

**United States Environmental Protection Agency
Region X
POLLUTION REPORT**

Date: Monday, March 20, 2006

From: Carl Lautenberger

Subject: Progress Report

BP Alaska GC1-GC2 Transmission Pipeline Discharge

BP Exploration 900 E Benson Blvd, Deadhorse, AK

Latitude: 70.3074300

Longitude: -148.8157100

POLREP No.:	11	Site #:	AKOil012006
Reporting Period:		D.O. #:	
Start Date:	3/2/2006	Response Authority:	OPA
Mob Date:	3/2/2006	Response Type:	Emergency
Demob Date:		NPL Status:	Non NPL
Completion Date:		Incident Category:	Removal Action
CERCLIS ID #:		Contract #	
RCRIS ID #:		Reimbursable Account #	
FPN#	E06005		

Site Description

The crude oil spill occurred within a 3-mile pipeline stretch between Gathering Centers 1 and 2. The spill area adjacent to the pipeline has been fully delineated. It was calculated that 1.93 acres of tundra and frozen lake surface have been impacted. A detailed oil location and depth survey performed soon after the spill indicates the spill volume to be 210,000 gallons, plus or minus 33%. This volume estimate is the best available information at this time.

The aerial photo at left shows the status of snow removal operations on March 13.

The frozen, snow-covered spill area surface allows for working directly on the tundra, helps minimize damage from worker and equipment traffic, and helps retard oil contamination penetration. Snow berms constructed to originally contain the spill have been dismantled (no movement of contamination beyond the original spill perimeter was observed) to allow greater space and access for the ice and vegetation trimming equipment.

The source of the spill was determined to be a one-quarter inch hole in the 34-inch diameter pipeline at the 6 o'clock position in a portion of the pipeline buried under a caribou crossing. Internal corrosion is the suspected cause of the hole but further investigation is ongoing.

GC2 remains shutdown, and BP has applied freeze protection to approximately 230 feeder wells and associated flow lines effected by the shutdown.

Weather: Has consisted of mostly sunny days with natibviksuq (Inupiat for drifting snow) and itrifubaa (Inupiat for icy cold) with daytime highs ranging from -5 to -15 degrees F ambient and ambient lows ranging down to about -20F. It has been anuqqisuuq (Inupiat for windy) for several days with east winds of 10-30 mph, resulting in wind chills ranging from -30F to -55F both day and night.

On March 18, 2006, BP transitioned their response organization from an Incident Management Team into a project management phase. The IMT at BP's Prudhoe Bay Operating Center has been disbanded but many original IMT personnel have retained their roles under the new phase. The Unified Command has stood down although agency representatives (EPA, ADEC, and the North Slope Borough) presently remain on-site to continue monitoring cleanup activities and consulting with BP and their contractors as required. The response currently operates under a Clean Up Project Team Transition Document dated March 18, 2006.

Current Activities

One START is on site (OSC Jeffry Rodin returned to Seattle 3/15/06).

RESPONSE ACTION: Incident response priorities and objectives are

- Ensure all personnel are safe
- Mitigate potential of further release
- Remove contamination from the area
- Manage and dispose of wastes appropriately

Response tactics initially consisted of the recovery of free liquid oil by vacuum equipment followed several days later by collection and removal of surficial contaminated snow by tracked machinery. To aid in further oil removal, clean snow from uncontaminated areas was added to the spill site to absorb more oil on the surface and then removed. The underlying, oil-contaminated frozen water surface, intermingled with the underlying tundra vegetation, is now being remediated through the use of trimmer machinery, which grinds away the ground layer of ice and vegetative canopy to a targeted depth in order to remove the remaining oil contamination. This trimming operation was started on March 19 and appears promising. Other residual oil removal techniques, such as warm water flushing, weed burning, and tundra removal, are options outlined in a Tundra Treatment Plan and can be applied if necessary. A tundra specialist is on-scene to advise the cleanup team in tundra impact minimization, vegetation restoration concerns, and sampling procedures to in support of cleanup attainment.

Current priority efforts consist of contaminated ice and vegetation trimming, completion of contaminated gravel removal from the pipeline corridor underneath the caribou crossing, and melting of contaminated snow at the CC-2A pad.

Ice and tundra chipping is occurring in accordance with the Tundra Treatment Plan finalized on 3/15/06. A 72" wide trimmer was found to be ineffective due to the uneven ground surface, and so several 40" wide trimmers are now in use. Smaller width trimmers will be tested soon for effectiveness in depressions or other uneven land features. The intended goal of the trimming is both the removal of remaining oil contamination and minimizing adverse tundra impacts. Residual oil contamination on the ice surface is not believed to be deep, and the current plan is to trim the top 1 to 3 inches away. Trimming more than 3 inches down into the vegetation could result in damage to the root zone and would have negative effects on the health of the tundra and stability of the underlying permafrost. Initial trimming work has been conducted to an approximate 1 1/2 inch depth, and spill response contractors Alaska Clean Seas and the contracted tundra consultant are assessing if this trimming depth is suitable. The trimmer deposits trimmings on the ground as it moves along. Once trimmed, areas will be swept by hand or by broom attachment on a Bobcat machine. Sweeping will allow for the collection of the trimmings for disposal and also allow areas that remain oily to be identified - these are typically soft spots or depressions in the tundra. These remaining oiled areas will be flagged and later excavated by the smaller trimmers (16" or 18" wide), by backhoe, or by hand shoveling. The trimming operation will also be performed in a pattern and manner that will prevent equipment from traveling through contaminated areas into clean areas. The trimmed areas will be delineated by GPS to assure that areas are not missed in the event that blowing snow covers the site making visual identification of trimmed areas difficult. ADEC expects that they will receive a very high success rate in the removal of contamination from the tundra using the trimming method. As of March 19, 2006, approximately 1,040 square feet of the contaminated area had been trimmed.

The caribou crossing gravel has been excavated to the bottom of the pipe elevation to allow examination of the pipeline. As the pipeline leak occurred on the pipeline's bottom, oil is being found in the bottom of the pipeline culvert. Gravel beneath the culvert has also been found to be oiled and liquid oil has also been located. The gravel will continue to be excavated and collected by supersucker. Respiratory protection will be used by workers as required due to VOC levels. Scaffolding and tenting installed at the caribou crossing remains in place, although strong winds have twice destroyed the tenting. The leaking pipeline has been repaired via a welded sleeve but is still undergoing UT testing.

Two snow melters are staged at pad CC2A near the spill site. One unit began operations 3/16/06. A second unit has been unsuccessful in starting but was replaced with a working unit on March 19. These two units will work simultaneously both day and night, and the third unit may also be put into operation when repaired. The volume of melted contaminated snow is measured in gallons as it is transferred from the melters to a holding tank at nearby Flow Station 2. As of March 19, 2006, 1,110 bbls (46,620 gallons) of snowmelt has been melted and transferred.

ACS has begun decontamination and demobilization of response equipment no longer required.

A wildlife fence has been constructed around the spill site to exclude wildlife, such as arctic fox.

The cleanup operation is still occurring 24-hours. Day shift will continue to be staffed by 30-40 workers on site, and 10 staff will cover the night shift. Night operations are expected to decrease and may cease as the recovery operation continues - vegetation trimming can only occur during daylight hours.

Planned Removal Actions

Gross oil contamination removal has already occurred, and contaminated ice and vegetation trimming, conducted according to the Tundra Treatment Plan dated 3/15/06, is the primary cleanup method being employed at the present. Trimming work is anticipated to last for approximately 2 weeks.

Two melters used to melt oil-contaminated snow are in operation, and a third unit may come on-line soon.

In-situ weed burning, warm water flushing, and tundra removal techniques could be applied to the contaminated ice and vegetation layer if either trimming is not fully effective or if the testing of these other remediation techniques is determined worthwhile. All runoff generated under a flushing operation would be captured and collected. These options are outlined in the approved Tundra Treatment Plan.

Additional oil-contaminated gravel is being encountered as workers continue to uncover the pipeline buried in the caribou crossing east of where the leak occurred. It is likely that the entire width of the crossing (approximately 80 feet) will be excavated to gain access to all contaminated gravel as well as provide access to engineers for thorough pipeline integrity testing. The remaining pipeline excavation work may last approximately 1-2 weeks.

No waste materials have undergone disposal yet. Stockpiling of each wastestream will continue until collected in full, unless storage space becomes an issue.

Next Steps

A plan for sampling trimmed surfaces to determine whether more trimming is needed or if cleanup goals have been attained is under preparation by the tundra consultant hired by BP. This plan will address field screening methods for contamination detection, laboratory sample collection and analysis methods, sampling frequency, sample point location referencing, and related issues.

A third trimmer machine with a 40" wide trimmer is on order and could be available by Friday March 24.

The grind and inject facility at Drill Site 4 has been designated as the holding area for trimmed material. Contaminated gravel from the caribou crossing is also stockpiled there separately. The trimming material poses special transportation concerns due to being finely-textured.

Demobilization of response equipment no longer required will continue.

ADEC will be closely involved with eventual waste disposal activities and subsequent wastestream volume determinations.

The EPA START representative is expected to demobilize from Prudhoe Bay on March 21, 2006. EPA will continue to monitor the cleanup progress from their office in Anchorage. ADEC responder presence on-site has diminished from earlier in the spill but one responder is expected to remain on the North Slope to monitor the spill progress at least through March 24, 2005.

Key Issues

Extreme cold and blowing snow continue to hamper cleanup operations by posing safety hazards to site workers and by causing equipment difficulties. Additional effort is required under these conditions to assure worker safety and to perform equipment maintenance and safekeeping activities. Site workers are working outside shifts as short as 30-60 minutes between warm-up periods, depending on the wind chill. Frostbite is a major worker concern along with slick walking surfaces and dehydration.

Air monitoring for vapors such as VOCs and benzene will continue particularly during caribou crossing gravel excavation, where heavy and relatively unexposed oil contamination could still be encountered.

A BP Business Resumption team, operating separate from the cleanup operation, is addressing necessary activities for resuming oil flow through the still-inactive transit pipeline.

Disposition of Wastes

Waste Stream	Quantity	Manifest #	Disposal Facility
Recovered crude oil free-product, collected from the ground by vacuum	1,513 bbl		Presently bulked into tank # 1934 at Flow Station 2. Final volume

truck or pump			determination and disposal method are pending.
Oil-contaminated snow, collected directly off the spill area or generated through the addition of clean snow as an absorbent	5,209 cubic yards		Currently being stockpiled at CC2A pad and fed into snow melters there (see snowmelt wastestream for volumes generated through the melting operation)
Oil-contaminated gravel removed from the leak point of origin within the caribou crossing	328 cubic yards		Currently being stockpiled at Drill Site 4's grind and inject facility until final disposal occurs.
Snowmelt created through the melting of oil-contaminated snow	1,110 bbl		This liquid is taken from the melting units at pad CC2A to Flow Station 2, where it is bulked into tank # 1934 that also holds the recovered crude oil
Contaminated ice/vegetation trimmings	no estimate yet - operation just initiated		Currently being stockpiled at Drill Site 4's grind and inject facility until final disposal occurs.

response.epa.gov/BPA/Alaska/Transmission/Pipeline/lineDischarge/March06