released. volume unknown. Other information reported included: PEP # 701295, gas pressure was at 800 psi, orifice of the valve was 3/16 inch, and it vented for 985 seconds. No injuries reported. Contact: [REDACTED] cell [REDACTED]"
2007	INC2007-065	"A pipeline carrying heavy synthetic crude oil within the city of Burnaby was struck by a backhoe (City of Burnaby contractor), releasing 232 m3 oil into a densely populated urban area, covering a number of homes and entering Burrard Inlet via the storm sewer system. Several private homes were covered with oil. Recovered volume of 218 m3 is a preliminary estimate only."
2007	INC2007-064	"At approximately 21:00 MDT on 20 July 2007 Enbridge was conducting an investigative dig on line 2 at KP 103.4 to investigate an anomaly detected from a recent tool run. Oil was found next to the pipe and so Enbridge immediately shut-in line 2. Further excavation revealed a pin hole leak. There was no oil at the ground surface and no oil had left the right-of-way. Enbridge reported that the oil occurred within about 1" of the pipe. Approximately 15-20 cubic yards of contaminated soil was removed and Enbridge estimates less than one cubic metre of oil had leaked from the pipe. Enbridge plans to complete a sleeve repair by noon on 21st July 2007. There was no risk to the public, no impacts off company lands and no environmental hazards. The original volume was updated from .48 m3 to 10 me on Feb 16, 2012 after reviewing the detailed incident report."
2007	INC2007-062	"An unintended release of natural gas occurred at the M&NP Burnside Industrial Park pressure reducing station. A member of the public noticed the release and called the local fire department. The fire department in turn reported the incident to M&NP. The Fire Department also responded by setting up a road block on a major road near the M&NP station. The road block was in place until M&NP responded and shut-in the pressure relief valve. The release occurred for approximate 2 hours, 15 minutes from a 3.25" relief valve under approximately 3450 Kpa. (500 psi) pressure. M&NP dedetermined that a pressure control valve did not seat properly which caused the pressure relief valve to open and vent gas. M&NP isolated the pressure control valve by re-routing to a redundant filter run and M&NP is now conducting repairs. M&NP estimates about 8.9 MMcf of gas was released. M&NP states that there was no threat to the public, responders or company workers and it did not activate its emergency response plan. M&NP reported the incident to the TSB on 16th July and the TSB immediately reported the incident to the NEB incident cell. There were no injuries, no evacuation, no damage to equipment, no impact to deliveries. The estimated volume of gas released to the atmosphere."
2007	INC2007-061	"At station 25 Vermillion Ont. Technician noted failure of pipe nipple on "B" unit on discharge @ station. Uncontrolled release of sweet gas. Nipple was replaced with pipe plug. Volume released is unknown. There was no environmental damage, no injuries, no safety concerns and no idisruption of service. Plug was a 1/2" x 4" NPT Schedule 80. TCPL is reviewing the failure. A small undetermined volume of gas was released to the atmosphere. Volume undetermined."

2007	INC2007-056	"Injury to a interior plumbing contractor while he was working on and inspecting the installation of a control valve involving long slings. While inspecting the slings and installation, the control valve slipped in the slings and fell on the contractor causing a fracture of the leg. Near Kamloops B.C. @ facility called PetroCanada Take off "
2007	INC2007-054	Gas leak at valve stem (packing). 100 m off highway. Site fenced and locked. Monitored to ensure no effect on safety. Amount not determined. 3% sour.
2007	INC2007-052	"An H2S analyzer failed that resulted in a slug containing up to 17% H2S from an operator entering the system at the meter station. The operator has been shut in until reason for non-specification gas entering the system can be determined and plans are in place to ensure this does not happen again. The slug is currently moving down the system and being diluted. The next sampling opportunity will occur at Kerrobert. The analyzer is being repaired or replaced. The operator was injecting for 25 minutes before it was determined the levels of H2S were too high for the shippers system. A small undetermined volume of sour gas was released to the atmosphere. Amount released and entering the atmosphere was not determined, but could be detected by smell. The sour gas allowed to enter the Alliance system (NPS 42 mainline) from 9:05 to 10:44 CCT on June 26th 2007 was calculated to be 55.5 x 10exp3 cubic m "
2007	INC2007-058	0.135 m3 (135 L) of methanol spill occurred at Paramount's Southeast Fort Liard N-01 well site. 135 L methanol 135 L of methanol
2007	INC2007-059	Up to 0.5 m3 of Ucarthem (heat transfer liquid) spilled from a heat trace line at the Norman Wells plant site. Spill poses no risk to wildlife or habitat. Clean-up has started. Volume determined to be 350 L (26 July 2007) NWT spill # 07-287. <0.350 m3 Ucarthem < 0.350 m3 Ucarthem
2007	INC2007-053	"A fire alarm at the pump station was detected at the control centre which shut down the pumps and closed the manifold valves. On arrival to site there was evidence of fire at the control valve top works, but no active fire. The fire department had been called in to assist and arrived on scene concurrent with field services staff. It appeared that an absorbent pad, layered around the top bonnet of the control valve, had ignited. The stem shaft connecting the motor of the control valve to the lower body had become disconnected and through repeated torsional metal to metal movement, had heated up enough by friction to cause spalling of the stem and erosion of the threads in the clamping blocks. These hot fragments appeared to have fallen onto the absorbent pad resulting in ignition."
2007	INC2007-051	Gas leak from cracked T at tie-in from spent producer. Remote location. 14% sour gas
2007	INC2007-050	"At well location 2M-73, a lock nut backed off on the stuffing box at the well head on a producing well (pump jack) 2 m3 of oil spilled covering 20-25 square metre area Well is shut in Proposing to fly in Vac Skid if available Absorbents spread on and around spill (contained to lease) Set up HAZCO containers for contaminated absorbant pads NWT Spill 07-257"
2007	INC2007-055	"An Enbridge operator heard a loud bang from the Control Room at the Edmonton Terminal. Smoke was observed coming from the Line 1 building. No flames were visible. Enbridge assumed it was an electrical problem. Strathcona Emergency Services were dispatched to the Edmonton Terminal. There was damage to the electrical equipment. Enbridge has bypassed the electrical for Line 1. Line 1 is running at a reduced rate. Line 13 (18") is still shut down. There were no leaks and no injuries. In a follow-up phone call, Enbridge advised the they were alternating, where the demand is, between Line 1 and Line 13 (apparently there is less demand on Line 13 and therefore it is not always running). "

2007	INC2007-048	"A valve flange gasket leaked 10 m3 oil into a containment pond at the Wahleach Pump Station 20 km southwest of Hope, BC. The main line was restarted at 10:35 MDT after an hour and fifteen minute shut down by by-passing the station. Terasen notified B.C. Provincial Emergency Preparedness (PEP) and the Department of Highways. No danger to the public, no injuries and no significant environmental impact is anticipated. No third party response expected. Spill into a containment pond. Impacted soil to be excavated and taken to approved facility. 70 m3 of free product cleaned up by 5 June 2007 with oil entrained soil to be removed."
2007	INC2007-047	"Sour gas leak from its 26 inch pig bell door gasket. Isolated, depressurized, repaired and put back in service. No effects Approximately 50 kg of H2S was released Approximately 50 kg of H2S was released"
2007	INC2007-046	Leak on flare stack identified. (Knock-out drum rupture.) Isolated immediately.No injuries reported. Remote location. Co.'s ERP not activated. Approximately 20 kg released.
2007	INC2007-045	"A contractor service vehicle cab caught fire at the Carson Creek Compressor Station on 17 May 2007 at 10:30 MDT. The vehicle was a Ford F350, parked inside the facility fence, between two compressors. The doors were closed and the windows were slightly open. The fire was extinguished and there were no injuries. Vehicle wiring had been altered after-market in order to install a power outlet in the cab. This wiring caused the fire. Alliance notified the TSB of the incident at 21:34 MDT on 17 May 2007. Damage to a contractors vehicle."
2007	INC2007-043	"Pigging flare carried-over igniting grass. Burned for 45 mins. Standby helicopter extinguished fire with 2 buckets of water. On company property, no injuries, no off-site impacts, no other responders, the incident was controlled by the company. "
2007	INC2007-041	Fire in welding shop. No Injuries.
2007	INC2007-040	"While changing a Fisher (Model 630) Regulator, the regulator body blew-apart and shrapnel damaged ancillary equipment. No gas released, No Injuries. NOT ANCASTER BUT MAPLE Regulator blew apart and damaged other equipment as well."
2007	INC2007-038	"Small gas leak from power gas tubing line of MLV 38 located in Starbuck, MB. TCPL replaced the tubing line. Volume of gas release unknown. Small gas leak - volume unknown"
2007	INC2007-035	A 40 m3 release of crude oil occurred at the Hardisty terminal. This 40 m3 release of crude oil was from a meter manifold and was caused by a broken screw. Listed as the area affected in the report. All free product and contaminated soil were removed and taken to the Newalta industrial waste management facility in Hughenden.
2007	INC2007-034	"A pressure drop from a heavy crude oil leak was detected by the control centre and the 34" line was immediately shut-in by Enbridge. The leak, on Line 3 at Mile 506, is contained in a small 50 m by 150 m wetland area, 2 miles east of the Glen Abon, SK Pump Station. There is no drainage out of the site. Spill was in a low-lying wetland area with no outlet drainage. Total volume recovered to date: ~912 m3 (as of 24:00 April 22, 2007) Total volume of water removed to date: ~6805 m3 (as of 24:00 May 5, 2007) Total impacted soil/vegetation removed to date: ~6958 tonnes (as of 24:00 May 5, 2007) Total sludge (vegetation/oil/water mixture) removed to date: 551 m3 (as of 24:00 May 2, 2007)"

2007	INC2007-033	"While inspecting the yard at Compressor Station 34, Near Portage La Prairie, TCPL workers discovered a leak from a cracked pipe nipple on a 1/2" X 6" pipe on the suction side of mainline valve 34-4 sensing line system. System was shut in and depressurized. The cracked nipple was replaced with a heavier nipple and the system was restarted with no leaks. An undetermined volume of sweet natural gas was released to atmosphere. Volume undetermined."
2007	INC2007-032	"205 L of methyl hydrate (methanol) was spilled when a forklift operator punctured one of the drums. Immediate clean-up was undertaken. Contaminated ice/snow placed in sea containers to be sent for disposal. No fire, no injuries, no environmental impact anticipated. contaminated ice pad and snow was scrapped up and deposited into sea containers for transport to disposal. 205 L drum of hetyl hydrate was punctured and spilled. Immediately cleaned up."
2007	INC2007-031	"Filter door gasket failed. 4 hour HVP release. ExxonMobil Goldboro controlled site. No injuries or measurable effect on environment. An undetermined volume of natural gas was released to the atmosphere. Volume not determined. 4 hr duration, 1200 psig, thru 1/4 inch o-ring leak"
2007	INC2007-030	"While re-lighting a unit heater, an employee sustained a minor burn to his hand."
2007	INC2007-029	132 L of KCl polymer water spilled due to a well test piping that parted. The spill and contaminated snow was immediately cleaned up and recovered material will be disposed.
2007	INC2007-028 s.19(1)	"A small scale fire was reported at Alliance maintenance shop at Grand Prairie office. Two ventilation fans could not be shut off. Once the control panel was shut off, Alliance realized there was a fire. Damage occurred to the relays which were replaced. No injuries reported. Reported by [REDACTED] Alliance Pipeline, tel. [REDACTED] [REDACTED] The damaged relays were not repairable."
2007	INC2007-027	"A 1.68m3 litre spill of waste mud occurred in the vicinity of the lease. The spill occurred due a tank overflowing from excessive volume of fluid over the shakers. This was attributed to a foaming problem with the drilling mud. The area on top of the ice, affected is about 7 X 20m. Contact Information: [REDACTED] NWT Spill 07-125. "
2007	INC2007-026	"A 1.5m3 litre spill of Waste mud occurred in the vicinity of the lease. The spill occurred due to a frozen sensor, which caused the cyclone to fill up and reverse the mud through the pump and out the exhaust and on top of the ice, covering an area of 7 X 10 m. Contact Information: [REDACTED]"
2007	INC2007-025	"A 700 litre spill of residual cement water occurred in the vicinity of the lease. The spill occurred while a vacuum truck was sucking fluid from a 400 bbl storage tank. After laoding the vacuum truck, the driver closed the truck valve, turned off the vacuum and then attempted to close tank valve. When the hose was removed fromt he cam lock, the tank valve was not completely closed and fluid began to spray out on top of a 30" thick ice and snow pad covering a 4 x 10 metre area. Immediate clean up was undertaken after the spill was identified. The liquids were removed with a vacuum truck. The remaining frozen fluid was scraped up with a loader and it was confirmed that there was not migration below the surface of the ice pad. Additional clean up will be done until clean ice is exposed. The residual fluids and ice/snow scrapings were placed in the evaporator. 07-121."

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2007	INC2007-023	"Public complaint - a hydrocarbon substance was leaking from a vent stack of a 30" cased crossing. The substance is a casing filler that is a hydrocarbon substance. The product liquefied over the winter and leaked into a ditch, flowed through a culvert into a pond on the south side of the highway. The company put booms out, the temperature has dropped and the pond has frozen over. Truck will arrive on the 20th to commence with clean-up. The vent is no longer leaking and had stopped when discovered by the farmer. Occurred near 3 km north of Hixon B.C. on the north side of Hwy 97. "Kaypac" released from a casing, volume unknown."
2007	INC2007-022	A 687 litre spill of KCL-Polymer drilling fluid occurred in the vicinity of the Aurora/JOGMEC/NRCan Mallik 2L-38 drilling lease. The spill occurred when a vacuum truck driver was cleaning out the P- Tank and was putting the drilling mud in the iced snow berm on top of a 14" thick ice and snow pad covering the lease area. Corner of the berm was thawed due to the warm drilling mud which leaked out.
2007	INC2007-024	200 L of drilling fluid spilled due to a loosened union on the service rig water line for pumping KCL water to the pumping unit. Spill was immediately cleaned up and recovered material will be transported for disposal in BC. Contact [REDACTED] IMP QHES [REDACTED]; [REDACTED] Operations Manager [REDACTED] 200 L of spilled drilling fluid recovered will be transported for disposal in BC. 200 L of spilled drilling fluid will be transported for disposal in BC.
2007	INC2007-020	"After cement job was completed, crew started to clean pumping unit. Used a batch of water to rinse residue drilling mud that was pumped through cementing unit. The contents were sucked by vacuum truck for disposal. While rigging down the 4" water suction line, the crew failed to check if unit was completely drained and proceeded to disconnect the lines. A spill of 100 litres of waste water occurred. Unit was moved out of the way to allow the spill to be cleaned up by the front end loader. The scrapped residue fluids and ice/snow was placed with a stockpile of spent drilling fluids and will be transported to an approved disposal facility in B.C. (Ft. Nelson) . 07-111 1 cubic metre of residue water and drilling mud"
2007	INC2007-021	"While transferring mud from the rig tank to the vertical tank, vacuum truck was loading second load when driver failed to close valve when vacuum truck was full. 125 litres of drilling mud was release through the relief valve of the vacuum truck. The truck driver shut down immediately. Mud was contained with the support of the drill crew and cleaned up. Once notified, the environmental monitor and IPM QHSE advisor did a visual inspection of the area. The scrapped fluids and ice/snow was placed with a stockpile of spent drilling fluids and will be transported to an approved disposal facility in Ft. Nelson B.C. After it has been cleared with environmental monitor. 07-112 125 ml drilling mud KCl"
2007	INC2007-018	"At approximately 20:00 MDT 2007-03-11, a Northwind (contractor) vacuum truck dispersed drilling mud/water load into a 3 sided tank. The bottom right corner of berm in the tank failed releasing 1000 litres of drilling mud/water on the lease pad inside the secondary snow/ice containment berm. The secondary snow/ice containment berm failed due to heated mud melting the berm in a corner. The operator immediately sucked up most of the fluid and an area was scaped by a loader and placed into the 3 sided tank. release of secondary containment berm (Snow and Ice) due to partial melting."
2007	INC2007-016	At approximately 8:30pm. The driver from E. Gruben's Transport LTD was waiting to find out where to dump its load. He believes that when he pulled out the drip tray it caught on the lever that operates the back chute and therefore releasing approximately 1 - 1 1/2 cubes. The driven and other individuals then proceeded to vacuum up the mud and used a loader to clean up the remains material. The spill has been cleaned up and the results approved by the ILA Monitor on site. NWT 07-088 The spill has been cleaned up and the results approved by the ILA Monitor on site. Water-based drilling mud 8 % KLC 1 - 1 1/2 cubic metre

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2007	INC2007-015	"1"" relief valve malfunctioned, and released gas for 20 mins. An undetermined volume of gas was released to the atmosphere. Unknown (20 min duration at 490psig through a ¾ inch opening)"
2007	INC2007-013	"Glycol spill reported, notification to PEP (603271) relayed to NEB/TSB.The tubing was removed and the supply valve was plugged to eliminate the potential of this type of incident re-occurring during the scheduled Pine River Plant Outage in June 2007. The practice/procedure for properly decommissioning equipment to be taken out of service was reviewed with operations and operation engineering at the Pine River plant. Approximately 1794 litres of 50% ethylene glycol and water leaked from the tank, resulting in a leak of approximately 897 litres of ethylene glycol. Approximately 1794 litres of 50% ethylene glycol and water leaked from the tank, resulting in a leak of approximately 897 litres of ethylene glycol."
2007	INC2007-012	"Back-flow of acid gas from the sulfur train caused H2S alarm to sound. Employees were not exposed or injured by gas. Back-flow followed an intentional shut down of equipment.Millwrights were called to investigate the noise and the engineer performed an emergency shutdown of the Acid Gas Heater. Millwrights discovered a failed bearing on the Train 11 heater forced draft fan. A gas detector indicated that H2S levels were increasing in concentration due to the non-functional draft fan. Maintenance staff completed repairs to the fan under supplied air and breathing masks. By 17:20, the bearing had been replaced and the heater had been successfully restarted."
2007	INC2007-011	A valve was left open causing 2 to 3 cubic metres of drilling mud to be released. The mud was contained in a natural depression and was being cleaned up. Spill number is 07-069. Akita Drilling rig 62. Spill of drilling mud cleaned up. Drilling mud.
2007	INC2007-009	A relief valve (PSV) partially opened and released gas pressure for 31 minutes. The valve has been replaced and will be tested to determine the cause of the opening.
2007	INC2007-010	"The Aurora College reported a spill of 900 litres sewage grey water at its Malik Gas Hydrate Research well site. The spill was contained to the well site pad and was cleaned-up. This incident has no environmental impact, no effects beyond the well site and no threat to the safety of persons. "
2007	INC2007-007	"An oil lubrication line detached from a compressor unit at station 130, oil sprayed onto an exhaust coupling on the compressor and caught fire. Employees were on the scene and immediately extinguished the fire. There were no off-site impacts, no injuries, no impacts to deliveries. "
2007	INC2007-006	"A local trapper noticed the leak and a crew to the siteconfirmed that a pinhole leak existed. The line was shut-in and flared back to the Devon Gas Plant. Depressurization is expected to be completed later today. AltaGas will dispatch an excavation and repair crew as soon as possible. AltaGas will also file a preliminary report and a detailed incident report later. There were no injuries, no environmental damages, no other impacts. pinhole leak, duration of leak and volume of gas are unknown"
2007	INC2007-005	"The company was notified that oil was found in an area where Kinder Morgan operates a delivery line within Husky lands. They dispatched personnel and determined the leak was from the Terasen line. At present, the spill volume is about 5 bbl. The line has been pressured down since about 06:27 today, the time of their last delivery. The spill is contained to Husky lands, nothing has gone off-site, no injuries, no fire, no complaints from public, terasen is cleaning-up, they will excavate, repair, reclaim and report. An unspecified amount of contaminated soil was removed from the site and stored in a lined area at the Kinder Morgan Hardisty Terminal until it could be properly disposed. Terasen estimates approximatly 5 bbl (1 m3) oil. Final report (in RDIMS) indicates 215 bbls lost and 210 bbls recovered."

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2007	INC2007-004	<p>██████████ Chevron, reported a spill to the NT-NU Spill Report Line of approximately 1 cubic metre of KCl drilling mud due to a plugged-off Centrifuge #2. A 'pitbull alarm' was received in the doghouse and the pumps were immediatel stopped when the spill was observed. Spill was vacuumed and scrapped up into a loader for disposal. Chevron to conduct confirmatory inspection once nearby units are moved from the site. No reported injuries and no anticiapated environmental impacts. Spill was vacuumed and scraped up into a loader for disposal KCl drilling fluid vacuumded and scraped up into a loader for disposal"</p>
2007	INC2007-003	<p>"A tank cleaning contractor employee used a none intrinsic electric equipment to thaw out equipment (possibly a heat gun), the crude oil vapour ignited and one contractor employee suffered first degree burn on in face. The fire was put out by another contractor employee with an extinguisher. The employee was transported to the hospital, was treated in the emergency room and was released. EMS was not called to respond to the incident Enbridge has a maintenance program cleaning tanks at the Sarnia Terminal, Ontario. The maintenance program has been going on for several weeks. The worksite remains closed until Enbridge terminate its investigation. Occurence - Unintended fire Cause - Contractor using non-intrinsically safe equipment in hazardous area Result - Contractor suffered first degree burns to face and neck First degree burn."</p>
2007	INC2007-001	<p>"Contractor was taking ground soil sample using drilling device. Contractor was taking soil sample using a drilling device. Winch broke and fell hitting contractor on head making a hole in hard hat. Contractor unconscious for a short period. Contractor was grazed on forehead cutting forehead and is on his way to hospital in Verden, Manitoba by ambulance. Contractor was talking normal mentioning he had been hit harder on the head working on his vehicle. This location is approximetaly ½ mile from Kromer, Manitoba. Enbridge contact: ██████████ Tel: ██████████ Cell: ██████████ Sitte is secured and Manitoba OHS have been notified. Worker was transported to hospital and released. Worker suffered bruises to his arm."</p>
2007	INC2007-002	<p>"Initially assigned to INAC, transferred to NEB on 23 January 2007. Approximately 4.0 m3 sour emulsion spilled to a 100 m2 area due to equipment failure. No injuries reported. Incident Notification DM #205203 NWT Spill 07-012. Clean-up being conducted. 4.0 m3 (4000 L) sour emulsion released"</p>
2006	INC2006-094	<p>"A release of 0.3 - 0.4 m3 of Ucatherm (glycol/water mix) occurred from the glycol circulation system on Island 5. It appears to have come from the heat trace line. The spill is terminated and is contained to the Island which is lined. Fax received from the NWT Spill line at 15:35 December 31, 2006. Release is currently under investigation by Imperial Oil Resources. NWT spill # 06-452 Contact: ██████████ IOR, ██████████ Ucatherm (Glycol/Water Mix)"</p>
2006	INC2006-093	<p>"A release of 0.3 m3 of Ucatherm (gylcol/water mix) occurred from the Day Tank at line Heater #1. The spill is terminated and is contained to the utilidor. Once the leak is confirmed the location will be cleaned and the product disposed of appropriately. Fax received from the NWT Spill line at 16:39 December 30, 2006. NWT spill #06-451. Contact: ██████████ IOR, ██████████ Glycol/Water Mix"</p>
2006	INC2006-095	<p>A patrol plane pilot reported crude oil in the tank lot. Free liquid was picked up by a vacuum truck. Oil contiminated snow & gravel is to be disposed of at the Newalta treatment centre. Cause was a line break in 10" inlet line. Pipe will be removed when conditions permit - spring/summer 2008 and a failure analysis will be completed at that time. No impacts to people or the environment. crude oil described as LSB (Light Sour Blend?). Volume per preliminary report. All of the crude oil was contained in the tank lot. Free liquid was picked up using a Vacuum Truck. Oil contaminated snow and gravel will be disposed of at the Newalta treatment centre in Halbrite.</p>

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2006	INC2006-092	"Darlene Roosenboom of TSB called in at 1422 MST to report an Enbridge incident. Pipe nipple failed spilling approx 6 m3 of crude oil. Nipple was removed and 3/4 inch piping was plugged. Contaminated oil and snow is being stored in the Kerrobert contaminated soil storage area. Recovered oil is being placed into Kerrobert Tank 51. Clean up is ongoing as of 12/20/2006. Crude oil was also noticed on the ground approximately 100 feet east and north of the valve. The oil had traveled along buried pipe and came up to the surface where it could. Per brief telephone conversation with Katherine Roblin, NEB, on 9 Jan 2007, [REDACTED] of Enbridge confirmed that release was fully contained within Enbridge's property boundaries."
2006	INC2006-091	"A small nipple leak of sweet gas from a small nipple at Compressor Station 2B at 1100 hrs 08 Dec 2006. Station was immediately shut down; nipple was removed and piping capped. Ron Clark of TSB called at 1637 hrs MST on 14 December 2006 to inform that [REDACTED] Mech Ops Team Leader had called at 1825 EST 14 December 2006 to report... Station had to be taken out of service for repair. Down time unknown. Volume unknown (small)"
2006	INC2006-090	Lattice boom crane fell on contract operator resulting in fatality. NEB IPL certificate number EC-III-25 resulting from EH-2-2002. Contractor
2006	INC2006-089	"An electrician was working in an MCC for an overhead cooler fan when he was burned in the face with an electrical flash. Employee was taken to Fort Nelson Hospital where she was tended to by doctors. Evening of 05 Dec 2006 the employee was air lifted to Vancouver where he is being tended to. Employee is coherent and functional. TSB Ron Clark called to inform that DEGT had reported an employee injury at DEGT's Fort Nelson Gas Plant at 17:00 hrs 05 Dec 2006. DEGT contact: [REDACTED] EHS Coordinator Tel: [REDACTED]"
2006	INC2006-088	"Montreal Pipeline company experienced a flashfire while cutting pipe at their Montreal Quebec 10803 Sherbrook St. East facility. Two cold cuts had been performed on a 'T' joint, a third cut did not completely cut thru the pipe and a lift was used to move the "'T'" up and down so that a fatigue crack would develop and break off the uncut section. It is believed that the movement of the pipe cause a spark when the two end struck each other. The pipeline had crude oil vapours in the line which were the probable cause of the flash fire. There were not injuries and the flash fire was over quickly and there was no need to extinguish."
2006	INC2006-087	"Enbridge staff discovered a leak at booster pump #7 check valve, resulting in 80 m3 of oil spilled. The leak was stopped and cleanup operations had commenced. Line 2 shut down for 3 hours, line 3 shut down for 2 hours. recovery proceeding at time of preliminary report to NEB. Volume originally given in imperial as 200 bbl. Per TSB notice, approx 79 m3 released and 48 m3 recovered. Per Enbridge 11 Dec 2006 PIR/DIR, 80 m3 released and 51 m3 recovered to date. Residual oil/ snow mixtures and impacted gravel placed in contaminated soil storage cell at Cromer Terminal. Steam cleaning of piping is continuing. Any residual oil collected as a result of the steam cleaning will also be placed in the contaminated soil storage cell. The material in the contaminated soil storage cell will be disposed of in accordance with the Enbridge Waste Management Plan. Due to the frozen condition of the site, final cleanup will be completed in the spring. Per brief telephone conversation with Katherine Roblin, NEB, on 9 Jan 2007, Donna Tribe of Enbridge confirmed that release was fully contained within Enbridge's property boundaries."

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2006	INC2006-086	"two Enbridge employees were injured during a pigging operation on a 12" NGL pipeline at the Enbridge Cromer Manitoba terminal (2 hr west of Brandon Man). Four pigs were sent down the line a barrier pig caliper and a MFL followed by another barrier pig. Methane was used as the propellant in the NGL line. Three employees (2 Enbridge and a contractor) were working at the receiver end and received the four pigs. The pigging trap was isolated and the trap bled down. Three pigs were removed, but the fourth was stuck. In an attempt to remove the fourth pig, the two Enbridge employees were struck when the pig released. The employees were evacuated to a hospital in Virden Manitoba where it was determined that one employee had a bruised wrist and the other employee had a broken hip. The employee with the broken hip has been transferred to a Winnipeg Man. hospital The trap on the receiver was closed and the was a minimal liquid release. Enbridge reported that on 23 November 2006.... "
2006	INC2006-085	An explosion in the crankcase to a reciprocating engine causing the door to blow off. There are 3 compressor units. Number 3 compressor has a reciprocating engine that has a door on the crankcase area. The engine experienced an explosion/failure in the crankcase area and the resulting explosion blew the crankcase door off. The engine subsequently shut down. Engine oil was spilled but contained in the building area. There were no injuries or environmental impacts. Duke is submitting a detailed report.
2006	INC2006-084	"On 8 November 2006, a 10" strainer failed at Enbridge's Cromer Terminal, resulting in a crude oil leak which was contained on station property. The leak was caused by a scraper pig becoming lodged in piping at the Cromer Terminal, causing an overpressure that resulted in the failure of the strainer. (On 23 October 2006, Enbridge Westspur discovered that they had lost a scraper pig in their pipeline system, and believed it was somewhere between the Steelman and Cromer terminals. At the time of the subject incident, Enbridge was in the process of locating the missing pig.) There were no injuries and no explosion. The spill was contained on Enbridge property. Enbridge contact is [REDACTED] (Office) or [REDACTED] (Cell). Oil from damaged metre manifold. Preliminary estimate of 63 m3 (400 bbls). Updated volumes per 10 Nov call from TSB and 17 Nov Enbridge Preliminary Report."
2006	INC2006-082	"ExxonMobil reports a gas release occurred through the body of two valves that were being closed. There were no injuries and no gas plant evacuation, but employees were temporarily moved to a safe area. This is the estimated volume of gas that was release. Some was released to the atmosphere and some was sent to the flare."
2006	INC2006-079	"Enbridge (NW) experienced an unintended propane leak into boiler while contractor was servicing office bldg heater. This was caused by malfunction of the regulator which was froze causing an immediate flow into the boiler when valve was opened. This was minimized by immediately closing of valve and replacing regulator. Propane is stored outside Regulator from Propane Tank to Boiler froze This incident was reported to TSB Oct 23/06 No fire occurred. No personnel were injured. No danger to public. Enbridge (NW) Inc contact: [REDACTED] Tel. [REDACTED] propane leak into boiler, so leaked but not released to environment"
2006	INC2006-077	A minor amount of natural gas was leaking from the gasket on the insulating flange downstream of the sending barrel isolation valve. The gasket was replaced and the pipe stresses were relieved by cutting the pipe at an existing field weld and re-welding the pipe.

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2006	INC2006-076	"A spill of 0.600 m3 of produced water that occurred at 10:00 am MDT 11 October 2006. The spill was terminated, and further spillage is deemed as not possible. Cause of the spill was due to equipment damage. The contaminated area was cleaned up and contaminated material was put into Hazco bins until appropriate final disposal was possible (isolated, accessible only by winter road). A fax was sent in addition at 08:24 MDT from the NWT Spill Line. 0.6 m3 produced water (600 L) was released to a 60 m2 area 0.6 m3 of produced water was released to a 60 m2 area"
2006	INC2006-075	"A precautionary pipeline shut down due to a strike on a pipeline. On 10 October, 2006, at 15:50 MDT, a third party contractor was excavating across the mainline @ KP 293 near Hinton Alberta when the excavator fell into the excavation and struck the pipe causing minor damage to the pipe. The pipeline was shut down and examination of the pipe revealed that the coating was scored. Repairs were completed and at 16:50 MDT the line was reopened. There were no injuries, no release, no fire and approximately a 1 hour shut down "
2006	INC2006-073	"A three (3) person crew was exposing a stub to shot an elevation. After the shot had been taken and while back filling, the bucket of the equipment stuck the nipple causing a natural gas release. The stub was isolated and a minimal amount of gas was released. There were no injuries, no ignition, and no interruption of service as the stub is at the end of the loopline. This is the estimated volume of gas that was released to atmosphere. This is the estimated volume of gas release as stated in the Detailed Incident report. "
2006	INC2006-072	"A Kinder Morgan' employee driving on Highway 13 near Hardisty, Alberta was hit by a stolen truck trailer that enter the highway for the ditch. The Kinder Morgan truck rolled over and crashed. EMS, using the Jaws of Life, removed the driver from the vehicle. The driver has serious injuries and fractures and was airlifted to an hospital. No substance released"
2006	INC2006-071	"While hot cutting the floor out of an out-of-service tank, petroleum contaminated soil caught fire (6 inch flame). The flame was put out with a 30 lb fire extinguisher. There were no injuries or evacuation. Petroleum-contaminated soil Petroleum-contaminated soil"
2006	INC2006-074	"A 12-volt battery exploded on a packer. The packer machine stalled and would not start due to dead battery. Contractor proceeded to boost the machine using booster cables. Upon startup the battery cover was closed and within 5 seconds the boosted battery exploded. There were no injuries as a result of the incident. Immediately following the incident, the packer machine was shut down and towed out of the tank berm area. Maintenance personnel checked out the failure and installed a new battery. The contractor is having further discussions with the manufacturer regarding hazard awareness reports and also investigation various types of battery holders to reduce vibration on this type of equipment. Battery was destroyed."
2006	INC2006-070	"A crew was hydro-vacating in preparation for work to be conducted at the Hardisty Terminal when they encountered soil contaminated with crude oil. Currently, the 30 inch Husky line is suspected and the company is exposing the line. The source of the leak was not found at the time of the call. The company is handling the contaminated soil appropriately. The report list ""10 to 20 m3"" of contaminated soil. per company DIR, 40 barrels released and 35 barrels recovered, crude oil (several types)"

2006	INC2006-069	"The Souris Valley Pipeline has been shut down in the U.S. by its parent corporation (Dakota Gasification Co.) due to a leak on a new circumferential weld (3 inch crack) at a stopple fitting. The leak is about 35 miles south of the border, north of Tioga N. Dakota. Currently, Encana and Apache are the only Souris Valley customers effected by the shut down. The stopple was installed to remove an ILI tool that became lodged this past spring. The leak was found while recoating the pipeline after the repair. Currently, Encana and Apache are drawing down the line pressure to 1200 psi (from an operating pressure of 2170 psi). This is as low as possible without causing phase changes in the product stream. The incident was reported in accordance with the Souris Valley Pipeline certificate conditions. Pipeline was out of service during replacement. unknown release from small leak."
2006	INC2006-068	Technician noticed a low gas alarm in the gas generator enclosure. The release was caused by a broken sensing line on the fuel gas manifold. The unit was shut down and the line replaced. Unit was restarted without further issue. Sweet natural gas released into the atmosphere.
2006	INC2006-080	"On September 14, 2006 liquid was pumped to the FX train storage tank through a transfer hose. The FX storage tank is a lined tank. The transfer hose was mistakenly hooked up to a leak detection observation port which is used to detect liner leaks. It is suspected that the liner had a pre-existing leak since the tank did fill even though the liquid was entering between the liner and the tank wall. The FX storage tank was initially empty and was confirmed full at 04:45 on September 15, 2006. Once the tank was full, Operations employees attempted to blow the line clear into the tank using utility air. The bottom of the tank began to leak immediately, spilling liquid to the ground. Volume recovered not stated"
2006	INC2006-067	"Liquid Petroleum Gas (propane) release at the BP Sarnia plant, located on the south side of the City of Sarnia, Ontario. The 8-inch BP pipeline from the Sarnia plant in Ontario crosses under the St. Clair River into Michigan, U.S.A. The line was being re-pressured after it was down for maintenance. BP had personnel stationed at each valve site on the line and when the line reached 790 psi, a minor leak was detected on a 4-inch riser valve packing. The line was shut-in. BP will inspect and repair the valve and or packing and test the line again. BP estimates a loss of about 1 gallon of liquid propane. BP monitored for LEL and gas leaving the site, and it notified nearby neighbors that it will be conducting repair work. There were no injuries, no product left the site, no environmental effects, no other responders and no impacts on deliveries. The company contact is [REDACTED]. BP estimates about 4.5 litres of liquid propane released Updated by Anne-Marie Bourassa Mota on 12 January 2011: According to company's Detailed Incident Report, 0.064 m3 (or 64 liters) of propane was released."

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2006	INC2006-066	<p>"TSB called NEB on 14 September at 21:10 MDT to report a gas release and fire at the Westcoast Energy Inc. (Duke Energy) Stoddard Booster Station. The Stoddard station is located approximately 16 kilometres north west of Charlie Lake B.C. at mile 64.5 on the Alaska highway. At approximately 17:20 p.m. PST, an operational upset at the McMahon Gas Plant caused an alarm at gas control and shut-down. The upset caused pressure buildup in the pipeline which, in turn, caused the Stoddard booster station to Emergency Shut Down (ESD), the excess sour gas in the pipeline was re-routed to the flare pit at Stoddard where it was burned. Westcoast does not have any estimates of volume of sour gas at this time. The Stoddard ESD functioned properly and no damage to equipment resulted. At approximately 18:00 PST Westcoast staff discovered the fire at Stoddard. The fire spread from the flare pit to an area of about 100 metres by 100 metres. Westcoast suspects the fire spread as a result of the very dry conditions and possibly dry leaves in and around the flare pit. A fire attack helicopter was dispatched immediately to the site where it dumped several loads of water on the fire. The fire was put out by 19:45 PST and Westcoast made the call to the TSB at 20:00 PST. Westcoast also contacted B.C. Ministry of Forests which dispatched an initial attack crew to the site. At approximately 19:30 PST the B.C. Forests crew arrived on site and monitored for hot spots in brush around the area. Westcoast states that the fire did not get into any standing timber and it is not sure if the fire was contained to Station property. Westcoast left a fire watch and station personnel at the Stoddard station over night. The BC Forests crew left the site at about midnight. The nearest residents are approximately 2 kilometres from the station, there was no evacuation necessary however Westcoast notified the nearby residents of the fire. There were no injuries, no evacuation, no impacts on deliveries and no damages to equipment. Company contact is [REDACTED]" s.19(1)</p>
2006	INC2006-063	<p>"The belly hook of the gravity meter had additional electronic harness attached. When helicopter made a turn, it is believed that the electronic cable tripped the hook mechanism and release the gravity meter from about 300m. In an effort to retrieve the meter, with the helicopter, the blades impacted on some tree branches. The helicopter retrieved the gravity meter and it flew back to Deline. Upon inspection of the blades, it was noticed that the blades (5) were dented. The meter was damaged, and will be sent to Calgary on Tuesday to see if it can be repaired, however the damage seems at this point to be extensive and there are only about 4 in Canada. Needless to say the program may be in jeopardy. The blades will have to be replaced and rebalanced. However it is believed another helicopter is available. No Injuries. Contact [REDACTED] Reportable incident under section 40 of Canada Oil and Gas Geophysical Operations Regulations and 16.4(1)(h) of the Oil and Gas Occupational Safety and Health Regulations The Gravity Meter and the Helicopter was Damaged."</p>
2006	INC2006-062	<p>"sour gas leak at a 10 inch pigging barrell on the Milligan - Peejay Pipeline about 40 km NE of Fort St. John, BC. The incident occurred approximately 12:40 PDT. WEI suspects aproximately 500cu.ft of sour gas was released from the door of the pig Barrell. The Barrell has been depressurized and Technicians are scheduled to make the necessary repairs Today.. [REDACTED] can be contacted at [REDACTED] Sour Gas"</p>
2006	INC2006-061	<p>"Rob Johnston of TSB called on 4 Sept, 2006 to inform NEB that [REDACTED] of DEGT had reported a methane gas leak at Compressor Station 2 at kp 19 on the 30" line. The incident occurred approximately 13:30 PDT. This location is approximetaly 40 km south west of Chetwynd, BC; it is fairly remote and is just off the main road. One Technician is on site monitoring and two are under way to repair. Suspect valves and/or o rings leaking. No injuries No danger to public [REDACTED] can be contacted at [REDACTED] (cell)"</p>

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2006	INC2006-060	<p>" [redacted] of Alliance Pipeline reported to TSB at 13:50 EST that Morinville Compressor Station release valve PFV 1200 had prematurely released natural gas at 3.46 AM MDT. Valve has been isolated for repairs. Contact info: [redacted] ***** 2006-09-06- received a call from Sturgeon County Fire department ([redacted] who had got a complaint from a landowner about Alliance's response to the incident above... I called the Landowner [redacted] and left him a message regarding his issue.. I will wait to hear back from him.. ***** 2006-09-07-I Received a call from [redacted] (Nearby Landowner (L/O)) [redacted] regarding the Alliance Incident 2006-060 (Morinville Station) and he is concerned with Alliance's Response to the Incident. Mainly around the fact that he had to call Alliance and tell them that the pressure relief valve was releasing. He was surprised and concerned that this was not picked up in their control center. When he had called Alliance at 3am to report the release, they informed him that that it could not be their station because the control center was reading no problems (green lights). The L/O then had to stick the phone out the window of his house so that Alliance could hear for themselves the pressure relief valve discharging. Then actions were taken. Also in the meantime other L/O's in the area had called 911 and thus the fire department and police were dispatched to the site.... Off course there was more to the conversation, so I asked the L/O to put his concerns in writing and to send it in to the Board... He agreed. I did some preliminary investigating: Constable Andronyk, RCMP File number 2006-1044140 ([redacted] received the incident. (780) 939-4520 Morinville Fire department Dispatched to site 03:10am, fire chief arrived at site 03:12am. Fire department stood down at 03:18am. (Fire Chief, [redacted] [redacted] JK An undetermined volume of gas was released to the atmosphere assume sweet. volume not reported."</p>
2006	INC2006-058	<p>On 16 August 2006 at 11:40 MDT NWT/Nunavut 24 hour spill report line phone and report that 18 cubic meters of Fresh Water was release at Imperial Oil Resources (NWT) Limited Lateral 4 Fresh Water Injection on Goose Island. No adverse environmental impact anticipated. Fresh water</p>
2006	INC2006-057	<p>"150 liters of produce water was spilled on the ground. The produce was carried over from the flare stack onto the ground. The area contaminated cover 20 square meters Paramount stated that the soil around the flare stack will be tested for any contamination and the site will be clean up as required. ESA provided an assessment of the impacted N-01 flare stack area, February 2007 (DM 207478 & 207785). "</p>
2006	INC2006-056	<p>"At 14:55 TC staff smelt burning synthetic oil. The lube fire was located behind the turbine, between the cladding and coupling. The unit ESD was activated and fans and pumps were shutdown. The fire was put out at 15:07. TransCanada reported no damage to the compressor, no injuries, no evacuation of personnel and no impact on business. The TransCanada Emergency Operation Centre was not activated and no emergency services were call to assist. The ""C"" plant was out of service for 2 days while repairs were made."</p>

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2006	INC2006-055	"A landowner reported a 10 x 30 ft stained patch of soil in a pasture, near Provost Alberta. The stain was reported to Enbridge's control centre. The stained soil patch was found in the middle of a pasture, with no free-standing oil visible. Board staff called Enbridge for further information at 21:57 MDT. Enbridge advised that they were responding to the incident, mobilizing equipment and anticipated digging by 23:00 MDT. Enbridge also advised that their lines were down. Enbridge has notified RCMP and the Provost Emergency Services. Enbridge Contact: [REDACTED] Landowner: [REDACTED] At 9:09 MDT on 10 August 2006, Enbridge advised that they have located a leak on line 2 (their 24" pipe), on the long seam weld of the pipe, adjacent to the butt weld. Enbridge has retrieved 1 barrel of oil and were unable to recover the rest as some of the oil (amount undetermined) is saturated in the sand. Enbridge's Safety and Environment staff are on site as well as their repair crew. Enbridge will continue to investigate the incident. TSB phoned NEB at 11:20 MDT on 10 August 2006, advising that Enbridge indicated that there was an anomaly in the weld, that they are in process of excavating and they estimate a loss of 5 to 6 barrels. Preliminary report (23 Aug 2006): 20-30 m3 released, 2-3 m3 recovered Final report (13 Dec 2006): All contaminated soil (approximately 4,150 tonnes) excavated, stored on site in a bermed and plastic-lined holding area, transported to Capital Environmental Resource Inc.'s Coronation landfill between September 25 and October 5, 2006. Nearby soil source used to backfill the excavation (subsoil), completed by mid-October. Stripped topsoil confirmed to meet Alberta Environment guidelines, will be spread on site in spring of 2007, and site will be seeded at the same time. During week of December 11, 2006, four groundwater monitoring wells to be installed just outside the four corners of the excavation boundary; to be sampled in January 2007; need for further sampling will be based on results of January sampling."
2006	INC2006-053	"Fire occurred due to Auxiliary Power Unit overheating and igniting APU spark plug wires. Smoke detector was set off and Technician on site completing an APU test run extinguished the fire with a fire extinguisher."
2006	INC2006-054	"Goose Island at T 23x bunker, Norman Wells. 5 m3 fresh water release, no environmental impact, no injuries. NWT spill # 06-296. Fresh water release due to line break. No adverse impact anticipated. Fresh water release due to line break. No adverse impact anticipated."
2006	INC2006-050	"Workers at McMohan Gas plant noticed that a Hazmat bin had caught fire. The fire was immediately extinguished. The bin was used to store used filters. Westcoast believes the bin caught fire because of the very hot daytime temperature and resulting heat buildup inside the bin. No injuries, no off site impacts, no damages to equipment."
2006	INC2006-052	4722 SCF (134 m3) of H2S gas was released when a 3/8 inch piece of tubing attached to the relief valve of the #2 compressor let go. Duke Energy (Westcoast) crew evacuated the building after hearing a loud noise. The crew initiated the Emergency Shut Down. Sour gas released into atmosphere. 4722 scf
2006	INC2006-049	"While restarting Train "A" at the sulphur plant, the sulphur rundown piping froze off, resulting in a back up and overflow of approximately 1000 kg of molten sulphur onto the ground. The solidified sulphur has been cleaned up and recovered. The rundown piping has been cleaned out and put back in service. The incident was reported to the TSB but not forwarded to the NEB. The incident was included in the TSB's Occurrence Report. 1000 kg's released and recovered"
2006	INC2006-048	"During regular turnaround, a vessel was opened to clean and inspect. Iron sulphide began to smoulder - about 5 to 6 gallons - and was extinguished with water. No threat to persons or the environment."

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2006	INC2006-047	<p>"DEGT reported that while preparing to place sulphur pipeline into commission while they were remelting to liquid sulphur they experienced leaks from sulphur pipeline at 2.3 km and 2.8 km down the mountain side towards the pelletizing plant. This is a very steep section down the mountain side. DEGT are considering calling it ruptures. The leak at 2.3 km was small splatter on the vegetation The leak at 2.8 km volume was approximately 2 m3. DEGT. Ron Park of TSB called to report a DEGT incident at Pine River Gas Plant Sulphur Pipeline. DEGT contact: [REDACTED] Cell: [REDACTED] DEGT have made arrangements to truck sulphur from the Pine River Gas Plant starting Monday 10 July 2006 amount to be confirmed; looks like total release probably between 1.4 and 2 m3. Per preliminary reports to NEB: The leak at 2.3 km was small splatter on the vegetation The leak at 2.8 km volume was approximately 2 m3. Per TSB daily notification log: RUPTURES OCCURRED AT KMS 2.3 AND 2.8 ON THE SULPHUR PIPELINE (RELEASES OF APPROXIMATELY 0.4 CUBIC METRES AND 1870 KG, RESPECTIVELY). Note: density of solid sulphur ~2000 kg/m3 Per Henri Simoneau, 12 Dec 2006, released sulphur contained on ROW"</p>
2005	INC2005-064	<p>A power blip resulted in a station isolation. The line 100-2 Discharge Valve did not completely seat itself which resulted in an unintended release of natural gas that continued for 45 minutes. An adjustment nut on the end of stoke valve had drifted and required an adjustment to ensure the discharge valve would close. An undetermined volume of natural gas was released to the atmosphere. instrumentation leak from valve operator solenoid for an undetermined amount of time.</p>
2006	INC2006-046	<p>Spill detection system on fresh water injection system identified a potential anomaly on Lateral 2. Suspected segment was isolated immediately. The affected segments are presently inaccessible for positive confirmation of leak as they are submerged due to abnormally high water levels. Operations will continue with segment shut in and leak location will be confirmed when flood waters have receded and facilities are accessible. No environmental adverse effect is anticipated due to this potential release. 24000 litres of fresh water. NWT Spill # 06-258. Fresh water</p>
2006	INC2006-044	<p>There was a molten sulphur release of 5300 kg from the rundown piping upstream of the sulphur pit onto the ground at the gas plant. The sulphur solidified and was contained within the plant boundaries. No danger to the public. No significant effect on safety or the environment. 5300 kg released and recovered</p>
2006	INC2006-045	<p>"There was a release of approximately 40 lb (18 kg) of Freon at the Imperail Oil Central Processing Facility. The release was caused by ice falling off a building, damaging the air conditioning condenser during winter. The release occurred during the automatic start-up. NWT Spill # 06-243. Release of Freon (flouorocarbon) - ozone depleting substance Approximately 18 kg of Freon (chlorodifluoromethane)"</p>

2006	INC2006-043	"While draining storage tank for cleaning prior to tank inspection, a valve was inadvertently left open. When pressure went up, approx. 1.5 m3 crude spilled over covering surrounding area and piping. Spill was contained inside building. Original verbal report was 1.5 m3; final Enbridge report said 0.5 m3 MSB (0.45 m3 recovered); see note below re: photos, etc. K.Roblin note from June 2006 (see Reports - misc. supporting info): Hard to tell from looking at photos how much was released. However, I strongly suspect it was more than 0.5 m3 and possibly more than 1.5 m3 (if area of heaviest impact around truck loading area is 20' x 40' and average thickness of product ponded on ground or in gravel is 2 cm, that would be 1.5 m3 right there, not even counting additional staining or 2nd leak in building). Original report recorded in PID said 1.5 m3 while this report says 0.5 m3 (decrease from original estimate - unusual for Enbridge). Do we know how Enbridge came up with their estimate(s)? Keep in mind that 0.5 m3 would be about 2.5 drums (45 Gallons or 205 L each), while 1.5 m3 would be about 7.5 drums, if that helps picture it. Also hard to tell from pictures how much might have been contained in floor or sumps of building. Also, Enbridge's estimate of area impacted (25 m2) seems very low (for example, see photo 4 - thought this was a shadow at first, and then realized it was all staining!)"
2006	INC2006-042	"Plant shut down and went to flare unexpectedly (cause unknown at this time) which resulted in a fire extending beyond the flare pit. At the time of the call 19:00 MDT, Westcoast was in the process of a controlled startup. Cause is under investigation. Raw natural gas"
2006	INC2006-040	A pin hole natural sweet gas leak was discovered during Champion's regular leak detection program. Champion Pipe Line (GMi) is planning an investigating dig for Thursday 1 June 2006 and will perform magnetic particles testing and X ray on the 8 inches steel pipe (OP 5000 KPa). Volume of gas released undetermined
2006	INC2006-039	The operator discovered a sweet gas leak on a ¾ inch nipple located in the process unit building. The operator isolated the vessel and reduced the pressure from 700 to 50 pounds per square inch over a two hour period. The valve was greased and sealed and pressure was further reduced down to zero from 10:00 to 20:00. The nipple was replaced. The operator is of the opinion it was metal fatigue (air line crack). The vessel was put back in service. There was No alarm No evacuation No injury Level 1 Emergency Negligible volume.
2006	INC2006-038	Compressor Station tripped. Relief valve opened. No damages. Had an unintentional tripping of shutdown system which caused one relief valve to open for an unintentional release of gas from unit 3. Unit 1 and 2 were restarted and then # 3 compressor was reloaded. An undisclosed volume of gas was released to the atmosphere during a compressor station Emergency Shutdown (ESD). An undisclosed volume of gas was released when the compressor station did an Emergency Shutdown (ESD).
2006	INC2006-036	Unintended fire occurred on the RoW when pigging by Encana caused the Encana Gas Plant to flare and sparks landed on the Westcoast RoW resulting the fire. Encana staff extinguished the fire.
2006	INC2006-034	40 m3 of surface water overflowed the Battery 3 Impounding Basin when water from another area breached a culvert. Water sample results met Water Licence criteria. NWT Spill #06-186 closed. Surface water runoff overflowed Battery 3 Impounding Basin Surface water runoff overflowed Battery 3 Impounding Basin

2006	INC2006-035	320 m3 surface water runoff overflowed the Impounding Basin. Water met Water Licence criteria. NWT Spill #06-187 closed. Surface water runoff overflowed the bank of the Impounding Basin. Water met Water Licence criteria. Surface water runoff overflowed the bank of the Impounding Basin. Water met Water Licence criteria.
2006	INC2006-033	"0.2 m3 of snowmelt within tank 201/202 berm was released through a culvert which is experiencing corrosion along a seam. No sheen visible on water, no anticipated adverse effect. Culvert will be repaired and plugged. 06-184 Snowmelt from inside tank berm, no sheen visible"
2006	INC2006-032	"TCPL staff were working with a portable gas transfer compressor at station 30. A crack was noticed on top of the volume tank where a bracket is welded to the top of the tank near the suction valve. The tank was immediately isolated and taken out of service, tubing to the tank was plugged and remaining volume bottles were inspected. At this point TCPL guesses this is a fatigue failure caused by vibration at the weld. The TCPL integrity group is investigating the cause of the crack. Although TCPL does not have any volume estimates, it stated that there was very minimal amount of gas released. There was no impacts on deliveries, no effects off station property, no environmental concerns, no injuries, nonpublic concerns and no other responders were involved. Incident reports state that ""a negligible amount"" of sweet natural gas was released to the atmosphere. Incident reports state ""a negligible amount"" was released."
2006	INC2006-023	"Workers at Paramount H-03 plantsite observed smoke rising from the nearby C-74 wellsite. The workers immediately gathered extinguishers and drove to the site. A wood shelter over the pump motor had caught fire. The fire was extinguished, tubing and casing were shut-in and the propane was shut-off. The remains of the wood shelter were removed from the pump motor. By 1 May 2006 the motor had been replaced and operations resumed. Fire burned the Cameron Hills C-74 pumpjack wooden housing. Well was shut in to remove the structure. Pump motor was scorched."
2006	INC2006-031	320 L of crude oil sprayed onto snow due to equipment failure. Contaminated snow to be removed by vacuum truck and disposed. Spill file 06-148 and PID are open pending Imperial Oil updated report. 320 L of crude oil sprayed onto snow due to equipment failure. Contaminated snow to be removed from island. 320 L of crude oil sprayed onto snow due to equipment failure. Contaminated snow to be removed.
2006	INC2006-030	"12,000 L fresh water released due to loss of containment at Bear Island Terminal #3. Water was contained in a natural depression and cleaned up immediately. NWT Spill file 06-143 closed 12 April 2006. Fresh water was contained in a natural depression and cleaned up immediately. No residual impact to soil. Fresh water was contained in a natural depression and cleaned up immediately; the affected area was approximately 100 m2."

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2006	INC2006-019	"At about 13:00 MDT on 5 April 2006, workers at the TCPL Elko Compressor Station in SE British Columbia heard a loud pop from one of the compressor buildings and then saw smoke emit from the building. The station monitoring equipment immediately shut in the compressor (A plant, Rolls Royce Avon jet and centrifugal compressor). This was the only compressor operating at the time. A fire in the building ensued for less than one hour. Workers attempted to extinguish with 30 lb. extinguishers, could not enter the building and the fire was too large for on-site fire equipment to manage, there was considerable damage to the building. Other responders (fire Dept from Bainsborough) were dispatched to the site however the fire was almost out by the time they got there, the fire Dept foamed the building to futher suppress the fire. No natural gas was involved in the fire because the plant ESD-ed. At this point TCPL believes the fire was caused by heated lube oil. TCPL will investigate the cause of the fire and conduct repair work starting 6 April 2006. There was no impact to other buildings nor to anything beyond the subject building. No environmental issues, no injuries, no public complaints, no effect on deliveries, no nearby residents, nearest urban centre is Elko about 10 km to the west. Reported to TSB by Michael Knight (403) 948-8280. Contact with TCPL is [REDACTED] A unit is out of service until repairs are complete. Significant damage to electrical infrastructure within the building. Due to structural integrity issues, it was decided to build a whole new compressor building. Approx. 1 barrel lube oil lost from tank. All contained within building. Some of the oil burned off and the remaining oil was removed by waste disposal company Newalta to be properly handled."
2006	INC2006-018	"The Enbridge Control Centre alarm went off at 07:00, valves auto shut-off at the Mildren station at kp 475. Employees immediately investigated and saw NGL weeping from a pump flange gasket. The pump was bypassed and the reamining NGL in the pump was flared. The leak occurred for a very short period of time and Enbridge estimates .02 cubic metres of NGL vapourized. No environmental issues, no injuries, no public complaints, nearest urban centre is Mildren 16 km away. Enbridge will keep the pump shut-in and bypassed until it is able to run oil through the line. The repair work will be safer to do after oil has purged the pump of remaining NGL. NGL had to be flared off to allow for the repair. All 0.02 m3 that was initially released was either flared or vapourized."
2006	INC2006-017	"Damage to floating roof of 150,000 barrel condensate tank resulted in product on the roof, but no product was released. Enbridge ([REDACTED]) indicates that condensate tank is being drained and repair options being considered. Benzene and mercaptan levels downwind of the tank are within limits. A storage tank was taken out of service to allow for repairs. Crude oil contained on tank floating roof."
2006	INC2006-029	500 L produced water released due to equipment failure. A pump truck was transferring produced water from the tank farm to the process facility for disposal. A discharge hose from the transfer pump failed. Vacuum truck removed all free water and all snow right down to the frozen ground. Spill file 06-125 closed 28 april 2006. 06-125 Vacuum truck removed all free water and all snow right down to the frozen ground. No residual soil impact. Vacuum truck removed all free water and all snow right down to the frozen ground.
2006	INC2006-028	"40,861 m3 fresh water containing elevated copper was released in two events from the Central Processing Facility backwash pond into the Mackenzie River. Elevated copper was discovered while attempting to identify cause of toxicity test failure. Imperial continues to investigate source of elevated copper. NWT Spill 06-110 was closed as clean-up is not possible. PID file remains open. 40,861 m3 of copper contaminated water released from CPF backwash pond to Mackenzie River. Potential impact to aquatic life. 40,861 m3 of copper contaminated water released from CPF backwash pond to Mackenzie River"

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2006	INC2006-016	Two workers entered the accumulator shack and lost consciousness due to oxygen deficient atmosphere. Nitrogen had displaced the oxygen when the nitrogen bottles were vented with the shack doors closed. A third worker seconds behind the first two opened the door and the two downed workers self revived. Workers were checked by the medic and shortly after returned to work. Workers were checked by the medic and returned to work.
2006	INC2006-014	"It appears that the pipe ""hydraulic"" three joints out of the hole, for reasons yet to be determined. One of the High Arctic crew members in the work basket was injured. As I understand it, he was assisted down from the work basket, but appeared ""shocked & disoriented"" and complained of back pain. The on-site medic has examined him (I have no report yet) and is transporting him in the MTC to Ft Nelson Hospital for further examination. Once the worker was transported, they were going to do an onsite investigation & report on the reasons for the incident & preventive measures. I expect that report Tuesday AM. If the worker is not able to return to normal duties, the WCB of the NEB will be informed (I believe that is done by the employer - High Arctic) The well is secure. No further work is planned for Monday on site, but assuming that no serious injuries are reported upon arrival at hospital, work will resume Tuesday. "
2006	INC2006-010	"There was a sudden interruption of flow in the pipeline section after an attempt to switch receiving tanks by the shipper's bulk plant personnel did not succeed as planned. The system immediately and automatically shut down to protect the pipeline low pressure station manifold; however, in the combination of line packing and surge pressures caused the line controller to observe the line pressure to rise momentarily to 1430 psig, which is 16.5 psig over MAOP. There were no damage or injuries reported as a result of the event."

2006	INC2006-008	<p>"TNPI confirmed a leak in the pipe near the intersection of Tomken Road and Eastgate Parkway in Mississauga, within 500 m of a subdivision. TNPI has dug out around the pipe to locate and repair. TSB to photograph and provide digitally. No injuries reported. NEB requesting more event information. Contact is [REDACTED] TNPI. As per 27 & 28 April email updates, the calculated amount of product released was 866 L or 0.866 m3 (< 1.5 m3). Pipeline removed from service Refined hydrocarbons (gasoline, per University of Waterloo metallurgical report). Based on TNPI's originally communicated estimated leak rate (30 L/hr), volume would be greater than 1.5 m3 if leak duration longer than 2 days. At the time of this communication, TNPI had not yet provided the NEB with an estimate of the duration of the leak, but it seemed probable that it was for more than 2 days. Also, based on volume and areal extent of soil affected, and judgement of Environment Canada rep onsite, it seemed probable that the leak was greater than 1.5 m3. TNPI's DIR estimates 864.1 L of product released based on results of soil and water analyses and volumes of soil and water removed. Metallurgical report indicated leak rate of 31.2 L/hr of WATER at 800 psi, which extrapolates to 103 L/hr of WATER at 1091 psi (max reproted operating pressure in pipeline during operating period from Jan to March 2006) which is equivalent to a leak rate of 246 L/hr of GASOLINE (due to lower kinematic viscosity). However, this was based on the 3rd test, with leak rates increasing each test, attributed to corrosion products and/or deposits on crack surfaces that inhibited flow in earlier tests (but probably more representative of leak rates in the field). The 1st test looks to extrapolate to approx 41 L/hr of water at 1091 psi, which I believe would work out to 98 L/hr of gasoline (assuming linear relationship, which seems to be indicated by equations in report). Comparing petroleum in soil and water to leak rate curves (TNPI seems to be using 3rd test but forgetting to convert from leak rates for water to leak rates for gasoline, although may scale such that test 1 leak rate for gasoline - 98 L/hr max? - is similar to test 3 leak rate for water - 103 L/hr max) and TNPI's operational data over days before leak detected, TNPI concludes leak caught very early in life cycle (ie: leak began the day it was discovered). Other possibility is that soil analyses were not representative of average hydrocarbon concentration in soil and that the overall volume of product lost was underestimated based on this data. It may be worth checking with TNPI how long it had been since the last time anyone visited this site prior to discovery of the leak. - K.Roblin, 8 Dec 2006"</p>
2006	INC2006-007	<p>"Third party contractor detected methane gas and reported it to TCPL. On inspection, TCPL confirmed a slight gas leak (4%) fro a 4" plastic riser at valve site 91-022 DXO (91 km + 22 m from AB-Sask border). Local farmer is aware of leak and will stay away. TCPL to hydrovac the valve site to determine specific cause. Event Type Updated to Release of Product ([REDACTED]) Volume released undetermined"</p>
2006	INC2006-027	<p>"Possible release of 560 L Ucartherm (glycol/water mix). Line was shut in, subsequent pressure test confirmed a slow leak. Imperial to investigate leak location and impacts when snow has melted. Spill file is open. Imperial to investigate leak location and impacts when snow has melted. Possible release of 560 L Ucartherm (glycol/water mix). Imperial to investigate leak location and impacts when snow has melted."</p>
2006	INC2006-006	<p>H2S relaeased at KP 00 from crack in 18" X 10" pigging flare line on backflow. Line isolated and depressured barrel - vented through flare stack. No injuries and public unaffected.</p>
2006	INC2006-026	<p>"500 L Invert drilling fluid was released when the hose from mud tank to trip tank unscrewed at fitting. Fluid was contained on rig matting and recovered with vacuum, absorbent pads and sawdust. Spill File closed 21 February 2006. Fluid was contained on rig matting (3 m2) 500 L Invert drilling fluid was released when the hose from mud tank to trip tank unscrewed at fitting."</p>

2006	INC2006-025	"420 L hydraulic oil, half contained to OBS building, half to rig matting 420 L hydraulic fluid released; half to OBS building, half to rig matting (5 m2). Fluid was sucked up with vacuum and sawdust. 420 L hydraulic fluid released; half to OBS building, half to rig matting. Fluid was sucked up with vacuum and sawdust."
2006	INC2006-004	"An adjacent gas plant employee discovered a small leak i a 1/2 inch tubing line to the valve actuator. A company worker replaced the o-ring. Minimum amount of sweet natural gas was lost. The station is 70 km west of Whitecourt. A small, unmeasurable volume of natural gas was released to the atmosphere. A minimal, unmeasurable volume of natural gas was released."
2006	INC2006-003	"A service company reported a sweet gas leak at a valve site. The company discovered that it was a packing leak on a 10x8x10 blow down gate valve on the 26"" Alberta pipeline. The leak was half way between Taylor & Dawson Creek, B.C. and the nearest resident >1km away. The company has bee in contact with the landowner. At the time of the call, the company was planning the repair."
2006	INC2006-022	1000 L of fresh water was released due to freezing and spliting of a water line. Water was contained in a natural depression and froze there. No further clean-up required. Spill File closed 12 April 2006. NWT 2006-031 1000 L of fresh water was released when a water line froze and split
2006	INC2006-024	"10,000 L fresh water released due to hole in flow line. Water was contained in a natural depression and froze. No further clean-up required. Spill file closed 2 May 2006. NWT spill 06-032. 10,000 L of fresh water released into an area of approximately 100 m2; recovery not required."
2006	INC2006-011	COGOA - Worker was assisting driller loading blooey lines onto loader forks when one line fell off forks and worker grabbed the pipe to catch it taking all the weight with his right leg. Five days later worker went to the medic and was subsequently sent for medical aid. Restricted Duty
2006	INC2006-021	"590 L crude oil released when bleed-off valve inadvertently left open. Spill contained on lease, well isolated and vacuum truck on-site to remove free product and impacted snow. Spill File closed 14 February 2006. NWT Spill # 2006-015. 590 L crude oil (Note: not specified if it was sweet or sour - K.Roblin)"
2006	INC2006-002	An employee entering the station heard gas venting on the utility piping. The gas goes through two regulators in series. The relief valve on the first stage regulator was open and venting. That portion of the run was isolated. The regulator will be pulled and examined. It is suspected at this time that due to recent local weather temperature fluctuations that a suspected ice blockage (hydrates) resulted in a ruptured diaphragm in the regulator. The release is presently under investigation. The NEB incident cell received a call @17:02 MST Jan 17 from the TSB (819-997-7887) who was notified at 19:00 EST by Trans Canada PL (403 920-7069) of an uncontrolled and uncontained natural gas release (domestic gas supply) that had occurred 16 Jan 2005 @07:00 EST from the La Cedres Quebec #148 compressor station. An undetermined volume of gas was released to the atmosphere.
2005	INC2005-062	A leak occurred in the o-ring of the pigging barrel door releaseng 1400 cubic feet of sour gas. The barrel was depressurized and repaired. Sour Natural Gas 1400 cubic feet reported lost.
2005	INC2005-061	"10m 3 iso-octain released from a failed gasket into secondary containment at Edmonton terminal on Transmountain system; no injuries; spill stopped in several minutes. An unknown amount of contaminated soil was removed and properly disposed of. Detailed report indicates that 6 m3 was recovered, some evaporated, and 50 to 60 litres was lost on the ground. The product that was lost on the ground was to be removed and properly disposed of."
2005	INC2005-060	"Release of Sweet Natural gas; 9,030 scf. While pressuring pigging barrel, a 24"" blind flange gasket failed. The barrel was isolated; gas vented and the gasket was repaired. Provincial Emergency Plan # 502-539 barrel was isolated, gas vented, gasket repaired"

2005	INC2005-059 s.19(1)	"The pressure safety valve (PSV) at Windfall started relieving even though the station discharge Pressure was at a normal level of approximately 12,017 kPa. This triggering was premature, as the PSV is not meant to start relieving until the pressure level has reached some higher level (typically up to 10% higher than the licensed maximum operating pressure). The on-site technician quickly alerted Gas Control to the event, and the discharge pressure was lowered to about 11,990 kPa, whereupon the PSV closed. The valve was taken out early that following day, and recalibrated and reinstalled. * Lost Gas - The amount of any lost gas was minimal, as the on-site technician quickly recognized the situation and alerted Alliance Gas Control. * Follow-Up Actions - The valve was taken out early that following day, and was recalibrated and reinstalled. Alliance is providing this report on the premise that the captioned occurrence may be reportable under the NEB's Onshore Pipeline Regulations, 1999 (and possibly also under the Transportation Safety Board Regulations). In closing, if you have any associated questions, please advise. [REDACTED] Senior Regulatory Compliance Specialist Alliance Pipeline Ltd. Telephone: ([REDACTED]) Fax: ([REDACTED]) E-mail: [REDACTED]@alliance-pipeline.com A minimal, unmeasured volume of gas was released to the atmosphere. A minimal, unmeasured volume of gas was released."
2005	INC2005-057	"On 13 November 2005, TCPL was pre-heating on pipe in preparation for a hot tap site when a small flame (approximately 10 -12 inches high) ignited on the ground. The flame was extinguished immediately with a fire extinguisher. It was determined that the stem was leaking natural gas into the ground. Thirty minutes after the flame had been extinguished, TCPL conducted a sniff test which revealed no evidence of natural gas. TCPL then proceeded their work on the pipe. There were no injuries, no impact to deliveries and no public concerns. TCPL will be replacing the stem seal and re-packing it. A small undetermined volume of gas was release. A small undetermined volume of gas had leaked. Believed to have leaked from valve stem."
2005	INC2005-056	"Husky was sampling raw diesel fuel (called cutback liquid) from the 6-inch Border pipeline at its custody transfer facilities at the end of the Border pipeline, NW1/4 31-49-27 W3M. A 1-inch coupling on a booster pump mounted on an analyser skid either backed-off or was not tightened properly and the union leaked. The pump was shut-down and Husky estimates about 2 cubic metres of diesel spilled. The spill was contained within the custody transfer site and all free liquid was recovered. There were no injuries, no impact on deliveries, no fluids left the site and there were no public concerns. Husky called the NEB incident cell before calling the TSB. Staff told Husky to call the TSB also. The TSB called the incident cell to confirm the incident was reported to TSB. An unspecified amount of contaminated soil was removed and properly disposed of. Refinery Tops (diesel fraction). The spill occurred for about 15 minutes. SPI data indicated that 1.7 m3 was returned to T.O.P.S systems and .3 m3 was removed with gravel and clay and disposed of at CCS, Unity SK."
2005	INC2005-055	"While Enbridge was working with a Backhoe on the valve site, the Backhoe struck the valve and some crude was released. It is estimated that 45L of product was released. Line 9 was shut down and clean-up is underway. No injuries. crude oil"
2005	INC2005-054	"An employee was working in the Charlie Lake Maintenance Base, doing some pre-fab work for the pipeline. A welding clamp fell and pinched his hand. Employee was airlifted to Edmonton and his Pinky finger had to be removed. he (the injured person) lost a finger. A welding clamp fell and pinched his hand. Employee was airlifted to Edmonton and his Pinky finger had to be removed."

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2005	INC2005-053	"While brushing the RoW, a felled tree hit a de-energized low voltage line that feeds power to the plant. This caused the low voltage power line to swing up into the vicinity of the 144,000 volt BC Hydro power line that feeds Fort Nelson. There was an arc, and a transformer blew and fell to the ground and caused a small brush fire. The fire was extinguished with hand held extinguishers. The power was out in Fort Nelson for 1.5 hours, and though there were some fuses blown at the plant, the plant continued to operate. The caller did not know if the transformer contained PCBs, but will follow up on that with the plant electricians. The call was received directly to the NEB incident phone at 11:16 MDT on 29 October 2005. "
2005	s.16(2)(c) INC2005-063	"On 07 May 2005, vandals broke into the TQM Lachenie Facility, stole tools and took a propane bottle into the cab of a TransCanada truck, opened the bottle and ignited the propane. The Fire Department were called to extinguish the fire. There was extensive damage to the truck, but there was no damage to the facility, There were no injuries and there was no interruption in operation of the facility. Vandals were caught. TQM understands that the police have made some arrests in connection with that incident. Since the incident TQM has undertaken the following security improvements at its Lachenaie site: "" TQM believes that the above measures, combined with prompt responses by emergency services to any calls received, will achieve equivalent or better security. TQM considers that the exchange of views with the Municipality regarding the incidents at Lachenaie has contributed to better understanding by both parties and, thus, improvements to the security of its facilities and the surrounding community. This incident was deemed to be reportable under the OPR 99 as this was an unintended fire within an NEB regulated facility. The company truck is within the rate base and as such, fall under NEB regulatory oversight. Fire damage to the company truck. There was a propane bottle, of unknown size, opened inside of a vehicle and subsequently ignited."
2005	INC2005-052	"A carpenter was working on a scaffold nailing beams with a nail gun. As he was changing position, with his finger on the trigger, it is surmised that the action end of the gun hit a board and the gun fired. A 2.5 inch nail entered his abdomen. The carpenter subsequently had surgery. Alberta OH&S was on site today (27 October 2005) to conduct an investigation and has taken custody of the nail gun for further testing. However, the safety on the gun appeared to be functional. Enbridge has been requested to submit the contractors incident investigation report and the Enbridge incident investigation report. There was some confusion by the Enbridge construction group in Edmonton as to whether or not this was reportable to the NEB. They received confirmation from their compliance group that it was reportable. This confusion may have resulted in the delay in reporting. Days of work not yet determined."
2005	INC2005-051	"Smoke & heat detector alarm in Cubical B. Initially appears that a high impedance fault melted insulation and created a small electrical fire with smoke in the control room. No injuries; no leak. Cubical B de-energized and damage repaired by 08:00 CST, 23 Oct 2005. Facility back in operation by 22:22 MST, 23 Oct 2005. "

2005	INC2005-048	"At the Decompression/Recompression Facility there were two gas releases,one in the building, one outside of the building from NSP 2"" line. There were 75 to 100 workers evacuated. ESD activated - line shut down. No injuries or fire (now confirmed). No estimate of volume released. No known injuries (now confirmed). TSB notified and likely EUB notified. Contained and controlled on site. Media attention not likely. Regional EOC stood down at 13:40 MDT - emergency declared over. TSB File: 9700-A000-1-42 Full compressor facility blow-down. 34 e3m3, 23 e3m3 to atmosphere and 11 e3m to flare. See Form C-50 Emergency notification and Action Report as part of IR response #1, question 12."
2005	INC2005-046	"While investigating a gas alarm, Enbridge staff noticed a leak from the bonnet valve on Unit 3 of Line 1(NGL) at one of the NGL pumps at the pump station. The pump was Isolated and by-passed. Staff were on site and are making the necessary repairs. Only a minimal amount of fluid was released 0.001m3, although this has not been confirmed. NGL released to the Environment Staff were on site at the time of leak and pump was isolated. 0.001 m3 NGL"
2005	INC2005-045	"While investigating a gas alarm, enbridge staff noticed a seal leak at one of the NGL pumps at the Hardisty Terminal. The pump was Isolated and by-passed. A repair crew is being dispatched to repair the Seal. Only a minimal amount of fluid was released. Although this has not been confirmed. Release of NGL to the atmosphere, note release volume was 0.001 m3 - entry field will not allow volume <0.01. 0.001 m3 released (entry field will not allow entry of value < 0.01)"
2005	INC2005-044	"A sour gas leak was sighted by a geotechnical engineer at MP 20.3 on the pipeline during a helicopter survey of the area. They landed and confirmed bubbles in Little Bear Dam Creek but the water was not spraying. The company declared this a Level 1 emergency. The EPZ is 800 metres with the nearest residence at 9.6 km to the north. Company personnel are currently, 13:20, manually closing valves via helicopter access and flaring at both ends of the pipeline. Residence were notified of the flaring and have no concerns. They will be planning the repair strategy this afternoon."
2005	INC2005-040	Enbridge maintenance personnel arrived on site and detected heavy crude on site in many different places. Preliminary reports indicate the oil is contained within the site all inside the berms. The station and line 4 have been isolated and shut in. Preliminary estimate of volume lost is 200 barrels. Closest resident 1 mile away (approx.) Enbridge landman going to visit landowner within the hour. Perimeter has been established and a response crew is in transit to the site. Enbridge employees are checking benzene and H2S levels and are taking safety precautions. There are no injuries. TSB response undetermined at this point. An undetermined volume of soil was contaminated during this oil leak. All contaminated soil was removed from site and taken to a disposal facility. Groundwater monitoring wells were drilled to monitor ground water for contamination - initial results showed acceptable levels. preliminary estimate 200 barrels. Final volumes per Enbridge Detailed Incident Report Smiley Coleville Heavy Crude (Interpipeline s Saskatchewan Heavy Crude)

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2005	INC2005-039	"Received an odor complaint and discovered oil on the ground in a ditch in beside a public road. A vacuum truck was called and they are uncertain of the origin of the oil. The oil is cooling and they believe it is crude oil. Quantity unknown. The tank farm has been shut down and the pump stations remain operational at this time. The company has invoked their emergency response plan. Emergency people are on site. Abbotsford fire department, local police, and B.C. environment are on site. Seven residents in close proximity have been evacuated. Subsequent to the first report to the TSB, the company discovered additional oil in a marsh area. The OSCAR unit has been deployed; ETA unknown but the OSCAR is in Hope, about 1 hour distance by road. About 100 metre length of ground has been affected. TSB File #9700-A000-1-41 Per 22 Aug 2005 email from Niki Affleck of Terasen: ""Based on new data including a full extent of contaminated soil and concentrations, we were able to calculate the volume of oil in the soil. The estimated volume is 150 cubic meters. The volume of oil recovered is approximately 83.4 cubic meters (based on oil to NewAlta and in tank 122). We had previously calculated evaporative losses as 13 cubic meters. Thus the total estimated spill volume is 246.4 cubic meters."" Recovered volume: majority of it? Per final Terasen reports (Environmental Impact Statement and Final Incident Investigation Report), released volume was only 210 m3 (unknown why estimate was decreased)."
2005	INC2005-042	"While pressure washing pump station equipment near the pump house, a contract employee reported the pressure washer 3-ton truck was on fire. A company maintenance employee, on site at the time, tried to bring the fire under control by dispersing a 150# wheeled fire extinguisher and several 30# extinguishers but was unsuccessful. A 911 call was initiated and the fire department and RCMP responded immediately. Upon arrival the fire department extinguished the fire. There were no injuries or damage to company equipment or Enbridge property. The contractor's pressure washer truck was completely destroyed. 3 ton truck owned by the contractor which was used for pressure washing. was completely destroyed by fire."
2005	INC2005-037	"On 1 July, ██████████ from MPL reported that 7.5 barrels of sweet crude oil leaked from tank number 33 at their Montreal Terminal. The oil has being recovered by a vacuum truck. A valve failed due to internal corrosion. The valve was replaced. There was no injury. Volume released: 7.5 barrels (~1.2 m3) "
2005	INC2005-036	"A leak of approximate 2 cubic metre was reported at station 4 pump room in Metiskow, Alberta. A gasket on a pump flange failed. The operator shut down the line, the gasket was replaced and the line was back in production two and half hour later. (19:00 MDT). The product was clean-up. The oil was contained within the pump room. There was no injury. Some oil had leaked onto the ground outside the building through a ventilation screen. Contaminated soil was removed to site containment area. An undetermined volume of soil was contaminated when some oil flowed through a ventilation screen in the building. OSA Crude Oil Per Enbridge Detailed Incident Report"
2005	INC2005-038	1/2 inch nipple broke. Gas flow was stopped immediately by shutting isolation valve. A small amount of gas was released to the atmosphere. A small volume of gas was released.

2005	INC2005-034	<p>At approximately 6:50 pm Calgary time a call was made to the TSB incident reporting line by Duke Energy Gas Transmission. A leak was reported on the 30 inch gas transmission pipeline MP 61.7 (line 4BL1 - sweet natural gas) near the unincorporated community of Kersley approximately 6 km. south of Quesnel on the Dale Lake Road. Duke was conducting an anomaly dig when workers noticed that the coating was blistering and bubbleling. Workers stated to buffer and sand the pipe when gas was released. The work area was evacuated including residents in the area. Duke's 650 metre emergency planning zone included approximately 50 residents who were evacuated to the Sandman Inn in Quesnel. RCMP are controlling access to the site and the local fire department has responded. There are no reported injuries or fires. Duke land man and public relations people were on site. Duke indicated that it started to depressurize the line at approximately 5:20 PDT The residents were able to return to their residence late in the evening. NEB and TSB are responding to the incident. Updated Event Type to Release of Product (Nathan Landsman) Volume unknown.</p>
2005	INC2005-035	<p>"Location - The gas release event occurred at a pig receiver assembly situated at the junction between the NPS 6 Paddle River Lateral and the NPS 36 Alliance mainline. This junction point is located approximately 50 kilometres to the southeast of Whitecourt, Alberta. For further geographic perspective, reference may be made to the receipt points map which is accessible through Alliance's web site at http://aplwww.alliance-pipeline.com/contentfiles/27____ReceiptMap.pdf <http://aplwww.alliance-pipeline.com/contentfiles/27____ReceiptMap..pdf> The Paddle River receipt point is designated as AB49 and appears towards the right-hand side of the map, beneath the inset (the lateral is approximately 1.7 kilometres in length from the receipt point station to the mainline junction). Description - One of the Keyspan operators was driving by Alliance's Paddle River side valve and could see fumes (shimmer effect could be seen). He stopped and could not hear anything, and proceeded to call Alliance Gas Control to report the observation. An Alliance technician was dispatched and found the door to the pig receiver assembly to be leaking. The NPS 10 pig barrel was blown down and isolated (could be isolated locally without any blowdown of the lateral itself). The o-ring was found to be compressed and will be replaced as soon as practicable. Lost Gas - Not quantified, but amount would have been extremely low. Follow-Up Actions - A new o-ring has been ordered, and is expected to be installed some time next week. A small volume of natural gas was released to the atmosphere. A small undetermined volume of gas was released."</p>

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2005	INC2005-032	<p>"At 1:45 pm PDT on 13 June 2005, the JD Piling and Anchor crew arrived at the Kwoen Gas Plant from Fort St. John to unload, inventory supplies and conduct a tail gate meeting. [REDACTED] the foreman, noticed [REDACTED] an employee of JD Piling and Anchor, stagger and collapse. [REDACTED] informed the crew that she had not eaten since noon 12 June 2005 so the crew gave her some food and water. She complained of a headache and was instructed to rest while the crew traveled from the Kwoen Gas Plant to kilometre 26.5 on Lower Burnt Road, on the Goodrich Re-injection Pipeline construction project. This trip took approximately 45 minutes. At approximately 3:30 to 3:45 pm the foreman asked [REDACTED] to measure fence post pipe. After 2 to 3 minutes, the foreman noticed [REDACTED] on the ground having a seizure. [REDACTED] was loaded into an industrial ambulance and transported to meet the BC Ambulance at kilometre 2.5 on the Lower Burnt Road. [REDACTED] and the foreman then traveled in the BC Ambulance to the Chetwynd Health Centre. While enroute, [REDACTED] stopped breathing on her own. At about 7:20 pm on 13 June, the ambulance arrived at the Chetwynd Health Centre. Hospital staff decided to transport [REDACTED] to Dawson Creek Hospital. At about 11:00 pm 13 June, [REDACTED] was admitted to the Dawson Creek Hospital Intensive Care Unit and passed away at 7:53 am 14 June 2005. [REDACTED] Desa Foreman was informed of [REDACTED] death at 12:15 pm and contacted [REDACTED] DEGT Project Inspector who then left telephone messages with [REDACTED] DEGT Construction Coordinator and [REDACTED] DEGT Project Manager. Both individuals were travelling at the time and did not receive the messages until the morning of 15 June 2005. [REDACTED] reported the incident to the Transportation Safety Board 15 June 2005. A site visit was conducted at about 6:00 PM on 16 June 2005 by DEGT senior management: Mr. Al Ritchie, Vice President - Operations; and [REDACTED] Director, Projects-West; and by NEB Inspection Officer, Mr. Henri Simoneau. Death as determined by coroner was NOT related to work activities"</p>
2005	INC2005-030	<p>"While conducting an underground survey, workers obtained a gas reading of 30 ppm methane. Investigation revealed a small leak at a threaded fitting. Volume was undetermined."</p>
2005	INC2005-029	<p>"Employee inhaled sulfur dioxide fumes. Didn't feel well. No long term effect on health. Added by [REDACTED] on March 9, 2011: Sulphur dripped onto hot piping and ignited resulting in a small fire. Workers used water to extinguish the flames. One of the workers was exposed to sulphur dioxide vapours and was sent for medical aid as a precaution. Workers will open the insulation to find and fix the leak. NEB inspection staff is on site conducting a routine inspection and has been informed of the incident. Quantity unknown"</p>
2005	INC2005-027	<p>"TCPL reported a cracked 3/8 - inch tubing that resulted in a minor gas release. TCPL was connecting a power gas feed to the mainline valve at MLV 23-2 near Grenfell, Saskatchewan. The gas feed is a 3/8 - inch carbon steel line that is under 80 psi pressure. The line cracked about 6 inches above the fitting to the MLV. TCPL immediately replaced the line and put the feed line back into service. There is no estimate of the volume of gas released although it is considered very minor. There was no impacts outside the MLV property, no injuries and no contacts made other than the TSB. Volume Released Undetermined"</p>
2005	INC2005-026	<p>"Alliance was in the process of starting up a pump unit at the Kerrobert Station. Once the unit was operating an employee noticed a gas smell. The pump was shut-in and the source of the odour was located. A crack was found on a 1" bleed pipe and natural gas was leaking from the crack. The pipe was immediately replaced and the pump re-started. Alliance will file a report and photos with the TSB on Tuesday 24th May. A small, undetermined volume of NGL was released to the atmosphere. A small, undetermined volume of NGL was released."</p>

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2005	INC2005-024	<p>"A leaking fitting on an instrument line lost an estimate volume of 3 cubic meter of NGL. The fitting was located in an vertical inspection culvert. The liquid was contain in the inspection culvert and some liquid evaporated. Enbridge cleaned it up, the liquid was recovered with a vacuum truck and put in Tank number 73. KP 721.29 in Saskatchewan Further conversation, on Monday Enbridge indicated an estimate volume of 2.1 cubic meter of NGL. Cause: leaking on the treads. Enbridge change the fitting. The default fitting has been repaired and returned to service. There were no injuries and no fatalities. No impact on deliveries No environmental Issues A small undetermined volume of NGL evaporated and was released to the atmosphere. unknown volume released at the same time as ""free product"" Enbridge's Detailed Incident Report indicated that the fitting ""leaked a small amount of NGL and 2.1 m3 of liquid hydrocarbon"". The table at the top of the DIR suggests that 2.1 m3 of NGL (not LVP hydrocarbons) were released. Other references to ""petroleum liquid"" and ""free product"" and ""a small amount of escaping NGL"" are ambiguous as to whether the ""NGL"" and the ""liquid"" are one and the same. Therefore, it is unclear whether 2.1 m3 of NGL were released, or whether some small unknown volume of NGL was released with 2.1 m3 of some other hydrocarbon liquid."</p>
2005	INC2005-023	<p>"Enbridge reported that an electrical switchgear component at utility building 410-sub-1 shorted out, which caused sparking and a small fire. The fire was immediately extinguished (within about 20 seconds) when the protective system kicked-in to shut down the electrical system. The fire was contained entirely at the site of the electrical switchgear in the building. The shut down affected the whole facility and some damage was done to other electrical components that received an electrical surge. Enbridge worked with the utility, Alta Link, to pinpoint the location of damaged components and the facilities were up and running within 2-3 hours. Enbridge did not indicate if the shutdown had any impact on deliveries. There were no injuries, no impacts outside of the Hardisty terminal, no environmental effects and no contacts made to first responders, the public or residents. "</p>
2005	INC2005-022	<p>"Duke reported a pinhole leak on its 36"" N5-L2 line to the TSB on 2 May 2005, 19:00 EDT. The leak was detected 2 May 2005 at 9:30 am MDT during routine maintenance operations. The location of the leak is 26 km north of Chetwynd, BC in a remote location. The line carries sweet natural gas and Duke has not determined the volume of the leak but considers it minor, it does not know the duration of the leak but stated that it was not detected during the last maintenance operations 6 months ago at this location. Duke plans to blow down the line to repair the leak. It will contact the Town of Chetwynd to advise of the blowdown. There were no injuries, no first responders contacted, no environmental issues and no adjacent landowners or residents to contact. At 10:45 on 3 May 2005, Duke returned a call to NEB staff. Duke stated that the site of the leak was a 12-inch riser off the 36-inch loop pipeline. The loop section is 13.3 miles in length and this section of pipe was shut in and the gas re-routed. The leak was very small and could only be detected with a gas monitor. It expects the repairs to be completed and the pipeline back in service by 6 May 2005. Prior to blow-down Duke contacted the Town of Chetwynd, the local Municipality, the RCMP and the operators of a local hydro dam. Notification was given because of the potnetial loud noise of the blow-down operation. The gas was not flared but vented to atmosphere. Volume undetermined."</p>
2005	INC2005-021	<p>"TCPL staff were performing a bi-weekly inspection when they noticed a gas leak at the B-plant discharge elbow tubing. The tubing is 3/8-inch diametre. The tubing had a crack at the furrelle and was shaking. TCPL beleives it failed due to vibration. Workers isolated the tubing by closing a needle valve just upstream of the tubing, then replaced the tubing. There was no danger to employees or the public, no injuries, no contacts made other than TSB, and TCPL estimates the gas volume loss to be negligible. Negligible volume."</p>

2005	INC2005-020	"Tank # 26 was down for maintenance and cleaning. Enbridge was flowing sweet oil from another tank into tank 26 in order to cut the bottom fluids of # 26. However, the D-door of #26 was open and product spilled into the bermed area around the tank. There was no jet mixing being done at the time of the spill. Enbridge estimates from 5 to 7 m3 of sweet oil was spilled. The D-door was closed and no further oil was lost. This was a procedural error and there was no equipment failure. The oil and a portion of the clay liner was immediately cleaned-up and removed to a hazardous waste disposal facility. Enbridge also called Alberta Environment in the event that calls from the public were made to Alberta Environment. Enbridge said that odours were present within the tank berms but were not detectable beyond the tank farm. It had not received any calls from the public. There were no injuries, no threat to the public, the spill was contained, the source was shut-in and the ERP was not activated. An unreported volume of soil was contaminated with oil. Initial report of release of 5m3 to 7m3."
2005	INC2005-019	"TCPL reported a minor release of sweet natural gas. The "C" plant was shut down for routine maintenance and workers detected the sound of gas venting. Investigation revealed a leaking 3/4 - inch nipple on the upstream side of a 2" riser. A clamp was put on the nipple and the nipple cracked radially through the threads. The compressor casing was vented, the nipple threads were removed from the flange and replaced with a NSP 3/4 nutron ball valve and Pleco plug. The unit was returned to service. The failed nipple was examined and TCPL determined that the crack was caused by vibration induced fatigue. The maintenance work is part of TCPLs 2 year program to replace with heavier nipple assemblies. They are at the end of replacing about 2300 assemblies with a heavier NTP-160 assembly. There were no injuries, the source of the release was immediately shut-in, there are no environmental impacts, no contact was made to any first responders or residents and the company ERP was not activated. There is no estimate on the volume of gas released but TCPL considers it to be a small amount based on the short duration and the size of the nipple. Volume unknown."
2005	INC2005-018	"Compressor was pressuring gas from the gathering system to the mainline pipeline. The valve to the mainline did not open as intended resulting in gas being vented through a 2" PSV. The compressor failed to shut down by itself or by on site intervention, but had to be shut down by gas control. Volume release unknown at this time. No injury reported. 2005-04-11: There are no residents in the area, the compressor station is adjacent to the gas plant and located on crown land. An undetermined volume of natural gas was released into the atmosphere. An undetermined volume of Natural Gas was released."
2005	INC2005-016	At 14:15 MST an employee noticed an odor and discovered product on the ground. The facility was shut down. The release was thought to be in the terminal piping and may be from a flange. Enbridge is currently daylighting the leak site (17:30 MST). The estimated release volume is 3.8 cubic metres. Leak occurred at a flange that had improper tightened and torqued studs from the 6 to 9 o'clock position. Area affected by the spill. HSB Synthetic Sweet Crude
2004	INC2004-064	"While staff were inspecting the St. Clair pit, they detected a strong HC (C2?) Gas testing of the vapour space yielded 27% LEL. The source was suspected to be a valve packing leak. After attempts to stop the leak, the valve was removed to rebuild and replace the valve stem packing. Repairs complete by 5 May 2004. This incident report was obtained during a NEB site inspection of 21 March 2005. Volume unknown - too small to estimate. TSB reports says release was natural gas (?)"
2004	INC2004-065	Company staff detected propane leaking from a 8" flange at the LaSalle Road skid. The flange had been under torqued which led to the leak. The incident report was obtained during a NEB site inspection on 21 March 2005.

2005	INC2005-025	Company staff detected propane leaking from the 8" flange at the Lasalle Road skid. The line was depressurized and the flange was re-torqued which stopped the leak. This is the second incident at the same location (see 2004-065). The company is attempting to obtain torque values from the manufacturer for insulating flanges. The incident report was obtained during a NEB site inspection on 21 March 2005. Volume unknown - too small to estimate.
2005	INC2005-015	"A contract employee, while operating a grader, slipped and broke his ankle. HSO visited site to discuss CLC issues related to event. see report att'd."
2005	INC2005-014	"Sour gas release. There was no injury and danger for the public. The gas release happens during plant start-up. A pressure control valve did not seal properly and allowed the gas to bypass. The pressure of the inlet separator vessel increase above normal and the pressure safety valve was activated. The sour gas was vent directly to atmosphere. The vent pipe is located 30 feet above the nearest road way. The inlet valve was closed and the pressure decreased. Duke is monitoring the pressure control valve. Estimation of the gas release: No volume of gas was estimated and reported: Duke Energy indicated that the safety valve is set at 1030 PSI, the pipe is four inches in diameter and the gas release was estimated at 15 minutes. Volume unknown. Gas release was estimated at 15 minutes. 2576 kg or 0.14 mmscf as per SPI report."
2005	INC2005-013	"There has been a gas release from underground between the 2 & 3 tie-over valves. There was enough force to move the ground. TCPL is waiting for pressure to decrease before investigating. TCPL feels the release is coming from the valve, but will not be able to determine the nature of the release until they excavate. TCPL does not consider this an emergency. After the site was hydrovac'd to the top of the valve, two broken NPS 3/4 grease fittings and one broken NPS 3/4 body bleed fitting were discovered due to local frost heaving. Undetermined volume."
2005	INC2005-012	"A company employee walked out of a building, slipped on the ice and fell. Shortly thereafter he lost consciousness. The worker apparently hurt his back but reason for losing consciousness is unknown but he did not hit his head. He is back to work 22 Feb 2005."
2005	INC2005-011	"While rigging up a sideboom, a worker was struck on the leg. He sustained a fractured femur and was transported to the hospital in Fort Nelson. The incident occurred at 15:00 PST 30 miles N.E. of Fort Nelson on the Ekwan Pipeline. Investigation completed by HSO under CLC. "
2005	INC2005-009	"During the afternoon of 18 February 2005, workers could smell NGL. They finally discovered the leak to be a weeping leak on a drain valve at the metre manifold into a sub. At 00:20 on 19 February 2005, the workers isolated the metre manifold. A very small volume of NGL were released to the atmosphere. 0.0001 (trace) m3"
2005	INC2005-008	"A spill of approximately 4 cubic meters of product occurred at approximately 11:00 CST and originated from a leak at a flange. Enbridge was placing a tank and a tank lateral back into service when the joint at the flange leaked allowing the product tot spill onto the ground. Enbridge isolated the section of the pipeline to stop the leak . All of the spilled product was contained on Enbridge's site. The free product was sucked up and sent for treatment. 3 m cubed of contaminated soil. MSB; 7.0 m3 of free product, snow and water mix as well as 3.0 m3 of contaminated soil and water were removed from the site and hauled to an approved disposal facility"

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2005	INC2005-006	"During planned maintenance and while installing a jet mixing nozzle, a fitting came loose and allowed oil to release from the tank through a three inch hole. An estimated volume of 75 m3 (470 barrels) of sweet crude oil was released from a 30,000 m3 tank on company property. The police and EMS where advised (as a precaution) and the Fire Commissioner was on site to take a look. Enbridge is conducting gas monitoring during the clean-up. There were no injuries and no other problems. An unmentioned volume of contaminated soil and snow was removed from site and taken to a HAZCO waste treatment facility. Early estimates at 75 m3"
2005	INC2005-005	"Prelim info: While investigating a fire alarm malfunction, a worker noticed that the flame on the flare stack was out and H2S was released. The flare was relit. The lenght of time the flame was out and the volume of H2S released is unknown. There were no injuries and WEI reported no danger to the public resulted. Update (see conversation record attached): ██████████ called regarding the above noted event. The flare was extinguished by high, gusty winds. The plant is located in the mountains, so wind is not an uncommon occurrence. From time to time the flare can be sheared from the stack. The stack was simply relit. There was no effect on safety or the environment. The purpose of the call was simply to inform me that they had reported an excursion at the Sikanni Gas Plant in compliance with requirements of other regulators. They submitted a preliminary notification to the TSB and they also reported the excursion to WLAP, the appropriate provincial regulator. The event was not reportable under the PPR, and the purpose of the report was not a matter of compliance with the PPR. As such, no DIR was required under the PPR. Unknown volume/duration of H2S release. 25.6% H2S and 65.96% CO2."
2005	INC2005-002	Piping in the Steelman Terminal had been idling and was in the process of being re-pressured when workers discovered oil coming through the snow. Two seperate corrosion related leaks were discovered in the terminal piping. Temporary repairs have been completed with permanent repairs planned. Volume of crude released unknown at the time of reporting. Approximately 5 m3 of contaminated soil collected with a vacuum truck. To be disposed of at a registered facility LSB - sour at .99% average content of H2S. (Light Sour Blend = LSB) recovered 7.5 m3 free product by hydro-vac and 5 m3 of contaminated soil that contained the additional .5 m3.
2005	INC2005-003	"A sump tank overflowed releasing approximately 3.17 m3 of crude oil from the sump tank. Enbridge personnel believe that a pump tank start switch may have frozen. The oil was fully contained within the station. Odessa Station is 40 miles SE of Regina, SK at MP 473.4. The tank was on line 4. This is a repeat of 2004-062. Same station, same sump tank, likely same cause. An unspecified volume of contaminated soil was removed for bioremediation. All contaminated snow, ice and soil was removed and taken for bioremediation."
2005	INC2005-001	"A gasket failed between the flair valve and the upstream pressure end of the sending barrel. This resulted in an momentary uncontrolled release of sour gas. Staff immediately depressurized teh barrel stopping the gas release. The volume of gas was not calculated at the time of release, but the barrel had been pressurized up to 200 psi when the failure occurred. unknown quantity of H2S Amount not determined. Momentary release."
2004	INC2004-062	"A sump tank overflowed releasing approximately 700 gallons of crude oil. Enbridge personnel believe that a pump tank start switch may have frozen. The oil was fully contained within the station. Odessa Station is 40 miles SE of Regina, SK at MP 473.4. The tank was on line 4. Similar spill the following week: Inc 2005-003"

2004	INC2004-066	A release occurred on the tank lateral line that was idle due to tank repairs. The leak was ongoing for a time before discovery releasing a total of 5.6 m3 of oil and contaminating 260 m2 of soil. The spill was contained on company property and contaminated soils were removed and disposed of appropriately. The entire 16" section of suction/fill line was replaced with new 12" pipe. Amount of soil removed from site. Crude had been leaking for some time before discovery and investigation. Dead vegetation indicated the leak.
2004	INC2004-063	"Eighteen hours after commissioning Montreal Station for full pipeline operation, a capacitor inside the outdoor switchgear cabinet exploded, causing damage to the cabinet and adjacent electrical components rendering the station inoperable. The incident was reported via the requirements set out in the Order conditions."
2004	INC2004-058	"A landowner called TCPL to report a gas release at MLV 707-2 near Ville Mercier, Quebec. A technician discovered that the vent valve in the 16" line had failed. At the end of the cycle, the vent valve didn't seal back up. Corrosion had caused the valve to continue venting. The valve was isolated, repaired and reinstalled. The volume of gas was too small to be calculated. Natural gas vented into the atmosphere. Amount too small to calculate."
2004	INC2004-059	"Workers noticed an audible leak from the 6" vent valve on Compressor unit #2. The valve was isolated, removed and sent for repair. Unit 2 was off line with unit 1 and unit 3 remaining in service. A new valve was to be installed before the end of the day. No impact on service, people or the environment."
2004	INC2004-057	A contractor discovered a leak on the 16" Silver Dahl pipeline about 20 miles north of Fort St. John. The leak is about 200 feet south of the bank of the Blueberry River. Westcoast personnel are heading to the site and Westcoast has shut the line down. The closest residence is 2 km away and the pipeline carries natural gas. 0.17% H2S Release duration is unknown. Gas loss calculations were based on a leak duration from initial reporting to line depressurization with no allowance for the restriction to gas loss from the soil backfill. There was no release of any natural gas liquids or other fluids.
2004	INC2004-056	A crack was discovered on a 1" nipple on a pigging barrel at the Kobes Booster station. Sour gas was released and Westcoast is calculating the amount. There were no injuries and no danger to the public as a result of the release. The barrel was shut in and gas went to flare.
2004	INC2004-054	"Natural gas and oil was found leaking from the NPS ½ vent on MLV 60-3. It is not exactly known when the incident occurred or how much gas was released to the atmosphere as a result, because the site has not visited for the previous two weeks. The Technician was did confirm that 26 litres of Univis J13 hydraulic oil was released from the valve operator tank onto the ground. The spill covered an area of approximately 10 square metres. Volume unknown."
2004	INC2004-053	An overpressure occurred at MP 675 on Line 13. There was a restriction on the line of 740 psi and the pressure spiked to approximately 820 to 870 psi - a 13% overpressure. There is no indication if a reason for the spike. Enbridge personnel went to the site and everything checked out OK.
2004	INC2004-052	"While opening a valve which pressurized a 1 inch piping configuration, an operator noticed a sudden release of sour gas from one of the nipples. The operator immediately shut the valve stopping the release of gas. On investigation, a crack was discovered in the threaded end of the 1 inch threaded nipple on the downstream side of a one inch ball valve. The configuration containing the cracked nipple was on a 6 inch vent riser and consisted of (in order from upstream to downstream) a 1 inch weldolet, a threaded nipple, a 1 inch ball valve, a threaded nipple, a T connection, a threaded nipple and a check valve. Configuration a total of about 1 foot long. The Sched 80 cracked nipple was replaced with a Sched 160 nipple. Gas in the line contained 2-6% H2S at about 600 psi. Very small amount of gas release due the the quick actions of the operator."

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2004	INC2004-051	"While reloading Line 100-1 between MLV 67-1 and MLV 69-1, a NPS 1 threaded pipe nipple started to leak natural gas to the atmosphere. The line was re-pressurized to approximately three-quarters of its maximum operating pressure when personnel heard the sound of escaping gas. Personnel immediately closed both the upstream and downstream block valves on the mainline valve bridle. The gas was escaping from the threaded nipple on the downstream side of the bridle. The nipple was a typical 4 inch Schedule 80 pipe nipple. The valve is a Nordstrom plug valve, weighing approximately 11 to 14 kilograms. Volume unknown - too small to measure, especially considering the release occurred during repressuring of the line."
2004	INC2004-050	██████████ called the TSB at about 17:00 EST on 11 November 2004 to report an overpressure on line 4. between Souris and Glenboro. During a scheduled shutdown, there was a transient pressure spike. There was no loss of product and no after effects. "
2004	INC2004-048	"While working on a pipe patch on the tail gas piping, a small leak of molten sulphur above the pipe being worked on caused an ignition. The fire was quickly extinguished. ██████████ reported the incident to the TSB."
2004	INC2004-047	"A glycol loop in the process section of the plant had a valve that was seized in the closed position. WEI staff were attempting to tie into a different supply line to feed the loop. During the work - when they cut into the seized loop - glycol was released. The estimated release amount is 1000 litres of glycol and the leak was contained. As of the morning of 27 October 2004, clean-up was complete. The concentration of Dowtherm in this system was 52%. It is estimated that 443 litres of the mixed solution was released, which equates to 230 litres of Dowtherm."
2004	INC2004-045	"Ron Clerk from TSB called to inform NEB of a dowtherm glycol spill incident reported by ██████████ of Duke Energy at Pine River Gas Plant at 20:45 18 Oct 2004. An operator was operating a valve on the heat tracing system on Combustion Air blower A when bonnet of valve came apart and operator was sprayed with glycol. Employee was immediately washed. NO medical issue resulted from this incident. Volume was calculated at approx 3.55 m3. Piping was also immediately isolated and depressured. ██████████ can be reached at ██████████ The Dowtherm is mixed with water and the concentration in the system was 52%. The estimated release was 10244 litres of the mixed solution, which equates to 5327 litres of Dowtherm. It is unknown how long the release lasted and how much was recovered"
2004	INC2004-042	"Two Westcoast personnel opened a valve to bring a pig into the receiving barrel. The vented gas pushed condensate that had accumulated in the flare line through the line and up the flare stack. The condensate ignited and splashed onto the grass in the area of the flare and ignited the vegetation. The helicopter, which was used to access the site, was fully equipped to bucket water on the fire. The pilot contacted another helicopter working in the area to assist. The workers also used a tracked backhoe which was available at the site to move earth and help extinguish the fire. Approximately 1 acre of grass and scrub burned, mostly contained to Westcoast property. The workers dumped excess amounts of water on the area to ensure there was not residual fire as this was a muskeg area and fire would be difficult to extinguish if not immediately controlled. The sky was clear; +10c; winds from the SW and gusty. Minimal environmental impact reported."
2004	INC2004-039	"While repressurizing MLV Section 63 to 66, personnel noticed natural gas leaking from the upstream blow-off riser. Upon closer inspection, the NPS-1 nipple was observed to be cracked. There was not ignition, impact to persons, service interruption or loss / impact to property. The volume of gas could not be measured. The riser was isolated to prevent any further release of gas. Amount unknown. Release occurred through small bore fitting during re-loading of the line."

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2004	INC2004-038	<p>_____ of TCPL (_____) reported an uncontained release of natural gas which occurred on 22 Sept 04. (The time of his call was not reported but was estimated at 1pm EDT today) TCPL technicians arriving on site at the Elko tap in Elko, BC for routine maintenance found a gas beacon alarming at the building. The technicians found the LEL to be 18%. They opened the door to ventilate the building and the LEL subsequently dropped to 10%. A safety valve was found to be leaking. The technicians were scheduled to perform M36 maintenance on a catalytic heater. The heater was locked out until repairs to the safety valve were made. There were no related environmental concerns (except for the venting of natural gas), no interruption to service, no injuries and no fire resulting from this incident. There was no affect on safety or the environment from this leak. The fitting involved was a small regulator, no bigger than a regulator on a domestic hot water tank: the upstream regulator regulates pressure to 15 inches of water column. The leakage rate, and the total gas leakage was negligible. The building alarm and shut-down was activated at 10 % of LEL (lower explosive limit). The building is equipped with a gas detector which is set to alarm at 10% LEL. Annunciation of a high gas condition is provided by means of an outside beacon. The gas concentration in the building was not above the allowable level for entry, when the workers entered the building. The TransCanada Building Entry TOP requires personnel to test the environment within the building prior to entry. If the reading is between 10% and 40% LEL, personnel are instructed to ventilate the building, take continuous readings through a crack in the doorway or if so equipped, through a portal in the man door. The TOP instructs personnel that it is safe to enter the building if they measure a reading of less than 10% LEL, but to take continuous readings while investigating the source of the leak. The leakage rate, and the total gas leakage was negligible."</p>
2004	INC2004-037	<p>"On 11 August 2004 at approximately 13:14 MDT, the Line 100-2 Discharge Valve limit switch failed causing three other valves in the station yard to cycle approximately six times each before personnel took over manual control. The gas released was not pipeline gas, but the power gas that drives the valves. The environmental impact of this gas release is related to greenhouse gas emissions to atmosphere. The incident resulted in a release of 0.04 e3m3 of natural gas. There were not injuries, impact to the environment, fire, interruption of reduction of service resulting from the incident. Upon record review, TCPL noted that the following incident had not been reported. This incident has been closed out without further investigation. The gas released was not pipeline gas, but the power gas that drives the valves."</p>
2004	INC2004-035	<p>"A contractor, _____ of McCaw's Drilling rolled his ATV at a worksite (Duke Goodrich Re-injection Pipeline project). He fractured his forearm. This was reportable to the NEB, but it does not meet the reporting criteria of COHSR Part 15 - no ER/EE relationship. Fractured forearm, returned to work the same day."</p>
2004	INC2004-034	<p>pin hole leak in tailgas line.</p>
2004	INC2004-033	<p>Ron Clark from TSB called at 9:00 hrs Sunday 12 Sept 2004 to report that _____ from DEGT PRGP had called in an incident which occurred Saturday night between 19:30 to 21:30 11th of Sept 2004. High Winds caused a swing arm on a Sulphur Tower to swing and hit a glycol jumper line. This cause a break and leak of approx 1900 litres of glycol spill. Spill was contained on site. This was also reported to Provincial Authorities. DEGT contact: _____. There were NO injuries caused from this incident. Dowtherm glycol (for heating) - 4796 L of 53% solution released = 2254 L glycol itself</p>
2004	INC2004-032	<p>A producer working in the area of the 8" Peggio tie-in to the 16" Pesh Loop noted a small leak and reported to gas control. The leak of sour gas is from the gasket of the tie-in line insulating kit. The line was isolated by 18:30 PDT with repairs scheduled for 2 September 2004.</p>

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2004	INC2004-029	call the TSB to report a sour gas leak on the 10" Southeast Helmet Pipeline. The pressure in the line has been reduced from 230 psi to 90 psi and that has effectively stopped the leak. Dig crews have been mobilized with the dig to commence this afternoon, using full H2S protocol. The exact location (chainage) of the leak is unknown at this time, but early indications are that the leak is around the 8.5 mile mark on the 10" Southeast Helmet. The pipeline is 2 1/2 to 3 hours up the highgrade into the Helmet field (north of Fort Nelson)."
2004	INC2004-028	of Westcoast phoned the TSB at 18:20 to report a suspected leak on the Grizzly Extension. A cathodic protection crew working in the area heard a leak. phoned the TSB at 21:00 to confirm the leak, and the TSB then reported to the Board. The leak is at Kp 85.3 on the 10" South Grizzly Pipeline south east of Tumbler Ridge. (Actually determined to be the 16" Grizzly Extension pipeline.) The South Grizzly is a 10" sour gas pipeline. Westcoast has isolated and depressurized the pipeline and set up a guard. There is a work camp 1 km away and the highway is 1/2 km away. The crew was 30 metres from the leak before they could get readings in the gas monitors. Repair crews will be sent in on 4 August 2004."
2004	INC2004-027	"An employee, was standing on the pig receiver, after having changed out a pipefitting. He lost his balance and fell to the ground, approximately 1.5 meters (5 ft.). Another employee noticed him on the ground and went to his aid. He found that was conscious, but that he seemed disoriented. was transported to the local hospital where he was examined, kept overnight, and released in the morning. suffered a sore shoulder, and company staff believe he may have suffered a temporary loss of consciousness. With the possibility that an employee may have suffered a loss of consciousness, this event is being considered an incident as defined. "
2003	INC2003-064	"Numerous wet cuts prompted operations to drain the varsol tank to ensure there was no water in the tank that could contribute to the wet cuts. The gauger drained the varsol tank and removed the petcock to insert a hose to suck out any remaining liquid. As he attempted to insert the hose, a fire / flame shot out of the drain. The flame and varsol contacted the gauger's Nomex sleeve. The varsol carried to the sleeve with the flame and continued to burn on the gauger's Nomex sleeve. The gauger exited the lab and went to the snow covered ground and "stopped, dropped and rolled", to extinguish the flame on his Nomex sleeve. He re-entered the lab and extinguished the remaining fire. The direct cause of the fire is that the heating element was not de-energized and when the fluid level dropped below the element it continued to heat until enough vapors were present to ignite. Damage included a burned plastic tray, a few papers / tickets and the lab counter top has a burn through the laminate as rags that were sitting on the counter, burned and smoldered while the gauger was extinguishing the flames on his Nomex sleeve. This incident was not reported to Management immediately. When notified of the incident, Management investigated and confirmed incident with those involved. "

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2004	INC2004-026	<p>██████████ of Trans Gas (the Federal Entity is Many Islands Pipeline) reported a sweet natural gas leak on the Swan River pipeline at @9:30 pm (CST - Saskatchewan does not use daylight savings time). At about 4:30 pm today (July 21, 2004) a helicopter doing aerial survey noted a patch of dead vegetation in NW 36-33-30-W1M. Ground investigation and probing indicated the presence of natural gas and a small leak. The estimated volume reported to TSB was 1 cubic metre per hour. This is simply a guess. It is a very small leak. The leak is in agricultural land and is situated about 400 metres from the nearest dwelling. There are no serious hazards associated with this leak. The pipeline is NPS 6 (168.3 mm OD) and 3.2 mm wall thickness. The operating pressure is presently 430 psig. The pipeline was constructed under order XG-M029-24-2000. Our file number is 3400-M29-31. The leak is very close to the Manitoba border. The primary customer is an industrial facility in Manitoba. I spoke with ██████████ shortly after the leak was reported (I know ██████████ personally). They will be excavating the leak tomorrow and plan to either do a permanent repair using a steel pressure containment sleeve or a temporary repair using a PLIDCO bolt on sleeve tomorrow. He will email me when they know the cause but we both believe the leak is most likely at a girth weld (burn through and lack of fusion). Ken The estimated volume reported to TSB was 1 cubic metre per hour. This is simply a guess. It is a very small leak. ~20 m3 per company DIR"</p>
2004	INC2004-025	<p>IRAD TSB Incident File #9700-A000-1-40 Westcoast Energy (Duke) Fort Nelson Gas Plant had a catastrophic failure on #9 steam turbine in the power plant. It is suspected that the main drive shaft of the turbine failed. No fuel was lost and no steam was lost. Holes were blown in the walls and the ceiling of the building due to flying debris. The stand-by power generator system was dissabled. The FNGP experienced a full plant shut down. All producers were shut in. No gas flow out of the gas plant. Force manjure status unknown at the time of reporting. No injuries or environmental damage reported. At no time was there a threat to the public. TSB is responding with an investigator and is deploying a metal materials specialist for turbines from the TSB in Ottawa. The TSB has given Westcoast permission to start up another unit to enable power generation so that the plant can be brought back on line. The NEB is deploying an investigator.</p>
2004	INC2004-024	<p>"During the morning of 14 July 2004, an Enbridge Norman Wells helicopter noted a release of crude oil at a manual valve site. The release seeped downwind of a cuvert pit located at the valve site on Line 21 at KP 529.4. The 2 upstream valves were immediately closed by Enbridge personnel . The pressure in the line where the release is suspected to have initiated, was drawn down to facilitate investigation and repairs. An estimated 2000 litres of crude oil is reported to have been released, with the bulk of it accumulating in the culvert pit (dry well) There were no injuries as a result of this incident There does not appear to be any potential for the released product to enter any watercourses. Investigation and repairs are underway. At approximately 14:45 MDT, Enbridge advised that the culvert pit was being pumped out to facilitate the investigation. Incident was reported by ██████████, Manager of Enbridge NW. ██████████ August 11, 2005- Enbridge Update: Between March 11 and March 24, Golder was on-site to guide the excavation and take soil samples Due to various circumstances (time of year, removal of ice road) we did not have time to wait for the sample results to come back and the site was backfilled based on field screening techniques. An estimated 3500m3 of clean imported fill material sourced from Fort Simpson was use to fill in the excavated area. The entire area was backfilled and all equipment was removed just prior to the removal of the ice bridge. During the excavation process we had received approval from the Village of Ft. Simpson to temporarily store the contaminated soil at the landfill until further arrangements could be made. Once road bans were lifted (mid June) trucks began hauling the 1715m3 of soil that was being stored at the landfill to Hazco in Hay River. All of the soil has now been disposed of at Hazco and the storage area in the landfill has been sampled and we are awaiting the results to ensure there were no impacts. We have received the soil sample results from the excavation area and there were a few spots that still slightly exceed criteria, however Golder is currently working on putting together a report which uses a risk based analysis approach. I will forward on the report to you as soon as I receive it from Golder. All site work planned for 2005 has been completed however the site will be monitored during the biweekly aerial inspections for settlement etc. We plan</p>

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		<p>to let it settle this year and will revisit the site in the Jan. or Feb. 2006 to regrade if necessary and place topsoil over the site which will be seeded. ***** March 18, 2005. 8:00am Spoke to [redacted] and they have finally hired Golder(consultant) to oversee the remediation work around the valve site as it is becoming a very large project. more contaminated soil than they first anticipated. She informed me that Golder had done some sampling and that they have 3 sides clean and just one left to excavate. They will be completing that March 19-21 and then starting to backfill. she also informed me that INAC wants to do some sampling to confirm that it clean, but that this may cause some delay in there work so she was wondering if it was necessary?? **I informed her that INAC would probably not have to do any sampling and I would speak to them to clarify that***BUT I also made it very CLEAR to Enbridge that if there is samples that come back NOT clean, as they have indicated They would be REQUIRED to go back in and excavate and remove the remaining contaminated areas. no exceptions.... They Agreed!!! (JK) FEB 28, 2005 Spoke to [redacted] at Enbridge and due to the warming weather and distance to the Zama Lake to haul contaminated soil , they have entered into a agreement with the town of Fort Simpson to utilize their land treatment cell as a temporary storage facility until the summer. This way they will be able to complete the excavation, hauling and backfilling of the site while the winter road and ice bridge are still in this winter.. I agree with this idea. ***** Feb 24, 2005 Spoke to Shayne hayes (INAC) he was out at the site and he is going to send me some pictures of the excavation and Petro-flag sample results.... ***** Remediation Update Feb 24, 2005 Spoke to [redacted] with Enbridge and she provided update. -Currently excavating and hauling contaminated soil to Zama treatment facility ~430 m3 of contaminated soil removed to date. - estimated another 400-500m3 to be removed - excavation ~22mX12m and 8 ft deep - are concerned that they might not finish before spring (may have to develop a plan for next year) - [redacted] also inquired about clean-up criteria (will send her an e-mail on that.) ***** Remediation Update: Oct 27/04 (Enbridge Contact: [redacted] -D4 cat was brought into the site for excavated contaminated soil -no oil escaped the ROW and about 1m3 was put in a liner on the ROW to be disposed during the winter -During Jan/feb the remaining contaminated soil will be excavated aprox (22m3) and and sent to Landfill for disposal, -After contaminated soil is removed, the site will be sampled and backfilled with New material "</p>
2004	INC2004-023	<p>"[redacted](contractor) electrician was working at Glenboro Pump Station removing motor feed cables from inside an electical cabinet when he made contact with live wires. The worker has been transported to the hospital. The site has been secured and Manitoba OH&S is investigating. The worker sustained electrical burns to both hands and wrist (2nd degree) and deep second and third degree burns to right and left forearms. The internal damage could not be fully assessed. The worker was able to return to work on light duty on 16 August 2004 and full duty 13 September 2004; however, the effects of the injury remained after that date. A long term prognosis was unavailable."</p>
2004	INC2004-022	<p>"During a storm on Saturday, lightning struck a vent stack at the Beg-Jedney Booster Station and ignited purge gas. The fire was extinguished by WEI personnel using fire extinguishers. There was no property damage, product loss, or injury as a result of the incident. Release from vent stack too small to be determined."</p>
2004	INC2004-020	<p>"Roger Hornsby of the TSB called at 8:31 am. They received a call at 10:27 a.m. Eastern from [redacted] at the PRGP ([redacted]). At 4:00 am (Pacific) approximately 1000 litres of Sulfinol was released . After maintenance on the B process train, they were bringing it back on line. The Sulfinol solution went through a blocked valve and moved into the A processing train which was open to atmosphere and then escaped onto the ground. Vacuum trucks are in transit. All free liquid is contained. Sulfinol"</p>

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2004	INC2004-019	"An unplanned gas release occurred at the Windfall Compressor Station near Whitecourt, Alberta. At the time of the occurrence, the second compressor unit at the Windfall Compressor Station partially blew down due to an unexpected tripping of the emergency shutdown (ESD) system. The station was running with just Unit 2 at the time on the bypass piping (the station has three compressor units altogether, with two running at any one time during normal operations). The reason the ESD tripped was due to an uncontrolled venting signal. The Unit 3 station piping was already blown down but one of the valves was off its limits, therefore calling for a station ESD (which is what it is supposed to do in the logic). The logic was not designed to run with only Unit 2, so this was unforeseen. If Unit 3 had been on maintenance bypass, this also would not have happened. The pressure in the Unit 2 pipe and bypass pipe was about 9,300 kPa when the ESD was tripped, and Alliance personnel got it shut in at about 1,300 kPa. "
2004	INC2004-018	"Sulfinol stain found on gravel next to ""A"" Surge Tank, within berm. Tank was inspected internally after the stain was noticed. Holes were found in the floor. Reportable or not (?) to be determined by company. Their environmental specialist () will perform soil analysis to determine whether there is significant effect on environment. Surge tank ""B"" will be inspected as well to determine its condition , as a precautionary measure. DIR will be sent. Stained gravel found. No way of estimating volume of liquid. stained gravel found. No way of estimating volume."
2004	INC2004-017	"While using a jumping jack to compact clay around Manifold 207 at Enbridge's Cromer Terminal, the fuel line of the jumping jack caught fire. The fire was extinguished immediately and no injuries resulted. It is suspected that electrical wiring for a stop button may have either broken and punctured the adjacent fuel line or may have overheated and burned through the fuel line. The stop button was not functional and the equipment had not been removed from service."
2004	INC2004-016	"On 31 May 2004, during a routine site inspection at the Edmonton Terminal, Enbridge personnel noticed crude oil leaking from Booster pump #30. Booster pump #30 is located in a concrete vault along with 4 other pumps. Cleanup was initiated, using a vacuum truck and steam cleaners. It is estimated that all of the crude oil was recovered. A total of 5.06 m3 of oil was released as a result of this incident. "
2004	INC2004-015	"At approximately 20:00 MST, on 04 May 2004, Duke Energy employees were preparing to receive a pig at the pigging barrel located at MP 17.79 near the Jedney Compressor Station when the noted a crack on the weld on a 1"" fitting located on the pigging barrel. The section of pipeline between the barrel and the flare line was immediately isolated. Based on the volume within this section of pipeline, the maximum volume of sour gas that was released to the atmosphere was estimated at 4300 SCF (or approximately 150 cubic meters) . There were no injuries, no fire, no significant interruption in pipeline operation and no observable significant environmental impact. NEB staff followed up with Duke Energy the following day and were advised that repairs to the fitting were underway and expected to be completed within the day. At the time of the call, the pig was still in the pipeline however once repairs are complete the pigging operation is expected to resume, which includes pulling the pig into the barrel and subsequently removing the pig from the line. Duke Energy contact: Sour gas released into atmosphere."
2004	INC2004-012	"Alliance reported an unintentional release of sweet gas from a pressure relief valve on the down flow side of the Windfall Compressor Station. The pressure was reduced and the valve was re-set. The gas had been escaping for 43 minutes before the valve could be re-set. The valve has been replaced. Volume Unknown. The gas had been escaping for 43 minutes before the valve could be re-set. Alliance is not able to provide a reliable volumetric estimate of the natural gas that would have escaped, as this valve is of a ""modulating"" type."

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2004	INC2004-011	"Enbridge detected a sheen on some water in a culvert on 15 April 2004. They removed the water and oil mixture and rechecked the culvert on 16 April and found an addition oil sheen. Enbridge then began hydrovacating the nearby 36 inch line and discovered a two inch fitting on the line was cracked. They discovered oil contaminated soil but no free oil. At this time, Enbridge has estimated a release of 10 barrels of oil. The area of contamination is approximately 10 to 15 metres from the fenceline and contained within the Cactus Lake Pump Station. Contaminated soil being excavated and transported to the bio-remediation facility at Kerrobert. Update to be provided today (21 April 2004). Reported to the TSB by ██████████ - Enbridge - ██████████, Cell ██████████ 400 square meters effected within the station property."
2004	INC2004-009	"At approximately 1500 CST, approximately 10 litres of NGL was released from a failed seal on pump unit #4. at Enbridge Pipelines Kerrobert, SK pump station. The unit was not operating at the time of seal failure. There were no injuries, and all product was contained within the station property. Incident was reported by ██████████ of Enbrdige ██████████"
2004	INC2004-010	"Operations personnel detected a minor natural gas leak at MLBV 13-2 while removing snow at the site. The MLBV was put into manual and the leak was located and isolated. An NPS 3/4 to NPS 1/2 tubing adaptor on the poser gas riser had broke, and was proptly removed and replaced. Alliance estimated a minor amount of gas lost. Based on site observations, the adaptor broke due to the weight of settling snow. Very small release: very small fraction of 1 mmscf."
2004	INC2004-005	"At approx. 9:30 am on (Feb. 19), approx 2 m3 of condensate was spilled. A Husky condensate truck was overfilled for 1 to 2 minutes, likely due to loader inattention. The loader shut off the pump. Clean up was initiated utilizing a vacuum truck and a steamer which were in the area. Hazco is removing the waste for disposal. Clean up will be completed today. The ground is frozen and the spill was contained within the site. No significant effect on safety or the environment is expected. DEGT is reviewing the incident and procedures in place. A DIR will follow. The spill was contained to the site and the ground was frozen Overflow lasted from 1 to 1 1/2 minutes. The area effected was 30 x 40 feet of frozen ground. A total of 8000 litres of condensate, water and snow was removed and transported to the Newalta facility in Fort St. John for proper disposal. This resulted from the volumn set point exceeding the truck container capacity."
2004	INC2004-007	A suspected fire occurred in the sump room at the sump pump. A plastic burning smell was detected and soot was discovered at the sump. The fire had self extinguished.
2004	INC2004-004	"At approximately 0300 PST, Duke employees at the Taylor Gas Plant, BC, noted a small sulphur fire within the E3A Condensor Sulphur viewing box. Duke employees extinguished the fire with water. There were no injuries, nor was there any significant environmental impact as a result of the incident. Duke suggested that the seal between the lid and the viewing pot was not closed, which allowed air to enter the pot. The combination of liquid sulphur and air resulted in a fire. Incident reported by ██████████ of Duke Energy ██████████ cell = ██████████"
2004	INC2004-002	"On 25 January 2004, located at the Pine River Gas Plant in Chetwynd BC, Duke Energy experienced an overflow of approximately 11.86 cubic meters of Dowtherm (Ethylene Glycol). The product released as an overflow from the collecting area and was approximately 55% Ethylene Glycol), and 45 % water. All product was contained on the station property. The release occurred Jan 25th at approximately 2200 MST. Reported by ██████████ of Duke Energy at ██████████"

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2004	INC2004-001	"The Line 1 outboard pump mechanical seal failed. Pump taken out of service. Enough NGL was released to generate a gas warning, but not enough was released for a detector to measure quantity . Enough NGL was released to generate a gas warning, but not enough was released for a detector to measure quantity."
2003	INC2003-062	The ESD system was unintentionally tripped with the same ESD switch at fault as in the incident which occurred 22 October 2003 (2003-048). Personnel found the wiring to be good and secure and attributed the incident to a faulty switch. The switch was subsequently replaced and found to have a broken part.
2003	INC2003-061	"Packing leak, wear and tear, negligible amount of leakage. Reportable to TSB. Received a call from [REDACTED] Tel: [REDACTED] cell: [REDACTED] and also from Roger Hornby of TSB at approx. 11:00 AM confirming Bypass Valve Packing Leak(fugitive emission-very small) on Clarke Lake lateral pig receiving barrel. This is located approx 40 km east of Fort Nelson. WEI discovered this leak at approx 11:00 hrs 17 Dec 2003. The leak as been contained and is being routed to flare. (Box built to accumulate gases) Plans are in place to depressure 16" pipeline and repair valve next few days. negligible amount"
2003	INC2003-060	"Duke Energy reported that at approximately 11:45 MST, on Dec 16th, 2003 at the Taylor Gas Plant, piles were being driven into the ground within the facility boundary, when seepage out of the frozen ground ignited. The fire was extinguished with a hand held extinguisher. At the time of reporting, Duke Energy personnel suspect that a trigger gas line for the ESD system was breached. The line is typically a 1.5 inch diameter pipeline. Duke Energy personnel are investigating to identify source of seepage. Duke has isolated the pipeline, which caused the pressure to drop. Incident was reported by [REDACTED] of Duke Energy [REDACTED]. unknown volume, suspected to be trigger gas for ESD"
2003	INC2003-059	ESTLIN EMERGENCY SHUTDOWN SYSTEM WAS UNINTENTIONALLY ACTIVATED BY A 3RD PARTY WHEN AN UNKNOWN PERSON BROKE INTO THE STATION ESCAPING FROM THE COLD. ALLIANCE PERSONNEL RESPONDED TO THE SITE AND RCMP WERE NOTIFIED AND DISPATCHED AN OFFICER TO ESTLIN. THE PERSON HAD SUSTAINED SERIOUS INJURIES AND WAS DETAINED FOR THE RCMP. INVESTIGATION BY COMPANY OFFICIALS REVEALED THE 3RD PARTY HAD ACCIDENTALLY PUSHED THE ESD BUTTON NOT KNOWING ITS PURPOSE. Station blow-down.
2003	INC2003-058	"At approximately 0500 MST there was a propane release at the WEI Taylor Gas Processing Complex - McMahon Plant. No injuries, no fire, and no significant environmental damage resulted. The situation is controlled and there is no immediate threat to public or occupational safety. No enquiries from the public were rec'd at the plant. A PSV lifted on a 3 inch propane "rundown" line. An estimated 185 bbl. (38 m3) of propane was released. While most of the propane vaporized, a pool of liquid formed in the vicinity. The release occurred at the tank farm area, which is bermed. The liquid was allowed to weather (evaporate). Incident Command was established, and their Emergency Response Team brought in. The district was notified, including the fire chief. Maintenance work was suspended and atmospheric monitoring was established surrounding the area. Initial investigation indicates that valving to the tank farm was not properly switched from one bank of bullets to the next. It appears that the PSV adequately relieved the pressure. "
2003	INC2003-056	"On 03 Dec 2003 at approximately 12:00 PST, during maintenance activities at Duke Energy's Fort Nelson Gas Plant, a leak occurred on the sulfur transfer line which feeds the Enersol Facility. Approximately 1 cubic meter of molten sulfur was released onto the ground. Duke Energy advised that once the sulfur is totally solidified, it will be collected and disposed of. Incident was reported to TSB on Dec 05th at approximately 19:00 MST by [REDACTED] Alternate contact is [REDACTED] Molten sulphur released during maintenance activities."

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2003	INC2003-055	ENBRIDGE REPORTED A RELEASE OF NGL FROM A VALVE ON A DRAIN LINE THAT OCCURRED ON DEC 02 2003 AT APPROXIMATELY 1430 MST AT THE EDMONTON TERMINAL. THE VALVE WAS REPACKED AND ENBRIDGE WILL MONITOR THE VALVE CLOSELY UNTIL PARTS ARE AVAILABLE TO REPLACE THE VALVE. NO INJURIES REPORTED. 0.00001 m3 - Trace Amounts
2003	INC2003-051	"On 24 Nov 2003, at approximately 17:00 MST, Duke Energy was in the process of cutting up a sulphur tank which had been decommissioned, when a (small) smoldering fire developed. Hydraulic shears had been used to cut the tank. Snuffing steam hoses were connected and used to extinguish the fire. Duke set up an incident command post for the incident, and initiated the Duke Emergency Response Team, largely to monitor and assess the situation on site. There were no injuries nor was there any significant environmental impact as a result of the incident. Duke noted higher than normal SO2 levels in the area of the fire, so appropriate PPE was done for the response activities. The tank was put on a Nitrogen purge, and expects to remain so until Duke has completed a procedural review and modification to address the conditions involved in decommissioning the tank. Duke indicated that they expect to return to cutting up the tank on 26 Nov 2003. Incident was reported to TSB by [REDACTED] of Duke Energy Taylor Gas Plant ([REDACTED]) "
2003	INC2003-052	"On 02 Nov 2003, the Leak Detection system on Souris Valley Pipeline Limited's carbon dioxide pipeline provided an erroneous alarm resulting in the temporary interruption of service while the alarm was investigated. In OPR 89, Section 51f of Certificate CC-1, requires a company to notify the NEB of any interruption in the operation of the pipeline. This incident is reportable under the conditions included in Certificate CC-1 Temporary shutdown of throughput."
2003	INC2003-050	"Duke Energy reported (to TSB) a leak of approximately 30 gallons (115 litres) of lean oil (aka #1 Stone Oil) as a result of a pinhole leak which had developed in a 2 inch transfer line to the Operation Unit. The spill covered an area 15' x15' within the plant site. The spill posed no risk to the public and was completely contained within the facility in gravel and dirt. Duke immediately brought in vacuum trucks to capture all spilled product and contaminated soil. Spill was reported by [REDACTED], Team Lead Operations Taylor Gas Plant: Duke Energy [REDACTED] (cellular) [REDACTED] (office) "
2003	INC2003-049	"ON NOV 11TH, ENBRIDGE PIPELINE PROVIDE A LATE REPORTING OF A FAILURE OF A MECHICAL SEAL ON PIPE UNIT 1.4 AT EDMONTON TERMINAL WHICH OCCURRED ON NOV 09 AT 14:30 MST. ENBRIDGE REPORTED THAT THE PUMP IMMEDIATELY SHUT DOWN AND WAS AUTOMATICALLY ISOLATED. SLIGHT VAPORS OF NGL CAME OUT OF THE SEAL. THE PUMP WAS FLUSHED AND THE PUMP WILL BE RETURNED TO SERVICE AFTER THE REPLACEMENT OF THE SEAL. THERE WERE NO INJURIES NOR WAS THERE ANY SIGNIFICANT ENVIRONMENTAL IMPACT AS A RESULT OF THE RELEASE. TRACE RELEASE OF NGL VAPOURS"
2003	INC2003-048	"Description - The Estlin emergency shut-down (ESD) was unintentionally activated at the identified time, and the station yard piping was blown down. Alliance personnel arrived on site approximately one hour later at about 06:30 h CDT and investigated the situation. A loose wire was found at one of the ESD switches (Switch ESD-0917), and this was identified as the apparent cause of the unintentional ESD trip. After the wire was properly set, the yard piping was re-pressurized and the single compressor unit at the station was re-started. Normal operations were established, and there were no further operating anomalies. "
2003	INC2003-047	A contract employee had his finger pinched between a compressor piston and a connecting rod. The finger was amputated. The incident was reported by [REDACTED] [REDACTED] Crushed finger subsequently amputated.

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2003	INC2003-043	"Enbridge representative, ██████████ reported an incident to Don Mustard of the TSB on 27 September 2003 at 16:10 EDT. The incident occurred at 11:30 CDT at the Enbridge Regina Terminal and consisted of the release of a trace amount of NGL from a small fitting on the 1U1 pump on Line 1 at MP 437. The release of NGL did trigger a gas alarm and resulted in an emergency shut down of the Line. Enbridge staff isolated the unit at 12:50 CDT and then restored flow in the Line. At the time of the reprot the Unit was still down pending confirmation of the location of the leak and final repair. trace"
2003	INC2003-042	An overpressure resulted in an emergency shut down on line #2 at the Regina Terminal. A flange gasket burst resulting in a minimal release (.08 cubic metres) of crude oil which was contained. Enbridge officials responded and will be conducting repairs to the flange. Enbridge reported no losses or impacts as a result of this incident.
2003	INC2003-041	"On August 26th, a minor leak was found on the Bettis actuator assembly for MLBV 9-2. An area landowner had called into Alliance Gas Control to report a natural gas smell at that location, and a follow-up site visit confirmed the small leak. Specifically, there was a small-scale leak from the filter housing on the NPS 3/8 tubing. The attending Alliance field representative proceeded to put the put the block valve in manual and blocked the power gas. The O-ring in the filter element was replaced, and the actuator assembly was then returned to service. ""The amount of released natural gas would have been extremely small, particularly given that the filter had been replaced just the week prior (at which time there was no evidence of any leak). While Alliance has not been able to quantify the volume, it would have represented only a very small fraction of a single MMscf"" (from detailed incident report)"
2003	INC2003-039	on 5 Sept 2003 around 18:00 Hrs MST While the unit was shut down an operator walking the area found a small corrosion leak from the merox unit to incinerator line leaking hydrocarbon being an unintended gas release. Quantity being determined. The release duration was about one day.
2003	INC2003-040	██████████ called Henri Simoneau for a heads up on an incident he was reporting to TSB. which happened 5 Sept 2003 around 4:00 PM where they found a bypass valve on PCV to flare on the reflux line to sulphur trains was leaking H2S to flare. As it was unintended release of approx 80% H2S he was calling it in. ██████████ later called around 7:00 PM to inform they had been successful with greasing etc in stopping the flow through the valve.
2003	INC2003-038	" An alarm was noted by the Edmonton Control Center (ECC) at 10:47 MST on 31 Aug 2003, at the Glenboro Pump Station Line 1. The ECC followed Enbridge procedures and personnel were dispatched to the station. Upon arriving on the site it was noted that evidence of a trace amount of NGL had been released from pump unit 1U1 seal. The unit was isolated and remained locked out until repairs could be initiated. The pump was restored to service on Sept 24th, 2003 in order to identify the cause of the NGL release. After pumping for 24 hours on NGL and OSA batches, there was no evidence of visible leakage anywhere on the pump. Hence, Enbridge was unable to determine the cause for the NGL release which occurred on 31 Aug 2003. Enbridge monitored pump unit 1U1 for the following week to verify the integrity of the pump seals under normal operating conditions. No further leaks were reported. Corrective Measures: As Enbridge was unable to induce the pump to leak again while under investigation, they were unable to establish what caused the original trace leak of 31 Aug 2003, and were not able to implement any corrective measures to prevent reoccurrence. 1300 m3 loss to Line 1 production rates due to interruption release of trace volume of NGL"

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2003	INC2003-035	<p>"RE: Westcoast Energy Inc doing business as Duke Energy Gas Transmission (DEGT) fire at 16" Pesh Loop Receiving flare site, NTS coordinates: c-4-K/94-P-7 on July 31st through August 3rd, 2003. On Thursday 31 July 2003, company personnel began a pig sending and receiving operation. The pig receiving area was at a location referred to as "Helmet Central". This is where the North Helmet 16 inch pipeline originates along with the 16 inch Peche Loop and a flare stack is located. As a result of the pigging operation, a massive hydrate and liquid slug built up in front of the pig. The hydraulics of the line being pigged were such that the gas flow behind the pig could not push the pig up several hills into the receiving barrel at "Helmet Central", and the pig became stuck. Subsequently, the producers pipelines pressure increased to the point of their shut down limits. This resulted in the producers facilities to shut down. The only method to get the pig into the receiving barrel was to flare off the gases and liquids via the flare stack at "Helmet Central". This was done over a 4 day period from 31 July and 1, 2, and 3 of August. Flaring resulted in excess liquids and hydrates being pushed up the flare stack and spraying from the top of it. Ignited liquids landed on the ground resulting in small fires. This happened numerous times during the 4 days. Company practice requires a standby helicopter equipped with fire fighting equipment in the event that the flaring result in a fire. When the fires occurred, personnel would extinguish many fires by shoveling dirt onto them. The helicopter bucketed large amounts of water around the area to keep it wet and thus preventing the fires from spreading. The helicopter could make return water trips to the site within one minute. The pig was finally received at the receiving barrel at approximately 1 p.m. local time on Sunday 3rd August 2003. It was later determined that the fires did migrate outside the boundaries of the flare site at the receiving barrel. The Westcoast flare site is 0.836 hectares. It has been estimated that the total burn area was approximately 1 hectare in size. Virtually all of the area burned outside of the Westcoast flare site (approximately 0.164 ha) was composed of muskeg and weeds. "</p>
2003	INC2003-034	<p>Roger Hornsy of the TSB called stating that [REDACTED] (last name not obtained by TSB) of Duke Energy called stating that a small fire had occurred at Westcoast's Compressor Staion No. 1 in Taylor B.C. A BS1 40 volt Control Breaker had shorted and a small fire resulted that was immediatly extinguished. The incident did not result in a shutdown of the compressor station nor did it cause an interruption in service of the pipeline.</p>
2003	INC2003-031	<p>Distance piece vent off the rod seals was struck by lightning which resulted in a fire. The compressor unit shut down. The incident was reported to Ron Clarke at the TSB. Undetermined amount of natural gas.</p>

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2003	INC2003-029	<p>"On 26 June 2003, Devon Canada employees arrived at Snowfall Creek Meter station (on the Kahntah Sales Gas Pipeline) to calibrate the meters when they noticed a sweet natural gas leak emanating from a failed insulating gasket. The leak was immediately reported to Kahntah Operations team. Maintenance crew was immediately dispatched to the site to investigate and repair the leak. The area was isolated and the piping was allowed to bleed down. The crew attempted to tighten the flanges to get the gasket to seal, however, were unsuccessful. A Flexitallic spiral-wound gasket was installed in place of the insulated gasket as a temporary measure to stop the leak. There were no injuries. Except for the release of sweet natural gas to the atmosphere, no environmental impacts were noted. Incident was reported to the NEB on July 09th by a [REDACTED] of Devon Canada. [REDACTED] indicated that he contacted the NEB several times since June 26th in an attempt to report this incident, however, failed to get directed to personnel within the Operations Compliance team. On July 09th, [REDACTED] was re-directed to Leo Jansen of the Operations Compliance Team. Leo took the information and advised [REDACTED] of the One Window Incident Reporting approach through the TSB and provided [REDACTED] the TSB's reporting criteria and phone number. For this incident, the NEB will contact TSB to advise of the incident details etc. Of note is that the pipeline is owned by Alta Gas, however is operated by Devon Canada. An additional note to consider is that in July of 2001, an insulating gasket failure was the cause of a fire at the South Wapiti Gas Plant near Grande Prairie. According to Devon's incident report, the only thing that prevented this incident from becoming a repeat of the Wapiti fire, was the absence of an ignition source. Devon indicated that the helicopter used by the meter proving crew to access the site may have ignited the escaping gas, however the crew suspected problems in the area, so approached the site from the upwind direction. l) Release duration and volume unknown."</p>
2003	INC2003-044	<p>"On 4 July 2003 at McMahon Gas Plant during the afternoon a maintenance worker attempted to replace a power meter on an internal piece of equipment. The UPS time on the power meter was surpassed and consequently caused a trip causing a power outage of the entire complex. As a result of the air system shutting down, the control of valves failed safe opening some to flow / drain to flare where the excess flaring caused the vegetation to ignite."</p>
2003	INC2003-028	<p>Duke Energy Official reported a gas detector alarm had sounded at Compressor Station 4A near Summit Lake. The station had undertaken an emergency shutdown. Inspection by officials revealed the natural gas had been leaking to atmosphere from a nipple that had broken on the discharge pipe. Repairs commenced with no injuries reported.</p>
2003	INC2003-027	<p>[REDACTED] of Duke Energy ([REDACTED]) reported a small fire that occurred at the MacMahon (Taylor) Sulphur Plant on 1 July at 6:30 PDT. A pipeline runs through a trench in the concrete floor of the sulphur plant. Some loose sulphur had fallen into the trench and had ignited. Duke employees put out the fire with water without incident. Duke expects to send its preliminary incident report to the TSB later today (2 July 2003).</p>

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2003	INC2003-026	"RE: Westcoast Energy Inc doing business as Duke Energy Gas Transmission (DEGT) bush fire at flare site at GPS coordinates: 5841.129 North 12209.344 West on Sahtaneh Pipeline on 27 June, 2003. At approximately 08:30 PST on 27 June, 2003 a group of DEGT employees commenced the blow down of a 19.5 kilometre section of the 24-inch Sahtaneh Pipeline. De-pressuring of the pipeline was required in order to perform scheduled maintenance on the pipeline during the Fort Nelson Gas Plant outage. In the planning stage for the maintenance work and as a precautionary measure DEGT decided that during the gas flaring a crew would be placed on site equipped with a 2-inch water pump, fire axes, shovels and backpack fire extinguishers. A helicopter equipped with a 150 gallon water bucket was also on site to control any unintended ground fires. Two additional helicopters equipped with water buckets were also put on standby within 10 minutes travel time of the site. The brush line is approximately 50 to 75 meters from the flare point and consists primarily of black spruce, muskeg and swamp. Note that this flare site was blackened in January 2003. At approximately 16:30 PST, a strong gust of wind blew the flame from the flare towards the bush line and ignited some brush. The on site DEGT employees and helicopter instantly responded to the fire which was contained to an area of approximately one acre. The two stand-by helicopters were also called to respond to the fire. The three helicopters and ground crew extinguished the fire in 20 to 30 minutes. The ground crew extinguished the hot spots within three hours. The DEGT ground crew remained on the site until 22:00 PST to monitor for hot spots. Helicopter flyover monitoring of the site continued on a daily basis until 6 July. "
2003	INC2003-025	Enbridge received a gas alarm at the control centre. Control shut down and isolated the station. The NGL release was contained within a building and caused by an instrumentation line failure. Police had been called. There was a reported 0.1 cubic meters of NGL released. Failed instrumentation line.
2003	INC2003-023	TCPL internal incident # IIT133311 A boiler expansion tank was being photographed when the flash from a disposable camera caused a flash fire to occur burning the photographers arms under his Nomex coveralls. The expansion tank normally contains 50/50 water and glycol mixture and had 1.5 inches of residual liquids in the bladder. The photographer was taken to the hospital where he was treated for 1st and 2nd degree burns to his arms and released. TCPL is investigating the source of the combustible mixture.
2003	INC2003-022	"Duke Energy employees were tasked with shipping a pig a the pig launcher at MP 101 (near the Village of Wonowon, BC), when they noticed the sound of gas whistling from the Ventus Gas Actuator control panel. On closer inspection, the employees noticed a small leak of gas emanating from a 3/8 inch steel plug on the control panel. Employees turned the powergas off, thereby isolating the actuator and panel, vented any remaining gas to the flare stack, and then replaced the plug with an new one. No injuries or significant environmental impact. A trace amount of sour gas was released to atmosphere (volume and concentration unknown at time of reporting) Reported to TSB by ██████████ of Duke Energy ██████████ Duration or amount of release unknown."
2003	INC2003-021	"██████████ of Duke Energy reported a fire to the TSB on 4 June at 20:00 MDT. The TSB reported the fire to Joe Paviglianiti on the incident cell phone at 20:08 MDT The fire occurred at the Clarke Lake facilities, 30 miles east of Ft. Nelson at 11:00 MDT. ██████████ stated that staff went to Clarke Lake to pull a pig. After departing they received a call informing them of a fire. Duke Energy staff went back to the site and had not yet re-contacted the Ft. Nelson Gas Plant. ██████████ stated that the fire had been extinguished. ██████████ indicated the staff were completing the pigging run at the time of his report ██████████ also stated that when Duke staff were pulling the pig, Petro Canada was flaring at an adjacent site. Information on the cause, size and material burned is unavailable at this time."

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2003	INC2003-020	<p>" [REDACTED] of Duke Energy reported that on 23 May at 12:40 PDT, after the inspection of a scrubber at Station 1 at the Taylor Complex, the station was being placed back into operation and was re-pressurized to 650 psi when a gasket failed. The failure resulted in the release of approximately 44.21 mscf of sweet natural gas. Duke Energy stated that the failed gasket may be attributed to the installation of an incorrect gasket. The maintenance personnel shut down the scrubber and de-pressurized the station through normal procedures. They then proceeded to install a correct gasket and the station was re-pressurized and placed back into service. Duke Energy provided an update to the incident and clarified that the failed gasket was not attributed to the installation of an incorrect gasket. UPDATE: On 23 May at 14:30 PST, a Duke Energy operations crew was placing Compressor Station 1 turbine inlet scrubber located within the Duke Energy Taylor Complex at Mile 35.5 of the Alaska Highway in Taylor, BC. back into service after the completion of an internal inspection of the scrubber. The operator was re-pressurizing the turbine piping in 100 psig increments and checking for leaks at each stage of pressurizing. The 30" x 600 Scrubber outlet flange gasket failed when the pressure reached approximately 650 psig. The failure resulted in the release of approximately 44.21 mscf of sweet natural gas. The operator immediately shut in the purge gas supply and depressurized the scrubber and all associated piping to allow maintenance personnel to repair or replace the failed gasket. Maintenance personnel replaced the Durabla gasket with a Flex-o-talic gasket. Once the gasket was replaced, the station was restored to service. Duke Energy advised Board staff that both gaskets (Durabla and Flex-o-talic) were ansi 600# rated and both were deemed to be suitable for the application in which they were used. The gasket that failed was Durabla 600#, and was/is not considered to be an incorrect gasket for this application. Further, Duke Energy advised Board staff that all work was completed by a qualified pipe fitter and helper and proper torque procedures were followed. Duke indicated that they had provided company operations the directive to ensure that proper torque procedures are to be followed when installing gaskets. Duke indicated that when flange gaskets are removed, they are always replaced with new gaskets. In this case, the Durabla gasket was replaced with a Flex-o-talic gasket. To prevent reoccurrence, it has been recommended by Duke to only use Flex-o-talic gaskets on high pressure gas flanges in the future. Further, Duke indicated that there is a Duke directive to ensure that proper torque procedures are to be followed when installing gaskets. "</p>
2003	INC2003-019	<p>"RE: Westcoast Energy Inc doing business as Duke Energy Gas Transmission (DEGT) grass fire outside flare pit 21 May 2003 at Fort Nelson Gas Plant (FNGP). At approximately 16:15 on 21 May, 2003 a DEGT crew was carrying out a pigging operation on the 24 inch Beaver River Pipeline when a large amount of liquids arrived at Booster Station 12 (BS-12), which caused the scrubber at the station to blow down to the flare pit at the FNGP. The flare created by the burning liquid hydrocarbons left the pit area and went into a patch of grass behind the pit. The wind then carried the fire through the grass and into the brush line to the north of the flare pit. Approximately eight plant personnel were called to extinguish the grass fire. The grass fire was almost immediately put out via conventional fire fighting procedures, but it was decided that the brush fire required a helicopter to drop water on to the area. The fire was visibly extinguished by around 19:00 hours on 21 May 2003 after the water drop by the helicopter. The next morning a fire watch found some smouldering hot spots in the brush and the helicopter was brought back to drop water on the hot spots. The area impacted by the fire was approximately 150 X 100 feet. "</p>

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2003	INC2003-018	RE: Westcoast Energy Inc doing business as Duke Energy Gas Transmission (DEGT) grass fire outside fence at NE corner 18 May 2003 at Sikanni Plant. While the Sikanni Plant Operator was on a routine Plant Site inspection he discovered a fire burning in the grass on the outside of the fence at the NE corner of the Sikanni Plant site. The Plant Operator got a 20 pound ansul fire extinguisher and discharged the extinguisher on the grass fire. Since the fire was not completely extinguished the Plant operator went for another extinguisher and discharged it also on the grass fire. A field operator saw the smoke and came to assist in extinguishing the grass fire with a shovel. The fire was extinguished within approximately 40 minutes and it covered a grassy area of approximately 74 yards X 50 yards. The grass that ignited was previous year's growth of approximately 4 inches in length.
2003	INC2003-016	"At approximately 5:00 am MCT (local time) on May 5, 2003 Alliance pipeline Ltd. received a gas detection alarm from the Windfall Compressor Station (located at KP 338.41 - LS 1-21-61-15 W5M) in the Unit #1 building. Unit #1 was then shutdown and Unit #3 was started up. A technician was dispatched to the site. Upon responding to site the technician blew down the Unit #1 piping and conducted a visual inspection. It appears that a crack, approximately 8 to 11 inches in length (20 to 28 cm) developed in the 36-inch pipe in the vicinity of a 2-inch weld-o-let. The 2 inch line is used to pressurize the compress case during unit start-up. Alliance is now in the process of removing the 36-inch diameter spool piece that contains the suspected crack for further investigation. A more formal report will be prepared once the investigation is completed."
2003	INC2003-015	██████████ of Enbridge pipelines reported a trace release of NGL from the Glenavon pump station MP 504.7 (70 km S.E. of Regina) to the TSB at 20:10. Edmonton Control received a gas alarm and the unit went down. Edmonton Control dispatched a local representative to the site to isolate the unit. It was discovered that a pump flush line had a leaking fitting. Repairs will be completed the morning of 30 April 2003. Enbridge stated that there was no danger to the public. minimal volume released
2003	INC2003-014	"██████████ System Superintendant for Plains Marketing (██████████) contacted the NEB on April 21, to report a crude oil leak on their Wascana Pipeline, located at the Regina Pump Station. On April 17, 2003, 7 cubic meters (revised to 4.89) of Flosterton Crude Oil (from the South Saskatchewan Pipeline) was released from the pipeline as a result of a nipple failure. All product released was contained on site. Plains Marketing control centre noted an anomaly in pressures. The leak was investigated and was subsequently shut in via the control centre. There were no injuries. All product was contained within station property. Spilled product has collected with vacuum trucks. Residual product in the soil was being scaped up at time of reporting and was scheduled to be hauled off site for hazardous disposal. Cause of the nipple failure has been attributed to excessive vibration combined with inadequately supported piping configuration. Plains Marketing plans to rework the piping configuration and supports to prevent reoccurrence. Amount of soil removed and replaced unknown."
2003	INC2003-013	"A tractor was hauling a fuel trailer up a hill when the tractor spun out, then stalled. Both vehicles slid down the hill and subsequently rolled. Two workers were thrown out of the tractor and injured as a result. Staff determined that this incident is reportable due to the severity of the injuries sustained by one of the workers. Two workers were injured. One of the workers sustained minor injuries and was treated at hospital and released. The other worker was released from hospital into a rehabilitation facility on 27 April 2003. (Injury date 5 March 2003.) As of 3 June 2003, the seriously injured worker remained in the rehab facility."
2003	INC2003-216	Wilson Rig # 5E spilled 3.0m3 of HT40 Invert at Arrowhead F-56 Location. 03-176

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2003	INC2003-012	"Sequence of events On March 17th, 2003 the vessel was functioning normally when the internal water float internal dropped from its normal reading of about 16% to about 1%. The operator checked the vessel's water level valve and noted gas blowby on the water outlet valve LV 1132 leading the operator to conclude that vessel was empty. On March 19, 2003 LV 1132A was blocked in as the operators believed we had gas blowby on the separator vessel and the upstream valve (LV 1130B) was also blocked in to prevent gas blowby on the upstream regeneration drum. On March 19, 2003 the valves LV 1132A & LV 1130B were opened for a regeneration cycle and then blocked in during standby. On March 20, 2003 the nightshift operator investigated problems with level indication and believed vessel was full of liquid and that water may have been pushed into the downstream flare knock out drum. The operator manually drained D-1132 vessel to the water storage tank and contacted the Gas Plant Lead for notification of a potential incident. The Gas Plant Lead assessed the risk potential of the situation and instructed operator to remove the equipment from service by isolating the hydrocarbon separator D-1132 and divert all regen fluids to the Glycol Flash Drum D-1010 until further notice and investigation. This was immediately done by the operator. On March 24th, 2003 the D-1132 was opened for inspection and it noted that both the water float and hydrocarbon float had collapsed and that the 0 to 1600 Kpa pressure gauges were reading 200 Kpa while at atmospheric pressure. [REDACTED] Regulatory and Environment Supervisor, Phone: ([REDACTED]) Fax: ([REDACTED])"
2003	INC2003-011	"At approximately 20:00 hours on 28 March, 2003 the Control Room Operator at the McMahon Gas Plant noted a potential problem in the Merox product treating unit and directed the Unit Operator to go investigate. The Unit Operator determined that there was a leaking pipe thread on a 2.54 cm (one inch) diameter pipe that routes ""off gas"" from the Merox Product Treating unit to the Merox off gas incinerator. Upon further investigation it was discovered that pipe thread had incurred significant corrosion that caused it to leak. The duration of the leak was from 20:00 on 28 March until 05:00 on 29 March for a total of 9 hours. The release rate was estimated to be approximately 5 cubic feet per minute for a total estimated release of approximately 2,700 cubic feet. The composition of the release was determined to be approximately 86% Nitrogen vapour and 14% hydrocarbon vapours (ethane, propane, butanes, and pentanes). In addition it is known that there were traces of sulphur mercaptan vapours released, however the level was not measurable and is estimated to be well below 0.01%. Mercaptan odours were evident in the immediate area, but were not noticeable outside the operating unit. The volume worked out to be 76.5 cubic meter of 14% hydrocarbon or 10.71 cubic meter of hydrocarbon. Mercaptan was extremely low and contained in close proximity to its area of release and no complaints were received. Merox spill 28 March, 2003 at McMahon Gas Plant located in Taylor B.C. The gas plant is owned and operated by Westcoast Energy Inc doing business as Duke Energy Gas Transmission (DEGT). unintended gas release Ethane, propane, butanes, and pentanes were released in the vapour mix."
2003	INC2003-010	"Ken Miller of the TSB phoned the incident in at 1:34 pm MST. The incident occurred at Duke Energy's Booster Station 19, about 90 km east of Nelson, BC. The incident was discovered at 9:45 PST 21 March. A container was discovered empty of Kontol (a rust inhibitor) MSDS K0405 UN1993 Hazard Class 3. The Kontos was mixed with a small amount of diesel fuel. At the time, Duke believed that approximately 1000 gallons had been spilled. Duke's area supervisor was responding by helicopter to assess the site. There were no injuries. The incident was reported by [REDACTED] of Duke Energy [REDACTED]. [REDACTED] has a call in to [REDACTED] to get further details regarding the incident. Kontos (a rust inhibitor) MSDS K0405 UN1993 Hazard Class 3 - amount in mix about .86 m3 mixed with about 2/3 of diesel fuel - Westcoast reported approx. 681 gallons of the mixture had been released. approximately 2.58 m3 total. "

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2003	INC2003-009	The following incident was reported by [REDACTED] of Duke Energy (formerly Westcoast Energy Inc.) to the TSB at 13:15 hours E.S.T. on 18th March 2003 and the TSB (Roger Hornsby) then notified the NEB at 11:30 hours E.S.T. the same day. Sweet gas was found to be leaking from a cracked gasket on a 24 inch inlet elbow of a dehydrator at the Ft. Nelson Gas Plant. The leaked was finally shut off at 18:00 hours P.S.T. (2 hours after it occurred) and was repaired by midnight. The volume of gas released is estimated to be 3500 standard cubic feet. Approximate amount of natural gas released into the atmosphere.
2003	INC2003-006	"RE: Fire on the D2 converter of the sulphur train A on 1 March, 2003 at the McMahon gas plant located in Taylor B.C. The gas plant is owned and operated by Westcoast Energy Inc doing business as Duke Energy Gas Transmission (DEGT). At approximately 02:30 hours on 1 March, 2003, during a routine operation inspection, a DEGT Unit Operator discovered a small sulphur fire on top of the D2 converter of the A sulphur train. The sulphur fire was extinguished and reported to the control room by the Unit Operator. The sulphur was cleaned up and the insulation on the D2 converter was replaced with new material. The cladding that covered the converter's insulation was also replaced with new metal cladding. "
2003	INC2003-005	"On 24 February 2003 (8:37 am MST), at the Foothills Monchy Compressor Station (#394), a solenoid on the #1 blowdown valve failed and caused the valve to open venting natural gas to atmosphere (volume unknown). This tripped the downstream low pressure shutoff device and closed the mainline valve. Company personnel replaced the solenoid and tried to close the valve, the operator was moving but the valve was not. Out of service for approximately 6 hours. The incident was reported to the TSB by [REDACTED] of TransCanada (on behalf of Foothills) on 25 February 2003. Staff contacted [REDACTED] for confirmation and further clarification on 26 February 2003, see Record of Conversation under ""Action Details"" tab. out of service for approximately 6 hours Throughput to the Northern Border was curtailed by 7365 E3m3 on 24 February 2003. The incident resulted in the maximum emission of 0.06 kt of methane which corresponds to 1.28 kt of CO2 equivalents. "
2003	INC2003-003	"The incident occurred on Wednesday, 12 February at 11:55 MDT at the McMahon gas plant (Taylor, BC). The acid gas flare stack pilot light at the gas plant went out and was out for approximately 1 hour before the pilot light was relit. During this period approximately 236 kg of H2S was released to the atmosphere. Duke received no complaints from the public. Duke did not notify the police of the incident. approximately 236 kg of H2S (during approximately 1 hour)"
2003	INC2003-002	"At approximately 20:30 hours on 27 January, 2003, DEGT employee installed blinds on the sulphreen condenser ("the vessel") and opened the unit to atmosphere to cool and prepare it for maintenance. In order to open the unit, DEGT employees opened the vessel's manway to allow air into the vessel to assist its cool down. However, the steam to the vessel's rundown line jacket had been left in service, which kept the residual sulphur in the vessel molten and subject to combustion with the introduction of oxygen. After the vessel's manway was opened, air was introduced into it via a natural draft and the molten sulphur ignited. The DEGT nightshift board operator received a sulphreen condenser high temperature alarm. The unit operator was called to investigate the cause of the alarm and detected sulphur dioxide (SO2) in the blower building. The unit operator determined the source of the SO2, and extinguished the fire by closing the regen blower suction valve which is connected to the vessel, isolating the steam tracing to the rundown and placing a steam hose in the manway. It took approximately four hours to extinguish the fire. An estimated 0.2 m3 of SO2 was released. "

2002	INC2002-053	<p>"On 16 Dec 2002, at approximately 16:20 MST, the floating roof on a tank at the TransMountain Pipelines Sumas facility located in Abottsford BC, failed. At the time of reporting 1.5 m³ of crude oil was reported to have been released from the tank into the adjacent spillway (secondary containment bermed area around tanks) . The tank feed was closed and isolated at 18:50 Dec 16th. Clean up and repairs were reported to be initiated as of Dec 16th. No injuries reported. No significant environmental impact other than that by the released product contained in the surrounding bermed area. TMPL reported at 14:00 MST Dec that the spill volume was closer to 10M³. and that vacuum trucks captured most of the product released. Lj The failed roof was dismantled, removed from the tank, and replaced with another floating roof. Terasen conducted a detailed investigation of the roof failure including: "" An independent failure analysis (by a tank engineering expert) "" Component examination and metallurgical assessment by an independent consulting firm, and "" Incident investigation by a multi-disciplined Terasen investigation team Terasen determined that the oil spill was caused by the structural failure of the floating roof. Degradation (corrosion) of key structural components (primarily the pontoon outer rim) in combination with the design of the roof and possibly the development of excessive rim loads or unbalanced loads (from the roof drain assembly) appear to have led to the development of a buckle through one pontoon. The buckle resulted in successive flooding of adjacent pontoons, allowing oil onto the roof deck and subsequently into the roof drain piping. From the roof drain piping oil was able to flow into the tank bay. The tank had been in service for 45 years and has undergone routine maintenance over its life and, most recently, an out-of-service inspection and repair in 1997. "</p>
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2002	INC2002-052	<p>"At 12:39 MST Dec 7th, TSB contacted the NEB (incident cellular) to report that at approximately 11:30 EST, TNPI had a failure of their NPS 10 pipeline located at milepost 39.5, 3 km East of the town of St Clet, Quebec (near the Quebec.Ontario border). Product released was a low sulfur diesel and distillate. At the time of reporting, there was no idea of the volume of product released in the spill. Spill occurred in an agricultural field, which has drain tile throughout. TNPI indicated that some product entered a drainage ditch and that TNPI was in the process of using hay bales to filter and contain the spill and vacuum trucks to re-capture the product. Some product also entered a nearby stream as noted by a sheen on the surface of the water. TNPI is working to ensure all product is contained and kept away and out of all watercourses. TNPI indicated that a pressure drop was noted by their Line Control leak warning system, at which time the TNPI Emergency Response team was dispatched. Nearest resident 0.5 -1.0 mi from leak site. No evacuation was initiated. No fire. No injuries reported By the evening of Dec 7th, TNPI confirmed that the pipeline had indeed ruptured, as indicated by a meter long rip in the pipe. Pipe had been daylighted (soil above pipe blew away) by the effect of the release. Pipeline was operating at 1200 psi prior to the rupture. TNPI was planning to work throughout the evening and to cutout an 8 meter section and replace this section in the morning of Dec 8th and return the pipeline to operation later that day. The TSB was on site during the excavation and cut out of the failed section. Preliminary analysis indicates that there may have been third party damage to the pipe, which could have lead to a fatigue-type failure. The TSB is sending the pipe to its lab where a full metallurgical examination will be done. At the time of reporting, the suspected cause was unconfirmed. TransNorthern has spoken to the nearby landowners and the other residents around the spill to let them know what was going on. As at 9:00 MST Dec 9, 2002, an 8 meter section of pipe had been replaced. All welds were xrayed and passed. Pipe was freeflowing since the evening of Dec 8th, using only the booster pumps at the Montreal Shell refinery. Intent is to push any air in the line out at Cornwall (using a vent located there). Later in the day of Dec 9th, TNPI plans to increase pressure to 1000 psi. TNPI has booms and straw at 1.3 km and 2.5 km downstream of a small creek that captured some of the spill. As at 9:00 Dec 9th, there was no sheen at the 2.5 km location. Pipe was installed in 1952 WT = 713 mm Coal tar coating, fibreglass belt reinforcement, and ""craft"" paper. Rupture location is approximately 3 meters from girth weld ERW at 1:00 position. Crack/rupture at 3:00 position. Flat area (3rd party damage) approximately 1.5 m long from 12:30 position to 5:30 position. TNPI's Preliminary Incident Report stated that approximately 32 m3 of diesel oil was released."</p>
2002	INC2002-051	<p>"At approximately 15:00 MST on29 Nov 2002, Enbridge personnel note a small leak emanating from Unit 1U4 check valve. at the Edmonton Terminal. The downstream flange set of Unit 1U4 was found to be leaking. Enbridge Pipeline Maintenance personnel that are located at the Edmonton Terminal, immediately tightened the flange set, which stopped the leak. Trace Amount of NGL was released. There was no disruption to the main line operation. No injuries or significant adverse environmental affects. trace amounts of NGL"</p>
2002	INC2002-048	<p>"On 15 November, 2002 at McMahan Plant at approximately 05:00 a DEGT operator was making routine checks of equipment in the sulphur plant area. When he entered the C reaction furnace building he detected a smell of SO2. Investigating where the source of SO2 was from he noticed a fire in the C reaction furnace rundown look box and on the ground area next to the run down. The operator approached the fire from upwind and used a fire extinguisher to extinguish the fire. He then shoveled snow around the ground area to prevent re-ignition of the sulphur. "</p>

2002	INC2002-049	"Fire on pig barrel on 31 October, 2002. Operator was preparing to send a pipeline cleaning pig from the sending barrel on the 30 inch Fort St John mainline at compressor station 4B. The full time employee noticed that the 30 inch enclosure o-ring on the pigging barrel door required replacement. While the full time employee was getting a new o-ring from the truck, the casual employee attempted to remove the old o-ring with a striker he was carrying in his coveralls. A striker is a tool that a welder uses to create a spark to ignite his / her torch. This caused a spark creating a flash fire in the sending barrel. The casual employee received very minor burns (heat sensitive burn on hands and ears) and his hair was singed. No medical attention or lost time was required by the casual employee as a result of the incident. "
2002	INC2002-047	"At 04:30 hours on 23 October 2002 a sulphur plant operator discovered a fire burning at the base of an inside sulphur pump on a recirculation system. The piping was leaking hot sulphur onto the pump's base and ignited. When the fire was discovered the building was full of SO2 gas, so the fire had to be extinguished from the building doorway. The sulphur was determined to have escaped due to a pump shaft seal leak. A full investigation will follow by the company.."
2002	INC2002-044	"On 8 October 2002 a sour gas leak occurred on a buried pipe flange at Westcoast Energy Inc.'s ""Buick Creek Pipeline Booster Station Pigging Yard"". The leak occurred as a result of an Operator closing an incorrect valve in the yard which resulted in line pressure increasing to a level where the flange gasket began to leak. A producer (Samson Petroleum) that injects into Westcoast's Buick Creek gathering pipelines at the Pigging Yard had called Westcoast's Gas Control requesting to have its receipt point valve shut-in to allow maintenance work to its system. Westcoast's Gas Control then dispatched an Operator to the Pigging Yard to close the Producers receipt point valve. However, due to a mislabeling of the valve(s) at the site the Operator closed the main bypass valve for the Buick Creek line. The closed bypass valve went undetected for about 2 hours until Westcoast placed online its downstream Compressor station # 1 and the McMahon Gas Plant which had both been down. Once both these facilities were operating for about 2 hours, Westcoast's Gas Control observed high pressures in the Buick Creek Pipeline. Gas Control then dispatched an Operator to the Pigging Yard. When the Operator arrived at the site he observed a gas leak coming from underground. He re-examined the valving set up and recognized that the incorrect valve had been closed in error due to valve mislabeling. He then opened the bypass valve to allow the line pressure to equalize between the 2 Buick Creek lines. When the pressure equalized the leak emanating from the buried flange stopped. The bypass valve was then closed with all online Producers on the Buick Creek line having been asked to shut-in their facilities production to allow for repair of the flange leak. The 10 inch Buick Creek line and the Producers were out of operation from 8 October to 12 October 2002 while repairs were made. Reported to TSB-NEB at 00:45 MDT Oct 09th, by [REDACTED] of WEI/Duke [REDACTED] 500 standard cubic feet of sour gas was released into the air."
2002	INC2002-046	"Duke Energy personnel reported a slight hissing sound coming from the ground. Upon inspection a small leak of sour natural gas was discovered emanating from a 10 inch line. The section of pipe was depressurized. Company personnel and hydrovac equipment were dispatched to the site and hydrovacating started the next day. Investigation continuing. CLOSE-OUT UPDATE 28 JAN 03 - this incident was recorded twice in PID, see Incident 2002-044 for more details (note that 044 is marked as reportable in PID, to avoid confusion, 046 is marked as not). Natural gas was discovered emanating from a 10-inch line."

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2002	INC2002-043	<p>"On 22 September 2002, at 13.30 hours P.S.T., Duke Energy employees were conducting an excavation dig on the 323.9 mm (12 inch) diameter Milligan Pee Jay Pipeline at kilometer post 37.6 (mile post 23.3) in the Ft. St. John B.C. gathering area. The pipeline was 5LX46 seamless pipe which had originally been installed in 1969. The dig was being conducted as a result of findings determined from a deformation tool that had been run through the line on 5 September 2002 which had identified a buckle in the pipe. Once excavation had started and the overburden had been removed, the line began to leak sour gas. The pipeline leak was at the toe of the south approach slope to the Beatton River. The H2S content in the gas was 0.87% and the amount of gas released was estimated at 0.01 mmscf. Line depressurization began immediately and repairs commenced. A section of pipe 16.1 meters in length was cut out and replaced with 323.9 mm O.D. X 6.4 mm W.T. Cat. II Grade 359 pre-tested pipe. The pipe and the circumferential welded pipe joints were coated in place with a spray applied two-part epoxy. The pipeline was returned to service at 14:00 hours P.S.T. on 25 September 2002. The line was out of service for 3 days to allow repairs to be made. The H2S content in the gas was 0.87% and the amount of gas released was estimated at 0.01 mmscf. "</p>
2002	INC2002-041	<p>"At 17:47 MST on 2 September 2002, Enbridge's Edmonton Control Centre received a phone call from some private citizens who had driven past the Cactus Lake Pump Station at pipeline mile post 180.19. The citizens reported having observed at the station a black mist being sprayed onto a building, pools of liquid, and a strong crude oil smell. Upon notification of the suspected leak, the Control Centre shut down all lines that were running and isolated all of the pumping stations. The Western Region on-call person was contacted and dispatched field personnel to investigate at 18:00 MST. At 19:10 MST, field personnel reported that a 1" hydraulic hose on the Station 2 case-pressure instrumentation line had failed. All lines except Line 2, which was the line that the incident occurred on, were re-started at this time. Repairs to Line 2 were completed at 19:22 MST and the line was re-started at 20:11 MST. The crude oil released was Cold Lake Crude. It was confined to station property, which is fenced off from vegetated areas and wildlife habitat. The estimated volume of crude released was 27m3. Amount of contaminated soil removed from the pump station is unknown. Crude oil released was Cold Lake Crude."</p>
2002	INC2002-038	<p>"On August 7, 2002, at approximately 14:00 hours Central Daylight Time, a [REDACTED] of the Bench Hutterite Colony called the Foothills Pipelines Shaunavon Office to report a "somewhat audible" gas leak at kp 135. The Foothills Shaunavon Office immediately dispatched a technician to investigate the sighting. The technician reported that an o-ring in the pig receiver door at kp 135 had apparently ruptured, thus allowing an insignificant volume of natural gas to be released to the atmosphere. The technician also confirmed that the two NPS 2 by-pass valves and the NPS 10 kicker line valve were closed. However, they did not provide a positive seal allowing gas to enter into the pig receiver which is normally not pressurized. A further investigation is currently underway to determine a long-term fix to address the leaking valves. As it is normal practice to keep the receiver assembly isolated from the mainline, the incident did not impact normal gas operations. An undetermined volume of sweet natural gas was released to the air. An insignificant volume of Natural Gas was released to the atmosphere."</p>

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2002	INC2002-037	<p>"A flange leak occurred on the suction side of the Unit 13-U-3 at Glenavon Station releasing approximately 3.0 m³ of crude oil into a concrete drainage trough in the Line 13 pump house. The drainage trough drains into a 500-gallon sump tank. All oil was contained in the trough and tank with the exception of a small quantity of oil, which sprayed onto the concrete floor, surrounding Unit 13-U-3. Contact: ██████████ Line 13 was shut down temporarily to isolate the Glenavon Line 13 Station. Line 13 was then restarted with the Glenavon Line 13 Station bypassed. The Line 13 Station was returned to service after all free product had been vacuumed up with the exception of Unit 13-U-3, which will remain isolated and locked out until the gasket can be inspected and flange bolts tightened. This will be completed on August 1, 2002. A leaking flange on a pump caused a spill on 3.0 m³ of crude oil. The crude oil was contained in the Pump Station on concrete flooring. At the time of call, a vac truck was on its way to recover/clean-up the crude oil."</p>
2002	INC2002-036	<p>"On 31 July 2002 at approximately 01:30 hours PST, at DEGT's Compressor Station 2B near Azouetta, British Columbia, Duke Energy officials reported that a Station Operator had received a call from Vancouver Gas Control who reported a Unit 1 compressor alarm. Upon inspection of the station, the Station Operator found that the Unit 1 gas turbine was excessively vibrating and had initiated a high vibration alarm. Unit 1 was slowed from 5800 rpm to 4300 rpm, but vibration increased instead of decreased. A Unit Low Oil pressure alarm and unit shutdown next occurred. Inspection of the oil system an oil line found where a 3/4 inch nipple had fractured. The excessive vibrations had caused the nipple to fracture. An oil leak resulted in spraying hot oil onto the turbine and exhaust duct. The Station Operator noticed flames coming from the power turbine exhaust duct. The fire was immediately put out by the Station Operator. The flame detectors in the building also detected the flame and a second order emergency shutdown and gas evacuation of the Station was initiated through the Station Emergency Shutdown logic. The unit was shut down until repairs were completed on 25 October 2002. An unknown amount of oil was released from a broken oil line. The oil line was spraying onto the turbine and exhaust plenum."</p>
2002	INC2002-035	<p>"At 4:00 am of July 21, 2001, the Empress Pipeline Board Operator received a hydrocarbon detection alarm for the Herbert Pump Station. The detection system automatically shut down the station and bypassed the main flow around the station. An employee was sent to the site and, arriving at 6:45 am, found what appeared to be a small amount of butane vapour escaping from the seal on the #2 pump. The seal failure alarm had not been activated; the shutdown was triggered by a hydrocarbon leak detector 30 feet from the seal. The employee checked to ensure the discharge and suction valves were properly closed prior to isolating the power supply to the valves and pumps. Pump #2 was completely depressured and a hydrocarbon gas analysis of the area was done to confirm safe operating conditions. Pump #1 was then restarted at 8:00 am, providing a flow rate at 80% of pipeline capacity. There were no injuries, fatalities, or impact on deliveries to the customers. There were minimal environmental concerns as a result of this incident. A minor amount of butane was released from the pump failure. The butane dissipated and there are no major environmental issues."</p>
2002	INC2002-033	<p>"At 05:45 MST on 25 July 2002, Enbridge site Operations personnel at the Edmonton Terminal noticed NGL vapors venting from the NGL separator, which is adjacent to the NGL sampler building in Manifold 107. Enbridge personnel immediately isolated the sample building thereby eliminating the leak source. A 1/4" needle valve was inadvertently left partially open on the NGL sampler drain line during routine operations. The needle valve was closed and the product was drained from the piping. The building was returned to service at 06:15 MST on 25 July 2002. It is estimated that approximately 0.2 m³ of NGL was released as a result of this incident. A small amount of gravel was removed in the area of the vent stack and disposed of in accordance with the company's environmental manual. New gravel was added with a minor amount of site re-grading. 0.2 m³ of NGL was the estimated to be released during the venting process."</p>

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2002	INC2002-032	"On 09 July 2002, at approximately 07:15 MST, a farmer (resident) at MP 409.7 about 1 km west of Stoney Beach, SK, reported a small fire on the Enbridge ROW located in his field. Enbridge personnel responded to the fire and extinguished it with 150 lb Hand held fire extinguishers. Employees noted a small crude oil spill (which was what was on fire). Volume spilled has yet to be confirmed, but is suspected to be less than 1.5 m ³ . The fire however, makes this incident reportable under OPR 99. Source of ignition is suspected to have been lightning. Enbridge crew is on site as is gearing up to excavate, to determine source of leak. Reported to TSB by [REDACTED] cell [REDACTED] 3 m ³ of oil was released to the surface, some was burned off in a fire suspected to have been caused by lightning. The area affected was 24' x 7'. Some of the oil was lost due to a fire suspected to have been caused by lightning."
2002	INC2002-030	"Westcoast Energy Inc doing business as Duke Energy Gas Transmission (DEGT) grass fire at 16 inch Wolf pipeline sending barrel flare pit 25 June, 2002. At approximately 12:20 MST on June 25, 2002 Fort St. John Gas Control received a call from a pigging crew that there was a small grass fire at the perimeter of the flare pit at the sending barrel of the 16-inch Wolf pipeline. Gas Control notified the FSJ Operations Team Leader of the incident. The Team Leader then contacted the pigging crew and was advised that the grass fire was under control. A Cat bull dozer from across the road had been put to work dozing up the burning grass. A water truck in the vicinity of the fire was dispatched to assist with fire control. By approximately 13:20 MST the grass fire was extinguished. A local contractor was instructed by DEGT to assign two employees for a 24 hour fire watch. The area surrounding the flare pit was bladed and cultivated to remove source of material for possible future ignition of the site and the ground was saturated with water to reduce the fire hazard. The approximate size of the area burned by the fire was 100 feet by 20 feet. "
2002	INC2002-029	"On 20 June 2002, at approximately 15:20 EDT, a contractor sideboom was preparing to work on the anchors on the sulphur pipeline at the WEI Pine River Gas Plant when it let go (the winch was in the process of being anchored down), and rolled down the slope onto the sulphur pipeline. About 3 meters of pipe insulation was severely damaged and several other areas received minor damage. The impact of the sideboom on the pipe knocked the pipe off the stands. If and how much damage sustained by the pipe is unknown (at time of reporting). WEI immediately shut down the pipeline and initiated draining of the line. As a result of the sideboom rolling down the hill, the contract operator jumped from the sideboom and sustained minor injuries. The Transline contract operator was sent to Chetwynd General Hospital where he received stitches to his arm. Incident was reported to TSB by [REDACTED] of WEI [REDACTED] "

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2002	INC2002-028	"Westcoast Energy Inc doing business as Duke Energy Gas Transmission (DEGT) grass fire at MP 73 pigging yard flare pit. At approximately 13:20 MST on June 20, 2002 DEGT pigging crew was in the process of a pigging operation which involved de-pressuring the pigging barrel at MP 73 pigging yard so they could remove the pig from the pipelines. This pigging yard is at the junction of the 20-inch Alaska Highway receiving barrel, 20-inch Buick receiving barrel and 26-inch BC Trunk sending barrel. All the flare facilities associated with the pigging barrels are tied into one central flare stack. The barrel was fully de pressured and work was progressing to remove the pig, when one of the crew members noticed a small fire on the perimeter of the flare pit. At this point a call was made to Gas Control who in turn notified the FSJ Operations Team Leader of the incident. A crew member was dispatched immediately from Fort St. John to the site with back pack water pumps and shovels. A 450 Caterpillar in the vicinity was also sent to the site. The British Columbia Forest Service Fire Control Center was notified of the incident and a Forest Service representative was dispatched to the site to meet with Westcoast representatives. At this point in time Fort St. John Gas Control dispatched four (4) water trucks to the site. At 14:22 the Operation Team Leader and EH&S Coordinator arrived on site. At this point there were five (5) Westcoast employees on site with a water truck and operator. By this time the fire had been extinguished and the area where the fire had been burning was being soaked with water. At 14:35 BC Fire Control Center was notified the fire was out and equipment was on its way to remediate the site. The BC Forest Service representative arrived on site to evaluate the situation and discuss the remediation plans which involved the continuation of soaking the area down with water, additional tilling of the flare site and cleanup of the brushing debris that would have potential for ignition in the future. The BC Forest Service was in agreement with the remediation plan and left the site. The approximate size of the area burned by the fire was 200 feet by 20 feet. The area surrounding the flare pit was bladed and cultivated to remove source of material for possible future ignition. "
2002	INC2002-027	"A Valve on the Alaska highway pipeline was scheduled for repair on 13 June, 2002 morning. A section of the pipeline was depressured to facilitate the valve repair. The gas vented from this depressuring was flared at Kobes compressor station pipeline flare pit. This Kobes flare pit remains in service only to be available to depressure the 20 inch Alaska highway pipeline. This flaring process occurred at a time when there was a combination of strong winds and warm dry weather. Dry vegetation in the vicinity of the flare pit ignited due to these conditions and the prolonged flaring requirements. A crew of nine (9) using portable water pump and fire hose and shovels extinguished the grass fire and contained it to DEGT property. The grass fire burnt approximately ½ acre of grass adjacent to flare pit. "
2002	INC2002-026	"Suspected seal failure on unit 1.2 at Cromer terminal resulted in a release of trace amounts of NGL. Unit was shut down automatically on gas detection. Enbridge personnel were called to site to ensure proper isolation and shutdown. All other units were returned to service. Unit 1.2 remains isolated. Once purged, unit 1.2 will be checked in order to investigate cause of leak. This is expected to be started June 14. This incident was called in by ██████████ of Enbridge Pipelines. Pump station was down for about 2 hours. This did not effect deliveries. Trace amount of gas released."
2002	INC2002-021	"On Friday, 07 June 2002, Enbridge Pipelines personnel were preparing for NGL injection at the Cromer Terminal in Manitoba, when a gas alarm was initiated by a trace amount of NGL leaking from the 4-way meter prover valve flange. The gas alarm initiated a shutdown of the operation, while Enbridge employees responded to the leak. The prover valve had been recently serviced, and the flange had not been torqued down. Employee tightened the flange, and resumed operations. There were no injuries, no fire and no significant environmental impacts as a result of the release. Trace amount of NGL released from the pump flange."

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2002	INC2002-025	<p>"On June 6, 2002 at 1307 hours Westcoast Energy Inc doing business as Duke Energy Gas Transmission (DEGT) flared some hydrocarbons at their Pine River gas plant to flare stack. A spark from the flare landed in a dry grassland area igniting a 200 ' x 300 ' grass fire. There were high winds at the time of the incident and, thus, a fire developed and spread quickly through the grass. The fire started at 1307 hours and was extinguished at 1347 hours. The fire did not leave the plant site. The fire was contained and extinguished by Pine River Gas Plant employees using common techniques (water and dirt) for fighting grass fires."</p>
2002	INC2002-020	<p>"At approximately 15:20 MDT, Duke Energy aka Westcoast Energy Inc, experienced a rupture of an 18inch diameter natural gas pipeline approximately 7 km SE of Ft St John, BC. The location of the rupture is at milepost 0.0 and is near and along the Alaska Highway. The Taylor BC fire department blocked off the south end of the Alaska Highway and the RCMP blocked off the north end. The pipeline does have linebreak automatically controlled valves installed, however the pressure did not drop low enough to initiate an automatic shutdown. According to the report provided by Duke Energy, a Duke employee was near the location of the rupture doing valve maintenance when the rupture occurred. The employee was not injured (but was shook up pretty good!!) so contacted Gas Control to advise them of the problem and to shut down the line, before the pressure dropped to a point to initiate automatic shutdown by linebreak valves. The location of the rupture was reported as approximately 3.5 miles from the upstream valve and 6.1 miles from the downstream valve. The gas was reported to have blown down within 20 minutes. The highway was allowed to open at approximately 17:07 MDT. There was no ignition of the gas release and hence ...no fire. The gas was reported to have an H2S (sour gas) content of approximately 0.41 percent...low. Houses and a trailer park located within 0.5 km of the rupture site were evacuated (not sure by who). (Actually, it was the occupants of the houses and the trailer park that were evacuated.) When asked of the size of the crater, Duke Energy reported that the piping impacted by the rupture was largely above-ground piping near the pig launcher. FYI: In discussions with Duke Energy, it appears that there is a 26 inch diameter DC Trunk pipeline that runs parallel to this line and also along the Alaska Highway. This 26 inch line however, carries sour gas. Fortunately, this line did not appear to be impacted by the rupture of the adjacent line. There was no report of this line being shut down as a preventative measure. Due to the closeness of the rupture to Fort St John, media attention is expected. Transportation Safety Board indicated that they were planning to mobilize one of their investigators out of Edmonton (immediately). Josef Kopec (Operations Compliance) and Ross Hicks (Communications) will be heading to the rupture site on the first flight out of Calgary (16 May 2002). They expect to be at the site around 10:00 am MDT on 16 May 2002. Line returned to service. on 18 May 2002. There was no disruption to downstream customers. Approximately 3.84 MMscf/d of production was shut in until the line was returned to service on 18 May 2002. H2S at 0.41% (based on reports, sounds like there was also some salt water released, and may have been some condensate released) (no fire due to propensity of salt water)"</p>

2002	INC2002-019	<p>"A local farmer reported a release of crude oil to Enbridge Glenboro Operations personnel. Company personnel immediately reported the incident to the Edmonton Control Centre. Pipelines operating at the time were shutdown and the Emergency Response Plan was activated. After removing the free product and excavating the area, the source of the release was found to be from Line 13 (16" diameter). After a Non-Destructive Examination was completed on the pipe, a 16" x 14" (long) Plidco repair sleeve was installed over the leak. At the time of the incident, approximately 10 cubic meters of free product was contained on agricultural land in an area approximately 150' x 150', which is completely within the right of way. An additional area of approximately 10' x 100' was also impacted by released product. All free product was removed from the area with the use of a vacuum truck. Approximately 4400 tonnes of contaminated soil was excavated and stored in impermeable containment cells and later hauled to a licensed waste handling facility. During remedial work at the leak site, significantly more volumes of released oil and contaminated soil were encountered. The estimated amount of release oil and contaminated oil on site was updated to 60 cubic meters and 16800 tonnes, respectively. At the time of the incident, approximately 10 cubic meters of free product was contained on agricultural land in an area approximately 150' x 150', which is completely within the right of way. An additional area of approximately 10' x 100' was also impacted by released product. All free product was removed from the area with the use of a vacuum truck. Approximately 4400 tonnes of contaminated soil was excavated and stored in impermeable containment cells and later hauled to a licensed waste handling facility. During remedial work at the leak site, significantly more volumes of released oil and contaminated soil were encountered. The estimated amount of release oil and contaminated oil on site was updated to 60 cubic meters and 16800 tonnes, respectively. "</p>
2002	INC2002-015	<p>"At approximately 00:40 MST , April 15th, 2002, TCPL reported a rupture of Line 100-3 at MLV 31+3 near Brookdale Manitoba (west of Winnipeg). The natural gas was reported on fire with flames reaching 200' in the air. RCMP assisted in the evacuation of the hamlet of Brookdale and surrounding area, a population of approximately 100. At approximately, 01:45 MST TCPL () advised that the fire was out except for secondary grass fires. Lines 100-1, 100-2, 100-3, and 100-4 were immediately isolated between stations 30 and 34. Shortly after the fire went out, TCPL re-opened Line 100-1. The integrity of Lines 100-2 and 100-4 needed to be verified so were not opened until pipe was daylighted and coating integrity had been verified. Operations Compliance Team members (Nathan Len and Leo Jansen) went to the site immediately. TSB dispatched a regional person from Winnipeg and then sent Daphne Snelgrove and Diane Rocheleiu as Lead Investigators. Total sweet natural gas lost to the atmosphere, as a result of this incident, was estimated by TransCanada at 6.81 million cubic meters. This was subsequently broken down to 5.18 million cubic meters as a direct result of the rupture, 1.52 million cubic meters as a result of blowing down the adjacent pipelines Line 100-1 and 100-3 to check their integrity, and the remaining volume was attributed to remediation activities (digs and hydrotests)."</p>
2002	INC2002-016	<p>On 12 April 2002 a spill of approximately 20 - 25 cubic meters of crude oil occurred at Enbridge Pipelines Inc. Metiskow pump station in Alberta. The spill was the result of a failed instrument line (1.5 to 2.0 inch suction pressure transmitter line) and was contained to the station site. The spilled oil was cleaned up using a vacuum truck.</p>

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2002	INC2002-014	<p>"On 3rd of April, 2002, Westcoast personnel detected a Hydrogen Sulphide (H2S) odour in the gas treating building while performing a routine tour of the facility. The operator used a snoop leak detection fluid to locate the pinhole leak on the threads of the #3 contactor float column steam out reducer (see diagram). The operator informed Board operator and Operations Team Leader. Maintenance department were also informed but maintenance were doing other priority work elsewhere in the facility. When the leak worsened at approximately 19:00 on the 4th of April, 2002 it was decided that operating staff would perform repairs. None of the H2S and LEL detectors in the Gas Treating Building registered a detectable level of gas. The leak lasted less than 24 hours and was not measureable on detectors. These detectors are set as follows: LEL detectors alarm @ 20% of lower explosion limit while H2S detectors alarm @ 10 ppm. The threshold limit value - time weighted average (TWA) for H2S is 10 ppm. Although the gas released was toxic in nature, the volume was so low as to NOT register on detection devices relatively close to leak. This incident was caught at a very early stage before it could have caused a toxic atmosphere if it had reached sufficient concentration. Therefore, there was no initial serious danger to personnel who might have been in the building. The gas detectors are set to alarm at 10 PPM, which is well below the toxic level."</p>
2002	INC2002-055	<p>Investigation concurrent with 9700-A000-1-42. Large gas leak occurred from the 2'''''' load & purge (pressure up) line on train B of the de/re facility. This incident was discovered during investigation of the 18 October 2005 occurrence on train A. The B train was out of service until the load & purge line repaired. Did not impact throughput. Unknown.</p>

2002	INC2002-013	<p>"On March 20, 2002, TransCanada employees conducted a planned inspection at Compressor Station 25, near Moosomin, Saskatchewan. While inspecting the 'A' Plant Auxiliary Wing, they discovered evidence that a small fire had occurred in the East exterior wall of the building, where the #1 auxiliary power unit (APU) exhaust piping exits through the building wall. In removing the interior metal cladding, personnel confirmed that some of the wooden framing material was burned. There had been no release of natural gas prior to or as a result of this incident. The incident did not pose a risk to the public or to the environment. The Auxiliary Wing is located immediately beside the 'A' Plant building and it houses three APU Units, Control Panels, starting air compressors, SCADA Terminal, firewater foam system and glycol/water filled cooling system for the 'A' Plant, and some miscellaneous electrical panels. The APU is designed to start automatically if power is disrupted for any reason. Records indicate the APU started automatically on two occasions this year, having run at least five hours each time. It is therefore suspected the fire took place sometime in the previous six weeks, and because it was limited to the interior of the wall, it was likely deprived of oxygen and self extinguished quickly. There is no fire detection system in the Auxiliary Wing of the 'A' Plant, however there are few combustibles in this area. On April 5th, 2002, personnel conducted an on-site investigation. During discussions with site personal, it was discovered that modifications had been made to the exterior walls of the auxiliary wing in the mid. to late 1990s. Additional wooden framing was installed to support added insulation and new interior finishing panels were installed in the North, East and West walls. It was during these modifications that the contractor had apparently installed a sheet of 3/4" plywood close to the APU exhaust header. Personnel discovered a number of gaps between the exterior wall, where the header exits the building and the exhaust header insulation. The insulation did not cover the full length of the exhaust header to the exterior of the building. The insulation ended inside the wall creating another gap, which exposed the combustible materials to the radiant heat from the header. Further, the outer covering (tin) around the header had gaps, which allowed the heat to escape into the wall cavity. TransCanada has concluded that the radiant heat from the exhaust pipe had ignited the plywood and the fire was temporarily sustained by outside fresh air provided through the gap in the exterior wall. Personnel have inspected the other two APU units at Compressor Station 25 and found evidence of combustion around the exhaust exit points. All of the combustible materials around the exhausts have now been removed. No loss resulted due to this incident. This incident involved a wood fire and did not occur as a result of a release nor did it result in a release."</p>
2001	INC2001-081	<p>"HLV was feeding product to the Husky pipeline transfer site. Due to problems at HLV, an unusual pump configuration was used which produced higher pressure than normal at the transfer site. The high suction shutdown was not programmed in the PLC as it should have been. A relief valve opened as programmed and product flowed to sump which has 2 level switched. Alarm worked but shutdown failed. Operator responded to alarm and manually shut down, but drain down volume overflowed sump by 1.75 m3. The product was contained on company property."</p>
2002	INC2002-012	<p>"On Sunday, March 10, 2002, at approximately 11:48 EST, a nearby resident contacted TCPL emergency line to inform them of a natural gas release from a blowdown valve at the Belleville Compressor Station, Ontario. Gas Control was contacted who in turn dispatched maintenance crews to the site. Crews isolated the blowdown manually, which was reported to have been completed at approximately 12:48 EST. Gas Control verified that there was no overpressure situation at the time of blowdown trip, however there was a significant storm occurring during this time. Investigation into root cause is underway. It was reported that there were no injuries, fires or significant environmental impacts. There was no mention of why Gas Control did not pick up the release via SCADA. Incident called in by [REDACTED] of TCPL "</p>

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2002	INC2002-011	<p>"On Friday, March 08, 2002, Enbridge Pipelines Inc reported a release of approximately 15 cubic meters (15, 000 litres) of crude oil at the Cactus Lake Pump Station, SK. All product released was reported to have been contained within the site property. On discovery of the spill, the line was isolated and shut down. The sump to the mainline is suspected to have failed causing the leak. [REDACTED] of EPI reported the spill to the TSB, who in turn contacted the NEB. [REDACTED] Lj "</p>
2002	INC2002-010	<p>"Tank roofs are routinely drained of water through drain piping running through the tank to a shutoff valve near the bottom exterior of the tank shell. The drain valve and external piping are winterized by filling with an antifreeze solution after each use during winter months. When the roof drain check was done in February 2002 on Tank 222 at Westover, a small amount of oil was observed flowing from the valve after it was cracked open indicating drain line leakage inside the tank. The valve was closed immediately. With crude oil known to be in the drainpipe, the valve and spool piece could not be re-winterized with antifreeze. On the evening of March 5, 2002, crude oil was discovered in the lot of Tank 222 escaping from the body of the drain line shutoff valve. Weather conditions had been cold and windy with temperatures below zero degrees Celsius. Upon investigation, Enbridge determined that water within the valve froze causing the body bolts of the two-piece valve to fracture which then caused the pieces to separate. A new valve with a one-piece body was installed to replace the damaged valve. Cleanup of the leak started immediately upon discovery. Excess oil recovered from the tank lot was injected into a sump tank located at Westover Station. The frozen ground conditions limited the migration of oil to the subsurface soils. Contaminated soil was excavated and placed into lugger buckets. The excavated area was backfilled with clean clay fill. Approximately 240 cubic yards of excavated soil was tested and is being disposed of at an approved facility. An area of 274 m2 of soil was contaminated by the release. Cleanup of the leak started immediately upon discovery. Excess oil recovered from the tank lot was injected into a sump tank located at Westover Station. The frozen ground conditions limited the migration of oil to the subsurface soils. Contaminated soil was excavated and placed into lugger buckets. The excavated area was backfilled with clean clay fill. Approximately 240 cubic yards of excavated soil was tested and is being disposed of at an approved facility."</p>
2002	INC2002-009	<p>"On March 4, 2002, at approximately 10:00 hours Central Standard Time, personnel at Compressor Station 52 heard the sound of gas escaping in the station yard. Upon investigation, they quickly determined that natural gas was venting from a broken NPS 3/8 suction pressure sensing line to the pressure differential switch on the 1:2 discharge crossover valve. Personnel immediately isolated the gas supply, by closing the needle valve located below the break. The repair comprised the installation of a vibration coil in the new pressure sensing line. The crossover valve assembly was returned to normal gas service without further incident. The environmental impact of this gas release is related to greenhouse gas emissions to atmosphere. This incident resulted in a maximum emission of 0.12 x 10⁻⁵ kt of methane which corresponds to 0.27 x 10⁻⁵ kt of CO₂ equivalents. The gas released from this incident will be included in TransCanada's annual Action Plan supporting Canada's Voluntary Climate Change Challenge. TransCanada's gas emissions are managed in accordance with the initiatives set out in this plan. "</p>

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2004	INC2004-006	"On 26 Feb 2004 at approximately 0530 PST, a generator (#1403) at Duke Energy 's Pine River Gas Plant triggered a low voltage alarm. Operators checked the generator to discover a small fire around the generator. The cause of the fire is speculated as being due to a winding failure within the generator. Operators extinguished the fire with hand held extinguishers. There were no injuries and no significant environmental impacts. Reported by [REDACTED]"
2002	INC2002-008	"On 15 February, 2002, at TCPL's Maple, Ontario Compressor Station 130, an NPS 6 mainline relief valve opened and released gas to the atmosphere for approximately 1 hour. The valve was subsequently closed and locked out to isolate it and stop the flow of the escaping sweet natural gas. TCPL had been notified of the incident through its emergency number by the Vaughan Fire Department who indicated that there was an audible gas leak at the station. TCPL staff were then immediately dispatched and arrived at the site at approximately 20:10 hours Eastern Standard Time (E.S.T.) to investigate. Approximately 56E3M3 of sweet natural gas was estimated to have been released to the atmosphere as a result of the incident. The incident occurred at approximately 19:08 hours E.S.T. The Vaughan Fire Department had initiated an evacuation of nearby residents upon its initial arrival at the scene. Post followup discussions with the neighboring public indicated that they did not have any immediate concerns with the gas release. An internal inspection of the relief valve following the incident determined that there was extensive internal mechanical damage and that the reset mechanism on it had failed. There were no injuries as a result of this incident having occurred. The above quantity of sweet natural gas was estimated to have been released."
2002	INC2002-005	"On 13 February 2002, at approximately 09:50 CST, at the Steelman Terminal in Saskatchewan, Enbridge personnel discovered a leak of crude oil from a valve on the discharge side of a small pump. A gear pump used to drain incoming field headers had been left with the discharge valve and the ½" bleedoff valve open. The 2" check valve between the discharge valve and the bleed-off valve failed to hold. As a result, the bleed-off barrel overflowed during the night. It was estimated that 12.0 m3 of LSB crude oil was spilled on approximately 186 m2 of Steelman Terminal Station property. The 2" check valve was replaced with a spring-loaded valve on the bleed-off. The incident was reported by [REDACTED]. 10.0 m3 of combined oil, snow, water, and dirt was recovered and hauled to a registered disposal facility. When the product was recovered, a berm was constructed to divert any future run-off around the impacted area. As soon as weather conditions allow, additional impacted material, which could not be removed due to frozen conditions, will be hauled to a registered disposal facility. The impacted area will be contoured to maintain proper site drainage. Fresh material will be hauled in to replace all impacted material removed from the site. 12.0 m3 of LSB crude oil spilled on approximately 186 m2 at the Steelman Terminal. 10.0 m3 of oil was initially recovered with a vacuum truck and placed into tankage."
2002	INC2002-006	"On February 12, 2002, personnel responded to a callout to restart the 'C' Plant at Compressor Station 58, near Ignace, Ontario. The unit had shut down on Fuel Control Unit Drive Failure and after waiting the required two hours for a permissive start, Gas Control was unable to remotely restart the unit. At approximately 03:00 hours Eastern Daylight Time, the personnel were approaching the 'C' Plant when they noted that the #2 relief valve on the unit fuel gas run had opened and was venting natural gas to the atmosphere. TransCanada is unable to provide the volume of gas released because it is unclear how long the gas had been venting. At approximately 03:00 hours Eastern Daylight Time, the personnel were approaching the 'C' Plant when they noted that the #2 relief valve on the unit fuel gas run had opened and was venting natural gas to the atmosphere. TransCanada is unable to provide the volume of gas released because it is unclear how long the gas had been venting. "

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2002	INC2002-004	<p>"While loading up the compressor unit during startup of the gas compressor/turbine in the G Plant, a small diameter (approx 1/2" TBC) flex hose failed. This failure resulted in the release of a negligible volume of natural gas into the turbine enclosure. The release was detected by the gas detection with in the enclosure and caused a shut down of the unit. The failed flex hose was idenitified and repaired. To ensure that there were not other similar hoses in the area that could fail, TCPL also checked all other similar 'pig tails' between the manifold ring and the burner. A negligible volume of natural gas was released."</p>
2002	INC2002-003	<p>"At 05:35 MST on January 18, 2002, a contractor engaged on the Enbridge Pipeline Maintenance ("PLM") crew arrived at Enbridge's Kerrobert Terminal and noticed a large amount of oil on the ground near the site entrance. At 05:37 MST, the Edmonton Control Center shut down all lines and isolated the individual pump stations at the Kerrobert Station. Company personnel verified that the leak originated near the Station 4 pumphouse adjacent to Unit 4-U-4. The site was secured by company personnel and the Incident Command System was implemented. Additional company personnel were mobilized to the leak site to initiate oil containment, oil recovery and pipeline repair operations. It is estimated that approximately 1075 m3 of crude oil (Gibson Blend (LLG 693), Cold Lake (CL 814) and Pine Bend Special (PBS 766)) was released as a result of this incident. Contaminated surface material was excavated and stockpiled on site within a lined cell. A detailed site assessment that was to be conducted in the spring of 2002 was to assess surface and subsurface soil and groundwater conditions. It is estimated that approximately 1075 m3 of crude oil (Gibson Blend (LLG 693), Cold Lake (CL 814) and Pine Bend Special (PBS 766)) was released as a result of this incident. All oil was contained on the station property."</p>
2002	INC2002-002	<p>"On 9 January 2002 at 13:00 EST , TCPL personnel discovered a small natural gas leak on the combustor fuel nozzle of the RB211-A gas turbine engine in the B plant. The leak was insufficient to set off the gas detection system and did not ignite. The gas was leaking from a stainless steel tube fitting on a burner feed pipe. The employee removed the fitting and associated burner feed pipe to look for signs of fretting. No deficiencies were noted. The component was reinstalled and the other 18 burner feed pipe fittings were checked for tightness without further deficiencies noted. The burner feed pipes are originally torqued at Rolls Royce and Rolls Royce indicated to TCPL that they could not foresee a reason for the fitting to become loose. TCPL has checked the other RB211s without discovering any deficiencies and has concluded that this is not a systemic problem. Preliminary Information: On 10 January 2002 TCPL personnel discovered a small natural gas leak from a fitting on the combustion fuel chamber on the RB211-A gas generator at TCPL's B Plant of Station 49 near Kenora, Ontario. The amount of gas released was not enough to activate the Station's gas detection system. The unit was shut down following the discovery of the leak and repairs are expected to be completed on 11 January 2002. A negligible amount of natural gas was released to the atmosphere. The volume released was not enough to activate the Station's gas detection system."</p>

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2002	INC2002-007	"On January 3, 2002, at approximately 16:00 hours Eastern Standard Time, station personnel heard the sound of gas escaping in the vicinity of the NPS 30 Line 100-1 discharge side valve enclosure. Upon investigation, it was determined that the gas was escaping from a disconnected NPS 3/4 hydraulic oil supply line to the Shafer gas/hydraulic operator. The open-ended tubing allowed the pressurized operator bottle to expel the hydraulic oil onto the ground. Once the bottle was emptied of its hydraulic oil, the gas continued to vent to atmosphere. The employee immediately isolated the power gas supply to the Shafer valve operator and left the enclosure door open to ventilate the building. TransCanada then notified the local Ministry of Environment Officer [REDACTED] of the incident. The affected tubing and male connector have since been replaced and approximately 70 litres of Univis J13 hydraulic oil was added to the system. The valve operator was returned to normal gas service on January 4, 2002, without further incident. TransCanada has notified the Ministry of Environment Officer [REDACTED] that the clean-up was complete and that approximately two 45 gallon drums of oily gravel and contaminated soils would be stored in an Enviropac at Compressor Station 84 until the next waste materials pick-up. The investigation revealed that the hydraulic supply tubing was not within spec. The wall thickness of the tube was 1.24mm, whereas the Company standard requires a wall thickness of 1.65mm. Furthermore, it is suspected the tubing was not properly tightened and over time vibration caused the fitting to loosen. The balance of the fittings were tightness checked, without further incident. Undetermined volume of hydraulic fluid/oil released."
2002	INC2002-001	"As a result of a pump seal failure on line #1 at Enbridges Edmonton terminal, approximately 7 litres of NGL was released. Release was picked up by gas detection on high LEL which shut down the pump. The release was contained within the building. The pump was flushed with synthetic crude and remaining residue was subsequently flared off. Pump seal will be replaced asap Contact name provided: [REDACTED] General Manager for Western Operations [REDACTED] [REDACTED] Also see incident 2001-072. Similar occurrence at the Loreburn, Sask station. "
2001	INC2001-079	"On December 14, 2001 at 10:10 hours CST, a contract welder was welding a NPS 2 x NPS 1 Schedule 160 Swedge nipple on the NPS 2 riser on the Line 100-2 side of the Line 1:2 suction crossover valve (NPS 24 ball valve) when he observed a fire in the base of the NPS 24 suction crossover piping. The welder had just completed the bead weld and was looking into the Swedge nipple to visually check the interior after the initial weld when he observed a flame in the piping approximately ten feet down. The welder immediately notified TransCanada's Mechanical Technician at the site who promptly extinguished the fire by discharging a 20 lb. Ansul fire extinguisher into the Swedge nipple. TransCanada immediately shutdown the job. There were no injuries or fatalities or adverse environmental effects or service reductions associated with this incident, and the pipeline did not sustain any damage."

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2001	INC2001-078	<p>"H2S/SO2 was released for 2 - 3 minutes when a blower tripped causing a back pressure to a furnace (estimated 3 psi). A release resulted thru what is presumed to be a relief vent. If further info required the contact person at Westcoast is [REDACTED] at his work [REDACTED] or home at [REDACTED]. At approximately 09:06 hours local time on November 22, 2001, in preparation for a maintenance procedure at the sulphur plant, the load on Train 10 was being increased and the load on Train 11 decreased. The increase in air demand through the Train 10 air blower apparently caused a momentary vibration, which allowed a knife-edge latch to trip (mechanical shut down) on the steam turbine (blower engine). As the air blower speed decreased, the pressure in the inlet air line also decreased, allowing the furnace pressure to overcome it and allowed sour gas to flow backward out past the check valve which failed to seat fully. As a result, a discharge of SO2 travelled back through the air blower and was discharged to atmosphere. The operator closed a manual stop valve to block the gas flow. The standby air blower was started up and put on line for Train 10 and the original air blower, which tripped, was left down for an investigation of the incident and to assess the necessary mechanical repairs. Westcoast estimates that less than 30 cubic feet of sour gas was discharged. H2S/SO2 released for 2 - 3 minutes."</p>
2001	INC2001-076	<p>"On November 9, 2001 an operator was opening the letdown separator outlet valve. The valve was approximately 1/8 open when the operator heard an unusual noise. The noise was sour solution (small amount) and sour gas escaping from the vent of the Letdown Turbine seal pot. The vent line is routed through the wall directly below the deck where the area operator was standing. The area operator quickly closed the valve and left the area. There was also a release from the oil sump vents on the Letdown Turbine. The H2S that was released when the operator opened the letdown outlet block valve set off the main horn. Workers on a job outside the building were in the direct vicinity of where the seal pot vent line vents. They were able to evacuate the area without incident. No injuries resulted from the incident. "</p>
2001	INC2001-074	<p>"On November 7, 2001 the seal failed on Letdown Turbine C filling the seal pot with sour solution. The high level alarm in the seal pot did not work. There was a work request in to repair this high level alarm on October 30/01 but repairs had not been completed as this was not seen as an emergency requirement because no catastrophic failures such as this had occurred prior. H2S was thus released from the vent on the seal pot setting off the area and then the main horns. When the Letdown Turbine seals fails, it causes sour solution to over flow into the oil sump and also out of the seal pot vent. The venting system allowed the release of H2S and solution. The oil sump over filled and the seal pot vented to the outside of the building. Over 200 litres of sulfinol containing 25% water was vented to atmosphere and subsequently cleaned up. Sulfinol"</p>
2001	INC2001-077	<p>"On 20 October 2001 a pipeline contractor's employee ([REDACTED] of Twin Rivers Contracting) had his left hand index finger amputated as a result of it being pinched by a boom that dropped 4 to 6 inches onto it. While holding onto the winching sheaver to align the boom stick for pinning with the winching sheave knuckle, the boom stick dropped and pinched the employees's fingers. An alignment tool of some sort (such as a crow bar) should have been used to align the winching sheave knuckle with the boom stick. The incident occurred about 35 kilometers south of Quesnel B.C. on Westcoast's right-of-way. The injured employee was immediately taken to the Prince George Hospital by ambulance. As a result of a contractor's employee being injured when his finger was crushed and it had to be amputated the injury resulted in lost time. This incident did not involve a release. It was an injury related incident as a result of setting up a side-boom."</p>

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2001	INC2001-072	"A PUMP SEAL WAS CHANGED ON UNIT 1.3 AT LOREBURN PUMP STATION. WHEN THE UNIT WAS STARTED UP, A BANG AND A FLASH FIRE OCCURRED. THE FIRE WAS IMMEDIATELY EXTINGUISHED. THE UNIT WAS SHUT DOWN AND ISOLATED. THE PUMP SEAL MANUFACTURER WILL RESPOND AND INVESTIGATE THE PUMP SEAL FAILURE. NO INJURIES REPORTED. This incident is the same as incident 2002-001. It is related to the same manufacturer's seal and failure. This occurred at the Loreburn Pump Station and 2002-001 occurred at the Edmonton Terminal."
2001	INC2001-071	"On 12 October 2001 Enbridge Pipelines Inc. (Enbridge) was in the process of removing contaminated soil from the location of a previous leak that occurred on its NPS 20 Line 10 pipeline on 29 September 2001, (Incident 2001-064) near Binbrook, Ontario. The contaminated soil was being removed from the leak site and was being replaced to remediate the area. During the removal process, dozers were used to move petroleum-contaminated soil from the affected site to the loading area. While removing the soil, the blade of the dozer contacted a stone creating a spark and igniting the product in the soil. The fire was immediately extinguished by on-site personnel using a portable extinguisher. No additional cleanup other than that in progress is required as a result of this incident. "
2001	INC2001-070	"Line 4 was overpressured in excess of 10% (hydro test pressure of the line was not exceeded) upstream of the Glenboro Pump Station due to a valve problem encountered at the Glenboro station. A stem nut had stripped on the remote controlled valve during a start up of the line and the valve's actuator went up giving an indication through the SCADA that the valve was open when it was actually still closed. With the nut having stripped it could not grab the valve stem to open the valve. As a result, a pressure spike was noted which exceeded the MAOP of the line. There was no damage to the line. A detailed Incident Report is being prepared for submission to the National Energy Board."
2001	INC2001-068	"In an extremely remote area 60 miles from Fort Nelson BC, CNRL was transferring condensate from #3 and #4 Tanks to the #6 Tank, The pump was left on overnight , the night of Sept 30. Tank #6 overflowed approximately 4.2 cubic metres of condensate into the clay lined bermed area around the tanks. The overflow was pumped back into tanks 3 and 4. On 30 Sept 2001, the contractor who operates the station for Westcoast Energy Inc, started the condensate water pump in order to move water from the condensate storage tanks 3 and 4 (400 barrels in each tank) to the boiler tank 6 (200 barrels) to be evaporated. As a result of the decrease in pumping efficiency over the years, the pump had been recently rebuilt. Previous to being rebuilt, the pump required 72 to 96 hours to transfer the water from the storage tanks to the boiler tank. On 01 Oct 2001, the contractor arrived at site and discovered that the pump had transferred the entire volume from tanks 3 and 4 into tank 6, which caused an overflow of approximately 4.2 cubic meters of condensate and water into the earthen containment berm. That same day, the contents (water, condensate and rain-water) from the containment berm were pumped back into the stabilization tanks. Approximately 5 cubic meters was recovered. CNRL subsequently reported that all was cleaned up. CNRL [REDACTED] Control Room [REDACTED] Site number DA69D Site is owned by WEI, the condensate is owned by CNRL. "

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2001	INC2001-065	<p>"On 01-Oct-2001 at 13:00 PST, at Westcoast Energy's Summit Lake Compressor Station 4A, the station relief valve for Units 1 and 2 lifted to the open position for approximately 3 seconds venting sweet natural gas to the atmosphere. WEI operators were there at the time and immediately isolated the valve. The pilots of these valves were serviced prior to the occurrence of this incident. Originally, vibration was suspected to have been cause of the relief valve to lift, however further investigation concluded that an incorrectly set (under-setting) of the relief valve pilot was also a key contributing, if not the key, factor causing the incident. On 01-Oct-2001 at 13:00 PST, at Westcoast Energy's Summit Lake Compressor Station 4A, the station relief valve for Units 1 and 2 lifted to the open position for approximately 3 seconds venting sweet natural gas to the atmosphere. WEI operators were there at the time and immediately isolated the valve. The pilots of these valves were serviced prior to the occurrence of this incident. Originally, vibration was suspected to have been cause of the relief valve to lift, however further investigation concluded that an incorrectly set (under-setting) of the relief valve pilot was also a key contributing, if not the key, factor causing the incident."</p>
2001	INC2001-064	<p>" [REDACTED] of Enbridge Pipelines contacted the TSB (Ron Clark) at 15:30 EDT, Sept 29th, to report that Edmonton Gas Control Operations noted a pressure drop on Line 10, at MP 185.6 near Binbrooke Ontario. The upstream compressor was stopped, downstream was maintained to draw down the volume within the pipe to minimize spill volume. At time of reporting, approximately 100 bbls of crude oil was estimated to have been released. Enbridge personnel were onsite at time of reporting. TSB went to site to initiate investigation. On Oct 1st, updated information provided to the NEB (from the TSB investigator), put the estimated spill volume at 500 bbls, with approximately 250 bbls already recovered. In addition, 3 families were relocated away from the spill area due to the potential for traffic, smell and noise as a result of the repair and restoration planned to be done. As at Oct 1st, the line had been repaired and was back online. The pipe failure mechanism appears to be a result of corrosion. The section of pipe has been seized by the TSB for detailed inspection purposes. The NEB has been kept apprised of all activities and findings through the TSB. The NEB close out determined the following: This incident may have been avoided if Enbridge had been aware of the implications of echo loss. Industry has a responsibility to ensure that it has qualified staff reviewing the ILI data. Also, ILI vendors have a responsibility to ensure that their clients understand their reporting structure and the terms used and what are the limitations of their products. Enbridge has undertaken numerous corrective measures that should prevent a reoccurrence of a similar failure. Companies must ensure that they perform thorough condition monitoring and inspections when developing prioritization models. Board staff, are satisfied that Enbridge has identified the issue and has a plan in place to deal with any issues identified during the investigation. PII's willingness to examine the ultrasonic wall measurement data that it has gathered for echo loss and its program to better inform companies about the echo loss issue is a positive step in ensuring that failures due to echo loss are not repeated. Board staff are satisfied with PII's response to the issue. There was no evidence to indicate that the PLC communications failure at Tonawanda contributed to the failure of Line 10. The PLC communications failure, however, did make it impossible for the CCO to access information from Tonawanda to assist in assessing the reason for the pressure drop at MP 1896. Enbridge has implemented a plan to ensure that their SCADA and alarm system are functional. Board staff are satisfied that Enbridge has indicated that they have identified the issue and will act proactively to prevent a reoccurrence. Initial reports indicated that 50.00 m³ of oil had been released and that 25.00 m³ had been recovered. Subsequent to the initial report, Enbridge determined that the tabulated values above, more accurately reflected the actual values."</p>

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2001	INC2001-063	"██████████ of Enbridge Pipelines ██████████ called the TSB to inform them (and the NEB) of an incident which occurred at the Edmonton Terminal. At 19:26, Sept 26, employees noted an electrical arc in the switch gear in the electrical building, when starting a pump. The pump failed to start and all 5 pumps shut down. At 1:45 am Sept 27th, two of the 5 pumps were brought back on line. No other details were provided. Investigation is underway by Enbridge and details will be forwarded to the TSB and NEB when available. Received detailed incident report and this was investigated. Attributed to faulty breaker that was misaligned when installed. This switchgear will be out of service until summer 2002. Line 3 was out of service from 1926 hrs MST 26 September to 0145 hrs MST 27 September 2001."
2001	INC2001-067	"On 09 June 2001 at Westcoast Energy Inc's (WEI) Fort Nelson Gas Plant in B.C. a release of SO2 into the atmosphere was discovered while checking a temporary repair to a leak that had occurred on 25 May 2001(incident 32 -2001). Personnel found the leak one meter away on the 610 mm acid gas line, off the 762 mm tee on the same line which the 25 May incident occurred. A temporary repair was immediately made to this leak until such time as a permanent repair was possible. Permanent repairs were made on 22 and 23 June 2001. Note: NEB was not aware this incident (067-2001) had occurred until 25 Sept. 2001 when NEB received a detailed incident report from Westcoast for incident No. 32-2001 which included relevant info to this 9 June incident. As a result NEB staff created a separate incident number (67-2001) for the 9 June incident. There was no fire or explosion. Product/substance released was SO2 (21%) N2 (79%)"
2001	INC2001-062	"An oil leak on the power turbine on the No 2 unit occurred and ignited. Source of ignition is suspected to be the hot power turbine casing, with a skin temperature higher than the autoignition or flash point of the synthetic oil used and leaked from the power turbine. Unit was shut down and Operator put out the fire with a fire extinguisher. Insulation surrounding the power turbine was removed to ensure no fires were burning under or in the insulation. Source of the leak was not established at the time of reporting. Incident was reported to TSB by ██████████ (TL - WEI) ██████████, cellular = ██████████"
2001	INC2001-059	A crew was digging up an underground domestic fuel supply gas line to a company house at the station as the house had been sold and was in the process of being removed off of Westcoast Energy property. A back hoe operator snagged the 3/4 inch line with the hoe and broke it. The line was isolated and repaired. The pressure in the line was 39 psi at the time of the incident. There was no fire or injuries The incident was reported to the TSB by ██████████ of Westcoast. time and volumes are unknown
2001	INC2001-055	"On August 14, 2001 at approximately 12:30 p.m. during routine pigging, Westcoast pipeline technicians, ██████████ and ██████████, depressurized the 20 inch Grizzly launch barrel and opened the pigging closure. A pig in the closure had been loaded on July 2, 2001, but not shipped due to low flows in the pipeline. ██████████ noticed that the back of the pig had started to smoke and warned the other technician that it was probably iron sulfides. The barrel then erupted into flames, both employees, per operating procedures were wearing self contained breathing apparatus. ██████████ ran to the truck for a fire extinguisher and ██████████ ran to the corrosion injection building for the onsite fire extinguisher. The fire was then put out. After close examination, it was determined that the O-ring on the barrel door had suffered damage from the fire. The barrel door was closed and the valves were locked out to prevent opening and re-pressurizing of the barrel until the O-ring was replaced the following day. A marginal amount of sour natural gas (2.04% H2S) was released and ignited."

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2001	INC2001-054	"On 25 July 2001 a small fire occurred at Alliance's Carson Creek Compressor Station. The station was shut down at the time to facilitate modifications to the compressor cooling package. Flint Energy Services was on contract to modify a skid to accommodate the installation of an electric motor to run the cooling fan. This required Flint to cut and bolt some new brackets on to the existing building skid frame. Flint representatives (a welder, his helper and Flint's safety person) went through the site orientation and a hot work permit was completed for the operation. The scope of the work was discussed, and appropriate systems were locked and tagged out. During their review of the work site, neither Flint or on-site Alliance personnel noticed two lengths of NPS 3/8 stainless steel tubing which was hidden from view behind an I-beam. The tubing was situated on the opposite side of the I-beam up from where the welder was positioned. The tubing ran along the I-beam's side but underneath its upper ledge. Both tubings had previously been capped and were inactive. However, one of the tubings still contained some residual gas. The other tubing was a deactivated air line. The welder and his helper were going to cut an inspection hole in the side of the I-beam and they had both looked on the other side of the beam but did not remove some grating that would have enabled them to get right in and have a good look where they would have been able to see the tubing. The tubing was at the very top side of the I-beam and was not visible without taking out the grating. As the welder cut through the metal I-beam with a cutting torch, the tubing containing the residual gas was inadvertently cut as well and a small fire started. The welder immediately shut off his torch and ran for a nearby fire extinguisher. In the short time that it took him to return with the fire extinguisher the small fire had self extinguished. A miniscule amount of residual natural gas in a 3/8 inch tubing was released and ignited."
2001	INC2001-053	"On 26 July 2001, at approximately 16:40 PDT, lightning struck the distance piece vent pipe on the outside of the Compressor Station 1 compressor building. Station employees felt the lightning shock and immediately went to investigate if there was any damage to the building or equipment. Upon investigation, Westcoast personnel discovered that the vent gas from the unit #2 vent stack had ignited. A Westcoast employee entered the compressor building and closed the supply valve to the vent. The fire went out, the valve was opened and the unit was back in service. The total time that the vent gas was ignited is estimated at two to five minutes. "
2001	INC2001-052	"A contract worker suffered a broken leg as a result of an incident that occurred at the Enbridge Cactus Lake Pumping Station on July 20, 2001. The contractor was lifting a valve when the cable ""detached"" and the valve dropped down on the contractors leg. The worker was taken by ambulance to the Macklin Hospital. Work was shut down subsequent to the incident and the pipelayer was out of service pending re-certification."
2001	INC2001-051	"On 5 July 2001, approximately 500 m3 of H2S gas was inadvertently vented to atmosphere after the increased concentration of H2S initiated shutdown at the Paddle River Complex and Meter Station. Alliance personnel did not report the incident until 11 July 2001. This incident is considered to be non-reportable under OPR99. Sour (H2S) gas released into atmosphere."
2001	INC2001-050	"On 4 July 2001 at 12:50 MST a ""puff"" of NGL was released from the Line 1 pump room at Glenavon Pump Station at MP 504.6. Unit 1.1 at Glenavon was locked out on a seal failure with NGL isolated in the pump. The NGL expanded due to the rise in atmospheric temperature, which resulted in a slight release of NGLs from the outboard seal. This, in turn, tripped the Unit 1.1 gas detector. Enbridge stated that Unit 1.1. pump was immediately drained down to prevent further pressure buildup. Enbridge replaced the seal on 5 July 2001. Trace amounts of natural gas liquids were released."

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2001	INC2001-040	<p>"At 13:00 hours P.S.T. on 17 June 2001, at Westcoast Energy Inc's (WEI) Compressor Station No. N2 Prophet Creek B.C., a Westcoast employee (██████ - Station Operator) received 1st degree burns on his face and right hand when a flash fire occurred at the gas fired boiler's pilot light while he was attempting to light it. The Operator's burns were assessed and treated by a doctor the Fort Nelson B.C. Hospital. He returned to work the next day with the extent of his injury having been determined to be similar to a severe sun burn. The incident was reported by ██████ of WEI. Phone (██████). The only loss that resulted from this incident was a few hours of work by the employee. He returned to work the following day. An excessive amount of natural gas accumulated within the heating boiler and created a back flash fire when an employee attempted to light the boiler. No crude oil released (as was originally entered in addition to fuel gas released)."</p>
2001	INC2001-049	<p>"On June 17th, at WEI's McMahon's Gas Plant near Taylor BC, the sulphur plant was been brought down in a controlled manner due to a Cogeneration Plant trip, and consequent lack of process steam availability. During the shutdown sequence, operators discovered and subsequently bypassed a passing fuel gas block valve. In an attempt to re-ignite the incinerator, the #1 incinerator lit in an aggressive manner. The concussion of the ignition was felt throughout the facility, however there was no evidence of damage as a result of this ignition. No injuries however, the incinerator was shutdown to facilitate an investigation . "</p>
2001	INC2001-038	<p>"At approximately 23:00 PDT, a valve on a sulphur pit was left open which allowed between 50 and 100 tons of sulphur to release into the adjacent ditch and wooded area. At the end of the Train #3 turnaround, in preparation for startup, a block valve (isolating Train #3 sulphur outlet from the tie in to Trains A and B outlet) was opened. This crossover line had been isolated and had cooled off during turnaround, solidifying its contents of sulphur (S2). During startup the S2 re-warmed and eventually liquified. Approximately 24 hours later, S2 was found to be issuing from a pipe which was missing a pipe cap. It was estimated that S2 flowed through a 1" valve for about 2 hours. 14 June 2001 update: See Action Details Tab - E-mail 186 tonnes of sulphur released. 640 tonnes of sulphur, soil, and debris were recovered."</p>
2001	INC2001-039	<p>"On June 9th, 2001 at approximately 11:29 MST, at TransCanada PipeLines Limited, Station 17 (Regina Compressor Station) a fuel gas regulator for the ""D"" plant compressor on the primary fuel gas run, failed and resulted in the venting of an unknown amount of sweet natural gas to the atmosphere. A fuel gas regulator for the ""D"" plant compressor on the primary fuel gas run, failed and resulted in the venting of an unknown amount of sweet natural gas to the atmosphere."</p>

2001	INC2001-037	<p>"At approximately 08:18 hours P.D.T. on 3 June 2001 the station operator at Westcoast Energy Inc.'s Summit Lake B.C. compressor station No. 4A heard gas escaping outside in the station yard while he was in the station's Control Room. He went outside and the noise of escaping gas was loud enough to lead him to believe that a small line had perhaps broken off near a relief valve. As he approached the area of the station discharge piping for Compressor Unit No. 2, which is adjacent to relief valve PSV-0402 that is installed above a block valve, the gasket located in the flange above the block valve and below the relief valve blew out. The escaping gas pressure damaged the wall of the recycle shed located beside the valve. The escaping gas also blew gravel from the ground around the site. The operator had observed the relief valve to be bouncing up and down in place above the block valve while the gas was escaping from the flange. The operator responded to the situation by activating a station ESD. The station isolation valves closed but the station blow down valve PSV-0415 failed to open. The majority of the station piping did manage to blow down through the flange with the blown gasket. However, because of the faulty station blow down valve failing to function, this left the station discharge piping on the discharge side of #3 check valve pressurized. Immediately after the incident the following was noted with respect to the flange stud bolts and nuts: 1) One of the 12 stud bolts that exist on the flange had broken; 2) Two of the 12 stud bolts that exist on the flange were cracked; and 3) Two nuts had come off two of the stud bolts and were found on the ground beneath the flange. The repair carried out by personnel following the incident included replacing the flange gasket & flange studs. Personnel also found an electrical problem that resulted in the station relief valve not opening when the station was ESD'd. This problem was also corrected. "</p>
2001	INC2001-047	<p>"During a turnaround at the Pine River Gas Plant, on May 31 at approximately 11:10 PDT, contractors were removing catalyst from Train 3, #2 and #3 converters using a vacuum technique. Several fires developed and were extinguished by dousing with water. In anticipation of the possibility of this occurrence, personnel used personal protective equipment (PPE) while performing the task as per procedure. Fire water was made readily available. After the unit was shut down and inspected a complete analysis of the cause of the fire was done. It was confirmed that the heat soak and sweep-out procedures were performed correctly and that a greater than usual amount of sulphur remained in the vessels because of a deficiency in the structure of the catalyst bed. Specifically, an internal screen failed due to improper installation of the support grating. The screen ruptured and allowed beads of support bed material and catalyst to leak to the bottom of the vessel where it could not be removed by the heat soak. "</p>
2001	INC2001-048	<p>"Between approximately 13:00 and 13:30 MST on May 29, 2001 an Operator was draining the glycol storage tank to the open drain system in preparation for internal inspection of the tank. Once drained, the drain valve was inadvertently left open and the surge tank blanket gas (methane) passed into the building. The gas was detected by a gas detector above the drain point, and an alarm rang in the Control Room. Within a few minutes Operations shut the valve. The building was then cleared of gas. The blanket gas system had been shut down and vented prior to the draining procedure. What vented was residual gas which was at minimal pressure. WEI has calculated the release to have been 5890 scf."</p>
2001	INC2001-045	<p>"During a turnaround at the Pine River Gas plant, at approximately 1:00 pm on May 26th, after the manways were removed from the B High Pressure Contractor, a small smouldering fire at the raschig rings was visually detected by the indication of smoke. Water had been previously sprayed into the top of the vessel to soak the vessel internals and flood the raschig rings in accordance with established turnaround procedure. No workers were inside the B contractor at the time of the fire. Water has previously been drained and some drying had take place which allowed the pyrophoric material to ignite when it was exposed to the atmosphere. The smouldering fire was extinguished immediately with water. "</p>

2001	INC2001-046	<p>"During a turnaround at the Pine River Gas Plant, on May 27 th at approximately 16:30 PST, the raschig rings began to smoulder when the manways were removed from A High Pressure Contractor. Water was stationed onsite as the possibility of a fire was anticipated. Water had previously been sprayed into the top of the vessel to soak vessel internals and flood the raschig rings in accordance with established turnaround procedure. No workers were inside the A Contractor at the time of the fire. The water had been previously drained in accordance with procedure and some natural drying had take place which allowed the pyrophoric material to ignite when it was exposed to the atmosphere. When the pyrophoric iron began to burn, smoke was detected by the safety watch and water was used to douse the rings. As a matter of practice, a water source is located at each vessel to douse the rings if necessary, as part of standard fire fighting procedures."</p>
2001	INC2001-036	<p>"Tank 306 holds caustic solution. During servicing, the level transmitter was removed from Tank 306, the transmitter isolation valve was left open. Approximately 1,000 litres of caustic solution spilled into the bermed secondary containment surrounding the tank. When level in the containment area started to drop, investigation revealed that approximately 30 litres of the solution leaked past or through the berm and into the surrounding soil (but still on plant site property). ~ 15 % caustic solution - ~ 30 litres of caustic solution not recovered Tank 306 which holds caustic solution (15%) spilled approximately 300 litres into the bermed secondary containment surrounding the tank. Approximately 30 litres of the solution leaked through or past the berm and into the surrounding soil."</p>
2001	INC2001-075	<p>"A valve to the culvert precipitation discharge system was not blinded prior to turnaround maintenance operations. These operations included cleaning the stainless steel raschig rings by a vacuum truck. Operations staff believe that the rinsate would be directed to the process building sump system and subsequently treated through the sour liquids effluent treatment system. Instead, the rinsate found its way through an open valve to a culvert system which discharged onsite for runoff control. The raschig rings go through two backwash rinse cycles while in the vessels prior to removing for the third rinse, therefore the highest concentration of hazardous substances was greatly reduced. The estimated volume spilled/released was reported as 0.1 m³ amine degradation products. Total volume recovered 30.0 m³ rinsate water. The culvert flange pipe that the rinsate was flowing from was closed immediately on discovery, and absorbent booms and pads were deployed to the spill area. About 30.0 m³ of rinsate remained in the containment berm and was subsequently treated through the plant's sour liquids effluent system. On June 5th, Hazco Environmental Services, used a vacuum truck and recovered over 10 m³ of diluted rinsate. Further, approximately 90 tonnes of suspect soil was excavated, stored and covered to await characterization. Results show that no Industrial Level criteria of the BC Contaminated Sites Regulation were exceeded. Followup action as a result of this incident is that the berm culvert flange pipe was permanently blinded to prevent any discharge into the culvert system. The plant committed to revise the check list associated with the pre-ob safe work permit process to ensure that any discharges are going to the appropriate collection or disposal. Note: volume recovered was greater than volume released, due to the addition of rainfall to the spill"</p>

2001	INC2001-034	"At approximately 16:00 on 02 June 2001, approximately 50 litres of caustic solution (estimated to be 15% strength) leaked from the caustic cooler located in the condensate and fractionation building. This solution leaked into the catch basin, but then overflowed into the Peace River. The exact volume that made it into the river was difficult to quantify because of the muddiness of the river. The piping was isolated at 16:30 on 02 June 2001. A followup phone to WEI call by TSB on 04 June 2001 indicated that the recent pH readings measured at the cooler were very high (as expected). At both the skimming bay and the Peace River, the pH readings were acceptably normal. Caustic solution may have entered the river. Subsequent tests at the skimming bay indicated the pH had reached acceptable levels of 6.5 to 8.5. Caustic solution, estimated to be 15% strength leaked into the catch basin but then overflowed into the Peace River. The volume was unknown at the time of reporting."
2001	INC2001-032	On 25 May at Westcoast Energy Inc's (WEI) Fort Nelson Gas Plant in B.C. there was a release of SO2 into the atmosphere. The release was detected when the sulphur plant operator smelled SO2 at ground level by the combustion air blower intakes (reading of 8 ppm obtained). The leak was found to be coming from the Train 10 sulphur acid gas enrichment line (762 mm) close to where it joins the acid gas header. Near the location of the leak the SO2 ppm reading was determined to be 495 ppm. The area was cordoned off and staff determined the leak to not present a safety risk to either the plant or its personnel. A temporary repair was made the next day until such time as a permanent repair was possible. Permanent repairs were made 22 and 23 June 2001. There was no fire or explosion. Product/substance released was SO2 (21%) N2 (79%)
2001	INC2001-031	"On 25 May 2001, 23:00 PDT, approximately 5.8 million SCF of natural gas was released to the atmosphere through a relief valve as a result of a failure of a pressure regulator (on the line). Total cost of repair - \$6,910. 91754.06 standard m3"
2001	INC2001-028	"On 21 May 2001, at approximately 09:00 MST, the TransCanada emergency number was called by a local area farmer, to report an audible gas release at Kilometre Post 135, approximately 25 kilometers northwest of Shaunavon, Saskatchewan. TransCanada personnel were dispatched to investigate the leak and upon confirmation that the leak was associated with the NPS 42 pig launcher, they proceeded to isolate the vessel from the mainline. The leak was identified as having originated from the pig launcher access door, caused by a leaking o-ring. The o-ring was replaced on 24 May 2001. Supply pressure at the location of the leak was 7800 kPa. Foothills stated that the amount of natural gas released to the atmosphere was negligible. Foothills stated that the amount of natural gas released to the atmosphere was negligible."
2001	INC2001-030	"On 21 May 2001, 4:18 MDT, a BC Hydro power failure occurred. The emergency generator did not start due to a faulty battery (battery case cracked). The power failure caused the unit 3 compressor case to vent approximately 15,144 SCF of natural gas to the atmosphere. (Note: venting of this gas is considered by WEI to be a normal part of the control logic for a prolonged power failure) Cost of failure = \$1,000. Station was down until hydro electric power was restored."

2001	INC2001-029	<p>"On 18 May 2001, at approximately 8:50 MST, Westcoast personnel discovered a sour natural gas leak on the 10 inch Milligan Peejay Loop Pipeline while planning for work at a nearby tie-in site. The leak site was located at kilometer 3.32 of the Milligan Peejay Pipeline near Fort St. John, British Columbia. Once the leak site was identified, producer tie-in valves were immediately closed along the pipeline to isolate the pipeline from all gas sources. After the pipeline was isolated, the pipeline was depressurized by flaring the remaining gas. Depressurizing the pipeline enabled further inspection to occur. The leak occurred on line pipe approximately 0.5 metres upstream of the tee and producer tie-in assembly. Since the producer tie-in is no longer active, Westcoast removed the affected piping plus the producer tie-in assembly and replaced it with approximately five metres of new pretested pipe. The two new tie-in welds were inspected by x-ray. Westcoast completed the repairs and put the pipeline back in service on 28 May 2001. Approximately 80.0 m3 of soil was excavated around the leak to inspect the piping. Following excavation, there was visible hydrocarbon contamination in the soil and water. There did not appear to be any risk of hydrocarbon migrating from the site as the soil was not saturated with hydrocarbons. Two composite soil samples were taken, one from the excavated material and one from the walls of the excavation. The samples have been sent for analysis. There are no creeks or water bodies in close proximity to the site. There were no indications of environmental damage resulting from the gas release. Westcoast removed the hydrocarbon in the water with absorbent pads. The pads were then disposed of in accordance with the Special Waste Regulations. Since the soil was not heavily contaminated, on site contamination rehabilitation was utilized. During backfill all visibly contaminated solid was separated and placed on the top portion of the excavation. The contaminated soil was mixed with ""Oil Gator"". The ""Oil Gator"" acts to absorb the hydrocarbon and promote bioremediation. The BC Ministry of Environment has approved this remediation process. An unknown amount of 1.93% sour natural gas was released through a leak in the 10"" Milligan Peejay Loop Pipeline."</p>
2001	INC2001-033	<p>"The Unit #1 at Compressor Station 2B (Azouzetta) shut down due to a perceived high bearing temperature on the compressor thrust bearing. Each time the unit was re-started, gas was vented. The normal sequence is to vent the compressor case to 250 psi. A total of approximately 10.5 Mscf of gas was vented to the atmosphere. Through investigation, it was determined that the shutdown was due to a wiring problem on the thrust bearing temperature sensor and not an actual high bearing temperature. After the last shutdown on May 15, 2001, the bearing temperature shutdown was temporarily bypassed until a permanent repair was made later in the day and the unit was re-started. New wiring was installed within a stainless steel tube to prevent reoccurrence. A total of approximately 10.5 Mscf of gas was vented to the atmosphere."</p>

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2001	INC2001-027	<p>"On 10 May 2001, the station outage and turnaround at Booster Station #8 (Laprise) was nearing completion. During this particular outage, station relief valve maintenance was performed as well as a 2500 hour inspection and partial overhaul of Unit #5 (Ingersol - Rand 412 KVS-FT engine and compressor). By late afternoon on 10 May 2001, the maintenance work on Unit #5 was complete and the unit was ready for a test run. Operations and maintenance staff [REDACTED] and [REDACTED] proceeded to go through the unit starting sequence. While the unit was running, a chirping sound was heard coming from the vicinity of #11 power cylinder. The head of the cylinder had been changed out during the maintenance work performed on the unit earlier that week. Both employees assumed that a leaking exhaust manifold gasket was the cause of the noise. Both employees climbed onto the catwalk to investigate the noise. While bent over in front of power cylinder #11 to investigate the source of the noise, they noticed that a Kiene Indicator Valve had been left open. At this time a flash of fire occurred in front of both employees, resulting in both employees being burned. The unit safety systems were activated by the fire detection system and the unit was automatically shutdown at 17:23 PDT. [REDACTED] and [REDACTED] evacuated the compressor building with [REDACTED] stopping to close the unit manual fuel shut off valve. Both employees went to the first aid room and were met by [REDACTED], Electrical and Instrumentation Technician for Westcoast. [REDACTED] had received the most serious burns and, after he removed his coveralls and shirt, was showered with cold water. [REDACTED] proceeded to the Prime West Facility adjacent to the Laprise Station to enlist the aid of the First Aid attendant. The First Aid attendant treated both employees. The Fort St. John Gathering Operations/Maintenance Team Leader was notified of the incident at approximately 19:20 by [REDACTED]. After discussion with [REDACTED] and [REDACTED], it was decided that [REDACTED] and [REDACTED] should drive to Fort St. John and report to the Fort St. John Hospital for additional treatment. They arrived at the hospital at about 22:00, were treated for their injuries and released. At approximately 19:30 two other Operations and Maintenance employees were dispatched to the Laprise Station to confirm the safe condition of Unit #5 before another start attempt was made. When they arrived at the station, they found the Kiene Indicator Valve open on the #11 power cylinder. They closed the valve and the unit was restarted. With the unit running, a more thorough check of the unit was made. This check revealed a fuel gas leak from a Dressler coupling on the fuel gas manifold near #11 power cylinder. The unit was again shut down and the leak was repaired. It was also noticed that the #10 power cylinder spark plug wire was disconnected from the spark plug. This may have caused an arc from the #10 power cylinder coil tower to the coil ground. This was repaired by attaching the spark plug lead to the spark plug. The unit was again started, test run and left on line. [REDACTED] received first and second degree burns to left side of his neck, left ear and left hand. The burns suffered resulted in six days of lost time. [REDACTED] received first degree burns to his face and left hand. No lost time resulted. As a result of the Kiene Indicator Valve being left in the open position allowing gas to escape and a gas leak in the fuel gas manifold Dressler coupling, a flash fire was ignited because an ignition lead was disconnected from an adjacent spark plug coil."</p>
2001	INC2001-026	<p>"As a result of a failed gasket on a downstream flange on the outlet valve of the Boundary Lake pipeline inlet slug-catcher, a sweet gas leak developed. The pressure at the time was approximately 850 psi. The noise from the leak alerted the WEI personnel located nearby. Westerly winds quickly dissipated the gas which leaked. Volume of gas released unknown."</p>

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2001	INC2001-025	<p>"Approximately 40 m³ (40, 000 litres) of diluted sulphuric acid solution of a pH 3.6 was estimated to have seeped through a partially open discharge valve for the past 2 weeks from a collection pond into crushed sandstone located next to the ponds. Some of the product may have migrated into the surrounding vegetation surrounding the ponds and sandstone. This spill consisted of normal plant runoff water caused by rain or snow melt from the site. This runoff collects in a treatment pond, is treated for ph, then is transferred to a 2nd pond. The ph is tested, and if acceptable, it is drained to the surrounding area. The leakage came from this 2nd pond. The intentional release of this water is usually done in the spring following the snow melt. This year, prior to this being done, the drain valve from the pond accidentally passed water to the surrounding area. It appears that the valve may not have been entirely shut, or had become partially opened due to the formation of ice within the pipe. When the line thawed in the spring, the leakage occurred. Reportedly, the last personnel to work in the area was a contract crew under the direction of the WEI Engineering Department. The WEI EH&S investigation determined that, upon completion of the contractors work, the Engineering Department should have ensured that the job was properly completed, as per the Work Order hand-back procedures. Specifically, the valve should have been checked to ensure that it was shut. The ph of the leaked water was tested and found to be within the limits specified acceptable for release. The result of the leak was no different than would have occurred had the water been intentionally released. The release was unintentional, and had the ph been extreme, environmental damage could have occurred, therefore prevention of a reoccurrence is required. Approximately 40 m³ (40, 000 litres) of acidic water (pH 3.6)"</p>
2001	INC2001-023	<p>"The station generator shut down on Ignition Failure at 16:30 PDT. This resulted in a loss of power to the station. The loss of AC power, caused the Unit #1 Compressor Oil cooling fan to stop. This caused the compressor unit #1 to shut down on high oil temperature (16:45 PDT), which in turn resulted in the automatically de-pressuring or venting of the compressor casing. Total volume vented to atmosphere estimated at 4.6695 MSCF of Sweet Natural Gas."</p>
2001	INC2001-021	<p>"On 30 April 2001, at 2126 hrs MST the Edmonton Control Centre started a Line 6B delivery of a condensate batch to the Sun Oil refinery. The Sarnia Control Centre operator contacted Sun Oil and verified that their delivery valves were open. At 2145 hrs MST, the Edmonton operator contacted the Sarnia operator concerned about mainline pressure. Line 6B was immediately shut down and a gauger dispatched to the Sun Oil Take Off. At 2200 hrs MST, the gauger reported no identifiable problems at the Sun Oil Take Off and proceeded to the Sun Oil Metering System. At 2205 hrs MST, the gauger contacted the Sarnia operator and advised of a leak at the Sun Oil Metering Facility. The Sarnia operator immediately isolated the metering facility. The emergency response notification was initiated at 2210 hrs MST with the first responder on site by 2315 hrs MST. The gauger remained on site after the initial notification. The metering facility was depressurized into the sump tank at 2315 hrs MST and the release of oil halted. Site clean-up commenced immediately. It is estimated that 2.8m³ of crude oil was spilled, all of which was contained inside a berm on company property. Product was cleaned up and ongoing monitoring being conducted. See Environmental monitoring report on file 3750-A000-2001-021 and in the incident binder under this incident. Contaminated soil was excavated and soil samples collected from site indicate that they were below provincial criteria for Industrial/Commercial land use for Ont Ministry of Environment. Enbridge is not considering further remedial actions for this site. 2.8m³ of crude Oil was estimated to be spilled. Contained within a berm on the company property."</p>

2001	INC2001-020	<p>"At 16:37 hours local time on 30 April 2001, at Westcoast Energy Inc's (WEI) Taylor B.C. McMahon Gas Plant, a leak developed along the inside edge of a cement closed drain valve pit. An estimated volume of 16m3 of salt/sour water was released. There was no C3 or C4 present since the liquids are at atmospheric pressure. An exploratory excavation was undertaken along side the pit to determine how best to repair the closed drain system. The south side of the cement pit was excavated and cribbing was installed, but due to wet weather the work could not be completed. The excavation filled with water, which had to be drained and removed to the plant's effluent area for treatment. The wet soil in the excavation was also removed and taken to a steel tank (Tank 103) for testing, removal and treating by Hazco Environmental (hazardous waste treatment co.). Personnel discovered that a section of the pit's drain line had externally corroded and was leaking. As a repair, a 5 foot length of 4 inch diameter pipe was fabricated with a flange and installed in place of the corroded section of pipe. The cribbing was removed and clean soil used to fill the excavation. The line was tested and placed back into service on 1 May 2001. The contaminated soil was removed and replaced with clean fill. Release of salt/sour water mixture."</p>
2001	INC2001-022	<p>"On 28 and 30 April 2001 at Westcoast Energy Inc's (WEI) Pine River Gas Plant in B.C. there were a total of two releases of H2S into the atmosphere (one release on each of the two days). The 28 April release occurred when a control instrument which monitors the level of water at the steam side of the # 1 sulphur condenser (B sulphur train) failed and mistakenly detected a low water level condition. The DCS based control system is configured to automatically initiate an emergency shut down (ESD) when a low water level is detected. The ESD caused the Reaction Furnace's Combustion Air Blower to shut down, the Acid Gas ESD Valve to begin to close and the air ESD valve to begin to close. As the Combustion Air Blower speed decreased the flow rate of air decreased until the blower and flow of air completely stopped thereby allowing a back-pressure to flow up against a check valve which malfunctioned due to scoring on the shaft and bushings. The malfunctioning check valve allowed unburnt H2S laden acid gas to pass back through it and through a Surge Flow Control Valve to atmosphere outside of the A/B Utilities Building. Under normal operating conditions the combustion furnace or reaction furnace serves to combust some of the H2S laden Acid Gas to SO2. The Reaction furnace was operating normally prior to the incident. However, early in the incident the combustion flame would have been extinguished and the combustion air depleted. With the flame extinguished, the H2S laden Acid Gas that was vented to atmosphere had not been burned off to convert it to SO2. Following the 28 April incident, personnel repaired the failed low level transmitter. As well, they recognized that the check valve was in need of servicing. However, parts would have to be ordered which personnel did. They decided that with the having repaired the level transmitter the likely hood of the incident repeating itself before the check valve's ordered parts arrived would be highly unlikely. As it turned out, unbeknown to maintenance personnel, an additional wiring problem (corroded transmitter wiring) existed with the water level control instrument. As a result the incident repeated itself on the 30 April as the check valve had not been repaired due to WEI staff having ordered parts which they were still waiting for. On 28 April 2001 approximately 1000 standard cubic feet of acid gas containing 560 scf of H2S was released to atmosphere. 560 scf contains 50 pounds of H2S. On 30 April 2001 a[pproximately 1200 standard cubic feet of acid gas containing 660 scf of H2S was released to atmosphere the the incident repeated its self. 660 scf contains 60 pounds of H2S. On 28 April 2001 approximately 1000 standard cubic feet of acid gas containing 560 scf of H2S was released to atmosphere. 560 scf contains 50 pounds of H2S. On 30 April 2001 a[pproximately 1200 standard cubic feet of acid gas containing 660 scf of H2S was released to atmosphere the the incident repeated its self. 660 scf contains 60 pounds of H2S."</p>

2001	INC2001-019	<p>"During pipeline pigging operations near Station 3 McLeod Lake Compressor station, a pig slowed down or stopped momentarily when it passed a Tee (intersection) within the station. This caused a pressure build up behind the pig and caused a pressure relief valve in the station to lift for about 3 seconds. The result was an unintended 3 second release of natural gas to the atmosphere through the relief valve. Only a minimal amount of gas was vented to atmosphere for 3 seconds through the relief valve. The pressure relief valve opened for about 3 seconds releasing gas to atmosphere and then closed resetting itself."</p>
2001	INC2001-018	<p>"On 16 April 2001, at approximately 11:45 hours Central Standard Time (CST), TransCanada staff were notified about a possible oil/gas leak at MLV 30 + 4.6 Km. Operational staff from Station 30 were dispatched to investigate the leak and upon confirmation that the leak was associated with the mainline Drip on line 100-4, they proceeded to isolate the 100-4 line from MLV 30 to MLV 31. Cleanup crews were contacted and sent to the site to contain and cleanup an unconfirmed quantity of oily substance that had entered the drainage ditch adjacent to the valve location. There was some flow in the drainage ditch at the time of the incident due to spring thaw and runoff. The cumulative release of natural gas to the atmosphere as a result of this incident was negligible. Additional investigation into this incident determined that the source of the leak was a cracked NPS 1 riser which is part of the mainline Drip horizontal blow-down assembly. An additional contributing factor to the leak was a failed NPS 2 isolation valve on the mainline drip. A new isolation valve and vertical blow-down riser assembly were installed on May 4, 2001. TransCanada has estimated that approximately 100 gallons of drip oil was spilled into the adjacent drainage ditch as a result of this incident. A remedial cleanup plan, approved by Manitoba Environment, was implemented with the assistance of an environmental cleanup crew from Winnipeg. An impact assessment of the spill was completed with the assistance of Wardrop Engineering. This assessment concluded that there will be no residual effects as a result of the spill. TransCanada has estimated that approximately 100 gallons of drip oil was spilled into the adjacent drainage ditch as a result of this incident. A remedial cleanup plan, approved by Manitoba Environment, was implemented with the assistance of an environmental cleanup crew from Winnipeg. An impact assessment of the spill was completed with the assistance of Wardrop Engineering. This assessment concluded that there will be no residual effects as a result of the spill. TransCanada has estimated that approximately 100 gallons of drip oil was spilled into the adjacent drainage ditch as a result of this incident. A remedial cleanup plan, approved by Manitoba Environment, was implemented with the assistance of an environmental cleanup crew from Winnipeg. An impact assessment of the spill was completed with the assistance of Wardrop Engineering. This assessment concluded that there will be no residual effects as a result of the spill."</p>
2001	INC2001-017	<p>"On April 5, 2001, at approximately 12:15 hours MST, a TransCanada employee detected a high concentration of natural gas near the north exterior of the Unit 1 building at the Jenner Compressor Station on the Foothills Pipe Lines (Alta.) System. Upon further investigation, it was determined that the natural gas was leaking from the seal around the lid of the Unit 1 bypass check valve. Site personnel shut down Unit 1 and then completed a controlled yard blowdown in order to facilitate immediate repairs to the valve. The two o-rings in the lid of the bypass check valve were replaced on April 7, 2001. There was a negligible amount of natural gas released to the atmosphere as a result of this incident."</p>

2001	INC2001-016	"On 6 March 2001, station personnel conducted a routine leak check after starting the 'C' Plant at Compressor Station 88, near Hearst, Ontario. At approximately 15:14 hours MST, personnel detected a small natural gas leak on the fuel gas mini skid for the RB211 DLE. Personnel immediately shut down the unit and isolated the fuel gas supply. Further investigation revealed that the gas was leaking through a gasket on the APCO Fuel Gas Regulator. The unit was shut down for a period of two hours, while personnel dismantled the pressure regulator to effect repairs. Upon dismantling the regulator, personnel could not find any visible signs of damage to the diaphragm. Following re-assembly, the regulator was tested for leaks and was returned to normal gas service without further incident. Investigation revealed that a small amount of natural gas was leaking through a gasket on the APCO Fuel Gas Regulator."
2001	INC2001-015	A small sulphur fire occurred while personnel were taking the sulphur pipeline down for maintenance. While draining less than a gallon of sulphur from the line the sulphur ignited. Personnel extinguished the fire within 15 minutes by using water and a dry chemical fire extinguisher.
2001	INC2001-014	"On the morning of 10 March 2001 hydrocarbon liquid entered the Nig Creek Booster Station due to the pigging operation of the 10-inch Umbach pipeline. Because the station was drawing fuel from the Alternate Fuel Supply, the liquid slug ahead of the pipeline pig had an open path to flow past the station into the 16-inch Nig Creek Pipeline and also to enter through the station's suction piping. Since compression was not operating, the liquid slug had an open path to flow to the station discharge piping through the 4-inch check valve. The liquid slug was sufficiently large to be carried through the Alternate Fuel Supply past the #2 station heating boiler's combustion chamber and collect in the debris tray beneath the combustion chamber. The volume of this tray determines a hydrocarbon condensate release volume of approximately 0.025 m ³ . It is estimated that a further 2 to 3 cm ³ of condensate overflowed the tray onto the Auxiliary building floor and ignited from the boiler. The station fire detection system alarmed at 08:43 followed by return to normal state at 08:45. Westcoast's Charlie Lake Gas Control Center operator immediately contacted the station operator who was on route to Nig Creek to receive the Umbach pig. A station intrusion alarm by-pass event indicates that the station operator was on site at Nig Creek at 08:52. The station fire detection system alarmed again at 09:25 followed by a return to normal state at 09:27 and operator acknowledgment that the fire was extinguished. The events suggest either a small fire just within the detection limits of the fire detection system, and the fire burned for a period of less than 45 minutes, or that the fire self-extinguished and re-ignited during a 45 minute period. The station operator extinguished the fire with what was described as a single short puff from the Auxiliary Building portable dry chemical fire extinguisher. There was no heat damage to any of the facilities. Minor clean up followed consisting of disposal of split condensate and cleaning of soot from the front of the boiler. Hydrocarbon condensate of raw natural gas overflowed the debris tray beneath the combustion chamber onto the Auxiliary building floor and ignited from the boiler."
2001	INC2001-013	"On 8 March 2001, at approximately 08:10 hours MST, TransCanada received a phone call from a Landowner claiming to have heard a leak while driving by MLV 19, near Indian Head, Saskatchewan. TransCanada immediately dispatched a pipeline technician to investigate the occurrence. The responding employee confirmed the source of the leak to be the NPS 1/16 vent on the pilot relief valve of one of the regulators on the gas hydraulic operator for the 4:5 upstream tie-over valve. A negligible volume of natural gas was venting from the NPS 1/16 opening. The technician proceeded to cycle the power gas supply valve open and closed. This action temporarily stopped the leak. The 4:5 upstream tie-over valve was left in its normally closed position and the power gas supply to the operator was isolated. A negligible volume of natural gas was vented to the atmosphere from the NPS 1/16 opening."

2001	INC2001-011	"While unloading a garbage dumpster, a WEI employee pinched and severed her finger. Employee was transferred to the local hospital in Chetwynd, BC where the finger was amputated. This task involved using a forklift to unload a small dumpster into a larger dumpster. The employee was assisting with the task. Another worker (a maintenance person with forklift training) was operating the forklift. The assisting employee climbed up on the edge of the large dumpster to prod and loosen the garbage frozen in the small dumpster. The small dumpster was unstable and slid off the forks. The employee's finger was caught between metal surfaces. A complete WEI EH&S investigation was done following the Incident. While unloading a garbage dumpster, a WEI employee pinched and severed her finger. Employee was transferred to the local hospital in Chetwynd, BC where the finger was amputated. "
2001	INC2001-012	"During routine work/operations on 1 March 2001 at approximately 14:00 PST, Westcoast Energy Inc. (WEI) employees noted a small natural gas leak on a cracked nipple on a valve at Mile Post 0.0 of the 10 inch SE Helmut Pipeline, approximately 196 km NE of Fort Nelson, BC. Upon discovery of the leak the acting Team Leader was contacted and service personnel were dispatched to the valve and pigging barrel site. The personnel that discovered the leak remained at the site to monitor the leak. The source of the leak was determined to be from a cracked swage pipe nipple on the bottom of the 10" WKM Gate Valve. The 10" SE Helmet Extension Pipeline had to be depressurized in order to remove the damaged parts. The producer was advised of the problem and was told to shut in their wells to allow Westcoast service personnel to de-pressurize the 10" SE Helmet Extension Pipeline and remove the cracked swage nipple. The producer shut in their wells at 19:30 PST and the pipeline was de-pressurized. The cracked swage nipple was removed and replaced with a pipe plug. The pipe plug is a permanent change on this valve as there is another body cavity bleed that can be used (situated at the middle of the valve). The pipeline was re-pressurized and the producer was contacted and informed that they could start flowing gas again (23:00 PST). As a result of the cracked swage nipple on the gate valve at MP 0.0 there was a 3.5 hour loss of production on the 10" SE Helmet Extension Pipeline. Approximately 1 MMscf of production was lost during the approximately 3 hour repair. As Westcoast was unable to re-route the gas during the repair, the producer production had to be shut in and the 10" SE Helmet Extension Pipeline de-pressured. The volume of natural gas released is unknown. Due to the small amount of gas released to into the atmosphere no significant environmental effects are anticipated."
2001	INC2001-010	"On February 26, 2001, at approximately 10:00 CST, a TransCanada technician was performing routine maintenance on unit # C1 at Compressor Station 49 when he noticed natural gas escaping from a broken NPS ½, schedule 80 pipe nipple outside of the compressor building on the discharge piping. Gas Control was immediately notified and the unit was shutdown remotely by Gas Control. Station personnel vented and locked out the unit to allow replacement of the broken nipple. The broken nipple was replaced with a NPS ½, schedule 160 nipple and the unit was returned to service on February 26, 2001. No injuries, unknown environmental impact, and negligible impact on deliveries. A negligible volume of natural gas was released as a result of this incident."
2001	INC2001-008	"On 07 February 2002, at approximately 10:00 MST, Enbridge personnel discovered crude oil on the top side of the floating roof on tank 89 at the Cromer Terminal near Cromer, Manitoba. It is estimated that 15 m3 of NSB crude oil was released as a result of this incident. All crude volume remained within the tank walls. On 07 February 2002, at approximately 10:00 MST, Enbridge personnel discovered crude oil on the top side of the floating roof on tank 89 at the Cromer Terminal near Cromer, Manitoba. It is estimated that 15 m3 of NSB crude oil was released as a result of this incident. All crude volume remained within the tank walls."

2001	INC2001-009	<p>"On Sunday February 4, 2001, at approximately 15:16 hours, Eastern Daylight Time, a TransCanada employee responded to an emergency shutdown alarm at Compressor Station 147, near Cornwall, Ontario. Reference should be made to the detailed incident report which has an attached High Pressure Gas Operating Schematic A1-0147ST-00-D2-01. The ESD had caused the 'C' Plant Unit Suction (C-US) and Unit Discharge (C-DS) valves to close. The 'C' Plant Suction (C-SI) and Discharge (C-DI) Isolation valves were in the process of closing. The 'C' Plant Suction (C-SIB) and Discharge (C-DIB) Isolation Blow-off valves were open and venting natural gas to the atmosphere. The employee manually closed the C-SIB and C-DIB block valves. Had he not been present, C-SIB and C-DIB would have closed per their design logic, thus isolating the 'C' Plant yard piping and a marginally larger volume of natural gas would have been released to the atmosphere. A marginal amount of natural gas was vented to the atmosphere when the 'C' Plant Suction and Discharge Isolation Blow-off valves were open."</p>
2001	INC2001-007	<p>"TCPL employees discovered a cracked ½" x 3" nipple on a pressure sensing line on M/L 492 which was releasing sweet natural gas. Line was isolated and vented. Nipple was replaced and line was replaced into service. No injuries, negligible impact on deliveries, and no obvious environmental impact. Line was isolated and vented. Nipple was replaced. Line was returned service. "</p>
2001	INC2001-006	<p>"On 26 January 2001, at 14:00 MST, at a location roughly 100 metres upstream of Beg/Jedney Compressor Station, a 3rd Party Contractor back-hoe working on a crossing, struck and punctured the NPS 6 Pigging Loop/Pressuring line while installing a pipeline across WEI's line. Approximately 42,000 m³ of sour natural gas was estimated to have been released by the time the line was isolated and shutdown. There are no residences near the site of the release, however, WEI's Beg/Jedney station is nearby and the WGSJ Highway Gas Plant is adjacent to the compressor station. WEI believed that it was not necessary to evacuate the personnel within these facilities, so chose not to. WEI is however alert personnel within these facilities of the release. Line was isolated and will be repaired asap. There were no injuries, no obvious negative environmental impact, and no impact to deliveries. Sour gas released into atmosphere. 42,000 m³ of (1.78% H₂S) released"</p>

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2001	INC2001-005	<p>"At approximately 00:45 MST, on 17 January 2001, operators at Enbridge's Edmonton control center noticed a significant drop in pressure on Line 4 between the Hardisty and Metiskow pump stations. Line 4 was immediately shut down between the two stations. At 01:00 MST, ██████████ (Enbridge General Manager - Western Region) was notified of the occurrences and Emergency Response procedures were implemented shortly after. At daybreak, an aerial patrol of the right of way (ROW) between the stations was started. The aerial patrol consisted of twelve passes of the ROW with no leak site being identified. Enbridge then sent an individual on a quad down the ROW from the Hardisty station. There was no leak site identified. Personnel then started to walk the ROW from the Hardisty Station. At 14:15 MST, personnel identified the leak site to be under a slough that was located approximately 500 ft downstream from the Hardisty Station. Enbridge personnel photographed the site as they discovered it. The Transportation Safety Board and the National Energy Board were notified of the occurrence on 17 January 2001 at approximately 14:50 MST. On the evening of 17 January 2001, pump trucks started to pump up the oil that was located in the slough under the ice from two different areas of the slough. The first area was from near the original crack location and the second location was a drilled hole. On 19 January 2001, in order to locate the exact location of the rupture, berms were constructed on each side of the ROW extending into the slough for approximately 150 feet. A third berm was then built between the two berms to close off an area of the slough. This area was then drained and excavated to determine whether the rupture location was within the bermed area. On 20 January 2001, Enbridge personnel confirmed the exact location of the rupture to be within the bermed area. 116 ft of pipe was removed from the excavation ditch on 23 January 2001. Replacement pipe was installed later that day. It is estimated that a total of 3800 m3 (3,800,000 liters) of crude oil was released in the rupture. As of 1 May 2001, approximately 3760 m3 of oil had been recovered. Potential environmental issues identified included the potential for contamination of surface water and groundwater utilized by residents. The rupture occurred under a frozen slough. All of the oil was contained within the slough. Clean-up of the site started on 17 January 2001, shortly after the discovery of the rupture site. Numerous pump trucks were called to site to pump the oil from the slough. All product that was pumped out of the tank was transported to a tank (tank 40) on Enbridge's Hardisty Terminal site. On 20 January 2001, skimmers were brought on site to pull oil from the slough's surface. As of 1 May 2001 3760 m3 recovered. Released product was sweet crude oil, not sour as was originally entered."</p>
2001	INC2001-004	<p>"While putting rollback on the right of way, a dozer rolled over a log which caused the log to spin. The log hit ██████████ a worker for Parkland Oil Field (contractor), in the leg. He suffered a fractured right tibia. 6 weeks lost time followed by 6 weeks modified duties"</p>

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2001	INC2001-003	"On 15 January 2001 at 05:02 hours A.S.T. the M&NP system experienced a pressure increase on the downstream side of the Saint John 16 inch lateral Pressure Reducing Station (PRS) which is located in a semi urban setting on the outskirts of Saint John New Brunswick. The pressure increase resulted in a pressure relief valve (approximately 2 inches in size) lifting open at the PRS and releasing natural gas to atmosphere. Natural gas was released to atmosphere for approximately one hour and thirty three minutes before it was eventually stopped via onsite intervention by M&NP personnel. The relief valve opened due to the failure of both the PRS's main and back-up Pressure Control Valves (PCV's) to continue to function. The PCV's are used to regulate the PRS's downstream pressure. This failure of the PCV's ability to function was due to hydrates choking or freezing off the fuel gas supply to the pressure regulators that in turn supply fuel/power gas to both PCV's. The back-up PCV would normally fail closed when situations warrant it doing so and as long as it has a fuel/power gas supply to it. However, it failed open when the fuel/power gas supply to it was lost due to freeze off from hydrate formation, allowing an unregulated gas pressure flow into the downstream side of the PRS where it vented to atmosphere through the pressure relief valve. This incident did not result in any property damage or personal injury."
2001	INC2001-002	"On 10 January 2001, the Enbridge Pipelines Inc. (Enbridge) Control Centre operator, in Edmonton, received a 0 psi suction pressure reading at the East Souris - Line 4 Pump Station. However, the operator continued to receive a back up instrument reading. As a precautionary measure, the station was shut down at 18:33 MST and the on call person from Glenboro was contacted to investigate. The investigator identified the location of the leak upon arrival and Line 4 was shut down at 19:48 MST. The leak occurred on a ½" instrument line fitting for the pressure transmitter. The line was restarted at 20:12 MST after repairs were completed. Approximately 4.75 m3 of crude oil leaked on to the ground within the station yard. Clean up and restoration work commenced once the repairs were completed. Enbridge stated that the released crude oil was contained on Enbridge property and there were no significant adverse affects to the environment Enbridge stated that the released crude oil was contained on Enbridge property and there were no significant adverse affects to the environment"
2001	INC2001-001	"Alliance Pipeline was advised at approximately 9:00 MST, on 07 January 2001, that a "foggy plume" was hanging over the Block Valve site 14B. The line was immediately shut down and isolated by Alliance Pipeline. The plume then disappeared. Plume was found to be as a result of a release of Rich Natural Gas. Investigation revealed a 3/4 inch gas line nipple, believed to have failed as a result of accumulation of snow and ice. Nipple was replaced and line was placed back in service at 16:40 MST. As this facility is located adjacent to the Cochine pipeline, Cochin was advised of the release by Alliance. Pipeline receipts were temporarily restricted as a result of the incident with regular flow resuming at about 1600 MST. Estimate"
2000	INC2000-048	"A TQM employee was called to the East Hereford Compressor Station control building to do some electrical repairs on 28 December 2000. At 18:00 hrs EST an explosion occurred injuring the employee. The injured employee was taken to hospital where it was determined that he had suffered burns to 20% of his body. He is listed in stable condition. East Hereford C/S is an unmanned station. The explosion did not damage the pipeline nor did it affect throughput as the pipeline remains in operation. The control building, however, is severely damaged. Larry Gales of the TSB advised that the sound of the explosion could be heard 15 km away. The incident was on the RDI Local news and CTV news. The Fire Department was on site at time of reporting to NEB. A TSB representative (Mr Evan Marcott) was expected to arrive on the scene at midnight. His cell number is [REDACTED]. As this appears to be OSH related (HRDC), Brent Storey (a Labour Canada Investigator) and Paul Trudel (Pipeline Integrity investigation experience and is Francophone) are expected to arrive on site at noon on 29 December 2000. Control building was completely destroyed. The compressor building sustained significant damage."

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2000	INC2000-047	"TCPL employee entered CS #144 yard and noted a hissing sound emanating from the above ground yard piping. On further investigation, employee noted a leak of Natural Gas from a 3/8" discharge sensing line. The valve was shutdown to the sensing line, stopping the leak. Vibration was also noted at this time. Bridal valves 144-1 and 144-2 were found to be open. They were then closed, which stopped the vibration. Negligible amount of gas released."
2000	INC2000-050	"On 3 June 2000, on the #1 Sulphur converter on the Sulphur Processing Train at WEI's Pine River Gas Plant, sulphur impregnated insulation attached to a steel vessel was ignited by a spark from adjacent welding work contractor about 30 feet away. The welder did not notice fire as it was hard to detect during the daylight hours. The welder only became aware of the fire from the SO2 smell. Personnel on duty responded to the situation and followed all necessary procedures to prevent injury. The Operator evacuated the contact workers and proceeded to spray water on the fire using a hose connected to the nearby fire hydrant #11. The fire was extinguished. DISCUSSION Once the fire was confirmed to be extinguished, the WEI operator plugged a small leak on the man-way flange on the top center man-way of the #1 A Sulphur converter, removed the insulation cladding and added more water to the cladding and insulation to ensure complete extinguishment of the fire. Welding operations continued, with approximately the first 15 minutes with WEI operator monitoring for the potential of a reoccurrence of a fire. WEI indicated that prevention of similar incidents requires a thorough understanding of the underlying cause of the initial leak and that installation of correct gaskets with correct bolt torques must be done to prevent further leaks. Incident discovered on WEI database during an unrelated incident investigation."
2000	INC2000-051	"On 25 April 2000, an error was made when a wood scaffold was installed too close to the hot external surface of the A/B Tail Gas Incinerator. This scaffold had been erected months before and was not in use. The high external surface temperature of the incinerator caused ignition of the wood on the scaffold. WEI operators noticed smoke and a small fire emanating from the scaffold and proceeded to throw the pieces of smouldering pieces of wood to the ground. Water was then used to douse the embers on the floor. DISCUSSION Investigation found that some of the planks on the scaffold were incorrectly installed in direct contact with a bare section of the steel shell of the Tail Gas incinerator. There was no interruption of service or damage to equipment. Charred wood debris was removed and disposed of into the garbage landfill. This incident was discovered during investigation into an unrelated incident. On 25 April 2000, an error was made when a wood scaffold was installed too close to the hot external surface of the A/B Tail Gas Incinerator. This scaffold had been erected months before and was not in use. The high external surface temperature of the incinerator caused ignition of the wood on the scaffold. WEI operators noticed smoke and a small fire emanating from the scaffold and proceeded to throw the pieces of smouldering pieces of wood to the ground. Water was then used to douse the embers on the floor. DISCUSSION Investigation found that some of the planks on the scaffold were incorrectly installed in direct contact with a bare section of the steel shell of the Tail Gas incinerator. There was no interruption of service or damage to equipment. Charred wood debris was removed and disposed of into the garbage landfill."

2000	INC2000-052	<p>"This incident was discovered during an investigation into an unrelated incident. On 27 January 2000 at approximately 08:00 hrs, WEI maintenance staff were welding pipe fittings on to recently installed replacement Sweep Air piping. Welding operations were preceded with spraying the area with water to prevent ignition of sulphur by sparks generated during the welding or grinding procedures. On returning from their lunch break at approximately 12:40 hrs, the welders noticed smoke rising from the top of the scaffolding. The scaffolding was located beside the south end of the east side of the Tail Gas Incinerator, which serves A and B sulfur process trains. The welders climbed the scaffolding and used water spray canisters to extinguish the smouldering fire. The source of the fire is believed to be welding sparks which contacted sulphur located under sections of wood scaffold deck material. Small gaps between the layers of plywood on the scaffold may have allowed the entry of a spark to the dry semi-exposed sulphur. The damaged wood and waste sulphur were removed and discarded to the landfill with general solid plant waste. No actions were taken by WEI to prevent similar incidents from occurring, as WEI indicated in the detailed report that they believed that this incident was not representative of a significant, typical or ongoing risk."</p>
2000	INC2000-045	<p>"In June 1999, Westcoast ran a Magnetic Flux Leakage ("MFL") inline inspection tool in the 26-inch Alberta Mainline. As a follow-up to the findings of this MFL run, an excavation was performed at MP 10.95 to evaluate a possible anomaly. At approximately 17:00 MST on December 12, 2000, after the removal of the coating and sandblasting the external surface of the pipe, Westcoast's Fort St. John Pipeline crew discovered a leak on the body of the pipe. The leak was quite small and not audible. When the leak was detected the work was halted and a Westcoast person on site notified the on-call person in Fort St. John. The on-call person met with the Area Manager, Support Services Manager, Support Services Pipeline Team Leader, Technical Services Pipeline Integrity Specialist and Reliability Engineer. A telephone conference was held with the System Integrity Team Leader located in Vancouver. Based on information received from the personnel at the site, a decision was made to temporarily leave the Pipeline in service while arrangements were made to effect a permanent repair. That evening the Pipeline Integrity Specialist went to the site to further assess the anomaly. Radiographic inspection, magnetic particle inspection and ultrasonic inspection, using both straight beam and angle beam probes, were used to determine the extent of a suspected crack responsible for the leak. This inspection confirmed that the leak was associated with a circumferential crack-like indication that was 3.2 cm long on the outside diameter ("OD") of the pipe. A similar but shorter linear indication was detected 3.75 cm upstream of the leak. The shorter crack indication was also circumferential in orientation, and was approximately 2 cm in length. All exposed pipe was inspected for stress corrosion cracking. Only the two isolated circumferential crack-like indications were detected. On December 20, 2000 the section of pipe that contained the two anomalies was removed from service and the section of pipe containing the leak was removed and replaced with new pretested pipe. The line was placed back in service by approximately 21:30 MST. The pipe sample containing the defects was sent to Bacon Donaldson for analysis. Natural gas was released to the surrounding environment through a small crack in the pipe body. The incident did not have adverse environmental effects on terrain, livestock, fish, wildlife or habitat of fish and wildlife. No environmental clean-up or waste disposal was required as a result of the leak."</p>

2000	INC2000-044	"At approximately 14:50 PST on November 2, 2000, during routine maintenance of the right of way, a small gas leak was discovered coming from the insulating flange five meters downstream of the 36-inch pigging barrel block valve at Compressor Station 4-B (Hixon). Help was immediately requested and the area was secured by 15:00 PST. The equipment necessary to handle the situation if the leak escalated was trucked to the site by Westcoast. A light plant was delivered and set up so that the leak could be monitored on a 24-hour basis by Westcoast personnel. Seal-ex of Edmonton was immediately called and their representatives were on site by 10:00 PST on November 3, 2000. A 2-piece clamp was manufactured and installed by November 5, 2000 and a sealant was injected into the clamp to seal off the leak. The repair was completed on November 6, 2000. The flange was monitored on a bi-weekly basis until the gasket was replaced on June 1, 2001. During routine maintenance of the right of way, a small gas leak was discovered coming from the insulating flange five meters downstream of the 36-inch pigging barrel block valve at Compressor Station 4-B (Hixon). A temporary clamp was installed over the gasket that stopped the leak."
2000	INC2000-043	"Backfire in engine resulted in flames being pulled into the manifold. Resulting explosion caused the blowout panel on the side of the compressor to release, thereby releasing flames into the unit building. Fire eye detection was triggered by the flames. Station shutdown, ie went into ESD."
2000	INC2000-040	"On 12 October 2000 at mile post 1908 of Enbridge's pipeline right-of-way near Sarnia Ontario, a pipeline pigging contractor's employee, employed with Hunter McDonnell, received an electrical shock and was knocked unconscious when the antenna of a pig tracking device contacted an overhead powerline. The pig tracking device consisted of a 20 foot long aluminum pole with a 5 foot long steel antenna attached to the end of it. The employee was raising it when the wind blew it toward an adjacent 4800 volt overhead powerline and made contact with it. The injured employee was taken by ambulance to the Welland County Hospital for over night observation and later released with muscle stiffness, sore shoulders and a small exit wound on his side as a result of the incident. The exit wound did not require first aid. He returned to work on 13 October 2000. A pipeline pigging contractor's employee () employed with Hunter McDonnell) received an electrical shock and was knocked unconscious when the antenna of a pig tracking device contacted an overhead powerline."
2000	INC2000-041	"On 8 October 2000, at approximately 7:30 CST, Gas control received an indication that the Line 100-2 Suction Blow-off Valve (L2-SB) had opened accidentally. Upon arrival at the site, personnel confirmed L2-SB was in the open position and the Line 100-2 Suction Valve and 1:2 Suction Cross-over valve had closed. Natural gas was released to the atmosphere as a result of this incident. On 8 October 2000 at 07:30 hours C.S.T. a unintended gas release occurred at Station 41 Iles des Chanes, Manitoba through the station's Line 100-2 suction blow-off due to a faulty 3 way normally open pilot actuated limit valve."
2000	INC2000-042	"On 20 October 2000 at 14:20 hours C.D.T. an oil fire occurred at TCPL's compressor station No. 43 Spruce, Manitoba. The fire occurred at the compressor driver unit No. C-C1 due to a small oil leak. A TCPL technician had overhauled the Davis vent valve on the unit driver (gas generator) with an approved manufacturers (Rolls Royce) repair kit as per a Rolls Royce service bulletin that had been received. The vent valve had to be removed to conduct the necessary service on it. Its removal involved breaking the pipe connections to the valve which, unknown to TCPL personnel, cannot be done without disturbing the external seals of the valve thus affecting the integrity of the external seals. The technician, upon completing the valve repair reinstalled it and started the unit and placed it back online. The technician checked the unit twice after doing so and verified everything was normal. Then the unit experienced an emergency shut down 91 minutes later after start up. The ESD was triggered by the fire eyes around the unit's driver. The ESD removed the fuel source which thus extinguished the flame. The fire detection logic operated as designed. There were no injuries."

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2000	INC2000-039	"On 18 October 2000 at 13:00 hours M.D.T. a ½ inch grease fitting was discovered to be leaking a trace amount of NGL on a pressure control valve (valve # 1-CSV-21) at the West Souris, Manitoba,Pump Station. The pipeline section, which the valve was installed on, was shut down and isolated at 13:09 M.S.T. until the source of the leak could be confirmed and repaired. A ½ inch grease fitting was discovered to be leaking a trace amount of NGL on a pressure control valve (valve # 1-CSV-21) at the West Souris, Manitoba,Pump Station."
2000	INC2000-038	"On 04 October 2000 at approximately 11:55 hours, a person who works for Westcoast during the winter as a casual employee and is familiar with the site called the Fort Nelson office to report the smell of sour gas and noise from the line break valve at MP 96.25 of the Beaver River Pipeline. The witness was driving on an access road which is 100 meters from the line break valve. Two Westcoast employees were dispatched to the site. The two Westcoast employees put on airpicks and the Valve Service Technician closed the gas supply valve. The employees then investigated the site to determine why the exhaust valve had opened. They determined that the stainless steel 3/8" vent tubing allowed water to enter the hydraulic actuator and the water froze which caused the line break valve to open. "
2000	INC2000-037	WEI personnel discovered a leak of sour gas from a line-break control valve on the Grizzly Pipeline Gathering system. Inspection by WEI revealed that the leak was from the flange "O" ring on the control valve. minor volumes of gas released due to a leak
2000	INC2000-036	"A fire occurred within a terminus building on the sulphur pipeline extending from Pine River Gas Plant down the mountain to the pelletizer plant. WEI indicated that the valve within this building is a split body type, which was leaking. As a result of work being done on the pipeline to restore the liquid state of the sulphur, the size of the leak increased. Parts were ordered to repair the leak and preparations were being made to drain the pipeline and take the valve out of service and then to replace the valve. Heat tracing used within the building is a 240 volt type system, which puts out high and localized heat. This heat tracing is what WEI suspect is what initiated the fire. Valve building and contents, including failed valve. Sulphur was released from the valve. The sulphur burned, releasing sulphur dioxide."

2000	INC2000-035	<p>"On 4 September 2000 at approximately 04:00 EST, TCPL Gas Control requested personnel to respond to a ""Plant Low Gas Alarm"" at TCPL Compressor Station 116. The SCADA system also indicated that the 'C' Plant unit recycle valve was operating at 60% open and the unit was running at maximum exhaust gas temperature. The responding employee noted that he could hear a loud hissing sound, that the unit was recycling and that the roof fans were running. The building fans had been activated when the ceiling gas detectors registered a gas concentration of 20% LEL. As the employee was entering the station access code, the unit shutdown on ""High Gas ESD"". The employee confirmed that the majority of the gas detectors were measuring a gas concentration of 30%LEL and that one of the detectors had tripped on high alarm, therefore initiating the emergency shutdown. The 'C' Plant unit valves and required yard valves isolated the plant and the booster was safely vented to atmosphere without further incident. Prior to entering the building, the employee used a portable gas detector at the main door and measured a gas concentration of 2 to 5% LEL. After opening all entrances, the gas concentration level fell to 0% LEL. While inspecting the building interior, the employee discovered the supply tubing, feeding the purge/pressurising valve, had broken at the supply shutoff valve. The tubing had broken at the ferrule of a 90 degree Parker NPS 3/8 tube fitting. The affected fittings and tubing were replaced. The unit was offline for three hours, however there was no interruption of or reduction in service as a result of the outage. The employee conducted a final leak check, before leaving the site. On 4 September 2000 at approximately 04:00 EST, TCPL Gas Control requested personnel to respond to a ""Plant Low Gas Alarm"" at TCPL Compressor Station 116. The SCADA system also indicated that the 'C' Plant unit recycle valve was operating at 60% open and the unit was running at maximum exhaust gas temperature. The responding employee noted that he could hear a loud hissing sound, that the unit was recycling and that the roof fans were running. The building fans had been activated when the ceiling gas detectors registered a gas concentration of 20% LEL."</p>
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2000	INC2000-059	<p>"A WEI female summer casual employee ([REDACTED]) was driving alone in a company vehicle north of HWY 97 when she lost control of it on a curve in the road. The lost of control resulted in the vehicle rolling over numerous times and her being seriously injured. She had been to Prince George to pick up some valves and was returning to Station 2. A police investigation conducted determined that a speed of at least 140 kilometres per hour was being achieved when control of the vehicle was lost. The speed limit on the highway in the vicinity of the accident is 100 kilometres per hour. As well, the vehicle was determined to have rolled a distance of 300 to 400 feet. Some of her injuries resulted in a surgical bone graft on her left arm being required a result of her arm, which was severely broken, having been dragged on the highway pavement. She also incurred swelling on the brain due to serious head injuries that were sustained. The employee was wearing her seat belt at the time of the accident. As well, she remained in the hospital for one week prior to being released. Other Information - The employee had received a defensive driving course and driver abstract review prior to the accident. The analysis of these were found to be quite good. As a result of this incident WEI will be reevaluating its casual employee driving program and will distribute a safety bulletin concerning the accident. The late reporting of this incident to the NEB was not the fault of WEI but rather the TSB. WEI had reported it to the TSB on 11 August 2000. However, the TSB failed to notify the NEB about it. Mr. Noonan happened to be calling the NEB for the purpose of providing additional info about the incident. Upon further investigation with the TSB about this matter it seems the TSB did not realize that the NEB needed to be informed about it from a HRDC point of view. It had assumed that because the accident did not happen on the right-of-way that it did not need to be reported. This assumption is correct with regard to it not being reportable under the NEB's OPR's but is not correct regarding HRDC and its Canada Labour Code reporting criteria for which the NEB is an extended jurisdiction. The issue of the need to report this type of incident to the NEB in the future from an HRDC standpoint has been clarified with Mr. Lawrence Gales of the TSB. Mr. Noonan stated that a copy of police report concerning the accident as well as the HRDC Hazardous Occurrence Investigation Report and a detailed report, which WEI has prepared, will be forwarded shortly to the NEB. From an NEB reportable incident standpoint, staff is of the view that since this incident did not occur on the pipeline right of way, but rather on a public hi-way, that this incident is not reportable under the OPS's. This is in line with our internal practice of how past similar incidents have been treated with respect to vehicular accidents on public roads involving personnel employed with NEB regulated companies."</p>
2000	INC2000-033	<p>"An oil fire occurred within the exhaust collector in Unit #2. Fire was put out by operators (using extinguishers). Fire under control at 22:00. The heat from the internal fire caused damage to the internals of the gas turbine. It was necessary to replace the axial rotor, power turbine rotor, power turbine case and all of the associated seals and bearings. The DC electrical system has also been repaired."</p>
2000	INC2000-032	<p>"A storage tank previously containing hot wax and crude oil, was shut down and in the process of being cleaned. Welders struck an arc to work on a sleeve guide when residue flammable hydrocarbons ignited."</p>
2000	INC2000-031	<p>"On July 27, 2000, Westcoast began exposing the underground piping at their Nig Creek Booster Station Number 9 to check the coating and inspect the piping for corrosion. A backhoe was excavating approximately two metres from a 16 inch gate valve on a sending barrel when it struck a ½ inch nipple and valve threaded onto the top of the gate valve. The ½ inch nipple was forced out of the 16 inch gate valve and resulted in a gas release. The station was shut down and station gas flared. The station alarm was sounded and all main units, main generators and boilers shut down. Staffs followed muster procedure and were accounted for. The segment of line between block valves was isolated and blown down. Repairs were completed and the line returned to service."</p>

2000	INC2000-030	<p>"At approximately 02:50 hours PDT on 7 August 2000, there was a natural gas pipeline rupture on the Westcoast Energy Inc. ("WEI" or "Westcoast") 762 mm mainline, 46 kilometers north of Hope, B.C. Westcoast's Vancouver Gas Control remotely shut in both the 762 mm and 914 mm loop pipelines between Station 8A and 8B. WEI operations personnel manually shut-in the section of the 762 mm pipe surrounding the break. There was no ignition of the natural gas escaping from the pipeline. The occurrence site was located approximately 46 kilometers north of Hope, B.C., and approximately 69 kilometers south of Merritt, B.C. as measured along Highway No. 5 (Coquihalla Highway). At this site, the Coquihalla Highway is located about 100 metres west of the pipeline. The pipeline right of way runs parallel to and east of the Coquihalla Highway. The rupture occurred near the Zopkios rest area which is located to the west of the highway at Exit 217. At the time of the rupture there were several people sleeping in their vehicles across the highway at the Zopkios rest area. Some rock and soil debris from the rupture site landed on the highway and in the rest area. Although some of the debris damaged nearby vehicles at the rest stop, there were no injuries. The Coquihalla highway was temporarily closed for approximately three and a half hours and reopened at 8:30 hours PDT on 7 August 2001. Board staff was dispatched to the rupture site to conduct the incident investigation for the NEB. TSB investigators were also dispatched to the rupture site. The length of ruptured pipe was approximately 26.1 metres (85.7 feet); a total of approximately 46.3 metres of pipe (152 feet) was replaced. The rupture passed through two girth welds. The rupture traveled 18.9 metres (62 feet) upstream and 7.2 metres (23.7 feet) downstream from the suspected point of initiation. Fracture initiation occurred in the pipe body at the 4 o'clock position. The fracture arrested in the pipe body both upstream and downstream from the fracture initiation point. The rupture caused the exposure of approximately 27.4 metres (90 feet) of pipe and formed a crater approximately 27.4 metres (90 feet) long by 4.6 metres (15 feet) wide. The 30-inch Mainline was returned to normal service at 21:52 hours PST on August 8, 2000. The estimated volume of sales gas released to the atmosphere as a result of the rupture was 95 MMscf. There was no ignition of the gas."</p>
2000	INC2000-029	<p>"On 30 July 2000, an emergency shutdown occurred at Station 68 with a worker call-out occurring at 23:19 EST. Upon arrival at the station, workers discovered that the "A" plant normal vent and emergency vent valves were open and that the suction valve and unit discharge valve had failed to close. This resulted in 133 x 103 m3 of throughput natural gas being vented to atmosphere for a duration of approximately 11 minutes at a discharge pressure of 6890 kPa. Personnel manually isolated the valves and secured the unit. Investigation and temporary repairs were conducted the following day. Personnel discovered that a bared wire had shorted to ground causing the negative supply fuse to blow on the PLC Block No. 9. This digital output module controls the unit's normal vent, emergency vent, and the suction and discharge solenoids. The system is supposed to be designed such that if the control block fails, the control logic will signal the unit valves to close and the unit vent valves to open in order to evacuate the unit piping. However, when the unit control logic was examined after this incident, it was found that the unit isolation failure logic had not included the unit vent valves. As a result of this incident, TransCanada modified the unit isolation failure logic for the "A" Plants at Stations 25 and 68 with a final completion date of 7 December 2000. In the event the unit vent valve and one of the unit valves remain open for more than two minutes, the Station PLC will isolate the Plant. TransCanada currently has only two gas powered "A" Plants in operation. The remainder have been retired or are powered via electricity. Natural gas released into the atmosphere. Upon arrival at the station, workers discovered that the "A" plant normal vent and emergency vent valves were open and that the suction valve and unit discharge valve had failed to close. This resulted in 133 x 103 m3 of throughput natural gas being vented to atmosphere for a duration of approximately 11 minutes at a discharge pressure of 6890 kPa."</p>

2000	INC2000-034	A gasket blew out at the first inlet insulating kit where the pipeline ends and enters into the gas plant. This allowed sweet gas to vent to atmosphere. It was determined that the insulating kit failure occurred due to differential settlement of the ground around the inlet piping which was built during the winter of 1999/2000. Two upstream wells were shut-in in an attempt to draw down the pipeline pressure or plant inlet pressure faster with the plant compressor. Staff then tried to tighten the flange which reduced the venting of sweet gas by 50%. Once the compressor reached its minimum suction pressure operators began to de-pressure the remainder of the 26 kilometre pipeline equally from the plant end and at the well end to prevent the formation of hydrates during the operation.
2000	INC2000-027	"On 18 July 2000 at Shoofly 13C, Kp 28+800, an oiler with the backfill crew employed by Banister pipeline, was struck from behind by a truck driven by another worker. As a result of the accident, the oiler sustained a fractured pelvis, broken tibia and fractures to his left hand. The injuries later resulted in the amputation of the leg due to complications. The driver had driven to the area to discuss pillow spacing with the Lower In Inspector. Once the conversation was complete, The driver checked his mirrors and preceded to drive in reverse 5 to 10 feet when he struck the oiler, pinning him under the vehicle. The oiler had his back turned and did not see the vehicle approaching. Though there is some dispute as to whether the driver checked to see what was under his truck, then drove off the oiler or drove off the oiler then checked to see what he struck, the exact scenario is irrelevant to finding mitigative measures for this type of incident. Subsequent to the incident, Banister Pipeline held an emergency Joint Health and Safety Committee meeting on 21 July 2000. A foreman's meeting was held prior to start of work the day after the incident so that the incident could be discussed in the tailgate meetings. The driver was transferred from the Halifax Lateral project to another project. Banister intends to review the incident at all new worker orientations. Banister Pipelines will incorporate the circumstances and causes of the incident into their Pre-job Hazard Assessments prior to the start of any jobs. As a result of the incident, Maritimes and Northeast Pipeline prepared a Hazard Notification to be distributed to all employees. This notification outlined steps to be taken prior to backing a vehicle. M&NP also approved a recommendation of installing back up alarms on all M&NP vehicles. This policy will be reviewed at the beginning of new projects. Leg amputation - hip and hand fractures"
2000	INC2000-026	"While loading a section of Line 100-6 through the bridle assembly around MLV 4-6, an NPT ½ nipple on the power gas line failed. The power gas line was immediately isolated and repairs conducted. The break occurred on the threaded portion of the nipple that fitted to the plug valve body and was a result of vibration induced fatigue at an improperly weighted threaded fitting. The remaining threads were removed and a thread by weldolet union was installed and welded over the remaining nipple assembly. A new valve, significantly lighter in weight, was installed. A negligible amount of natural gas was released to the atmosphere as a result of the incident."
2000	INC2000-024	"On 28 June 2000, at approximately 21:30 hours M.D.T., a fire occurred in TMPL's mechanical maintenance building located at its Burnaby B.C. terminal. The fire resulted in approximately \$125,000.00 damaged being caused to the building. The fire resulted in approximately \$125,000.00 damaged being caused to the building."

2000	INC2000-023	<p>"On 26 June 2000, at Mile Post 29.29 (Kilometre Post 46.8) of WEI's 30 inch Fort Saint John B.C. mainline, a person hiking could smell gas and they called WEI's area gas control center to report it. An investigative team was dispatched by WEI that discovered what was suspected to be a pin hole leak in the circumferential girth weld of WEI's 30 inch mainline that transports sweet natural gas. The line was shut down, sectionalized, and depressurized for 8 miles. The leak site is situated approximately 52 kilometers west of Chetwynd B.C. and 15 kilometers north of highway 97 that runs east/west between Chetwynd and Dawson Creek B.C. An investigative team was dispatched by WEI that discovered what was suspected to be a pin hole leak in the circumferential girth weld of WEI's 30 inch mainline that transports sweet natural gas. The line was shut down, sectionalized, and depressurized for 8 miles."</p>
2000	INC2000-025	<p>"On October 19, 1999, the Trans Mountain system was in a scheduled shutdown for maintenance purposes. As part of the maintenance program, Trans Mountain was undertaking a number of mainline cutouts between km 7.3 and km 18.1 of its pipeline system. A nitrogen purge was used to drain this section of the line of oil. In preparation for the nitrogen purge, a connection was established between the existing block valves located at km 19 and km 21 of the system. As a result of mis-communication, the contractor initiated the introduction of nitrogen into this section of pipe while both valves remained closed. This resulted in the pressure in the section of pipe between the valves reaching 9750 kPa, exceeding the authorized maximum operation pressure (MAOP) of 8311 kPa. This over pressure situation was noticed some 3 to 5 minutes after the introduction of nitrogen was initiated. TMPL, in its Detailed Incident Report to the Board stated that immediately after the over pressure situation was relieved, it reviewed the work and safety procedures with the contractor prior to proceeding with the job and that communication processes would be reviewed to avoid similar situations from arising in the future."</p>

2000	INC2000-021	<p>"On 16 May 2000, a number of steam traps were discovered by an operator to have inadvertently not been removed or isolated allowing 1650 litres of diethylene glycol to escape from them onto the ground at the Pine River Gas Plant located near Chetwynd B.C.. The leak originated from the jacketing of a sulphur transfer line. The line requires heated jacketing in order to keep the sulphur in a molten state. The normal heating medium used is glycol. The section of jacketing was previously switched to steam service in order to melt a particularly stubborn, frozen section of sulphur. The steam traps had been installed as appurtenances to the glycol tracing system at that time and were located on the low points on the section of jacketing to provide for condensate drainage. At 4 p.m. on 10 May this section of jacketing was put back into glycol service. The steam supply was disconnected and the glycol supply and return were opened but the steam traps installed had been forgotten about as they should have been either removed or isolated. Thus, when the glycol was reintroduced to the system it began to escape onto the ground through the steam traps. A problem was first detected on 12th May when an operator conducting his daily control board rounds noticed the glycol level dropping. At this point, personnel began to investigate the low level. At 8 a.m. on the 15th May, a low glycol surge tank level alarm was received. Upon receipt of the alarm the search for the source of the leak was continuing. It took from the 12th May to the 16th of May to locate the source of the glycol leak. ... / 2 -2- With respect to environmental impact of the incident, Westcoast stated in its Detailed Incident Report that there was no negative impact anticipated to the environment or offsite habitat. The area directly below leaking traps contained no freestanding glycol; this area is directly below several runs of piping. Surface water from spring runoff had collected in an area down gradient of the sulphur storage tanks (the spill site), which is a bermed containment area for the sulphur storage site. This water was checked for evidence of glycol migration, and was found to contain no glycol. There was no opportunity to collect free liquid from the spill site. No further clean-up activity was undertaken, but monitoring is continuing. Any free liquid (surface water) from the bermed area, noted above, was pumped over to the sulphur runoff ponds for treatment as per Westcoast's Waste Management Act Permit PE-5615. As well Westcoast stated that down gradient site observations on the day of the spill indicated that no free liquid migrated beyond the immediate spill site. Perimeter site fencing is greater than 200 meters from the spill site, and there are interceptor berms between the spill site and the offsite area. Samples have been taken at a perimeter ground water monitoring well and three seepage sites, which will be tested for glycol. A number of steam traps were discovered by an operator to have inadvertently not been removed or isolated allowing 1650 litres of diethylene glycol to escape from them onto the ground at the Pine River Gas Plant located near Chetwynd B.C.."</p>
2000	INC2000-020	<p>"On Monday 08 May 2000, at approximately 08:30 hours EDT, TransCanada experienced an unintended gas release at Station 62 ""D"". The leak was identified as having originated from a hairline crack along the socket weld that attaches a NPS 3/4 dry seal gas supply pressure tap to the discharge side of the RFA - 36 compressor. Personnel were in the process of a scheduled shutdown for an aero assembly change when the leak was noticed. There was no damage done to the unit or building as a result of this incident. Normal operating pressure at the supply tap is 6895 kPa. There was a negligible release of natural gas to the atmosphere as a result of this incident. Personnel discovered the gas was originating from a cracked thread on an NPT 3/4 by NPS 1 1/2 socket weld. The volume of gas released to the atmosphere could not be quantified."</p>

2000	INC2000-019	"On 08 May 2000, at approximately 08:50 Hours MST, operation staff experienced an unintended gas release at the Jenner Compressor Station. During a routine walk around of Unit Building #1, an audible gas leak was detected in the proximity of fuel gas system. The gas detection monitors in the building indicated the presence of natural gas but gas levels were well below alarm limit. The leak was identified as having originated from a broken NPS ½ Schedule 80 nipple. Personnel identified an ESD of Unit 1 to facilitate repairs. Unit 2 was brought on line while Unit 1 was taken out of service. The broken nipple was temporarily replaced and the unit was made available for normal gas service the same day. No damage to the unit or building resulted from this incident. Supply pressure at the location of the nipple is 3500 kPa. There was a negligible release of natural gas to the atmosphere as a result of this incident. There was a negligible release of natural gas to the atmosphere as a result of this incident."
2000	INC2000-018	"On 08 May 2000 at approximately 13:18 hours EDT, a contractor was in the process of pressurizing the 'C' Plant cooler at TransCanada's Compressor Station 77, near Jellicoe, Ontario when personnel heard a gas leak. Upon investigation, personnel discovered the gas was originating from a cracked thread on an NPT 3/4 by NPS 1 ½ socket weld. The volume of gas released to the atmosphere could not be quantified. Personnel immediately isolated the affected cooling bank and evacuated the remaining gas to atmosphere. After inspecting 38 similar assemblies on the 'C' Plant cooler, two other fittings were found to be experiencing a minor leak past their threads. As a precaution, TransCanada elected to leave the three affected cooling banks out of service pending the results of a metallurgical analysis. Unintended gas release originating from a cracked thread on an NPT 3/4 by NPS 1/2 socket weld. The volume of gas released to the atmosphere could not be quantified."
2000	INC2000-016	A pig receiver had a plug blow out of it with an unidentified amount of butane escaping.
2000	INC2000-017	Densitometer pump seal failure resulting in trace leak of NGL liquids. Trace volumes were detected by the automatic electronic detection system which relayed an alarm to the Edmonton Control Centre. Only trace volumes released
2000	INC2000-015	"On April 13, 2000, at approximately 11:30 hours Central Standard Time (CST), TransCanada experienced an unintended release of natural gas within Plant 'C' at Compressor Station #30. This release was a result of a ruptured NPS 3/8 Stainless Steel gas line that supplies the dry seal panel. Station personnel responded to the alarm and isolated the ruptured line within 50 minutes of the initial incident. No damage to the unit or building resulted from this incident. The ruptured line was replaced the following day. Approximately 1350 m3 of natural gas was released to the atmosphere. There were no injuries reported. Approximately 1350 m3 of natural gas was released to the atmosphere."
2000	INC2000-014	"On 13 April 2000, at approximately 16:01 hours CST, a TransCanada employee was pressurizing the MLV 34-4 jumper assembly through the upstream riser valve when he heard natural gas leaking in the vicinity of the upstream blow-off quick opening high pressure closure. Upon inspection, it was discovered that gas was escaping from one of the pressure warning devices attached to the closure. While the employee was verifying the tightness of the pressure warning device, the threaded NPS 2 nipple broke off. Personnel immediately isolated the jumper assembly and vented the gas to the atmosphere. The assembly was locked and tagged out. The pressure warning device was marked with flagging tape. Other employees at the compressor station were alerted to the occurrence. Repairs were made once the work could be scheduled. A negligible amount of natural gas was released to the atmosphere as a result of this incident. There were no injuries and no adverse environmental effects."

2000	INC2000-013	"On 28 March 2000, at TransCanada's MLV 90-2 near Mattice, Ontario personnel identified a small leak of natural gas during normal operations. Line 2 was then isolated from MLV 89 to MLV 91 and the section of the mainline was depressurized. TransCanada proceeded to excavate the valve at MLV 90-2 to determine the cause of the leak. TCPL determined that the leak had originated from a below ground valve body bleed fitting. The defective body bleed was replaced with a new body bleed and the section of the mainline was returned to normal service. This leak is considered to be minor in nature and resulted in a negligible release of natural gas to the atmosphere."
2000	INC2000-012	"During a corrosion dig, Westcoast staff discovered a leak on the pipeline. (The 4" Montney line, which operates at 4123 kPa or 598 psi, transports sour gas at 3.86% H2S.) An analysis by Canspec concluded the leak was the result of a circumferential weld defect and not the result of corrosion, stress corrosion or in-service mechanical damage. It is probable that the defect penetrated the pipe wall from the time of installation but that oxide/slag plugged the outermost narrow part of the passage and prevented leakage. It is probable that the recent sand-blasting dislodged oxide/slag at the outside diameter and caused the leakage. Unknown volume of sour wet gas with 3.86% H2S (note: this incident also had a 2nd "release" record for sweet crude oil; record deleted after confirming from preliminary and detailed incident reports that there was no sweet crude oil release)"

2000	INC2000-011	<p>"On 8 March 2000, a hot cut was performed without incident at Main Line Valve (MLV) 57 Line 2 in order to evacuate gas from the section of pipe between MLV 56-2 and MLV 57-2 in preparation for hydrotest. Using a Lamb air mover, gas was successfully evacuated from the pipe between these valves and a hole was drilled near MLV 56-2 to facilitate gas testing. Tests using calibrated gas detection equipment confirmed that there was no gas present in the pipe at the test hole near MLV 56-2 or in the air being evacuated at the mover at MLV 56-2. When the welder lit his torch 21 metres away from the air mover in preparation for the cold cut near MLV 56-2, there was an ignition at the air mover. The Lamb air mover was being powered by natural gas fed from a tap on the upstream side of MLV 56-2. This results in a flammable gas / air mixture which necessitates precautions be taken to ensure there is no source of ignition. One of the precautions is to ensure there is no residual gas in the pipe when the pipe is cut using a torch. This would result in ignition and a flame traveling through the pipe to the air mover. If and when this occurs, there is an audible bang along with a whooshing sound which indicates that an ignition has occurred in the pipe. In this case there was no noise indicating ignition. External ignition sources to be controlled are stray sparks, static electricity and metal to metal contact causing a spark. The welder was 21 metres from the air mover when he lit his torch and had not proceeded with the cut when ignition occurred. The likelihood that a stray spark from lighting a torch traveled 21 metres to the air mover is remote. The gasket between the flange of the air mover and the blow-off adaptor was present and in good condition preventing a spark from metal vibration. Air movers are electrically grounded preventing the build up of static electricity. As a result of the investigation, TransCanada has concluded that the only possible explanation for an ignition source is a spark generated by static electricity. A ground clamp is used to connect the flange on the air mover with the flange from the blow-off. One possible reason for the spark may have been improper grounding as both the flange on the air mover and blow-off adapter were painted. Thus, there may not have been good electrical contact via the ground clamp with either the air mover and/or the blow-off to the grounding stake. The action of gas moving through an Expeller can result in a build up of static electricity if contaminated with solid or liquid particles (NFPA 77, 2-1.2). Also, on the day of the incident the weather was a bit unsettled which can result in an additional build up of ambient static electricity. During the investigation, TransCanada PipeLines contacted air mover manufacturers to inquire whether similar incidents had been reported when the movers were operated with natural gas. No incidents had been reported. At the time of the incident, TransCanada was in the process of preparing new Gas Handling Procedures. These procedures limit the use of gas for powering the air mover as follows: ""If the work site is within two kilometers of the Expeller location, Compressed Air must be used during welding procedures."" Another point included in the same section of the procedures is ""To prevent a possible static discharge (spark) from occurring during the operation of the Expeller, ensure that the Expeller is properly grounded. This will prevent a possible ignition of the gas."" Gas can be used to power the Expeller only by permission granted by the Regional Director and only where high humidity causes freezing off. The new procedures limiting the use of gas to power the Expellers should limit instances where an explosive gas to air mixture would occur in combination with ambient sparks. Grounding remains important as compressed air containing condensed water vapor often manifests strong electrification when escaping (NFPA 77, 6-2). This is they only reported case the Board has on file where gas has ignited while exiting the Lamb air mover. If procedures are followed, the likelihood of recurrence is remote. All other ignitions during pipe cutting operations have occurred due to gas /air mixtures in the pipe at the cutting / welding site. "</p>
2000	INC2000-010	<p>"On 2 March 2000, a leak occurred from an NPS 1 fitting on the compressor balance line within Compressor Building No. 1 at the Jenner Compressor Station No. 367. A negligible amount of sweet natural gas was released to the atmosphere. There was no fire, explosion or injury as a result of this incident. The unit was returned to service the day following the incident. A negligible amount of sweet natural gas was released to the atmosphere."</p>

2000	INC2000-009	<p>"On 01 March 2000 at approximately 17:00 hours CST, TransCanada experienced a failure of a discharge blow down pressure switch on the ""E"" plant after-cooler. This incident resulted in an unintended release of natural gas through an NPS 6 blow-down valve. The gas was released to atmosphere for approximately two minutes. The Programmable Logic Controller (PLC) initiated a controlled unit shut down and isolation of the ""E"" plant from the mainline. The gas was released for approximately 2 minutes. This incident resulted in a maximum emission of 24.6 x 10⁻³ kt of Co2 equivalents."</p>
2000	INC2000-008	<p>"On 21 February 2000, 16:00 hours Central Standard Time (CST), a TransCanada employee heard natural gas escaping during a routine site inspection at MLV 16. Upon closer examination, it was determined that the NPS ¼ pressure relief valve on the power gas pressure regulator for the 2:3 downstream tieover valve gas hydraulic operator was leaking. The regulator assembly was found to be frozen. The power gas supply was immediately shut off and the tieover valve was isolated as per TransCanada's Tag and Lockout Procedure. The regulator assembly was removed for further testing. A negligible amount of gas was released to the atmosphere. There were no injuries reported. On 23 February 2000, a nitrogen test was conducted on the regulator assembly in order to determine the cause of the incident. The test revealed that the pressure relief valve was functioning properly and that the regulator froze as a result of a leak in the low-pressure shutoff device (air relay valve). Consequently, the air relay valve was replaced on 23 February 2000, at which time the power gas supply to the gas hydraulic operator was restored and the tieover valve was unlocked and readied for service. TransCanada analyzed the faulty air relay valve and discovered that the o-ring that seals the shaft of the device had migrated from its groove, and that the plastic bushing above this o-ring that allowed the shaft to move freely was loose and had shifted from its original position. TransCanada inspected 27 other air relay valves in Saskatchewan in conjunction with its annual valve maintenance program, and discovered that five of the devices showed signs of similar problems with the o-ring, although none were leaking. Further investigation revealed that two designs are used for securing the o-ring in place: one design secures the o-ring through a tight fit between the stem and the spring retainer, while the other design secures the o-ring with a plastic bushing. It was determined that the plastic bushing type design was used in the device involved in this incident as well as the 5 devices identified by the inspections. TransCanada further noted that the o-ring used in all similar valves on its system are made of specifically developed compound for use on the TransCanada system (to resist deterioration due to operating conditions specific to TransCanada). TransCanada is the only user of this type of valve design and o-ring material. A TransCanada employee heard natural gas escaping during a routine site inspection at MLV 16. Upon closer examination, it was determined that the NPS ¼ pressure relief valve on the power gas pressure regulator for the 2:3 downstream tieover valve gas hydraulic operator was leaking. The regulator assembly was found to be frozen. The power gas supply was immediately shut off and the tieover valve was isolated as per TransCanada's Tag and Lockout Procedure. The regulator assembly was removed for further testing. A negligible amount of gas was released to the atmosphere"</p>

2000	INC2000-006	"On 8 February 2000, at Express Pipeline's Hardisty Station (KP 0.0), sweet crude oil was discovered within the berm on tank 104. Upon visual inspection, the oil was found to be leaking from the mixer seal on tank mixer 104. The tank was taken out of service until repairs were completed on 13 February 2000. Two vacuum trucks were called to the scene to clean up the spill site. One vacuum truck was used to attend the oil leaking from the mixer seal. A half barrel was placed under the mixer and the vacuum truck drew up 6 m3 of oil. The second vacuum truck was to attend to the oil that was present on the ground within the berm. The amount of oil that was determined to be on the ground is estimated to be 3 m3 and the rate at which the oil leaking from the seal is estimated to be at 1 gallon per minute. Final site clean-up began on 10 February 2000. A track hoe and hydrovac were used to clean up the contaminated soil. Approximately 48 m3 of contaminated gravel was removed and hauled for disposal. The bentonite liner was not damaged by the clean up due in part to the frozen ground conditions. The contaminated material and oil was sent to Beulah Tec for processing. 48 m3 of contaminated soil was removed from site and sent for disposal. 2 vacuum truck loads were hauled away. The first with 4 m3 of material (3 m3 - oil, 1 m3 - solids) from the ground. The second truck had 6 m3 of oil collected from a 1/2 barrel at the seal location. Approximately 3 m3 of sweet crude oil was released due to a tank mixer seal leak."
2000	INC2000-005	"An incident occurred on 03 February 2000 at 23:45 when a brine string in one of the NEB regulated caverns failed. This resulted in approximately 20 bbls of high pressure propane migrating up the brine string. The facilities are designed to prevent any serious effects from resulting in such a case. A high pressure alarm on the brine side of cavern E3 activated the high pressure shut down to the ESDV's. The amount of propane that accessed the brine lines prior to closure of the ESDV was minor and was flared through the flare and burn pit, as per the system design. Amoco followed their emergency response procedures which included calling fire department officials who remained onsite until the controlled burn had been completed. The incident did not result in any damage to persons, wildlife, habitat, or the environment. All damage was restricted to the string within Amoco's underground salt caverns and there was no damage to any surface facilities. After the incident, Amoco de-pressurized the cavern by transferring the remaining propane to another cavern. Amoco has since determined that the brine string was sheared off at approximately 1388' below ground level and inside cavern E3. Damage was limited to the brine string in the cavern. Amoco suspects that the string failed due to shearing caused by a shale collapse. Amoco plans to replace the damaged brine string and tentatively scheduled to replace the brine string in May. This is a routine procedure. Refer to MO-25-86 for proper name."
2000	INC2000-003	"On 18 January 2000, an instrument mechanic and employee of WEI, fell off an extension ladder while calibrating a fire eye in the sulphur plant within the McMahon Gas Plant in Taylor B.C. As a result of the fall the employee sustained a fracture to his right leg, minor head and elbow injuries and 2nd degree burns to his left hand. Mr. Bill Loftus, an instrument mechanic and employee of WEI, fell off an extension ladder while calibrating a fire eye in the sulphur plant within the McMahon Gas Plant in Taylor B.C. As a result of the fall the employee sustained a fracture to his right leg, minor head and elbow injuries and 2nd degree burns to his left hand."
1999	INC1999-070	"A brush pile fire that was started early in December had burned down to a horizontal position and appeared to be out when employees left the site for their Christmas break on 21 December 1999. On 29 December 1999, personnel were called to the site when left-over embers in the ash pile remnants of the brush pile ignited the surrounding ground debris when the wind velocity increased. The fire was extinguished by personnel that arrived on site via a water truck. No trees were involved in this fire; only ground debris burned."

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1999	INC1999-071	<p>"On 27 September 1999, during the construction of Alliance Pipeline, a worker was attempting to loosen off a boomer from a chain that was wrapped over a sloop of skids. He attempted to take the twist out of the chain and undo the boomer at the same time. The boomer snapped open striking the worker in the right leg. The worker completed his shift and drove home. Upon arriving at home he felt that the pain was to much so he went to the Misicordia Hospital emergency room where x-rays were taken The x-rays revealed that he had fractured his upper tibia in his right leg. ██████████ (Union Labourer) fractured his upper tibia in his right leg after being hit by a boomer which snapped back at him."</p>
1999	INC1999-072	<p>"Two workers were burning brush piles when they took the propane torch off of the truck to light another pile. When the torch was turned on, there was no pressure. Personnel left the hose unattended and proceeded to open the main valve underneath the tank but there still appeared to be no pressure. Thinking that there may be another valve on the top of the tank, one of the workers climbed up into the truck box. Suddenly propane could be heard escaping from the hose and it began to migrate toward the burning brush pile. Personnel jumped out of the box, turned off the truck and jumped in their pickup truck and left the scene for fear of an explosion. The propane worked its way, with the help of the wind, to the burning brush pile located just meters southeast of the propane truck. The propane ignited and flashed back to the propane truck which soon became engulfed in flames. The truck was completely destroyed by the fire. The fire was allowed to burn out by itself as it was considered safer than attempting extinguishment. A 1992 Ford F-350 which carried a 500 gallon propane tank was completely destroyed by the fire. Initially, it was believed that the regulator on the torch had failed but after further investigation, it was found that the hose had become so worn that it cracked and eventually ripped from the fitting at the outlet on the bottom of the propane tank. Therefore, the propane escaped from the ripped hose at the tank outlet. This was caused by wear and tear of the hose at the fitting where it is attached to the propane tank. In the configuration that was being used, the propane tank sat on the sloop and the hose was attached to the tank outlet on the bottom of the tank. In this set-up the hose was constantly being bent and pulled at, thus wear was occurring."</p>
1999	INC1999-073	<p>"In August of 1999 (precise date unknown) a contractor's cat operator, while ripping the ditch line in Lac St. Anne County, Alberta, struck and severed a 1 inch plastic low pressure (less than 10 psi) domestic gas feeder line that was untraceable. The severed line belonged to Co-op Gas who also happened to have a crew working about 1.5 km's away from the location of the incident. The Co-op crew immediately responded to the leak site and squeezed off (pinched) the plastic line to stop the flow of gas until repairs could be made. The crew knew that there were three more small diameter low pressure plastic lines in the same immediate area but their locations were untraceable. The Gas Co-op crew informed Alliance's contractor's cat operator to proceed ripping the ditch line and that if additional lines were hit, they would squeeze them off as well. As it turned out, the other three lines were hit shortly following this first line having been hit. It was discovered that 2 of the 3 lines were out of service and that they were also 1 inch domestic feeder lines. In August of 1999 (precise date unknown) a contractor's cat operator, while ripping the ditch line in Lac St. Anne County, Alberta, struck and severed a 1 inch plastic low pressure (less than 10 psi) domestic gas feeder line that was untraceable."</p>

1999	INC1999-074	<p>"On 30 November 1999 a contractor's backhoe operator, while excavating a dug out on an extra work room area, severed a 1 inch diameter St. Anne Gas Co-op plastic line that was buried 4.1 meters deep. The line had been placed this deep due to the adjacent road that it crossed under. Apparently the line had been directionally drilled when it was installed under the road. The line was marked or identified by yellow stakes prior to the operator commencing excavation and the operator was familiar with the meaning of the stakes color code. Gas flowed for approximately 15 minutes before a service crew was able to shut off the line and carry out a repair on it. The circumstances that conspired leading to the line strike were as follows. The hoe operator had been told that he was to dig a dug out on the opposite side of a roadway from where he was positioned. He was directed by his foreman to wait on the side of the road he was on until the foreman came back from looking at something else. The foreman instructed the hoe operator not to cross the road until mats and flag persons were obtained and placed in position. When the foreman left the hoe operator crossed the road against the foreman's orders and began to dig the dug out without a spotter present. While digging, the operator struck the 1 inch gas line and severed it. High pressure gas flowed for approximately 45 minutes until it was shut off by service workers."</p>
2000	INC2000-002	<p>"At approximately 1:00 p.m. on 04 January 2000, a safe work permit was issued by Westcoast to two Quinn Contracting technicians for the installation of roofing truss bars in the river water pump house at the McMahon Gas Plant. A Quinn toolbox safety meeting report was written and signed by the two Quinn technicians who then drove from the plant to the pump house. The roofing truss bars had been previously disconnected in order to facilitate the removal of pumps within the pump house. The roof trusses were approximately 21 feet from the floor. Upon arrival at the pump house, each Quinn technician set a ladder against the support beam located approximately 19 feet from the floor, climbed the ladders and tied the top of the ladder against the support beam. Standing on the beam with their lanyards anchored to the beam, the workers reconnected and tightened one of the trusses in place. Quinn technician #1 disconnected his lanyard. Quinn technician #2 untied the rope that secured the ladder against the support beam and descended the ladder. Both technicians moved their ladders to the next location and ascended their ladders. Quinn technician #1 was attempting to tie off his ladder when the bottom of the ladder slipped out. Quinn technician #1 fell approximately 18 feet striking his back and ribs against the top of a pump (approximately 8 feet from the grade) before hitting the floor on his feet and coming to rest face down. Quinn technician #2 descended to help Quinn technician #1 and phoned his foreman who phoned the Westcoast ambulance for medical aid. Quinn technician #1 was transported to hospital. Quinn technician #1 fell approximately 18 feet striking his back and ribs against the top of a pump (approximately 8 feet from the grade) before hitting the floor on his feet and coming to rest face down."</p>
1999	INC1999-020	<p>"On 26 December 1999, at approximately 16:00 hours Eastern Standard Time (EST), TransCanada experienced a flash fire within the turbine enclosure of unit 86B. The flash fire was the result of a ruptured NPS ¼ Stainless Steel lube oil line that released a fine oil mist over the hot section of the gas turbine. The Inergen fire suppression system was activated by the enclosure fire eyes; this action resulted in a controlled shutdown and ESD of the unit. No damage to the unit or enclosure resulted from this incident. The ruptured line was replaced and the unit was returned to normal service at 04:00 hours EST on 27 December 1999. The ruptured line resulted in a loss of approximately 200 litres of oil which was contained within the unit enclosure and later drained into an oil barrel as part of the cleanup activity. There were no injuries reported. The flash fire was the result of a ruptured NPS ¼ Stainless Steel lube oil line that released a fine oil mist over the hot section of the gas turbine. The ruptured line resulted in a loss of approximately 200 litres of oil which was contained within the unit enclosure and later drained into an oil barrel as part of the cleanup activity. Released fluid was lube oil, not crude oil as was originally entered."</p>

2000	INC2000-001	Approximately 2.5-3.0 m ³ crude oil leaked from the Norman Wells line 21 at IJ point KP 839. The leak was contained on Enbridge property within an area 30' x 100'. The leak occurred as a result of a switch failure on a sump pump. The spill site was thoroughly scraped and the contaminated soil was hauled to the recycling facility area. The volume is unknown. Sand was placed over the site to absorb any residue oil. This sand was also taken to the recycling facility area. 2.5 m ³ of crude oil was released and contained to an area of 30' x 100'.
1999	INC1999-028	"On 15 December 1999 at approximately 09:30 EST TransCanada experienced a small fire on a NPS 2 domestic fuel gas line, feeding an existing service building. A contract employee was in the process of heating the fuel line for the purpose of applying tape coat when he noticed an irregular flame pattern on the tiger torch. Upon closer examination, he discovered a pinhole leak in the weld. The line was isolated and blown down to conduct the repair. Following the repair, the line was x-rayed, coated and returned to normal gas service. 30 psi through a weld pin hole in a 2" line."
1999	INC1999-069	"While offloading pipe, workers arm was caught between two pipes resulting in a fracture of the radius and/or ulna. Right wrist crushed between two joints of 12" pipe. Employee was taken to Fox Creek hospital conscious and coherent. The hospital decided that he be medivaced to Edmonton University hospital and arranged the flight."
1999	INC1999-068	"On 10 December 1999, at approximately 8:15 hours Eastern Standard Time (EST), TransCanada experienced an uncontrolled release of gas when a quick opening enclosure assembly opened unexpectedly on the NPS 12 upstream riser at MLV 76-2 near Beardmore, Ontario. The riser is part of a bypass assembly around the mainline valve. At the time of the incident, TransCanada personnel were on site loading mainline 100-1 through the MLV 76-2 bypass assembly. Mainline 100-1 was being loaded following the completion of In-Line Inspection and hydrostatic testing activities on Lines 100-1 and 100-2. Area personnel isolated the uncontrolled blowdown within 30 minutes, and approximately 1.5 million cubic metre of gas was released to the atmosphere. There were no injuries reported. The investigation indicated that the clamps on the quick opening closure, Tube Turns Type 600V, were inadequately secured to the hub of the enclosure. Upon pressurization of the enclosure, the clamps disengaged the hub, which resulted in significant circumferential loading on the clamps. The location of the bolts on the bottom of the clamps provided a moment for clamp rotation under the applied load, the clamps disengaged the lid and the lid/hinge assembly was subsequently ejected under high-pressure gas. The environmental impact of this gas release is related to greenhouse gas emissions to the atmosphere. This incident resulted in a maximum emission of 1.065 kt of methane which corresponds to 22.365 kt of CO ₂ equivalents. Area personnel isolated the uncontrolled blowdown within 30 minutes, and approximately 1.5 million cubic metre of gas was released to the atmosphere."
1999	INC1999-051	"On 7 December 1999, during a sidestream NGL injection at Kerrobert, a gas alarm occurred at 9:26 MST from Station 1. Within 27 seconds of the gas alarm, all 4 units were automatically shut down and isolated. Enbridge personnel investigated the cause of the gas alarm and found that a mechanical seal on Unit 1-U-3 had failed. The O-ring on the outboard seal sleeve was dislodged and allowed NGL to vent to atmosphere through the primary seal and the secondary backup seal. The seal failure was attributed to the pump trust-bearing having excess clearance, which allowed the bearing to move axially approximately 0.05" such that the primary seal face O-ring became unseated. The excess clearance also caused the bearing and secondary seal faces to become misaligned, which compromised the effectiveness of the secondary containment system. Unit 1-U-3 was repaired and returned to service on 13 December 1999. Approximately 0.01 m ³ of NGL vapour was vented to the atmosphere. There were no injuries reported. The O-ring on the outboard seal sleeve was dislodged and allowed NGL to vent to atmosphere through the primary seal and the secondary backup seal."

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1999	INC1999-063	<p>"On 29 November 1999 a pipeline sub-contractor's employee of D & K Horizontal drilling sustained two fractured vertebrae while operating a quad. He was attempting to ascend a small but steep bank on the pipeline right of way when the quad began to stall during its forward movement thus losing momentum. The worker attempted to downshift and give more throttle. As he did so, the quad proceeded forward regaining some of its lost momentum and its front end lifted off the ground. It lifted to such an extent that the quad rolled over backwards onto the worker and continued to roll for a full 360 degrees landing on its wheels down the bank behind him. On 29 November 1999 a pipeline sub-contractor's employee (██████████ employed by D & K Horizontal drilling) sustained two fractured vertebrae while operating a quad."</p>
1999	INC1999-067	<p>"A worker was conducting a routine fuel sediment test in a fume hood. The procedure involves pouring fuel from a glass graduated cylinder into a glass receiving vessel where it then flows by force of a vacuum through a filter into a waste flask. During this particular event, the graduated cylinder was rinsed with petroleum ether which was poured into the receiving vessel, followed by the fuel sample. Subsequently, a 6mm blue flame ignited around the perimeter of the receiving apparatus. "</p>
1999	INC1999-066	<p>"On 17 November 1999, at 15:30 hours Eastern Standard Time (EST), TransCanada work crew was installing cable runs for a new fuel gas measuring facility in the basement of the ""B"" plant at Compressor Station 110, when they noticed that a Schedule 80 NPS ½ by NPS ¼ fitting in a nearby elbow meter piping assembly was cracked and was leaking natural gas. The ""B"" plant was on standby at the time of the incident. Station personnel manually isolated the facility and vented the ""B"" plant booster to the atmosphere. The affected fitting was temporarily replaced with Schedule 80 pipe nipple (due to unavailability of Schedule 160 nipple), and on 16 December 1999, the temporary Schedule 80 nipple was replaced with Schedule 160 pipe nipple. A negligible amount of gas was released to the atmosphere. A negligible amount of natural gas was discovered to be leaking from a fitting."</p>
1999	INC1999-065	<p>"Note to file: A substantial amount of information pertaining to this file is in records. A farmer plowing his field detected hydrocarbon odours in the area of the pipeline ROW. Farmer contacted Enbridge (who have a pipeline in this ROW) to report the detection of the odour. Enbridge in turn contacted Trans Northern Pipe Lines (TNPL) (who also have a pipeline in this ROW). Both Enbridge and TNPL showed up on site to investigate. TNPL immediately initiated day-lighting of the NPS 16 Nanticoke pipeline. On 26 November 1999 @ 04:10 EST, TNPL discovered a pinhole leak on this pipeline. The product released through the pin hole was gasoline."</p>

1999	INC1999-064	<p>"On Wednesday, 10 November 1999 at 06:58 an MPL Chief arriving at the St. Cesaire Pump Station to oversee contractor work observed a pipeline release at the back-pressure apparatus on the 18 inch pipeline. Oil was being released from a piece of rigid pressure transmitter tubing connecting the 18 inch main line pipe to the pressure transmitter on the downstream side of the back pressure system piping manifold. The oil flow was stopped and the Emergency Response Plan was implemented. There were no injuries as a consequence of the spill and three families in the vicinity of the release were evacuated for one day. One residence was affected by the crude oil spray and Montreal Pipe Line has reported that the house was cleaned to the satisfaction of the owner. MPLs conclusion regarding the primary cause of the incident was a failure of the pressure transmitter tubing which had been rigidly connected to the pipeline making the tubing susceptible to vibration fatigue. The instrument tubing broke due to excessive vibration caused by a coupling failure on one of the actuators on the back pressure system. The back-pressure system on the 18-inch pipeline was overhauled during 1999 as part of the project to return the 18-inch pipeline to oil service from gas service. The flex-flow pressure relief valve, the main line block gate valve, the isolation valves, the by-pass control valve and the by-pass block valve were all reconditioned as part of the project. In addition, the actuator on the control valve was replaced with a new actuator and the pressure transmitter was connected with rigid tubing to the pipeline. The back-pressure system was operated intermittently from October 1999 until 5 November 1999 at which time it was put into full operation. The tubing failed on 10 November 1999 due to excess vibration. CORRECTIVE ACTIONS Montreal Pipe Lines has ceased using rigid tubing connection for instrumentation devices. MPL reviewed all locations and replaced rigid tubing connections with bent Swagelok or high pressure flexible tubing. The replacement was confirmed during a Board construction site inspection which occurred in October 2000. MPL changed the connection between the actuator and the valve and inspected similar connections to ensure that similar coupling assemblies were not present. None were discovered. By doing so, MPL believes that they have eliminated the cause of the vibration. MPL reviewed the overall system looking for potential or existing vibration problems. None were discovered. MPL also reviewed instrument installations and connections. No deficiencies were identified. MPL modified the SCADA system to provide an alarm to the Controller when the pressure reading on the downstream side of the pressure manifold reads zero pressure, which would indicate a possible failed tubing connection. MPL developed instrument connection installation procedures with Engineering and Maintenance personnel to ensure that all recognize the need to utilize non-rigid tubing connections. MPL conducted a Hazard Operability Analysis of the St-Césaire Station. There were no equipment improvements identified beyond those listed above. However, MPL identified specific practices as important activities to manage during the pump expansion work. Improved practices included adherence to the MPL control of change process, sound and safe management of hi-voltage work during construction, and clear and careful management during power interface changeover with requisite system outages to ensure safety. Fifty seven (57) containers of partially contaminated soil totalling 930 metric tons were removed and sent to Checycycle's facility in Chambly Quebec for analysis and disposal. The release was discover by a worker at the start of the work day. Exact duration unknown. About 160 m3 of crude oil mixed with water was recovered from the cleanup effort. MPL estimated that all of the 275 barrels of oil except for the small evaporative loss was recovered."</p>
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1999	INC1999-062	"While preparing to launch a scraper pig as part of a batch pigging operation, employees failed to close an isolation valve before removing 2 locking bolts from a pig launcher door. Pressure within the launcher forced the door open, resulting in a spill of 160 m3 of heavy crude. The Edmonton Control Center was notified and the pipeline was shutdown and isolated by closing sectionalizing valves. Local area residents were notified of the incident by phone. Due to vapors associated with the spilled crude oil, gas monitoring and fire watch procedures were implemented and continued through clean up operations. The oil spill, except for a 1.5 m2 area, was contained on company property. Recoverable liquids were returned to the pipeline system. Contaminated soils were stockpiled on site in a lined pit and were to be processed according to established practices. Enbridge concluded that this was an employee error in not following established procedures. The employee was subsequently disciplined. A bulletin was to be circulated reinforcing the importance of following established isolation and depressurization procedures. Following free product recovery operations, 1634 tons of impacted soil was excavated and removed to a disposal facility."
1999	INC1999-060	"On 27 October 1999, at about 3:45 MST, personnel at Enbridge=s Edmonton Terminal Control Centre received a gas alarm from the Line 13 pump station. Local on-shift personnel responded to the alarm and observed a cloud of vapor coming from the Line 1 station instrumentation piping. The Line 1 Operator shut down Line 1 at 3:50 MST and notified the Edmonton Control Centre of the leak at 3:51 MST. Station 13 was not operating at the time, the other lines were kept running as they are not in the vicinity of the leak. At 3:55 MST, Enbridge decided to flush the Line 1 station piping of NGL by pumping synthetic crude through it. This measure was to minimize the vapor cloud, and enable personnel to enter the area and isolate the small leak. At 4:38 MST, the company completed flushing and identified the leak as a rupture in a 2" stainless steel hose. The hose connected the flourometer instrument to the 20" station piping. Enbridge restarted Line 1 at 4:59MST. During the flushing operation to remove the NGL from the piping, synthetic oil was sprayed over an area of 420 square feet (39.02 m2) in the immediate area of the leak, through the damaged flex hose. During the flushing operation to remove the NGL from the piping, synthetic crude oil was inadvertently sprayed over an area of 420 square feet in the immediate area of the leak, through the damaged stainless steel hose."
1999	INC1999-061	"At 09:50 MST on 27 October 1999, an Enbridge employee noticed NGL vapour escaping from Line 1's sump tank vent stack at the Edmonton Terminal (see the attached schematic of the sump tank piping). Work in the area was stopped. Control Room employees investigated the source of the leak and determined that NGL was escaping from the mechanical seals on pump unit 1.4 (see the attached drawings of the pump and mechanical seals). The unit was shut down and isolated. Release of a negligible amount (0.01 m3) of natural gas liquids (NGL) from failed mechanical seals on a pump. The vapour evaporated."
1999	INC1999-059	"On 21 October 1999, while personnel at Enbridge=s Regina, Saskatchewan, terminal conducted training of other employees on the operation of the NGL knockout vessel, they discovered a minor leak on the lower site glass fitting. The site glass was used to determine the liquid level within the vessel. The persons involved in the training exercise immediately isolate the knockout vessel by closing manually the valves to and from the vessel. Enbridge later replaced the site glass fitting. The amount of NGL leaked from the vessel was so small that it evaporated quickly into the atmosphere and caused little adverse environmental effects. There were no injuries reported. Trace amounts of NGL were released. The NGL evaporated quickly into the atmosphere."

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1999	INC1999-058	<p>"On 18 October 1999 a pipeline sub-contractor's employee of I.W. Kuhn sustained a broken right leg while operating an ATV which in this case was a quad. He had driven the quad across a creek and was in the process of climbing the creek bank on the creek's west side when all four tires of the quad began to spin and the quad began to slip sideways to the right (north). As it slipped sideways it also began to slide down the creek embankment. The worker felt the quad was going tip or roll so he tried to jump clear of it. As he did, his right foot became lodged around the quad's foot peddle and caused him to sustain a broken leg. On 18 October 1999 a pipeline sub-contractor's employee (██████████ employed by I.W. Kuhn) sustained a broken right leg while operating an ATV which in this case was a quad. He had driven the quad across a creek and was in the process of climbing the creek bank on the creek's west side when all four tires of the quad began to spin and the quad began to slip sideways to the right (north). As it slipped sideways it also began to slide down the creek embankment. ██████████ felt the quad was going tip or roll so he tried to jump clear of it. As he did, his right foot became lodged around the quad's foot peddle and caused him to sustain a broken leg."</p>
1999	INC1999-057	<p>"On 16 October 1999, a truck driver delivered a load of 4 sets of swamp matts (about 8000 lbs.) to the M&NP ROW on a low boy trailer. Each set of matts was bound together with chain. Matts are equipped with wire rope at each end which are typically used for rigging the matts for loading and unloading. Rather than use the proper rigging method for lifting the matts, a hoe operator slipped the teeth of the bucket under the binder chain and lifted the load. Just prior to setting the matts on the ground, the truck driver threw a skid under the matts to facilitate removal of the binder chain. The skid landed in a way not suitable to the truck driver and the driver reached under the load to reposition the skid. At that moment the chain broke, and the load fell upon the truck drivers hand partially severing the mid and ring fingers of the right hand. As a result of the incident, all workers were informed of the incident, and all workers were reminded never to allow a part of their body to pass/work under a suspended load. Workers were advised to use certified lifting slings or chains. Further instruction on using a back hoe for lifting was not done because the correct lifting practice using a back hoe was already established as an accepted standard throughout construction; however, that practice was not followed in this case. Partial amputation of mid and ring fingers of the right hand."</p>
1999	INC1999-056	<p>"On 17 October 1999 at approximately 14:50 MST, the Edmonton Control Centre received a call from a third party stating that a crude spray (gasoline) had been observed inside the fenced area of the Loreburn Pump Station. Line 1, Line 3, Line 4, and Line 13 were immediately shutdown, sectionalized and isolated. Line 2 was shut down at the time of the incident. Crews were dispatched to investigate, secure the area, commence clean-up and complete repairs. Personnel found a small bore fitting (1" threaded nipple) connected to a small diameter pressure relief valve had broke. The relief valve provides thermal relief for the pressure control valve bypass line. The station was isolated and the mainlines were restarted. The above is the area of land contaminated. A controlled burn eliminated ground/soil saturation. Environmental report available in records. Prepared by Clifton Associates Ltd. Total volume recovered is unknown. A controlled burn was conducted on the adjacent agricultural lands. Approximately 20 barrels was burned off."</p>
1999	INC1999-055	<p>"On 1 October 1999 at approximately 15:00 hours local time, a worker of O.J. Pipelines had his left small finger pinched between the pipe and bending machine. This resulted in part of his finger being amputated. The worker stated that he ""took his eyes off the task for just a second and did not see the pipe coming down"". There are also reports that the worker went to pick up his chalk which he had placed on the bending table. Though the worker had 10 weeks prior bending crew experience on the Foothill project with Waschuck in 1998, this was only fourth day on the bending machine with O.J. Pipelines. Statistically, this fits with the injury profile. i.e.: a worker is most likely to be injured in the first two weeks on a new job. "</p>

1999	INC1999-054	"On 28 September 1999, Enbridge personnel observed smoke at a crude oil sump pump. During routine fall servicing to eliminate any water in the tank which might freeze during the winter months, the sump had been pumped dry using a vacuum truck on 24 September 1999. At 13:30 MST, an employee observed an erratic reading on the sump level indicator while the pump continued to run. Before the employee could investigate and shut off the sump pump, the incident occurred. At 13:36 MST, an explosion was heard coming from the Cromer Terminal Line 2 sump. Smoke was observed coming from the sump vent."
1999	INC1999-053	"On 22 September 1999, personnel observed oil seeping from the ground around the manifold piping in the S.W. corner of the tank farm where Indian Road and North Plank Road come together. There are three low pressure suction lines at this location which operate at 20-40 psi. The middle line (30" OD) was found to be leaking on its south side at its 4-5 o'clock position on a circumferential weld. An 11.5 m ³ oil spill was found in the tank farm at the Sarnia Terminal. All contaminated soil was removed and replaced. The site will be either graveled or sodded to match existing conditions. The middle line (30" OD) was found to be leaking on its south side at its 4-5 o'clock position on a circumferential weld. There appeared to be a raised area on the weld that when pressed with a finger would drip a couple of drips of oil. Enbridge assumes that this 40 year old weld had been leaking for some time, and the estimated volume released was 11.5 m ³ of oil."
1999	INC1999-050	"On 4 September 1999 at 21:20 MST, Westcoast received a complaint through BC Oil and Gas Commission of a sour gas smell in a rural farm area 43 miles NW of Fort St. John, on the 16" Nig Creek Pipeline. Upon inspection, Westcoast personnel found that a bolt in the Grove B-4C Ball Valve had failed. They isolated the line, blew down the remaining gas, installed new valve parts, and put the line back to service at 06:20 MST on 5 September 1999. Westcoast staff visited the residents to determine if there were any complaints regarding the effects of the sour gas on their health. There was no injuries reported. An unknown amount of sour natural gas escaped to the atmosphere. Upon inspection, Westcoast personnel found that a bolt in the Grove B-4C Ball Valve had failed. They isolated the line, blew down the remaining gas, installed new valve parts, and put the line back to service at 06:20 MST on 5 September 1999."
1999	INC1999-052	Trace amounts of NGL were detected tripping the gas alarm which in turn was detected by Enbridge Control Centre. Investigation determined the leak of 0.0045 m ³ onto the concrete valve support to be the result of a failed stem seal packing on a pressure control valve. Shut down occurred at 12:32 MST. The control valve was isolated and the pipeline resumed operating in bypass mode (around the control valve) at 14:06 MST. Trace amounts of NGL were detected tripping the gas alarm which in turn was detected by Enbridge Control Centre. Investigation determined the leak of 0.0045 m ³ onto the concrete valve support to be the result of a failed stem seal packing on a pressure control valve.
1999	INC1999-006	"On August 27, 1999 at approximately 06:30 MST an incident occurred at Enbridge's Edmonton Terminal Laboratory while an Enbridge lab technician was using a fume-hood equipped with a vacuum pump for filtering a gasoline sample. Near the completion of his task, the technician heard a popping noise; he immediately turned off the fume-hood's vacuum pump. As the technician opened the door of the cabinet that housed the pump and its motor, he observed a candle-sized flame coming from the end of the vent hose where it connects to the outlet of the vacuum pump."
1999	INC1999-049	"On August 25, 1999 a tractor operator lit a cigarette and flicked ashes out of the window of his tractor while working for Enbridge near its Strome Station, Alberta. At the 12:50 MST, the operator noticed smoke coming from an unmixed shredded straw pile on the ground and immediately notified his supervisor. The smoldering fire spread within the straw pile as a result of strong winds, but was contained to an area of approximately 15 feet by 20 feet. The fire was extinguished at approximately 13:30 MST."

1999	INC1999-048	<p>"On 21 August 1999, the Highland Rover, a supply vessel, discharged fuel to the Solitaire, SOEI's pipe-laying vessel at sea. At approximate 5:00 ADT, due to swelling sea condition, the Highland Rover swung away from the Solitaire and caused the bunker hose connecting between the bunkers of the 2 vessels to rupture. This incident caused approximately 440 liters of fuel to spill into the water. To avoid further environmental damage, oil absorbent and containing booms were launched to contain the spill. The Solitaire and the Highland Rover joined other vessels in collecting and clearing the spill. There was no injuries reported. No chemicals were used. This incident caused approximately 440 liters of fuel to spill into the water. To avoid further environmental damage, oil absorbent and containing booms were launched to contain the spill. The Solitaire and the Highland Rover joined other vessels in collecting and clearing the spill. This incident caused approximately 440 liters of fuel to spill into the water. To avoid further environmental damage, oil absorbent and containing booms were launched to contain the spill. The Solitaire and the Highland Rover joined other vessels in collecting and clearing the spill. Although the amount of the oil spilled appeared to have been minimized by the rapid and apparently effective response of the crew on board of both ships involved, this type of fuel transfer operation with both vessels underway, subject to unpredictable movements, incurs unnecessary risks. Spill of oil into marine water, according to Transport Canada, constituted an offence under Canada Shipping Act, and is subject to legal action against the ships even if only small quantities of oil entered the water."</p>
1999	INC1999-046	<p>"At approximately 10:19 MST, staff of TransCanada PipeLines's aerial patrol reported a potential leak on an Enbridge pipeline to an Enbridge employee. The employee immediately advised the Sarnia Control Centre which shut down and isolated Line 18. Enbridge personnel went to the site and confirmed a leak (from a crack-like defect in a dented region) at approximately 13:00 MST. Hydrocarbon-impacted water, estimated at 8.2 m³, was removed from site and was disposed of at a provincially approved facility. Crude oil was found to be leaking from a crack in a dent on the pipe."</p>
1999	INC1999-045	<p>"On 10 August 1999 at 09:30, a pressure drop was detected in the Pesh Creek Pipeline by the Control Centre located at the Peggo Plant in NE B.C. The lead operator on shift noticed a small layer of frost on the ground over the sales gas pipeline ROW and detected gas fume odors. The line was immediately shut in and subsequently depressurized. The line is a sweet gas line and is in a remote location. On 12 and 13 of August 1999, the leak was located, 3.66 metres of pipe was cold cut from the line, repairs were completed, pipe was tested, x-rays confirmed, and the pipe was backfilled. The leak was located at a weld at a transition between an old 25.4cm 6.4mm wall CSA Grade 359 Cat II pipe and a newer 7.8mm NWT pipe installed in 1998. The new pipe was installed in October 1998 as a result of hot gas damaging the original pipe during a process upset in June 1998. During the repair process, the tie-in weld failed the NDT and required a repair. The repair NDT passed the weld. Hoogensen Metallurgical Engineering Ltd. examined the failed weld and concluded that the repair weld was defective due to hot cracking (solidification cracking), and that the NDT film had shown a line indication which should have failed the weld. They also indicated that the differences in pipe wall thicknesses contributed to the weld failure and suggested that the thickness of the heavier walled pipe be machine reduced prior to the tie-in weld. As a result of the weld failure, TransCanada Midstream changed the procedures to be used in pipeline repairs. The procedures include the use of equal wall thickness pipe for tie-in welds through the use of machined transition sections if necessary, and the addition of Magnetic Particle Testing to the X-ray testing procedures already in place. TransCanada Midstream has communicated the findings and the procedural change to all Operations Managers and Engineering Staff as well as TransCanada PipeLine Operations. Leak detected 10 August and line back in service 14 August 1999. Volume of release and length of release unknown. Release estimated to be very small."</p>

1999	INC1999-047	<p>"On 5 August 1999, at approximately 13:45 hours EDT, a technician smelled natural gas around the 'B' Plant discharge header piping at TransCanada's Compressor Station 80, near Geraldton, Ontario. The discharge pressure at the time of the incident was 6300 kPa. A call was placed to instruct the Regional Operations Controller not to adjust the operating conditions until further notice. Station personnel carefully removed the insulation and discovered a 127 mm long crack running from the weld of an NPS 2 riser pipe into the parent metal of the NPS 42 discharge piping. Upon confirming the source of the leak, the 'B' Plant was shutdown, isolated, depressurized and locked out of service. The section of NPS 42 discharge header piping containing the crack was cutout and shipped to the Airdrie Service Center for metallurgical analysis. The cutout was replaced on 8 August 1999 with a piece of NPS 42 pre-tested security pipe. However due to line conditions, the unit was not put into service until 12:27 hours EDT, on 9 August 1999."</p>
1999	INC1999-044	<p>"On 3 August 1999 the Enbridge Edmonton Terminal began receipt of a refined products batch of gasoline at 21:00 MST. An employee concluded a haze test on the gasoline batch within the Refined Products and NGL Sample Building at approximately 21:25 MST. At 22:42 MST, the Edmonton Control Centre of Enbridge Pipelines received a fire alarm from a heat activated fire sensor and at 22:44 confirmed a fire in the line 1 refined products NGL sample building. The Control Centre was called to shut down all lines at 22:45 MST and the Shell Refinery was called to shut down their incoming line. The Strathcona Fire Department was summoned to assist with fire suppression and arrived at 22:50 MST. The fire was extinguished by 23:05 MST. Isolation of the sample building from the incoming manifold and outgoing mainline was completed by 23:15 MST. Fire crews continued to cool the piping with water to prevent flashback. Line 1 remained shut down until critical equipment was returned to service. Line 2 was restarted at 00:09 MST 4 August 1999. The fire resulted in major fire damage to the building, particularly the upper portions of the building, and destruction of the building contents such as sampling equipment, densitometers and electrical equipment. The fire resulted in major fire damage to the building, particularly the upper portions of the building, and destruction of the building contents such as sampling equipment, densitometers and electrical equipment. A total of 2m3 of gasoline was released and consumed by the fire."</p>
1999	INC1999-043	<p>"A contractor hired to recondition Montreal Pipeline's 18 inch line was excavating a bell hole and struck a nipple, believed to be 3/4 inches in diameter, on an adjacent 24 inch diameter line that is also owned and operated by Montreal Pipeline. Crude oil immediately began escaping and was contained within the bell hole. Approximately 15 to 29 loads (10 wheel dump trucks) of topsoil in the park was replaced and approx. 200 tons of sand was hauled in to replace the contaminated subsoil. 1191 barrels released, 1178 barrels recovered, 4 barrels evaporated and 9 barrels recovered via excavation."</p>

1997	INC1997-048	"On 23 July 1997 at 20:00, at Westcoast Energy Inc.'s (AWEI@) Pine River Gas Plant, the piping assembly from the plant inlet separators to the plant Low Pressure (ALP@) Flare Knock-out (AK/O@) drum failed during a maintenance blowdown. A small hole developed during blowdown at an elbow joint directly above the K/O drum outside the south side of the utilities building. The spray from a small amount of pigging liquids (toluene) within the section of line directed upward, dropped to the building wall and vessel, and then to the ground. Pipeline discharge contained H2S which activated the plant main emergency horn causing operators to cease blow-down immediately. Approximately 110 liters of the mixture spilled to the ground. Free liquid was absorbed with spill response equipment. The spill response personnel wore proper protective equipment, including organic vapor cartridge masks and full eye and body protection gear. The building sides and piping were washed with a detergent. In total, 100 liters of free liquids were recovered. No damage occurred to the building. The contaminated gravel and soil were excavated by shovel and bobcat into hazardous waste bags and transferred along with the contaminated absorbent to a hazardous waste containment bin designed for pyroforic substances. 5.0 m3 of contaminated soil and gravel was excavated and stored in hazardous waste bins for subsequent disposal. The liquid mixture of toluene containing H2S, with an approximate volume of 0.110 m3 was spilled onto the flat ground surface covered with gravel and sand."
1999	INC1999-041	"On 18 July 1999 at 14:35 P.D.T., workers at the McMahan Gas Plant were digging out an underground check valve on a 24 inch inlet (sour) line to the plant in preparation for plant turnaround in August. While excavating, a pinhole leak was discovered on the seal weld of a clamp screw for a Plidco Coupling. A non metallic gasket in the coupling was found to be leaking, thus, it was allowing gas to get past it and leak to atmosphere through the pin hole leak in the clamp screw's seal weld. The line was immediately shut in and blown down. Approximately 215 MMscf/d of gas production was lost over a period of ten hours as a result of this incident. The Plant went down at 3:30 pm on July 18, 1999 and was back on line at 1:35 am on July 19, 1999. A non metallic gasket in the coupling was found to be leaking, thus, it was allowing gas to get past it and leak to atmosphere through the pin hole leak in the clamp screw's seal weld. The line was immediately shut in and blown down. The line was transporting 2.5 mole% H2S content raw gas at the time of the incident."
1999	INC1999-042	"On 9 July 1999 @ 16:20 hours MDT, a heavy equipment mechanic for OJ Pipelines proceeded to rotate a Hitachi hoe axe to facilitate entering the cab for machine servicing. While rotating the machine, the arm was lifted over a hoe-buncher, and a fence. The arm contacted the hydro poles ground wire, and forced the ground wire up into a 14Kv power line causing arcing. The worker was able to put the machine at rest, and the site was shut down for investigation purposes. No injuries, equipment, or power line damage were reported as resulting from this incident. This incident was reported under Section 60(j) of the OPR's which are no longer in effect as of midnight 31 July 1999. The work site was shut down for investigation purposes."
1999	INC1999-040	"On 9 July 1999 at 16:00 P.D.T., the following incident occurred at WEI's McMahan Gas Plant in Taylor B.C. Workers were transferring a 50% caustic solution into a tank to mix with water to form a 15% caustic mixture. The site glass on the tank, used to determine the tank's liquid level, had a false bubble and eventually the tank became full. Since the tank's overflow line was plugged, approximately 50 gallons of the solution went through the tank's atmospheric vent and spilled onto the ground outside in the plant yard. Workers were transferring a 50% caustic solution into a tank to mix with water to form a 15% caustic mixture. The site glass on the tank, used to determine the tank's liquid level, had a false bubble and eventually the tank became full. Since the tank's overflow line was plugged, approximately 50 gallons of the solution went through the tank's atmospheric vent and spilled onto the ground outside in the plant yard."

1999	INC1999-039	<p>"At 02:27 MST on 22 June 1999 a gas alarm from Cromer Station, was received at Edmonton Control Centre. Upon investigation by Enbridge personnel it was determined the cause of the gas alarm was due to the failure of the primary seal of the inboard mechanical seal on Unit 1.2. The unit was isolated at this time. A second gas alarm was received at 0601 MST on 22 June. Enbridge is of the view that the second alarm was triggered by the failure of the secondary seal in the inboard mechanical seal. Unit 1.2 was purged with nitrogen. Trace amounts of NGL were released from the failure of the primary seal of the inboard mechanical seal on Unit 1.2."</p>
1999	INC1999-038	<p>"On 21 June 1999 at 22:57 P.D.T., a contractor's employee of Quinn Contracting) sustained a serious eye injury while tubes were being extracted from a condenser at WEI's Fort Nelson B.C. Gas Plant. A contractor's crew had been assigned the task of removing ten condenser tubes. The procedure being used to extract the tubes at the time of the incident involved identifying the tubes to be extracted and gouging both ends of each of the ten tubes, which were welded in place to the condenser's tube sheet, to free them from their mounting (Gouging is a term used that refers to removing the welds that hold the tubes in place). An eyelet was then welded into the outlet end of each of the tubes to be removed. A cable winch on a Cat was then hooked up to the eyelet and the winch used to apply horizontal force to pull one tube at a time. Some of the tubes were removed quite easily utilizing this method while some difficulty was experienced removing others due to tight fitting, corrosion, eyelets pulling free from their welded position etc.. With one of the eyelets that pulled free, it had actually pulled free on two occasions from one of the tubes and the eyelet was welded back into place both times. It was on the third pull of that same tube that the eyelet failed resulting in it being projected towards an employee who was standing 2.5 meters away. This employee had not placed himself in a safe working position clear of potential projectiles and was subsequently struck in the face by the failed eyelet. It shattered his safety glasses into a number of pieces. As a result, his right eye was seriously injured by glass fragments which damaged it. Further investigation revealed that the end of the tube opposite the end to which the eyelet was welded had not been gouged to permit the tube's removal from its mounting. Thus, the reason for its not being able to be pulled free from its position. DISCUSSION WEI's Incident Investigation Report submitted to the Board indicated that the preferred and safest method of tube removal is to utilize a hydraulic tube puller and that, if the method used in this incident is the only option, all workers must position themselves as to be out of the way of potential hazards. As well, WEI's investigation identified that when removing specific tubes, two people should be used to verify the tube location, identity, that both ends of tubes being pulled are gouged and they should double check their results. Following WEI's investigation a Safety Bulletin was generated and distributed to all WEI Gas Plants. WEI's Safety Bulletin concluded that each WEI operating facility should review the process it uses to remove tubes. The bulletin further stated that there are safer tube removal methods used by industry and that regardless of what method used, a written job procedure must be developed to ensure the safe removal of tubes. The requirement for a written job procedure was further clarified by Board staff via a telephone conversation with the company on 5 October 1999 at the Ft. Nelson Gas Plant who stated that the plant's maintenance team had decided that for each future tube pulling job or project to be conducted at the Ft. Nelson Gas Plant (other plants may decide on something different), a separate job/project specific procedure will be prepared prior to the work being conducted to ensure that the procedure is specific and directly applicable to the situation or job/project involved. The team felt that this practice would be more effective than writing a generic job/project procedure given the variety of situations that could arise through out the plant regarding tube pulling. ██████████ stated that the procedure would then be placed on the plant's Confined Space Hazard Assessment file for retention and future reference (eg: NEB audit). Permanent loss of sight in eye - reported in a Record of Conversation."</p> <p style="text-align: center;">s.19(1)</p>

1999	INC1999-037	"On June 1999 at 09:56 MST, Enbridge personnel at Cardinal Station (Ontario) noticed crude oil spilling from the area around valve G9.1. The spill (31.25m3) was contained within the bermed area of the station. Contaminated soil was removed and placed into lugger buckets for transfer to an approved landfill site. Grade levels were re-established with clean fill material. Crude oil was leaking from around valve G9.1 in the bermed area at Cardinal Station."
1999	INC1999-036	"On 19 June 1999 at 07:30 PST liquid residue in a hose resulted in a spill of hydrocarbon-triethylene glycol (TEG) mixture at the McMahon Gas Plant in Taylor B.C. The spill which amounted to a few litres, was vacuumed up and placed in the effluent treatment pond. Liquid residue in a hose resulted in a spill of hydrocarbon-triethylene glycol (TEG) mixture at the McMahon Gas Plant in Taylor B.C. The spill which amounted to a few litres, was vacuumed up and placed in the effluent treatment pond."
1999	INC1999-035	"On 17 June 1999 at 11:00 M.S.T., a contractor employee was using a cordless drill to drill a 1/4 inch hole in a 4 inch diameter X 8 foot long bollard post supporting the existing case pressure instrument rack. The top of the post was capped with a welded steel plate and set in concrete at the base. When the drill penetrated through the post a flame shot out and the worker received minor burns to his hand. The worker received medical aid but was not hospitalized. A contractor worker burned his hand when a spark ignited gas that was trapped in a tube through which he was drilling."
1999	INC1999-034	"On 15 June 1999 at 09:45 M.DT., a contractor employee (injured worker) of OJ Pipelines fractured his right ankle on the right-of-way when he lost his balance and stepped into a slight depression causing his ankle to turn and fracture. The injured worker was a member of a fencing crew who was pulling on some fence wire when another member on the crew cut the wire being pulled causing the injured worker to lose his balance. There were bushes between the crew member who cut the wire and the injured worker. Because of the bushes they could not see each other. Had the crew member who cut the wire known that injured worker was pulling on it he would not have cut it at that precise time. Broken ankle."
1999	INC1999-032	"1,400 litres of 15% amine solution were spilled after an electrical shutdown caused by a number of transformers going out of service after a junction box explosion. The Detailed Incident Reports submitted by WEI for incidents 8-99 and 13-99 state that the surge tanks do not have the capacity to hold all of the amine solution in the system and that there are plans to modify the valves on the lines leaving the stills to close automatically when the surge tank fills. The following request for information was sent to WEI regarding incidents 8-99, 13-99, 32-99 and 25-98; Provide information on the proposed plan to modify the valves on the McMahon Plant amine circulation system. Information should include, if available, a P&ID showing valve locations and control settings, and a schedule of proposed modifications. If a Design Basis Memorandum or other control document has or will be generated please provide details related to the work order objectives. WEI responded with; The root cause of the amine spills has been insufficient surge capacity in the amine system. Whenever the plant ""trips"" or experiences an emergency shut down (""ESD""), the amine inventory collects in the surge tanks. The total amount of amine in the system can be as high as 175m3 (46,000 US gallons). The plant's surge volume is only 158.9m3 (42,000 US gallons). Thus, the amine overfills the tanks and ends up flowing out of the breather/vacuum relief valves that are on top of each tank, and spilling onto the ground to the south of the Gas Treating Building. Westcoast has come up with two improvements that should prevent future spills of this nature. The first improvement is the installation of high level switches on the surge tanks. Under normal operating conditions, the level of amine in each still is controlled by a level control valve (""LCV""). There are six LCVs, one for each still. The amine leaving each still flows through heat exchangers, through the LCV and

		<p>into the surge tanks. If the high level switch on either surge tank is activated, then the still LCVs will be overridden and shut. No amine should be flowing into the surge tanks with the still LCVs shut, and therefore the surge tanks should not overflow. Amine that previously spilled on the ground will be safely contained in the stills. In practice, this improvement can not be considered a complete solution for the following reasons: valves can still pass amine when in the shut position, instrumentation can fail and valves may not close fast enough to stop the surge tanks from overflowing. The high level switches have been installed on the surge tanks and the update to the distributed control system ("DCS") to make the switches has taken place. The second improvement involves installing drain lines on the surge tank vents. These drain lines will be connected to an emergency storage tank that is currently approximately 20 feet south of the Gas Treating Building. The drain lines are being added for protection in case the high level switches detailed above fail for any reason. Any amine that makes it to the breather valve vents will drain through the new lines directly into the emergency storage tank. A secondary containment dyke and liner will be installed around this tank. The secondary containment dyke will be sized to hold more than 40m³ of liquid. This compares to the worst case spill to date of 36m³. The emergency storage tank has a volume of 400m³. A sketch of the proposed system has been provided. The drain piping and containment system should be installed during the Plant maintenance work scheduled for this August. The above two improvements should eliminate amine spills caused by Plant "trips" or ESDs. WEI has identified inadequate surge capacity as the underlying reason for the amine spills listed. No reason was provided for why the system was operating with more amine circulating within it than initially designed for. Discussions amongst Board staff have suggested that possibly in order to avoid cavitation problems at circulation pumps, the upstream liquid head was increased by keeping a quantity of solution stored within the surge tanks. This would result in a reduction in the surge capacity provided by the tanks. Installing a high level switch on the surge tank that will shut the Still LCV may not be a practical solution since the switch may be tripped too easily if the surge capacity is significantly reduced. Increasing the surge capacity by the addition of the emergency storage tank would allow for the high level switches on the surge tanks to be disconnected. This would allow for operational flexibility if the surge tanks were used to store amine solution in an effort to increase liquid head at the circulation pumps. This may be the reason two solutions were implemented to reduce the incidence of amine spills after a shutdown. WEI will also install a drain line to an existing tank to collect overflow from the surge tanks. The additional surge capacity of the system should in itself be adequate to prevent further spills of amine solution. The capacity of the emergency tank is 400m³ with a further 40m³ of secondary containment provided by a lined dyke. The total amount of amine solution circulating within the system can be as high as 175m³. If the existing tank is used for no other storage and the drain lines from the surge tank vents are sized adequately then the incidence of amine spills caused by inadequate storage capacity should be eliminated. As an observation it should be noted that these recurring spills indicate WEI is failing to manage their circulating amine solution volumes properly. Should further amine spills result from system shutdowns then the surge capacity of the system is still being exceeded despite the recent modifications. To further reduce the likelihood of spills the actual volume of solution circulating within the system should be determined and kept within the surge capacity. A weekly inventory of circulating amine solution could be requested of WEI and reviewed by NEB staff during inspections. Comparison of the calculated inventory with the established system surge capacity would determine whether WEI was operating the system within design limits. If the HSE Team would find it useful the calculated inventory could be used to track losses of amine solution as a result of releases to the environment. A request for weekly amine inventory and a management plan will only be requested by the Pipeline Integrity Team if amine spills resulting from shutdowns do not subsist. 1,400 litres of 15% amine solution spilled."</p>
1999	INC1999-031	<p>"On 26 May 1999 at approximately 11:00 CST, personnel at TransCanada's Compressor Station 62, near Upsala, Ontario, discovered a leak on the main header of the "C" Plant aftercooler. The gas was leaking from a crack on a NPS 1½ X ¾ swedge nipple. Station personnel immediately isolated the gas supply, depressurized the associated piping and removed the defective fitting. The nipple was replaced with a pipe plug to permit the equipment to return to normal gas service. Personnel at TransCanada's Compressor Station 62, near Upsala, Ontario, discovered a leak on the main header of the "C" Plant aftercooler. The gas was leaking from a crack on a NPS 1½ X ¾ swedge nipple."</p>

1999	INC1999-030	"Line rupture. At 20:59 MST on 20 May 1999, a pressure drop at Regina Terminal on Line 3 was observed in the Edmonton Control Centre. Company personnel were dispatched to the area and confirmed a release of crude oil at M.P. 444.4. This is the amount of throughput loss. 8.8 acres of agricultural land effected."
1999	INC1999-027	"On 12 May 1999 a pipeline contractors employee (Shoonan Associates Survey Company) fell off some precariously stacked wooden pipe skids that he was standing on and broke his arm. He had stacked some skids, next to the pipe, that were conveniently accessible to him. He then stood up on them to elevate himself to a position that allowed him to hold a survey rod on the pipe so that a survey shot could be taken. While he was standing on them they collapsed causing him to fall and sustain a broken arm."
1999	INC1999-026	"Tank 57 is a slop (waste) oil storage tank located in the effluent treatment system (see attached figure). Operating at atmospheric pressure, it receives oily water from the 62 API separator and separates the oil from the water. At approximately 20:00 MST on 10 May 1999, the 65 psig steam supplying the steam tracing of the 62 API separator was blocked in to repair a cracked sour wastewater line. Isolating all the steam and condensate return to and from the separator is the most fail-safe method of ensuring all of the steam tracing is safe for maintenance. However, the drop in pressure on the condensate return system allowed oil to migrate from the tank through the cracked steam coil and out the bleed valve on the steam coil condensate return line. At the time of the incident, the tank dyke drain was lowered; consequently, the oil escaped from the dyke to the surface drainage ditch. A hydrovac vacuum truck was used to recover the oil from the drainage ditch and to remove the contaminated gravel and soil for disposal by Hazco Waste Disposal. The cracked steam coil will be replaced. A hydrovac vacuum truck was used to recover the oil from the drainage ditch and to remove the contaminated gravel and soil for disposal by Hazco Waste Disposal. 400L of waste oil and water was released. At the time of the incident, the tank dyke drain was lowered; consequently, the oil escaped from the dyke to the surface drainage ditch."
1999	INC1999-033	"In June 1998 the Peggo Processing Plant (the Plant), located at the west end of the Pesh Creek Pipeline (the Pipeline), experienced a switching valve malfunction in the dehydration process. A valve had not completely reset prior to gas flowing through the system. The process upset occurred when the site electronics were affected by local area lightening activity. As a result of this process upset, hot gas at approximately 235oC (compared to 20oC prior to the upset) flowed through the Plant into the Pipeline. The Plant was shut down in October 1998 to replace or repair piping within the Plant. During the piping repairs personnel realized the Pipeline sustained more damage than was originally anticipated and decided to expose a portion of the Pipeline for inspection. The inspection revealed that the piping located immediate downstream of the Plant sustained piping strain, as indicated by a noticeable elongated deformation, as a result of receiving the hot gas. The yellow jacket (type YJ II), rated at 85oC, became disbonded from the piping. Approximately 60m of piping (NPS 10 with 6.4mm wall thickness, Grade 359, CSA Z245.1) was replaced with similar piping but having a wall thickness of 7.8mm."
1999	INC1999-023	"Incident occurred on 21 April 1999, at 1915 MST. A vapour tool had previously been installed in a 24 inch line to allow the welding on of a blind flange. After welding the flange and x-raying, the vapour tool was removed, the tie-in section was positioned between the flanges with a gasket on either side, and the nuts were tightened. The other end of the spool section was then re-heated with a propane torch. Once the pre-heat was completed, the welder started to make a butt weld and complete the tie-in. A flash fire occurred when the flammable vapours ignited; the welders arc being the source of ignition."

1999	INC1999-022	"Incident occurred on 21 April 1999, at 11:45 MST. As part of scheduled maintenance work, a section of NPS 24 mainline was isolated in order to remove blind flanges from valves 3-IV-11 and 3-IV-21. When the isolated section was pressurized, a leak of sweet crude occurred from a blind flange previously installed on the end of the 24 inch line. The cause of the leak was valve 3-IV-11 that was closed and had become unseated after the installation of an electric valve operator, resulting in pressurization of the end section of the 24 inch line. Approximately 3.0 m3 of sweet crude leaked past the closed isolation valve 3-IV-11. The valve was reseated by Operations personnel. No repairs to the valve were required. All oil was contained in a previously excavated area. All free oil was gathered using a vacuum truck. A small amount of contaminated soil was recovered and stored in Enbridge's on-site bioremediation facility. Approximately 3.0 m3 of sweet crude leaked past the closed isolation valve 3-IV-11."
1999	INC1999-029	"On 16 April 1999 at 02:42 E.D.T., an alarm was received at TNPI's Control Center indicating a possible leak at the Oakville Pump Station. The station was shut down immediately. Upon investigation, it was discovered that the product (gasoline) had escaped from a leaking gasket on the bonnet flange of an above ground check valve. All of the gasoline that escaped was confined to TNPI's oil water separator and spill containment system. Gravel, overlaying a bentonite barrier was collected and removed from the site. It was discovered that some of the product had seeped through the liner. Consequently, additional contaminated soil was removed from under the liner and replaced with clean fill. The liner was replaced and fresh gravel was placed on top of the liner. The spill was confined to the station and an estimated 4.5 m3 of gasoline had escaped. The site was restored through soil removal and treatment."
1999	INC1999-021	"On 1 April 1999, during a routine inspection of the tank dyke surrounding Tank 18 at TMPL's Edmonton Terminal, evidence of a gasoline leak was discovered. Upon the discovery, the contents of the tank and the tank inlet line were transferred to another tank at the Edmonton Terminal. Tank 18 was isolated and the isolating valves were locked in the closed position pending repairs. Upon further investigation, Trans Mountain determined that the source of the release was a small leak in the NPS 20 tank inlet line. A nine meter section of pipe was removed from the tank inlet line and replaced with new piping. As a result of the leak, approximately 20 m3 of PetroCanda Export Gasoline was released from the tank inlet line. No free product was recovered, however approximately 700 m3 of soil within the dyke area was removed to an approved waste handling facility for disposal. New soil was brought in to replace the excavated soil. Approximately 700 m3 of soil within the dyke area was removed to an approved waste handling facility for disposal. Approximately 20 m3 of material escaped from the tank line. No free product was recovered. Approximately 700 m3 of soil within the dyke area was removed to an approved waste handling facility for disposal."

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1999	INC1999-024	<p>"The following incident occurred 5 June 1997 but did not come to the attention of TransCanada until 16 March 1999 and thus, was not reported to the Board until 13 April 1999 once TransCanada had had an opportunity to investigate its validity of actually having occurred. On 5 June 1997 TransCanada was conducting construction at its Compressor Station No.55 in Dryden, Ontario. RTD Quality Services was onsite performing non destructive testing. Two RTD employees (Worker 1 and worker 2) had undertaken the task of radiographing a number of welds using an exposure device (the "camera") which utilized iridium 192 as a radioactive source with a strength of 90 curries at the time of the incident. worker 1's job experience was not that extensive as he was only a helper (apprentice) to worker 2 who was a certified Level 2 Radiographer (Operator). They had a 30 minute window to take a few shots of some 8 and 12 inch welds while the laborers onsite were on their half hour lunch break. Upon completion of having taken the radiographs, the employees attempted to retract the radioactive source back into the camera using the camera's manually operated hand crank which, when turned clockwise or counter clockwise will move the source in or out of its safe position from the camera to permit the radiograph to be taken. However, on this occasion a malfunction occurred and the source would not retract into its fully safe position within the camera's "S" Tube. A radiation survey meter (one of two they had with them onsite) that worker 1 was utilizing was reading a very high radiation signal on its low scale. As well his radiation alarm beeper began to beep. When the camera malfunction occurred [redacted] and [redacted] discussed the situation and it was decided between the two of them that worker 1 would walk to the camera and place it in a short section of pipe to use the pipe as a shield to reduce his exposure. The pipe was placed horizontally on the floor. Worker 1 then placed a short length of large diameter pipe vertically next to the piece laid horizontally on the floor and he stood inside of it for additional shielding. However, his hands were exposed to the radiation via his reaching down and into the pipe containing the camera in his effort to try and rectify its malfunction. He also attempted to place a threaded plug into the camera where the source tube connects to it. The plug has a short rod that is connected to it that extends into the camera when the plug is threaded in place. The end of the rod is suppose to have a flat plate like end on it that butts up against the source. However, the blunt end of the rod was missing (broken off) and the rod wedged itself between the source and camera's "S" Tube inside the camera and became jammed. This added to the problem in attempting to correct the camera's malfunction. During this time [redacted] was attempting to operate the hand crank to free the jammed source. Their attempts to rectify the malfunction were eventually successful after a period of time. However, some time later a number of [redacted] fingers began to turn colour and blister. He went to his doctor who recognized the problem and suggested that he report the incident to the appropriate authorities. Subsequent to this on 3 February 1999 his left index finger had to be amputated because of the radiation exposure. Another aspect of the incident that was later established was that the two employees had quietly (so that no one saw them) removed their personal radiation dosimeters to deal with the situation. A dosimeter measures and records the level of radiation that an individual has been exposed to. The reason they removed them was to prevent it from becoming known that they had received a radiation dosage in excess of the permissible limit that would have forced them to cease continuing on with their employment, for their own personal safety, as radiographers. The Atomic Energy Control Board requires that dosimeters be submitted at defined frequencies and if they are noted to have recorded a dosage in excess of the permissible limit the individual to whom the dosimeter was assigned will have their permit revoked. Though the lost time was not immediate, the worker eventually had a finger amputated with continual deterioration and potential loss of other fingers as a result of the radiation exposure."</p>
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1999	INC1999-025	<p>"On 08 April 1999, a pipeline contractor's employee (██████████ employed with Kingston Construction Ltd.) received a electric shock while operating a cement vibrator during a cement pour. The extension cord providing power to the vibrator had a 3 inch cut approximately 2 feet from the plug nearest the equipment. A wire was exposed and as the employee moved his hand back along the cord to pull it with him his wet gloved hand came in contact with the bare wire. As a result of the contact he received a 120 volt electrical shock for 15 seconds and he had to be taken to hospital for treatment. Following the incident the electrical cord was properly repaired or replaced. 4 workers down for 4 hours = \$640.00 1 pump truck down for 4 hours = \$600.00 Cost of damage = \$1240.00 (As reported by contracting company in incident report.)"</p>
1999	INC1999-019	<p>"On 24 March 1999 at 14:30 MST liquid contents of a cracked 4 inch drain line leaked when the line was returned to service after being shut down since 27 January 1999. Approximately 1 m³ of water contaminated (<5%) with hydrocarbons spilled onto the ground until the leak was noticed and the line was isolated. As the ground was still frozen the spill was not absorbed and was entirely cleaned up. DISCUSSION The 4 inch drain line was steam traced to prevent freezing. An emergency shutdown due to an explosion at a neighboring plant resulted in the steam plant shutting down and a loss of steam heat. The line contents froze and cracked the drain line piping, resulting in a leak when the line was returned to service almost two months later. Water contaminated with hydrocarbons."</p>
1999	INC1999-018	<p>"At 9:15 CST, 11 March 1999, approximately 2.0 m³ of medium density, clean crude oil overflowed from tank # 55-41 out of the tank's overflow slots at Enbridge/ Westpur Inc's, Midale terminal. The spill was contained within the area inside the tank's firewall and was limited to a 250 m² area below the tank's overflow pipe. Investigation discovered that the tanks mechanical level indicator had failed and was sending false readings. A level of 32'-0 was indicated rather than the actual level of 36'-0. The high level alarm was operational and set at 1.5' below the top of the tank. The control centre day operator misinterpreted the meaning of this high level alarm as an operator-settable warning alarm and believed it was safe to wait a short while longer before pumping down the tank's level. The operator acknowledged the high level alarm without further immediate action. By the time operators responded to the high-high level alarm and closed the tanks inlet isolation valve, approximately 2.0 m³ had overflowed out through the tank's overflow slots. The oil spill was contained within the tank's firewall/secondary containment. There was no danger to the public resulting from this incident. The suction valve on the tank was opened as soon as the problem became apparent and the tank was drawn down to normal operating levels. Approximately 1.5 m³ of the 2.0 m³ crude oil spilled was recovered. The remaining 0.5 m³ was removed from the site with the soil (however was not recoverable). A vacuum truck was used to remove the liquids (water and oil) from the site. A back-hoe was used to remove the solids (snow and gravel). All contaminated snow and soil was transported to NewAlta's environmental disposal facility at Halbrite, Saskatchewan. Approximately 1.5 m³ of the 2.0 m³ crude oil spilled was recovered. The remaining 0.5 m³ was removed from the site with the soil (however was not recoverable). A vacuum truck was used to remove the liquids (water and oil) from the site. A back-hoe was used to remove the solids (snow and gravel). All contaminated snow and soil was transported to NewAlta's environmental disposal facility at Halbrite, Saskatchewan. Approximately 2.0 m³ of medium density, clean crude oil overflowed from tank # 55-41 out of the tank's overflow slots at Enbridge/ Westpur Inc's, Midale terminal. The spill was contained within the area inside the tank's firewall and was limited to a 250 m² area below the tank's overflow pipe. Approximately 1.5 m³ of the 2.0 m³ crude oil spilled was recovered. The remaining 0.5 m³ was removed from the site with the soil (however was not recoverable)."</p>

1999	INC1999-017	<p>"On 25 February 1999 at TransCanada's Compressor Station 2, near Burstall, Saskatchewan, personnel isolated and depressurized the E' Plant boiler system. Personnel suspected the boiler piping had a leak because the levels continued to drop throughout the month. Personnel conducted a number of investigative digs to locate the source of the leak. As of 9 March 1999, the leak had not been located. Personnel temporarily suspended the hydrovacating operation in order to take soil samples to determine the extent of the spill and the level of contamination. The greatest concentration of glycol was detected one meter below grade. The boiler piping was originally installed 1.5 meters below grade. Cold weather and having to construct a lined berm to contain the contaminated soil, delayed the investigation. On 16 March 1999, the underground piping was daylighted and personnel were able to confirm the pipe had corroded over the years, to the point of developing a small through-wall leak. The boiler piping had been insulated to conserve heat, but had not been coated at the time of installation. Station personnel removed approximately 80 m3 of soil from the immediate area. The first meter of soil showed no traces of contamination and was stock piled beside the excavation. The soils containing only traces of glycol were left in-situ to bio-degrade. The heavily contaminated soils were hauled to a lined berm, located in the station yard, and aerated. The soils were tilled to allow the glycol to bio-degrade. New soil will eventually be hauled in to re-fill the excavation as required. New gravel will be spread over the site. The substance released was a 50% glycol/50% water mixture contaminated with LVPs."</p>
1999	INC1999-016	<p>"At the above location and time a contractors' vehicle was transporting pipe down the TransCanada R-O-W' when a bolt sheared on the fuel tank strap. The weight of the unsupported tank caused the fuel line to break and release 110 litres diesel fuel onto the frozen ground. The vehicle continued down the R-O-W for another kilometre, before the driver was motioned to stop and made aware of the problem. Contract personnel immediately contained the leak and pumped the remaining diesel fuel from the tank. Absorbent pads, adsorbent and sand were applied to contain and collect the spill. A grader scraped together the contaminated soils, and all materials were transported to the Sherwood Lake Landfill Site for proper disposal. The contractor immediately checked all straps on their pipe transport trucks. DISCUSSION All contaminated materials and soils were removed from the R-O-W and transported an approved landfill site for disposal. ██████████ of the Ministry of Natural Resources and ██████████ of the Ontario Ministry of Environment and Energy in Kenora were advised of the incident and were reported by TCPL to be pleased with the method of cleanup and disposal of the contaminated materials and soils. Contaminated soils removed to approved landfill."</p>
1999	INC1999-015	<p>"Though this incident was closed out, new material has instigated a re-visit of the causes. At 16:45 MST the C' Plant at Station 60 experienced an emergency shutdown when the UV detection system detected a small fire within the building. A fitting on the #5 Combuster Pot of the RB211 DLE unit had loosened, momentarily releasing natural gas into the building. It is suspected the escaping gas immediately ignited upon contact with the hot surface of the combuster pot. There was no secondary damage as a result of the Combustor pot replaced. No reduced service. Release amount not reported."</p>
1999	INC1999-013	<p>"9,100 litres of 17% amine solution were spilled as a result of the failure to close a control valve during a plant shutdown."</p>

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1999	INC1999-012	<p>"On 11 February 1999, a Westcoast operator arranged with other CS personnel to handle station alarms and phone calls while he was removing snow from the shop/office area. (An operator normally carries a pager that annunciates whenever there is a station alarm or phone call in the station.) While in the area of the station's Fort Nelson (FN) Horizontal Scrubber (see the attached site map), the operator decided to blow down or drain the oily liquids that had been collected in the station's main gas scrubbers. The gas scrubbers are normally blown down every couple of days, with the last one being on 8 February 1999. The blow down procedure would transfer the oily liquids from the scrubbers to the gas/oil centrifugal separator (labelled F-0451 in the attached Process and Instrumentation Diagram or P&ID). The operator opened the two drain lines of the FN Horizontal Scrubber, one after the other, until he could no longer hear the oily liquids flowing out of the scrubber. This took approximately one minute. The operator noted that he ""felt something let go"" but he was not alarmed on this abnormal condition. The operator's pager went off three or four times while he was working in the yard. However, he did not respond because other station personnel were supposed to look after the alarms and phones. The station personnel had noticed that the high liquids level alarm had gone off but they knew the operator was transferring liquids from the separator to the holding tank and was close to the transfer pump. Consequently, the station personnel acknowledged the alarm. After the FN Horizontal Scrubber was drained, the operator proceeded to drain the two FN Vertical Scrubbers. Following that, he proceeded to drain the Fort St. John scrubbers located on the east side of the building. It was at this time that he noticed a spill of oily liquids. Upon investigation, he found the separator drain valve was unchained and in the open position. He then closed the valve and reported the incident. Approximately 150 m3 of snow were collected and stored in three mud tanks. After the snow melted the resultant oily water was trucked to Westcoast's McMahon Plant for biological decomposition in the effluent treatment ponds. Approximately 50 m3 of oily soil was collected and stored on site in an area surrounded by an earthen berm. The bermed area is lined with plastic and the stored soil is covered by tarps. The spill area has been remediated with clean soil and restored to its original finished grade. The approximately 3 m3 spill of oily liquid was contained within the station yard."</p>
1999	INC1999-007	<p>"At 08:05 EST on 8 February 1999, a pressure surge of 7 870 kPa was recorded on the SPL system on the downstream side of the Sarnia Pump Station. The surge occurred at the end of a propane shipment from Dow Chemical's cavern storage to Consumers Power in Maryville, Michigan via Imperial Oil's pipeline and then the SPL system. The pump at Sarnia Station was not running at the time. When the pump at Maryville shut down at the end of the batch shipment, the product flowed backward and created a pressure surge at the Sarnia pump station."</p>
1999	INC1999-010	<p>"At 09:50 MST, Enbridge personnel observed an NGL leak in the area of the station's injection meter Manifold ""A"". Personnel determined that the source of the leak was an open block and bleed valve on Valve #102, a meter isolation valve. Personnel then terminated NGL injection into Line 1, isolated Manifold ""A"", secured the area, implemented emergency procedures, and closed the block and bleed valve. NGL escaped to the atmosphere."</p>
1999	INC1999-011	<p>"At approximately 11:00 PDT on 27 January 1999, the Younger (Solex) Plant experienced the first of several explosions. NCPL's Taylor - Boundary Lake Pipeline, which transports NGL from the Solex Plant, had to shut in due to the explosions."</p>
1999	INC1999-009	<p>"On 28 January 1999, at 3:30 p.m. a Westcoast Energy Inc. (WEI) was carrying a ladder and slipped and fell on ice that had built up from moisture created when frozen lines were being steamed out. The employee completed his shift, and at 7:30 p.m. reported to First Aid where it was determined that the employee had broken his right forearm just below the elbow. He was provided with a sling and driven to Fort St. John General Hospital where he was scheduled for surgery to have his arm re-set the next day. worker suffered a broken arm after slipping on ice"</p>

1999	INC1999-005	<p>"At approximately 05:30 PST, two Trans Mountain technicians were preparing to receive a pipeline scraper. After the technicians flooded the receiving barrel with oil to equalize the pressure across the Blue River mainline barrel isolation valve 24G (NPS 24, ANSI 600, Acme Kerotest gate valve), they attempted unsuccessfully to open 24G using the motor operator. (The attached Appendix C provides a drawing of a Kerotest valve. The specific valve involved in this incident, which was manufactured by Guelph Engineering Company in Canada, is no longer manufactured.) After a few seconds, the motor quit due to high torque. A few seconds later, personnel pressed the close button and the valve seemed to close normally. The Chief Control Operator (CCO) suggested another attempt to open 24G using the handwheel. Unfortunately, the technicians could not move the handwheel. At 06:45, the mainline was shut down as the scraper was estimated to be approximately 45 minutes away. Since the valve was thought to be frozen closed, personnel set up a 32" diameter by 26' long culvert parallel to the mainline, with one end about 4' from the valve. The culvert would be used to direct heat to the valve, which was covered with a tarp to contain the heat. At 08:09, the incoming scraper tripped the pig signal near the fence line. The CCO overrode local control and closed valve 24A to stop the flow in order to prevent the pig from ramming into the closed gate of valve 24G (see the attached Appendix A for the Blue River numbering diagram). After testing the area around 24G for explosive vapours at 08:15, a small non-explosive propane heater (that used a fan to blow air through a combustion chamber containing an open flame) was used to direct heat to the valve. At 10:30 Mechanical Maintenance personnel examined the valve but could not find any mechanical problem. They set up a larger kerosene heater (with an open flame) on the edge of the excavated hole, next to the culvert and about 10' from 24G, and ran a 10' flexible duct under the tarp to the valve body. Personnel were still unsuccessful in their attempt to operate the valve electrically and manually as it was being heated. At 14:24, two technicians went under the tarp to attempt to operate the valve once again. After the close button was pushed and the sound of the operator closing the valve was heard, the bonnet gasket blew out, spraying oil mist around the hole. The oil immediately ignited and a fire engulfed the valve, tarp, flexible hose, and kerosene lighter. The technicians managed to escape unharmed. Personnel used two hand-held and one wheeled dry chemical extinguishers to put out the fire within two minutes after the fire started. Rainbow blend crude oil (with a typical specific gravity of 0.84) continued to gurgle from the valve bonnet flange for a short period of time and eventually ceased. The estimated total spilled volume was 0.16 m3. At 14:32 valves 24H and 24P were closed to isolate 24G from the downstream mainline. At 16:45 valve K587 (Blue River Airport) was closed to isolate the scraper trap from the upstream mainline. On 23 January, personnel removed the majority of the oil-saturated soil in the excavated area (with a diameter of approximately 3m), placed it in a shallow plastic lined pit at the Blue River scraper trap site, and covered the soil with plastic for temporary storage pending proper disposal or remediation. On 25 January, personnel removed additional soil from the excavated area and placed it in the pit. A total of approximately 20 m3 of soil had been removed. Rainbow-blend crude oil (with a typical specific gravity of 0.84) was released."</p>
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1999	INC1999-004	"On 20 January 1999, at approximately 1:30 MST, Enbridge company personnel observed crude oil around Manifold D on Line 2 at Enbridge's Cromer Terminal in Manitoba. Upon investigation, it was determined that the oil released originated from the check valve gasket on Booster Pump #5. Line 2 was immediately shut down and Booster Pump #5 was isolated. Line 2 was returned to service. Cleanup was initiated immediately. Booster pump #5 was returned to service at 1500 MST, January 20th, 1999. An estimated 50 cubic metres of crude oil was spilled as a result of this incident. The area immediately surrounding Booster Pump Manifold D and D1 was the only area affected. All free oil was contained on company property within an existing bermed area surrounding Manifolds D and D1. An estimated 50 cubic metres of crude oil was spilled as a result of this incident. The area immediately surrounding Booster Pump Manifold D and D1 was the only area affected. All free oil was contained on company property within an existing bermed area surrounding Manifolds D and D1. Free standing oil was gathered using vacuum trucks and transferred to Tank 99. Contaminated snow and soil was transported to on-site bio-remediation holding cells for future remediation. Contaminated soil was removed and replaced with clean soil. Approximately 50 m3 of crude was released from the check valve gasket on Booster Pump #5."
1999	INC1999-003	"On January 18 19:24 MST, a gas alarm from Gretna Line 1 Station was received in the Edmonton Control Centre of Enbridge Pipelines. The alarm was triggered by NGL being released from the stem packing on a one inch ball valve located in the Line 1 densitometer B building. Trace amounts of NGL vapours were released."
1999	INC1999-002	"At approximately 14:45 MST on 7 January 1999, a fire occurred while Eastbrook Titan Contractors were relocating an existing 30-inch prover pipe (PR-2) from existing Manifold A to a new Manifold 104 being constructed at Enbridge's, Hardisty Station. On 6 January 1999, Enbridge personnel had drained the prover and removed the 4-way valve from the prover assembly. The prover was left containing residue condensate. The flanges on the prover piping for the 4-way valve were covered with plastic and taped in place as a means to close off the system. On 7 January 1999, using 2 cranes, Eastbrook Titan personnel removed the prover pipe assembly off of its existing concrete foundation and transported it from Manifold A location to Manifold 104 location via a semi-trailer truck. While using the 2 cranes to set the prover assembly on its new foundation, Eastbrook Titan personnel found that the holes on the existing prover assembly base plates did not match the anchor bolt pattern set in the new foundation. An Eastbrook Titan employee used a cutting torch to increase the size of the holes in one of the prover assembly base plates so it would fit over the anchor bolt pattern. While cutting the hole, sparks from the torch ignited the flammable atmosphere in the vicinity of the plastic-covered flanges of the prover piping for the 4-way valve that had been removed. The ignition resulted in a flash fire approximately 20 square feet, 30 feet high. Carey Nystrom, the General Foreman of Eastbrook Titan Contractors, received burns to the temple area and ears and was in a state shock. He was admitted to Hardisty Hospital for the night of January 7th, for observation and was released the following morning."
1999	INC1999-014	"On 29 December 1998, an employee of the subcontractor KMC - First Nations was piling brush in the fire with a co-worker while another co-worker was cutting brushes. At approximately 11:30 EST, the worker was walking around to the other side of the brush pile when he tripped on the underbrush and fell. A stump or branch penetrated the meshed face screen he was wearing and impaled his left eye. The worker was taken to two hospitals for surgery. ██████████ (an employee of the subcontractor KMC - First Nations) was piling brush in the fire with a co-worker while another co-worker was cutting brushes. At approximately 11:30 EST, ██████████ was walking around to the other side of the brush pile when he tripped on the underbrush and fell. A stump or branch penetrated the meshed face screen he was wearing and impaled his left eye. ██████████ was taken to two hospitals for surgery."

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1999	INC1999-001	"At approximately 06:00 PST, a Ranger Oil personnel discovered a DEG spill in the station yard. He determined that the DEG was spilled from the vent of the still column (glycol regenerator) and gravitated down the side of the dehydrator building and onto the ground in the station yard. Approximately 500L of DEG was spilled. (The glycol regenerator purifies a contaminated glycol stream for reuse by removing absorbed water and hydrocarbons from it. This stream feeds the column above the rascher rings or column packing.) The DEG spill on 4 January was contained on site within a 10 to 15-foot circumference. A vacuum truck and steam truck cleaned up the spill and picked up the DEG. The spilled DEG, which was stored in the same tank as the spilled DEG from the 23 December incident, will be disposed of by TransAlta before spring breakup. Although Westcoast did not detect any visible trace of DEG after the clean up, it plans to sample for any residual DEG at the spill site during the summer months when the ground has thawed. Diethylene glycol (DEG) was spilled from the vent of the still column (glycol regenerator) and gravitated down the side of the dehydrator building and onto the ground in the station yard. Approximately 500L of DEG was spilled. (The glycol regenerator purifies a contaminated glycol stream for reuse by removing absorbed water and hydrocarbons from it. This stream feeds the column above the raschig rings or column packing.)"
1998	INC1998-076	"On 23 December 1998, approximately 600 litres of diethylene glycol was spilled from the still column vent down the side of the Dehydrator building and onto the ground at WEI's BS-21 Helmet Compressor Station. The reboiler and circulation of glycol were shut down. 600 litres of diethylene glycol was spilled from the still column vent down the side of the Dehydrator building and onto the ground at WEI's BS-21 Helmet Compressor Station. The reboiler and circulation of glycol were shut down."
1998	INC1998-077	"At 11 am EST on 11 December a leak of hydraulic oil from the directional drilling unit was detected 190 metres from Niger river. The leak was caused by an inadvertent disconnect or rupture of a hydraulic hose from an oil cooler. A vacuum truck was called in and 175 litres of oil (95%) was recovered. After the clean-up, a representative of the Québec Ministry of the Environment arrived on site and recommended that a plastic sheet be placed under the hoses to mitigate any further incidents. This occurred on the ROW. A leak of hydraulic oil from the directional drilling unit was detected 190 metres from Niger river. A vacuum truck was called in and 175 litres of oil (95%) was recovered."
1998	INC1998-078	"An overhead pipe carrying 50/50 glycol/water mixture contracted due to cold weather. This caused an attached pressure relief valve to contact a cross member (an I beam) of a pipe tray. As a result of this contact, the valve deformed, causing it to fail, and allowed the glycol mixture to leak 2 m2 of contaminated gravel was placed on a tarp and landfarmed."
1998	INC1998-073	"Westcoast Energy Inc.'s (Westcoast) Kobes Creek Pipeline ruptured on 8 December 1998 near Fort St. John, British Columbia. An on-site investigation of this incident was conducted by both the National Energy Board (NEB or Board) and the Transportation Safety Board (TSB) within one day following Westcoast's notification of the rupture. This forested area outside the pipeline ROW was burned as a result of the fire."
1998	INC1998-072	"On 30 November, 1998, at TCPL Compressor Station 107B station personnel were made aware of a gas leak on a flange on an isolation valve upstream of the B' Plant. The B' Plant was put into service on 28 September, 1998. Station personnel described the leak as ""a minor whisper of gas"". The B' Plant was shut down and the piping was blown down to assess the problem. After unbuttoning and removing the flange support, the assembly returned to its original true alignment. Personnel examined the flange faces, installed a new flange gasket and modified the flange support. The B' Plant was returned to normal gas service without incident. Station personnel described the leak as ""a minor whisper of gas""."

1998	INC1998-071	"A station employee at Compressor Station 1211 near Pembroke, Ontario noted the gas detector at Plant B was registering at 5% LEL. A visual inspection within the plant did not confirm the leak source, therefore the unit was returned to idle to reduce ambient noise. Personnel were then able to detect an audible release of gas and traced the source of the leak to the compressor seal gas supply piping take-off from the NPS 30 unit discharge piping. The pressure in the discharge piping was 6314 kPa at the time of the incident. The unit was immediately shut down and the unit piping was evacuated. Upon removal of the acoustic insulation, further investigation personnel confirmed the gas was leaking from a crack on the NPS 1 gas seal supply line weldolet on the NPS 30 discharge piping. The crack measured approximately 152 mm in length. The crack was arc shaped, intersecting the outer radius of the weld from the 01:00 to 5:00 o'clock position and extended approximately 17 mm beyond the weld in either direction. C 316 involving an uncontrolled gas release at compressor station 1211. The NPS 1 weldolet and the coupon containing the crack were cut out of the discharge piping and the metal adjacent to the cut out material was magnetic particle inspected. The results of the inspection indicated that no further cracking was evident. The repair consisted of welding an NPS 4 x 3 weldolet, which was further reduced to NPS 1. Additional pipe supports were installed to reduce the load on the fittings. Gas detectors were indicating a 5% LEL within the 'B' Plant. Personnel was able to detect the an audible release of gas."
1998	INC1998-070	"At approximately 09:54 MST, a gas alarm from the station was received by the Edmonton Control Centre. Upon investigation by company personnel, it was determined that the source of the leak was the area of the Line 1 pressure control valve (PCV). An employee was performing scheduled maintenance to replace the hydraulic actuator of the Line 1 PCV with an electric actuator. The PCV, a Fisher V-25 ball valve, was not isolated from station pressure prior to the dismantling of the actuator, a Fisher Series 320 actuator. When the bolts that held the actuator in place were loosened, Station 1 case pressure (400 psi) displaced the valve seal and released NGLs into the atmosphere."
1998	INC1998-069	"On 17 November 1998 at 15:00 hours CST approximately 120 litres (0.12 m3) of Reolube GT Phosphate Ester was spilled at TransCanada's Compressor Station 13 near Caron, Saskatchewan. A contractor was performing maintenance on the ""F"" Plant cooler and inadvertently turned on the wrong pump (primary) which caused the Reolube to circulate through the piping. The pump ran for approximately 10 seconds which allowed 120 litres of Reolube to escape through vents on the piping. C 314 involving an oil spill at compressor station 13. TransCanada has remediated the site to the approval of Saskatchewan Environmental Resource Management officials. The spill was confined to the compressor site. The contaminated soil and gravel was removed and hauled to an approved landfill site for disposal. The spill was contained to an area of 15 m2 but it was not recorded how much soil and gravel was removed. The substance that was released is Reolube 32B GT. This is generally used as a gas turbine lubricant. Testing indicates that this product is partially non-toxic although it contains triphenyl phosphate. Under fire conditions, toxic acidic vapours may be formed from phosphorous oxides."
1998	INC1998-068	"On 17 November 1998, a contractors employee (Coast Testing) broke his wrist when he slipped and fell on some ice while looking over a pigging barrel to determine the x-ray shot he was planning to take. First aid was administered on site. He was taken to the hospital in Prince George BC, where doctors operated on his wrist to repair the broken and damaged bone. This incident was discussed with an employee of WEI on 29 March 99. The employee indicated that as result of the incident, the contractor modified their safety procedures to include sanding of all icy areas where personnel are likely to or expected to work. A contractors employee broke his wrist when he slipped and fell on some ice while looking over a pigging barral to determine the x-ray shot he was planning to take. First aid as administered on site. He was taken to the hospital in Prince George, where doctors operated on his wrist to repair the broken and damaged bone."

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1998	INC1998-061	"On 16 November 1998, a contract worker for Banister Pipelines was pulling welding cables from the welding tractor to plug into the end of the reach. The contractor deviated from known safe work procedures (requiring walking around the pipe joint) and opted to attempt to slide over the 36 inch pipe. The contract employee slipped off the pipe onto his arm. The impact resulted in two fractures to the left lower arm (ulna). In response to the accident, injury details were reviewed with all Banister supervisors to ensure employees under their supervision are aware that they are not to climb or walk on the pipe. ██████████ a Banister Pipeline prep crew helper, was hospitalized overnight as a result of the accident. His arm was pinned and put in a cast at the hospital in Kipling Sask. ██████████ was released from the hospital the following day,"
1998	INC1998-067	"At approximately 1:30 MST on 13 November 1998, a gas alarm was received by the Edmonton Control Centre from the Hardisty (Line 1) Station. Initial investigation suggested that the source of the leak was a seal failure on Unit 1.2. Unit 1.2 was shut down and isolated. Further investigation established that refined products/synthetic (NGL) vapours escaped through a drain valve, which had inadvertently been left open subsequent to maintenance work in the area. The escaping vapours were detected by a gas detector located near the drain valve opening. At approximately 3:00 MST responding personnel closed the drain valve and Unit 1.2 was returned to service. NGL vapours escaped through a drain valve, which had inadvertently been left open subsequent to maintenance work in the area. The escaping vapours were detected by a gas detector located near the drain valve opening."
1998	INC1998-066	"A crew was preparing to weld two joints of pipe together on 27 October 1998 at 11:45am on a PNGTS extension construction site (Spread 3) when the pipe sprung from the line up clamp and struck worker 1, a welder, twice in the chest and worker 2, a pipefitter, once in the leg. Worker 1 was hospitalized for two days under observation and was ordered to rest until 10 December 1998. ██████████, a welder was struck twice in the chest with the piece of pipe. He was hospitalized for two days under observation and was ordered to rest until 10 December."
1998	INC1998-074	On 23 July 1998 at 18:30 EDT TQM's contractor was in the process of lining up two 610mm pipes. A backhoe was assisting the operation by pushing down on the pipe while two side-booms lifted the pipe further down using skids as a fulcrum. The skids supporting the pipes collapsed causing the backhoe bucket to strike the left leg of an employee. Mr. The employee suffered a fractured left leg and was hospitalized for 12 days. ██████████ suffered a fractured left leg and was hospitalized for 12 days.
1998	INC1998-075	"On construction spread 1 of the PNGTS Extension on 21 July 1998 at 17:20 EDT The employee was walking backwards and tripped on a skid and fell back striking his head on a crane stabilizer. He suffered a concussion. was hospitalized for a day and was off work for four days. ██████████ suffered a concussion, was hospitalized for a day and off work for four days."

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1998	INC1998-065	<p>"On 06 November 1998 at 00:37 EST, a contract welding crew from Les Entreprises Mechanique (GAD) were in the process of welding a slip-on flange onto the NPS 30 crude oil delivery pipeline to Medu on Line #2. The installation of the flange was being done to facilitate installation of a blind flange to isolate the adjacent section of pipeline. Flammable vapours within the ditch ignited, causing an explosion and fire. Four of the contract personnel were injured and were subsequently transported to the hospital for treatment. They have since been treated for their burns, released and have returned to work. The fire was extinguished by the local fire department. The construction was shutdown immediately and the site was secured. Investigation revealed that the source of the flammable vapour is suspected to be from residual vapours within the vacuum truck hose. The hose had been removed from the mud plug to facilitate completion of the weld. Vapours which were in the hose migrated out of it and accumulated within the ditch prior to the completing of the final weld(s). It is suspected that the area was not sniffed for flammable vapours prior to continuation of welding. Striking a welding arc is suspected to have been the source of ignition. The following is a summary of information received in a phone conversation held with [REDACTED] of Montreal Pipe Line Company on 25 March 1999. Following this incident, an onsite safety meeting was held with the contractor, CSST, and Montreal Pipe Line Ltd. personnel to discuss safe work procedures and measures to be taken to prevent reoccurrence. All subsequent work on this project included a safety watch and enhanced flammable gas detection monitoring. The Project Engineering Consultant for this project was contracted to develop an enhanced safe work procedure for contractors. A blind flange was installed the following day. Approximately two weeks later, construction was started up. The project was completed successfully without further incident. Flammable vapors within the Manifold 2 ditch ignited, causing an explosion and fire. Four of the contract personnel were injured and were subsequently transported to the hospital for treatment. They have since been treated for their burns, released and returned to work. The vacuum hose was an unsecured potential source for hydrocarbons left in the ditch after being disconnected. The volume of the release was not recorded."</p>
1998	INC1998-063	<p>"On 5 November, 1998 at the WEI McMahon Gas Plant at Taylor B.C. a spill of approximately 110 litres of 17% monoethylamine solution was recorded. The spill covered an area of 10mx12m, spreading over the surface gravel. A vacuum truck cleaned up the spill and contaminated gravel. The spill occurred when a carbon bed filter vessel was disconnected. The vessel had not been drained completely prior to disconnect. After the flange was disconnected the remaining solution spilled onto the concrete pad and retainer. There was some gravel that was contaminated and removed from the site. Exact amount is not identified. 110 litres of 17% monoethanolamine in water solution was spilled when carbon bed filter vessel was disconnected. The vessel had not been drained completely prior to disconnect. After the flange was disconnected the remaining solution spilled onto the concrete pad and retainer. Overflow from the pad spilled out onto surrounding gravel and covered an area of 10 x 12m to a depth of one inch. Monoethanolamine (MEA)"</p>
1998	INC1998-064	<p>"At 09:30 CST, during the annual leak detection survey at Compressor Station 17, TransCanada personnel noticed an underground natural gas leak by the Line 100-1 suction side valve. Personnel isolated and disconnected the NPS ½ suction pressure sensing line and connected a temporary tubing above grade until repairs could be performed. C313 involving an uncontrolled gas release at compressor station 17. The volume of Natural Gas that was released is negligible to the incident"</p>

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1998	INC1998-062	"On 2 November 1998, the contractor was unloading and stringing pipe on Enbridge's right-of-way at Milepost 510.5, east of Glenavon, Saskatchewan. An employee of the contractor had climbed up onto the walking deck to replace a hook that had fallen loose on the front end of a pipe joint. When the pipe was lifted, the pipe joint slid forward pinching the worker between the pipe joint and the headache rack of the pipe truck. The worker sustained internal injuries which required minor surgery. The injured worker was a swamper on the stringing side boom and was also the designated signalman. [REDACTED], a labourer with Bannister Pipelines Inc., was hospitalized at Regina Hospital for minor surgery. He was later returned to Kipling Hospital and kept under observation until released on November 5, 1998."
1998	INC1998-060	"At 5:13 A.M. C.S.T., 31 October, 1998, the Regina Regional Operations Controller (ROC) was informed that the E Plant had shut down due to a loss of signal from the discharge over-pressure switch. While the A and B Plants were on standby, the C and D Plants also shut down. TransCanada station personnel and contractors arriving on the site to install coolers confirmed the emergency shut down. They noticed that the E Plant's 10" cooler vent piping had twisted out of position during the blow-down. The cooler piping had not been fully backfilled and all tie-down clamps had not been installed to secure the piping to its concrete support. C 312 involving mechanical damage at compressor station 13. When the E Plant went on an emergency shut down, the ROC immediately initiated a call-out. All the isolation valves closed in their proper sequence and the gas was safely vented to atmosphere. Regional technical staff and a project engineer were dispatched to the site. There were no injuries and no interruption of service as a result of this incident. The volume of the gas release was not recorded."
1998	INC1998-059	"At approximately 16:10 CDT, two contract workers of Comstock Canada were in the process of dismantling an existing domestic fuel gas skid for replacement. Under the direction of TransCanada employee [REDACTED] the workers were instructed to close the upstream fuel gas supply and heater valves, as well as the downstream isolation valves, in order to isolate the skid. After bleeding down the skid, [REDACTED] indicated the flanges to the workers that he wanted them to dismantle. While he momentarily left the site to obtain additional lock-out valve tags, the workers elected to bring in an electric impact wrench and proceeded to dismantle an unspecified flange. The workers were unaware that some gas had been trapped in the heater after the skid had been bled down. After breaking the flange seal, the escaping gas ignited due to the spark from the electric impact wrench. One of the workers, [REDACTED] suffered second-degree burns to his face and neck and first-degree burns to his hands. Comstock employee [REDACTED] had suffered second degree burns to his face and neck, and first degree burns to his hands. [REDACTED] was initially transported to the Sensenbrenner Hospital in Kapuskasing, and then transferred to the McKellar Hospital in Thunder Bay. [REDACTED] was the attending physician. [REDACTED] was held for observation and released at noon, the following day. He currently assigned to light work duty in the Comstock construction trailer in Thunder Bay. [REDACTED] is scheduled to see his physician on November 2 and is likely to return to his normal work duties at Compressor Station 95, on November 3. Some gas had been trapped in the heater, after the skid had been bled down. When the flange seal was broken the escaping gas ignited."
1998	INC1998-058	"On 13 October 1998 at 13:00 MST, company personnel at Enbridge's Glenboro Station observed NGL escaping from the discharge valve on Line 1 pumping Unit 1.3. Upon investigation, it was discovered that NGL was being released from the bottom stem seal of the valve. The pump unit was taken out of service and a sealant grease was injected to stop the leakage. The unit remained out of service until repairs were completed. NGL Liquids escaped from the bottom stem seal of a ball valve."

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1998	INC1998-057	"On 06 October 1998 WEI discovered and reported an incident at its Bubbles Booster Station that they believed occurred on the 3rd or 4th of October. A sight glass on a diesel control tank inside a building was found to be broken and about 130 gallons of the corrosion inhibitor had been released from the tank through the broken sight glass. Some of the liquid that spilled flowed from the building through a doorway onto the ground outside the building. The ground was frozen and had snow on it which absorbed much of the liquid. Rags were used to absorb the remaining liquid on the ground. The contaminated snow and rags were taken from the site for proper disposal. The substance that spilled was diesel-control mixture. This is about 80% diesel-control, which is a mixture of light hydrocarbons used as a corrosion inhibitor, and 20% diesel."
1998	INC1998-056	"At approximately 15:00 E.D.T., lightning struck the suction blow-off at the compressor station and ignited the natural gas leaking past the seats of the blow-off isolation valve. When the station personnel noticed the flare, they immediately extinguished the fire with a portable hand-held fire extinguisher. The personnel then injected a valve sealant to stop the leak. The volume of Natural Gas leakage to the atmosphere was considered small."
1998	INC1998-055	"On 24 September 1998, an employee of a sub-contractor was injured on the Enbridge Right of Way at MP 313 south of Outlook, Saskatchewan. The employee was attempting to release a boomer (device that tightens and holds chains by mechanical leverage) while preparing to unload drilling equipment. The worker sustained lacerations and fractures to his right lower leg as a result of this incident. He was admitted to hospital and diagnosed with lacerations and fractures to his lower right leg."
1998	INC1998-054	"On 19 September 1998, a corrosion remedial contractor was installing a new vertical ground bed at MLV 3, east of Burstall, Saskatchewan. It was decided on site that the location of the ground bed should be closer to MLV 3 than originally planned in order to avoid the contractor's equipment working close to overhead lines. While drilling at the new location, the NPS 16 tie-over piping between Lines 100-1 and 100-2 was struck. Lines 100-1, 100-2, and 100-3 had all been staked in the vicinity of the original location but had not been staked at the new location. There were no injuries as a result of the incident and there was no release of natural gas. P3968 involving mechanical damage at MLV 3. east of Burstall. During drilling, it was noted that the drill contacted something hard and pipe coating material was present in the drilling returns. The site was immediately frozen and the area evacuated. CANSPEC arrived on site to investigate and confirmed that the drill had contacted the outer radius of a 90 degree elbow on the tie-over piping. The pressure in Line 100-1 was reduced and the pipe surface was buffed and inspected using magnetic particle. A small linear crack was detected. The crack was ground out and the follow-up magnetic particle and ultrasonic inspection revealed no further damage. The affected pipe surface was recoated and the section backfilled. Line 100-1 was then returned to normal service. As a result of this incident, TCPL has instructed its inspectors to review all associated piping drawings in the event of a change to the location of any excavation and stake the pipelines accordingly. As well, Senior Management of TCPL have communicated to its survey and inspection staff the importance of following documented locate, stakeout, and excavation procedures. Management also communicated to staff that the occurrence of incidents such as this, where established procedures are not followed, in the future would result in a reprimand and possibly suspension without pay. "
1998	INC1998-053	"On 5 September 1998, at Enbridge's Edmonton Terminal, personnel noticed bubbles in the water directly over a pipeline. Investigation into the cause revealed traced amounts of natural gas liquid leaking from the underground check-valve flange. At 16:00 of the same day, the site was secured and the flange bolts were tightened. This eliminated the flange leak. < .001 m ³ of NGL was released. Station suction was at 185 psi at the time of the incident."

1998	INC1998-052	"Both of the following incidents occurred the Wescoast Energy Inc. (WEI) Pine River Gas Plant and resulted from leaks in different tube bundles in the ""B"" Lean Cooler Building. The cause of both leaks was determined to be corrosion. 41,970 litres of sulfinol was lost as a component of the total of 55,960 litres of solution spilled. The solution soaked into the building subgrade material (sand gravel and soil). Some of the free liquid was collected with absorbent materials. The response and cleanup resulted in the excavation of 147.2 tonnes of material, which was stored on a concrete pad with collection perimeter trenches, and later disposed of to industrial landfill. This soil was stored on a concrete bermed area North-west of the Train 3 buiding, where free liquids leaching from the soil would be collected in concrete trenches at the perimeter of the pad. The material effectively absorbed the liquids and no free liquids were encountered. The analytical results indicated that the material was non-hazardous and was acceptable to industrial landfill. Hazco Environment Services Ltd. disposed of the waste material to the East Peace Landfill, ALberta. A lean sulfinol solution comprised of 75% sulfinol and 25% water."
1998	INC1998-051	"Personnel entered the C Plant of Compressor Station 30 near Rapid City, MB and discovered the smell of gas in the air. Upon investigation, it was found that gas was leaking from a broken weld on the 3"" equalizing line which ran from the suction header to the compressor case. The pipe had a 70mm long crack at the toe of fillet weld. The unit was immediately shut down and the piping was replaced with Schedule 80 piping that was located on site. The unit was returned to service on 27 August 1998 in the late afternoon. The volume that has been released to the atmosphere would have a negligible greenhouse effect."
1998	INC1998-050	"On 25 August 1998 at 3:30 pm local time a leak detection survey crew detected gas leaking from a buried 1 ½"" tee at Station 77 - Jellicoe, ON. The piping was isolated and excavated for repair. A new tee and approximated 50 cm of new pipe was installed. The domestic fuel gas system (low pressure) was returned to service. All welds on the new tee and pipe were inspected using MPI. C307 involving an uncontrolled gas release at compressor staion 77. A minimal volume of natural gas was released to the atmosphere. Although the leak was initially confirmed using a portable gas detector, station personnel had to use a soap-water solution (Snoop) to conduct a bubble test, to locate the pinhole leak."
1998	INC1998-049	"NGL vapour leak due to a failure of the inboard seal on Unit 1.1 , at Enbridge Pipelines Inc.'s (""Enbridge"") Glenboro Station on 24 August 1998. At 18:59 MST , a gas alarm from the Glenboro Station was received by Enbridge's Edmonton control center. On investigation by Enbridge personnel, it was determined that the cause of the alarm was a release of NGL vapours as a result of a failure of the in-board seal on Unit 1.1 (Line 1, Unit 1). Further, a valve, which had been inadvertently left open, provided a direct path between the NGL vapor and the gas detectors. No liquid volume was released, a trace amount of vapour appears to have been released."

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<p>1998</p>	<p>INC1998-048</p>	<p>"On 25 August 1998, serious injuries resulted to a pipeline contractors employee (██████████ of Waschuk Pipeline Construction) while participating in the Foothills Pipeline construction Eastern Leg Expansion Project near Richmond Saskatchewan. At the time of the incident the employee was operating a clam-hoe machine that was owned by his employer. The machine's 3/8 inch diameter spring loaded tag line and hook, which were under tension and attached to the clam bucket via the hook, released from its mooring and snapped back towards the machine's operator's cab where he was sitting operating its controls. The hook and cable whipped back into the operator's cab through the cab's open window and struck the operator in the face and head and then continued in an upwards direction smashing the cabs's front window that had been slid opened to the operator's overhead position. The hook's path of travel was stopped by the steel roof of the cab. The employee sustained severe facial and head injuries that required reconstructive surgery. He had to be air lifted to the Foothills Hospital in Calgary due to the serious nature of his injuries. On the 3rd of September 1998 he was transferred to the Royal Alexandra Hospital in Edmonton where he received additional treatment and spent time recovering for two or three months. The employee sustained severe facial and head injuries that required reconstructive surgery. He had to bwe air lifted to the Foothills hospital in Calgary due to the serious nature of his injuries. On the 3rd of September 1998 he was transferred to the Royal Alexander Hospital in Edmonton where he received additional treatment and spent time recovering for two to three months."</p>
<p>1998</p>	<p>INC1998-047</p>	<p>"On 24 August 1998, a pipeline contractor's ("Marine Pipeline Construction") employee was injured when the boom of a picker truck collapsed, falling and striking the employee while the picker truck, in conjunction with a 583 Caterpillar sideboom, was attempting to lift a mainline valve assembly weighing 55,934 lbs. As a result of the incident the employee was knocked unconscious and he sustained a laceration to his head, a bruised shoulder and ribs, as well as a mild concussion. The incident occurred at TransCanada's mainline valve No. 28 near Brandon, Manitoba. The weight of the valve assembly was determined to be well in excess of the crane's lifting capacity (2.76 times heavier then the manufacturer's rated capacity in the configuration that it was being used) thus resulting in an overload condition that caused the boom's anchor bolts to shear allowing the boom to fall. As a result of the incident the employee was knocked unconscious and he sustained a laceration to his head, bruised ribs as well as a mild concussion."</p>
<p>1998</p>	<p>INC1998-046</p>	<p>"On 14 August 1998, a pipeline contractor's employee (Canspec Materials Engineering and Testing) sustained a broken right leg when he fell off the tail gate of a moving inspection vehicle (pickup truck) he was riding on. The employee's work involved x-raying pipe welds. He had hopped a ride to the next weld to be x-rayed because of muddy right-of-way conditions and to save time due to being behind in his work. The driver of the truck was unaware that the worker had boarded the truck's tail gate. When the vehicle hit a bump the worker was bounced off the tail gate along with a heavy calibration plate (scanner) that was on the truck with him. The scanner struck his leg resulting in his leg being broken. The employee was taken to hospital for treatment. ██████████ hopped on the tail gate of the truck to catch a ride to the next weld to be xrayed. He thought that this would be easier because of the muddy conditions on the ROW and to save time due to being behind in his work. The driver was unaware that the contractor had boarded the tail gate. When the vehicule hit a bump ██████████ was bounced off the tail gate along with a heavy scanner that was on the truck with him. The scanner struck his leg resulting in his leg being broken."</p>

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1998	INC1998-044	<p>"At 16:00 MST on August 15, 1998, Enbridge personnel at Enbridge's Cromer Terminal discovered crude oil mixed with sour Caroline condensate buffer escaping from the densitometer pump within the Line 2B densitometer building. The pump was immediately isolated. The released oil migrated along a drainage ditch on company property. Cleanup, initiated immediately, recovered approximately 2.5 m³ of oil. Approximately 0.5 m³ was unrecovered. Approximately 7.6 m³ of contaminated soil was removed and taken to the on-site bio-remediation facility. Investigation of the pump determined that the outer ball bearing of the densitometer pump failed, which then led to the failure of the bearing housing and subsequent movement of the rotor and shaft. The rearward movement of the rotor and shaft caused the seal faces to open up and resulted in a release of the contained oil. The densitometer involved was replaced with a rebuilt pump and returned to service. Approximately 7.6 m³ of contaminated soil was removed and taken to the on-site bio-remediation facility. Crude oil mixed with sour Caroline condensate buffer escaped from the densitometer pump within the Line 2B densitometer building. The pump was immediately isolated. The released oil migrated along a drainage ditch on company property. Cleanup, initiated immediately, recovered approximately 2.5 m³ of oil. Approximately 0.5 m³ was unrecovered."</p>
1998	INC1998-043	<p>"At 12:45 MST on 14 August 1998, a mouse entered Unit 3.5 breaker contact cell within the electrical switchgear building, and appears to have caused a phase to phase OR phase to ground short in the vicinity of the disconnect switch (while the breaker was closed). The resulting electrical arc caused damage to the contactor, miscellaneous auxiliary equipment located within the cell cabinet and the breaker cell door. The resulting smoke tripped the smoke alarms within the building. An on-site Enbridge employee was contacted by the Edmonton Control Centre, reporting a fire alarm in the electrical switchgear building. The Edmonton Control Centre operator shut down Lines 3 and 13 at 12:50 MST. Line 13 was restarted at 13:51 by responding Enbridge personnel. Line 3 was restarted at 14:48 MST. The station was kept on bypass mode during the investigation of the incident. All damaged equipment was replaced or repaired. To prevent reoccurrence of this type of incident, breaker cell door gaps (3/8") were sealed to reduce access into sensitive equipment. Exterior doors received additional weather stripping to improve sealing. Other Enbridge sites were informed of the incident and a "Hazard Alert" on this issue was circulated to all applicable Enbridge facilities. Line 3 and 13 were shutdown at 12:50 MST. Line 13 was restarted at 13:51 by responding Enbridge personnel. Line 3 was restarted at 14:48 MST. The station was placed on bypass mode during the investigation of the incident."</p>
1998	INC1998-045	<p>"At 11:30 am on 11 August 1998 welders were in the process of completing a final tie-in of the station coolers at the Richmond Saskatchewan compressor station on the Foothills Pipeline. A minor explosion and flash fire resulted when a flame was introduced to the pipe to preheat it in preparation for further welding. Natural gas had inadvertently entered into the pipe and was ignited. No injuries were incurred nor was the integrity of the pipeline affected as a result of the incident. To accommodate the work carried out, a hot work permit had been issued and expellers or air movers had been installed and placed into operation on the station's upstream and downstream blow-down valves. The piping, at the location being welded, had been checked twice for the presence of natural gas by the Safety Watch assigned. A gas detector had been used immediately prior to welding commencing and once again a short time following its commencement. On both occasions no gas was detected. At one point in the welding process the welders had ceased work and left the area to obtain more welding rods. The Safety Watch assumed that the welders were stopping for their lunch break and therefore he or she also left the area. The welders returned about 15 minutes later and began to preheat the weld without the Safety Watch being present and without checking for the presence of natural gas. It was when the preheat flame was applied to the pipe at this point in time that the explosion and fire occurred. Natural gas entered into the pipe and was ignited."</p>

1998	INC1998-042	"On August 2, 1998 at 11:05 MST, IPL personnel on-site at Langbank Station observed NGL escaping from the Line 1 densitometer building. Upon investigation, it was discovered that NGL was being released from the densitometer pump. Operating Lines 1, 3, and 13 were shut down at 11:07 MST. Langbank Line 1 Station was remotely isolated. The densitometer building and the densitometer pump were isolated locally. 4.3 m3 of fluid was released. An estimated 0.43 m3 of unvapourized liquid was subsequently recovered except for a small amount that resulted in minor soil contamination. All clean up activities and disposal of approximately 0.76m3 of contaminated soil was done in accordance with Company environmental procedures and authorities having jurisdiction. The cause of the incident was internal erosion of the magnetic drive pump. 4.3 m3 of fluid was released. An estimated 0.43 m3 of unvapourized liquid was subsequently recovered except for a small amount that resulted in minor soil contamination. All clean up activities and disposal of approximately 0.76 m3 of contaminated soil was done in accordance with Company environmental procedures and authorities having jurisdiction. 4.3 m3 of fluid was released. An estimated 0.43 m3 of unvapourized liquid was subsequently recovered except for a small amount that resulted in minor soil contamination. All clean up activities and disposal of approximately 0.76m3 of contaminated soil was done in accordance with Company environmental procedures and authorities having jurisdiction."
1998	INC1998-041	"On 27 July 1998, a contractor's water truck was travelling down TCPL's right-of-way (ROW) for dust control. At MLV 21-7 near Grenfell, Saskatchewan, the truck hit a soft section, fell into a rut, and struck a rock, which punctured the fuel tank on the driver's side. The tank rupture spilled 247 L of diesel fuel onto the ground. The engine was shut down and the truck was elevated to prevent further release of fuel. A catch basin was placed below the ruptured tank, while absorbent materials were placed over approximately 35 m2 of spill area. The contaminated clay soil and absorbent materials were disposed of at the Grenfell landfill. Saskatchewan Environment and Resource Management was notified of the spill and clean-up procedures. The spill did not affect any watercourse, property, or wildlife. No one sustained any injury from this incident. The contaminated soil was taken to the Grenfell Landfill. Affected area was restored by backfilling the excavation with topsoil and re-seeding the area. The materials were in a 35 m2 spill area."
1998	INC1998-040	"On 25 July 1998, station personnel were performing a compressor unit oil change at BS-03, Kobes Compressor Station. They were in the process of transferring the oil from one storage tank to another when the tank overflowed and approximately 100 gallons of lube oil escaped through a 2" vent pipe onto a gravel area of approximately 100 square feet. Some gravel was excavated and will be treated onsite at WEI's land farming facility. Approximately 100 gallons of lube oil escaped through a 2" vent pipe onto a gravel area of approximately 100 square feet."
1998	INC1998-038	"At approximately 13:28 MST, a 3/4" flare drain line connected to the pump case of Unit 1.3 (whose elbows had been removed previously in preparation for pump replacement) was opened to confirm zero pressure prior to cold cutting. Trace amounts of residual NGL trapped in the flare line diffused through the pump cavity and caused a gas alarm. Trace amounts of residual NGL trapped in the flare line diffused through the pump cavity and caused a gas alarm."
1998	INC1998-039	"Sometime prior to 23:06 CST, an unknown person lost control of his/her vehicle and collided with the meter station perimeter fencing. The impact dislodged the fence and struck the Line 100-1 NPS 3 riser and the NPS 2 meter station by-pass piping. Line 100-1 was out of service at the time of the incident because of the valve replacement at MLV 20-1. The damage to the meter station was discovered by TransCanada ("TCPL") employee [REDACTED], a spectator at the local ball game who was driving by the station. He noticed tire tracks (skid marks). The pipeline was out of service at the time of the incident, in preparation for the valve replacement at MLV 20-1."

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1998	INC1998-037	"While supervising a contractor who was replacing a segment of the perimeter fencing at the compressor station, TransCanada's Construction Supervisor [REDACTED] heard a noise at approximately 08:30 EDT. He then heard the sound of natural gas leaking from the Line 100-1 suction valve enclosure. He immediately notified the Thunder Bay Regional Operations Controller and evacuated the contractor from the area. TransCanada technicians from Compressor Station 62 (near Upsala, Ontario) confirmed that the gas was leaking from the exhaust port of the trigger valve and isolated the power gas supply to the suction valve operator. The trigger valve was removed from service, cleaned, and overhauled. The Line 100-1 suction valve was returned to normal operation at 11:15 EDT."
1998	INC1998-035	"On 28 June 1998 at approximately 05:30 Mountain Time, during a routine inspection, an Enbridge employee discovered crude oil leaking in the area of the North Booster Pit. The Edmonton Control Centre was contacted and the operating lines, Line 2 and Line 3 were shutdown while local personnel isolated piping near Booster Pump 30-34. The area was secured and crews started containment and cleanup activities. Upon further investigation by Enbridge, the source of the leak was identified as a failed piece of NPS 20 dead leg piping. The dead leg section of NPS 20 pipe was isolated, cut, removed and the tie-in point located just upstream of Pump 32 on the NPS 34 pipe was blinded off. The pressure in the pipe at the time of the leak was approximately 10 psi (69 kPa). The estimated volume released is approximately 5 to 10 m3, which migrated to the creek flowing through the property, and then proceeded to flow through Enbridge's containment weirs and booms into Trans-Mountain Pipe Lines' facility nearby due to high water levels and turbulent flow. Absorbent booms were used to contain the oil from migrating further, and Enbridge submitted that all of the oil was contained and estimated that approximately 95% of it was recovered. Metallurgical analysis of the failed piece of pipe concluded that the cause of the leak was internal corrosion due to stagnant conditions. The oil migrated to the creek flowing through the property, and then proceeded to flow through Enbridge's containment weirs and booms into Trans-Mountain Pipelines' facility nearby due to high water levels and turbulent flow."
1998	INC1998-036	"On 26 June 1998 a WEI employee was injured while operating a fork- lift outside in the Pine River Gas Plant yard. He had picked up a crate containing a large pipeline valve and as the crate was being lifted it slipped off the forklifts forks. The worker stopped the forklift, then backed it up and got off of it to examine the crate for damage. The ground level was slightly inclined where he had stopped and got off of it. As he was examining the crate in front of the forklift, the forklift rolled towards him and the end of one of the forks pinned his left leg against the valve crate. Another WEI employee who came along saw the worker pinned by the forklift and immediately backed it up to free him. First aid was provided to him and WEI's ambulance transported him down to the bottom of the mountain from the gas plant where a provincial ambulance was met and the worker was transferred to it. He was initially taken to the Chetwynd Hospital, but was later transferred to the Prince George Hospital. As a result of the incident the worker sustained a fracture to left leg 4 inches below the knee. The manufacturer of the forklift is the Finning Corporation which came in to inspect and carry out repair service to the forklift following the incident. [REDACTED] leg was pinched by the forks. He was pinned between the load that had fallen off and the forks. [REDACTED] was transported to the highway where BC Ambulance then transported him to Chetwynd Hospital. From there he was transpoted to Prince George hospital."

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1998	INC1998-034	"On 24 June 1998 at TCPL's Station 95, Kapuskasing, Ontario, a third party piling contractor crushed the NPS 2 domestic fuel gas line to the Utility Building and 'B' Plant Control Building while driving NPS 12 pipe piles for the new 'C' Plant installation. There was a negligible amount of natural gas released from a broken elbow on the pipe and no ignition occurred. Prior to commencing the piling operation, the contractor held a pre-job meeting with the piling contractor, issued the necessary excavation/piling permit, and reviewed the station as-builts. The fuel gas line had been staked, identified by hydrovacking, and its elevation marked on stakes. The location for the pile in question had been hydrovacked to a depth of 1830 mm, but the line had not been located as it was deeper than expected. C304 involving mechanical damage at compressor station 95. There was a negligible release of Natural gas to the atmosphere."
1998	INC1998-033	"On 24 June 1998 at Station 80 + 912.5 m near Geraldton, Ontario, a loaded concrete truck was travelling along a TCPL-owned road that parallels the mainline. The vehicle lost control and travelled 61.5 m off the road coming to rest on its side on a 9750 lb saddle weight over Line 100-1. As a result of the truck landing on the saddle weight, the weight had been pushed a distance of approximately 610 mm along the top of the pipe, resulting in straight minor gouges in the coating and parent metal in the axial direction that were confined to an area measuring 0.87 m x 0.36 m. Inspection of the pipe surface revealed no evidence of cracking, dents, or other impact related damage. The gouges were removed by buffing a maximum of 2.1 % of the pipe wall thickness, which was acceptable under CSA Z662. The pipe was then recoated, original saddle weight was reinstalled, and then backfilled. There were no leaks or injuries as a result of this incident. After this incident, TCPL intended to place speed limit signs on the road in question. As a result of the truck hitting the saddle weight, 450 x 10 ³ m ³ of natural gas was vented to atmosphere to lower the pressure in the line. As well, the concrete truck's hydraulic tank ruptured as a result of the accident and about 20 L of hydraulic oil was released to the ground. The hydraulic spill and contaminated soils were completely cleaned up. Natural gas released into atmosphere. There was about 20L of hydraulic oil released from the truck's hydraulic tank which was ruptured in the accident."
1998	INC1998-032	"On 23 June 1998 at MLV 501+3.83 km near Sarnia, Ontario, the main hydraulic hose on a model 350 back hoe ruptured and approximately 126 L of oil was released covering an area of about 2 m ² . All of the contaminated soil was removed for disposal at an approved landfill site. There is no need to rehabilitate the site. 126 L of hydraulic fluid was leaked."
1998	INC1998-031	"Contract workers were reconnecting a 4" slotted PVC drainage pipe located at the base of the special waste containment (treatment) cell to a 2000L storage tank located adjacent to the cell. While digging out the pipe at approximately 21:00 PDT, a loader struck the 4" pipe, causing it to break at the sleeve and at the joint. Approximately 50 gallons of PCP was spilled. Approximately 80 m ³ of saturated sand was excavated to one meter below the top of the tank and put into the cell. Approximately 50 gallons of PCP was spilled over an approximate 1.0 m ² area of sandy soil. PCP is a chlorinated hydrocarbon used as a biocide in industrial water systems. 50 gallons (0.2 m ³) of a solution containing 1 to 10 ppm of Pentachlorophenol or PCP (C ₆ Cl ₅ OH)"
1998	INC1998-030	"On Tuesday May 26, 1998, at approximately 10:05 AM a release of 34.74 MSCF of 1.14% sour natural gas occurred at the BS-04 Buick Creek Compressor Station. The release which would normally have been burnt at the flare pit did not ignite as the pilot flame was extinguished due to high wind conditions. A third order shutdown resulted from a high scrubber liquid level in the station scrubber. The main unit shutdown, with the suction and discharge valves closing, isolating the unit compressors which then vented to the flare pit. With the pilot flame extinguished the vented gas was released to the atmosphere rather than being burned off. 6500bbls This was a release of 1.14% sour natural gas."

1998	INC1998-027	"At approximately 9:00 M.S.T., company personnel at the Enbridge White City, Saskatchewan pump station noticed traces of NGL vapour escaping at a cooling line fitting on the suction side of pump unit No. 1.1. The volume of NGL vapour leakage to the atmosphere was quafified a trace amount and no environmental concerns were noted."
1998	INC1998-026	"On May 19, 1998, a Trans Mountain pipeline maintenance crew and an independent contractor had excavated a portion of the mainline in order to remove a protective culvert from around a flange pair and two vents on the mainline. The culvert was being removed to prepare the mainline for a hydrostatic test. While lifting the culvert, it shifted and nudged the upstream NPS 2 vent fitting assembly. This contact with the vent fitting caused an immediate fine spray of crude oil to be released from the vent. This prompted the crew to lower the culvert back into place. The incident resulted in a release of approximately two litres of Rainbow Crude oil onto the inside wall of the culvert and onto the outside of the pipeline. There was an interruption in the operation of the pipeline from 14:30 MST on May 19, 1998 to 02:10 MST on May 20, 1998. The monthly commitments to shippers and scheduled through put were maintained. A maximum of 2 litres of crude oil was lost in this incident. "
1998	INC1998-029	"At 19:12 CDT on 16 May 1998, the Winnipeg Regional Operations Controller (ROC) remotely closed MLV 34-4, an NPS 42 Rockwell Hypresphere ball valve. The SCADA was indicating the valve was still in travel, while the differential across the valve was confirming that it had closed. As such, the ROC decided not to initiate a call-out to verify the valve's position. On 18 May company personnel noticed natural gas leaking from the NPS 3/8 vent of MLV 34-4. An investigation revealed that the proximity (limit) switch of MLV 34-4 had failed to make the close contact. (The proximity switch indicates the percent opening of the valve and is used to prevent a ball valve from being over torqued.) As a result, the power gas supply (instrument natural gas) to the operator (actuator) did not isolate, causing natural gas to vent to atmosphere. "
1998	INC1998-028	"On 10 May 1998, the Winnipeg Regional Operations Controller ("ROC") remotely opened MLV 30-1 to assist in bringing on the 'A' plant at TransCanada's Compressor Station 30, near Rapid City Manitoba. After the Plant was brought on line, the ROC called for the closure of MLV 30-1. At 23:00 CDT, SCADA indicated the mainline valve had successfully travelled to its closed position. The ROC was unaware that the Shafer operator's (valve actuator) closing solenoid had failed to seat itself and as a result continued to vent natural gas through its NPS 3/8 vent to atmosphere. The leak was not discovered by station personnel until 17:30 CDT on 15 May 1998. The prolonged venting aslo resulted in the spraying of Univis hydraulic oil from the Shafer operator tank onto the ground."
1998	INC1998-025	"On 25 April, 1998 at the WEI McMahon Gas Plant at Taylor B.C. a spill of approximately 367 gallons of 17% monoethylamine solution was recorded. The spill covered about 1000 square feet, spreading over the surface gravel. The surface layer was rinsed with water and the rinse water was collected and treated in the plant's affluent treatment facility. The spill occurred during the return to service of an amine cooler after maintenance. A 3/4 inch block valve was not properly closed and allowed fuel gas into the amine lines. The amine solution absorbed the gas. At the high pressure amine pumps the absorbed gas flashed out of solution. As the gas displaced the liquid in the pump, the pump speed increased until the pumps were shut down by an overspeed trip. The flow of amines returning from the cooler continued causing the surge tank to rapidly fill opening the tank vacuum breaker/vent line and overflowing from the vent line. The overflow system tripped and closed the valves upstream of the surge tank stopping the overflow and limiting the spill to approximately 367 gallons. Approximately 1362 litres of boiler feedwater and MEA (17% solution was spilled and spread across the ground covering approximately 1000 square feet. Monoethanolamine (MEA) "

1998	INC1998-024	<p>"On 23 April 1998, at approximately 08:00 CDT, the ultra violet detection system at TransCanada Pipelines' ("TCPL") Compressor Station 75 near Nipigon, ON, detected a flame in the "A" Plant Compressor Building. A contractor had been using a torch to dismantle the Westinghouse Unit A2, in preparation for its retirement. The building had been inspected for the presence of natural gas and found to be clear, so a "Hazardous Area Work Permit" was issued. Unfortunately, due to a breakdown in communications, the ultra violet detection system had not been placed on by-pass. Once the flame was detected, it caused the "A" Plant to undergo an emergency shutdown. During this shutdown, one of the valves necessary for complete isolation had failed to travel fully closed. The Line 100-1:2 suction crossover valve had failed to close because of a bent "over travel guide" causing the valve to operate erratically. TCPL suspects that during the previous winter, moisture had entered the "Rotork" operator enclosure and froze, causing the over travel guide to bend. Because the station Programmable Logic Controller ("PLC") received the indication that all necessary valves were closed it called for the Line 100-1 suction and discharge blow-off valves opened in sequence. When the station personnel realized the venting was taking longer than usual, they proceeded to investigate the cause, and found the suction crossover valve partially opened. As a result, high pressure natural gas was allowed to bypass the crossover valve and vented to the atmosphere for five minutes before the valve was manually closed. Natural gas was released to the atmosphere over a 5 minute interval before the valve was manually closed. At the time of the incident, the natural gas was being transported in the pipeline at a pressure of 4770 kPa."</p>
1998	INC1998-023	<p>"On 17 April 1998 a leak was detected at TCPL's Compressor Station No. 58 at Ignace, Ontario. The source of the leak was determined to be a insufficiently tightened body bleed plug on a new and recently installed below grade isolation valve for a 30 inch pig launcher. The leak, considered to be minor, had been discovered and confirmed by TCPL personnel using gas detectors. The date the leak was detected was 28 days following the date the valve had been commissioned into service (20 March 1998). The valve and its bleed plug had been leaked checked at the time of the valve's installation and commissioning. No leaks were detected at that time. To repair the leak, TCPL personnel had to first daylight the valve. Then, once they located the source of the leak, they removed the bleed plug, cleaned and redropped its threads and then reinstalled it to its proper tightness and applied an exterior seal coating on and around it. The valve was then leak checked again, which indicated it was no longer leaking. "</p>
1998	INC1998-021	<p>103 litres of sulfinol was lost as a component of the total of 135 litres of solution was spilled to the ground inside and outside the "B" Lean Cooler Building. The spilled solution was unrecoverable in the rock. 103 litres of sulfinol was lost as a component of the total of 135 litres of solution was spilled to the ground inside and outside the "B" Lean Cooler Building. The spill solution was unrecoverable in the rock.</p>
1998	INC1998-022	<p>"On 1 April 1998, ISH experienced a crude oil spill of approximately 20 m3 on its Desan pipeline near Zama Lake, Alberta (34-118-7-W6). The spill resulted from a bleed valve on a pig receiver being left open after a pig run was conducted. The valve was closed after attempts were made to bring the line back to its normal in-service pressure. The controllers immediately noticed something was wrong and dispatched a contractor to the site of the suspected problem. The contractor closed the bleed valve but did not report the spill. On 5 April, the contractor commenced clean-up of the spill site. On 7 April, the contractor notified ISH of the spill and the activities being conducted. The spill was contained to the ISH pipeline right-of-way and did not impact fish habitat nor wildlife. Clean-up was conducted to the satisfaction of Board staff (). Approximately 20 m3 of crude oil migrated westward along the ditch line for approximately 200 meters. Evaluation of the oil spill site by 3D Reclamation Inc. It was asked that the NEB representative give some direction as to the remedial work that would be suggested for this site."</p>

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1998	INC1998-020	"On 26 March 1998 Chauvco was performing a final pressure test of a pipeline before commissioning, pursuant to Board Order XG-C365-6-98. The pipeline starts at Chauvco's compressor station at c-32-H/94-H-8 in British Columbia and terminates at 14-29-98-11 W6M in Alberta. The pipeline is constructed with 219.1 mm OD x 5.6 mm WT, Grade 359 CAT I pipe. During the pneumatic test, a failure occurred at a location approximately 2.3 km east of the British Columbia side terminus. The pressure in the line at the time of the incident was 1780 psi or 12 400 kPa which was near maximum test pressure. The failure resulted in a 1.5 metre section of the pipeline being split open and separated from the pipeline. Approximately 2 metres of pipeline protruded through the soil. The Board Order also permitted the construction of a 88.9 mm OD x 4.0 mm WT pipeline to be constructed in the same ditch. As a result of the incident, the 88.9 mm pipeline was examined for damage and Chauvco discovered that the pipeline suffered a dent. Immediately following the failure, the damaged section of the 219.1 mm OD pipeline, along with two lengths of pipe on either side of the failure, were cut out and new pipe was welded into place. Repairs were completed on 27 March 1998 and a hydrotest was performed on the pipeline. The test pressure was 12 411 kPag. The damage to the 88.9mm OD pipeline was cut out of the pipeline and replaced with a new section of pipe. A pneumatic test was performed on this pipeline at a pressure of 12 630 kPag on 28 March 1998."
1998	INC1998-019	"On 25 March 25 1998 at 07:05 MST, a gas alarm (crude vapor) was received from Line 13 at St. Leon Station. Upon investigation, it was discovered that crude oil was being released due to the failure of a ½" ball valve on an instrumentation line. Line 13 was in the process of being shut down for scheduled maintenance when the alarm was received. Company personnel were dispatched to respond and St. Leon Station was isolated when they arrived on site. The ball valve was replaced and Line 13 was returned to normal service. Approximately 11 m3 of crude oil was spilled over approximately 300 ft2 of Enbridge property. The failed valve was identified as a Nutron three piece ball valve. Approximately 11 m3 of crude oil was spilled over 300 ft2 of Enbridge property."
1998	INC1998-018	"On 25 March 1998 at 0730 MST, a local gas warning alarm was received in the Kerrobert Control Room. Upon investigation by an IPL employee, it was determined that Natural Gas Liquids ("NGL") vapours were escaping from the pump seal cover on Unit 1.4. Unit 1.4 was shut down and isolated and the Edmonton Control Centre was notified. Investigation revealed that the pump elbow drain valve on Unit 1.4 was not sealing effectively (it had not been closed completely prior to startup). The leaking NGL migrated into the pump drain line, which is common to the pump seal drain line, and subsequently NGL escaped through a gasket on the pump's seal pot cover (which was found to be leaking at the time of the incident). The pump's elbow drain line valve was tightened (closed) to stop the leak and the unit was returned to service. An estimated 0.0001 m3 of NGL was released in the form of vapour before personnel was able to shut down and isolate the pump, and tighten the valve."
1998	INC1998-017	"On 13 March 1998 at 0959 MST, approximately 40 litres of heavy crude oil entered the waters of Burrard Inlet after being discharged from a vacuum truck located on the dock of TMPL's Westridge Marine Terminal. A vacuum truck was contracted to drain the loading arms following loading of a tanker (normal procedure). The vacuum truck operator used the wrong intake valve on the vacuum truck and caused liquid to carry into the vacuum pump and out through the vapor exhaust vent and into the environment. The spill was contained by the permanent protective boom. The majority of the spilled oil was dispersed through tidal and wave action and a small indeterminate amount was recovered using absorbent pads."

1998	INC1998-016	<p>"On 8 March 1998 an incident occurred at Mile Post 0.0 of WEI's 16 inch Ekwan Pipeline located east of Ft. Nelson B.C. At this pipeline mile post a gas analyzer site exists, which consists of three small buildings, three above ground storage tanks and some piping that allows cleaning devices to be transported through the pipeline. On 8 March 1998 a diesel fuel spill was noticed by a WEI bulldozer operator while he was clearing snow from this site in preparation for site abandonment. The dozer operator immediately took action to isolate the source of the leak which was a pipe fitting (threaded coupling connector) situated between the containment tub of a 4000 gallon diesel fuel storage tank and a diesel fuelled generator housed in one of the three site buildings. The leak was isolated by the operator closing an adjacent valve which stopped the flow of diesel fuel to the leaking fitting. The leak had resulted due to frost having heaved the diesel fuel storage tank's supports which placed a strain on the rigid fuel line between the tank and the diesel fuelled generator. The strain on the rigid line resulted in a threaded coupling connector fitting on the line leaking. Although the capacity of the tank was 4,000 gallons, WEI estimated that a maximum of 3,000 gallons was in the tank at the time of the incident. WEI further estimated the volume of diesel oil to have been released at approximately 700 gallons. The spill was contained on site by the natural terrain and frozen soil. Contaminated snow was removed and treated off site. Diesel fuel was soaked up utilizing absorbent pads and socks. Residual fuel was burned off per an authorization from the B.C. Ministry of Environment. Bioremediation of the site has been enhanced with the application of high nitrogen fertilizer. The spill covered a frozen caly/fill area approximately 233 m2 (2500 ft2)."</p>
1998	INC1998-015	<p>"On 9 March 1998, a Contract welder was in the process of spooling in an NPS 30x30x12 tee for a new receiver assembly at Station 45, Falcon Lake, Ontario. The welder completed welding of the NPS 30 connections and was in the process of tying in the NPS 12 branch connection when migrating gas entered the weld area and was ignited by the welders arc. The resulting fire was contained within the piping. Personnel discharged a 20 lb fire extinguisher into the piping to ensure that fire was fully extinguished. The operating pressure on the air mover was subsequently increased and the NPS 12 branch connection was welded out. There were no injuries and no environmental concerns as a result of this incident. Because Line 100-1 between MLV 44 and MLV 45 was out of service to facilitate the installation of the new receiver assembly, there was no interruption or reduction of service as a result of the incident. The volume of the release is unknown."</p>
1998	INC1998-014	<p>"On 9 March 1998 an incident occurred at TCPL's compressor station No. 5 near Cabri, Saskatchewan. A contractor's employee (Steen Construction) sustained a fractured to the neck and of his right femur near his knee. He had climbed up on the rear deck of a one ton truck to get a plastic crate. He placed the crate down adjacent to the step on the driver's side of the truck's deck. He then stepped down onto the single rung located about 60 cm. below the deck and about 50 cm. above grade. His snow-covered rubber boot slipped through the rung and he fell backwards to the ground twisting his right knee. The field-fabricated rung is constructed of 1 inch smooth rod and is suspended from the underside of the truck's deck. The employee was taken to the Swift Current Hospital by Steen's ambulance and then transferred to the Plains Health Centre in Regina by provincial ambulance for required surgery. A contractor's employee sustained a fractured to the neck of his right femur near his knee."</p>

1998	INC1998-013	"On 4 March 1998, a sub-contractor released approximately 15,000 litres of hydrostatic test water onto the ground at TransCanada's Compressor Station No. 25 near Moosomin, Saskatchewan. The water was intentionally released onto the ground within the compressor station as part of dewatering procedures following the successful completion of a hydrostatic test of some station prefabricated piping. The water was released late at night following the test. The next morning it was noted that an oily sheen existed on some of the standing water that had been released. As well, a residue was seen to be on the station grass where some of the water had soaked into the ground. Testing confirmed the sheen and residue to be crude oil. Further investigation revealed that the truck used to bring the water to the test site had, just prior to hauling the water, been used to haul oil. The interior of the tank had not been steam cleaned prior to hauling the water. Thus, the hydrostatic test water was unknowingly contaminated with oil. 15,000 litre hydrostatic test water spill at compressor station 25, Moosomin. After a successful hydrostatic test, personnel commenced dewatering the assembly across the station yard. Because the dewatering took place at night, the contractor did not notice the water was contaminated. 15000 litres of oil contaminated water was released onto the soil. It was confirmed that the water was contaminated with crude oil and it did not contain any poly-chlorinated bicarbonates."
1998	INC1998-012	"At 6:30a.m. 4 March 1998, 2775 litres of glycol solution was spilled onto the ground within the Pine River Gas Plant. The total volume lost was 2775 litres in a mixture of 1665 litres of glycol and 1110 litres of water."
1998	INC1998-011	"On 27 February, 1998, TCPL's leak detection crew detected an underground natural gas leak during a leak detection survey. The origin of the leak was found to be a 3/4 inch long crack located in the centre of the pipe's longitudinal seam weld at the 1 o'clock position. On detection of the leak, the section of the pipeline between MLV 58 and MLV 59 was isolated and the pressure in the pipe was reduced from 6227 kPa to 3530 kPa (512 psi). The leak location was then daylighted to allow it to be examined more closely. Once the source of the leak was confirmed, the line pressure was further reduced to atmospheric pressure in preparation for repair. P3925 involving an underground leak at MLV 58-1+16.61 km, near Ignace. The entire joint of (standard wall thickness) pipe affected by the leak was replaced with heavy wall pipe. The decision to replace the pipe joint with heavy wall was based on the availability of the pipe. There were no injuries as a result of this incident. The environmental impact from the gas released was negligible. There was no interruption of or reduction of service from this incident as the pipeline section between MLV 58 and MLV 59 was already out of service, at the time the leak was detected, in preparation for the magnetic flux leakage internal inspection run. The section of pipe containing the weld defect was shipped to CANSPEC, Calgary, for metallurgical analysis. CANSPEC, however, was in the middle of a major facility move and the section of pipe was misplaced, so the cause(s) of the incident were not established. Unable to tell the exact amount of Natural Gas that was leaked. At the time the leak was detected, crew members described the leak as minor."
1998	INC1998-010	"On 28 February 1998, a pipeline contractor's employee, who was operating a back-hoe in the yard of Compressor Station No.41 at Ile des Chenes, Manitoba, struck a buried NPS 6 riser pipe ("stub") located on the 1:C-DC piping. The stub was dented but no gas escaped. The excavation work was taking place due to a change in the tie-in location for the inlet piping for the new "C" Plant aftercooler. In response to the incident, the line that the riser was installed on was immediately isolated and a leak test was performed that confirmed a leak did not exist. It was determined that the riser was not needed and therefore it was removed. C303 involving mechanical damage at compressor 41, Ile des Chenes."

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1998	INC1998-009	<p>"At 06:42 EST, the Thunder Bay Regional Operations Controller (ROC) received an indication (via computer printout) that Unit A5 had shut down on a ""programmable logic controller (PLC) communications failure,"" followed by a message that the A5 valves were ""in off-line position."" This meant that the valve signal was travelling. Since the unit was not required for immediate service the ROC did not initiate a call-out. At approximately 08:48 EST, the ROC received a phone call from [REDACTED] an attendant at Geraldton District Airport, who stated she could hear the venting of gas. The ROC immediately dispatched a TransCanada (""TCPL"") employee to investigate. After visiting the Geraldton Airport, the Geraldton Sales Meter Station, and then the Compressor Station, the employee discovered that the source of the noise was natural gas venting through the emergency vent of Unit A5. The vent valve is Failsafe to Open upon loss of power. Both the A5 unit valves, which were programmed to remain in their last position upon loss of power to the solenoid control valve, were found in the open position. The employee isolated the gas source by manually shutting the A5 unit suction and discharge valves. 2.114 e3m3 of natural gas was released into the atmosphere."</p>
1998	INC1998-008	<p>"Line 1 had been taken out of service to permit a post magnetic flux leakage pigging tool indication dig to be conducted. The pressure in the line was reduced to 1900 kPa (4480 kPa MOP) as required by TCPL's Code of Operating Practice (COOP) POP-05-03. Prior to excavation of the line, a leak survey was carried out to determine if it was leaking. The leak survey did not indicate the presence of a leak. The pressure in the line was lowered to approximately 50 kPa as a result of other maintenance activities on the line. The line was then excavated by a contractor hired by TCPL. While the contractor was sandblasting the line to examine it for corrosion, a leak developed at a corroded area of the pipe. As a result, there was an uncontrolled release of natural gas (unquantifiable minor volume) from the line at the leak location. Gas release due to a corrosion pit at MLV 209-1+1.803 KM. Uncontrolled leak with an unquantifiable minor volume."</p>
1998	INC1998-007	<p>"The incident occurred at Westcoast Energy Inc.'s McMahon Gas Plant facility in Taylor, B.C. The 62API Separator is part of the plants effluent treatment system which is located at the east end of the facility. A flash drum is used to separate gases from liquids before the 62API Separator separates liquid hydrocarbons from water. The feed stream into the flash drum is oily process water and natural gas. On 23 February 1998 the level indicator in the flash drum jammed in the high level position, causing the drain to the separator to stay open. Normally liquids accumulate in the flash drum allowing gases to be released from the top until the liquid reaches a certain level. With the level indicator stuck in the high position liquids were being released to the separator prior to gases flashing out of the liquid. Gases being flashed out inside of the separator instead of the flash drum then caused some bubbling and spraying of the liquids out onto the ground. Approximately 1000 litres of oily water then ran over the frozen ground and into the plants service water collection ditch. The Effluent Plant Operator noticed the spraying liquids and shut the flow to the flash drum which stopped the liquid release. Free liquids from the spray and hot water used to flush the ground and ditch were then vacuumed up and put into the 62API Separator. Approximately 1000 liters of oily water ran over the frozenground and into the plants service water collection ditch."</p>

1998	INC1998-006	"On 14 February 1998, end (night) caps were being welded in place on a proclaimed out of service section of pipe when a reduction in air flow from the air mover allowed natural gas leaking from the upstream valve (which was known to be leaking) to enter the area where the welding operations were being done. The welding ignited the gas. The resulting deflagration of the natural gas pushed the welder backwards approximately 2.9 metres into the ditch wall. There were no significant injuries and no environmental concerns as a result of this incident. Because the section of line was out of service at the time of the welding operations, there was no interruption or reduction of service as a result of the incident. A minimal volume of Natural Gas was emitted to the atmosphere as a result of the incident."
1998	INC1998-005	"On 11 Feb 1998, at pipeline K.P. 13.4 (bottom of the south approach slope to Donnie Creek) of WEI's 273.1 mm O.D. Tommy Lakes Pipeline, a surveyor for WEI Gas Services smelled a faint odour of natural gas and notified the WEI office. The Tommy Lakes Pipeline was shut in and remained off line until repairs could be made. A helicopter with WEI staff flew to the site immediately and verified that there was a faint odour of natural gas. A work crew and construction equipment were dispatched the following morning. Daylighting the pipe revealed that it had buckled at the toe of the south approach slope to Donnie Creek and that the sour gas had been released through a pin hole leak in a crack in the buckle. The buckle was caused by axial compression overload from the landslide that had occurred on the slope where the pipe was installed. The overload initiated a 45 mm long crack which developed a pin hole leak near, and perpendicular to, the ERW long-seam of the pipe. The line was repaired by cutting out the buckle and installing a replacement pipe segment. The pipeline was returned to service on 15 February 1998. Immediately following the pipeline being returned to service an internal deformation tool was run to determine if there were any other buckles in the pipeline. No buckles were found but two dents were identified, cut out and replaced. The dents resulted from the pipeline bearing on boulders since the original installation of the line. Gas loss was minimized as the axial compression effectively held the crack closed."
1998	INC1998-004	"On 12 February 1998 at approximately 05:00 MST, WEI personnel at Compressor Station No. 4 (Mile Post 132 on the Alaska Highway) noted a low level indication on Unit # 2. Upon investigation it was determined that the seal oil drainer had failed causing oil to be released out the vent stack Unit # 2 was immediately removed from service, and taken apart to determine the cause of the failure 410 litres of T32 compressor oil was spilled, the spill was contained and the site was restored. "
1998	INC1998-003	"On 2 February 1998, at approximately 8:00 CST, TCPL personnel arriving onsite discovered gas venting from a NPS ½ nipple, which was 127 mm in length at TCPL's Station 52 near Vermillion Bay, Ontario. The nipple was installed on the ""B"" Plant Compressor Unit discharge header, upstream of the Unit discharge valve, outside of the ""B"" plant Unit compressor building. The pressure in the line at the time the incident was discovered was 6700 kPa. It could not be determined how long the nipple had been venting gas as this station operates unattended and the last time personnel had visited the station was 21 hours prior to this incident being discovered. It was not noted to be venting at that time. Therefore, the maximum amount of time it could have been venting was 21 hours. TCPL staff initiated a ""B"" Plant shutdown and the ""B"" plant yard manifold was vented by 08:09 on the same day. The nipple was replaced and the ""B"" Plant Unit was restarted approximately one hour later at 09:02 hours. It could not be determined how long the nipple had been venting gas as this station operates unattended and the last time personnel had visited the station was 21 hours prior to this incident being discovered. It was not noted to be venting at that time. Therefore, the maximum amount of time it could have been venting was 21 hours."

1999	INC1999-008	"Between 22,000 to 36,000 litres of 17% amine solution were spilled after the McMahon Plant went through an emergency shutdown due to the fire at the nearby Solex Plant. Staff could not respond to the spill due to the evacuation order. Released onto frozen ground; collected and disposed. Release of 22,000 to 36,000 litres of 17% amine solution after emergency plant shutdown due to explosion at adjacent Solex plant. Monoethanolamine (MEA)"
1998	INC1998-002	"While performing a yard check at approximately 16:30 PST on 6 January 1998, an area operator observed a liquid product on the ground outside the C-Train Carbonate Still Overheads (see attached photo). The operator went inside the building and found an open ½" drain valve that allowed the carbonate solution to spill onto the ground. Following the discovery of the carbonate spill the drain valve was located and closed. A vacuum truck was used to collect surface liquids in the spilled area. The contaminated crushed rock was washed with hot water. The affected area was subsequently vacuumed again. The spilled carbonate solution, the contaminated snow, and the wash water were transferred to the pre-settling pond in the effluent treatment area for biological decomposition. There was a release of 4000 gallons of carbonate solution, of which most was collected."
1998	INC1998-001	"On 6 January 1998 at approximately 11:00 EST, TCPL crews checking an indication provided by an aerial leak detection trial, observed bubbles in standing water around the mainline drip at MLV 131 + 5.1 km. The leak site is approximately 60 meters west of Keele Street, north of Highway #7 in York County, Ontario. The crew confirmed the bubbles were caused by a natural gas leak. Personnel isolated Line 100-1 at TCPL's Station 130 which resulted in an immediate pressure reduction of 150 kPa from an initial operating pressure of 6300 kPa. The line pressure was then lowered to 3800 kPa using the Victoria Square Sales Meter Station. Once Line 100-1 was locked in between MLVs 131-1 and 132-2, the pressure was further reduced to 3220 kPa by feeding the Victoria Square and Richmond Sales Meter Stations off Line 100-1. The section was then blown down to 1165 kPa. On 7 January 1998 personnel excavated the site, however, the exact location of the leak could not be determined due to a frozen soil bulb surrounding the pipe. The frozen soil thawed overnight and on 8 January 1998, personnel determined that the leak was located on the NPS 2 siphon tube between the socket weld on the drip tank and the drip isolation valve. TCPL determined the drip assembly was no longer required, therefore, the assembly was removed and replaced with pre-tested heavy wall pipe. Line 100-1 between MLVs 131 and 132 was returned to normal gas service on 15 January 1998. TransCanada is unable to quantify the loss of natural gas as a result from the incident."
1997	INC1997-088	"On 27 December 1997, while conducting a preliminary leak survey prior to performing a pig indication dig, TransCanada Pipelines Ltd ("TCPL") personnel discovered a leak at MLV 2-3 + 6.607km at the mainline drip downstream of Station 2. Line 100-3 was out of service at the time the leak was discovered as a result of preparations being made for conducting pig indication excavations. The line was blowdown and the section of mainline with the leak was daylighted and cutout. A piece of replacement pipe was used to carry out the repair and the drip was not included in the replacement."

1997	INC1997-086	"On 26 December 1997 @ 06:36 MST, a Langbank Line 1 gas alarm was received at Interprovincial Pipeline's Edmonton Control Centre. Line 1 was shutdown from Mildred, Saskatchewan to Superior, Wisconsin and Langbank Station 1 was remotely isolated. IPL personnel were dispatched to site to investigate the gas alarm and the source of the leak was determined and isolated at 07:45 MST. Natural Gas Liquids ("NGL") were found to be leaking from a seal of the densitometer pump. The cause of the incident was a seal failure. The line 1 Segmental Wedge building was isolated from the mainline, and the line was returned to service on 26 December 1997 @ 08:04 MST. The pressure in the pipeline at the time of the incident was 214 psi. It is estimated that 0.15 m3 of fluid was lost. There was no interruption or reduction of service and no environmental impacts as a result of this incident. There were also no injuries or fatalities. This incident occurred in the morning of 26 December 1997, as a gas alarm for Line 1 went off the line was shut down. The densitometer pump will remain out of service until 31 December 1997. The Line 1 segmental wedge/densitometer will remain isolated until the new pump/motor is installed. NGL were found to be leaking from a seal of a densitometer pump. It is estimated that 0.15 m3 of fluid was lost without any interruption in service as well as no environmental impacts."
1997	INC1997-085	Express field operations personnel discovered a crude oil leak near a suction/discharge valve on the line. Upon investigation it was determined that a small relief valve on the suction/discharge valve body had failed resulting in a spill of approximately 3m3. The incident was caused by an inadequate pressure-rated relief valve being installed on the suction/discharge valve during routine maintenance procedures. Contaminated gravel removed and replaced.
1997	INC1997-087	"On 11 December 1997 @ 1:00 MST, a contract worker was installing a photocell for a lighting system located above a door, outside of the PLC1 Building at Interprovincial Pipeline's Edmonton Terminal. To reach the lighting system, the worker climbed an unopened fibreglass stepladder that was placed unopened against the building. The ladder shifted sideways and the worker fell from a height of approximately three feet and struck his back against the handrail of a foot scraper located at the entrance to the building. Following the fall, he felt pain in the lower right side of his back and experienced shortness of breath. In order to control possible swelling and bruising, he immediately received first aid treatment from his supervisor and was then transported to hospital when it became apparent that his shortness of breath was persisting. Upon arrival to the hospital, the worker was diagnosed with a collapsed lung. The only person injured in this case was [REDACTED] an electrician employed by Gold Star Electronic, who was hospitalized as a result of this incident. He was admitted to the Grey Nuns Hospital located at 3017 -66 Street in Edmonton, Alberta on Thursday, 11 December 1997. He suffered a collapsed lung as a result of his contact with the foot scraper handrail, after falling from a ladder, and was released on Saturday, December 13, 1997. [REDACTED] will remain off work until cleared to return by his physician."
1997	INC1997-084	"The construction of the new "C" Plant at TransCanada's Compressor Station 102, near Potter, Ontario was nearing completion with commissioning activities well underway. Prior to the incident, several newly installed valves at Station 102 had frozen, due to left over water in their cavities, following hydrostatic testing and dewatering. The contractor had installed plastic hoarding around the valves and portable heaters in anticipation of thawing the water. On 13 December 1997, at approximately 14:00 EST, personnel commenced the initial pressurization. At 15:10 EST, the pressure in the suction pressure had reached approximately 3000 kPa, when the flange gasket on the "C" Plant unit suction valve failed, releasing natural gas to the inside of the portable heater. The escaping gas ignited almost immediately upon contact with the portable heater. Secondary fires occurred on the purge and isolation valves. Station personnel immediately initiated a manual emergency shutdown and the fire self-extinguished after approximately 30 minutes. The fire damaged the unit suction valve operator, recycle piping and compressor building cladding. The fire also destroyed a NPS 3 purge valve and a NPS 2 fuel isolation valve."

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1997	INC1997-083	"On 2 December 1997, at approximately 07:42 hours C.S.T, a pipeline rupture occurred on TCPL's 914 millimetre (36 inch) outside diameter Line 100-3 at Main Line Valve 5-3 + 15.049 kilometres. The rupture site was located approximately 3 km southwest of Cabri, Saskatchewan. The rupture released an estimated $3\ 252 \times 10^3$ m ³ of natural gas to atmosphere. The gas ignited immediately resulting in damage to the surrounding soil and vegetation. The main fire extinguished itself within 20 minutes of the line break. Line break at MLV -5 +15.063 km. Onsite NEB investigation conducted by staff. No NEB field investigative report was prepared. Thus, neither NEB filed or final report investigative reports were produced. Final report is presently being prepared by NEB staff. Incident Close-out Memo is yet to be completed. TSB conducted a field investigation of this incident but has not yet issued its report to be numbered P97H0063. Damage in the area included approximately 13.5 hectares (33.36 acres) of burned pasture and stubble lands. Some fence poles, electrical power poles and TCPL's cathodic protection rectifier were destroyed by the fire. Also, within the burned area, rock and debris were ejected from the crater and covered an area of 8.9 hectares (22.2 acres). The rupture released an estimated $3\ 252 \times 10^3$ m ³ of natural gas to atmosphere. The gas ignited immediately resulting in damage to the surrounding soil and vegetation. The main fire extinguished itself within 20 minutes of the line break."
1997	INC1997-082	Approximately 50 gallons of oil spilled as WEI was conducting a test run of a gas turbine that had not been run for about 1 year. Oil came out of the oil tank vent to the ground. The spill was contained within the station grounds. The operator had left the station at 17:00 MST because the turbine was running fine and received a low-level alarm at about 21:00 MST on the evening of 17 November 1997.
1997	INC1997-080	"WEI personnel noticed approximately 25 gallons of sulphenol on that had spilled onto the ground. The spill was a result of a drain valve for the sulphenol coolers being in the open position. The caller is investigating this incident and will include further information in a Preliminary Incident Report. The site was assessed for hazards and clean-up consisted of the employment of absorbent pads. The affected area was approximately 26 feet wide, tapering to 4 feet, by 14 feet in length. A composite soil sample was collected and analysed for hydrocarbon concentration and compared to applicable environmental standards. No adverse effects to the environment are anticipated. Clean-up materials were disposed of in an appropriate manner. 25 gallons spilled. Solfinol"
1997	INC1997-078	"On 14 November 1997, TransCanada Pipelines Limited ("TCPL") station personnel were in the process of purging and pressurizing a 46 metre section of the NPS 42 Line 100-4 piping which had been pre-built to the new loop downstream of MLV 84-4. While pressurizing the pipe, personnel detected an underground natural gas leak. Upon daylighting the pipe, it was confirmed that the leak was originating from the flanged end of the 3:4 upstream tie-over valve. The pressure in the pipeline at the time of the incident was 6300 kPa. Personnel isolated the section of mainline by closing the 3:4 upstream tie-over valve and MLV 84-4. The pressure in the isolated section was allowed to vent to atmosphere. There was a negligible release of natural gas to the atmosphere as a result of the incident."

1997	INC1997-079	<p>"On 14 November 1997, TransCanada PipeLines Limited's ("TCPL") MLV 30-1 had been free flowing past Compressor Station 30, near Rapid City, Manitoba, when at approximately 03:00 CDT, the Regional Operations Controller at the Regina Regional Control Centre signalled the valve to close. The valve successfully travelled to its fully closed position, however, the gas hydraulic operator tank continued to vent Univis J13 hydraulic oil and natural gas through the trigger valve's quarter inch blow-down port. By design, a gas hydraulic operator will vent a minor volume of oil in the form of a mist when the valve reaches its end of stroke. It is estimated that the oil continued to vent for approximately one hour followed by a further three hours release of natural gas to the atmosphere. The incident was discovered when station personnel arrived on site in the morning to conduct an aero assembly change-out in the 'A' Plant. Upon verifying the source of the gas, they immediately isolated the power gas supply to MLV 30-1. Personnel excavated an unknown amount of the contaminated dirt, rock, and sand, then deposited the material into four drums for later disposal at an approved landfill site. The excavation was filled with clean soils. TCPL is of the opinion that the incident will have no lasting effects on the surrounding environment. It is estimated that approximately 40 litres of Univis J13 hydraulic oil was released onto the ground, composed of dirt, rock and sand, in approximately one hour."</p>
1997	INC1997-076	<p>"On 13 November 1997, at approximately 16:26 hours Central Standard Time ("CST"), a TCPL employee at Compressor Station No. 55 in Dryden, Ontario heard a hissing sound in the vicinity of the "A" Plant suction blowoff valve. Upon investigation it was verified that natural gas was leaking through a crack in the NPS 1/2 inch threaded end of a weld by thread NPS 2 X 1/2 inch pipe swedge nipple on the upstream side of the NPS 1/2 inch isolation valve to the Line 100-1 suction blowoff sensing line. This incident occurred at the same fitting and location as Incident No. 68-97 that occurred on 21 September 1997. There was a small leak from which a minimal amount of natural gas was released."</p>
1997	INC1997-075	<p>"On 12 November 1997 @ 05:30 CST, the Regional Operations Controller ("ROC") received a low oil level alarm from TransCanada PipeLine Limited's ("TCPL") Compressor Station 45 near Falcon Lake, Manitoba. The ROC immediately dispatched someone to the site to investigate. Upon arrival at the site a TCPL employee found oil discharging from the seal air vent, located adjacent to the North side of the 'A' Plant Compressor Building, and immediately notified the ROC. The ROC dispatched a second employee to assist. Personnel used the spill kit booms to contain the oil and placed a pail below the vent to catch any further discharge. The oil spread over an area of approximately 76 m2 within the station yard. A hose was connected between the vent and the sump in order to allow the oil to circulate to the bearings during the cool down sequence. Cleanup and site restoration was completed as described in sections below. Personnel cleared the intermediate bearing drain vent and poured approximately three drums of Fyrquel GT into the sump. At the first available down time window, the unit's 16,000 hour inspection was conducted at 16,500 hours. An unknown quantity of soil was contaminated by the oil spill. TCPL contracted services of CEDA-REACTOR to hand excavate the contaminated soil and store its drums for disposal at Mid Canada Soils. The excavation was filled with clean soil and gravel overlay. an employee found oil discharging from the seal air vent, located adjacent to the North side of the 'A' Plant Compressor Building. It was estimated that approximately 1000 litres of Fyrquel GT was released onto the ground. After containing the oil with the spill kit booms, personnel commenced vacuuming the surface oil into drums. Approximately 40% of the oil could be collected using a hydrovac system."</p>

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<p>1997</p>	<p>INC1997-074</p>	<p>"On 6 November 1997 a TCPL employee was injured at TCPL's compressor station No. 2 near Burstall, Saskatchewan while he opened a half inch Worchester Power Gas Valve following station personnel having completed servicing the station's Line 100-3 suction side valve. A half inch diameter pipe nipple immediately below the valve broke, resulting in the release of high pressure natural gas to atmosphere. When the valve broke free, it flew upwards striking the employee on the right wrist and knocked off his hard hat and ear muffs used for hearing protection. The escaping natural gas blew directly into his face. He sustained a fractured right wrist, abrasions to his right arm, forehead and left hand as a result of his being struck by the valve and other small metal fragments associated with the component. The injured employee was taken to a hospital for treatment and was released. He was instructed by his doctor to remain off work for a week. Personnel had responded to the incident by isolating the source of the gas, bleeding down the power gas supply line, removing the remaining portion of the failed nipple and replacing the assembly with a shorter, heavier schedule nipple and a new power gas isolation valve. The affected section of power gas piping was then purged, pressurized and returned to normal gas service. One employee sustained a fractured right wrist, abrasions to his right arm, forehead, and left hand. The sudden release of natural gas into his face had imbedded a number of small metal fragments into his forehead and left hand. ██████████ returned to work on December 2, 1997. Approximately 1.3 x 10³ m³ of natural gas was released to the atmosphere as a result of the incident."</p>
<p>1997</p>	<p>INC1997-077</p>	<p>"On the 25th of October 1997 at 10:30 eastern standard time a TCPL pipeline contractor's employee, an employee of Bluebird Construction Inc., sustained a broken left arm between his elbow and his shoulder. The worker was the operator of a boom truck who needed to discard a wooden pallet that had been, unknowingly to him, damaged in the delivery of goods to the construction site at TCPL's Compressor Station No. 102 near Tunis, Ontario. The goods on the pallet had been unloaded and the empty pallet was still on the bed of his boom truck. Unknown to the worker, the pallet had been damaged (damage was not evident). Upon his bending over in the process of picking up the pallet, it came apart. As the pallet began to come apart, the weight of it shifted causing him to overbalance at the edge of the truck's deck. He fell off the truck deck onto the ground landing on his left arm and sustained a fracture to it. The worker was taken to Anson General Hospital in Timmins, Ontario where he was treated and released. He returned to the compressor station construction site later the same day and returned to modified work on the 26th of October 1997. ██████████ was unloading an empty, damaged pallet from his boom truck. He was unaware that the pallet was damaged and it came apart when he picked it up. This caused him to fall off the end of his truck deck onto the ground landing on his left arm, and he sustained a fracture to his arm between his elbow and shoulder. He was taken to hospital, treated, and released. He returned to the compressor station construction site later the same day and returned to modified work the next day."</p>
<p>1997</p>	<p>INC1997-072</p>	<p>"On 4 November 1997, TransCanada PipeLines Limited ("TCPL") station personnel arrived at Compressor Station 102 near Potter, Ontario and noticed a high lube oil consumption rate on the 'A' Plant. After assuming a dry gas seal on the Cooper Bessemer RF2B-24 gas compressor had failed, they manually shutdown the unit. It was estimated that 500 litres of Fyrquel lube oil was released through a secondary leakage vent and spread over an area of approximately 900 m² within the station yard. The 'A' Plant was shut down so repairs could be made and clean-up utilized absorbent for free phase control and an unknown amount of contaminated soil was excavated for disposal. The contaminated material was disposed of in an approved manner. The spill was contained on station property and contamination was minimal. It was estimated that 500 litres of Fyrquel lube oil was released through a secondary leakage vent and spread over an area of approximately 900 m² within the station yard."</p>

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1997	INC1997-071	"Unit 14, lost power turbine resulting in a fire which was contained on the unit skid. Only the compressor unit was affected, there was no fire damage to the second compressor unit and the building. Compressor oil was release and confined to the compressor building waste oil sump."
1997	INC1997-069	"On 22 October 1997, at 11:30 hours Eastern Standard Time ("E.S.T"), a pipeline contractor's crane operator and crane arrived at compressor station No. 119, Sundridge, Ontario to continue decommissioning the "A" Plant. As a result of the crane's cold start, its main hydraulic oil supply line broke, releasing approximately 568 litres of hydraulic oil onto the ground. A soil berm was constructed around the perimeter of the crane to contain the spill. The ground surface was frozen at the time of the spill, thus preventing the oil from being absorbed into the ground. CHV Hydraulics were commissioned to repair the broken hydraulic line. Once repaired, the reservoir tank was filled to 1/2 capacity. Approximately 30 m3 of contaminated soil were removed. Absorbent material and sand were used to absorb the hydraulic oil in the bermed area and it was covered with a tarp for the evening. Arrangements were made with George W. Dingham Trucking Inc. to transport the contaminated spill material to the Sundridge Landfill for disposal. A total of approximately 680 litres of hydraulic oil were estimated to have bgeen released on top of the ground as a result of the incident. Absorbent material and sand were used to absorb the hydraulic oil in the bermed area and it was covered with a tarp for the evening. Arrangements were made with George W. Dingham Trucking Inc. to transport the contaminated spill material to the Sundridge Landfill for disposal."
1997	INC1997-070	"On 20 October 1997 two sub-contractor employees (a testing supervisor and a labourer) were in an excavation disconnecting crossover piping from test heads at a test point location at pipeline kilometre post 105 of IPL's pipeline right-of-way. The pipe had been used to transfer water from the tested section of mainline pipe to the next section to be tested. Approximately 4.58 m (15 ft.) of the 6.70 m (22 ft.) length of piping was in contact with the ground next to the excavation, while approximately 2.13 m (7 ft.) of the pipe extended out and over the open excavation and was clamped to a valve on the test head. The supervisor instructed the helper to hold the pipe while he removed the clamp and seal. The supervisor was standing on one side of the valve assembly as he was unbolting the clamp. The labourer stood on the other side holding the pipe. When the supervisor removed the clamp the labour attempted to push the pipe back into the bank. The far end of the pipe slipped toward the ditch bottom it bounced and the end help by the labour pinched his arm between the pipe and the ditch and broke his arm. The supervisor instructed the helper to hold the pipe while he removed the clamp and seal. The supervisor was standing on one side of the valve assembly as he was unbolting the clamp. The labourer stood on the other side holding the pipe. When the supervisor removed the clamp the labourer took it upon himself to attempt to push the pipe back onto the excavation's bank without assistance from his supervisor. The end of the pipe farthest from the worker slipped towards the excavation and fell in along side the test section. When the far end of the joint hit the excavation's bottom it bounced and the end, which was still being held onto by the labourer, pinched his arm against the wall of the excavation causing his arm to break. The injured employee was taken to the Camrose, Alberta Hospital where he was treated for his injuries and then released."

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1997	INC1997-066	<p>"On 8 October 1997 a TCPL employee employed as a mechanical technician with 10 to 15 years experience with TCPL) was admitted to hospital for x-rays and observation following his having fallen off a ladder and broken some ribs. Initially, doctors thought he had sustained internal injuries, thus, their reasoning for admitting him for observation. The incident occurred at Compressor Station No. 5 Cabri, Saskatchewan. The power gas system for the station had been depressurized and evacuated in order to tie-in new power gas lines for the ""E"" Plant installation. A pre-job meeting was held by the station operating staff prior to the tie-in. The employee and another TCPL employee were to undertake purging and loading of new power gas lines as part of commissioning them. On 8 October 1997 a TCPL employee (employed as a mechanical technician with 10 to 15 years experience with TCPL) was admitted to hospital for x-rays and observation following his having fallen off a ladder and broken some ribs. Initially, doctors thought he had sustained internal injuries, thus, their reasoning for admitting him for observation. When opening the valve the last time the flow was limited but, the debris suddenly passed through the valve. With high pressure now escaping from the open valve on the unsupported line, the force of the escaping gas and the reaction of the pipe, which whipped towards him due to its venting at a right angle, knocked off the ladder and he fell striking a partially erected scaffold before landing on the ground 14 feet below."</p>
1997	INC1997-067	<p>"On 11 October 1997 a pipeline sub-contractor's employee was injured while working for Interprovincial Pipe Line Inc. ("IPL") on IPL's right-of-way west of Hardisty, Alberta. The precise location of the incident was on a north/south road designated as Rd. # 63E which is located along east boundary of NE-14-43-11-W4. The injured employee worked as a truck driver for Rebel Transport which had been contracted by Canadian Horizontal Drilling (sub-contractor to Ledcor Industries) to remove and haul their directional drilling equipment to another project, as they had completed their work for Ledcor. The employee had arrived onsite with a Highboy (a type of flat bed truck). He backed his truck up to a skid mounted pump unit for the directional drill in preparation to load it onto his truck. His truck was equipped with a power operated winch for lifting such heavy loads. He stepped up onto the bumper of his truck and began pulling on the winch cable line which had some slack in it. As he was pulling it, his feet slipped from the bumper of this truck and he fell continuing to hold onto the winch line. His hand slid down the line and his right index finger got wedged between the winch line and a live roller on the highboy trailer. He fell with his full weight on his index finger, which remained wedged, seriously injuring it. The employee stepped up onto the bumper of his truck and began pulling on the winch cable line which had some slack in it. As he was pulling it, his feet slipped from the bumper of this truck and he fell continuing to hold onto the winch line. His hand slid down the line and his right index finger got wedged between the winch line and a live roller on the highboy trailer. He fell with his full weight on his index finger, which remained wedged, seriously injuring it. A specialist at the Camrose Hospital treated his injury and released him from the hospital allowing him to go home. The doctor instructed him to return at a later date for further assessment to determine if the circulation in his finger was adequate to prevent loss of the finger. Upon completion of that assessment it was determined that the feeling, circulation and movement in the finger appeared to be good enough that loss of the finger was not a concern. He continued to be treated as an out patient and was expected to convalesce at home for approximately two weeks before his returning to work."</p>

1997	INC1997-065	"On 03 October 1997 a TCPL inspector was monitoring cleanup effort following the construction of a new NPS 42 loop between MLV 1218-2 and MLV 1218-2 + 16.99 km. This new loop had been placed into service on 22 September 1997. At approximately 15:39 hours E.S.T. on this date the inspector noticed bubbling in ground water that had ponded over the NPS 42 stub end of the new loop at MLV 1218-2 + 0.89 km which is located on the east side of the Rideau River, north of Kemptville, Ontario. An underground leak was discovered on Line1200. TCPL estimates that a nominal volume of natural gas had leaked to the atmosphere as a result of this incident."
1997	INC1997-063	"A contractor was driving a front end loader which left the road and went over an embankment and came to rest on its side. The loader took out one section of chain link fence. An approximately 10 gallon diesel fuel leak and an approximately 5 gallon hydraulic system leak resulted from the loader upset. There was some movement of the fluids down slope. Also, fluids were observed in standing water which had collected in wheel ruts."
1997	INC1997-064	"On the 17th of September 1997 at 11:10 M.D.T. an incident occurred on the Husky Border Pipelines Ltd. 10 inch synthetic blend line located in the province of Saskatchewan at the following coordinates; Northeast quarter of 1 of 50 - 28 - west of the 3rd meridian. A pipeline contractor was in the process of constructing a new 16 inch diameter provincially regulated line for Husky Oil parallel to four of its existing federally regulated lines. At a point where the new line being installed was to cross over the existing four lines via an above ground crossing, a contractor's back-hoe, which was excavating, struck one of the four existing lines. The line struck was a 10 inch synthetic blend line. As a result of the back-hoe striking the line, the line was gouged and dented. However, the line did not rupture or leak. The other 3 existing federally regulated lines (a 12 inch blended crude line, a 6 inch tops line or refinery by-products line and a 6 inch condensate line) were not damaged. Husky Oil personnel immediately conducted an assessment of the damage sustained to the line and determined that the damage was not severe enough to warrant an immediate shut down of it. The line was allowed to continue to operate until a window of opportunity arose which would allow personnel to cut out the damaged section."
1997	INC1997-062	"On October 1, 1997, at approximately 14:45 hours Central Standard Time (CST), patrol pilot detected the presence of bubbles and a minor geyser in a wet area, located approximately 1.64 kilometers downstream of TCPL Compressor Station 92. The leak site is located in a remote area of Northern Ontario, approximately 400 metres south of highway 11 and 7.7 kilometres east of Mattice, Ontario. The pilot radioed Station 92 to appraise them of the situation and arranged for personnel to be at the site. This incident resulted in the emission of 0.917 kt of methane which corresponds to 19.3 kt of CO2 equivalents. TCPL estimates that from the time the leak was first detected to the time the mainline was blown down, approximately 1291.2 e3 m3 was released to the atmosphere."
1997	INC1997-068	This incident involved a component failure (a NPS 2 X 1/2 inch pipe swedge nipple) which resulted in a release of natural gas to atmosphere. The component failed twice while in service. It first failed on 21 September 1997 (NEB Incident No. 68-97). It was repaired and it later failed again on 13 November 1997 (NEB Incident No. 76-97). TCPL estimates that a nominal volume of natural gas had leaked to atmosphere as a result of the incident.

1997	INC1997-073	<p>"On the 15th or 19th of September 1997 a TCPL pipeline contractor (Marine Pipeline) had daylighted a portion of the line to examine it for suspected corrosion. The corrosion was suspected as a result of data produced and analyzed from an internal inspection tool that had been run through the line. TCPL was aware, from the data obtained from the inspection tool, that the depth of corrosion appeared to be extensive. Thus, as a precautionary measure in daylighting the line to examine it, the line was shut down and sectionalized by closing the immediate upstream and downstream valves from the pipe location being daylighted. In addition TCPL reduced the pressure in this section of the line to 250 psi as a precautionary measure. It was felt that at this low of a reduced pressure a rupture would not occur during examination of the pipe or while working on it. Once the line was daylighted personnel sniffed the area around the pipe for gas using a gas detector. No sign of leaking gas was detected. Examination of the pipe continued and involved abrasively blasting it with crushed wall nut shells. Part of the reason for using wall nut shells as an abrasive substance is that they are non-sparking and will not provide a source of ignition in the event of a leak during the abrasive blasting operations. During this procedure or operation the pipe suddenly began to ooze gas through pin hole corrosion pit in the corroded area of the pipe. Personnel immediately ceased operations and evacuated the ditch via the ramps or steps placed at either end or side of it as they had been instructed to do in the event of such a situation. The remaining gas pressure in the line was reduced to zero and repairs commenced. During the daylighting of the pipe, oil was noted to be in the soil around the pipe in the area of excavation. It was later determined that the oil was lube oil from up stream compressor units which had entered into the line and leaked out of it at the corroded area. It is suspected that the corroded area of pipe was leaking during the lines higher operating pressure but not at the reduced pressure which it was lowered to for examination. It is not known how the oil got down the pipeline to this location as a mainline drip is installed between the location of the leak and the upstream compressor station. The intent of the mainline drip is to collect such oil. Approximately 7 tonnes of soil contaminated with oil was removed from the site and taken to Mid Canada Soil for approved disposal. During the operation, the pipe suddenly began to ooze an unknown amount of gas through a pin hole corrosion pit in the corroded area of the pipe."</p>
1997	INC1997-060	<p>A hunter observed gas bubbling up through the ground and reported the location to WEI personnel. WEI personnel arrived on the scene at 08:30 and tried reducing the pressure and then excavated the pipeline. A pinhole leak on a girth weld was detected by WEI personnel. Negligible amount of gas released.</p>
1997	INC1997-059	<p>"On 13 September 1997, another failure occurred involving the replacement valve for the previously failed Line 3 Station discharge check valve at Strome Station. A crude oil odour report was received by the Edmonton Control Centre at approximately 01:29 MST from a resident in close proximity to Strome Station. Lines 1, 2 and 3 were immediately shutdown and sectionalized and company personnel were notified. Company personnel arrived at Strome Station at approximately 02:30 MST and confirmed a release of crude from the Line 3 Station discharge check valve. The estimated spilled volume was 370 m3. The cause of the incident was hydrogen embrittlement of the stud bolts which held the valve body together. Onsite NEB investigation conducted by NEB staff. Final NEB investigative report completed November 1997 via Incident Close-out memo. No other significant report was produced for this incident. NEB staff advisory SA 97-1 issued 12 February 1998. Incident Close-out Memo dated 20 May 1997. TSB did not conduct and investigation into this incident. Thus, it did not issue and investigative report. An unknown amount of contaminated soil was placed in lined bermed areas on the Station property. During clean-up procedures, four waterfowl were discovered dead and two others were affected as a result of exposure to crude oil. The estimated spill volume was 370 m3, with 350 m3 recovered. The spilled oil was contained on Station property with the exception of an oil spray onto an adjacent property to the east of the Station. All free-standing oil on the site was collected and transported to tankage at Hardisty Terminal."</p>

1997	INC1997-058	"At approximately 14:30 MST on 10 September 1997, at Km 72 near Trans Mountain Pipe Line Company Ltd.'s (TMPL) Gainford Station, a Pipe Line Maintenance Supervisor from the Edmonton Terminal observed a trackhoe tipped over a ditch in the direct vicinity of the pipeline. The trackhoe had slipped off the swamp mats due to unstable ground conditions and appeared to be straddling the pipeline. As a precautionary measure, the Vancouver control center was notified at 16:00 and immediately initiated a shutdown of the pipeline. Once the line was shut down and the equipment required to remove the trackhoe was on site, the trackhoe was removed. The area was then excavated and the pipeline was inspected for damage. A 2 meter epoxy filled sleeve was installed as a temporary measure. After a determination that it was safe to do so, the mainline was restarted at 06:15 MST on 11 September 1997. This incident resulted in intermittent scoring along approximately a 2 meter length of the pipe and a dent (30.0 cm long x 19.0 cm wide x 1.0 cm deep). A 2 meter epoxy filled sleeve was installed as a temporary measure. The damaged area of the pipe was already scheduled for cutout and replacement and this work proceeded as scheduled on 25 September 1997."
1997	INC1997-057	"On 8 September 1997, at approximately 17:30 MST, a minor propane fire occurred in a thermo-electric generator ("TEG") building at a remote valve site located at KP 305 on Interprovincial Pipe Line (NW) Inc.'s ("IPL") Line 21. Two IPL (NW) employees were performing maintenance on one operational and one back-up TEG unit situated adjacent to one another within the TEG building. When turning on the propane fuel gas to the back-up TEG, in preparation to light it, propane leaked from a fitting connected to the main valve on the manifold of the back-up TEG. The escaping gas migrated into the operating TEG and ignited as a result of the heat produced by or flames contained within the unit. There was a small amount of smoke damage to the building. Currently, the backup generator is isolated and out of service while the main generator is in service. A trace of propane gas was released in this incident."
1997	INC1997-055	Engineers on-site noticed oil seeping out from under a door of a mainline pump building on the station property. Upon opening the door they could see oil pumping out at high pressure from a point near the mainline pump unit. They immediately opened the building doors to ventilate it and called the Pipeline Control Centre to speak to the Control Centre Operator who shut down and isolated the pump station. Upon further investigation it was confirmed that the leak resulted due to a 3/4 inch fitting at the mainline pump unit's bearing housing having failed. The fitting is on the pump unit's bearing cooling line. The incident resulted in a release of 6 m3 of crude oil within the pump unit building where 5.5 m3 was contained in the building and the remaining .5 m3 escaped from the building onto the ground by flowing out from under the pump building's door. All released oil was recovered by company personnel.
1997	INC1997-056	WEI personnel discovered the sulphur storage tanks overflowing. The overflow was a result of faulty level indicators showing 25% less volume in the tank than actual. 400 kg of sulphur escaped from the bermed area through a culvert. Exact volume of sulphur spilled was not reported.
1997	INC1997-053	"A summer student employee broke her knee when she lost her balance and fell while climbing over a farmer's fence on TQM's right-of-way. Her foot had become entangled in the fence when she fell, which led to the knee being twisted and thus breaking. The employee was part of a crew conducting a pipeline leak survey at the time of the incident. Worker conducted modified duties as a result of the broken knee."

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1996	INC1996-044	<p>On 21 August 1996 a pipeline contractor's employee had his thumb crushed when it was struck by a sledge hammer. The employee was assisting another employee in tightening the nuts on a 42 inch diameter blind flange at Compressor Station No. 60 of TransCanada PipeLines Limited. He was holding a hammer wrench (a wrench which is designed to be struck with a hammer) with his hands to support in on the nut of the blind flange while the other employee was to strike the wrench with the sledge hammer to tighten the nut. On one blow the sledge hammer glanced off the wrench and the hammer struck the employee's right thumb crushing it. The employee was initially taken to the Dryden Ontario Hospital and was later transferred to a hospital in Winnipeg where doctors performed reconstructive surgery on it to repair it. The employee's thumb did not have to be amputated. [REDACTED] was holding a hammer wrench with his hands while the other employee would strike the wrench to tighten the nuts. On one blow the sledge hammer glanced off the wrench and sledge struck [REDACTED] on the right thumb. [REDACTED] underwent reconstructive surgery on this thumb and is recovering at his residence.</p>
1997	INC1997-054	<p>"Blowdown operations caused accelerated dumping of a water and hydrocarbon (5%) mixture to the 62 API separator sump, where it ""bubbled-out"" of the unit and into a ditch. The 62 API site is not bermed, but is connected by a 20' ditch to main drainage ditch where liquids are directed towards the surface water catch basin (equipped with skimmer) and then to storm water pond. Action Taken: Personnel closed in the blowdown operation until system depressurized and stabilized. The ditch will be flushed with hot water to the catch basin and hydrocarbons will be skimmed and directed towards the effluent system. Oily process water."</p>
1997	INC1997-051	<p>"On 8 August 1997, a Marine Pipeline Contractor employee had been operating a backhoe when he struck a plico plug in the area of a previously installed NPS 12 kicker line in the yard at TransCanada PipeLine (TCPL) Station 41, Ile des Chenes, Manitoba. The TCPL Inspector had left instructions with the backhoe operator, his oiler, and two other TCPL Inspectors that there was to be no further excavation over this site, that he was not to dig any deeper, but that trench sloping was to continue. The location of the line had been previously probed to confirm its location and depth cover. The line was marked per TCPL standard with a 6x3 wooden skid buried approximately 1 metre above the plico valve. At approximately 11:20 EST, the operator inadvertently took a deep cut immediately over the kicker line and broke off the plico valve, releasing natural gas to the atmosphere at full pressure (6895 kPa). All operations were immediately stopped and personnel evacuated the area. Station personnel closed the upstream supply valve to the kicker line, allowing the line to depressurize. A backhoe operator struck a buried plico valve on the end of the NPS 12 pig launcher equalization line at TCPL Compressor Station 41. The valve broke off and natural gas was released to the atmosphere at full line pressure."</p>
1997	INC1997-061	<p>On 16 July 1997 a TCPL contractor's employee fractured a vertebrae in his spine when he slipped and fell while dismounting the dozer he was operating. He was taken to hospital where he was treated and released and told by his doctor to rest for eight weeks. He was not admitted to hospital. On 16 July 1997 a TCPL contractor's employee fractured a vertebrae in his spine when he slipped and fell while dismounting the dozer he was operating. He was taken to hospital where he was treated and released and told by his doctor to rest for eight weeks. He was not admitted to hospital.</p>

1997	INC1997-049	"On 30 July 1997, IPL Operations personnel received a telephone call from a landowner stating that they could smell crude oil in the area. In response to the call, IPL staff went to the Glenboro Pump Station and discovered 2.5m3 of crude oil had leaked from the Line 2 discharge pressure instrumentation line installed in a vertical culvert on pump station property. Upon discovery of the leak IPL personnel called IPL's Edmonton Control Centre and Line 2 was shut down from Cromer, Manitoba to Superior in the United States. The free oil was picked up with a vacuum truck and the contaminated soil was disposed of in accordance with IPL environmental procedures. Personnel tightened the loose union coupling fitting and Line 2 was returned to service. It was discovered that 2.5 m3 of crude oil had leaked from the Line 2 discharge pressure instrumentation line installed in a vertical culvert on pump station property. "
1997	INC1997-050	"A leak occurred in the Ft. Nelson Gas Plant waste water line from the treater to the pond at approximately 9:30 MDT, 18 July 1997. An approximately 6 m2 area around leak surface was exposed to spent lime waste water (ph 10.5). Some water was released into the local creek through the ditch. The blowdown of the water treater was immediately stopped and the line was examined for repair methodology. WEI is in the process of replacing the entire waste water line. Unknown quantity of lime-waste water. Spent line waste water (PH 10.5) of an unknown amount was released into a local creek."
1997	INC1997-046	"Incident no.46-97: On July 16 1997, while conducting their annual line leak detection survey at MLV 11, North-East of Chaplin, Saskatchewan, TransCanada Pipeline Limited("TCPL") personnel detected the presence of natural gas seeping through the ground. Personnel initially suspected the leak was coming from the MLV 11 2 :3 downstream tie-over. Upon day lighting the pipe, personnel discovered that two pipes plugs on the nearby lock-o-ring flange were leaking natural gas to the atmosphere, The plugs were replaced and back welded. TCPL estimated that a negligible volume of natural gas was released to the atmosphere."
1997	INC1997-047	"On 17 July 1997, IPL personnel discovered bubbles coming to the water surface within a valve culvert at Milden Take-off. The water was pumped out and it was determined that NGL was leaking from a NPS 2 valve. An IPL employee tightened the bolts on the packing gland and valve bonnet. The valve was monitored on a routine basis until the NGL had passed and the permanent repair could be completed. The valve stem packing and bonnet gasket were replaced on 21 July 1997. It was estimated that 0.0005 m3 of NGL was released in this incident."
1997	INC1997-045	"WEI personnel had completed a blow down of the station's scrubber and noted a wet area of ground along the buried 2 inch diameter scrubber blowdown line between the scrubber and its blow down holding tank. Upon excavation of the line it was discovered that approximately 5 gallons of unit oil had leaked from it due to its having cracked. An unknown quantity of contaminated soil was placed into Hazco soil bags for approved disposal. Upon excavation of the line, it was discovered that approximately 0.025 m3 of unit oil had leaked through a crack in the line."
1997	INC1997-044	"On the afternoon of 3 July 1997, during the excavation of a 76 mm glycol supply line to the fuel gas building (Compressor Station 2B, Azouetta, Pine Pass, B.C.), WEI personnel located a glycol leak from a corroded section of the line. Four or five days prior to the excavation it was noted that the glycol system was losing fluids. Approximately 400 litres of glycol spilled in an area of 37 square metres. A second incident was reported at 21:00 PDT on 6 July 1997. Upon pressurization of the station's glycol system a burst plate ruptured (at 270 Kpa) on the glycol side of the fuel gas heater releasing 80 litres of glycol in an area of 93 square metres. An unknown amount of contaminated soil was dug up and collected in Wasteco bags for disposal. The spill affected a 10 ft square area and the uncollected glycol will dilute with ground water. The release of 0.08 m3 of glycol covered an area of 93 m2."

1997	INC1997-042	<p>"On the morning of 03 July 1997, a TransCanada Pipelines Ltd. ("TransCanada") rock drill contractor was assigned the task of drilling a series of holes in a rock feature that would be blasted to facilitate removal. The rock feature was located in the station yard at the south end of Compressor Station 112. The rock to be removed was adjacent to an open excavation. A backhoe was situated with the bucket placed firmly on the ground to act as a barricade to prevent the drill operator from slipping into the excavation. The drill operator was finishing the final hole required to complete the work. He removed the drill from the hole using the controls located on the rock drill mast. When the drill bit was removed, loose fragments of rock and sand began to slide into the bore hole. In an effort to stop the debris from filling the hole, the operator used his hands and a shovel to clear the area. While performing this task, the operator was instructed along with all other workers to leave the site as a blast was scheduled to occur soon. He abandoned his effort to clear the hole at approximately 09:45. In order to secure the drill for the upcoming blast, he reached for the controls on the drill mast in order to move the drill. The controls were just out of his reach. The hoe operator reported that the drill operator stood inside the bucket of the backhoe to barricade himself and increase his reach. It was reported that the controls were still beyond his reach so he jumped once and did not reach the controls. He jumped a second time and contacted the wrong lever causing the mast to jerk quickly and strike him on the side of the head. The force of the blow caused him to fall sideways onto the rock ledge and then approximately two metres further into the bottom of the excavation. The backhoe operator moved the backhoe bucket to the other side of the excavation, called for assistance and entered the excavation to aid the victim. The victim was then transported from the site to North Bay Civic Hospital and, on 04 July 1997 he was transferred to Sunnybrook Hospital in Toronto. Sometime during the next week, the victim was transferred back to North Bay Civic Hospital. TransCanada's North Bay Office was informed on 11 July 1997 that the victim had passed away during the previous night. No onsite investigation was conducted by NEB staff. The incident was investigated by a PI Team investigator and has been closed out via an incident. Close-out memo dated 22 May 1998. The Close-out Memo summarized the investigation. No other significant report was written by NEB staff regarding this incident. TSB did not conduct an investigation into this incident. Thus, it did not issue an investigative report. He abandoned his effort to clear the hole at approximately 09:45. In order to secure the drill for the upcoming blast, he reached for the controls on the drill mast in order to move the drill. The controls were just out of his reach. The hoe operator reported that the drill operator stood inside the bucket of the backhoe to barricade himself and increase his reach. It was reported that the controls were still beyond his reach so he jumped once and did not reach the controls. He jumped a second time and contacted the wrong lever causing the mast to jerk quickly and strike him on the side of the head. The force of the blow caused him to fall sideways onto the rock ledge and then approximately two metres further into the bottom of the excavation. The backhoe operator moved the backhoe bucket to the other side of the excavation, called for assistance and entered the excavation to aid the victim. The victim was then transported from the site to North Bay Civic Hospital and, on 04 July 1997 he was transferred to Sunnybrook Hospital in Toronto. Sometime during the next week, the victim was transferred back to North Bay Civic Hospital. TransCanada's North Bay Office was informed on 11 July 1997 that the victim had passed away during the previous night. "</p>
1997	INC1997-043	<p>"On the afternoon of 3 July 1997, during the excavation of a 76 mm glycol supply line to the fuel gas building (Compressor Station 2B, Azouetta, Pine Pass, B.C.), WEI personnel located a glycol leak from a corroded section of the line. Four or five days prior to the excavation it was noted that the glycol system was losing fluids. Approximately 400 litres of glycol spilled in an area of 37 square metres. An undisclosed amount of contaminated soil was placed into Wasteco soil disposal bags. It was estimated that a total of 400 litres of glycol had been released in portions of approximately 60 litres/day."</p>

1996	INC1996-031	Leak was discovered on WEI's 30 inch Fort St. John sweet gas transmission line. The leak was at mile post 612.8 and was the result of a crack. A unknown amount of natural gas was released
1997	INC1997-041	"On 26 June 1997 at approximately 10:00 PST, WEI personnel were in the process of transferring waste lube oil to the waste oil storage tank at Compressor Station One in Taylor BC, when the tank overflowed. The tank was equipped with a high level alarm but it failed and approximately 90 litres of used lube oil was released. The spill was contained on site by the natural terrain. Contaminated soil was removed and treated on-site. Residual oil was pumped into a 45 gallon drum. The lube oil spill was contained on site by the natural terrain. An unknown amount of contaminated soil was removed and treated on-site. Approximately 0.400 m3 of lube oil was released when a waste oil storage tank overflowed."
1997	INC1997-040	"On 25 June 1997, @ 11:30 CST, a contract foreman and labourer employed by B.F.C. Pipelines were hand excavating around TransCanada Pipelines Limited's (""TCPL"") MLV 75-1 near Nipigon, Ontario's NPS 1 1/2 power gas piping which services the suction side valve operator at TCPL's MLV 75-1, near Nipigon, Ontario. The Foreman moved the piping slightly aside, to check its flexibility, which resulted in the development of a crack on the 1/4"" threaded end of the swedge. Upon hearing the gas escaping, the foreman and his labourer evacuated the area. TCPL personnel immediately isolated the affected pipe before blowing it down to atmospheric pressure. Repairs were conducted the same day and the pipe was returned to normal gas service. References should be made to the metallurgical analysis report prepared by the CANSPEC Group Inc. The Report states the NPS 1 1/2 x 1/4 Schedule 80 swedge failed as a result of pipe movement induced by a worker during excavation of the NPS 1 1/2 power gas piping system at MLV 75-1, near Nipigon, Ontario. As a result, the 1/4"" threaded end of the swedge developed a crack, allowing natural gas to escape to the atmosphere. There was no ignition of natural gas. As the foreman was exiting the excavation, he struck his head on an NPS 1 1/2 steel conduit which was temporarily providing support for the electrical cables strung across the hole. He suffered a minor cut to his forehead and was treated on site using first aid. The employee returned to work the same day. At the time of the incident, natural gas was being transported in the pipeline. As the foreman moved the piping slightly aside, a crack developed on the 1/4"" threaded end of the swedge. Upon hearing the gas escaping, the foreman and his labourer evacuated the area. The loss of gas to the atmosphere was minimal. "
1997	INC1997-039	"On 23 June 1997, a temporary scraper extension was installed on the existing Line 3 scraper trap at IPL Edmonton Terminal while the pipeline was shutdown as downstream injections were being conducted. Line 3 resumed service at 15:35 MST and at 15:41 MST, IPL personnel discovered oil spraying from the scraper trap extension connection. The scraper trap was isolated and the Edmonton Control Centre was notified. Line 3 was shut down at 15:45 MST and clean-up of the spill commenced. All crude was contained on Company property. Five of the six cubic metres of spilled crude was recovered and transferred to Tank 11 at Edmonton Terminal. The removed contaminated soil was stored in Tank Lot 14 and subsequently disposed of in accordance with Environmental Regulations and authorities having jurisdiction. An unknown amount of soil was removed and stored in Tank Lot 14 and subsequently disposed of in accordance with Environmental Regulations and authorities having jurisdiction. Excavated soil will be replaced and grade levels re-established with clean fill material. All crude was contained on Company property. which allowed five of the six cubic metres of spilled crude to be recovered and transferred to Tank 11 at Edmonton Terminal."

1997	INC1997-038	"On 09 June 1997 at approximately 09:30 hours C.D.T., a TCPL employee noted minor bubbling in the ground water that had ponded around the MLV 63 1:2 downstream tie-over. The presence of natural gas was verified using an ethane detector. After ensuring that the 1:2 downstream tie-over and MLV 63-2 were sealing, personnel used a hydrovac to daylight the underground piping. It was confirmed that the leak was originating from the flange of the 1:2 downstream tie-over valve. The isolated section of piping was evacuated to facilitate the repair. The repair involved cutting out and re-welding a dog-leg on the tie-over piping. As well, a mud slab and piers were installed as support to alleviate any strain on the flange. Following replacement of the flange gasket, the flange was re-installed. The pressure in the pipeline at the time of the incident was 6650 kPa. As well, the sky was sunny and the ambient temperature was 20 degrees Celsius. There was no interruption or reduction in service as a result of the incident. The minimal loss of natural gas to the atmosphere was not measurable."
1997	INC1997-037	On the morning of 15 June 1997 the solution in a vent tank at the Fort Nelson Gas Plant (FNGP) expanded as a result of the hot weather and resulted in a spill of 450 litres of DEA (30%) solution. The vent tank was partially drained into another tank to prevent further spillage. The spill was contained and the area cleaned. Approximately .450 m3 of diethyl amine was spilled from a vent tank.. The spill occurred due to expansion from increased temperatures. The spill was contained and the area cleaned. Diethyl amine
1997	INC1997-036	"The location was first identified by the TCPL pilot as vegetation discoloration on 12 June 1997 at approximately 4:00 pm. The helicopter pilot had to relocate the site for the ground crew because the location was in rocky pasture, with marginal vegetation, 1/2 mile from the nearest farm trail and 2 1/2 miles from the nearest house. Gas detection and excavation confirmed a pinhole leak in the line. Radiography and ultrasonic shear wave probing confirmed a lack of fusion of less than 1 cm in length, in the ERW weld seam. The escaping gas caused the yellow jacket coating to delaminate along the entire length of the affected joint. The remainder of the joint was confirmed to be free of any defects. Iso-butane"
1997	INC1997-035	"On 05 June 1997, while conducting a replacement of a switch gear cubicle at Interprovincial Pipe Line Inc. ("IPL") Cromer Terminal (Line 3), a contractor employee using a gas powered rotary chop saw inadvertently cut into a pressurized sump discharge line connected to the suction side of the station. He thought the line was an electrical conduit to be removed. An estimated 1m3 of crude was reported to have been released from the line thought to be 1 inch in diameter. It sprayed onto the employee, the substation B and Line 3 capacitor building, the top and south side of the Line 3 pump house building, and an area of ground cover measuring approximately 50' x 100' located on the south side of the Line 3 pump house building. An unrecorded amount of contaminated soil will be processed in accordance with environmental regulations. An estimated 1m3 of crude was reported to have been released from the line thought to be 1 inch in diameter. It sprayed onto the employee, the substation B and Line 3 capacitor building, the top and south side of the Line 3 pump house building, and an area of ground cover measuring approximately 50' x 100' located on the south side of the Line 3 pump house building. "
1997	INC1997-034	"On 2 June 1997 a storage tank at the Ft. Nelson Gas Plant (FNGP) overflowed due to an open inlet valve and the operation of an associated water pump. This resulted in a spill of 2500 litres of DEA (14%) solution. The spill was noticed, reported and stopped by the operator. A temporary dam was installed in the ditch containing the spill and permitted personnel to recover the solution and pump it back to another storage tank. Approximately 2.5 m3 of 14% DEA was spilled in the event of an overflowing surge tank. A temporary dam was installed in the ditch containing the spill and permitted personnel to recover the solution and pump it back to another storage tank. Diethyl amine"

1997	INC1997-033	<p>"While Line 1 was shutdown through Glenavon Station on 31 May 1997 at 1808 MST, a remote gas alarm was received by the Edmonton Control Centre from the Glenavon Line 1 Station. Line 1 Glenavon Station was then remotely isolated. Upon investigation by IPL personnel, it was determined that NGL was released due to a pump outboard seal failure on Unit 1.2. Line 1 resumed operation through Glenavon Station with Unit 1.2 isolated. At 2257 MST on 31 May 1997 another gas alarm was received from Glenavon Line 1 Station. The line was shut down and Glenavon Station was then isolated. Upon investigation by IPL personnel it was discovered that the secondary backup seal on Unit 1.2 had not automatically activated at 1808 MST when the primary outboard seal failed. Manual activation was undertaken on the secondary seal. As pump primary shaft seals occasionally fail they are equipped with a secondary seal. Repair work normally involves replacement with reconditioned parts or complete re-conditioned seals.</p> <p>Unit 1.2 was isolated and will remain out of service until repairs are complete. Line 1 was shutdown at the time of the gas alarm at 1808 MST. Upon receiving the second gas alarm at 2257 MST, Line 1 was immediately shutdown. The backup seal was activated and Line 1 was returned to service. It was estimated that approximately 0.0045 m3 of NGL escaped into the atmosphere."</p>
1997	INC1997-032	<p>"At approximately 05:20 MST on 30 May 1997 at the Enbridge Pipelines Inc. (formerly Interprovincial Pipe Lines) Hardisty Station an employee discovered crude oil leaking in the North Manifold area. The Edmonton Control Center was contacted immediately and Line 13 was shut down at 0522 MST. Local personnel isolated piping within the North Manifold area and determined the source of the leak was from gate valve 439. The area was immediately secured and a clean-up was commenced. Approximately 13 m3 of Bow River Crude Oil was spilled over a 15 m x 35 m area as a result of the incident. The spill was contained on Enbridge property. The line was out of service for a short time from 0522 MST to 0539 MST. Approximately 13 m3 of crude oil was spilled as a result of this incident. The Bow River Crude Oil was spilled over a 15m x 35m area, but was contained on Enbridge property. All free standing crude oil was collected using vacuum trucks and transferred to Tank 41 at Hardisty."</p>
1997	INC1997-031	<p>"At 18:15, on 27 May 1997, the Fort Nelson Gas Plant suffered a total outage of the gas processing and power generation facility due to a power boiler malfunction. The outage subsequently caused the automatic level control valve on the Mono-ethanol-amine (MEA) surge tank to malfunction. The bypass valve around the still level control system remained open, the MEA surge tank overfilled and the MEA solution (approx. 12 %MEA, 88% Water) overflowed over the top onto the ground. On discovery of the overflowing surge tank, the bypass valve was isolated and cleanup was initiated. Isolation valves in the plant drainage system were closed in order to contain the spill in the operating area. The spilled MEA solution was directed to the effluent plant through the Plant's closed sewer system. The area was flushed with water. This wash water was also routed to the effluent plant. About 400 square feet of area had been contaminated with 2500 - 4500 liters of MEA solution. A minimal amount of soil was contaminated by the MEA overflow. The area was water-washed and the contaminated water was directed to the effluent plant for treatment. A plant outage caused the automatic level control valve on the MEA surge tank to malfunction while the still level control system remained open. Thus, the surge tank overfilled and 2500-4500 litres of ~ 12% MEA contaminated a 400 square foot area. Monoethanolamine (MEA)"</p>

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1997	INC1997-030	"On 28 May 1997 an incident which led to a fatality of an employee of a transportation company occurred at the TransCanada Pipelines Limited (TCPL) compressor station No. 60 in Martin River, Ontario. During the early hours on the day of the incident, [REDACTED] an employee of Arnold Brothers Trucking Company had arrived at the TCPL station prior to the arrival of other TCPL personnel who worked at the station for the day. As he was unstrapping the load, an equipment box on wheels rolled off the truck, struck him on the head, left side of his chest and left leg, and seriously injured him. When TCPL personnel later arrived at the site, they found him unconscious on the ground, bleeding from the ears and nose. A local ambulance and a Medevac Helicopter were called to the scene. The injured employee was flown to a hospital in Thunder Bay, Ontario. He was later died in the hospital. Update, no onsite investigation was conducted by NEB staff. This incident was investigated by a PI Team Investigator. and had been closed out via an Incident Close-Out Memorandum dated 18 July 1997. The Close-out Memo summarized the investigation. No other significant report was written by NEB staff regarding this incident. TSB did not conduct an investigation into this incident. Thus, it did not issue and investigative report. During the early hours on the day of the incident, [REDACTED] an employee of Arnold Brothers Trucking Company had arrived at the TCPL station prior to the arrival of other TCPL personnel who worked at the station for the day. As he was unstrapping the load, an equipment box on wheels rolled off the truck, struck him on the head, left side of his chest and left leg, and seriously injured him. When TCPL personnel later arrived at the site, they found him unconscious on the ground, bleeding from the ears and nose. A local ambulance and a Medevac Helicopter were called to the scene. The injured employee was flown to a hospital in Thunder Bay, Ontario. He later died in the hospital."
1997	INC1997-029	At 0038 MST on 25 May 1997 a security guard discovered a fire in a plastic garbage bin at the IPL Pipeline Maintenance Shop located in Edmonton.
1997	INC1997-027	"On 13 May 1997 at approximately 11:25 am MST, an incident occurred at the Fort Nelson Gas Plant. Three craftsmen using Self Contained Breathing Apparatus (SCBA) were performing work on the Train 10 enrichment line. The seal on one craftsman's mask ([REDACTED]) became loose allowing H2S to enter the mask causing [REDACTED] to be overcome with H2S and SO2 and briefly losing consciousness. The two other craftsmen initiated rescue and lowered [REDACTED] to the ground by crane where he was transported to hospital. [REDACTED] was later released and returned to work the next day. The Workman's Compensation Board was notified of the incident in writing on 15 May 1997. A craftsman using SCBA was performing work on an enrichment line, when the seal on his mask was broken. H2S entered his mask through the broken seal. The craftsman was overcome with H2S and SO2 and briefly lost consciousness. He was taken to the hospital and returned to work the next day."
1997	INC1997-028	"On 30 April 1997 at 07:55 hours PST Westcoast Energy Inc.s ("WEI") 219 mm O.D. sour gas Monias Pipeline ruptured and ignited in the Peace River Valley, adjacent to the Old Ft. St John town site area in British Columbia. The rupture occurred where the line crossed a portion of ground which was the vertical interface between a landslide and stable ground. The slope underwent a movement of at least seven metres laterally. A buckle occurred in the line at a side bend where the pipeline began to run diagonally up slope. The line split open along its longitudinal weld for approximately 2.6 metres in the vicinity of the of the buckle. A cleaning pig run had been successfully carried out on the Monias line on 29 April (day before incident) indicating that the pipeline had not buckled before the pig run. The rupture resulted in a sour gas being released. Onsite NEB investigation was conducted by staff. Final NEB investigative report yet to be completed. Incident Close-out Memo yet to be completed. TSB conducted a field investigation of this incident and issued a report (no P94H0024). As a result of the rupture the line was out of service for 12 days resulting in a loss of 20 MMscf/d of gas production. As a result of this incident, it is estimated that 3.0 MMscf of sour natural gas escaped to the atmosphere."

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1997	INC1997-025	"At 1342 MST on 23 April 1997 a gas alarm was received from Line 1 at Cromer Terminal. Upon investigation by Company personnel, it was determined that NGL was released from the Unit 1.1 discharge valve (Valve 1.15) stem seal vent due to failure of the valve's primary stem seal. A quantity of less than 0.001 m3 of NGL was released. The leaking valve was repaired and returned to service at 1440 MST April 23, 1997. The Unit 1.1 discharge valve was repaired by plugging the stem seal vent with a positive sealing plug, thereby activating the stem secondary seal. The failure of the primary stem seal on the Unit 1.1 discharge valve resulted in a release of less than 0.001 m3 of NGL to the atmosphere."
1997	INC1997-024	A telephone call was received by PNG reporting that gas appeared to be escaping from a line at a creek crossing. PNG responded to this report and confirmed a line break at a dry creek crossing. PNG personnel immediately shut-in the line and valves were throttled to maintained an operating pressure of 10 psi to keep water out of the line. It appears that the line break was the result of a section of bank caving-in causing the line to crack at a weld. Service interrupted to 62 customers. Release amount unknown.
1997	INC1997-023	"At 1847 MST on 20 April 1997 Interprovincial Pipe Line personnel discovered NGL escaping from vents on Tank F20 (products relief tank) at Edmonton Terminal. At 1844 MST and 1845 MST, the Line 1 mainline pumping units (Units 1.1 and 1.2) automatically shut down due to low suction pressure. At 1847 MST Terminal personnel discovered NGL vapour escaping from the vents on Tank F20. Immediately, inlet valve 806-V-2031 upstream of Tank F20 was closed to isolate the tank. A quantity of 0.08m3 of NGL was released. The Edmonton Control Centre was notified and Line 1 was sectionalized. The condensate associated with the release of NGL vapours through the tank vents has been cleared from the side of the tank and collected using absorbent material. The contaminated absorbent material will be disposed of in accordance with environmental requirements and authorities having jurisdiction. At 1847 MST Terminal personnel discovered NGL vapour escaping from the vents on Tank F20. Immediately, inlet valve 806-V-2031 upstream of Tank F20 was closed to isolate the tank. A quantity of 0.08m3 of NGL was released."

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1997	INC1997-021	<p>At approximately 10:55 a.m. on 13 April 1997 a TCPL pipeline contractor's employee (██████████ employed by Steen Pipeline Contractors) was part of a work crew involved in loading a 30 inch bi-directional tool into a multipurpose test head at MLV 100-1. A TCPL inspector was onsite to oversee the work being conducted. The door on the south side of the test head was open and the contractor's employees had placed the tool on a crib made of skids in line with the test head entrance. The tool was then eased into the test head using a backhoe bucket and a wooden skid. The skid had been placed between the outer end of the tool and the bucket of the backhoe so as not to damage the tool and to allow for the backhoe's bucket to push the tool into the test head using a sweeping motion. ██████████ was holding the skid in a horizontal position for the backhoe to apply pressure against. Unfortunately the tool could only be partly inserted into the test head with the sweeping motion provided by the backhoe. In a effort to insert the tool further into the test head the backhoe operator started using the bucket to ram the skid while ██████████ was still holding the skid in place in the horizontal position. On approximately the fifth ram the skid raised from a horizontal position to a vertical position in a fraction of a second and it struck ██████████ pushing him backwards onto the door of the test head. The result was that ██████████ was pinned between the end of the test head entrance and the backhoe bucket and he sustained a fractured right forearm and minor lacerations to his head and face. ██████████ exited the ditch with help and was taken to hospital for examination and treatment. ██████████ was holding the skid in a horizontal position for the backhoe to apply pressure against. Unfortunately the tool could only be partly inserted into the test head with the sweeping motion provided by the backhoe. In a effort to insert the tool further into the test head the backhoe operator started using the bucket to ram the skid while ██████████ was still holding the skid in place in the horizontal position. On approximately the fifth ram the skid raised from a horizontal position to a vertical position in a fraction of a second and it struck ██████████ pushing him backwards onto the door of the test head. The result was that ██████████ was pinned between the end of the test head entrance and the backhoe bucket and he sustained a fractured right forearm and minor lacerations to his head and face. ██████████ exited the ditch with help and was taken to hospital for examination and treatment.</p>
1997	INC1997-020	<p>"On 10 April 1997, TMPL reported to the NEB of an unscheduled shutdown of its liquid pipeline system. The shutdown was initiated upon the discovery of a corrosion defect penetrating approximately 40% of wall thickness (not 87% as TMPL had initially reported) at Km 1036. TMPL installed a plidco sleeve over the defect and the line was restarted subject to an interim pressure restriction at that location. The corrosion defect at Km 1036 had been prioritized with other known defects on the pipeline system and was scheduled for cutout and removal during the shutdown of the mainline system on June 10 and 11, 1997 in accordance with the Board Order XO-T4-36-96."</p>
1997	INC1997-018	<p>"On 01 April 1997, TCPL personnel noted minor bubbling in the ground water that had ponded in the vicinity of Line 100-4 and 100-5 in the yard at TCPL's Compressor Station 30, Rapid City. The smell of gas was also evident. The presence of natural gas was verified by testing with an ethane detector. After having identified the source of the leak, TCPL personnel isolated Line 100-4 between MLV 30 and MLV 31. On 02 April, TCPL personnel vented Line 100-4 between MLV 30 and MLV 31 to a pressure of 3500 KPa and locked in the main section. A portable gas transfer was hooked up and brought on line. TCPL personnel then excavated the section using backhoe and hydrovac, and determined that the source of the problem was a leaking gasket on the Line 100-4 ""lock-o-ring"" flange which had been installed for future tie-in to Line 100-5, but never used. On 03 April 1997, TCPL personnel completed the repair by installing a new flange gasket and welding the allen-capscrews securing the ring segments in position to prevent potential future leakage at this location, re-pressurized the affected section and returned Line 100-4 to normal gas service, and backfilled the excavation. The minute release of natural gas was not measurable."</p>

1997	INC1997-019	"On 30 March 1997 a TNPI's Line Controller situated at its control centre located in Richmond Hill Ont. received a phone call from the Petro-Canada refinery operator in Oakville, Ontario indicating that gasoline was observed over TNPI's line located adjacent to the refinery's fence. TNPI immediately shut down operation of both its 10 inch and 16 inch lines at this location and initiated an emergency response. TNPI personnel who arrived onsite confirmed a gasoline leak on the 10 inch line. The leak was situated 1000 feet east of TNPI's Oakville pump station, which is located adjacent to the Petro-Canada Refinery. The leak was determined to have resulted due to a corrosion assisted fatigue crack which had initiated within a dent on the pipe body between its 4 and 5 o'clock position. The total volume of gasoline product determined to have leaked from the pipeline was 345.8 litres. This release occurred 1000 feet east of TNPI's Oakville Pump Station, which is located adjacent to the Petro-Canada Refinery."
1997	INC1997-017	"At 1255 MST on 27 March 1997 an IPL employee observed crude oil in the vicinity of Station 2 at Craik. 35 m3 of crude oil was released due to leaking check wafer valve gasket. The Edmonton Control Center was notified and Line 2 was shut down from Edmonton to Cromer at 1300 MST March 27 and Craik station isolated. Approximately 34.5 m3 of the released crude oil has been recovered. All oil-contaminated soil will be treated in accordance with Company environmental procedures and authorities having jurisdiction. After the removal an unknown amount of oil- contaminated soil is complete, grade levels will be re-established with clean fill material. It was estimated that 35 m3 of crude oil was released due to a leaking check wafer valve gasket. All released crude oil was contained on IPL property."
1997	INC1997-013	An IPL employee reported to the Edmonton Control Centre an odour of product at the Souris West Pump Station. Line 1 was shut down by the Control Centre Operator and the area secured. The inboard cooling line on Unit 1.1 failed resulting in a release of 135 m3 of refined product. The diesel spill filled an excavation immediately south of the pumphouse building. Enbridge removed approximately 230 m3 of fill sand from the spill area. An additional 1200 tons of hydrocarbon-contaminated soil was excavated from the site during trench installation. Pump testing of the recovery trench revealed that a groundwater removal rate of approximately 2 gpm is adequate to provide both contaminated groundwater capture and diesel recovery. All contaminated snow and soil are stored within a 18 m x 24 m bermed containment area situated on IPL property and will be treated in accordance with company environmental procedures and authorities having jurisdiction. The release of refined product was a result of a failed coupling. The release was largely contained within the excavations for the new unit and the balance of spilled product was recovered using vacuum trucks. An Environmental Site Assessment suggested that distillate not recovered during initial response operations appeared to be largely confined to the immediate spill area. Subsequent monitoring confirmed that free-phase distillate remained on the water table adjacent to the Line 1 pump.
1997	INC1997-014	"At 1310 MST March 25, 1997 an IPL employee observed oil to be leaking from the vicinity of Valve 3-V-1 during a routine check of the Odessa Station. A leaking two-inch diameter threaded union on the two-inch diameter thermal relief line across valve 3-V-1 resulted in the release of crude oil. The two-inch diameter isolation valves on the thermal relief piping were closed to isolate the leaking union. The estimated fluid loss from this incident was 5m3. A leaking two-inch diameter threaded union on the two-inch diameter thermal relief line across valve 3-V-1 resulted in the release of 5 m3 of crude oil. All released crude oil was contained within IPL property. All free crude was recovered from the two valve protection culverts which house the two-inch relief system isolation valves."

1997	INC1997-016	<p>"The section of Line 100-1 between MLV 57 and MLV 58 had been out of service to remove the temporary pig receiver at MLV 58, following the completion of the MFL internal inspection run between MLV 52 and MLV 58. On 26 March 1997, TCPL personnel were in the process of re-pressurizing the above-mentioned line. While pressurizing the line, a 25mm long crack on the NPS-1 nipple on the blind flange at the top of the downstream blow-off at MLV 57-1 began to leak natural gas to the atmosphere. The nipple was located between the blind flange and an NPS-1 valve which was used to evacuate any natural gas trapped between the blow-off valve and the blind flange, and for the temporary installation of instrumentation or an airmover. Upon detecting the presence of natural gas, the personnel immediately shut the upstream block valve to isolate the gas source, replaced the faulty nipple and continued loading the mainline between MLV 57 and MLV 58 in order to return this section to normal gas service. At the time of the incident, the pressure in the pipeline was 1380 KPa. The estimated volume of natural gas released to the atmosphere as a result of the incident was 0.2 e3m3. The gas source was immediately isolated and the faulty nipple replaced. There was no interruption or reduction in service as a result of the incident."</p>
1997	INC1997-015	<p>"On 19, March 1997 TCPL personnel were in the process of pressurizing the newly built Line 100-4 loop between MLV 82 and MLV 83. A 1 inch Pleco plug, positioned on a blind flange on top of an NPS 2 riser pipe at the loop's stub, came free when the pressure in the pipeline reached 5000 kPa. Natural gas was subsequently released to the atmosphere through the NPS 1 tapped hole of the blind flange in which the Pleco Plug was installed. A NPS 2 plug valve, located immediately upstream of the blind flange, had been inadvertently left in the open position. This allowed gas to flow past the plug valve and pressurize the section of NPS 2 riser pipe between the plug valve and the Pleco Plug. Personnel were unable to approach either the riser's NPS 2 plug valve or MLV 83-4 because of the escaping gas. They elected to return to MLV 82 to open the Line 100-4 blow-off to reduce the pressure in the pipeline. When the pressure in the line had subsided to approximately 3000 kPa personnel were able to safely enter the area and close the NPS 2 riser's plug valve. The affected section of mainline was evacuated to effect repairs. Approximately 12.4 x 103 m3 of natural gas was lost to atmosphere as a result of the incident and personnel were unable to locate the missing Pleco plug which had blown out from the blind flange. Natural gas released into atmosphere. A 1 inch Pleco plug, positioned on a blind flange on top of an NPS 2 riser pipe at the loop's stub, came free when the pressure in the pipeline reached 5000 kPa. Natural gas was subsequently released to the atmosphere through the NPS 1 tapped hole of the blind flange in which the Pleco Plug was installed. It was estimated that 12.4 e3 m3 of natural gas was lost to atmosphere as a result of the incident."</p>
1997	INC1997-012	<p>"On 19 March 1997 a company employee on site at MP 18.4 on the Milligan Peejay Pipeline noted a sour gas smell at a line break control valve. Fort St. John Gas control was notified of the gas leak and a crew was mobilized to take the pipeline out of service and depressure the section involved (MP 0.0 to MP 19.2). This pipeline was taken out of service on March 19, 1997 and put back into service on March 21, 1997 at 19:25. This 60 hour outage resulted in a loss of production of an unknown quantity of gas. In this incident, an employee noticed a sour gas smell in the air and notified Gas Control of the smell. Although the smell was a result of a cracked nipple, the reports claim that there was no leak or release of sour natural gas."</p>

1997	INC1997-010	<p>"On 27 January 1997, TransCanada Pipeline Limited ("TCPL") personnel at MLV 63/65 staked a buried NPS 2 pressurizing line in accordance with available as-builts. Personnel also located the NPS 8 kicker line in accordance with the as-builts and verified its location using a hydrovac. On January 29, 1997, personnel operating the hydrovac were unable to locate the NPS 2 pressurizing line at its staked location. Further investigation verified it to exist approximately 2.5 metres off the staked location. However, personnel did not relocate the stakes. On March 15, 1997 a Contractor was on site to excavate the proposed undercrossing with Line 100-4. The TCPL Inspector on site visually confirmed the location of the NPS 8 kicker line. The stakes for the NPS 2 pressurizing line had not been relocated after its actual location had been verified on January 29, 1997. The deviation from the as-built was not reported to the appropriate TCPL personnel and the Inspector was not aware of the deviation. While excavating near the NPS 8 kicker line, the backhoe bucket contacted the NPS 2 pressurizing line. The line bent but did not rupture. The operator immediately shut down his equipment. TCPL's Operations personnel, responding to the incident, verified that the line was isolated and not pressurized. Before leaving the site, they flagged all the above ground facilities. On March 17, 1997, Operations personnel blind flanged both ends of the NPS 2 pressurizing line. On June 23, 1997, the damaged section of NPS 2 piping was replaced. "</p>
1997	INC1997-011	<p>"On Friday 14 March 1997, a check valve located on Interprovincial Pipe Line Inc. ("IPL") Line 3 discharge piping failed at Strome Station located approximately 40 kilometres east of Camrose, Alberta. The failure spilled an estimated 2400 m3 of medium crude oil onto approximately 75% of the 12.8 acre Strome Station property. Line 3 was shutdown and sectionalized by the IPL Edmonton Control Centre at 22:10 MST upon recognition of batch track and flow rate discrepancies by the Control Centre Operator. At 22:30 MST, crude oil vapour was reported in the vicinity of Strome Station. IPL personnel arrived at Strome Station at 23:50 MST and confirmed a release of crude oil on the site. Update, the cause of the incident was hydrogen embrittlement of the stud bolts which held the valve body together. Onsite NEB investigation report conducted by staff. NEB investigative report completed November 1997 via Incident Close-out Memo. No other significant report was produced for this incident. NEB Safety Advisory SA 97-1 issued 12 February 1998. Incident close-out Memo dated 20 May 1998. TSB did not conduct an investigation into this incident. Thus, it did not issue an investigative report. Of the 2400 m3 of released crude oil, approximately 2250 m3 was recovered. The clean-up included the recovery of free oil, which was transported to tankage at IPL's Hardisty Terminal, and the collection and containment of an unknown amount of contaminated snow on the Station property. The contaminated snow was treated using a steam melt process in which the separated oil was recovered. An unknown amount of contaminated soil will also be picked up and contained on IPL property. All clean-up activities and disposal of contaminated material will be in accordance with regulatory requirements. The failed check valve spilled an estimated 2400 m3 of medium crude oil onto approximately 75% of the 12.8 acre Strome Station property. Approximately 2250 m3 of released crude oil was recovered. The recovered crude oil was transported to tankage at IPL's Hardisty Terminal, and the contaminated snow was collected and contained on Station property. The contaminated snow was treated using a steam melt process in which the separated oil was recovered."</p>
1997	INC1997-009	<p>"On 14 February 1997, at 09:28 MST, Unit 1.1 at Interprovincial Pipe Line Inc.'s ("IPL") White City pump station locked out due to detection of an NGL release. At the time of the incident, Line 1 was shutdown at White City for an upstream (Milden) delivery and upon lockout the unit valves were closed automatically to isolate it. It was estimated that less than 0.001 m3 of NGL was released during this incident. Upon investigation by IPL personnel, it was determined that NGL was released due to an inboard pump seal failure on Unit 1.1."</p>

1997	INC1997-008	<p>"On 10 February 1997 at 16:42 EST, the Line Controller at the Trans-Northern Pipelines Inc. ("TNPI") control centre received an alarm from its SCADA control system indicating a negative line imbalance. The Line Controller elected to shut down the pipeline system between Montreal and Ottawa. Segmentation valves were closed by 16:55 EST. Line Control then advised TNPI field personnel of a suspected leak on the Ottawa Lateral somewhere between mile post 19.8 and 40.4. By 21:05 EST, TNPI field personnel had discovered an area of gasoline stained snow on the surface of ice covering an excavated trench at mile post 23.5. Valve nipple failure. Pipeline leak at MP 23.5 near Mecalfe. Pipe nipple failure. The TSB had not yet issued its report indicating the cause of the incident. Onsite NEB investigation conducted by staff. Final NEB Close-out Report completed September 1997. No other significant report was produced for this incident. Incident Close-out Memo dated 10 September 1997. TSB conducted a field investigation of this incident but has not yet issued its report to be number P97H0007. The pipeline system was shut down between Montreal and Ottawa at approximately 16:55 EST on 10 February 1997. Service was resumed at 19:30 on 12 February 1997. An estimate of 11 m3 of natural gas was released in this incident. The spill contractor completed installation of perimeter fencing around all open excavations. A vacuum truck continued to remove accumulated gasoline and contaminated surface water from open excavations."</p>
1997	INC1997-007	<p>On 31 January 1997 a contractor at WEI's Pine River Gas Plant was transporting a generator slung from a piece of heavy equipment. It was being moved on the gas plant property when it caught a power line pulling it down along with a power line pole which had a transformer on it. When the transformer hit the ground it split open spilling PCB oil onto the ground. An unknown amount of PCB oil was spilled on the ground when a transformer hit the ground and split open. The substance was tested to confirm that the oil in the transformer contained PCB's. No other information was received regarding contamination and disposal.</p>
1997	INC1997-006	<p>"On 28 January 1997 at 8:00 MST, a temporary pig signal failed during a cleaning pig launch allowing a release of sour gas from the WEI 6 inch North Jedney pipeline. All production sources were advised of the leak, the pipeline was isolated and all personnel in the area were notified. The remaining sour gas was flared and repairs were made to the pig signal. It is estimated that 0.120 MMscf of sour natural gas escaped to the atmosphere. The incident occurred at approximately 7:30 PST and the pipeline was returned to service at 12:30 PST of the same day. There was no interruption of downstream customers as a result of this incident."</p>
1997	INC1997-005	<p>"On 23 January 1997 at 18:30 PST, mechanical problems with the boilers combined with extremely cold ambient temperatures caused a plant shutdown at the Fort Nelson Gas Plant. As a result, it was necessary to flare inlet gas at approximately 03:30 on 24 January 1997. The plant returned to full operation by 19:40 24 January 1997. The 423.00 MMscf of gas was flared off into the atmosphere. Gas was purchased to cover the shortfall in production. On January 23 the projected throughput was 500 MMscf/d, actual throughput was 235 MMScf/d. On January 24 the projected throughput was 498 MMScf/d and the actual throughput was 342 MMscf/d. Gas was purchased to cover the shortfall in production at the Fort Nelson Gas Plant. The gas was released by flaring the inlet gas."</p>

1997	INC1997-004	"On 20 January 1997, at approximately 15:50 MST, a Trans Mountain Pipe Line Company Ltd ("TMPL") Operator Technician at Sumas Station noted a discharge of MTBE and diesel fuel escaping from the Equation Of State ("EOS") building. The closure of valves to isolate the source of the leak was completed by 16:04 MST by a TMPL employee, the only one on site, who undertook a preliminary investigation using a self contained breathing apparatus. The incident resulted in the spillage of 4.5 m3 fluid estimated to be 80% MTBE and 20% diesel fuel. A portion of the escaped material was recovered by vacuum truck. Material was also recovered from the ditch by means of sorbent materials which have been appropriately disposed of. Approximately 75 m3 of contaminated soil has been removed from the affected area. The soil is presently stockpiled in a secure area within the Sumas Station property pending bioremediation. The 4.5 m3 of escaped material is estimated to be 80% MTBE and 20% diesel fuel."
1997	INC1997-003	"On 10 January 1997, a Westcoast Energy Inc. contractor was driving past mile post 111 on the Alaska Highway and could smell sour gas. He reported the smell of the gas to WEI who sent personnel out to investigate from WEI's Kobe's Station. WEI personnel discovered that a 3/8 inch needle valve was partially open on a pig receiving barrel. A 3/8 inch needle valve was partially open on a pig receiving barrel, thus allowing an unknown amount of gas to seep into the atmosphere."
1997	INC1997-002	"On 4 January 1997 a 1/2 inch nipple, 3 inches in length, failed on the discharge pressure sensing line of the compressor unit no. 80B at TCPL's Geraldton, Ontario Compressor Station. The failed nipple allowed natural gas to escape to atmosphere through a crack in the threaded portion of it where it meets the weld-o-let it was threaded into. It was situated 5 feet from the downstream flange of the compressor and was positioned on top of the compressor's discharge piping. TCPL suspects that the nipple failed due to resonating vibration on the unit discharge piping. The pressure in the line at the time of the incident was 6870 kPa. Upon the nipple failing a low level gas alarm was triggered and personnel were dispatched to investigate. While investigating the cause of the alarm, the "B" Plant shut down on high gas level and was isolated as designed to do when the gas detection system detects high gas levels in the compressor building. The unit was removed from the service for 2.4 hours to effect repairs and subsequently returned to service the same day. A half inch nipple failed on the pressure sensing line of the compressor unit. The failed nipple allowed a negligible volume of natural gas to be released to the atmosphere through a crack in the threaded portion of it where it meets the weld-o-let it was threaded into."
1997	INC1997-001	"The Charlie Lake Office complex was gutted by a fire which took out local communication lines and the local SCADA system. No other buildings were affected. The Charlie Lake volunteer fire department fought the fire which was out by 03:15, police controlled adjacent highway traffic. Visual and manual monitoring of pipeline facilities at crucial points in the system was conducted. Part of the building was severely damaged."
1996	INC1996-069	"Fire started as a result of sulphur ignited as it was being thawed. A frozen 10" sulphur pipeline (it had frozen due to failed heat tracing) inside the sulphur pipeline terminus building at WEI's Pine River Gas Plant was being thawed out using "tiger torch". The sulphur liquified and flowed through and emergency shutdown valve (ESD) that was indicated closed. A small drain valve downstream from the ESD was partially open allowing some sulphur to escape out of the drain line and onto an adjacent beam where the sulphur ignited. The fire travelled up the building wall and onto the ceiling. An isolation valve upstream of the ESD was closed, The remaining sulphur in the line escaped through the drain valve and therefore continued to feed the fire. The workers in the building immediately evacuated the building and tried to extinguish the fire by throwing snow on it through the door way. The pipeline was damaged. Repairs to building as a result of the fire are not yet known. unknown volume of sulphur was released through a partially open ESD"

1996	INC1996-068	A boiler tube failure occurred on the "A" plant sulphur recovery/waste heat boiler. The shutdown of this boiler resulted in a shut down domino effect to the operation of the rest of the gas plant. The entire plant was shutdown for approximately four hours. It is now back up to approximately 1/3 of its production capacity. WEI is hoping to have 75% of the plant production capacity restored sometime in the afternoon today (24 Dec 1996) They do not expect to have 100% plant production capacity for about 7 more days which is when repairs to the boiler are expected to be completed.
1996	INC1996-067	"On 23 December 1996, Peace River Transmission Company Limited ("PRT") reported the occurrence of a minor leak on the South Pouce Lateral. The leak was located near the North boundary of S9 T78 R14 W6M away from the public in unused land and not in a watercourse. Neither injuries nor environmental concerns resulted from this incident. The pipeline remained in service until repairs were completed. The pipeline provides gas service to homes and other customers in the Dawson Creek, B.C. The site of the leak was checked periodically by the pipeline operation personnel. An unknown amount of natural gas was released from the leak in the 4" O.D. pipeline."
1996	INC1996-066	"300000 gallons of hot treated water spilled and escaped into a creek and oil pond. Of environmental concern is the temperature of the water being 11°C higher than permits allow. 300,000 gallons of treated water at 74°C escaped into an adjacent creek and oil pond; the temperature of the water when it reached the creek was 41°C."
1996	INC1996-065	"A contractor employee employed as a painter with CSI Sandblasting, fractured his left leg below the knee when he fell into a 3 foot deep sump located in an unlit storage tank. He was taken to the Virden Hospital in Manitoba for treatment."
1996	INC1996-064	"TCPL reported a rupture on their Line 100-1 which blew out about 30 meters of pipe, half of which has not been found. The TransCanada Highway is located 200 - 300 meters south of the rupture site. The attached sketch illustrates the location of the incident. A section of the pipe landed on the road and preliminary indications are that this piece of pipe contained the initiation point of the failure. A car containing two people collided with the section of pipe. A transport truck also struck the pipe as the driver was trying to avoid the car and pipe. Another transport truck became stuck on the highway near the point of the vehicle accident due to icy road conditions. As the four people were leaving the incident site, the escaping gas ignited at approximately 22:45 CST. The Highway was closed from the time of the incident until 01:35 CST. MLV 52+0.701 km near Vermillion Bay. Update, The TSB has not yet issued its report indicting the cause of this incident. Onsite NEB investigation conducted by staff. Show Cause letter to TCPL dated 22 January 1997 (File No 3750-T001 & 9700-A000-1-26). TCPL's letter of response dated 29 January 1997 to NEB's "Show Cause" (File no 9700-A000-1-26. Board "Direction" to TCPL, via letter dated 5 February 19897 (File No 9700-A000-1-26), directing TCPL to reduce its pressure. TCPL 's letter dated 7 February 1997 requesting a variation the Board's Direction (File no 9700-A000-1-26). Board's letter of response to TCPL dated 10 February 1997 regarding TCPL's request for a variation of hte Board's Direction (File no 9700-A000-1-26 & 3750-T001). TCPL's letter of response to NEB dated 14 February 1997 regarding the Board's letter to TCPL dated 10 February 1997(File 9700-A000-1-26). Draft NEB final investigative report completed but not yet finalized. Incident Close-out memo has not been prepared. Incident Close-Out memo had not yet been prepare. TSB conducted a dield inestigation of htis incident and issued a report (no P96H0049). Approximately 12,435,000 m3 of natural gas was released as a result of the rupture."
1996	INC1996-063	"Company personnel observed a fire coming from the primary disconnected switch located on a 20 mva transformer, which feeds unit 1 and 2 at Milden."

1996	INC1996-062	"On 06 December 1996, a coil failed in the ""A"" Plant Unit 1 lube oil cooler (coolant tower) of TransCanada Pipelines Ltd. (""TCPL"") Compressor Station 86 allowing 1136 litres of lube oil (Fyrquel) to be released onto the ground. The spill occurred and was contained on station property. The spill affected an area of 25 m2. The ground was frozen at the time of the incident which prevented the spill from soaking into the ground. The cold air temperature turned the oil to a ""sludge"" which allowed TCPL personnel to easily collect and dispose of the oil. The spill of lube oil occurred and was contained on station property. The spill affected an area of 25 m2. The ground was frozen at the time of the incident which prevented the spill from soaking into the ground. The cold air temperature turned the oil into a ""sludge"" which allowed TCPL personnel to easily collect and dispose of the oil. A coil failed in the 'A' plant Unit 1 lube oil cooler allowing 1136 litres of lube oil (Fyrquel) to be released onto the ground."
1996	INC1996-061	"On 3 December 1996 @ 12:30 MST, a leak was detected on Murphy Oil Company's Manito Pipeline south of the Dulwich Pump Station in Saskatchewan. The pipeline leak detection system did not detect the leak as it was a result of small pin hole corrosion. Small pin hole corrosion leaks result in a slow rate of release of product from the pipeline, which due to the sensitivity of the pipeline's leak detection system could not be detected. At the time of the incident, the pipeline pressure was 5000 kPa instead of the normal operating pressure of 2000 kPa. This higher than normal pressure was a result of a tight line operation which was in place during a short phase of new construction at the Lone Rock station. Although the pressure was higher than normal it was still within the company's licensed MOP. As a result of the incident a 594 meter long section of pipe (including the failed section) was replaced. This distance was determined by the condition of the pipeline coating. The line was returned to normal service 24 hours after the leak was detected. The fluid loss was estimated at 28 m3 of condensate."
1996	INC1996-060	A company employee noticed bubbles emanating from IPL's Line 9 at an investigative dig site. At the time of the incident Line 9 contained nitrogen which it had been purged with. A pinhole with a dent was discovered in the pipeline; trace amount of nitrogen was released to atmosphere. Line 9 mile post 2157.208 lot21/concession 3/township of Osnabruck/Stormont county. The basic cause is inappropriate material for conditions/usage; the OD -WT ratios is to high (120). Nitrogen was released
1996	INC1996-059	"A contractor labourer was holding an 8"" piece of structural steel (70 pounds) approximately 14 inches off the ground, when it slipped and crushed his left hand index. He had to get his finger partially amputated."

1996	INC1996-058	"On 11 November 1996, storage tank 20-21 at Westspur Pipeline's ("Westspur") Steelman Terminal overflowed allowing approximately 300 m3 of medium crude oil to be released onto the ground. The released oil was contained within the tank's bermed area. The tank itself sustained slight damage as a crack (seam rupture) was found in the upper wall of the tank. At the time of the incident, the Steelman Terminal was being remotely operated from the Estevan control centre. Operation personnel were floating Tank 20-21 with incoming crude from Midale Terminal (rate 410 m3/h) and pumping south to Berthold (rate 210 m3/h) and east to Alida Terminal (rate 370 m3/h). During this time, a power failure occurred at Steelman Terminal resulting in the control centre losing SCADA communications with Steelman Terminal. As a result of this failure, the control centre operator was no longer able to monitor the level of the oil in the storage tank. The operator then spent approximately 35 minutes attempting to determine the source of the problem. After having determined that a power failure had occurred, the operator contacted the technician on call and requested that he go to the terminal to investigate and take corrective action. By the time the technician arrived on the site, the tank had overflowed. Of the 300 m3 of crude released, 297 m3 was recovered. The contaminated soil was collected and treated at NewAlta facilities in Halbrite, Saskatchewan. The released crude oil was contained within the tanks bermed area. Of the 300 m3 of crude that was released, 297 m3 was recovered. An unknown amount of contaminated soil was collected and treated at NewAlta facilities in Halbrite, Saskatchewan. The storage tank overflowed allowing approximately 300 m3 of medium crude to be released onto the ground."
1996	INC1996-057	Company personnel on-site noticed crude oil leaking from valve No. 2.5 on pump unit No. 2.4 and that the oil had sprayed onto an adjacent road. A flange gasket failed resulting of a release of 11.3m3 of crude oil. 11.3m3. crude.
1996	INC1996-055	"Following electrical maintenance on a densitometer, the seal on the densitometer pump failed and began to release NGL into the atmosphere during its start up. Cause by wear and tear and improper design on the seal. unknown release amount"
1996	INC1996-054	20m ³ of produced water (salt water) overflowed and spilled into the tank's dyked area. Produced water was released
1996	INC1996-056	Compressor Station 80 experienced a fire in the 'B' Plant enclosure. Station personnel noticed smoke exiting the power turbine exhaust enclosure and immediately activated a manual unit shutdown. The fire was successfully extinguished after manually activating the halon fire suppression system. The extreme heat emanating from the exhaust shell of the power turbine subsequently ignited the material oil soaked fibrous insulation blanket and miscellaneous debris. There was no ignition of the natural gas.
1996	INC1996-052	"While TCPL was starting up the "B" plant unit, a lube oil seal failed on the starter of the gas generator and allowed 136 litres of gas generator lube oil to leak into the gas generator's vent. The oil blew out as a mist into the station yard covering an area of 49 m2. Approximately 136 litres of ESSO 2380, a polyolester (synthetic oil) was discharged as a mist over an area of 49 m2 upon starting the 'B' Plant. Approximately 136 litres of ESSO 2380, a polyolester (synthetic oil) was discharged as a mist."
1996	INC1996-053	A trace amount of NGL was released at the Regina Terminal Line 1 Station. The NGL release was due to a seal failure on Unit 1.2 caused by wear and tear. The inboard seal on mainline unit #1.2 failed releasing a trace amount of NGL. Unknown amount released

1996	INC1996-050	A local farmer discovered a small patch of oil on the surface of his stubble field at a location where a 6 inch diameter clean oil gathering line owned and operated by Westspur Pipeline is installed and passes across his property. a pinhole leak of crude oil on Westspur's 6" gathering line. Lease 10 section 7 township 4 range 31 west first meridian. Short shut down of line of 2-4 hour periods. An estimated volume of 0.1 m3 of crude oil was released through a small pinhole leak in the 6" line.
1996	INC1996-051	A contractor's employee fell into a 4 ft. deep excavation and broke his left leg below the knee. The basic cause is inadequate assessment of risks from the employee.
1996	INC1996-049	A gas alarm was set off at the Glenboro Station due to a NGL release from IPL's Line 1 at this station. The release was discovered to have resulted due to a instrumentation pump seal failure. Volume of spill is unknown
1996	INC1996-048	"On 8 October 1996, while conducting a discrete investigation on Line 100-4 near Rapid City, Manitoba, a TransCanada contractor operating a backhoe contacted a NPS 2 pipe which forms part of the Line 100-1 through 100-4 mainline drip common drain system. No release of natural gas resulted from this incident. MLV 30+4.45 km (near Rapid City)"
1996	INC1996-047	"On 30 September 1996, at approximately 00:15 C.S.T., a fire occurred at TransCanada's Compressor Station 69A. This particular unit had undergone a dry gas seal conversion two days earlier and had been running without problem during the two days following the conversion. Site personnel received an initial UV detection alarm (a flame would have tripped this alarm) and the compressor unit was automatically shut down. Ten seconds later a second alarm (a high-heat alarm) was set off. When tripped, this alarm initiates an automatic plant ESD as well as triggers the halon fire suppression system. The halon is supposed to extinguish any fire within the jet engine enclosure. In this particular case, though, the halon either did not put out the fire or the fire restarted. The extent of damage caused by the fire is unknown at this time, however, it is known that the power turbine has undergone severe damage, as well as the unit enclosure, unit return air ducting and unit control wiring. There is no damage to station piping. Update, Onsite NEB investigation conducted by staff. NEB field investigative report prepared and completed 12 November 1996. Final NEB investigative report not completed. Incident Close-out Memo had not been prepared. TSB did not conduct an investigation into this incident. Thus, it did not issued and investigative report. "
1996	INC1996-045	"On 23 September 1996, a backhoe operator, while dropping a half bucket of sand into a trench, turned his equipment and, with the counterweight on the rear of the backhoe, struck an NPS 1 blow-off valve off the top of the existing NPS 2 supply off Line 100-2 and bent the riser piping where it exited and re-entered the ground. The incident resulted in the release of natural gas to atmosphere for a period of approximately 40 minutes. The volume of gas released is estimated at 20.8 e3m3. Grafton Ontario tation at MLV 135+29.703 km. The incident resulted in the release of natural gas to atmosphere for a period of approximately 40 minutes. The volume of the gas released is estimated at 20.8 e3m3."
1996	INC1996-046	Sour natural gas was released from the Unit #3 suction pulsation vessel 12" inlet flange gasket.

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1996	INC1996-043	<p>"On 11 September 1996 a Westinghouse employee ([REDACTED] was injured when he fell 2.6 meters into a motor pit and fractured one of his ribs. At the time of the incident he was working at TCPL's Compressor Station No. 147 in Cornwall Ontario. He was part of a crew which was on site to clean a component of the "A" Plant compressor unit's electric motor by blasting it with cornmeal under high pressure. When he fell, he had stepped from the side to the front of the unit's motor where a metal floor plate cover had been temporarily removed to accommodate the work to be performed. With the floor plate cover removed he fell into the motor pit injuring himself. Immediately upon his having fallen he complained of a sore back and chest and was having difficulty breathing. An ambulance was called and he was taken to the Cornwall Hospital where he was admitted and treated. He remained in the hospital until 13 September 1996 for observation as it was thought he may have had internal injuries. The employee returned to light duty office work on the 16 September 1996. [REDACTED] had finished cleaning the center portion of the unit and was in the process of relocating himself to the front of the unit in order to begin cleaning it. As he was stepping down off the walkway around the unit, he fell between the floor and the rotor exciter bedplate approximately 2.6 metres to the bottom of the pit. He immediately exited. An ambulance was dispatched to the scene and [REDACTED] was taken to a hospital in Cornwall. X-rays revealed that he had broken the second rib from the top in the left side of his chest. He was transferred to Ottawa General Hospital due to the potential for internal bleeding from the sustained injury. [REDACTED] was released on September 13 and spent the weekend at home."</p>
1996	INC1996-041	<p>"As part of IPL's retesting program of its Line 3, a hydrostatic test crew had arrived at this site to begin setting up for the hydrostatic test. The crew could smell oil upon their arrival and discovered that the 24 inch diameter Line 2 was leaking. The source of the crude oil leak is suspected to be an old split tee fitting which had once used in connection with cross over piping. Crude oil leak was found on a full encirclement reinforcing tee installed on IPS's line 2 9.5 m3."</p>
1996	INC1996-040	<p>"On 30 August 1996 personnel at Manito Pipeline's ("Manito") Lone Rock Pump Station heard a loud bang and noticed that the side of the 40,000 barrel blend storage tank had wrinkled and cracked in 3 places near its roof. Structural repairs to the top two rings of the tank and its roof will be required and are planned for spring of 1997. The damage it sustained has resulted in a 38% reduction in use of its normal capacity. At the time of the incident, the oil level in the tank was at 8 meters. Following the incident the level was reduced to 6 metres. The total height of the tank is approximately 15 metres. The damage to the tank is believed to have occurred as a result of an excessive nitrogen pressure build-up within the tank. An explanation of how a pressure build-up occurred is explained in the "Discussion" below."</p>
1996	INC1996-042	<p>"A natural gas leak was discovered at the Louiseville station, due to a 1/4" crack on a grease fitting at a valve on the upstream side of the station. The gas was venting at a pressure of 700-800 psi. Explosive concentrations of natural gas were found at ground level within the station fence line. It was necessary to evacuate the Louiseville lateral in order to effect repairs to the valve."</p>
1996	INC1996-039	<p>A gas alarm from Mildred Station was received by the Edmonton Control Center. Operations personnel were dispatched and confirmed an NGL leak on Line 1 in the densitometer building. The volume of NGL released was unknown. The basic causes are normal wear/tear and improper design of the seal. Amount released was unknown.</p>

1996	INC1996-037	"On 12 August 1996, at TransCanada's Compressor Station 17, near Regina, Saskatchewan, the bucket of a Contractor's trackhoe contacted the top of the NPS 42 ""D"" Plant discharge manifolding to Line 100-6. The discharge line is buried approximately 3.4 metres below grade and was being daylighted to confirm the elevation and centre line in order to tie-in the new ""E"" plant manifolding. This incident did not result in the release of natural gas nor was there a fire. This incident occurred while the trackhoe operator was removing material from the bottom of the ditch that had sloughed in while the operator was sloping the sides of the excavation. Prior to this, a Contractor's labourer had probed for, and located the discharge line. It was determined that 600 mm of cover remained. TransCanada indicated that because the soil removal from the bottom of the ditch was so gradual, that it was not evident to TransCanada's Inspector that the hoe-bucket was gradually coming closer to the pipe. The wall thickness at the point of contact was measured at 16.4 mm. A magnetic particle inspection did not reveal any surface breaking features."
1996	INC1996-036	The pneumatic controller for inlet scrubber liquids levels failed in open position releasing liquids in the immediate vicinity of the waste oil storage tank. The amount of scrubber liquids released is unknown
1996	INC1996-038	"On 12 August 1996 at MLV 39+0.002 km on the TCPL system, a diesel truck operator had failed to back onto position in order to refuel the air compressors on site. Faced with the problem of having an insufficient length of hose to reach the air compressors, the operator over-tensioned the fuel hose, causing it to disconnect from its coupling. This resulted in the release of approximately 125 L of diesel fuel onto TransCanada's right-of-way. The spill affected an area of 15 m2. The Manitoba Spill Centre was contacted and the affected soil was stripped and removed to Mid-Canada Soils for disposal. The spill affected an area of 15 m2. The Manitoba Spill Centre was contacted and the affected soil was stripped and removed to Mid-Canada soils for disposal. This incident resulted in the release of approximately 125 L of diesel fuel onto TCPL's right-of-way."
1996	INC1996-035	"On 9 August 1996 a TransCanada contractor operating a John Deere 490 Backhoe accidentally contacted the pipe surface on Line 100-1 at MLV 46 + 9.079 km. This location is approximately 28 km downstream of TransCanada's Compressor Station 45, near Falcon Lake, Ontario. There was no release of natural gas and no fire resulting from the incident. Prior to this incident, a TransCanada survey crew had staked the location of Line 100-1 at MLV 46-1 + 9.079 km. The contractor operating the backhoe was excavating for the purpose of installing hydro poles for the new DC cathodic protection system in the area. The poles were to be installed at a 2.5-metre offset from the mainline. The contractor accidentally struck the pipe because the location of the line had been identified incorrectly. TransCanada is of the opinion that the line was incorrectly located due to an incorrect signal, possibly caused by buried corrosion cables. The extent of the damage to the pipe was a 300 mm long defect running from the 12:30 to the 11:00 position. The gouge was considered by TransCanada to be superficial in nature, averaging between 0.0762 mm to 0.127 mm in depth. The deepest indication reduced the wall thickness from 9.957 mm to approximately 9.703 mm. Line 100-1 is an NPS 30 x 9.525 W.T., manufactured by A.O. Smith."
1996	INC1996-034	Approximately 200 gallons of liquid comprised of 25-30% DEA and water leaked from an overhead cooler onto the ground.

1996	INC1996-033	"On 22 July 1996 the operator at Manito Pipelines' ("Manito") Grill Lake Booster facility (NE 35-36-23 W3M) found approximately 3 m3 of oil on the ground. The Company's Control Center was immediately notified not to start the station because there was a leak. Investigation by Manito personnel determined that a weld neck flange on the station bypass valve had cracked allowing blend to leak onto the ground. The station was isolated for 10 hours and the necessary repairs were completed, allowing the station to be returned to normal service that same day. Of the estimated 3 m3 of lost fluid, approximately 2.5 m3 was recovered. Manito indicates that 20 yards of contaminated dirt was removed and hauled to its ecology pit at Plover Lake. Off lease contamination was limited to a misting of approximately 0.24 hectare of an adjacent crop of wheat. This incident resulted in Manito's Grill Lake Station to be out of operation for a period of 10 hours. Of the estimated 3 m3 of lost fluid, approximately 2.5 m3 was recovered."
1996	INC1996-032	"On 09 July 1996, on the TransCanada Pipeline right-of-way at MLV 39 + 6 km near St. Norbert, Manitoba, a Link Belt was being used to drive piles for a work bridge over the LaSalle River. While on the bridge deck, a broken clutch caused the hydraulic cylinder to overextend, causing the fluid to release. Approximately 5-7 litres of hydraulic fluid leaked onto the bridge deck and the actual amount spilled into the river is unknown. While on the bridge deck, a broken clutch caused the hydraulic cylinder to overextend, causing the fluid to release. Approximately 5-7 litres of hydraulic fluid leaked out onto the bridge deck and the actual amount spilled into the river is unknown. TCP is of the opinion that there is no environmental impact associated with this incident. The spilled fluid was immediately contained and has been cleaned up. All waste has been deposited into a storage container at the contractors yard for disposal at an approved landfill."
1996	INC1996-029	"On 27 June 1996 at Manito Pipelines' (Murphy Oil Company Ltd.) Dulwich Station a crude oil spill was detected by maintenance personnel. The incident was a result of a 1" drain valve on the crude suction line being inadvertently bumped partially open by contractors that were on-site the previous day installing heat tape on designated segments of station piping. Oil overflowed the sump tank spilling an estimated volume of 6.0 m3. The basic cause was inadequate design of the sump tank (no high level alarm) Oil overflowed the sump tank spilling an estimated volume of 6.0 m3. Because the product spilled is heavy crude, recovery and clean-up procedures in this instance will result in minimal damage to the environment. A portion of the area affected is cultivated farm land. Standard reclamation procedures will be utilized in this area."
1996	INC1996-028	"The guide vein drive shaft ring broke on compressor unit no 2 allowing the drive shaft to drop out of one end of the compressor which was operating. When the drive shaft dropped out, sour gas rushed out at about 800 psi through the compressor's orifice which the drive shaft occupied. The compressor involved in this incident a Delaval centrifugal compressor driven by a Allison gas generator. The amount of natural gas released is unknown"
1996	INC1996-027	A WEI instrumentation mechanic was working on wiring for sulphur train No 10 which was shut down at the time. The location of the wiring was adjacent to wiring for sulphur train no 11 which was operating. The wiring for train no 11 was inadvertently jarred by the mechanic causing it to disconnect and drop out of its terminal block. This resulted in a shut down of sulphur line no 11. 8.7 tons
1996	INC1996-026	While two floor operators and one board operator were in the process of starting up the reaction furnace on Sulphur Train B an explosion occurred and dislodged a blind held in place by a slip on flange. The blind was propelled approximately 600 feet where it landed on the roof of the A&D Building. An unknown amount of natural gas was released

1996	INC1996-025	WEI Personnel noticed sulphur vapors escaping from underneath some insulated piping. A pin hole leak was discovered after the insulation was removed. An unknown volume of sulphur vapor was released.
1996	INC1996-030	A local gas alarm at the Kerrobert station warned personnel onsite of a NGL leak in the line 1 pump building. An immediate investigation by the onsite personnel revealed NGL was being released at the pump drain nozzle for pump unit 3.1. NGL was released.
1996	INC1996-024	A WEI employee was struck in the head with the handle of an overhead chain operated valve. He had facial lacerations requiring stitches.
1996	INC1996-023	IPL's Edmonton Control Center received a gas alarm for the Souris West Pump Station. The operator on duty requested personnel to investigate. IPL personnel discovered that a loose fitting on pump unit No.1.2 had been releasing NGL to atmosphere. This incident resulted in the release of approximately 10 litres of NGL. 10 litres of NGL was released.
1996	INC1996-022	A contractor spilled 400 kilograms of hydrocarbon sludge while pumping it into a 400 barrel sludge tank. 400 Kilograms was spilled.
1996	INC1996-021	"On 22 May 1996, at 08:30 CST, oil was detected on the ground surface at a battery treating facility located six miles east of Alida, Saskatchewan (6-10-5-32-W1). Daylighting buried piping below the oil revealed a Westspur 4" gathering line which had a pinhole through it. Approximately 0.2 m3 of crude oil had been released into the soil. The pressure in the pipeline at the time of the incident was 2050 kPa. 6 miles east of Alida Sask. (6-10-5-32 W1) 2m3 Approximately 0.2 m3 of crude oil had been released into the soil from the pinhole leak in the 4" pipe."
1996	INC1996-020	"On 09 May 1996 at TCPL's compressor station No. 116 (North Bay, Ont.), a contractor's employee was injured when he was struck and knocked off of a flat bed truck by one of three 40 foot length of 8" diameter pipe. The contractor employee had positioned himself on the flat bed truck while the lengths of pipe were being loaded onto it by a forklift owned by TCPL and operated by a TCPL employee. As the pipe was being lifted, it became unbalanced and began to slide and roll off of the forklift. One of the pipe lengths struck the contractor employee on his chest, knocking him to the ground. The contractor employee was immediately attended to by TCPL personnel and was taken to North Bay General Hospital where it was determined that he sustained a fractured left pelvis, a fractured left knee, and a dislocated finger as a result of this incident. The end of the second joint of pipe furthest away from [REDACTED] then came off the trailer and as it fell to the ground it caused the pipe end closest to [REDACTED] to raise up, striking him in the mid section and knocking him off the back of the trailer deck. Ambulance personnel arrived and [REDACTED] was evacuated to the North Bay General Hospital Emergency Department for treatment of his injuries. [REDACTED] suffered a broken pelvis, broken left knee and a dislocated finger on the left hand. It is unknown how long [REDACTED] was off of work."
1996	INC1996-019	"On 30 April 1996, a lightning strike ignited gas that had been seeping from the starter vent stack, located in the station yard, for unit 2 in the 'A' compressor plant. The fire was extinguished by on-site employees using portable fire extinguishers. A lightning strike ignited an unknown amount of gas that had been seeping from the starter vent stack. The fire was extinguished by on-site employees using portable fire extinguishers."

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1996	INC1996-017	"On 23 April 1996, at 17:30 CST, an NPS 8 station discharge relief valve at the Foothills Saskatchewan Frenchman River Compressor Station (Station 393) inadvertently opened below its relief pressure setting resulting in the venting of approximately 100 MMcf of natural gas to atmosphere. The pressure in the mainline at the time of the incident was 8350 kPa. The maximum operating pressure is 8690 kPa and the relief valve set pressure is 9270 kPa. Gas loss in the initial stage of the incident was relatively low since the valve was only partially open, and therefore difficult to detect by NOVA Gas Control in Calgary and was only later confirmed. NOVA Gas Control, as Foothills' contract operator, notified TransCanada Pipelines Ltd., Foothills' contract operator, in Shaunavon, at 22:45 CST on April 23 of a suspected gas leak. TransCanada's on-call technician at Frenchman River confirmed a relief valve was partially open and venting gas at 23:45 CST. Due to the length of time (6.5 hours) which the relief valve vented, its seat was damaged and as a result will have to be replaced. Approximately 100 MMscf of natural gas was vented to the atmosphere due to an inadvertently opened discharge valve."
1996	INC1996-018	"While testing a fire truck pump, approximately 113 litres of FP 70 (fire-fighting foam) was sprayed onto a field and subsequently washed into a creek. For a spill, the MSDS recommends flushing FP 70 into a sewer at 0.1% concentration. The release here was 3% concentration into an open body of water. Some foam was shovelled out of the creek on the property. Fences were set up in the creek to capture any floating foam. Samples were taken from the creek in order to perform toxicity tests. 113L While testing a fire truck pump, approximately 113 litres of FP-70 (fire-fighting foam) was sprayed onto a field and subsequently washed into a creek."
1996	INC1996-016	"An incident was reported to the Board on 21 April 1996 involving the Sun Pipeline in Sarnia Ontario. The incident was detected at 07:00 E.D.T. as pipeline company personnel were about to begin pumping water out of a ditch on the west side of Vidal Street, adjacent to the pump station. Personnel noticed propane bubbling up through the water in the ditch where Sun Pipe Line Company's 8 inch line is situated. This south line extends from Sun's refinery in Sarnia to Marysville in the USA via crossing the St. Clair River. The line was immediately shut down and an emergency response team was deployed. The line was daylighted to find the source of the leak and determine the necessary repairs to be carried out. The line was repaired by cutting out the damaged section of line and replacing it. The basic cause of the incident being that the unidentified third party failed to confirm the presence and precise of a utility prior to excavating. The pipeline was returned to service on April 26, 1996, 5 days after the initial discovery. Less than 1 m3 of propane was released from the 8 inch pipeline. The leak was detected by Sun personnel whom noticed propane bubbling up through the water in the ditch."
1996	INC1996-015	Crude oil was discovered leaking from line 13 scraper trap door. The estimated volume of oil spilled was 3.2 m ³ . Release oil picked up with a vacuum truck and all contaminated soil will be disposed of in accordance with the company env. procedures. The basic cause of the leak was normal wear and tear on scraper door o-ring.
1996	INC1996-013	An uncontrolled gas release was discovered on Line 4 loop termini. There was no ignition and no injuries as a result of the incident. A failed flanged gasket is suspect on the line 2 -4 loop termini tie-over at MLV 80+ 13.8km East Geraldton. An uncontrolled gas release was discovered on Line 4 loop termini. The amount of gas released is unknown.
1996	INC1996-012	"On 3 March 1996, gas was found to be leaking at MLV 39. A TransCanada employee found that the leak was from a broken grease line on the mainline valve. The broken grease line was repaired by replacing the swage nipple on the line. There was no interruption of service while performing this repair. A gas leak was discovered at MLV 39 due to a broken grease line. It is unknown how much gas was released. "

1996	INC1996-011	Personnel found crude oil on the ground next to Line 2 in the vicinity of Valve S2.2. The basic cause of the spill was normal wear and tear. onthe valve. Personnel found crude oil on the ground next to line 2 from a leak in valve 2.2 the valve was found to had loose packing.
1996	INC1996-010	H2S leak at Pine River Gas Plant as a result of two craftsmen were preparing to remove a pressure switch for reaction furnace B Amount released is unknown
1996	INC1996-009	"The operator observed a sudden pressure drop on line 3 between Glenavon and Langbank at 0622 MST. The line was shut down and sectionalized at 0630 MST. A patrol plane and field personnel were dispatched and confirmed a significant leak at 0855 MST between MP 505 and 506. Line rupture at MP 506.6830. Update. Line 100-2 (mile post 506.7) ruptured. The TSB has not yet issued its report indicating the cause of the incident. The volume of crude oil estimated to have been release from the pipeline as a result of the incident 800m3. Onsite NEB investigation conducted by NEB staff. Board's ""Show Cause"" letter to IPL dated 29 February 1996 (File 9700-A000-1-24 Vol. 1). IPL 's letter of response dated 7 March 1996.Minutes of 8 March 1996 meeting between Board and IPL staff (File no 9700-A000-1-24 Vol 1). Board letter to IPL dated 14 March 1996 directing IPL to reduce its MOP, conduct pressure testing, and submit a pipeline integrity evaluation (File no 9700-A000-1-24 Vol 2). IPL's letter of response to the Board dated 29 march 1996 re the Board's directions to IPL contained in its letter 14 March 1996 (File no 9700-A000 1-24-Vol 3). Final NEB investigative report completed September 1996. Incident Close-out Memo dated 16 September 1996. TSB conducted a field investigation of this incident by has yet not yet issued its report to be numbered P96H0008."
1996	INC1996-008	"Sour gas leak at valve site (MP 21.79 of WEI's 20 inch Pointed Mountain Pipeline) A valve was leaking, volume released is unknown"
1996	INC1996-007	"On 19 February 1996 the ""B"" Plant at TransCanada PipeLines Limited (""TCPL"") compressor station No. 58 in Ignace, Ontario was removed from service for a routine soakwash, regular maintenance and to effect repairs to a leaking relief valve on the fuel gas system. Upon completion of this maintenance, the compressor and fuel gas system were repressurized to verify the repair to the relief valve. Station personnel immediately noticed the smell of natural gas within the compressor building and subsequently depressurized the compressor. After disconnecting the thrust and seal balance piping from the compressor, they discovered the source of the leak to be a cracked fillet weld on a NPS 2 1/2 inch socket flange. Section ""J"" of TCPL's Detailed Incident Report submitted to the Board stated that to repair the leak the crack surface was ground, polished using a light buffing wheel and inspected prior to and following the repair weld using a magnetic particle inspection technique on both the O.D. and I.D. surfaces. The inspection did not reveal any further defects to exist and socket flange was reinstalled and the unit was restarted. ██████████ of TCPL, in a telephone conversation with Board staff (B. Storey) on 30 May 1997, further clarified and explained that the repair involved completely removing the socket flange from the piping it was welded to by grinding out the fillet weld which held the two together. The two were then reconnected via the same means. TCPL was not able to determine the precise cause to the fillet weld cracking. However, they suspect that the crack may have developed due to improper spacing between the socket flange and the pipe it was connected to at the time the two were welded together utilizing a fillet weld. After repressurizing the system, personnel immediately noticed the smell of natural gas. They discovered the source of the leak to be a cracked fillet weld on a socket flange. An unknown amount of natural gas was released."

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1996	INC1996-006	"On 12 February 1996 the B Plant at TransCanada Pipelines Limited ("TCPL") Compressor Station No. 107 in Swastika, Ontario was removed from service for a scheduled 3 day dry gas seal replacement. On 14 February 1996, after having completed the seal replacement, station personnel were in the process of restarting the unit when they noticed that two of the gas detection monitors were slowly rising, indicating the presence of natural gas within the compressor building. They immediately interrupted the start-up sequence to investigate the source of the leak. Upon investigation they discovered a hairline crack on the circumferential weld of the NPS 3X2 reducer between the purge/starting gas piping and the unit's recycle piping. An unknown amount of gas was released from a hairline crack on the circumferential weld of the NPS 3x2 reducer between the purge/starting gas piping and the unit's recycle piping."
1996	INC1996-005	Gas leak at mile post 125.5 of the Grizzly Pipeline
1996	INC1996-004	Tank farm operator discovered Synthetic crude oil - HSB to be leaking from tank 91
1996	INC1996-003	Glycol spill as result of cold weather. Approx. 4 barrels of glycol on the skid. All recovered with a vacuum truck
1996	INC1996-002	IPL received a Line 1 gas alarm from Mildren Take-off. Line 1 was shut down from Edmonton to Superior at 1920 MST and the line was sectionalized. IPL personnel were dispatched to site to investigate the gas alarm and the source of the leak was determined to be the failure of the mechanical seal on the densitometer pump. The densitometer pump was isolated at 2010 MST and Line 1 was returned to service at 2028 MST. Basic cause of incident wear and tear.
1996	INC1996-001	A fire occurred on the main gas inlet scrubber for compressor unit No. 7 at WEI's Compressor Station No.5
1995	INC1995-077	0.05 m3 of NGL was released when a valve stem seal failed on valve 1.2 (discharge valve) on IPL's line 1. It appeared to be due to degradation and occurred under normal operating conditions. 0.05M3.
1995	INC1995-075	A 3" propane fitting cracked allowing propane to escape.
1995	INC1995-076	"The sight glass of a fuel gas filter failed, allowing gas to leak in the compressor station. "
1995	INC1995-074	"When Westspur personnel arrived at the terminal to begin work for the day it was noticed that a flange gasket between an 8 inch gate valve and an 8 inch check valve, positioned back to back was leaking oil. Crude leaked from a flanged piping connection. "
1995	INC1995-071	Glycol spilled due to a sump pump failure. A pump that empties the liquid capture tank failed allowing the tank to overflow.
1995	INC1995-069	Crude oil spilled due to the failure of a tank mixer. Leak was contained to tanks bermed area. Defective material of construction (shaft material) immediate cause inadequate inspection basic cause.
1995	INC1995-066	An Ingersoll Rand reciprocation compressor backfired and destroyed the bellows of the exhaust system.
1995	INC1995-065	Portable compressor crank case incorrectly installed leaked approximately 115 litres of lube oil on the station property.
1995	INC1995-067	Sour gas leak from a crack on the inside radius of a 2" 90° elbow.
1995	INC1995-064	"Crude spilled on site due to a failed 12"x12"x8" manufactured tee. A crude oil pool was discovered 12 ft X 3 ft. in size, and estimated to be 3.0 m3 in the area of the discharge piping from Pump Unit 10.2. The pump unit was shut down and isolated, and Pump Unit 10.1 was started up in its place. The oil pool was located upstream from the discharge valve and its suspected to be coming from a piping flange. The pump unit was isolated and excavation from the source of the leak was being carried out. Approximately 3.00 m3 of crude was on the property. "

1995	INC1995-062	"Pin hole leak discovered in condensate line while excavating adjacent line. A crew of contractors under supervision of one of Murphy Oil's forman were doing some maintenance on Murphy Oi'ls Manito 10"" blend pipeline, and one of the crew noticed a smell. Investigation by excavating with a hand shovel found that the soil was saturated with condensate. There are two paralleling line at this location, and a pinhole heal was discovered on the 8""condensate line. The line was shut down, and daylighted. The pinhole leak was located and a temporary repair clamp was installed. The damaged section of pipe was tape coated, and the coating was damaged at the pinhole leak location. The person who reported the incident also stated that the location of the pinhole on pipe, and the line pressure would be reported in the detailed incident report, and that this was the only section of pipe which was not included in Murphy Oil's recent inspect ion program. Manito considered leaving the clean up until spring. Tape coating found to be damaged at this location. Line isolated and repaired. While doing maintenance work on P/L crew noticed soil was saturated with condensate. Pinhole leak was found on 6"" condensate laine. "
1995	INC1995-063	A contractor employee was struck by a vehicle and suffered contusions to the lower back. The employee was taken to Brooks Health Care Center and was being held for observation. Chinook conditions had created very muddy conditions and the vehicle slipped sideways while pulling away from the job site.
1995	INC1995-061	"Crude oil spill due to rupture adjacent to longitudinal weld. An operator noted a pressure drop on the discharge side of the station, and shutdown and isolated the line. IPL personnel were sent to investigate, and it was confirmed that a line break had occured. The 34"" pipeline was carrying heavy crude. At the site of the break a slew approximately 50 ft by 200 ft filled with the crude. IPL company personnel commenced containment of the crude, clean-up and investigation. Brent Storey of the Engineering Branch's Accident Investigation Division had travellled to the site to investigate the incident. PL press est at 503 psi. Following confirm of rupture line isolated and EP's started. Update, Line 3 ruptred (mile post 548.86) near Langbank, on 13 November 1995 due to a fatigue crack that had propagated to 90% of the pipe's original wall thickness. The crack had initated on a zone of shallow external corrosion on the pipe surface. The volume of crude estimated to have been release from the pipeline as a result of hte incident is 768m3. Onsite NEB investigation conducted ny staff. Final NEB investigative report completed May 1996. Incident CloseOut memo dated 15 May 1998. TSB did not conduct a field investigation into this incident but did issue a report (no P95H0047). "
1995	INC1995-060	"Burst plate failed on a glycol tube and shell exchanger. The pressure of the station fuel gas had dropped to 100 psi from 900 psi and was then reheated in a tube ans shell glycol heat exchanger. The Glycol was fed into the heat exchanger at 28 psi and the feed line was protected with a pressure alarm set at 50 psi, at pressure safety valve set at 45 psi and burst plate which was set at 50 psi. In the pressure exceeds 50 psi, the burst plate would break and the glycol sould travel from the burst plate through the pipeline and through the building, to the plant yard. There was not pit or containment system at the end of the pipe to contain the glycol in the even that the burst plate failed. Thus, approximately 500 gallons of a 50% solution of ethylen glycol expaced out in to the plant yard and beyond the plant fencing. The pressure of the piping had not exceeded 45 psi, thus the burst plate failed prematurely. The pressure safely valve did not release, nor did the pressure alarm sound. The spill was cleaned. A containment system was placed at the end of this pipe "
1995	INC1995-059	Tank overflow vented triethelyne glycol to a building roof. Approximately 82 gallons of triethelyne glycol wa vented to a building due to the tank which contained it being overfilled and purge pressure in the tank pushing it up through a vent onto the roof. The trietheline glycol was cleaned up and the incident was being investigated as to its exact cause

1995	INC1995-058	"Leak due to crack in girth weld.7. TCPL 's leak detection survey crew, while conducting its routine line leak survey program, detected a gas leak over line 100-1. The location of the leak is near Vibank, Saskatchewan which is east of Regina. The crew immediately reported the leak and MLV's 18 and 19 on line 1 were closed to isolate the section of pipeline. As the site was adjacent to a highway, TCPL decided to man the site overnight as a precautionary safety measure. TCPL is going to bring in a portable transfer compressor to depressurise the section of line which will be daylighted on 20 September 1995."
1995	INC1995-057	Contractor employee crushed pinky finger while dismantling bridge frame. Finger amputated up to first joint at the hospital du Haut Richelieu. As the contractor was dismantling the bridge frame from the Riviere du Sud crossing at MLV 804-2 + 10.90 km. Prior to transportation the bridge to the contractor's yard in Iberville he tried to staighen our the pile (frame) when his pinky finger got caught in the metal parts and was amputated at the first joint.
1995	INC1995-056	Upon compressor start up a valve malfunctioned shutting down the compressor causing a vent valve to open and vent gas which ignited. The No. 5 Clark reproccating compressor was being air started when a valve malfunctioned. The unit automatically shut down and caused the gas vent valve to open. The gas venting through the valve ignited. The source of ignition was unknown. The station was manually shutdown by the Emergency Shutdown System and the flame distinguished when all gas was vented within 20 minutes. The compressor was restarted without incident.
1995	INC1995-055	NGL released to atmosphere due to a mechanical seal failure on a densitometer pump. A gas alarm from the Metiskow Station was received by the Edmonton Control Centre. Filed personnel dispatched to the site found NGL leaking from the Line 1 pump unit. Approximately 0.01m3 of NGL was released. Station was remotely isolated. Field personnel were dispaatched to the site. Line 1 was shut down for approximately 1.7 hour. Minor leak was contained on station property.
1995	INC1995-054	"External corrosion on Pump Unit bypass caused pin hole leak of crude oil. When station personnel arrived to the pump station this morning, which was unmanned over the weekend, they discovered an oil pool on the ground. The source of the oil was a pinhole leak in a section of 2"" diameter bypass piping for Pump Unit #3. This is a stand-by diesel pump unit. The volume is estimated at approximately 1.0 m3. The leak was daylighted with hand excavation, and repairs were on going. "
1995	INC1995-053	"An overflow of KCO3 discovered following process train start up. A sump which contains Potassium Carbonate overflowed following the start-up of the ""D"" process train on September 12, 1995 spilling approximately 216 litres of 100% equivalent Potassium Carbonate. Station personnel immediately blocked the ditches with earthen dikes and began clean up. Spill was contained to station property. "
1995	INC1995-052	"Ruptured capacitor used for voltage regulation on the mainline unit motors caused fire at the Souris station electrical switchgear building. On Setember 10, 1995, the Edmonton Control Centre received a fire alarm from the Pump Station at Souris, Manitoba. Line 2 and 3 were shutdown immediately and company field personnel were dispatched to the site. the Line 3 swichgear cubicle was damaged by fire. The fire was extinguished with the assistance of the Souris Fire Department. Line 2 resumed normal operation at 0530 MST, and Line 3 resumed operation with Souris Station bypassed at 0620MST on September 10, 1995. Fire was extinguished with assistance of Souris fire dept. Cause Unk. At this time "

1995	INC1995-051	"Pitted corrosion of a domestic fuel gas line allowed release into ground. A TCPL employee noted water in ditch bubbling near a domestic fuel gas metering building. The bubbling was found to be occurring due to pitted corrosion on a domestic fuel gas line between the domestic fuel gas meter building and TCPL company housing which is serviced by this line. The line is a 4 inch nominal pipe size and operates at approximately 60 psi at the location where the corrosion was detected. As the line was low pressure and the leak minor and shutting it down would mean starving the residences of fuel gas, it was decided that corrective action would not be taken until a time was determined to be suitable. On 31 August 1995, the section of line was isolated and blown down to atmosphere to allow crews to excavate and repair the section of corroded pipe. The corroded pipe was then cut out and replaced "
1995	INC1995-050	"Valve seal failure allowed NGL to escape into drain and vent through a loose seal pot flange. Approximately 0.01 m3 of NGL was released through the Unit 1.2 seal pot flange and triggered the Line station gas alarm. Line 1 was shut down and sectionalized by valves upstream and downstream of Hardisty Station and personnel responded to the alarm. Flange bolts were tightened, the lockout was reset and the line was returned to service. Update NGL escaped into a drain line from a valve which didn't seal properly NGL vapour escaped drainline piping through a loose seal pot flange. Flange was tightened and drain line valve flushed: NGL dissipated into atmosphere. "
1995	INC1995-049	"Malfunctioning level transmitter on debutinizer actuated pressure relief valve. As a result, a pressure relief valve let go due to overfilling and liquids (butanes and pentanes) were released to the flare stack. Some of the liquids burned while most of the liquids exited through the stack. Approximately 750 to 1000 litres of liquids were released. It was unknown how much burned and how much evaporated. The free standing liquid was contained by the dyke surrounding the flare stack. WEI indicated that it has no environmental concerns at that time. Cause of incident is normal wear and tear. "
1995	INC1995-047	"Aug 3, 4, and 5 the 10"" Silver line was operated above licensed pressure. PetroCanada notified WEI that their pressures were too high. PetroCanada is one of a number of producers that injected gas into this line. WEI thought it could be a hydrate build up problem. PetroCanada was ""shut down"" , ie; had to halt their input of gas at this time. TSB and NEB were notified. "
1995	INC1995-048	0305Oderant site glass blew out and vented gas to the atmosphere. The system was isolated and repairs were undertaken that afternoon.
1995	INC1995-046	Pipeline rupture due to SCC followed by ignition of escaping gas. TCPL line 3 and 4 ruptured downstream of the station 30 boundary. Plant 'D' station 30 was on fire. Almost 1/4 section of farm land scorched by fire. Line 100-3 and line 100-4 rupture. Update Line 100-4 ruptured filrs due to SCC and ignited. Line 100-3 later ruptured due to impinging heat from 100-4. Onsite NEB investigation conducted by NEB staff. Final NEB investigative report completed December 1995. Incident Close-out Memo dated 1 December 1995. TSB conducted a field investigation of this incident and issued a report (no P95H0036).
1995	INC1995-037	"High level alarm malfunction lead to light sour crude blend tank overflow. The incident involved the spill at Midale Tank Farm terminal, mainline Tank 20-41, of an unknown volume of light sour product. All product was contained and cleaned-up. "
1995	INC1995-044	"Casual Labourer struck pig barrel bleed valve with wheelbarrow opening it causing 1000psi pressure to blow gravel up, striking labourer & employee. on the 18"" cabin pipeline BC. "
1995	INC1995-043	Lightening struck and ignited gas on the """"B"""" plant booster vent. The booster vent isolation valve was closed to extinguished the fire.
1995	INC1995-042	"The contractor was pushing on the pivot arm of an anode flex plow when the pivot arm broke. The employee lost his balance and fell into the bell hole, He was taken to the hospital where he remain for the weekend for observation. He fractured his right elbow. MLV 12+8.95 in Saskatchewan. "

1995	INC1995-040	Drain valve left open resulted in glycol release from a Samling line cooler. The plant was near the end of a scheduled plant turn-around. A sampling line cooler was being filled with glycol. Glycol was discovered flowing in a ditch and into a drain on plant property. Approximately 1300 litres of glycol were spilled from the cooler because a drain valve was left open. The drain valve was closed. The ditch and drain were flushed for 4 hours with water.
1995	INC1995-041	Fuel truck spilled diesel due to fuel hose failure. The truck spilled approximately 120 litres of diesel fuel because the driver failed to roll up the fuel hose before driving away. The spill affected 15 square meters of land. A hoe used to excavate the soil into dump truck. MLV 148+30.65 km near station 148.
1995	INC1995-039	Internal corrosion lead to water and crude emulsion leak. Along south road 50m west of south east corner of legal 09 13 06 11 W2 A water and crude oil emulsion spilled from the pipeline occured as a result of a hole in the pipeline. The spill affected approximately 600 square meters of the slew. The spill was contained and the home wells were shut in from the well head to Shell'a processing plant. An initial clean-up was performed. Pipeline was shut down and remains down until repairs are completed. Legal 09 13-06-11 W2.
1995	INC1995-038	Significant soil erosion revealed a wrinkle in the pipe. Contractors were doing annual right-of-way work whe they noticed significant soil erosion above the pipeline. Upon digging down to the pipeline a wrinkle was discovered. There was no apparent leak from the line. The discovery was reported to Westcoast had office where it was decided that the line would be shut down and the wrinkle removed. Westcoast began drawing the line down on 11 July 1995 It is anticipated that pipe will be flown into complete the repair 14 June 1995.
1995	INC1995-035	Pipeline damage caused release of water and crude emulsion. The incident involved the spilling of 6 cubic meters of water and crude emultsion released form the pipeline. Repairs to the pipeline are forthcoming and the 100 meters of affected land will be reclaimed ""ensuite"" Legal descrp 09 13 06 11W2.
1995	INC1995-036	Construction crane sank in soft ground collapsing fuel tank and releasing diesel onto ground. 35-40 gallons of diesel fule oil spilling onto the ground. the fuel oil entered into a drainage ditch when spilled. The spill was immediately conatined by placing an earth dam around it. A sump pump truck was used to vacuum up the oil WEI personnel reported the spill to BC Provincial Emrgency Program Personnel.
1995	INC1995-034	"Monoethanolamine overflow from a surge tank. The C and D surge tank (approximately 100 barrels in size) containing Monoethanolamine over flowed allowing approximately 909 litres of amine/water solution (91 litres 100% pure amine) to escape onto the gravel ground surface. The tank does have high level alarm which did operate but the operator apparently had difficulty in operating valves to isolate the tank when the alarm sounded. The operator was eventually able to stop the flow of amine to the tank to prevent further overflow, but the means by which he did this not known at the time. "
1995	INC1995-033	"Crack in a weld on a 4"" amine line released hot amine to spray in building. A crack in a weld on a 4"" amine line, located on the suction side of the H Train high pressure amine pump, allowed approximately 20 gallons of hot amine (119F) to be sprayed within a building. The incident occured during start-up of the H Train which had been shut down fo a numbers of days. Start-up of the H Train was discontinued which in turn allowed for the amine line to be depressurized so that the source of the leak could be located and repaired. As the leak was contained within the building it occured in, the amine did not contaminate any soil or water. Clean-up of the amine commenced immediately following the incident. "

1995	INC1995-032	"Flex hose fitting failure leaked jet kerosene at a helicopter refuelling pad. A TCPL employee noticed jet kerosene had leaked at the helicopter refueling pad from the refuelling tank. The source of the leak was a flex hose fitting between the meter and hose reel. Approximately 230 litres and estimated to have been lost. Spill contained to TCPL property. It occurred within 200m of a water source (creek) , but did not enter the creek. The provincial Minister of Environment has been notified. TCPL has yet to decide on clean-up action required. Fitting was replaced and tightened. "
1995	INC1995-031	Contractor employee was seriously injured when struck in the head by a pipeline pig. Sun Canadian's 8 inch line had been shut down for maintenance. A pig was launched with nitrogen and a second pig was put in place immediately behind the first pig to create a nitrogen interface. Before the door closed on the second pig it ejected and struck the contractor foreman in the face while he was walking behind the pig launcher. The victim was transported to the Sarnia General Hospital and was conscious at the time. The site had been sealed off and vacated until Sun-Canadian personnel and a representative of the Ontario Ministry of Labour arrives 28 June 1995. No written pigging procedures and no appropriate venting system.
1995	INC1995-030	Loose flange on the unit heater check valve leaked synthetic crude oil. Synthetic crude was discovered in an area immediately west of the Line 1 Langbank pump house. The exact source of the crude and cause of the spill was unknown at the time of reporting. Langbank station was isolated but Line 1 continue to operate. Update Loose flange connection to the unit header water check valve on unit 1.3. Contaminate soil removed and transported to a Bio-remediation site for assessment.
1995	INC1995-029	Compressor cooling system failure leaked glycol-water mixture. The cooling systems on the compressor leaked and spilled approximately 130 gallons of a 60/40 glycol/water mixture. Approximately 30 gallons sprayed out of the compressor building onto station property while the remainder collected in the drain and sump system. Compressor was shut down for repairs and a back-up unit was started
1995	INC1995-028	"Sour gas release due to valve packing failure during pigging. An operator was receiving a pig in the 18" Alaska Highway Pipeline at Kobes Booster Station, which is 85 km north of Fort St-John. While opening the isolation valve upstream of the receiving trap, the stem seal failed and the valve packing blew out, followed by the release of gas from the line. The operator fled the site. The line operates at 900psi and transports sour gas. (approximately 3.11% according to a WEI manual Board. 20 WEI residents in adjacent area were evacuated. A line valve 3 miles upstream was closed and the line blown down to flare. Repairs commenced on the valve. Sour gas released into atmosphere."
1995	INC1995-027	"Leak due to a failure of 3-4" line adjacent to a socket weld on 36" line. As a contractor was doing work for Foothills Pipeline Ltd. He noticed gas bubbling in a wet area of the ground, and reported it to Foothills staff. Pipeline between isolation valves at KP 58.6 and KP 83 on zone 7 was isolated and then blown down for repairs. the leak was found to be "due to failure of a 3/4" line adjacent to socket weld on outlet of a Mueller tee on the 36" line" according to Foothills. Approximately 27 MMcf (sweet gas) released to atmosphere. The cause of the crack was high bending stresses at the socket weld due to settlement of the soil surrounding the 3/4" line. "
1995	INC1995-026	"Gasket failure caused crude oil leak. A gas alarm warning occurred, and, on investigation by personnel on site, a release of synthetic crude oil was discovered in the vicinity of Line 1 suction/discharge unit valve. The source of the release was confirmed as the Line 1 check valve near the suction unit valve. Line 1 and 2 were immediately shut down at 03:25 hrs MST 18 June 1995. The line was sectionalized. Line and 13 were already shutdown. Company personnel on site began clean-up and repair check valve. "

1995	INC1995-025	"Rupture on Interprovincial Pipe line Inc.'s ("IPL") Line 3 at MP 518.87 near Windthorst, Saskatchewan on 16 June 1995 due to external corrosion, and precipitated by disbonded tape coating. An initial estimate of 20,000 barrels of Caroline Condensate had leaked from the pipeline and had travelled along the railway line, through the culvert under a line and was collecting in sump. Leaking from the 34" PL (Oper. Noticed Press Drop) extern. long, pitting corr. below tented tape at 9:00pm. Final estimated spill volume of 1768 m3. Onsite NEB conducted by NEB staff. NEB field investigative report dated 12 July 1995. NEB final investigative report completed and attached to Incident Close-out Memo. IR dated 7 September 1995. Incident Close-out Memo. IR dated 7 September 1995. Incident Close-out memo with final NEB investigative report attached dated 15 May 1998. TSB conducted a field investigation of this incident and produced a report (no P95H0023). Approximately 24281 m2 of fallow and cultivated farmland adjacent to a Canadian National railway line was affected by the spill"
1995	INC1995-024	"Oil slick on Peace River due to leak in lean oil cooler. An employee with WEI Transmission Division detected an oil slick on the Peace River downstream of the McMahon Plant. As a precaution, he contacted the plant and it was subsequently confirmed that lean oil from the plant oil cooler was leaking into the Peace River. The plant was shutdown and the cooler isolated. A contractor was brought on site to contain the oil and commence clean-up. Approximately 1000 litres has leaked from the cooler, however, the amount into the river may be less than this. The slick was detected approximately 3 miles downstream of the plant. "
1995	INC1995-023	Defective rubber coupling on floor drains to sump caused a spill of Turco washing fluid. Approximately 172 litres of jet wash (turco wash fluid used to clean the gas generators) was spilled. The initial indication is that the spill was caused by a defective rubber coupling on the floor drains to the sump. Site was cleaned. Top soil removed and placed in barrels and awaiting landfill shipment. Site tested OK according to MOEE guidelines.
1995	INC1995-022	"Pin hole corrosion leak in power gas line occurred due to a holiday in the pipe coating. The leak was detected during a line leak survey on the 3/8" The section of the tubing was replaced following excavation of the leak site. MLV 9-3 Herbert., Sask. "
1995	INC1995-021	"Pin hole leak in a swampy area of ROW. Some bubbling was detected around a swampy area. Gas detectors confirmed the gas to be pipeline gas (ethane). The line pressure was reduced to approximately 3500 kPa in 350 kPa increments. Station personnel then daylighted the line on 26 May 1995 to locate the source and cause of the leak. Following excavation, the pipe was found to be sitting on a rock and a dent could be seen. the leak was confirmed as coming from the dented area. The line was shut down after excavation, and the area secured on 26 May 1995. Crews were to return 29 May 1995 to continue the investigation. KP 110 -1+17.5 on line 100-1 near Latchford Ontario "
1995	INC1995-020	"Pig sender o-ring failure on the trap door leaked crude oil. Crude oil was found leaking from the door of Line 13 pig sending trap. The cause was unknown at that time. A seal failure was suspected. The trap was isolated and IPL investigated for the cause of the leak. Approximately 1.56 m3 crude oil was spilled on station property. No concern for the environment. Update, crude oil (7m3 was found to have leaked from a pig sender 'O' ring seal failure on the trap door was the cause of the accident. 7M3."
1995	INC1995-019	"Two employees sprayed with lean amine due to a check valve failure. The point from which the amine was released was on the lean side of amine system and did not contain any H2S. One of the employees was taken to the Fort Nelson Hospital emergency ward where he was treated, released and instructed to take a couple of days off. Doctors were concerned that the employee may have inhaled some of the amine. "

1995	INC1995-018	"Inadvertant gas ignition in flare stack resulted in back pressure which ejected a pig from its barrel. As WEI personnel inserted the pig in the sending barrel, they noticed that the o-ring needed changing on the barrel door. The conducted the maintenance work when they heard ""barking"" from within the flare system. The employees stepped back from the barrel and witnessed the ejection of the pig and gas ignition behind the pig. "
1995	INC1995-017	"NGL escaped to the atmosphere when the seal on a pressure control valve failed. Approximately 73 cubic meters of NGL to escape. Station personnel were on-site at the time of the incident and immediately contacted the pipeline operator The plant was remotely shut down and isolated from the pipeline. On-site station personnel then isolated the PCV. Updated, An ""O"" ring failed on a pressure control valve at IPL's White City Sask. Pump Station resulting in a release of 85m3 of NGL. No onsite NEB investigation conducted. Thus, no NEB field or final investigative reports were produced. Meeting between NEB and IPL staff held 30 August 1995 in Regina. (Reference memo dated 31 August 1995 minutes of meeting on File no. 3750-J001). IR 's dated 2 May 1995 and 6 September 1995 (File no., 3750-J001). Incident Close-out Memo dated 13 October 1995. TSB did not conduct an investigation into this incident. Thus, it did not issue and investigative report. "
1995	INC1995-016	"Two incorrectly installed fuel lines chaffed each other wearing through resulting in a flame. When personnel arrived they were unable to determine the reason for te fire eyes have initiated the plant ESD. They restarted the Unit at 02:43 hours C.D.T. and once having determined it to be operating properly the left the site. At 10:28 hours C.D.T. the ""C"" plant fire eyes triggered a second plant ESD. Station personnel again were called back to the site to investigate and again were unable to determine the reason for the fire eyes having shut down the plant. At 13:26 hours C.D.T. they restarted the unit and stayed on-site when at 10:25 hours C.D.T. the fire eyes triggered a third ""C"" plant ESD. The employees, being on site, notice a small flame burning at the two fuel lines to the Rolls Royce RB 211 turbine driver. The flame resulted due the two flex fuel lines having been incorrectly isntalled too close together and having chaffed each other, wearing through, due to vibration. One of the line also had rubbed against a bracket and had worn through. The fuel gas escaped from one or both lines and came into contact with an adjacent hot surface on the turbine ignited. TCPL staff determined that the fire eyes had detected the flame at the time of each ESD. Aplant ESD in part, initiates closure of the compressor units inlet fuel gas valve which in turn starves the Unit of fuel gas and thus the flame on the fuel gas lines would self extinguish. "
1995	INC1995-015	Crude leaked from the bonnet of a tank roof drain valve. Approximately 3 cubic meters of crude oil was found by station personnel to have leaked from the bonnet of a crude oil storage tank roof drain valve on tank lot 98. Station personnel thightened the bonnet of the valve to stop the leak. The oil was contained within the tank berm and will be cleaned in accordance with IPL and provincial requirements.
1995	INC1995-013	"Recently installed buried valve flange gasket was damaged by pig, releasing sweet crude. Sweet crude oil was discovered, by station personnel, in a culvert adjacent to line 13, valve 13-V-1. The source of the leak was determined to have been a leaking buried flange gasket at valve 13-V-1. A pipeline pig had been running through the line and had suspected to have damaged the gasket and thus caused it to leak. The valve was a new one which recently had been installed. It is suspected that the contractor who installed it and the flange gasket may have not installed it properly the gasket between the two flanges and thus when the pig passes through this valve caught the gasket and damaged it. The amount of crude leak was about 30 cubic meters of which 28 cubic meters was recovered. "

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1995	INC1995-012	"Pressure relief valve prematurely released gas. MLV 1704B on TCPL's line which is situated at TCPL's Douglas town Ontario Sales Meter Station. The relief was at 1367 psi rather than its set pressure of 1550 psi. The relief valve is installed for overpressure protection for the gas volume tanks of an Ericson valve operator on MLV 1704B. A resident immediately heard and reported the gas release to TCPL. The gas vented for about 70 minutes due to the site location of TCPL's nearest personnel able to respond. TCPL closed an isolation valve for the relief valve. Next they inserted a half inch plug until another relief valve could be installed. With the relief valve removed, the volume bottles were out of service which means the MLV no longer could be operated remotely by could still be operated manually. [REDACTED] and Ms. Dianne Richelieu from TSB were present during some of the repairs. "
1995	INC1995-011	Line between storage tank and heating boiler leaked a glycol-water solution.
1995	INC1995-010	Seal leak caused gasoline to be spilled. Approximately 0.24m3 of gasoline was spilled due to a seal leak on Booster Pum #22. The pump was isolated and the gasoline was rerouted. Clean up was to begin immediately. Seal was replaced.
1995	INC1995-008	Leaking flange resulted in an oil spill of 2.0m3. A wet spot was noticed on the ground and as IPL employees started to dig mor oil was discovered. The source of the oil was found to be leaking from a flange. IPL were dispatched for cleanup and repair. Line 3 was removed from service. It was shutdown for 10 hours. The flanged was tightened.
1995	INC1995-006	Oil leak due to failure of packing on valve stem. Edmonton Control Centre noted a problem in remotely operating a station pressure control valve. Personnel were sent to the site and the technician discovered synthetic crude oil leaking from a station pressure control valve. It was determined that the seal packing on the valve was leaking. Station was isolated and placed on by-pass. the oil was sucked up and the area was cleaned up. 3.0m3 of oil was spilled.
1995	INC1995-007	Glycol spill due to valve left open during filling. 300 litres of glycol spilled onto station property. The valve was closed and the technician continued to fill the unit. No attempt to clean the spill was made at that time. 4m2 m of the ground in the station was covered of glycol. Weeping tile and a collection well are in place as a result of a similar spill a number of years ago. The soil is currently being monitored as a result of the previous spill.
1995	INC1995-005	Tank cave in while being pumped from due to frost on vent screen. The frost resulted from recent cold foggy weather and high humidity in the air. Removal of the blended crude oil from the tank was stooped by shutting off the pumps and the tanks vent wa cleared of frost to allow the vent to breathe properly. The upper wall of the tank #96001 began to wrinkle and cave inwards while pumping blended crude from it. Cause: Frosting over of screen on vent.
1995	INC1995-004	"Main line rupture causing explosion and fire, due to SCC. 3 lines were shutdown the minute a local resident called TCPL Thunder Bay Regional Control Centre to advise that one line was on fire. A reconnaissance flight on Sunday flew over the site showing a crater 20 meters wide by about 100 meter long. TCPL has indicated that the line had been hydrostatically rested in 1987 and was scheduled for the retest this coming May. Mainline 100-2 at MLV 52+14.1km Vermillion Bay. The rupture of line 100-2 at Vermillion Bay was due to external general corrosion. Onsite NEB investigation conducted by R. Burton. Final NEB investigative report completed September 1995. Incident Close-out Memo dated 22 September 1995. TSB conducted a fied investigation of this incident and issued a report (no P95H0003). Update, NGL ruptured Line 100-2 Main line valve 52-2 + 14.1 km. "

1995	INC1995-009	"Slope failure caused pipe to buckle and rupture spilling oil into a creek. Westcoast 36 inch Fort St-John Mainline loop between Taylor and Station 2 near Stewart Creek. The provincially regulated Federated Pipeline, spilling oil into nearby Stewart Creek. WEI crew was sent to the site to assess damage to its pipeline and to assist in the repair of the Federated Pipeline. As of 31 January 1995 there were no apparent threat to WEI's pipeline. However, WEI subsequently cut out a section containing the buckle and repair the pipeline Slope failure caused pipe to buckle and rupture, spilling oil into Stewart Creek. Unknown volume of oil spilled."
1995	INC1995-003	Crude oil sprayed from an unutilized nozzle on tank 201 due to a through wall corrosion defect. The leak was stopped and the tank was pumped to absolute bottoms. It will be held out of service until repairs are completed. The loose oil and contaminated water was picked up by a vacuum truck. The contaminated soil has been collected for treatment. The crude oil was spraying from a unutilized 16" nozzle on tank 201 due to a through wall corrosion defect. 5.5m3 was spilled.
1995	INC1995-002	Contractor damaged an above ground unused producer connection.
1995	INC1995-001	"Employee overcome by a mixture of unknown gas and lost consciousness for 3 - 4 seconds. When overcome by an unknown mixture of gases he apparently was working with and assisting a contractor employee on the job task at the time of the incident. He regained consciousness within a few seconds and both employees, after a few moments, continued on with their work task, without giving further careful thought to the seriousness of what had happend. The two employees, some time later, completed and incident report and forwarded it on to the plant Safety Supervisor. Therefore the Safety Supervisor was not immediately aware of the incident and thus the incident was late in being reported to the Board. "

year	event number	recommendation
2016	INC2016-031	
2016	INC2016-029	
2016	INC2016-028	
2016	INC2016-027	
2016	INC2016-026	
2016	INC2016-025	
2016	INC2016-024	
2016	INC2016-023	
2016	INC2016-022	
2016	INC2016-021	
2016	INC2016-020	
2016	INC2016-019	
2016	INC2016-018	
2016	INC2016-017	
2016	INC2016-015	
2016	INC2016-013	
2016	INC2016-012	
2016	INC2016-010	
2016	INC2016-009	
2016	INC2016-008	
2016	INC2016-006	
2016	INC2016-004	
2016	INC2016-003	
2016	INC2016-002	
2016	INC2016-001	
2015	INC2015-152	
2015	INC2015-150	
2015	INC2015-148	

2015	INC2015-147	
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2015	INC2015-122	
2015	INC2015-121	
2015	INC2015-120	
2015	INC2015-119	

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2015	INC2015-118	[REDACTED]
2015	INC2015-117	
2015	INC2015-116	
2015	INC2015-115	
2015	INC2015-114	
2015	INC2015-113	[REDACTED]
2015	INC2015-112	
2015	INC2015-110	[REDACTED]
2015	INC2015-109	
2015	INC2015-108	
2015	INC2015-107	
2015	INC2015-105	
2015	INC2015-104	
2015	INC2015-103	[REDACTED]
2015	INC2015-102	
2015	INC2015-101	
2015	INC2015-100	
2015	INC2015-099	
2015	INC2015-098	

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2015	INC2015-097	
2015	INC2015-096	
2015	INC2015-095	
2015	INC2015-094	
2015	INC2015-093	
2015	INC2015-092	
2015	INC2015-091	
2015	INC2015-090	
2015	INC2015-088	None
2015	INC2015-087	
2015	INC2015-085	
2015	INC2015-084	
2015	INC2015-083	
2015	INC2015-082	
2015	INC2015-081	None
2015	INC2015-080	
2015	INC2015-079	
2015	INC2015-078	
2015	INC2015-077	
2015	INC2015-075	
2015	INC2015-074	
2015	INC2015-073	

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2015	INC2015-071	[REDACTED]
2015	INC2015-070	
2015	INC2015-069	
2015	INC2015-067	
2015	INC2015-066	
2015	INC2015-064	
2015	INC2015-063	
2015	INC2015-062	[REDACTED]
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2015	INC2015-052	
2015	INC2015-051	[REDACTED]
2015	INC2015-050	
2015	INC2015-049	

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2015	INC2015-046	
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2015	INC2015-021	
2015	INC2015-020	
2015	INC2015-018	

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2015	INC2015-017	
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2015	INC2015-015	
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2015	INC2015-001	
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2014	INC2014-154	
2014	INC2014-153	[REDACTED]
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2014	INC2014-129	

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2014	INC2014-128	
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1995	INC1995-073	
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2014	INC2014-126	
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2014	INC2014-123	
2014	INC2014-121	
2014	INC2014-120	None.
2014	INC2014-112	
2014	INC2014-111	
2014	INC2014-110	
2014	INC2014-106	
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2014	INC2014-090	

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2014	INC2014-089	
2014	INC2014-086	[REDACTED]
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2014	INC2014-050	
2014	INC2014-048	

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2014	INC2014-047	
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2014	INC2014-044	
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2014	INC2014-015	

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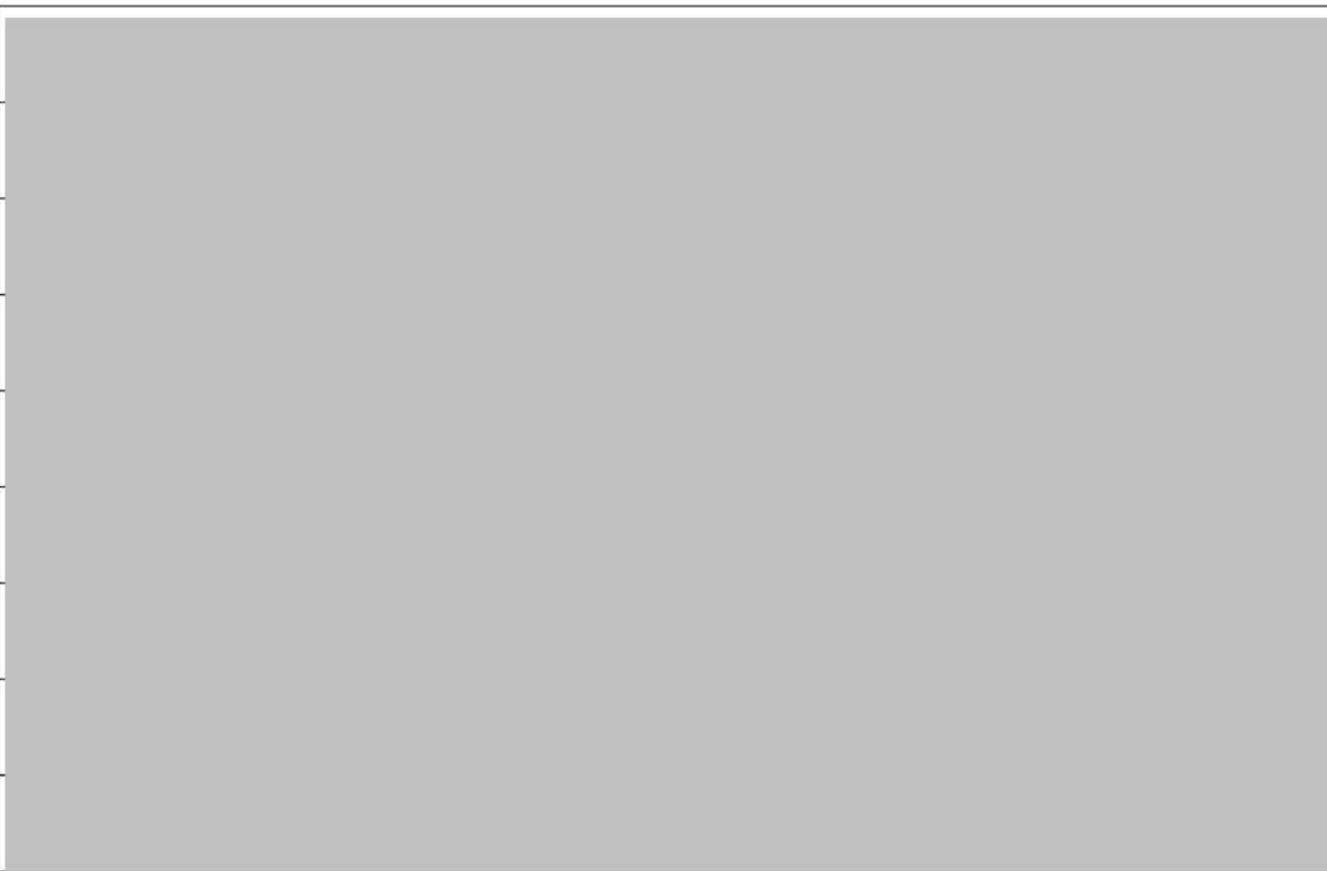
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2010	INC2010-061	
2010	INC2010-060	
2010	INC2010-059	
2010	INC2010-057	
2010	INC2010-058	
2010	INC2010-055	
2010	INC2010-054	
2010	INC2010-053	
2010	INC2010-052	
2010	INC2010-051	
2010	INC2010-050	
2010	INC2010-048	
2010	INC2010-047	
2010	INC2010-045	
2010	INC2010-044	
2010	INC2010-042	
2010	INC2010-041	
2010	INC2010-040	
2010	INC2010-034	

s.21(1)(a)
s.21(1)(b)

2010	INC2010-033	
2010	INC2010-032	
2010	INC2010-029	
2010	INC2010-028	
2010	INC2010-025	
2010	INC2010-024	
2010	INC2010-022	
2010	INC2010-021	
2010	INC2010-019	
2010	INC2010-018	
2010	INC2010-016	
2010	INC2010-014	
2010	INC2010-013	
2010	INC2010-012	
2010	INC2010-009	
2010	INC2010-006	
2010	INC2010-005	
2010	INC2010-003	
2010	INC2010-004	
2010	INC2010-001	
2009	INC2009-147	
2009	INC2009-144	
2009	INC2009-145	

s.21(1)(a)
s.21(1)(b)

2009	INC2009-143	[REDACTED]
2009	INC2009-140	
2009	INC2009-139	[REDACTED]
2009	INC2009-137	
2009	INC2009-141	[REDACTED]
2009	INC2009-136	
2009	INC2009-135	
2009	INC2009-134	[REDACTED]
2009	INC2009-132	
2009	INC2009-129	[REDACTED]
2009	INC2009-128	[REDACTED]
2009	INC2009-133	
2009	INC2009-126	[REDACTED]
2009	INC2009-123	[REDACTED]
2009	INC2009-121	
2009	INC2009-120	[REDACTED]
2009	INC2009-119	[REDACTED]
2009	INC2009-118	[REDACTED]
2009	INC2009-130	
2009	INC2009-115	[REDACTED]
2009	INC2009-113	
2009	INC2009-112	

s.21(1)(a)
s.21(1)(b)

2009	INC2009-111	
2009	INC2009-109	
2009	INC2009-107	
2009	INC2009-106	[REDACTED]
2009	INC2009-105	[REDACTED]
2009	INC2009-104	
2009	INC2009-103	[REDACTED]
2009	INC2009-102	[REDACTED]
2009	INC2009-101	
2009	INC2009-100	[REDACTED]
2009	INC2009-096	
2009	INC2009-095	
2009	INC2009-092	
2009	INC2009-090	
2009	INC2009-089	[REDACTED]

s.21(1)(a)
s.21(1)(b)

2009	INC2009-088	[REDACTED]
2009	INC2009-086	[REDACTED]
2009	INC2009-087	[REDACTED]
2009	INC2009-084	[REDACTED]
2009	INC2009-080	[REDACTED]
2009	INC2009-079	[REDACTED]
2009	INC2009-078	[REDACTED]
2002	INC2002-064	[REDACTED]
2005	INC2005-069	[REDACTED]
2009	INC2009-076	[REDACTED]
2001	INC2001-091	[REDACTED]
2001	INC2001-092	[REDACTED]
2002	INC2002-062	[REDACTED]
2002	INC2002-063	[REDACTED]
2005	INC2005-066	[REDACTED]
2005	INC2005-067	[REDACTED]
2005	INC2005-068	[REDACTED]
2009	INC2009-075	[REDACTED]
2000	INC2000-076	[REDACTED]
2000	INC2000-077	[REDACTED]
2000	INC2000-078	[REDACTED]

s.21(1)(a)
s.21(1)(b)

2001	INC2001-088	
2001	INC2001-090	
2005	INC2005-065	
2009	INC2009-072	
2002	INC2002-061	
2000	INC2000-074	
2002	INC2002-060	
2009	INC2009-068	
2009	INC2009-067	
2009	INC2009-066	
2001	INC2001-085	
2009	INC2009-065	
2009	INC2009-063	
2009	INC2009-060	
2001	INC2001-084	
2009	INC2009-058	
2009	INC2009-057	
2009	INC2009-056	
2009	INC2009-055	
2009	INC2009-054	
1999	INC1999-083	
1999	INC1999-082	
2002	INC2002-057	
2002	INC2002-058	
2002	INC2002-059	
2009	INC2009-053	
2001	INC2001-083	
2002	INC2002-056	

s.21(1)(a)
s.21(1)(b)

2000	INC2000-072	
2009	INC2009-052	[REDACTED]
2009	INC2009-049	[REDACTED]
2009	INC2009-048	[REDACTED]
2009	INC2009-047	[REDACTED]
2009	INC2009-045	[REDACTED]
2009	INC2009-043	[REDACTED]
2009	INC2009-042	[REDACTED]
2009	INC2009-041	[REDACTED]
2009	INC2009-039	[REDACTED]
2009	INC2009-040	
2009	INC2009-037	[REDACTED]
2009	INC2009-036	[REDACTED]
2009	INC2009-034	[REDACTED]
2009	INC2009-035	

s.21(1)(a)
s.21(1)(b)

2009	INC2009-032	[REDACTED]
2009	INC2009-031	[REDACTED]
2009	INC2009-026	
2009	INC2009-024	
2009	INC2009-021	
2009	INC2009-019	[REDACTED]
2009	INC2009-015	
2009	INC2009-009	
2009	INC2009-010	[REDACTED]
2009	INC2009-002	
2008	INC2008-128	[REDACTED]
2008	INC2008-123	[REDACTED]
2008	INC2008-121	[REDACTED]
2008	INC2008-120	
2008	INC2008-119	
2008	INC2008-115	
2008	INC2008-114	[REDACTED]
2008	INC2008-113	
2008	INC2008-112	[REDACTED]
2008	INC2008-111	

s.21(1)(a)
s.21(1)(b)

2008	INC2008-110	[REDACTED]
2008	INC2008-109	[REDACTED]
2008	INC2008-103	[REDACTED]
2008	INC2008-100	[REDACTED]
2008	INC2008-098	[REDACTED]
2008	INC2008-097	[REDACTED]
2008	INC2008-095	[REDACTED]
2008	INC2008-092	[REDACTED]
2008	INC2008-091	[REDACTED]
2008	INC2008-088	[REDACTED]
2008	INC2008-087	[REDACTED]
2008	INC2008-085	[REDACTED]
2008	INC2008-086	[REDACTED]
2008	INC2008-084	[REDACTED]
2008	INC2008-081	[REDACTED]

s.21(1)(a)
s.21(1)(b)

2008	INC2008-080		
2008	INC2008-079	[Redacted]	
2008	INC2008-078		
2008	INC2008-075		
2008	INC2008-072		
2008	INC2008-070		
2008	INC2008-067		
2008	INC2008-066		
2008	INC2008-063		
2008	INC2008-062		[Redacted]
2008	INC2008-060		
2008	INC2008-059	[Redacted]	
2008	INC2008-058		
2008	INC2008-057		
2008	INC2008-056		[Redacted]
2008	INC2008-055		
2008	INC2008-052	[Redacted]	
2008	INC2008-051	[Redacted]	
2008	INC2008-049	[Redacted]	

s.21(1)(a)
s.21(1)(b)

2008	INC2008-048	[REDACTED]
2008	INC2008-045	[REDACTED]
2008	INC2008-043	[REDACTED]
2008	INC2008-041	[REDACTED]
2008	INC2008-040	[REDACTED]
2008	INC2008-039	[REDACTED]
2008	INC2008-037	[REDACTED]
2008	INC2008-034	[REDACTED]
2008	INC2008-033	[REDACTED]

s.21(1)(a)
s.21(1)(b)

2008	INC2008-032	[REDACTED]
2008	INC2008-030	[REDACTED]
2008	INC2008-027	[REDACTED]
2008	INC2008-021	[REDACTED]
2008	INC2008-020	[REDACTED]
2008	INC2008-018	[REDACTED]
2008	INC2008-016	[REDACTED]
2008	INC2008-019	[REDACTED]
2008	INC2008-009	[REDACTED]
2008	INC2008-008	[REDACTED]
2008	INC2008-004	[REDACTED]
2007	INC2007-097	[REDACTED]
2008	INC2008-001	[REDACTED]

s.21(1)(a)
s.21(1)(b)

2007	INC2007-098	[Redacted]
2007	INC2007-095	
2007	INC2007-093	
2007	INC2007-092	
2007	INC2007-091	
2007	INC2007-090	
2007	INC2007-089	[Redacted]
2007	INC2007-088	[Redacted]
2007	INC2007-087	
2007	INC2007-085	[Redacted]
2007	INC2007-084	
2007	INC2007-083	
2007	INC2007-082	
2007	INC2007-081	
2007	INC2007-080	[Redacted]
2007	INC2007-079	
2007	INC2007-078	[Redacted]
2007	INC2007-077	
2007	INC2007-076	
2007	INC2007-075	

s.21(1)(a)
s.21(1)(b)

2007	INC2007-074	
2007	INC2007-073	
2007	INC2007-072	[REDACTED]
2007	INC2007-071	
2007	INC2007-070	[REDACTED]
2007	INC2007-069	[REDACTED]
2007	INC2007-068	[REDACTED]
2007	INC2007-067	
2007	INC2007-066	
2007	INC2007-065	
2007	INC2007-064	
2007	INC2007-062	[REDACTED]
2007	INC2007-061	[REDACTED]
2007	INC2007-056	
2007	INC2007-054	
2007	INC2007-052	[REDACTED]
2007	INC2007-058	
2007	INC2007-059	
2007	INC2007-053	
2007	INC2007-051	
2007	INC2007-050	
2007	INC2007-055	
2007	INC2007-048	[REDACTED]

s.21(1)(a)
s.21(1)(b)

2007	INC2007-047	[REDACTED]
2007	INC2007-046	[REDACTED]
2007	INC2007-045	[REDACTED]
2007	INC2007-043	[REDACTED]
2007	INC2007-041	
2007	INC2007-040	
2007	INC2007-038	
2007	INC2007-035	[REDACTED]
2007	INC2007-034	
2007	INC2007-033	[REDACTED]
2007	INC2007-032	
2007	INC2007-031	[REDACTED]
2007	INC2007-030	
2007	INC2007-029	
2007	INC2007-028	[REDACTED]
2007	INC2007-027	
2007	INC2007-026	
2007	INC2007-025	
2007	INC2007-023	
2007	INC2007-022	
2007	INC2007-024	

s.21(1)(a)
s.21(1)(b)

2007	INC2007-020	
2007	INC2007-021	
2007	INC2007-018	
2007	INC2007-016	
2007	INC2007-015	
2007	INC2007-013	
2007	INC2007-012	
2007	INC2007-011	
2007	INC2007-009	
2007	INC2007-010	
2007	INC2007-007	
2007	INC2007-006	
2007	INC2007-005	
2007	INC2007-004	
2007	INC2007-003	
2007	INC2007-001	
2007	INC2007-002	
2006	INC2006-094	
2006	INC2006-093	
2006	INC2006-095	
2006	INC2006-092	
2006	INC2006-091	
2006	INC2006-090	

s.21(1)(a)
s.21(1)(b)

2006	INC2006-089	[REDACTED]
2006	INC2006-088	
2006	INC2006-087	[REDACTED]
2006	INC2006-086	
2006	INC2006-085	
2006	INC2006-084	[REDACTED]
2006	INC2006-082	
2006	INC2006-079	
2006	INC2006-077	[REDACTED]
2006	INC2006-076	
2006	INC2006-075	[REDACTED]
2006	INC2006-073	[REDACTED]
2006	INC2006-072	
2006	INC2006-071	
2006	INC2006-074	[REDACTED]
2006	INC2006-070	[REDACTED]
2006	INC2006-069	[REDACTED]
2006	INC2006-068	[REDACTED]
2006	INC2006-080	[REDACTED]
2006	INC2006-067	
2006	INC2006-066	
2006	INC2006-063	
2006	INC2006-062	[REDACTED]
2006	INC2006-061	

s.21(1)(a)
s.21(1)(b)

2006	INC2006-060	[REDACTED]
2006	INC2006-058	
2006	INC2006-057	
2006	INC2006-056	[REDACTED]
2006	INC2006-055	
2006	INC2006-053	[REDACTED]
2006	INC2006-054	
2006	INC2006-050	[REDACTED]
2006	INC2006-052	[REDACTED]
2006	INC2006-049	[REDACTED]
2006	INC2006-048	[REDACTED]
2006	INC2006-047	
2005	INC2005-064	[REDACTED]
2006	INC2006-046	
2006	INC2006-044	[REDACTED]
2006	INC2006-045	
2006	INC2006-043	[REDACTED]
2006	INC2006-042	[REDACTED]
2006	INC2006-040	
2006	INC2006-039	[REDACTED]
2006	INC2006-038	[REDACTED]

s.21(1)(a)
s.21(1)(b)

2006	INC2006-036	[REDACTED]
2006	INC2006-034	
2006	INC2006-035	
2006	INC2006-033	
2006	INC2006-032	[REDACTED]
2006	INC2006-023	
2006	INC2006-031	
2006	INC2006-030	
2006	INC2006-019	[REDACTED]
2006	INC2006-018	
2006	INC2006-017	[REDACTED]
2006	INC2006-029	
2006	INC2006-028	
2006	INC2006-016	
2006	INC2006-014	
2006	INC2006-010	[REDACTED]
2006	INC2006-008	
2006	INC2006-007	
2006	INC2006-027	
2006	INC2006-006	[REDACTED]
2006	INC2006-026	
2006	INC2006-025	
2006	INC2006-004	[REDACTED]
2006	INC2006-003	

s.21(1)(a)
s.21(1)(b)

2006	INC2006-022	
2006	INC2006-024	
2006	INC2006-011	
2006	INC2006-021	
2006	INC2006-002	
2005	INC2005-062	
2005	INC2005-061	
2005	INC2005-060	
2005	INC2005-059	
2005	INC2005-057	
2005	INC2005-056	
2005	INC2005-055	
2005	INC2005-054	
2005	INC2005-053	
2005	INC2005-063	
2005	INC2005-052	
2005	INC2005-051	
2005	INC2005-048	
2005	INC2005-046	
2005	INC2005-045	

s.21(1)(a)
s.21(1)(b)

2005	INC2005-044	
2005	INC2005-040	[REDACTED]
2005	INC2005-039	
2005	INC2005-042	[REDACTED]
2005	INC2005-037	
2005	INC2005-036	[REDACTED]
2005	INC2005-038	[REDACTED]
2005	INC2005-034	
2005	INC2005-035	[REDACTED]
2005	INC2005-032	[REDACTED]
2005	INC2005-030	
2005	INC2005-029	[REDACTED]
2005	INC2005-027	
2005	INC2005-026	[REDACTED]
2005	INC2005-024	[REDACTED]

s.21(1)(a)
s.21(1)(b)

2005	INC2005-023	
2005	INC2005-022	
2005	INC2005-021	
2005	INC2005-020	
2005	INC2005-019	
2005	INC2005-018	
2005	INC2005-016	
2004	INC2004-064	
2004	INC2004-065	
2005	INC2005-025	
2005	INC2005-015	
2005	INC2005-014	
2005	INC2005-013	
2005	INC2005-012	
2005	INC2005-011	
2005	INC2005-009	
2005	INC2005-008	
2005	INC2005-006	
2005	INC2005-005	
2005	INC2005-002	
2005	INC2005-003	
2005	INC2005-001	

s.21(1)(a)
s.21(1)(b)

2004	INC2004-062	
2004	INC2004-066	
2004	INC2004-063	
2004	INC2004-058	
2004	INC2004-059	
2004	INC2004-057	
2004	INC2004-056	
2004	INC2004-054	
2004	INC2004-053	
2004	INC2004-052	
2004	INC2004-051	
2004	INC2004-050	
2004	INC2004-048	
2004	INC2004-047	
2004	INC2004-045	
2004	INC2004-042	
2004	INC2004-039	
2004	INC2004-038	
2004	INC2004-037	
2004	INC2004-035	
2004	INC2004-034	
2004	INC2004-033	
2004	INC2004-032	
2004	INC2004-029	
2004	INC2004-028	
2004	INC2004-027	
2003	INC2003-064	

s.21(1)(a)
s.21(1)(b)

2004	INC2004-026	[REDACTED]
2004	INC2004-025	
2004	INC2004-024	[REDACTED]
2004	INC2004-023	
2004	INC2004-022	
2004	INC2004-020	
2004	INC2004-019	
2004	INC2004-018	
2004	INC2004-017	
2004	INC2004-016	
2004	INC2004-015	[REDACTED]
2004	INC2004-012	[REDACTED]
2004	INC2004-011	[REDACTED]
2004	INC2004-009	
2004	INC2004-010	
2004	INC2004-005	
2004	INC2004-007	
2004	INC2004-004	
2004	INC2004-002	
2004	INC2004-001	
2003	INC2003-062	

s.21(1)(a)
s.21(1)(b)

2003	INC2003-061	
2003	INC2003-060	
2003	INC2003-059	
2003	INC2003-058	
2003	INC2003-056	
2003	INC2003-055	
2003	INC2003-051	
2003	INC2003-052	
2003	INC2003-050	
2003	INC2003-049	
2003	INC2003-048	
2003	INC2003-047	
2003	INC2003-043	
2003	INC2003-042	
2003	INC2003-041	
2003	INC2003-039	
2003	INC2003-040	
2003	INC2003-038	
2003	INC2003-035	
2003	INC2003-034	
2003	INC2003-031	
2003	INC2003-029	
2003	INC2003-044	
2003	INC2003-028	

s.21(1)(a)
s.21(1)(b)

2003	INC2003-027	
2003	INC2003-026	
2003	INC2003-025	
2003	INC2003-023	
2003	INC2003-022	
2003	INC2003-021	
2003	INC2003-020	
2003	INC2003-019	
2003	INC2003-018	
2003	INC2003-016	
2003	INC2003-015	
2003	INC2003-014	
2003	INC2003-013	
2003	INC2003-216	
2003	INC2003-012	
2003	INC2003-011	
2003	INC2003-010	
2003	INC2003-009	
2003	INC2003-006	
2003	INC2003-005	
2003	INC2003-003	
2003	INC2003-002	
2002	INC2002-053	
2002	INC2002-052	
2002	INC2002-051	
2002	INC2002-048	

s.21(1)(a)
s.21(1)(b)

2002	INC2002-049	
2002	INC2002-047	
2002	INC2002-044	
2002	INC2002-046	
2002	INC2002-043	
2002	INC2002-041	
2002	INC2002-038	
2002	INC2002-037	
2002	INC2002-036	
2002	INC2002-035	
2002	INC2002-033	
2002	INC2002-032	
2002	INC2002-030	
2002	INC2002-029	
2002	INC2002-028	
2002	INC2002-027	
2002	INC2002-026	
2002	INC2002-021	
2002	INC2002-025	
2002	INC2002-020	

s.21(1)(a)
s.21(1)(b)

2002	INC2002-019	[REDACTED]
2002	INC2002-015	[REDACTED]
2002	INC2002-016	[REDACTED]
2002	INC2002-014	
2002	INC2002-055	
2002	INC2002-013	No recommendations made .
2001	INC2001-081	[REDACTED]
2002	INC2002-012	
2002	INC2002-011	
2002	INC2002-010	[REDACTED]
2002	INC2002-009	[REDACTED]
2004	INC2004-006	
2002	INC2002-008	No recommendations were made.
2002	INC2002-005	[REDACTED]
2002	INC2002-006	
2002	INC2002-004	
2002	INC2002-003	[REDACTED]
2002	INC2002-002	[REDACTED]

s.21(1)(a)
s.21(1)(b)

2002	INC2002-007	No recommendations made.
2002	INC2002-001	
2001	INC2001-079	[REDACTED]
2001	INC2001-078	[REDACTED]
2001	INC2001-076	[REDACTED]
2001	INC2001-074	[REDACTED]

s.21(1)(a)
s.21(1)(b)

2001	INC2001-077	[REDACTED]
2001	INC2001-072	[REDACTED]
2001	INC2001-071	[REDACTED]
2001	INC2001-070	[REDACTED]
2001	INC2001-068	[REDACTED]
2001	INC2001-065	[REDACTED]

s.21(1)(a)

s.21(1)(b)

2001	INC2001-064	[Redacted]
2001	INC2001-063	
2001	INC2001-067	
2001	INC2001-062	
2001	INC2001-059	[Redacted]
2001	INC2001-055	
2001	INC2001-054	[Redacted]
2001	INC2001-053	
2001	INC2001-052	
2001	INC2001-051	
2001	INC2001-050	

s.21(1)(a)
s.21(1)(b)

2001	INC2001-040	[REDACTED]
2001	INC2001-049	
2001	INC2001-038	[REDACTED]
2001	INC2001-039	None
2001	INC2001-037	[REDACTED]
2001	INC2001-047	[REDACTED]
2001	INC2001-048	[REDACTED]
2001	INC2001-045	[REDACTED]
2001	INC2001-046	[REDACTED]
2001	INC2001-036	No recommendations required
2001	INC2001-075	
2001	INC2001-034	No recommendation required.

s.21(1)(a)

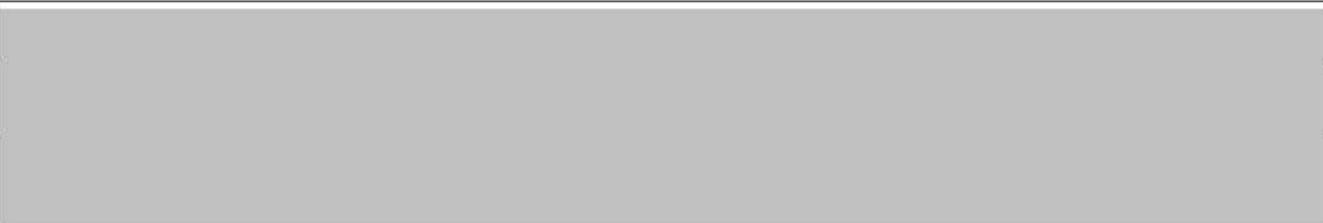
s.21(1)(b)

2001	INC2001-032	[Redacted]
2001	INC2001-031	
2001	INC2001-028	
2001	INC2001-030	
2001	INC2001-029	
2001	INC2001-033	[Redacted]
2001	INC2001-027	
2001	INC2001-026	
2001	INC2001-025	
2001	INC2001-023	
2001	INC2001-021	
2001	INC2001-020	
2001	INC2001-022	
2001	INC2001-019	

s.21(1)(a)
s.21(1)(b)

2001	INC2001-018	[Redacted]
2001	INC2001-017	
2001	INC2001-016	
2001	INC2001-015	
2001	INC2001-014	[Redacted]
2001	INC2001-013	
2001	INC2001-011	
2001	INC2001-012	
2001	INC2001-010	
2001	INC2001-008	
2001	INC2001-009	
2001	INC2001-007	
2001	INC2001-006	[Redacted]
2001	INC2001-005	
2001	INC2001-004	[Redacted]

s.21(1)(a)
s.21(1)(b)

2001	INC2001-003	
2001	INC2001-002	
2001	INC2001-001	
2000	INC2000-048	
2000	INC2000-047	
2000	INC2000-050	
2000	INC2000-051	

s.21(1)(a)
s.21(1)(b)

2000	INC2000-052	[REDACTED]
2000	INC2000-045	[REDACTED]
2000	INC2000-044	[REDACTED]
2000	INC2000-043	[REDACTED]
2000	INC2000-040	[REDACTED]
2000	INC2000-041	[REDACTED]
2000	INC2000-042	[REDACTED]
2000	INC2000-039	[REDACTED]
2000	INC2000-038	[REDACTED]
2000	INC2000-037	[REDACTED]
2000	INC2000-036	Incident closed-out, no recommendations.
2000	INC2000-035	[REDACTED]
2000	INC2000-059	[REDACTED]
2000	INC2000-033	[REDACTED]

s.21(1)(a)
s.21(1)(b)

2000	INC2000-032	
2000	INC2000-031	
2000	INC2000-030	
2000	INC2000-029	
2000	INC2000-034	
2000	INC2000-027	
2000	INC2000-026	
2000	INC2000-024	

s.21(1)(a)

s.21(1)(b)

2000	INC2000-023	
2000	INC2000-025	
2000	INC2000-021	
2000	INC2000-020	
2000	INC2000-019	
2000	INC2000-018	
2000	INC2000-016	
2000	INC2000-017	
2000	INC2000-015	
2000	INC2000-014	
2000	INC2000-013	
2000	INC2000-012	

s.21(1)(a)
s.21(1)(b)

2000	INC2000-011	[Redacted]
2000	INC2000-010	
2000	INC2000-009	
2000	INC2000-008	
2000	INC2000-006	
2000	INC2000-005	[Redacted]
2000	INC2000-003	[Redacted]
1999	INC1999-070	
1999	INC1999-071	[Redacted]
1999	INC1999-072	
1999	INC1999-073	[Redacted]
1999	INC1999-074	
2000	INC2000-002	
1999	INC1999-020	
2000	INC2000-001	
1999	INC1999-028	

s.21(1)(a)
s.21(1)(b)

1999	INC1999-069	
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1999	INC1999-051	[REDACTED]
1999	INC1999-063	[REDACTED]
1999	INC1999-067	
1999	INC1999-066	[REDACTED]
1999	INC1999-065	
1999	INC1999-064	
1999	INC1999-062	[REDACTED]
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1999	INC1999-061	[REDACTED]
1999	INC1999-059	[REDACTED]

s.21(1)(a)
s.21(1)(b)

1999	INC1999-058	[REDACTED]
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s.21(1)(a)
s.21(1)(b)

1999	INC1999-047	[Redacted]
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1999	INC1999-043	[Redacted]
1997	INC1997-048	[Redacted]

s.21(1)(a)
s.21(1)(b)

1999	INC1999-041	
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1999	INC1999-039	
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1999	INC1999-037	

s.21(1)(a)
s.21(1)(b)

1999	INC1999-036	
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1999	INC1999-031	
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1999	INC1999-033	
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1999	INC1999-022	
1999	INC1999-029	
1999	INC1999-021	
1999	INC1999-024	
1999	INC1999-025	
1999	INC1999-019	
1999	INC1999-018	
1999	INC1999-017	

s.21(1)(a)
s.21(1)(b)

1999	INC1999-016	
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1999	INC1999-013	[REDACTED]
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1999	INC1999-007	[REDACTED]
1999	INC1999-010	[REDACTED]
1999	INC1999-011	[REDACTED]
1999	INC1999-009	[REDACTED]
1999	INC1999-005	[REDACTED]
1999	INC1999-004	[REDACTED]
1999	INC1999-003	[REDACTED]

s.21(1)(a)
s.21(1)(b)

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1998	INC1998-077	[REDACTED]
1998	INC1998-078	[REDACTED]
1998	INC1998-073	[REDACTED]
1998	INC1998-072	[REDACTED]
1998	INC1998-071	[REDACTED]
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s.21(1)(a)
s.21(1)(b)

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1998	INC1998-075	
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1998	INC1998-064	
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1998	INC1998-060	
1998	INC1998-059	
1998	INC1998-058	
1998	INC1998-057	
1998	INC1998-056	
1998	INC1998-055	
1998	INC1998-054	
1998	INC1998-053	

s.21(1)(a)
s.21(1)(b)

1998	INC1998-052	
1998	INC1998-051	
1998	INC1998-050	
1998	INC1998-049	
1998	INC1998-048	
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1998	INC1998-046	
1998	INC1998-044	
1998	INC1998-043	
1998	INC1998-045	

s.21(1)(a)
s.21(1)(b)

1998	INC1998-042	
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1998	INC1998-034	
1998	INC1998-033	

s.21(1)(a)
s.21(1)(b)

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1998	INC1998-026	
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1998	INC1998-024	
1998	INC1998-023	
1998	INC1998-021	
1998	INC1998-022	
1998	INC1998-020	[Redacted]
1998	INC1998-019	

s.21(1)(a)
s.21(1)(b)

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1998	INC1998-013	
1998	INC1998-012	
1998	INC1998-011	

s.21(1)(a)
s.21(1)(b)

1998	INC1998-010	[REDACTED]
1998	INC1998-009	[REDACTED]
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1998	INC1998-007	[REDACTED]
1998	INC1998-006	[REDACTED]
1998	INC1998-005	[REDACTED]
1998	INC1998-004	[REDACTED]
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s.21(1)(a)
s.21(1)(b)

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1997	INC1997-075	

s.21(1)(a)
s.21(1)(b)

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1997	INC1997-067	
1997	INC1997-065	
1997	INC1997-063	

s.21(1)(a)
s.21(1)(b)

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1997	INC1997-068	
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1997	INC1997-059	
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1997	INC1997-057	

s.21(1)(a)
s.21(1)(b)

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1997	INC1997-054	
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1997	INC1997-061	
1997	INC1997-049	
1997	INC1997-050	
1997	INC1997-046	

s.21(1)(a)
s.21(1)(b)

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1997	INC1997-040	
1997	INC1997-039	
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1997	INC1997-037	
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1997	INC1997-032	

s.21(1)(a)
s.21(1)(b)

1997	INC1997-031	
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1997	INC1997-023	

s.21(1)(a)
s.21(1)(b)

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1997	INC1997-012	
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s.21(1)(a)
s.21(1)(b)

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1997	INC1997-001	
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1996	INC1996-068	
1996	INC1996-067	[Redacted]
1996	INC1996-066	[Redacted]

s.21(1)(a)
s.21(1)(b)

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1996	INC1996-060	[REDACTED]
1996	INC1996-059	[REDACTED]
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1996	INC1996-052	[REDACTED]

s.21(1)(a)
s.21(1)(b)

1996	INC1996-053	
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1996	INC1996-047	
1996	INC1996-045	
1996	INC1996-046	
1996	INC1996-043	

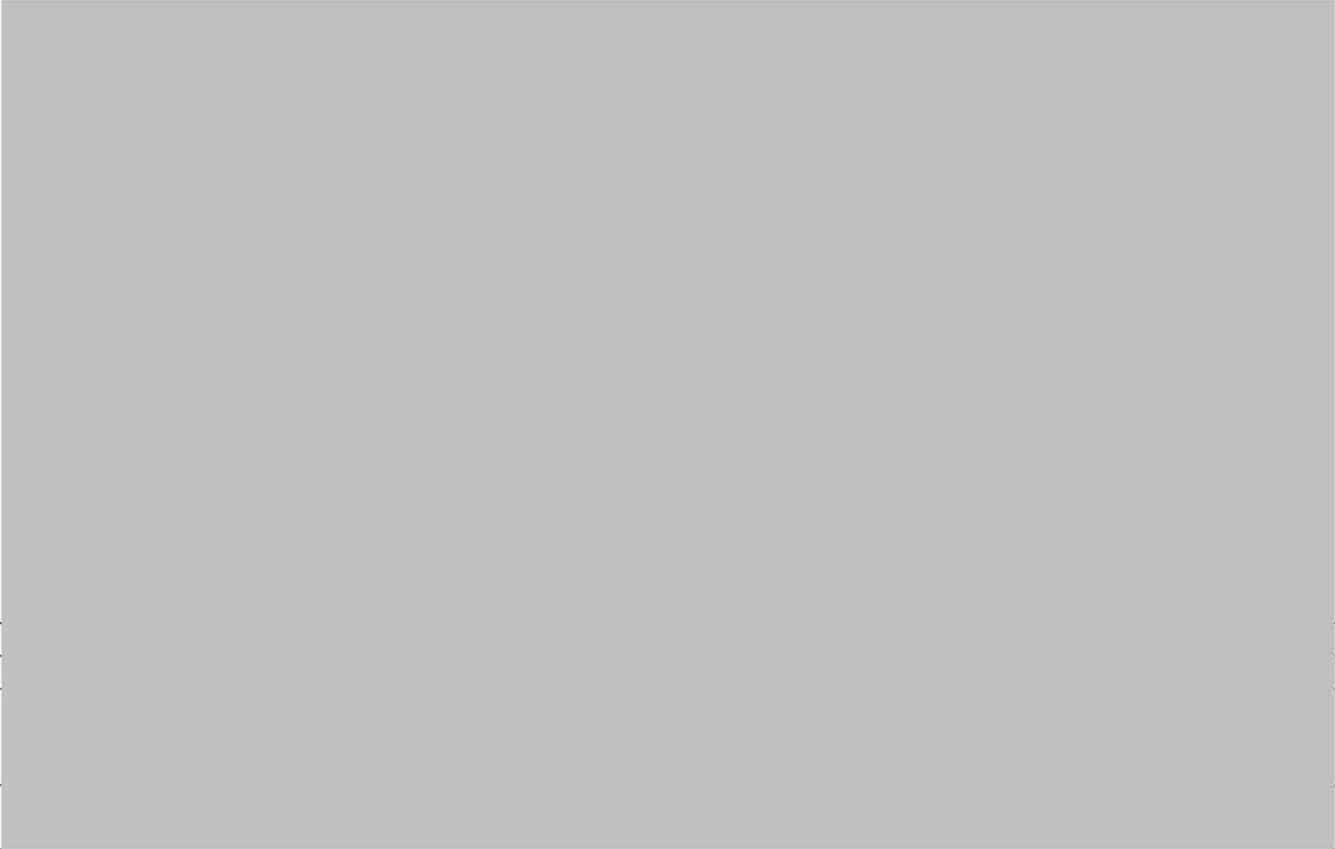
s.21(1)(a)
s.21(1)(b)

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1996	INC1996-032	
1996	INC1996-029	

s.21(1)(a)
s.21(1)(b)

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1996	INC1996-021	

s.21(1)(a)
s.21(1)(b)

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1996	INC1996-017	
1996	INC1996-018	
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s.21(1)(a)
s.21(1)(b)

1996	INC1996-015	[REDACTED]
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1996	INC1996-009	[REDACTED]

s.21(1)(a)
s.21(1)(b)

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s.21(1)(a)
s.21(1)(b)

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s.21(1)(a)
s.21(1)(b)

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s.21(1)(a)
s.21(1)(b)

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s.21(1)(a)
s.21(1)(b)

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1995	INC1995-020	
1995	INC1995-019	
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s.21(1)(a)

s.21(1)(b)

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s.21(1)(a)
s.21(1)(b)