11952 SENATE RESOURCES

The KPL and OPL cross over Smith Creek, a Kuparuk River tributary, on the Bailey Bridge. CPAI also maintains the Hamilton Bridge as part of the KPL/OPL access road.

KPL Extension Operations: The KPL Extension was also 100% available for service in 2005. It transported 77.1 million (77,145,943) barrels of processed crude from Alpine and CPF-2 into the KPL.

OPL Operations: The OPL was available for service 100% of the time in 2005. CPAI reports that 6.2 million (6,210,799) barrels of natural gas liquids were transported in 2005 through the Oliktok Pipeline.

Spill Prevention & Response: In 2005, CPAI performed spill drills with the Kuparuk Incident Management Team and the Alpine and Kuparuk Spill Response Teams. CPAI also participated in developing and delivering training with Alaska Clean Seas.

Oil Spill: on March 13, 2005, CPAI reported to ADEC a crude oil spill of four gallons from a failed sump pump seal at the KPL pig launcher module at CPF-1.

Triplex Pump Trailer Incident: On November 6, 2005, a pickup truck with a triplex pump trailer went off the road and turned over on the south side of Spine Road 2.8 miles west of "Y" near CPF-2. CPAI estimates the overturned triplex came within 20-24 feet of the KPL Extension. Approximately one-half gallon of diesel was spilled on the gravel shoulder, reported to ADEC, and cleaned up.

Valve Closure Incident: The following is copied verbatim from CPAI's annual report:

"UNAUTHORIZED ISOLATION VALVE LOCKOUT

On 08 October 2005, ConocoPhillips Alaska, Inc. (CPAI) personnel discovered that a 16-inch Oliktok Pipeline (OPL) isolation valve located at the Milne Point

> Pipeline (MPPL) tie-in had been locked closed by a Milne Point operations device. This situation presented a potentially serious safety issue and a property trespass situation."

For more information, see Section 8.3.2 of this report for the Milne Point Pipelines, JPO surveillance report #ANC-06-S-033, and the March 2006 surveillance field notes attached to report #ANC-06-S-036.

Safety Incidents: No OSHA Reportable incidents of lost time or medical treatment occurred for personnel working on the Kuparuk or Oliktok pipelines in 2005.

Emergency Generator Issues: On the west side of the Kuparuk River crossing, the KPL emergency generator provides backup power for isolation valve ROV-9383. Two problems occurred with this generator during 2005. The first issue was a water pump leak in July which required changing the generator from automatic to manual start. Shore power and a portable generator were used until the water pump was replaced less than a week later with no change in spill response readiness. The second problem occurred on September 29, when the generator was non-functional after a line voltage-sensing control module failed. The generator would still start, but would not auto-start. The change in spill response readiness was communicated to ADEC and auto-start capability was restored on October 9. CPAI reports that the ability to close the valve remotely was not compromised.

USDOT Compliance: From February 28 through March 7, 2005, a representative from USDOT performed standard inspections of the Kuparuk and Oliktok pipelines. No significant deficiencies were identified.

4.2.3 Lessee's Surveillance & Monitoring

Overview: The Kuparuk and Oliktok leases require the lessee to follow a SPCO-approved surveillance & monitoring program. This program describes how the lessee ensures they are complying with lease provisions. The Kuparuk and Oliktok Surveillance Programs consist of routine aerial and ground-based surveillance. The Monitoring Programs consist of routine and corrective maintenance and inspection tasks, as well as a variety of pipeline, river crossing, and wildlife monitoring. For more detailed information on what is monitored along the Kuparuk and Oliktok Pipelines, and the frequency for monitoring, see the current *Surveillance & Monitoring Program*.

Aerial Surveillance: CPAI uses forward-looking infrared technology in aerial surveillance as part of their leak detection program. Aerial surveillance also helps the lessee monitor other pipeline and ROW conditions. In 2005, CPAI conducted 149 surveillance flights between the Ugnu-Kuparuk Airport and CPF-2 and 120 flights between the airport and PS-1. The Kuparuk Oil Discharge and Contingency Plan, 2.5 Discharge Detection [18 AAC 75.452(E)(2)(E)], requires weekly aerial surveillance, subject to weather and safety conditions.

VSM Inspections: CPAI annually monitors VSMs for frost jacking and subsidence as part of their surveillance & monitoring. In addition to VSMs supporting the pipelines, CPAI also monitors 134 abandoned VSMs within the ROW. In 2005, 42 VSM issues were identified. All have been scheduled for re-leveling in 2006.

Work Pad Bridge Maintenance: CPAI contracted with PND Incorporated to inspect Kuparuk River bridges in 2004. The KPL and OPL pass over Tributaries I and II on the Bailey and Hamilton Bridges. CPAI has taken some remedial action on these bridges a d is addressing erosion issues.

Kuparuk River Monitoring: In accordance with the *Erosion and Sediment Control Plan* submitted to the SPCO on May 30, 2000, CPAI monitors the Kuparuk River floodplain. Zone 1A is monitored annually, and Zones 1B and 2 are monitored every three years. In 2005, CPAI monitored only Zone 1A and noted minimal changes from the 2000 baseline. The other zones will be monitored next in 2006.

Mammal Surveys: CPAI conducts annual caribou research in the Greater Kuparuk Area as mandated in the Kuparuk River Use Agreem' it. The CPAI annual report for the KPL Extension contains the executive summary for 2 04's mammal surveys. The 2005 report was still under review at the time the lessee submitted their annual report. The lessee has not noted any problems with wildlife passage across the pipeline ROW, or other impacts on mammals. Lease stipulations address protection of fish and wildlife.

Avian Studies: CPAI has a long-term program to survey Spectacled Eider, Brant, and Tundra Swan abundance, nesting, and distribution within the Kuparuk Oilfield and Kuparuk and Oliktok Pipeline corridors. In 2005, they surveyed Spectacled Eider, Tundra Swan, and Brant.

Insulation Jacketing: Routine surveillance noted an area of damaged insulation on the KPL. Repairs have been scheduled. CPAI also inspected a routine number of weld packs for external corrosion.

Survey Monuments. CPAI reports that monument A5 was found out of position and restored to the location of record. CPAI replaced a missing cap on D11.

4.3 SPCO Activity

4.3.1 Lease Administration

In FY06, the Lease Administration Team finished processing a ROW lease amendment for the KPL to include a new pig launcher shelter. To conclude the process, CPAP, on behalf of KTC, submitted a record of survey for review depicting the new ROW location at the pig launcher shelter. Other projects included the following:

- In September 2005, the SPCO received a request from CPAP for CPAI to construct/expand a 60-foot turnaround within the KPL/OPL ROW. The turnaround improvement supports access to the pipeline ROW just west of the Kuparuk River. CPAI later decided not to expand the turnaround beyond bringing the existing pad up to original design depth.
- On September 3, 2005, the lease administration team performed an expedited review of placement of a new 12-inch valve on the KPL Extension to facilitate a possible future third-party connection.

- In early summer 2006, the lease administration team reviewed CPAI plans for a VSM replacement.

The lease administration team also reviewed numerous letters of non-objection from CPAP for CPAI to perform activities such as ice road construction, culvert maintenance, seismic operations, gravel removal, guardrail and lighting installation, and construction and maintenance within the KPL/OPL ROW.

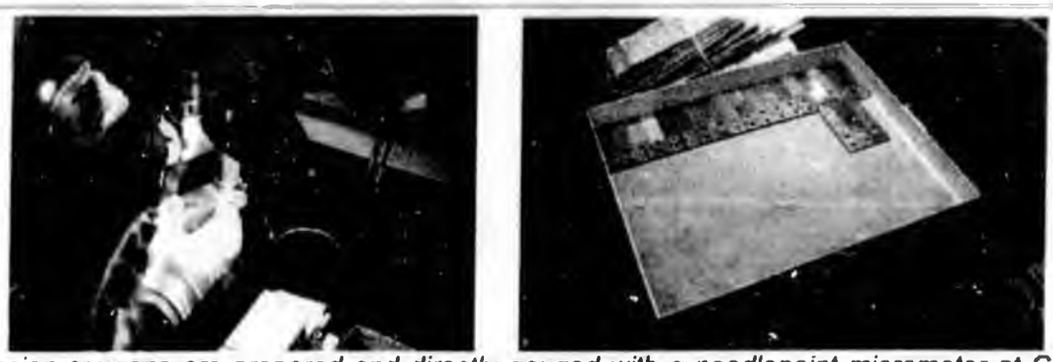
During field surveillance of the KPL and OPL in November 2005, an SPCO surveillant observed inspection work being performed on the KPL. The technician drew a white line around the potentially corroded area to be inspected. The location had previously been stripped of insulation and prepped for inspection.

4.3.2 Compliance Oversight

The SPCO compliance oversight team lead conducted surveillance of the Kuparuk and Oliktok pipelines and ROW November 9 through 11, 2005. The primary scope of this surveillance was to evaluate the lessee's corrosion program and to verify that the pipelines are being inspected, operated, and maintained to accepted standards and in compliance with applicable laws, regulations, and the ROW leases. Material storage within the ROW was not reviewed.

The SPCO surveillant flew to Kuparuk on November 9 and met with a variety of CPAI engineers and specialists to review both internal and external corrosion information including prevention, detection and repair practices. The following are some highlights about CPAI's corrosion program for KPL, OPL, and the KPL Extension as explained to the SPCO surveillant.

Tangential Radiography: External corrosion has been identified as a significant problem at weld packs, where water can seep into the insulation and contact the pipeline. CPAI uses tangential radiography to assess corrosion at weld packs, a technique which produces a photographic film that, when properly developed, can indicate the presence of water in the insulation. Tangential radiography can also reveal corrosion and corrosion by-products at weld packs.



Corrosion coupons are prepared and directly gauged with a needlepoint micrometer at CPAI's laboratory. An SPCO surveillant toured the laboratory in November 2005.

Work Orders: On November 11, the SPCO surveillant reviewed two work order files to assess the lessee's record keeping practices. The first was a 2004 KPL corrosion repair associated with VSM 785, east of the Milne Point tie-in. The other work order was from a 2001 incident when a crane tipped over and damaged both the KPL and OPL.

Laboratory Tour: The SPCO surveillant visited the lab where CPAI examines coupons from the KPL, OPL, and KPL Extension. Coupons are located at the inlet and outlet of the OPL and KPL at the 6 o'clock position. Two additional coupon locations are in the KPL Extension. Coupons are removed from the pipe at least twice per year (per USDOT regulations) and examined to gauge pitting, metal loss, and calculate a corrosion rate. CPAI grades coupons qualitatively, using a ranking system of "'A" through "F." The SPCO surveillant was told that baseline corrosion rates in the KPL were generally less than 1/10th of 1 mil per year with about 1 mil per year pitting.

Inspection: On November 10, the SPCO surveillant witnessed a visual and ultrasonic inspection of a potential corrosion location on the KPL adjacent to CPF-1. The location was identified during the last smart pig run. The surveillant arrived after the pipeline jacket and insulation had been removed. He commented that "discovery and measurement of the three corrosion networks at this location was carried out in a planned and well executed workmanlike fashion, was well documented, and it appeared all the procedures outlined by the detailed guideline were followed."

Future Tie-In: The surveillant visited the location of a proposed 12-inch KPL Extension valve that was installed to facilitate a possible future third-party connection near the Oliktok/Spine Road intersection. At the time of the surveillance, the valve had not yet been installed, but hot tapping, blinding, and other preparations had been completed. The scaffolding remained in place, and the surveillant was told the work would be completed later in the winter.

The SPCO surveillant also engaged in discussions with CPAI personnel about mapping, drawings, corrosion databases, risk management, USDOT annual reporting requirements, avian studies, and a software data management system and viewed a FLIR recording. Before, during, and after the November 2005 surveillance, the lease compliance oversight team lead reviewed numerous documents provided by the lessee,

especially those related to the corrosion control program. These are listed in the Surveillance Field Notes attached to surveillance report #ANC-05-S-251.

4.3.3 Summary of lease compliance observations: November 2005

Lease	Section	Description	Observation	Report #
KPL	4c, 4h(1), 4j	State access to records; maintenance of pipeline in good repair, registered agent	Satisfactory	ANC-05-S-**247**
KPL	7a	State physical access to leasehold	Satisfactory	ANC-05-S-**248**
Lease	**Stipulation**	**Description**	**Observation**	**Report #**
KPL	1.3.2, 1.3.6	Authorized & field representatives, access	Satisfactory	ANC-05-S-**249**
KPL	1.6.1(2) & (12)	Design Criteria – corrosion control, surveillance & monitoring	Satisfactory	ANC-05-S-**250**
KPL	1.8.2	Comprehensive quality assurance/control	Satisfactory	ANC-05-S-**251**
	1.9.1	Equipment maintenance	Satisfactory	ANC-05-S-**252**
KPL	1.10.1(4)	Surveillance & monitoring: pipeline integrity	Satisfactory	ANC-05-S-**253**
KPL	1.11.1	Protection of health and safety	Satisfactory	ANC-05-S-**254**
KPL	3.4.1	Corrosion program	Satisfactory	ANC-05-S-**255**
Lease	**Section**	**Description**	**Observation**	**Report #**
KPL X	4a, 4d, 4h(1), 4j	Common carrier, State access, good repair, registered agent	Satisfactory	ANC-05-S-**238**
KPL X	7(a)	State access to Leasehold	Satisfactory	ANC-05-S-**239**
Lease	**Stipulation**	**Description**	**Observation**	**Report #**
KPL X	1.3.2 & 1.3.6	Authorized representative, access	Satisfactory	ANC-05-S-**240**
KPL X	1.6.1(2) & (12)	Design Criteria: corrosion, surveillance & monitoring	Satisfactory	ANC-05-S-**241**
KPL X	1.8.2	Quality Assurance/Quality Control	Satisfactory	ANC-05-S-**242**
KPL X	1.9.1	Maintain equipment	Satisfactory	ANC-05-S-**243**
KPL X	1.10.1(4)	Surveillance & monitoring: pipeline integrity	Satisfactory	ANC-05-S-**244**
KPL X	3.4.1	Corrosion program	Satisfactory	ANC-05-S-**245**
Lease	**Section**	**Description**	**Observation**	**Report #**
OPL	4d, 4h(1), 4j	State access to property and records; good repair; registered agent	Satisfactory	ANC-05-S-**256**
OPL	7a	State physical access to Leasehold	Satisfactory	ANC-05-S-**257**
Lease	**Stipulation**	**Description**	**Observation**	**Report #**
OPL	1.3.2, 1.3.6	Registered agent, State access rights	Satisfactory	ANC-05-S-**258**
OPL	1.6.1(2) & (12)	Design Criteria: corrosion, surveillance & monitoring	Satisfactory	ANC-05-S-**259**
OPL	1.8.2	Quality Assurance/Quality Control	Satisfactory	ANC-05-S-**260**
OPL	1.10.1(4)	Surveillance & monitoring: pipeline integrity	Satisfactory	ANC-05-S-**261**
OPL	3.4.1	Corrosion program	Satisfactory	ANC-05-S-**262**

4.3.4 Appraisals

The most recent appraisal of State lands in the Kuparuk and Oliktok ROWs was approved by ADNR on October 1, 2002. According to AS 38.35, the lessee must pay fair market value to lease State lands in the ROW. Per the Kuparuk and Oliktok leases, a re-appraisal is due every five years. The next appraisal should be submitted in 2007. The State acreage and annual rental fees follow:

Pipeline ROW	***ADL #***	***State Acres***	***Estimated Market Rent***
Kuparuk Operations ROW	402294	485.58	$84,516
Extension Operations ROW	409027	159.09	$31,818
Oliktok Operations ROW	411731	485.58	$84,516

4.4 Upcoming Issues

4.4.1 Lessee's Activities

CPAI is finishing work on valve actuator upgrades for the KPL system. They also plan to finish work on a communication link upgrade which will improve reliability for the KPL and OPL leak detection systems. CPAI also plans to facilitate a possible third party connection by finishing installation of a new 12-inch blinded valve to the KPL Extension in 2006.

Evaluation Plans: CPAI plans to perform a Health, Safety, and Environment Self-Audit for the Kuparuk River Unit in 2006.

Pigging: CPAI plans to run a smart pig through the 24" KPL in late summer 2006. The SPCO lease compliance oversight team plans to attend the pig launch and/or retrieval and conduct surveillance of the ROW.

4.4.2 SPCO Compliance Oversight

In July 2006, the lease compliance oversight team will conduct field surveillance of the Kuparuk and Oliktok pipelines and ROWs. Additional surveillance of the Kuparuk Pipeline will occur in August 2006 during smart pigging operations. The team will complete any necessary follow-up to these surveillances. The lessee's 2006 annual report, due January 31, 2007, will also be reviewed. Additional field surveillance may be conducted in FY07.

4.5 Contact Information

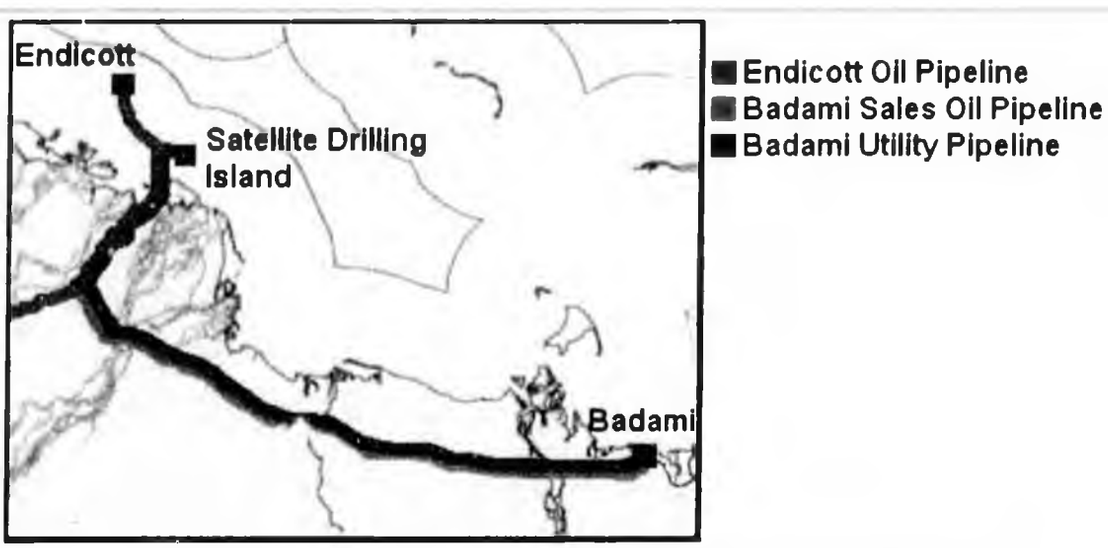
In the Kuparuk and Oliktok ROW lease agreements, Section 4(j) requires the lessee to designate in writing a registered agent. Lease Stipulation 1.3.2 requires a field representative and an authorized representative available to communicate with the SPCO. These contacts are the same for the OPL, KPL, and KPL Extension leases (ADLs 402294, 409027 and 411731).

Registered Agent *Authorized Representative*	Karen L. Kennedy Operations and Engineering Manager Kuparuk Transportation Company Oliktok Pipeline Company P.O. Box 100360 ATO 908 Anchorage, AK 99510-0360
Primary Field Representative	Chuck Knecht NSOD Pipeline Operations Supervisor ConocoPhillips Alaska, Inc. P.O. Box 196105, NSK 22 ConocoPhillips Alaska, Inc. Anchorage AK 99519-6105
Alternate Field Representatives	Arlen Cutsforth or Randy Scott NSK Pipeline Coordinators ConocoPhillips Alaska, Inc P.O. Box 196105, NSK 22 Anchorage, AK 99519-6105

NORTH SLOPE PIPELINES

5 Badami Pipelines: Sales Oil and Utility

ADL # 415472 and 415965



The Badami pipelines connect the North Slope's easternmost development to Endicott.

5.1 Lease and Right-of-Way Overview

5.1.1 Badami Corridor

The Badami Sales Oil Pipeline was built in 1998 to transport oil from BP's Badami Development to the Endicott Pipeline for further transport to TAPS. The 12-inch diameter pipeline runs entirely aboveground except for river crossings for about 25 miles on the east side of Prudhoe Bay. The Badami Utility Pipeline was originally designed to transport miscible injectant 31 miles from Endicott to Badami. Recently it transported fuel gas. More pipeline-specific information is provided later in this section.

The Badami pipelines are supported on the same horizontal and vertical supports between the Badami Development and Endicott Pipeline tie-in location. The utility pipeline begins an additional six miles upstream at Endicott and is supported on the Endicott Pipeline VSMs until the tie-in location.

The Badami Sales Oil Pipeline and Utility Pipeline right-of-way lease agreements, effective December 15, 1997, expire December 14, 2022. BP Transportation Alaska (BPTA) is the ROW lessee for both pipelines and the party ultimately responsible for compliance with the State ROW lease agreement. BP Exploration Alaska (BPXA) is the primary contractor to BPTA for operation and maintenance of the pipelines. BPTA developed the Badami Quality Program to ensure lease compliance. The Program is implemented through the BPXA Quality Plan. Both the Program and Plan were approved by the State Pipeline Coordinator in fall 2004.

Both pipelines traverse land entirely owned by the State of Alaska. The oil and utility pipelines both cross portions of the Badami Oil & Gas Unit. Additionally, the utility line crosses portions of the Duck Island Unit. The State land includes 1,240 acres in the oil pipeline construction ROW and 352.10 acres in the utility pipeline construction ROW.

Badami was BP's first North Slope field developed remotely from Prudhoe Bay infrastructure. It first came online in August 1998 and production peaked at 18,000 barrels per day. Oil recovery dropped quickly, however, due to poor connectivity between reservoirs. In 1999, Badami Utility Pipeline transport was suspended and physically disconnected from the Endicott Inter-Island Gas Lift Pipeline due to a cracked weld. In 2003, Badami oil production and operations (including the Sales Oil Pipeline) were suspended for economic reasons. They were put in a "warm shutdown" status, meaning they were manned, maintained, and heated for future use. In September 2005, production was restarted. The Utility Pipeline provided fuel gas from Endicott and the Badami Sales Oil Pipeline was backfilled with oil from Endicott before restarting. An SPCO surveillant was on site to evaluate procedures prior to restart. For more information about the restart and SPCO involvement, see 5.3.2, Compliance Oversight.

Environmental concerns: The Badami pipelines were constructed on VSMs a minimum of five feet above the tundra to prevent permafrost degradation and allow wildlife passage. To minimize their footprint, the Badami pipelines were built "roadless." They are accessible by winter ice road. Wind-induced vibration is a significant problem for the Badami Utility Pipeline. Vibration dampeners attached to the pipeline help mitigate vibration effects.

River Crossings: The Badami Pipelines cross the East Channel of the Sagavanirktok (Sag) River, Kadleroshilik (Kad) River, Shaviovik (Shav) River, and the No Name River. They were installed under the Sag, Kad, and Shav Rivers using traditional trenching methods and cross all other drainages above-ground.

Sag River Weir: Due to erosion related to pipeline construction, a weir was built to prevent further drainage of an oxbow lake on the west bank of the Sag River crossing. The lake is home to a population of the tundra plant *Arctophila fulva*, which is an important food source for waterfowl. The USACE and the ADNR OHMP have required BPTA to take measures to prevent further drainage of the lake, control erosion, and eventually restore the site. Currently a metal weir is in place, designed to maintain water levels sufficient to support the *Arctophila* population. Additional rehabilitation measures are being planned. For more information, see 5.3.2, Compliance Oversight.

Lease: Electronic copies of the Badami lease agreements and approved amendments are available for public viewing at the SPCO website: http://www.jpo.doi.gov/SPCO/SPCO.htm.

The Badami pipelines cross were built "roadless" to prevent damage to tundra.

5.1.2 Badami Sales Oil Pipeline (ADL 415472)

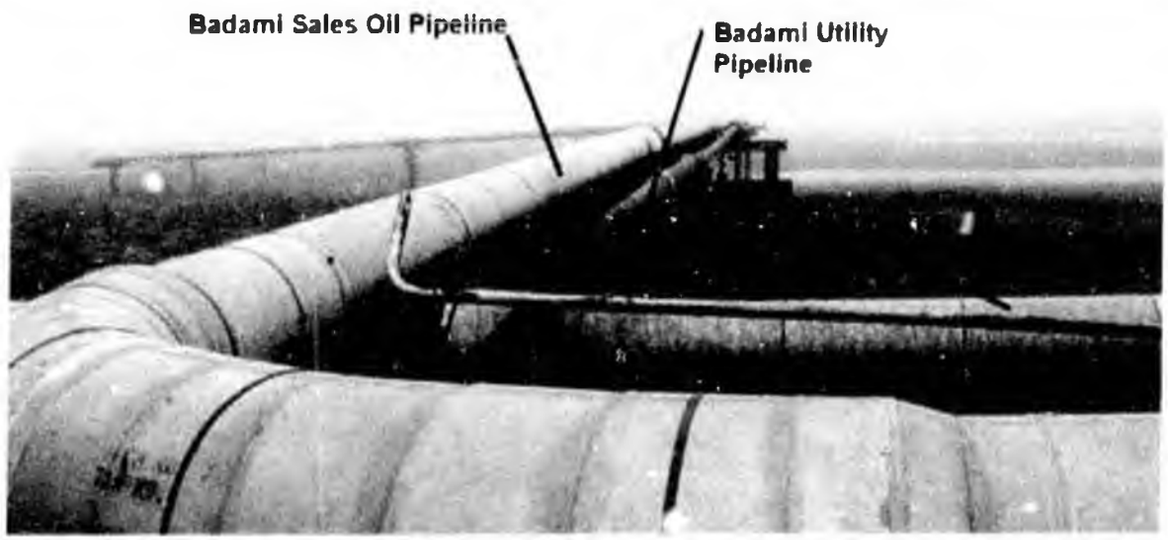
The Badami Sales Oil Pipeline begins at the Badami Central Production Facility where the pig launcher, metering, and leak detection equipment are located. It terminates approximately 25 miles west at the Endicott Pipeline tie-in location where the pig receiver is located. The entire above-ground pipeline is supported on VSMs spaced approximately 55 feet apart.

The 12-inch diameter pipeline was constructed in 1998 for a maximum allowable pressure of 1,415 psig at 150° F. It is thermally insulated with polyurethane insulation covered in metal jacketing. The nominal wall thickness crossing tundra is 0.281 or 0.375 inches. Wall thickness increases to 0.500 inches at river crossings.

The entire oil pipeline is piggable, and BPXA employs smart pigs to check pipeline conditions and corrosion-related integrity problems. The oil pipeline was last pigged with both a magnetic flux leakage and a geometry tool in 2003. Prior to restarting the line in 2005, BPXA determined that none of the corrosion features identified in the smart pig run threatened safe pipeline operation.

Because the pipeline is primarily aboveground, it is not cathodically protected from external corrosion except at river crossings. Pipe at the three buried segments (river crossings) is coated with fusion-bonded epoxy and protected with sacrificial ribbon anodes. BPXA does not use corrosion inhibiting chemicals in this sales oil pipeline because sales quality crude contains low sulfur, sediment, and water.

The Badami Sales Oil Pipeline is subject to additional regulation by the USDOT.



This enhanced digital image shows the Badami Pipelines near the Endicott tie-in location where the Badami Oil Pipeline terminates and the Utility Pipeline joins the Oil Pipeline route.

5.1.3 Badami Utility Pipeline (ADL 415965)

The Badami Utility Pipeline begins at the Endicott Gas header and runs approximately 31 miles to the Badami Development. For the first six miles, the utility pipeline is supported on the same vertical and horizontal supports as the Endicott Pipeline. At the Badami Sales Oil Pipeline tie-in location, the utility pipeline diverges from the Endicott Pipeline support system and continues on the same supports as the Badami Sales Oil Pipeline to the Badami Development.

The Badami Utility Pipeline was built in 1998 from 6-inch diameter steel pipe. Following a study of second order wind-induced vibrations, pipeline vibration dampeners were installed on the utility pipeline at the ¼ or ¾ span locations in addition to the original mid-span locations. Weights are two distinct sizes with the smaller ones located at the ¼ or ¾ position.

The utility pipeline's service was suspended in November 1999 due to a cracked weld. In 2005, the gas utility pipeline was repaired, reconnected, and supplied fuel gas for the restart of Badami oil wells and related facilities.

Because the pipeline is primarily aboveground, it is not cathodically protected from external corrosion except at river crossings.

The Badami Utility Pipeline is subject to additional regulation by the USDOT.

5.2 Lessee's Annual Report

5.2.1 SPCO Review

BPTA, lessee for the Badami pipelines, submitted a *2005 ADNR Surveillance & Monitoring Report* to the State Pipeline Coordinator's Office on time in January 2006. A single report was provided for all BPTA leases (Badami, Endicott, Northstar, and Milne Point). BPTA's reports provide general information on pipeline activities, and contain most of the minimum information required. To meet minimum requirements for annual reporting in the leases, the SPCO issued a letter to BPTA requesting additional information with a response due date of June 16, 2006. The seven requirements for annual reporting to the SPCO are listed in the Introduction Section. BPTA responded on time with the requested information, thereby fulfilling the annual reporting requirements.

5.2.2 Lessee's Activities

Oil Pipeline Operations: In 2005, the Badami Pipeline transported 152,711 gross barrels and 152,407 net barrels (less water and sediment) of oil to the Endicott Pipeline. The line was re-started from warm shutdown in September 2005.

Utility Line Operations: In 2005, the Badami Utility Pipeline transported 8,612 MSCF of fuel gas from Endicott to support the Badami re-start.

Utility Line Repairs: Prior the re-start, the utility line was repaired. In April 2005, 280 girth welds were inspected. Nine rubber connections for vibration dampeners were repaired between the Endicott tie-in and Sag River. Other vibration dampeners were adjusted.

Incidents: BPTA reports that no incidents, events, or fires occurred along the Badami pipelines in 2005. No OSHA Reportable safety incidents of lost time or medical

treatment occurred for personnel working on any BPTA common carrier pipelines in 2005.

Other Incidents: Although it wasn't reported in the annual comprehensive report to the SPCO, there were five inadvertent valve closures on the Badami Oil Pipeline. These were reported as abnormal operating conditions between the September start-up and June 30, 2006. On November 6, 2005, an increase in pipeline pressure required BPXA to shut-in Badami production wells. A Sales Oil Pipeline valve had closed due to loss of power at Remote Terminal Unit (RTU)-2. This was discovered during a helicopter flight to visually check the pipeline and three RTUs. The maximum operating pressure of the pipeline was not exceeded. Another incident occurred on November 7, 2005 (RTU-2). In 2006, events occurred on January 20 (RTU-1), February 16 (RTU-1) and April 13 (RTU-3). In BPTA's follow-up letter to their annual report dated June 16, 2006, BPTA reported that new batteries were installed and a thermal electric generator unit was replaced.

Internal Safety Program: Employees at Badami facilities participate in BP's internal safety programs. Employees formally monitor each other under the Observing Risks, Changes, and Attitudes (ORCA) program, and managers conduct Advanced Safety Audits (ASAs). In 2005, Badami employees generated zero ORCA observations and there were 150 ASA participants.

This diagram shows the configuration of the Badami pipelines with vibration dampeners.

5.2.3 Lessee's Surveillance & Monitoring

Both Badami pipeline ROW leases contain Stipulation 1.10.1 that requires the lessee to comply with an SPCO-approved Surveillance & Monitoring Program. This program describes how the lessee ensures compliance with lease conditions and stipulations. The Surveillance & Monitoring Program for the Badami pipelines was approved by the SPCO on September 9, 2004. BPTA defines "surveillance" as "making observations that are primarily qualitative by flying, driving, or walking along the pipeline and related facilities." The program is designed to detect, prevent, and abate situations

which may endanger public health & safety, environment or pipeline integrity, and public or private property damage.

The Badami Surveillance Program consists of routine surveillance designed to meet USDOT and SPCO requirements. This includes biweekly aerial surveys of ROW conditions and an annual ground survey of the entire ROW. BPXA conducted 39 aerial inspections of the Badami ROW in 2005. BPXA also must inspect mainline valves twice each year for the oil pipeline and once annually for the utility pipeline. No problems were identified with valves during routine inspections in 2005, however, there were some inadvertent valve closure incidents as previously discussed.

The Monitoring Program consists of routine and corrective maintenance and inspection tasks, as well as a variety of pipeline, river crossing, and wildlife monitoring. For more detailed information on what is monitored along the pipelines, and the frequency, see the current *Surveillance & Monitoring Program* in State files. This year's surveillance & monitoring results follow.

Annual Survey: BPXA conducts an annual ground survey, also called a Walking Speed Survey, to fulfill USDOT and State lease requirements. The annual ground survey was conducted between April 6 and 10, 2005 and noted that three VSMs shared by the Badami pipelines will need a transit survey to determine "elevation and levelness." For the Utility Pipeline, one cracked weld was noted between PS-825 and 826. Eleven Utility Pipeline vibration dampeners were found out of position, and 37 below pipe vibration dampeners were found broken/missing. For the Sales Oil Pipeline, four dents were found in jacketing, 20 weld packs in saddles had broken banding straps, three pipe dents were verified from the in-line inspection run, and one weld pack was reported missing silicone.

BPTA included copies of the ground survey in their annual report to the SPCO, but did not state when the issues noted are scheduled for repairs. In Appendices C and D, memos *recommend* that the Maintenance Planner schedule inspections and repairs for spring or summer 2006. BPTA's report, however, does not state whether such scheduling actually took place, and provided no information on deadlines for completion. In their follow-up reporting, BPTA states that necessary repairs are scheduled and/or completed.

Cathodic Protection Survey: In September 2005, the lessee completed a cathodic protection survey at the river crossings and reported that federal requirements in 49 CFR 192 and 195 were being met. However, BPTA reports that permanent reference electrodes have failed. Instead, portable electrodes were used at above ground/below ground transitions associated with river crossings. In follow-up reporting, BPTA stated that portable electrodes provide sufficient data to meet USDOT requirements.

Sag River: Annual monitoring of the Sag River weir revealed soil had been lost on the north side of the weir and south side of the riprap. Surface water was also found flowing around the weir's north side during a June 2005 inspection. No problems were noted with risers, channel change or obstruction, depressions, or ponding. According to the USACE Permit 2-940700 and Fish Habitat Permit FG95-III-0142, BPTA must continue monitoring the weir three times each summer until the site is adequately stabilized. Summer inspections in 2005 occurred on June 24th, July 1st, and August 5th.

Smart Pigging: The Badami Sales Oil Pipeline was pigged with a magnetic flux leakage in-line inspection tool in 2003. BPXA conducted field verification of the data prior to re-start of the pipeline in 2005.

ROW Surveillance Conditions: The only non-compliant ROW conditions reported during 2005 are those noted on the annual ground surveys. BPTA reports that BPXA did not find any problems associated with any of their other surveillance categories: oil spills/leaks, erosion, wildlife blockage, public access, sloping crossbeams, tilted saddles, saddles suspended above crossbeams, failed anchors, gaps between pipe and saddle, pipeline vibrations, humps or swales, ground cracking, cased pipe, building damage, building foundation movement, building fuel/gas leaks, fish, brown bears, polar bears, and threatened or endangered species.

A Badami Pipeline above-grade river crossing.

5.3 SPCO Activity

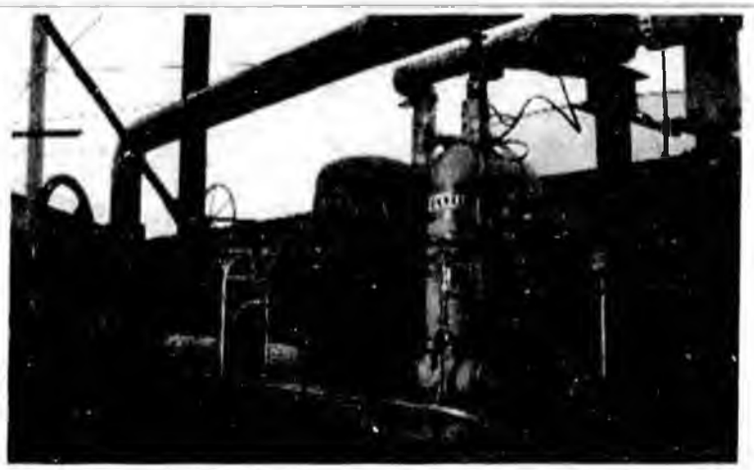
5.3.1 Lease Administration

The lease administration team reviewed a June 10, 2005 letter from BPTA stating their intention to restart the Badami pipelines. In FY06, the SPCO requested and received additional information on Badami restart plans. For more information, see 5.3.2, Compliance Oversight.

5.3.2 Compliance Oversight

On February 16th, BPXA's Corrosion, Inspection, and Chemicals Group gave a presentation to the lease compliance oversight team with a general overview of their corrosion program. More specific corrosion information related to each pipeline is obtained by the team through field surveillances.

From September 12 through 14, 2005, the compliance oversight team lead conducted field surveillance of the Badami and Endicott pipelines and ROW. The primary scope of the surveillance was to observe the Badami re-start and get a general overview of the pipeline systems and facilities. Surveillance reports ANC-05-068, 86, 106, and 200-202 are associated with this surveillance. Four were minor unsatisfactory reports and two were satisfactory. The surveillance field notes are attached to report #ANC-05-106.



The Badami Sales Oil Pipeline pig launcher is housed in a plywood structure.

The surveillant rode from Deadhorse to the Endicott Development on September 12, 2005. In the Endicott ROW north of the tie-in, he inspected the Badami Utility Pipeline. On September 13, the surveillant flew along the Badami ROW in a helicopter to the Badami production facilities. He spent time at the Badami facilities observing operations prior to restart and checking records and documentation available onsite. On September 14, he participated in a close-out meeting and drove from the Endicott facilities back to Deadhorse. Prior to, during, and after the September 2005 surveillance, the compliance oversight team lead reviewed numerous documents related to the Badami pipelines and re-start. A list of these documents is included on Page 3 of the Surveillance Field Notes attached to report #ANC-05-106.

The SPCO was highly interested in the Badami operations in 2005 because BPTA planned on transitioning from a non-operational, warm stand-by status to a fully operational mode. The interaction between BPTA and the SPCO is briefly summarized in the following paragraphs. On July 3, 2003, the lessee notified the SPCO that it intended to temporarily suspend service by both Badami pipelines. A follow-up letter from the SPCO on July 18 outlined five requirements, including a start-up plan for SPCO review no later than 30 days prior to resuming shipment of oil, gas, or products.

On June 14, 2005, the SPCO received a letter and the Badami Unit's Sixth Plan of Development for review. The letter said that BPXA had treated the Sales Oil line with corrosion inhibitor and displaced the oil with gas. It also stated that the utility line had

been repaired during the winter of 2005. The 6" Utility line re-start procedure BPL-05 and the oil line re-start procedure BPL-25 were attached to the start-up plan.

While on site at Badami facilities, the SPCO surveillant asked to see a copy of the signed procedures that were used in implementing part of the re-start, namely BPL-05 and BPL-25 as indicated in the June 14th letter. The surveillant was allowed to view two BPXA procedures: BPL-29 and BPL-25. The BPXA employee escorting the surveillant was reluctant to provide copies of the procedures on site because he said they needed to be requested through BPTA, the lessee, and the records were not available elsewhere. The surveillant gave the lessee a minor unsatisfactory report (ANC-05-S-086 and ANC-05-S-021) for the delay in copying records.

When the surveillant eventually received and reviewed the procedures BPL-29 and BPL-25, which were provided via email after the surveillance, he noticed that they differed from the procedures approved by the SPCO for the pipeline re-start. In fact, for the utility line, an entirely different procedure was used (BPL-29 instead of BPL-05). The lessee was given an unsatisfactory report for using a modified and/or different procedure than the one originally provided to the SPCO for restart (reports ANC-05-S-106 and ANC-05-S-202).

Follow up on the unsatisfactory conditions consisted of phone calls, emails and letters. The SPCO required the lessee to submit the procedures actually used for retroactive review and to demonstrate that the procedures used were modified in accordance with the BPTA Quality Program and BPXA's Technical Management of Change procedures. The lessee provided documents showing that the procedures had been modified based on field conditions at the time of re-start and that proper management of change procedures were used to ensure that safety and pipeline integrity were maintained.

A close-out meeting with BPTA, BPXA, and the SPCO occurred on March 22, 2006. On March 31, BPTA formally submitted a final packet of information including the corrected procedures to satisfy the State Pipeline Coordinator's request. On April 13, 2006, the State Pipeline Coordinator accepted the information and issued a letter containing surveillance reports #ANC-06-S-021 (oil) and ANC-06-S-022 (utility) to close out the unsatisfactory determinations.

An additional surveillance of the Badami ROW occurred June 1st, 2006, when a compliance team member observed annual monitoring and restoration activities at the Badami weir. The weir was constructed to mitigate erosion which was removing pipeline backfill and threatening to drain an important oxbow lake and *Arctophila fulva* wetland habitat. The surveillant flew to Deadhorse on May 31 and visited the Badami/Endicott tie-in location and the Badami Oil pig receiver. On June 1, the surveillant flew in a helicopter to the weir site with two Era pilots, three BP representatives, a hydrologist, and a restoration contractor. The surveillant took aerial photos of the site including the oxbow lake system which extends south of the weir site. There was evidence that water was flowing into the oxbow lake from the Sag River upstream of the weir site. These high flow events had resulted in some erosion on the sides of the weir.

Left: Aerial view of the oxbow lake that the Badami weir protects. This lake is connected to a wetland system which extends for at least one mile to the south. Right: the Badami pipelines transition underground approximately 30 feet west of the weir.

On the ground at the river crossing, the surveillant noted that the weir appeared to be preventing further drainage of the wetlands, but that water was flowing around both sides of the weir and additional erosion had occurred on both sides. There appeared to be no imminent threat to the pipeline backfill, though some remedial action is going to be required to stabilize the site. A new channel had eroded on the south side of the weir, and all of the overburden vegetated as part of a previous fix attempt had been eroded away. The hydrologist, Michael Lilly of the University of Alaska Fairbanks, suggested several ideas to improve the effectiveness of the weir. One proposal included extending the weir to the north and possibly changing the angle of the weir to make it more perpendicular to the direction of flow. Another idea was to encourage the ice to melt soonest near the center of the weir, which would allow high water volumes generated during break-up to flow over the top of the weir instead of around the sides (there was evidence from photos this spring that the water was flowing around the sides of the weir due to preferential melting there).

Other agencies have an interest in protecting the *Arctophila* wetlands north of the weir. The USACE is enforcing permit number 2-1994-0700 which has been modified to require monitoring and restoration of the area. The OHMP has modified Fish Habitat Permit FG-95-III-0142 to address current conditions at the site. The US Fish and Wildlife Service is concerned about the *Arctophila* wetlands in this area because they can provide habitat for the Spectacled Eider, a threatened sea duck. The SPCO surveillant coordinated with these three agencies to maximize the effectiveness of the monitoring trip to the weir.

Surveillance reports ANC-06-S-083, 084, 086-088, and 090 document the site visit. They were mailed to the lessee on July 27, 2006. The SPCO will follow-up to these reports in FY07. Reports 085 and 089 are currently pending review and may be finalized in FY07. The Badami leases stipulations 2.3 and 2.4 require that erosion be minimized at river and floodplain crossings, and also require that erosion control

measures be maintained to limit sediment production and the formation of new channels. Although the site clearly needs additional work to ensure that the pipeline is protected and the wetlands do not drain, the surveillant observed that the lessee's contractors were making a good faith effort to address conditions at the site. The SPCO representative told BP personnel that the SPCO's main concerns were:

- *Protect the pipeline backfill and pipeline integrity*
- *Prevent further drainage of the wetlands*
- *Re-vegetate and restore disturbed areas*

Left: the Badami weir was built to prevent further drainage of a wetland system impacted by construction of the Badami pipelines. Right: As a result of high flows during break-up in 2006, this new channel has been eroded on the south side rip rap downstream of the weir.

Additionally, the compliance oversight team lead reviewed ILI data for the Badami Sales Oil Pipeline as part of a corrosion-focused records review. The SPCO requested and received ILI data from BPTA. The ILI reports requested were those directly from the vendor (raw data prior to analysis by BPXA personnel). These reports showed some metal loss anomalies on the pipeline. The compliance oversight team lead reviewed the reports with a State engineer from the JPO Technical and Design Review section and met with representatives of BPTA and BPXA to discuss some of the metal loss anomalies. 2003 pigging of the oil line identified mostly internal corrosion-related anomalies. The results of this ILI program review were reported as satisfactory in surveillance reports ANC-06-S-108 and 109.

5.3.3 Summary of Lease Compliance Observations: September 2005

Lease	Section	Description	Observation	Report #
Oil	6(a)	State access to Leasehold	Satisfactory	ANC-05-S-**068**
Oil	8(d)	State access to property & records	Unsatisfactory	ANC-05-S-**086**

Lease	Stipulation	Description	Observation	Report #
Oil	1.4.1	Compliance with approved Quality Program	Unsatisfactory	ANC-05-S-**106**

Lease	Section	Description	Observation	Report #
Utility	6(a)	State access to Leasehold	Satisfactory	ANC-05-S-**200**
Utility	8(d)	State access to property & records	Unsatisfactory	ANC-05-S-**201**

Lease	Stipulation	Description	Observation	Report #
Utility	1.4.1	Compliance with approved Quality Program	Unsatisfactory	ANC-05-S-**202**

5.3.4 Summary of Lease Compliance Observations: April 2006

Lease	Stipulation	Description	Observation	Report #
Oil	1.4.1	Compliance with approved Quality Program	Satisfactory	ANC-06-S-**021***

Lease	Stipulation	Description	Observation	Report #
Utility	1.4.1	Compliance with approved Quality Program	Satisfactory	ANC-06-S-**022***

**These surveillance reports close out the unsatisfactory reports from September 2005.*

5.3.5 Summary of Lease Compliance Observations: June 2006

Lease	Stipulation	Description	Observation	Report #
Oil	1.6.1	Surveillance & monitoring; corrosion	Satisfactory	ANC-06-S-**108**
Oil	2.3	Erosion and sedimentation control	Unsatisfactory	ANC-06-S-**083**
Oil	2.4.3	Abandoned water diversion structures	Unsatisfactory	ANC-06-S-**084**
Oil	2.7.1	Disturbance of natural waters	*Pending*	ANC-06-S-**085**
Oil	2.10.2	Revegetation of disturbed lands	Satisfactory	ANC-06-S-**086**
Oil	3.2.1	Early detection of corrosion	Satisfactory	ANC-06-S-**109**

Lease	Stipulation	Description	Observation	Report #
Utility	2.3	Erosion and sedimentation control	Unsatisfactory	ANC-06-S-**087**
Utility	2.4.3	Abandoned water diversion structures	Unsatisfactory	ANC-06-S-**088**
Utility	2.7.1	Disturbance of natural waters	*Pending*	ANC-06-S-**089**
Utility	2.10.2	Revegetation of disturbed lands	Satisfactory	ANC-06-S-**090**

5.3.6 Appraisals

According to AS 38.35, lessees must pay fair market value to lease State lands in the pipeline ROW. The Badami leases require a re-appraisal every five years. The most recent appraisal of the Badami ROW, performed by MacSwain Associates, was reviewed and approved by ADNR in October 2002. The State acreage and annual rental fees from the most recent appraisal follows:

Badami Pipeline	ADL #	State Acres	Estimated Market Rent
Oil Construction ROW	415472	1,240	$186,000
Utility Construction ROW	415965	352.10	$69,680

5.4 Upcoming Issues

5.4.1 Lessee's Activities

In 2006, BPXA plans to continue aerial inspections of the Badami ROW approximately every two weeks. They have scheduled the annual Ground Survey for the 2nd Quarter and smart pig verification as well as a cathodic protection survey for the 3rd Quarter. They will continue all required surveillance & monitoring activities.

5.4.2 SPCO Compliance Oversight

In July 2006, the lease compliance oversight team will conduct field surveillance of the Badami pipelines and ROWs to assess whether State lands are in adequate condition for a release of interests to reduce the ROW from construction to operations width. The team will also complete follow-up to the June 2006 surveillance of the Badami Sag River weir site. The lessee's 2006 annual report, due January 31, 2007, will also be reviewed. Additional field surveillance may be conducted in FY07.

5.5 Contact Information

The Badami Pipeline leases require the lessee to designate in writing a registered agent and authorized and field representatives. In their *2005 ADNR Surveillance & Monitoring Report*, BPTA updated their authorized and field representatives.

Registered Agent

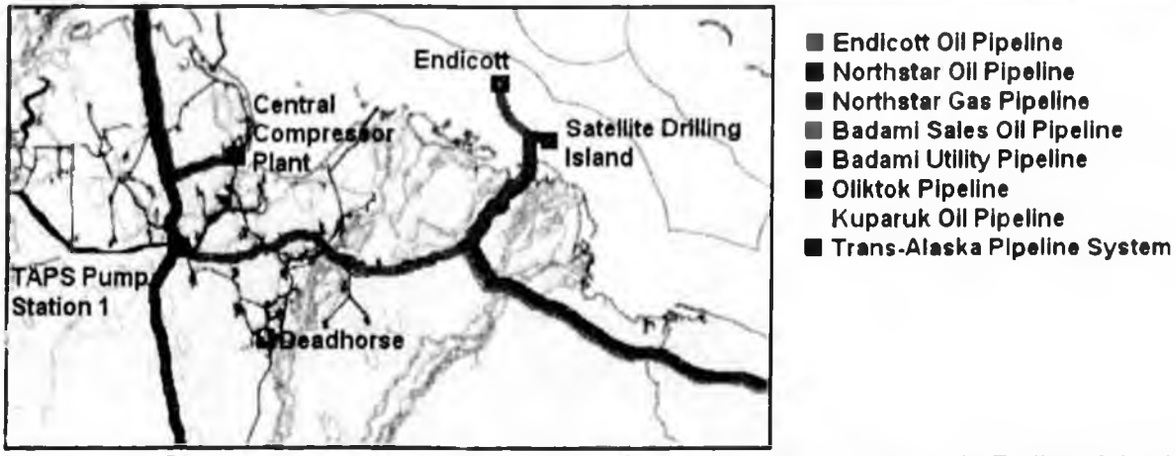
William H. Clifton
Joint Venture Coordinator
BP Transportation (Alaska) Inc.
900 East Benson Blvd.
Anchorage, AK 99508

Authorized Representatives	President, BPTA – Al N. Bolea Vice President, BPTA – Michael Rocereta Joint Venture Coordinator – William H. Clifton Manager Technical & Regulatory – Greg R. Swank
Field Representatives	Richard L. Powell and Thomas J. Parnes

NORTH SLOPE PIPELINES

6 Endicott Pipeline

ADL # 410562



The Endicott Pipeline transports processed crude oil from the offshore manmade Endicott Island in State waters approximately 26 miles to TAPS Pump Station 1. In 2005, the pipeline transported almost 7.5 million barrels of crude from Badami and Endicott to TAPS.

6.1 Lease and Right-of-Way Overview

6.1.1 Endicott Corridor

The Endicott Pipeline was built in 1987 to transport oil from man-made Endicott Island to TAPS Pump Station 1. The 16-inch diameter pipeline runs entirely aboveground for about 26 miles on the east side of Prudhoe Bay in the Sagavanirktok River Delta. At the approximate midpoint (13 miles) of the Endicott Pipeline, the 12-inch Badami Sales Oil Pipeline ties in. More pipeline-specific information is provided later in this section.

The Endicott Pipeline ROW lease agreement with the State of Alaska, effective August 5, 1986, was renewed November 26, 2002, and expires May 2, 2034. Endicott Pipeline Company is the ROW lessee and the party ultimately responsible for compliance with the State ROW lease agreement. BPTA, managing partner for Endicott Pipeline Company, is the ROW manager. BPXA operates and maintains the pipelines. BPTA developed the Endicott Quality Program to ensure lease compliance. The Program is implemented through the BPXA Quality Plan. Both the Program and Plan were approved by the State Pipeline Coordinator in fall 2004.

The pipeline traverses land owned by the State of Alaska, crossing portions of two Oil and Gas Units: Duck Island and Prudhoe Bay. The ROW extends 75 feet on each side of the pipeline centerline except on the causeway where the ROW extends 250 feet on each side of the pipeline centerline. The State land includes 1,072.64 acres in the operations ROW. The pipeline is entirely accessible by gravel road.

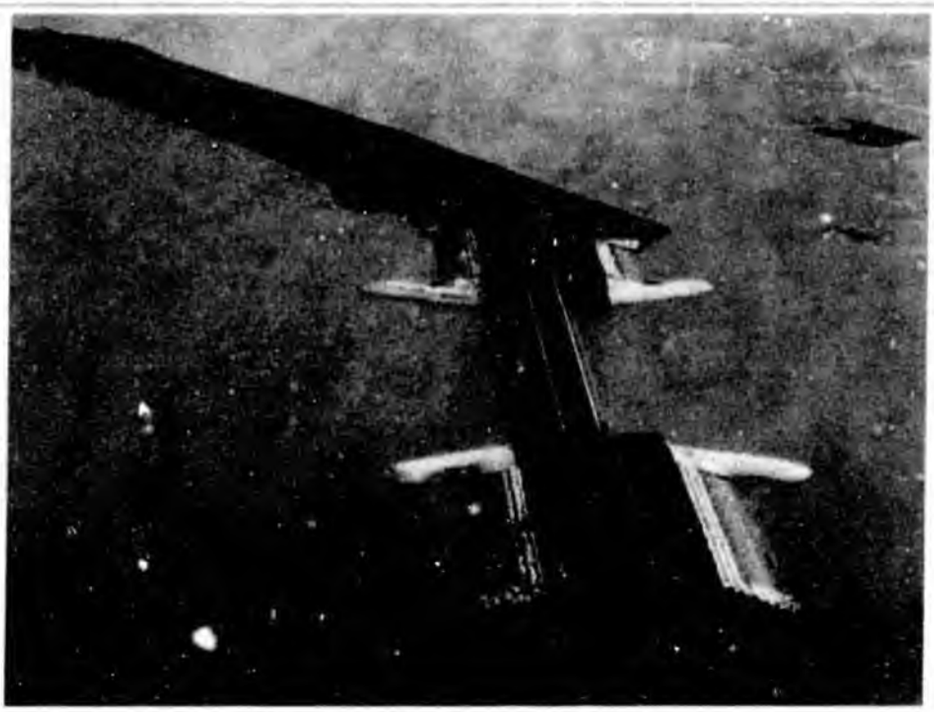
The Endicott Pipeline passes through important tundra and wetland habitats. Here a pair of swans and their three young are using wetlands next to the pipeline. The smaller pipeline in front is the Badami Utility Pipeline, which is on the same supports as the Endicott Pipeline from Endicott to the Badami/Endicott tie-in.

Snow Geese: Prior to construction of the Endicott Development, the Sag River Delta was home to Alaska's only population of nesting Lesser Snow Geese. Due to concerns that oil & gas development could harm this population, a monitoring program was established in 1980.

River Crossings: The Endicott Pipeline crosses the West Channel of the Sag River over a bridge shared with other (non-common carrier) pipelines.

Other Crossings: The pipeline is supported at least five feet above the tundra except at caribou and road crossings where it is located in buried steel culverts covered by gravel.

Lease: Electronic copies of the Endicott lease and approved amendments are available at the SPCO website: http://www.jpo.doi.gov/SPCO/SPCO.htm.



Aerial view of the Endicott Pipeline along the causeway bridge.

6.1.2 Endicott Pipeline (ADL 410562)

The Endicott Pipeline begins at Endicott Module 303, which houses a pig launcher, mainline pumps, metering, and leak detection equipment. Endicott production facilities are on man-made islands in the Beaufort Sea. To reach shore, the pipeline travels aboveground on a causeway with breaching structures. The Badami Sales Oil Pipeline ties in at about mile 13. The Endicott Pipeline terminates at TAPS Pump Station 1 where the system includes a pig receiver and metering facilities. Total length is about 26 miles. The Endicott Pipeline was constructed on horizontal and vertical support

members a minimum of five feet above the tundra to prevent permafrost degradation and allow wildlife passage.

The 16-inch pipeline was designed for a maximum allowable operating pressure of 1,440 psig at 130° F. The maximum operating pressure is 1,200 psig at 180° F. The nominal wall thickness is 0.312 inches. It is designed to carry 65,000 barrels of oil per day. BPXA reports that they do not use corrosion inhibiting chemicals in the Endicott Pipeline because sales-quality crude is low in sulfur, sediment, and water.

The entire oil pipeline is piggable, and BPXA employs smart pigs to check pipeline conditions and corrosion-related integrity problems. The oil pipeline was last pigged with a magnetic flux leakage tool in fall 2005. Through summer 2006, BPXA will conduct field verification of smart pig data, and will schedule repairs as appropriate.

This photo shows the location where the Badami Oil Pipeline (above) ties into the Endicott Pipeline. The Badami pig receiver is visible just left of the Endicott Pipeline (right).

6.2 Lessee's Annual Report

6.2.1 SPCO Review

BPTA, on behalf of Endicott Pipeline Company submitted a *2005 ADNR Surveillance & Monitoring Report* to the State Pipeline Coordinator's Office on time in January 2006. A single report was provided for all BPTA leases (Badami, Endicott, Northstar, and

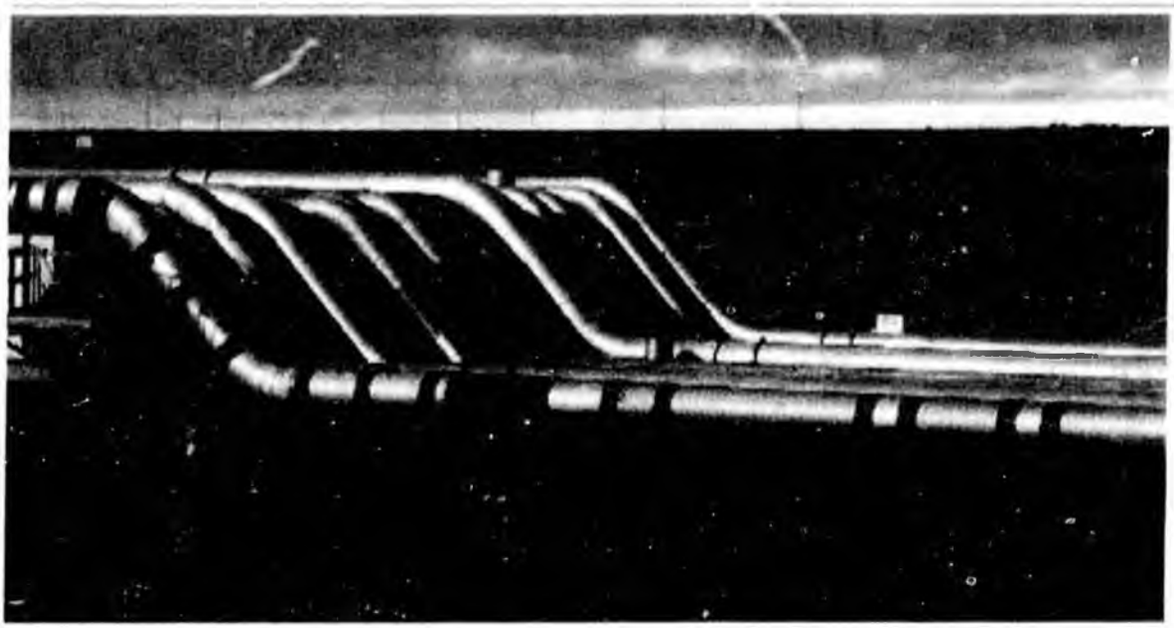
Milne Point). BPTA's reports provide general information on pipeline activities, and contain most of the minimum information required. To meet minimum requirements for annual reporting in the leases, the SPCO issued a letter to BPTA requesting additional information with a response due date of June 16, 2006. The seven requirements for annual reporting to the SPCO are listed in the Introduction Section. BPTA responded on time with the requested information, thereby fulfilling the annual reporting requirements.

6.2.2 Lessee's Activities

Oil Pipeline Operations: In 2005, the Endicott Pipeline transported almost 7.5 million barrels of oil to Pump Station 1. Specifically, 7,460,013 gross barrels and 7,458,355 net barrels (less water and sediment) were transported in 2005.

Incidents: BPTA reports that no incidents, events, or fires occurred along the Endicott Pipeline in 2005. No OSHA Reportable safety incidents of lost time or medical treatment occurred for personnel working on any BPTA common carrier pipeline in 2005.

VSM 3674 Risk Assessment: The lessee continued assessment of VSM 3674 in 2005 as planned. The location has been repeatedly re-leveled, and was noted as a concern during SPCO surveillance in spring 2003. In the last two weeks of August, BPXA performed work to determine that 5.34 feet of VSM embedment remains in frozen ground. Their calculations indicate there is no danger of lateral movement for approximately six years.



Here the Endicott Pipeline crosses the West Channel of the Sagavanirktok (Sag) River on a bridge. The Endicott Pipeline is the one farthest back marked with a small white sign.

Internal Safety Program: Employees at Endicott facilities participate in BP's internal safety programs. Employees formally monitor each other under the Observing Risks, Changes, and Attitudes (ORCA) program, and managers conduct Advanced Safety Audits (ASAs). In 2005, Endicott employees generated 837 ORCA observations and there were 1084 ASA participants.

Repairs: As a result of a prior VSM transit survey, six VSMs were lowered between six and eleven inches. After cutting and lowering, a non-destructive examination was performed.

The Endicott Main Production Island is a man-made drilling island in 14-foot deep water connected to shore by a causeway with breaching structures. Endicott was the world's first arctic offshore production facility and the first model of the oil industry's "reduced footprint." Endicott's footprint was 70% smaller than the traditional pad at the time. Current daily production from Endicott is approximately 25,000 barrels per day, compared to the peak production of 115,000 bpd in late 1987. (Source: BP Alaska website, accessed October 2005.)

6.2.3 Lessee's Surveillance & Monitoring

The Endicott pipeline ROW lease Stipulation 1.10.1 requires the lessee to comply with an SPCO-approved Surveillance & Monitoring Program. This program describes how the lessee ensures compliance with lease conditions and stipulations. The Surveillance & Monitoring Program for the Endicott pipeline was approved on September 9, 2004. BPTA defines "surveillance" as "making observations that are primarily qualitative by flying, driving, or walking along the pipeline and related facilities." The Surveillance & Monitoring Program's purpose is to detect, prevent, and abate situations which may endanger public health & safety, environment, or pipeline integrity, and public or private property damage.

The Endicott Surveillance Program consists of routine surveillance designed to meet USDOT requirements including biweekly drive-by surveys of the ROW conditions and an annual ground survey. The Monitoring Program consists of routine and corrective maintenance and inspection tasks, as well as a variety of pipeline, river crossing, and wildlife monitoring. For more detailed information on what is monitored along the Endicott Pipeline, and the frequency for monitoring, see the current *Surveillance & Monitoring Program* in State files.

In calendar year 2005, BPXA conducted 54 drive-by inspections of the Endicott Pipeline. The only anomaly found was on June 11, 2005, when the pipeline was observed partially submerged due to spring break-up.

Annual Survey: BPXA conducts an annual ground survey, also called a Walking Speed Survey, to fulfill USDOT and State lease requirements. The annual ground survey was conducted between October 30 and November 3, 2005 and noted that eleven VSMs will require a transit survey to determine "elevation and levelness." Other observations included two spiral wrap insulation jacket issues, gravel in casing at road crossing #8, and partially submerged jacketing at road crossing #9. In their follow-up reporting, BPTA states that items identified during the annual ground survey are scheduled for evaluation and/or repair as needed.

Smart Pigging: The Endicott Pipeline was pigged with an in-line inspection tool in the 4th quarter 2005. A number of metal loss features were reported, but BPTA states, "...no features were reported that would compromise safe pipeline operation." BPXA will conduct field verification of the ILI data in 2006.

ROW Surveillance Conditions: The only ROW conditions reported during 2005 are those noted on the annual ground surveys. BPTA reports that BPXA did not find any problems associated with any of the following surveillance categories: oil spills/leaks, erosion, wildlife blockage, public access, VSMs, sloping crossbeams, titled saddles, saddles suspended above crossbeams, failed anchors, gaps between pipe and saddle, pipeline vibrations, humps or swales, ground cracking, cased pipe, building damage, building foundation movement, building fuel/gas leaks, fish, brown bears, polar bears, and threatened or endangered species.

6.3 SPCO Activity

6.3.1 Lease Administration

The Lease Administration team reviewed a proposal from BPXA with non-objection from BPTA to store two drilling rig camps on the equipment pad north of Endicott Road between the road to Drill Site 9 and the Duck Island Mine Site. The location is within the Endicott Pipeline ROW, but BPTA determined that the storage would not interfere with Endicott's surveillance & monitoring requirements. The storage was expected to last approximately two months in spring 2006 and was approved until May 7, 2006.

The lease administration team also reviewed plans by BPXA with non-objection from BPTA to install a fiber optic connection between Flow Station 1 and Flow Station 2. The cable was strapped to an existing pipeline (not the Endicott Oil Pipeline) within the Endicott Pipeline ROW. Some trenching was required to install the cable at caribou crossings.

View of typical Endicott Pipeline ROW. In the foreground, there is a saddle location (where the pipeline is held by the horizontal and vertical supports).

6.3.2 Compliance Oversight

From September 12 through 14, 2005, the compliance oversight team lead conducted field surveillance of the Endicott Pipeline ROW and completed surveillance reports ANC-05-S-203 through 206. The primary scope of the surveillance was a general overview of the pipeline systems and facilities. The field visit also included surveillance of the Badami pipelines and ROW. No unsatisfactory conditions related to the Endicott lease were noted.

The surveillant traveled the pipeline ROW from Deadhorse to the Endicott facilities on September 12 and was given a tour of the facilities at Endicott. He returned to Deadhorse along the Endicott ROW on September 14. While observing the Endicott ROW and facilities, the surveillant viewed the pig launcher, Badami tie-in location, Sag River crossing, and causeway. The surveillant reported that the facilities were clean and orderly, as was the pad storage area. He was required to watch a safety orientation video and review the *Endicott Orientation Handbook*. Extra precaution was taken in safety as a polar bear had been seen in the area for the preceding two days. The surveillant did not observe the polar bear.

On February 16th, 2006, BPXA's Corrosion, Inspection, and Chemicals Group gave a presentation to the lease compliance oversight team with a general overview of their corrosion program. More specific corrosion information related to each pipeline is obtained by the team through field surveillances.

The compliance oversight team lead reviewed ILI data for the Endicott Pipeline in FY06 as part of a corrosion-focused records review. The SPCO requested and received ILI data from BPTA. The ILI reports requested were those directly from the vendor (raw data prior to analysis by BPXA personnel). These reports showed some metal loss anomalies on the pipeline. The compliance oversight team lead reviewed the reports

with a State engineer from the JPO Technical and Design Review section and met with representatives of BPTA and BPXA to discuss some of the metal loss anomalies. Pigging in 2005 indicated mostly external corrosion-related anomalies. The results of this ILI program review were reported as satisfactory in surveillance report ANC-06-S-110 and 111.

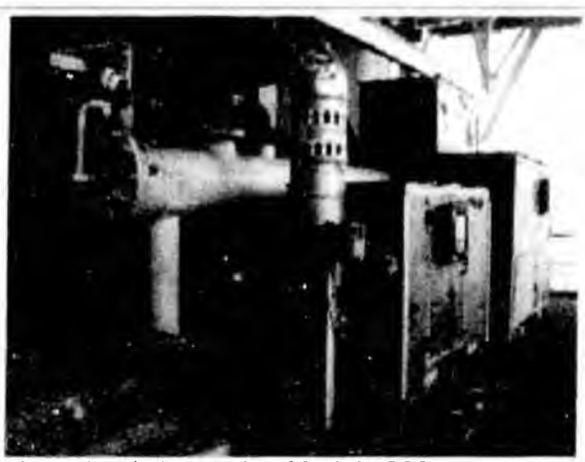
6.3.3 Summary of Lease Compliance Observations: September 2005

Lease	Section	Description	Observation	Report #
Endicott	4d	State access to property & records	Satisfactory	ANC-05-S-**203**
Endicott	7a	State right of physical entry to Leasehold	Satisfactory	ANC-05-S-**204**

Lease	Stipulation	Description	Observation	Report #
Endicott	1.3.6	Access rights to State employees	Satisfactory	ANC-05-S-**205**
Endicott	1.11.1	Protection of health and safety	Satisfactory	ANC-05-S-**206**

6.3.4 Summary of Lease Compliance Observations: June 2006

Lease	Stipulation	Description	Observation	Report #
Endicott	1.10.1	Surveillance & monitoring: pipeline integrity	Satisfactory	ANC-06-S-**110**
Endicott	3.4.1	Corrosion control plan	Satisfactory	ANC-06-S-**111**



The Endicott Pipeline pig launcher is located at Module 303.

6.3.5 Appraisals

According AS 38.35 and the Endicott Pipeline ROW lease agreement, the lessee must pay fair market value to lease State lands in the pipeline ROW, and a new appraisal is due every five years. The most recent appraisal of the Endicott Pipeline ROW, performed by MacSwain Associates, was reviewed and approved by ADNR in fall 2002. It became effective as of the payment due August 5, 2003. The State acreage and annual rental fees from the most recent appraisal follows:

Endicott Pipeline	ADL #	State Acres	Estimated Market Rent
Endicott Operations ROW	410562	1072.64	$214,528

6.4 Upcoming Issues

6.4.1 Lessee's Activities

BPXA plans to continue surveillance & monitoring. They have scheduled ILI data verification, the annual ground survey, and a vault survey of Tee and Ice Road vaults for the 3rd quarter 2006.

6.4.2 SPCO Compliance Oversight

In FY07, the lease compliance oversight team tentatively plans to conduct field surveillance of the Endicott Pipeline and ROW. The lessee's 2006 annual report, due January 31, 2007, will also be reviewed.

6.5 Contact Information

The Endicott Pipeline lease requires the lessee to designate in writing a registered agent, authorized representatives, and field representatives. In their *2005 ADNR Surveillance & Monitoring Report*, BPTA updated their authorized and field representatives.

Registered Agent

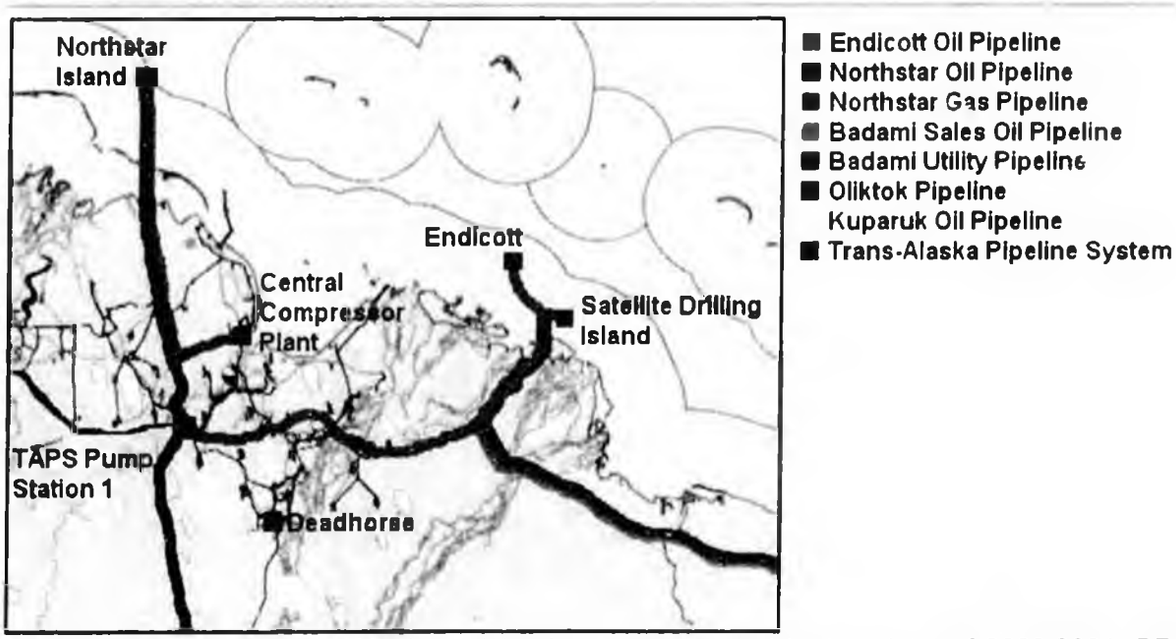
William H. Clifton
Joint Venture Coordinator
Endicott Pipeline Company
c/o BP Transportation (Alaska) Inc.
P.O. Box 190848
Anchorage, AK 99519-0848

Authorized Representatives	President, BPTA – Al N. Bolea Vice President, BPTA – Michael Rocereta Joint Venture Coordinator – William H. Clifton Manager Technical & Regulatory – Greg R. Swank
Field Representatives	Richard L. Powell and Thomas J. Barnes

NORTH SLOPE PIPELINES

7 Northstar Pipelines: Oil and Gas

ADL # 415700 and 415975



Seal Island, also known as Northstar Island, was constructed in the winter of 2000-2001. BP has engaged in two pipeline ROW lease agreements with the State for Northstar: an export oil pipeline and a gas pipeline that goes to the island.

7.1 Lease and Right-of-Way Overview

7.1.1 Northstar Corridor

The 17-mile Northstar Oil Pipeline was built in 2000-2001 to transport oil from man-made Seal Island south to TAPS Pump Station 1. The 16-mile Northstar Gas Pipeline transports natural gas from Prudhoe Bay's Central Compressor Plant north to Seal Island. Both 10-inch diameter pipelines are supported above-ground crossing tundra and are buried at least six feet below the sea floor between the Beaufort Sea shore crossing and Seal Island. The shore crossing is located at Gwydyr Bay near Point Storkersen. More pipeline-specific information is provided later in this section.

Though the Northstar pipelines share horizontal and vertical supports for much of their alignment, each has a separate ROW lease agreement with the State. Both Northstar ROW lease agreements, effective October 9, 1999, will expire September 30, 2019. Both leases were amended November 12, 2002, to reflect an updated State law allowing a 30 year renewal period. BPTA is the ROW lessee and the party ultimately responsible for compliance. BPTA has contracted with BPXA to operate and maintain the pipelines. BPTA developed the Northstar Quality Program to ensure lease compliance. The Program is implemented through the BPXA Quality Plan. Both the Program and Plan were approved by the State Pipeline Coordinator in December 2004.

Both pipelines traverse land entirely owned by the State of Alaska, crossing portions of two Oil and Gas units: Northstar and Prudhoe Bay. The Northstar pipelines rights-of-way are both still in construction width (they have not yet been released to operational width). The State land includes 2,100 acres in the oil pipeline ROW and 150.92 acres in the gas pipeline ROW. The pipeline ROWs are mostly roadless as they cross tundra. Seasonal ice roads can permit winter access to the ROW.

Aerial view of typical Northstar tundra crossing right-of-way.

Tundra Crossing: The Northstar pipelines were constructed on horizontal and vertical support members a minimum of five feet above the tundra to prevent permafrost degradation and allow wildlife passage. The two pipelines are supported on the same VSMs for approximately six miles from the shore transition to a point where the gas pipeline ROW diverges east and the oil pipeline continues to Pump Station 1.

Environmental Concerns: Due to concerns about the impact of a spill on subsistence resources in the Beaufort Sea, the Northstar oil pipeline is equipped with a sophisticated leak detection system capable of sensing hydrocarbons that could be emitted from a sub-sea leak. The sub-sea pipelines are constructed with coated, thicker steel and buried at least six feet deep in a trench. Wind-induced vibration is a significant problem for the above-ground Northstar pipelines. Vibration dampeners attached to the pipelines mitigate some vibration effects.

Ice Gouging: During spring break-up, large masses of ice can gouge the shallow seafloor bottom in the Beaufort Sea. Ice gouges are monitored annually to ensure that the six foot minimum backfill is maintained over the pipelines. For more information on ice gouge monitoring, see 7.2.3, Lessee's Surveillance & Monitoring.

Strudel Scour: An additional concern for the sub-sea Northstar pipelines is a unique phenomenon known as strudel scour. This localized, seasonal phenomenon occurs during spring breakup when overflow from rivers such as the Kuparuk River runs over the top of frozen shore-fast sea ice. When the overflow reaches a break or hole in the ice, water pours down into the hole at high velocity. The flow can scour the shallow sea bottom and create gouges that can reach thousands of feet in length. Scours can be circular or linear. Eventually, wave and sediment action fill the holes caused by strudel scour. The Northstar pipelines are designed to withstand a direct hit by strudel scour, which could remove trench backfill and create a free span of pipe. Operators of the Northstar pipelines conduct an annual strudel scour survey to determine the depth and extent of each year's strudel scours. For more information on strudel scour monitoring, see 7.2.3, Lessee's Surveillance & Monitoring.

River Crossing: The Northstar Oil Pipeline crosses the Putuligayuk River just before Pump Station 1.

Other Crossings: The pipelines are supported at least five feet above the tundra except at caribou and road crossings where they are located in buried steel culverts covered by gravel.

Lease: Electronic copies of the Northstar lease agreements and approved amendments are available for public viewing online at the SPCO website: http://www.jpo.doi.gov/SPCO/SPCO.htm.

7.1.2 Northstar Oil Pipeline (ADL 415700)

The Northstar Oil Pipeline begins at the Northstar Production Facility located approximately six miles offshore on man-made Seal Island in State waters in the Beaufort Sea. A pig launcher, mainline pumps, metering, and leak detection equipment are at the production facility. The pipeline then transitions to a sub-sea trench. It continues approximately six miles buried under the sea until the shore transition at Point

Storkersen where the system includes a Remote Terminal Unit (RTU) valve. The pipeline then crosses approximately 11 miles of tundra. At the TAPS tie-in facilities at Pump Station 1, there is a pig receiver, heater, and flow meter to monitor the line for leak detection. The pipeline travels a total of 17 miles from north to south.

The oil pipeline was constructed for a maximum operating pressure of 1,480 psig at 100° F. The nominal wall thickness is 0.307 inches crossing tundra and increases to 0.594 inches sub-sea. It is designed to carry 85,000 barrels of oil per day. BPXA does not use corrosion inhibiting chemicals in the Northstar Oil Pipeline because sales quality crude oil contains little sulfur, sediment, and water.

The entire oil pipeline is piggable, and BPXA employs smart pigs to check pipeline conditions and corrosion-related integrity problems. The oil pipeline was last pigged with both a geometry and a metal loss tool as part of the baseline survey in 2003. In summer 2006, BPXA plans to use both a metal loss and geometry in-line inspection tool in the Northstar Oil Pipeline.

7.1.3 Northstar Gas Pipeline (ADL 415975)

The Northstar Gas Pipeline originates at Prudhoe Bay's Central Compressor Plant and travels approximately four miles west to a point where it meets the Northstar Oil Pipeline. For approximately six miles to the north, the gas pipeline is supported on the same VSMs as the oil pipeline, though they flow in opposite directions. For an additional six miles sub-sea, the gas pipeline is bundled with the oil pipeline as it travels north to Seal Island. The total pipeline length is approximately 16 miles.

The gas pipeline was constructed for a maximum operating pressure of 1,480 psig. The nominal wall thickness is 0.307 inches crossing tundra and increases to 0.594 inches sub-sea.

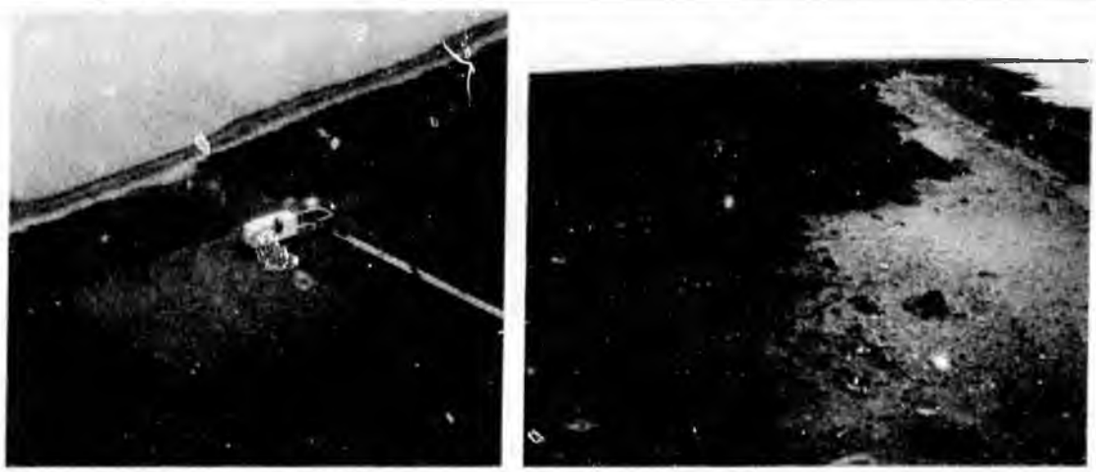
The entire gas pipeline is piggable, and BPXA employs smart pigs to check pipeline conditions and corrosion-related integrity problems. The gas pipeline was first pigged for baseline data in 2003.

7.2 Lessee's Annual Report

7.2.1 SPCO Review

BPTA, lessee for the Northstar pipelines, submitted a *2005 ADNR Surveillance & Monitoring Report* to the State Pipeline Coordinator's Office on time in January 2006. A single report was provided for all BPTA leases (Badami, Endicott, Northstar, and Milne Point). BPTA's reports provide general information on pipeline activities, and contain most of the minimum information required. To meet minimum requirements for annual reporting in the leases, the SPCO issued a letter to BPTA requesting additional information with a response due date of June 16, 2006. The seven requirements for

annual reporting to the SPCO are listed in the Introduction Section. BPTA responded on time with the requested information, thereby fulfilling the annual reporting requirements.



Left: Aerial view of the Northstar shore crossing landfall at Point Storkersen, the point where the pipelines transition between buried sub-sea and supported above-ground. The visible module house an RTU valve. Right: close-up of eroding bluff at the shore crossing. Some bluff erosion is natural at this location. The lessee conducts an annual bluff stability survey.

7.2.2 Lessee's Activities

Oil Pipeline Operations: In 2005, the Northstar Oil Pipeline transported more than 22 million barrels of sales quality crude oil to Pump Station 1. Specifically, 22,426,795 gross barrels and 22,421,810 net barrels (less water and sediment) were transported in 2005.

Gas Pipeline Operations: In 2005, 30,811,706 MSCF of natural gas were transported through the Northstar Gas Pipeline.

Incidents: BPTA reports that no incidents, events, or fires occurred along the Northstar pipelines in 2005. No OSHA Reportable safety incidents of lost time or medical treatment occurred for personnel working on any BPTA common carrier pipelines in 2005.

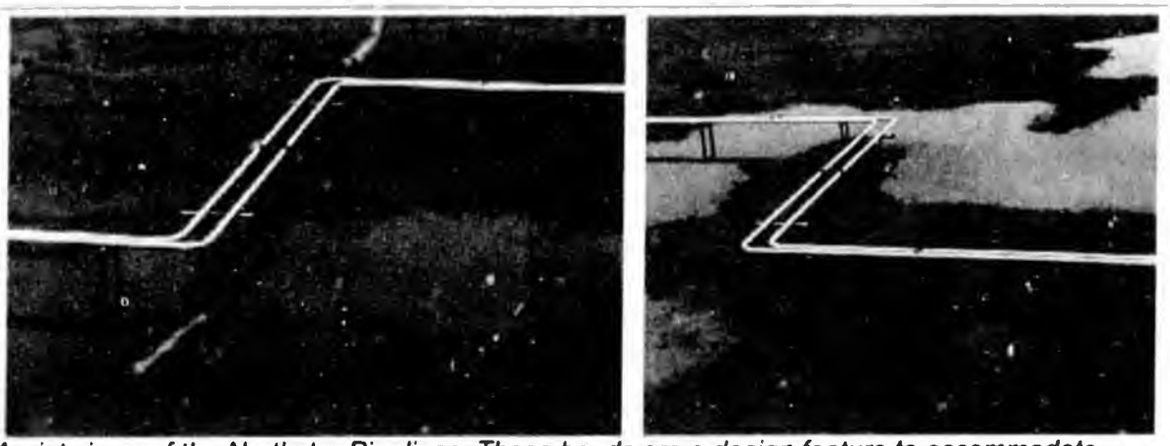
Internal Safety Program: Northstar personnel participate in BP's internal safety programs. Employees formally monitor each other under the Safety Training Observation Program (STOP), and managers conduct Advanced Safety Audits. In 2005, Northstar employees generated 2,234 STOP observations and there were 1,043 Advanced Safety Audit participants.

Heater: Active corrosion was identified in Northstar's heater shell in 2005. Automated ultrasonic testing was used in May 2005 and is being continued monthly until a new heater arrives. They have also increased secondary containment to 120%.

In July 2006, BPXA expects delivery of a replacement heater. The heater is used to warm up Northstar oil prior to entering TAPS.

Guided Wave: The lessee is attempting to supplement their integrity management program with a new technology called guided wave that can detect some defects such as corrosion wall loss and cracks. They anticipate the technology could be useful in areas that are difficult to access, such as Northstar's shore crossing. Implementation of guided wave examination in 2005 was postponed because of a change in service providers. The lessee reports that they will try again in 2006 to re-establish the potential long-range monitoring technique.

USDOT Compliance: A *2005 Annual Risk Hazard Review* associated with the USDOT Integrity Management Program was conducted in November 2005.



Aerial views of the Northstar Pipelines. These bends are a design feature to accommodate heat-related expansion and contraction of the pipelines.

7.2.3 Lessee's Surveillance & Monitoring

The Northstar pipeline ROW leases require the lessee to comply with an SPCO-approved Surveillance & Monitoring Program. This program describes how the lessee ensures they are complying with lease provisions and protecting the pipeline and ROW.

BPTA defines "surveillance" as "making observations that are primarily qualitative by flying, driving, or walking along the pipeline and related facilities." The Surveillance & Monitoring Program's purpose is to detect, prevent, and abate situations which may endanger public health & safety, the environment, or pipeline integrity, and public or private property damage. The Northstar Surveillance Program consists of routine surveillance designed to meet USDOT requirements including biweekly aerial surveys of ROW conditions and annual ground surveys.

BPXA also must inspect mainline valves twice each year. The Monitoring Program consists of routine and corrective maintenance and inspection tasks, as well as a variety

of pipeline, river crossing, and wildlife monitoring. For more detailed information on what is monitored along the Northstar pipelines, and the frequency for monitoring, see the current *Surveillance & Monitoring Program* in State files.

Annual Survey: BPXA conducts an annual ground survey, also called a Walking Speed Survey, to fulfill USDOT and State lease requirements. 2005's ground survey, conducted between February 10 and February 12, noted no deficiencies of any kind. A missing gas pipeline saddle bolt from the 2004 survey was incorrectly reported to be located on support #230. The 2005 survey verified a bolt was actually missing from support #231. No bolt hole was drilled during construction and so a new bolt could not be installed. The issue was communicated to the Northstar Engineer.

Aerial Surveys: In 2005, Shared Services Aviation conducted 67 aerial surveys of the Northstar ROW and reported no anomalies.

Cathodic Protection: In September 2005, BPXA did the annual cathodic protection survey and reports that the requirements of 49 CFR 192 and 195 were met. The survey covers sub-sea portions of the pipeline. Portable reference electrodes were used for the survey because the permanent monitoring devices installed during construction do not provide reliable data.

Coastal Stability: Coastal Frontiers conducted the annual Post-Construction Coastal Stability Analysis in the summer of 2005 and calculated an average bluff retreat of 0.6 feet for surveyed coastal profiles. BPTA says that no remediation measures were required.

Shore Crossing Revegetation: LGL Alaska Research Associates inspected revegetation efforts at the trench backfill and gravel remnant area of the Northstar shore crossing in summer 2005. LGL reported that that vegetation is stabilizing the sand backfill and that erosion control matting placed in 2004 appears to have prevented further erosion on the seaward edge of the backfill trench.

Ice Gouging: Annual monitoring of the sub-sea pipelines is conducted in two phases: a helicopter-based reconnaissance of strudel drainage features during break-up and a vessel-based survey in late summer. Coastal Frontiers conducted 2005's field work and found that the six-foot backfill minimum was maintained over the entire length of sub-sea pipeline. Both the frequency and severity of ice gouging were high by historical standards. A total of 44 ice gouges with depths greater than or equal to the 0.3 foot resolution of the bathymetric sonar systems were detected.

Strudel Scour: The strudel scour survey coincides with the ice gouge survey. The 2005 Kuparuk River over-flood was smaller than any other year since pipeline construction and only 20 circular strudel drainage features were detected in a 10,000 foot wide corridor centered on the pipeline centerline. This is well below the prior minimum value of 49 drains detected in 2000. The sonar survey revealed seven new depressions and one relic depression. Both the frequency and severity of strudel scour were significantly lower than prior surveys following pipeline construction. Though four of seven new strudel scour features were located in close proximity to the pipelines, and two impinged on backfill directly over the pipelines, the minimum backfill thickness was maintained.

Thermistors: Thermistors were installed at the shore crossing and measurements were taken in June 2005 to detect potential slumping of tundra edges perpendicular to shore. Readings indicated thaw bulb growth beyond the excavated trench. The site will be further monitored to see if mitigation is required.

At road crossings, the Northstar pipelines are located in steel culverts covered with gravel. This picture was taken from a helicopter during an SPCO compliance oversight visit in 2004.

7.3 SPCO Activity

7.3.1 Lease Administration

The Lease Administration team does not have anything significant to report for the Northstar pipelines in FY06.

7.3.2 Compliance Oversight

No SPCO surveillance of the Northstar pipelines was conducted between January 1, 2005 and June 30, 2006. The compliance oversight team did, however, review the lessee's annual report and discussed the lessee's corrosion program. On February 16th, 2006, BPXA's Corrosion, Inspection, and Chemicals Group gave a presentation to the lease compliance oversight team with a general overview of their corrosion program. Additionally, the compliance oversight team lead reviewed ILI data for the Northstar Oil Pipeline as part of a corrosion-focused records review. The SPCO requested and received ILI data from BPTA. The ILI reports requested were those directly from the vendor (raw data prior to analysis by BPXA personnel). These reports showed some metal loss anomalies on the pipeline. The compliance oversight team lead reviewed the reports with a State engineer from the JPO Technical and Design Review section and met with representatives of BPTA and BPXA to discuss some of the metal loss anomalies. As a relatively new pipeline, all ten of the top ten defects identified in 2003

pigging were essentially near the detection limits of the instrument used, that is, with peak depths of 13% or less. The results of this ILI program review were reported as satisfactory in surveillance report ANC-06-S-114 and 115.

7.3.3 Summary of Lease Compliance Observations: June 2006

Lease	Stipulation	Description	Observation	Report #
Oil	1.6.1	Surveillance & monitoring: corrosion	Satisfactory	ANC-06-S-**114**
Oil	3.2.1	Early detection of corrosion	Satisfactory	ANC-06-S-**115**

7.3.4 Appraisals

According AS 38.35, the lessee must pay fair market value to lease State lands in the pipeline ROW. The Northstar leases specify that a re-appraisal is due every five years. The most recent appraisal of the Northstar Oil Pipeline ROW, performed by MacSwain Associates, was reviewed and approved by ADNR in 1999. A new appraisal was due October 1, 2004, but the lessee asked for an extension. The due date was extended to March 2005. Currently, the new appraisal is still pending approval by DNR, so the 1999 rental value is being used. State acreage and annual rental fees from the 1999 appraisal follow:

Northstar Pipeline	ADL #	State Acres	Estimated Market Rent
Oil Construction ROW	415700	2100	$126,500
Gas Construction ROW	415975	150.92	$17,500

7.4 Upcoming Issues

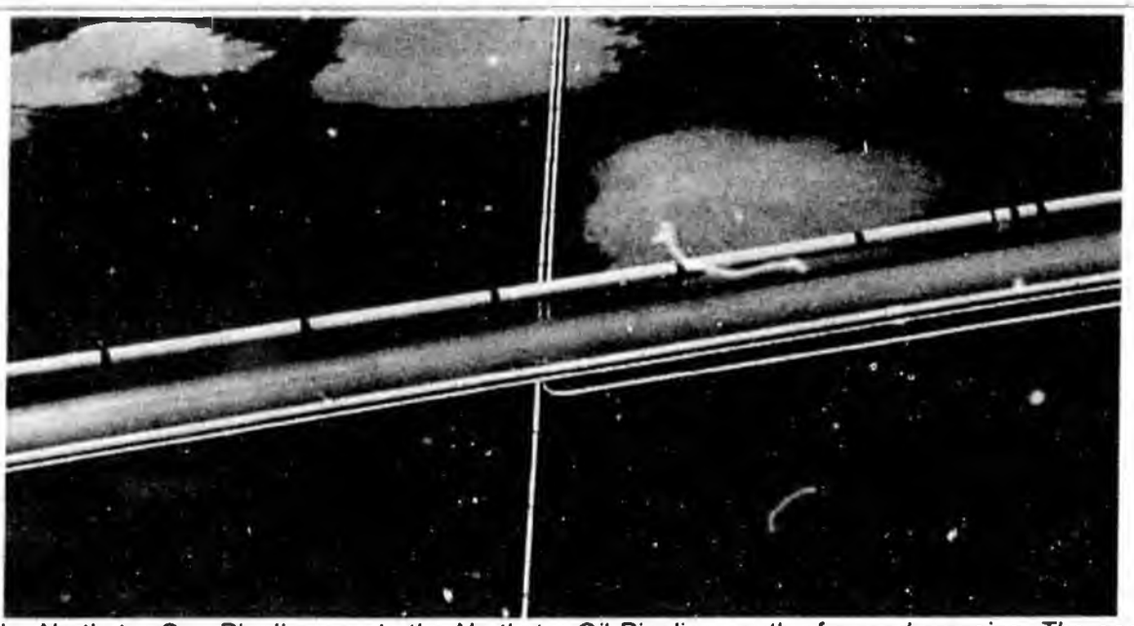
7.4.1 Lessee's Activities

The iessee plans to continue aerial inspections of the Northstar pipelines approximately every two weeks. In summer 2006, BPXA plans to conduct a metal loss in-line inspection of the Northstar Pipelines using a smart pig. They have also tentatively scheduled a mapping survey to coincide with the ILI. The Ground Survey and Cathodic Protection Survey were scheduled for 2nd quarter 2006. In the 3rd quarter 2006, BPTA plans to conduct the strudel scour and ice gouge survey, guided wave inspection of the shore crossing risers, and replacement of the Northstar Heater.

7.4.2 SPCO Compliance Oversight

In July 2006, the lease compliance oversight team will conduct field surveillance of the Northstar pipelines and ROWs to assess whether State lands are in adequate condition for a release of interests to reduce the ROW from construction to operations

width. A team member will conduct field surveillance of the Northstar shore crossing re-vegetation efforts in August 2006. The lessee's 2006 annual report, due January 31, 2007, will also be reviewed. Additional field surveillance may be conducted in FY07.



The Northstar Gas Pipeline meets the Northstar Oil Pipeline south of a road crossing. The gas pipeline enters from the east and the Central Compressor Plant. The oil pipeline continues south to Pump Station 1 (the gas and oil pipelines flow in opposite directions).

7.5 Contact Information

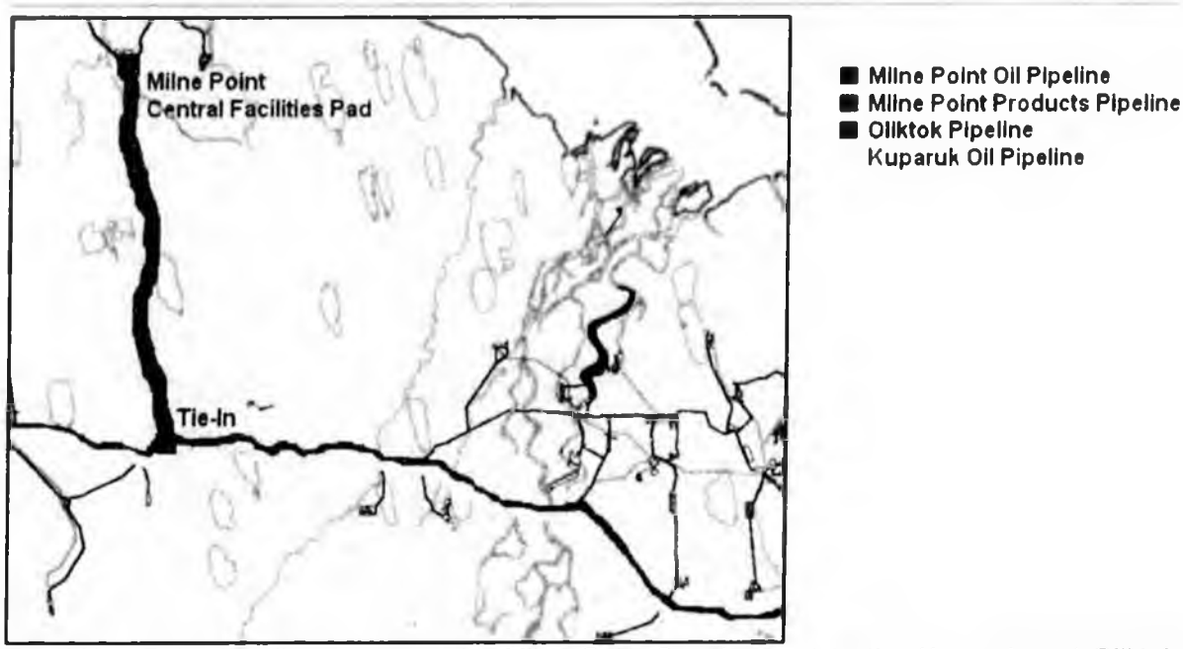
The Northstar Pipeline leases require the lessee to designate in writing field representatives, authorized agents, and registered agents. In their *2005 ADNR Surveillance & Monitoring Report*, BPTA updated their authorized and field representatives.

Registered Agent	William H. Clifton Joint Venture Coordinator BP Transportation (Alaska) Inc. 900 East Benson Blvd. Anchorage, AK 99508
Authorized Representatives	President, BPTA – Al N. Bolea Vice President, BPTA – Michael Rocereta Joint Venture Coordinator – William H. Clifton Manager Technical & Regulatory – Greg R. Swank
Field Representatives	Wayne E. Kuykendall and Gary D. Herring

NORTH SLOPE PIPELINES

8 Milne Point Pipelines – Oil and Products

ADL # 410221 and 416172



The Milne Point Pipelines connect the Milne Point Development to the Kuparuk and Oliktok pipeline systems.

8.1 Lease and Right-of-Way Overview

8.1.1 Milne Point Corridor

The Milne Point Oil Pipeline was built in 1984-1985 to transport oil from the Milne Point Development to the Kuparuk Pipeline System. Later, in 2000, the Milne Point Products Pipeline was built to transport natural gas liquids from the Oliktok Pipeline System to Milne Point for use in enhanced oil recovery. The Products Pipeline is also referred to as the Kuparuk Enhanced Oil Recovery (KEOR) pipeline. The two pipelines share the same set of horizontal and vertical support members and run entirely aboveground except for caribou and road crossings. More pipeline-specific information is provided later in this section.

Though the Milne Point pipelines share horizontal and vertical supports, each has a separate ROW lease agreement with the State. The oil pipeline lease, issued in January 1985, was renewed in 2002 and expires in May 2034. The products pipeline lease was issued in December 2000 and expires in December 2030.

Both pipelines are approximately ten miles long and traverse land entirely owned by the State of Alaska, crossing portions of three Oil and Gas units: Milne Point, Kuparuk River, and Prudhoe Bay. The State land includes 186.92 acres in the oil pipeline ROW and 194.2 acres in the products pipeline ROW. The pipelines are entirely accessible by gravel road, and are mainly on the west side of Milne Point Road.

Milne Point Pipeline LLC is the ROW lessee for the Milne Point pipelines and is the party ultimately responsible for compliance with the lease agreements. BPTA is the ROW manager. BPXA operates and maintains the pipelines. BPTA developed the Milne Point Quality Program to ensure lease compliance. The Program is implemented through the BPXA Quality Plan. Both the Program and Plan were approved by the State Pipeline Coordinator in fall 2004.

Environmental concerns: The Milne Point pipelines are constructed on VSMs a minimum of five feet above the tundra to prevent permafrost degradation and allow wildlife passage. Wind-induced vibration is a significant problem for the Milne Point Pipelines. Vibration dampeners attached to the pipelines mitigate some vibration effects. The oil pipeline's vibration dampeners hang below the pipe at mid-span between VSMs. The products pipeline's vibration dampeners are above the pipe at mid-span.

River Crossings: There are no major river crossings along either Milne Point ROW, but wetlands and ponds are present.

Other Crossings: The pipelines are supported at least five feet above the tundra except at caribou and road crossings where they are located in buried steel culverts covered by gravel. There is a road crossing just outside of Milne Point Central Facilities Pad and another at the intersection of Milne Point Road and the road to "S" Pad. The "S" Pad intersection was built over the top of the pipelines. Both pipelines also cross underneath Spine Road just before they tie into the Kuparuk and Oliktok Pipeline Systems, south of the Spine Road and Milne Point Road intersection.

Lease: Electronic copies of the Milne Point lease agreements and approved amendments are available for public viewing at the SPCO website: http://www.jpo.doi.gov/SPCO/SPCO.htm.

8.1.2 Milne Point Oil Pipeline (ADL 410221)

The 14-inch Milne Point Oil Pipeline begins at Milne Central Facilities Pad Module 58, which houses a pig launcher, mainline pumps, metering, and leak detection equipment. It terminates at Module 68, where it ties into the Kuparuk Oil Pipeline. Module 68 houses the pig receiver, metering, and leak detection equipment. The pipeline was constructed for a maximum allowable operating pressure of 1,350 psig with a wall thickness of 0.312 inches. It is designed to carry 65,000 barrels of oil per day at a temperature up to 200° F. BPXA says they do not use corrosion inhibiting chemicals in this sales oil pipeline because sales quality oil contains little sulfur, water, and sediment.

The entire oil pipeline is piggable, and BPXA employs smart pigs to check pipeline conditions and corrosion-related integrity problems. The oil pipeline was last pigged with a magnetic flux leakage tool in fall 2005. In spring and summer 2006, BPXA is conducting field verification of their in-line inspection data, and will schedule repairs as appropriate. For more information about ILI, see 8.3.2, Compliance Oversight.

Winter view of the Milne Point Pipelines looking South from the "S" Pad intersection.

8.1.3 Milne Point Products Pipeline (ADL 416172)

On the same horizontal and vertical supports rests the Milne Point Products Pipeline. It was built for transporting natural gas liquids from the Oliktok Pipeline to Milne Point to be used for enhanced oil recovery techniques. When this proved uneconomical, BPXA placed the Products Pipeline in warm shutdown status in 2002. They currently plan to de-inventory the pipe of NGLs and fill it with a nitrogen blanket.

The Milne Point Products Pipeline is 8 inches in diameter with a 0.277 inch wall thickness. Its present maximum allowable operating pressure is 720 psig at less than 100° F. The NGL pipeline begins at the Oliktok Pipeline. There is a removable pig launcher, pump, metering, and leak detection equipment at Module 68 north of Spine Road. The entire NGL pipeline is piggable, and a removable pig receiver can be staged where the line terminates at Milne Central Facilities Pad. Appendix B of the lessee's 2005 annual report states that metal loss smart pigs are no longer applicable to the Products Pipeline's monitoring program because of its warm shutdown status.

View of the Milne Point Pipelines looking east from Milne Point Road. The pipelines transition to a buried road crossing. In the background is Milne Central Facilities Pad.

8.2 Lessee's Annual Report

8.2.1 SPCO Review

BPTA, on behalf of Milne Point Pipeline Company, submitted a *2005 ADNR Surveillance & Monitoring Report* to the State Pipeline Coordinator's Office on time in January 2006. A single report was provided for all BPTA leases (Badami, Endicott, Northstar, and Milne Point). BPTA's reports provide general information on pipeline activities, and contain most of the minimum information required. To meet minimum

requirements for annual reporting in the leases, the SPCO issued a letter to BPTA requesting additional information with a response due date of June 16, 2006. The seven requirements for annual reporting to the SPCO are listed in the Introduction Section. BPTA responded on time with the requested information, thereby fulfilling the annual reporting requirements.

8.2.2 Lessee's Activities

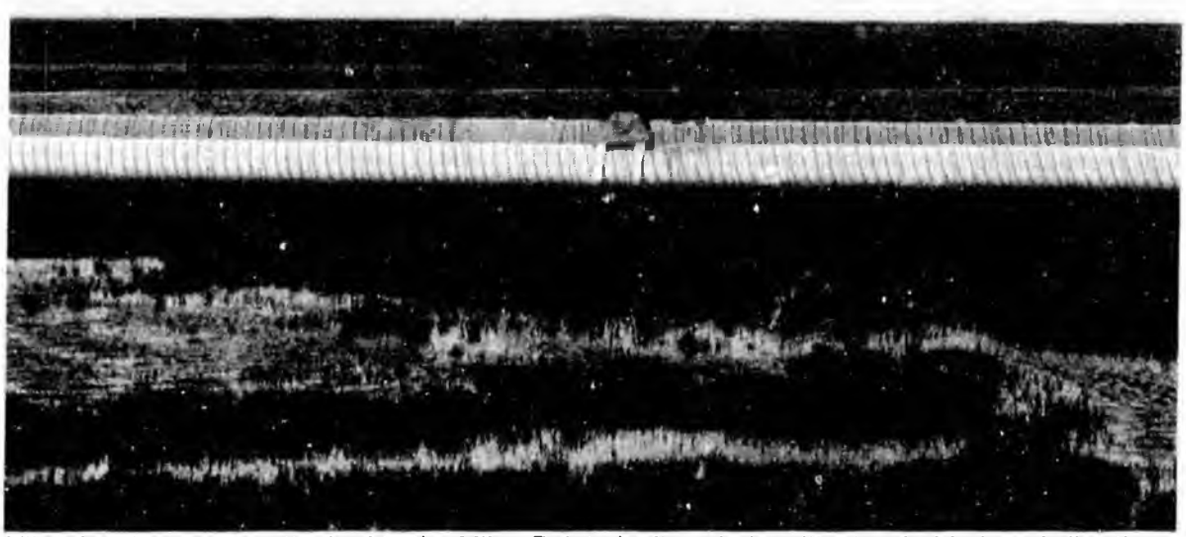
Below are some highlights from the 2005 report:

Oil Pipeline Operations: More than sixteen million barrels of oil were transported through the Milne Point Pipeline in 2005. Specifically, 16,059,164 gross barrels and 16,010,287 net barrels (less water and sediment) were transported to the Kuparuk Pipeline.

Products Pipeline Operations: No natural gas liquids were transported through the Milne Point Products Pipeline in 2005.

Incidents: BPTA reports that no incidents or events occurred along the Oil or Products pipeline in 2005. No OSHA Reportable safety incidents of lost time or medical treatment occurred for personnel working on any Milne Point common carrier pipelines.

In September, 2005, however, there was a significant incident related to NGL pipeline activities that had the potential to negatively impact the Oliktok Pipeline System. A Milne Point operator closed an Oliktok Pipeline valve without the knowledge or consent of Oliktok operators. The SPCO was notified of this event not by BPTA, but through the *2005 Annual Comprehensive Report on Pipeline Activities* provided by ConocoPhillips for the Oliktok Pipeline. More information is available on this incident later in this section under 5.3.2, Compliance Oversight.



Vibration dampeners attached to the Milne Point pipelines help mitigate wind-induced vibration.

Communications: BPTA reports that a new radio link was added in November 2005 between Kuparuk CPF 1 and Milne Point to increase reliability for the sales oil leak detection system. The upgrade affects the connection between the Milne Point Oil Pipeline and the Kuparuk Oil Pipeline.

Internal Safety Program: Milne Point employees participate in BP's internal safety programs. Employees formally monitor each other under the Behavior Enhanced Safety Techniques (BEST) program, and managers conduct Advanced Safety Audits. According to the BPTA annual report, in 2005, Milne Point employees generated 974 BEST observations and there were 4,483 Advanced Safety Audits.

8.2.3 Lessee's Surveillance & Monitoring

Oil Lease Stipulation 1.10.1 requires the lessee to comply with an SPCO-approved "surveillance and maintenance" program (hereafter referred to as surveillance & monitoring). This program describes how the lessee ensures they are complying with lease provisions. The Products Lease Stipulation 1.6.1 requires the lessee to implement their approved program. BPTA defines "surveillance" as "making observations that are primarily qualitative by flying, driving, or walking along the pipeline and related facilities." The program's purpose is to detect, prevent, and abate situations which may endanger public health & safety, environment or pipeline integrity, and public or private property damage.

The Milne Point Surveillance Program consists of routine surveillance designed to meet USDOT requirements including biweekly drive-by surveys of the ROW conditions and an annual ground survey. BPXA conducted 33 drive-by inspections of the Milne Point ROW in calendar year 2005 and performed the annual ground survey in December 2005. BPXA also must inspect mainline valves twice each year.

The Monitoring Program consists of routine and corrective maintenance and inspection tasks, as well as a variety of pipeline, river crossing, and wildlife monitoring. For more detailed information on what is monitored along the Milne Point Pipelines, and the frequency for monitoring, see the current *Surveillance & Monitoring Program* in State files.

Annual Survey: BPXA conducts an annual ground survey, also called a Walking Speed Survey, to fulfill USDOT and State lease requirements. Acuren (formerly Canspec) does the Walking Speed Survey for both Milne Point pipelines. In December 2005, the ground survey recorded 58 Oil Pipeline issues. Five were minor perforations to the insulation jacket. Fifty vibration dampener grommet repair issues were noted, and two broken dampeners were found. One pipeline jacketing drain alignment issue was noted at a weld pack. Five issues were noted with the Products Pipeline. One was a missing saddle band, and four others were insulation jacket perforations.

Aerial Surveillance: BPTA reported that no aerial surveillance was conducted of the Milne Point pipelines in 2005.

ROW Surveillance Conditions: The only ROW conditions reported during 2005 are those noted on the annual ground surveys. BPTA reports that BPXA did not find any problems associated with any of the following Surveillance & Monitoring Program

categories: oil spills/leaks, erosion, wildlife blockage, public access, VSMs, sloping crossbeams, titled saddles, saddles suspended above crossbeams, failed anchors, gaps between pipe and saddle, pipeline vibrations, humps or swales, ground cracking, cased pipe, building damage, building foundation movement, building fuel/gas leaks, fish, brown bears, polar bears, and threatened or endangered species.

USDOT Compliance: In March 2006, a USDOT representative performed standard inspections of the Milne Point pipelines. No deficiencies were found.

Surveillance report #ANC-06-S-038 noted some minor unsatisfactory safety conditions. These mainly included tools and parts in walkways and work areas. This large metal object, a tripping hazard, was at the top of the stairs of the Kuparuk/Oliktok tie-in location platform. The lessee sent a letter on May 26 stating that they had corrected the problem.

8.3 SPCO Activity

8.3.1 Lease Administration

The Lease Administration team does not have anything significant to report for the Milne Point pipelines in FY06.

8.3.2 Compliance Oversight

On February 16th, BPXA's Corrosion, Inspection, and Chemicals Group gave a presentation to the lease compliance oversight team with a general overview of their corrosion program. More specific corrosion information related to each pipeline is obtained by the team through field surveillances.

SPCO conducted a compliance oversight surveillance of the Milne Point pipelines and ROWs in March 2006. The primary scope of the surveillance was to evaluate oil lease stipulations 1.6 (surveillance & monitoring) and 3.2 (Pipeline Corrosion); and

products lease stipulation 1.6 (surveillance & monitoring). Additionally, the valve closure incident related to the Products Pipeline activities was investigated.

On March 8, a compliance oversight team member visited the BPXA office in Anchorage to review integrity management documents. Documents reviewed are listed in the surveillance field notes attached to surveillance report ANC-06-S-036. Some are also attached. Most of BPXA's corrosion program is designed to meet the requirements of USDOT regulations.

For the field part of the surveillance, the team member flew to Milne Point via Kuparuk on March 10. The surveillant was greeted at Milne Point by Jerry Gronos, facility lead tech, and began the surveillance by looking at the facility control room. The surveillant visited the start of the oil pipeline in Module 58 where she observed the mainline pumps, pig launcher, metering, and leak detection system. She also observed the location of the removable NGL pig receiver in Module 48. Though the pipeline system appeared to be in good repair, surveillance report #ANC-06-S-038 noted some minor unsatisfactory safety conditions such as unused tools and parts on the floor in work and walk areas which could present a tripping hazard.

Next the surveillant asked to view a copy of the latest ROW drive-by inspection for each pipeline. Milne Point personnel said that the same form is used for inspecting both ROWs, but the form only says Milne Point (Oil) Pipeline, leaving the reader to wonder if any inspection was done on the other pipeline. Surveillance report #ANC-06-S-026 lists a minor unsatisfactory condition under Products Pipeline lease stipulation 1.6 because the drive-by survey form did not reflect the fact that observations were being made on the Products Pipeline as well. The lessee followed up to document that observations are being made on both pipelines and updated their form to reflect that.

SPCO surveillance included stopping at more than a dozen locations to inspect pipeline and ROW features. No unsatisfactory conditions were observed along the ROW west of Milne Point Road. Snow obscured all of the tundra, limiting the scope of ROW observations. The pipeline was well above the snow except at road and caribou crossings.

At the location where the Products Pipeline begins, a valve owned by ConocoPhillips controls the flow of natural gas liquids from the Oliktok Pipeline into the Milne Point Products Pipeline. In September 2005, a Milne Point operator broke a carseal on this valve and locked it out without permission from the Oliktok Pipeline operators while removing a section of pipe known as a metering run from Module 58. The incident was not discovered until one month later. ConocoPhillips, in their *2005 Annual Comprehensive Report on Pipeline Activities* for the Oliktok Pipeline, referred to the incident as a "potentially serious safety issue and a property trespass situation."

Milne Point personnel responded that they took the incident very seriously. Their investigation produced BPTA incident report #2005-IR-1575580 with a list of four action items signed off as completed. One action item said that Milne Point personnel had ordered a permanent metal sign to be placed on the valve and that a temporary wooden sign was already in place. Other action items dealt with educating Milne Point personnel about the valve ownership.

The lease compliance oversight team member visited the valve to verify that these action items were completed as stated. SPCO surveillance report #ANC-06-S-033 states that the action item requiring a sign marking valve ownership was not completed as stated. The surveillant observed no temporary wooden sign, and the taped sign in place was not clearly visible from the platform housing the valve. This is a significant unsatisfactory condition under Lease Section 15(c) which requires the lessee to provide reasonable protection to existing public and private improvements which may be adversely affected by pipeline activities. The lessee was given until May 26 to document that the action items were completed. Surveillance Field Notes attached to surveillance report #ANC-06-S-036 in the SPCO files provide further details.

The SPCO surveillant observed that the sign markir the Oliktok tie-in valve did not match the sign described in BPTA's incident report. Details are surveillance report #ANC-06-S-033.

On May 26, the SPCO received a letter from Milne Point Pipeline Company addressing the unsatisfactory conditions from the March 2006 surveillance. On June 12, 2006, the SPCO issued surveillance reports ANC-06-S-072 though ANC-06-S-074 documenting that the lessee resolved the three unsatisfactory conditions noted in the March surveillance. Copies of the surveillance reports and notes are available in the JPO Document Tracking System. Further follow-up to this surveillance is anticipated in FY07. The lease compliance oversight team will visit the location of the tie-in during field surveillance in FY07 to confirm that the lessee has completed required follow-up.

Additionally, the compliance oversight team lead reviewed ILI data for the Milne Point Oil Pipeline as part of a corrosion-focused records review. The SPCO requested and received ILI data from BPTA. The ILI reports requested were those directly from the vendor (raw data prior to analysis by BPXA personnel). These reports showed some metal loss anomalies on the pipeline. The compliance oversight team lead reviewed the reports with a State engineer from the JPO Technical and Design Review section and met with representatives of BPTA and BPXA to discuss some of the metal loss anomalies. All of the top ten defects identified in 2005 pigging were external. An

unanticipated large number of internal corrosion features were identified in the recent pigging. The SPCO surveillant reported the following: "Four years prior, the pipeline was said to have had only one internal anomaly identified. Now there are well over a thousand identified and of these, 144 were identified as being in the 40% to 50% and 50% to 60% depth range. We were told that the oil producing formation is similar to the one that has contributed to problems with the GC-2 pipeline." The results of the Milne Point Oil Pipeline ILI program review were reported as satisfactory in surveillance report ANC-06-S-112 and 113. The SPCO will follow-up on internal corrosion issues in FY07.

8.3.3 Summary of Lease Compliance Observations: March 2006

Lease	Section	Description	Observation	Report #
Oil	4(c), 4(d), 4(h)	State access to property & records; maintenance of pipeline in good repair	Satisfactory	ANC-06-S-**045**

Lease	Stipulation	Description	Observation	Report #
Oil	1.3.2	Authorized & field representatives	Satisfactory	ANC-06-S-**034**
Oil	1.6.2	Compliance with approved Design Criteria	Satisfactory	ANC-06-S-**035**
Oil	1.8.1 & .2	Comprehensive quality assurance/control	Satisfactory	ANC-06-S-**036**
Oil	1.10.1	Surveillance & monitoring; 49 CFR records	Satisfactory	ANC-06-S-**037**
Oil	1.11.1	Protection of health and safety	Unsatisfactory	ANC-06-S-**038**
Oil	1.12.1	Reasonable protection of existing improvements	Satisfactory	ANC-06-S-**039**
Oil	2.2.4.1	Avoid or minimize ice fo[illegible]	Satisfactory	ANC-06-S-**040**
Oil	2.4.6.1	Free passage of big game animals	Satisfactory	ANC-06-S-**041**
Oil	2.7.1	Related to on- and off- right of way traffic	Satisfactory	ANC-06-S-**042**
Oil	3.1.1.1	General standards	Satisfactory	ANC-06-S-**043**
Oil	3.4.1	Corrosion program, 49 CFR	Satisfactory	ANC-06-S-**044**

Lease	Section	Description	Observation	Report #
NGL	6(a)	State access to Leasehold	Satisfactory	ANC-06-S-**031**
NGL	8(d), 8(h)	State access to property & records; good repair	Satisfactory	ANC-06-S-**032**
NGL	15(c)	Reasonable protection of existing improvements	Unsatisfactory	ANC-06-S-**033**

Lease	Stipulation	Description	Observation	Report #
NGL	1.4.1	Compliance with approved Quality Program	Satisfactory	ANC-06-S-**024**
NGL	1.5.1	Compliance with approved Design Criteria	Satisfactory	ANC-06-S-**025**
NGL	1.6.1	Surveillance & monitoring	Unsatisfactory	ANC-06-S-**026**
NGL	1.12.1 & .2	ROW storage	Satisfactory	ANC-06-S-**027**
NGL	2.4.1	Free passage of big game animals	Satisfactory	ANC-06-S-**028**
NGL	2.6.1	Related to on- and off- right of way traffic	Satisfactory	ANC-06-S-**029**
NGL	3.1.1.1	General standards	Satisfactory	ANC-06-S-**030**

8.3.4 Summary of Lease Compliance Observations: June 2006

Lease	Stipulation	Description	Observation	Report #
Oil	1.11.1	Protection of health and safety	Satisfactory*	ANC-06-S-**072**
Oil	1.10.1	Surveillance & monitoring: pipeline integrity	Satisfactory	ANC-06-S-**112**
Oil	3.4.1	Corrosion control plan	Satisfactory	ANC-06-S-**113**
Lease	**Section**	**Description**	**Observation**	**Report #**
NGL	15(c)	Reasonable protection of existing improvements	Satisfactory*	ANC-06-S-**073**
Lease	**Stipulation**	**Description**	**Observation**	**Report #**
NGL	1.6.1	Surveillance & monitoring	Satisfactory*	ANC-06-S-**074**

**These reports close out the unsatisfactory determinations in reports ANC-06-S-026, 33, and 38.*

8.3.5 Appraisals

According AS 38.35, the lessee must pay fair market value to lease State lands in the pipeline ROW. The Milne Point leases require a re-appraisal every five years. The most recent appraisal of the Milne Point Oil ROW, performed by MacSwain Associates, was approved by ADNR in fall 2002. The most recent Products ROW appraisal was approved in 2001. The next Oil ROW appraisal should be submitted in 2007. The next Products ROW appraisal is due in 2006. The Products Pipeline ROW is still in construction width. Current State acreage and annual rental fees follow:

Milne Point Pipeline	ADL #	State Acres	Estimated Market Rent
Oil Operations ROW	410221	186.92	$37,384
Products Construction ROW	416172	258.6	$32,500

8.4 Upcoming Issues

8.4.1 Lessee's Activities

BPXA plans to continue surveillance & monitoring. They have scheduled smart pig verification for the 3rd quarter 2006 and the annual ground survey for the 4th quarter.

8.4.2 SPCO Compliance Oversight

In July 2006, the lease compliance oversight team plans to conduct field surveillance to follow-up on March 2006 unsatisfactory conditions at the Kuparuk/Oliktok tie-in point. Additional follow-up to ILI surveillance may also occur. The lessee's 2006 annual report, due January 31, 2007, will be reviewed. Additional field surveillance may be conducted in FY07.

8.5 Contact Information

The Milne Point leases require the lessee to designate in writing field representatives, authorized agents, and registered agents. In their *2005 ADNR Surveillance & Monitoring Report*, BPTA updated their authorized and field representatives.

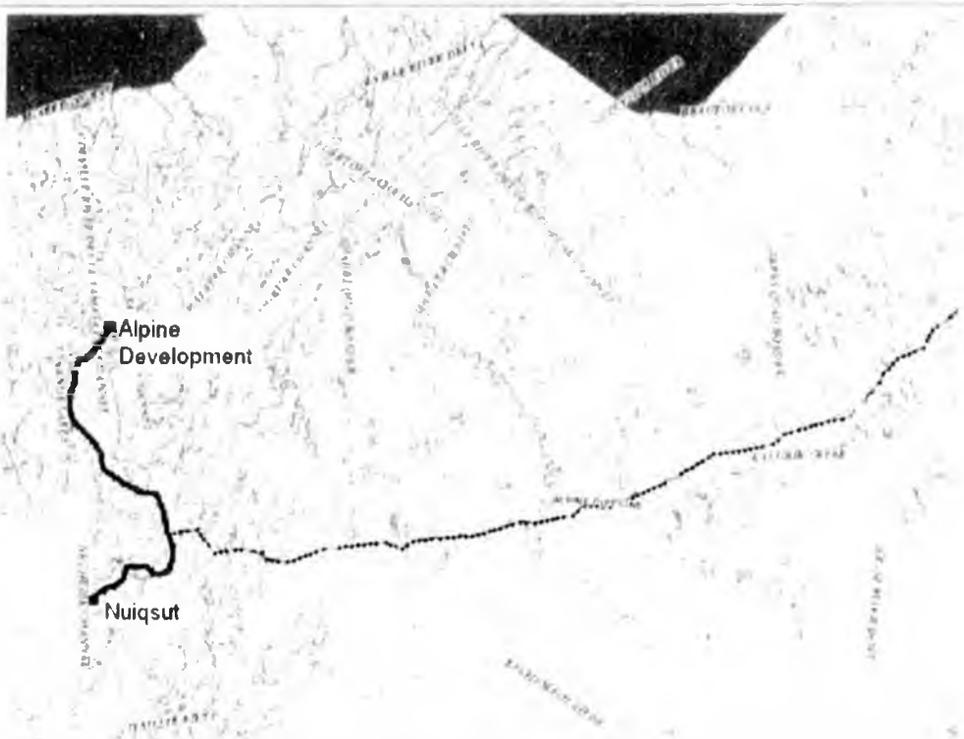
Registered Agent	William H. Clifton Joint Venture Coordinator Milne Point Pipeline Company c/o BP Transportation (Alaska) Inc. 900 East Benson Blvd. Anchorage, AK 99508
Authorized Representatives	President, BPTA – Al N. Bolea Vice President, BPTA – Michael Rocereta Joint Venture Coordinator – William H. Clifton Manager Technical & Regulatory – Greg R. Swank
Field Representatives	Dale O. Kruger and Jeff R. Michels

This is a Milne Point Oil Pipeline saddle location near Milne Central Facilities Pad. During March 2006 surveillance, a compliance oversight team member noticed this gap at the joint between two sections of casing. Information about the problem was forwarded to Milne Point personnel.

NORTH SLOPE PIPELINES

9 Nuiqsut Natural Gas Pipeline

ADL # 416202



Once commissioned, the Nuiqsut Natural Gas Pipeline will transport natural gas from the Alpine Development to the village of Nuiqsut on the North Slope of Alaska.

9.1 Lease and Right-of-Way Overview

9.1.1 Nuiqsut Corridor

The 14.4-mile Nuiqsut Natural Gas Pipeline, not yet in service, was built to transport natural gas from the Alpine Development to the arctic village of Nuiqsut. Nuiqsut is a second-class city with approximately 450 residents in the North Slope Borough located on the west bank of the Nechelik channel of the Colville River. The NNGP is supported aboveground on the same horizontal and vertical support members as the Alpine pipelines from the Alpine Development to the west bank of the Colville River. Here the NNGP transitions underground and continues, buried, to the village. More pipeline-specific information is provided later in this section.

The State ROW Lease Agreement for the NNGP was issued on March 15, 1999, and, if not renewed, expires on March 14, 2019. The operations ROW extends 25 feet on either side of the NNGP. Landowners in the NNGP ROW include Kuukpik Corporation, the State of Alaska, and scattered Native allotments. Kuukpik is the Native corporation for the village of Nuiqsut. The NNGP ROW crosses three segments of State land totaling approximately 2.4 miles (12,780 feet). The first two segments of State land are located where the NNGP shares VSMs with the Alpine pipelines, and the third segment is the land underneath the Nechelik Channel of the Colville River. In total, the State lands comprise 16.45 acres.

The North Slope Borough is the ROW lessee for the NNGP. The NSB developed the NNGP Quality Assurance Program to document compliance with the State ROW lease agreement. The NSB Mayor, currently Edward Itta, is responsible for overall implementation of the program. Some duties under the program are delegated to relevant NSB Departments which are then responsible for their implementation.

Environmental concerns: For below-ground portions of the pipeline, external corrosion, which can lead to leaks, is a significant concern. The NNGP is made from continuous electric resistance coated pipe to prevent external corrosion. An additional problem with buried pipelines in permafrost areas is thermal pollution (melting of frozen soil). The NNGP is designed to maintain existing thermal profiles along the route. Other environmental concerns include wildlife. To prevent alteration of caribou movements, the above-ground pipeline is elevated at least five feet above the tundra. Caribou can cross freely over the buried NNGP.

To reduce impacts to tundra, the Alpine Pipelines were built "roadless." The areas where NNGP shares VSMs with Alpine, therefore, are roadless. Since the buried portions of NNGP are roadless also, none of the ROW length is accessible by road. Winter ice roads can provide temporary access to the ROW for pipeline activities including surveillance & monitoring. The lessee did not build any ice roads in 2005.

River Crossings: The Nuiqsut Natural Gas Pipeline was trenched and backfilled under the Nechelik Channel of the Colville River, a fish-bearing waterway. Wetlands and ponds are present along both the above- and below-ground NNGP ROW.

Lease: An electronic copy of the Nuiqsut lease agreement is available for public viewing at the SPCO website: http://www.jpo.doi.gov/SPCO/SPCO.htm.

9.1.2 Natural Gas Pipeline (ADL 416202)

The NNGP begins at the Alpine Development and travels on the same VSMs as the Alpine Pipelines until the Colville River. Here the Alpine Pipelines transition underground where they are bored under the river using horizontal directional drilling. At the Alpine HDD site, the NNGP is buried and diverges towards Nuiqsut. The pipeline remains buried for the rest of its length. It crosses the Nechelik Channel of the Colville River before terminating in Nuiqsut. The NNGP's total length is approximately 14.4 miles: 8.8 miles aboveground and 5.6 miles buried. Only 2.4 miles are on State land.

The above-ground portion of the pipeline was built during the 1998-1999 winter construction season, and the buried portion was installed during the 2000-2001 winter construction season. The NNGP was built with 3.5" continuous electric resistance welded coiled pipe with a wall thickness of 0.203 inches. The pipeline design is based on a maximum allowable operating pressure of 1,440 psig. It is designed to provide a maximum flow rate of 3.5 million cubic feet per day of natural gas.

The NNGP ROW Lease Stipulation 3.2.1 requires the lessee to provide for early detection of corrosion in accordance with 49 CFR 192. The diameter of the NNGP is too small to allow passage of a smart pig for corrosion detection. Buried pipelines are subject to external corrosion, so the NNGP is covered in protective coating and a continuous magnesium strip cathodic protection system is installed.

This photo was taken from the west bank of the main channel of the Colville River. Here the NNGP (yellow) diverges from the Alpine Pipelines and transitions underground towards Nuiqsut.

9.2 Lessee's Annual Report

The North Slope Borough, lessee for the NNGP ROW, hand-delivered their *2005 Annual Comprehensive Report on Pipeline Activities* to the SPCO late on April 6, 2006. A week earlier, the SPCO received the lessee's *2004 Annual Comprehensive Report on Pipeline Activities*, well over a year late. Annual reporting is a requirement of the NNGP

ROW lease, and reports are due by January 31st for the preceding year. The seven requirements for annual reporting are listed in the Introduction Section.

9.2.1 SPCO Review

On April 13th, the SPCO replied with a review of the 2005 NNGP report. While the SPCO review confirms that the report contains most of the minimum information required, there is a need for the lessee to submit functional Quality Assurance and Surveillance & Monitoring Programs. Additional information and clarification was requested on several points. The Surveillance & Monitoring Program was due by June 30, 2006. As of August 10, this still had not been received. The review also noted that the Quality Program provided in the report differed from that approved by the State Pipeline Coordinator in March 1999. The SPCO requested the lessee submit the new program for feedback and approval.

On April 5, 2006, the SPCO responded with a review of the lessee's 2004 report. Comments on the 2004 report mirrored those for the 2005 report.

In their annual report, the lessee requested an extension of time from their proposed start-up date (which lapsed in September 2005). They were required to submit their formal request for an extension by May 15, 2006. As of August 10, this still had not been received. The SPCO will follow-up in FY07.

9.2.2 Lessee's Activities

Below are some highlights from the 2004 and 2005 reports:

Lease Compliance: The NSB certified compliance with the ADL 416202 ROW lease in their 2005 annual report. They provided a checklist with each lease stipulation describing applicable activities and performance for the year. The only lease stipulation that the NSB reports being out of compliance with is the deadline for submittal of their annual report (late two years in a row).

Construction Schedule: As of the end of 2005, NNGP construction is nearing completion. The mainline pipe has been installed, but some work remains on the gas conditioning and receiving modules. The gas conditioning and tie-in work at Alpine has been completed, as has the Nuiqsut gas receiving module, though some final installation and check-out of electrical components still needs to be done. The Nuiqsut distribution pipeline system has been installed and tested to 49 CFR Part 192 specifications. The lessee estimates they will complete construction and commission the entire system in September 2006.

Maintenance: Between March 8th and 15th, 2005, ConocoPhillips performed maintenance work on the above-ground portion of the Nuiqsut Pipeline at a "Tee" spool branch piece at the Colville River HDD site. This work was necessary to prevent accumulation of natural gas liquids in the Tee. The segment was pressure-tested when the work was completed.

This photo depicts the Alpine and Nuiqsut Pipelines sharing vertical and horizontal supports. From left to right: Alpine Diesel, Utility, Sales Oil, and NNGP (yellow). A fiber optic cable associated with the Alpine Development is in the center.

Incidents: The NSB reports that no incidents, spills, or fires occurred in 2004 or 2005 along the NNGP ROW.

Nechelik Channel Crossing: The NSB has installed erosion control measures including revegetation to limit erosion at the Nechelik Channel crossing. The NSB plans to include erosion monitoring as part of its maintenance activities and future Surveillance & Monitoring Program.

Restoration of Disturbed Areas: Revegetation continues at disturbed areas. These include the buried segment of the NNGP and the above- to below-ground transition area. The NSB conducted stabilization efforts in fall 2001 and fall 2002. Additional work continued in spring 2005 at the transition site.

9.2.3 Lessee's Surveillance & Monitoring

The NSB reports that because "the overall project is being constructed in multiple phases, which are not completed, no monitoring, operations, or termination activities have been conducted at this time." The SPCO believes that surveillance & monitoring is relevant since the pipeline is largely constructed and has required the NSB to provide a presently applicable surveillance & monitoring program for approval by June 30, 2006. As of August 10, this still had not been received. The SPCO will follow-up in FY07.

This photo was submitted by the North Slope Borough in their annual NNGP report. The location is a Z-loop where the NNGP is on the outside of the bend. In the photo the NNGP (yellow) is contacting the Alpine Oil Pipeline.

Despite the lack of a comprehensive surveillance & monitoring program, some informal monitoring has occurred along the NNGP ROW. ConocoPhillips continues routine surveillance & monitoring of the Alpine Pipelines, so the NNGP is indirectly monitored through that program. The NSB and ConocoPhillips are currently in negotiations to contract routine inspection and repair services to ConocoPhillips for the above-ground portion of the pipeline, which shares VSMs with the Alpine Pipelines.

Other monitoring has occurred through the lessee, though the schedule is not clear. For example, on November 11th, 2005, a LCMF LLC inspector noticed a location where the NNGP was contacting another pipeline. A retrofit plan was proposed to repair the problem. This is further discussed under 9.3.1, Lease Administration.

9.3 SPCO Activity

9.3.1 Lease Administration

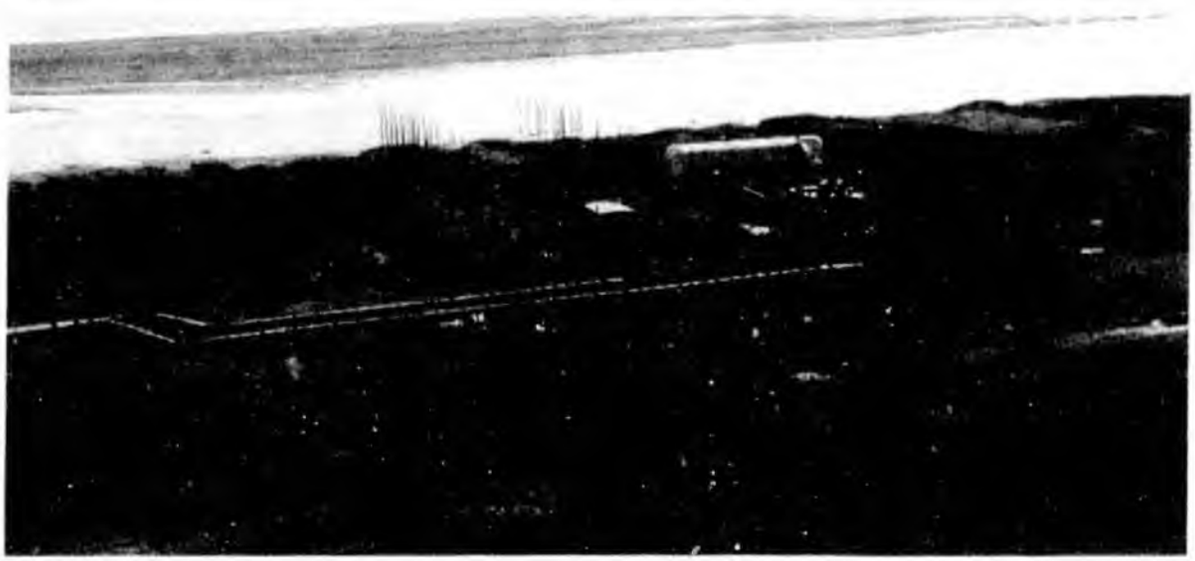
On November 11th, 2005, a LCMF LLC inspector noticed that an aboveground portion of the Nuiqsut Pipeline was contacting the adjacent 14" Alpine Oil Pipeline at several z-loops where the Nuiqsut Pipeline is out on the outside of the bend. Differential expansion of the pipelines was thought to be causing the contact. LCMF LLC submitted plans on March 14, 2006 along with a letter of non-objection from ConocoPhillips (ROW lessee for the Alpine Pipeline leases) dated March 9, 2006, to retrofit intermediate support members to correct the problem.

The JPO Technical and Design Review team reviewed the proposed retrofit, and on March 31, 2006, the State Pipeline Coordinator issued a letter to the North Slope Borough approving the work as long as certain conditions were met. Within 30 days

after the retrofit is completed, LCMF LLC is to send the SPCO drawings depicting the new support member configurations. If the retrofit will require a design basis change, the lessee must apply for one when the work is completed. On May 26, 2006, the State Pipeline Coordinator received a Maintenance Activities Report from the lessee demonstrating that the conditions of approval were met.

9.3.2 Compliance Oversight

The SPCO did not conduct field surveillance of the NNGP or ROW from January 1, 2005 through June 30, 2006.



This is an aerial view of the west bank of the Colville River HDD. The NNGP transitioned underground left of the photo frame. Two red lines (digitally added) show the trench where the NNGP is buried. The NNGP continues buried the rest of the way to Nuiqsut.

9.3.3 Appraisals

According to the lease agreement, the lessee must pay fair market value to lease State lands in the ROW, and a new appraisal is due every five years. The most recent appraisal of the NNGP ROW, performed by MacSwain Associates, was approved by ADNR in fall 2003. The appraisal period covered is March 15, 2004 through March 14, 2009. The State acreage and annual rental fees follow:

Nuiqsut Natural Gas Pipeline	***ADL #***	***State Acres***	***Estimated Market Rent***
Operations ROW	416202	16.45	$2,468

9.4 Upcoming Issues

9.4.1 Lessee's Activities

The lessee anticipates commissioning the entire pipeline system in September 2006. Once the NNGP is brought on line, gas will flow from the Alpine Development to the village of Nuiqsut, where a distribution system is already in place.

Over the next year, the NSB needs to develop and submit their surveillance & monitoring program and update their quality program to meet minimum standards in the State ROW lease. The NSB also plans to continue revegetation and restoration of areas disturbed during pipeline construction. Work will continue at the above- to below-ground transition site and other disturbed areas.

9.4.2 SPCO Compliance Oversight

The SPCO will conduct field surveillance of the NNGP and ROW during FY07. The compliance oversight team tentatively plans to complete a full checklist---evaluating compliance with the entire lease agreement---in FY07. This will include a site visit and records review. The lessee's 2006 annual report, due January 31, 2007, will be reviewed. The SPCO will also follow-up on past due items including the development of a surveillance & monitoring program for the NNGP and ROW.

9.5 Contact Information

The NNGP ROW lease requires the North Slope Borough to designate in writing a registered agent and field representative.

Registered Agent

North Slope Borough Mayor
The Honorable Edward Sagaan Itta
Box 69
Barrow, AK 99723

Field Representative

David Hodges
North Slope Borough Capital Improvement Department
3000 C Street, Suite N201
Anchorage, AK 99503

Appendix A – Table of Acronyms

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish & Game
ADNR	Alaska Department of Natural Resources
AS	Alaska Statute
ASA	Advanced Safety Audit (a BP safety program)
BEST	Behavior Enhanced Safety Techniques (a BP safety program)
BLM	US Bureau of Land Management
bpd	Barrels per day
BPTA	BP Transportation (Alaska) Inc.
BPXA	BP Exploration (Alaska) Inc.
CFR	Code of Federal Regulations
CPAI	ConocoPhillips Alaska Inc.
CPAP	ConocoPhillips Alaska Pipelines
CPF	Central Processing Facility
DOTPF	Alaska Department of Transportation & Public Facilities
FLIR	Forward-looking Infrared
FY	Fiscal Year
HDD	Horizontal Directional Drilling
HSM	Horizontal Support Member
ILI	In-line Inspection (also known as "smart pigging")
JPO	Joint Pipeline Office
KEOR	Kuparuk Enhanced Oil Recovery (Milne Point Products Pipeline)
KKPL	Kenai Kachemak Pipeline
KKPL LLC	Kenai Kachemak Pipeline Limited Liability Company
KPC	Kuparuk Pipeline Company
KPL	Kuparuk Pipeline
KPL X	Kuparuk Pipeline Extension
KTC	Kuparuk Transportation Company
LCMF	LCMF LLC (an Ukpeagvik Corporation Company)
LGL	LGL Alaska Research Associates
MPPL	Milne Point Pipeline
MSCF	Million Standard Cubic Foot (natural gas unit of measurement)

NGL	Natural Gas Liquids
NNGP	Nuiqsut Natural Gas Pipeline
NSB	North Slope Borough
OMB	Office of Management and Budget
OHMP	Office of Habitat Management and Permitting
OPL	Oliktok Pipeline
ORCA	Observing Risks, Changes, and Attitudes (a BP safety program)
OSHA	Occupational Safety and Health Administration
PS-1	Trans-Alaska Pipeline System Pump Station 1
psig	Pounds per square inch gauged
QA	Quality Assurance
ROW	Right-of-Way
RTU	Remote Terminal Unit
SPCO	State Pipeline Coordinator's Office
STOP	Safety Training Observation Program (a BP safety program)
TAPS	Trans-Alaska Pipeline System
Tesoro	Tesoro Alaska Pipeline Company
USACE	US Army Corps of Engineers
USDOT	US Department of Transportation
USF&WS	US Fish & Wildlife Service
VSM	Vertical Support Member

Appendix B – Sources of More Information on the Web

State Agencies

State Pipeline Coordinator's Office
http://www.jpo.doi.gov/SPCO/SPCO.htm

Joint Pipeline Office
http://www.jpo.doi.gov

Alaska Dept. of Environmental Conservation
http://www.dec.state.ak.us

Alaska Dept. of Natural Resources
http://www.dnr.state.ak.us/

Ak. Oil & Gas Conservation Commission
http://www.state.ak.us/local/akpages/ADMIN/dogcc.alaska.gov

Regulatory Commission of Alaska
http://www.state.ak.us/rca

Ak. Dept. of Transportation & Public Facilities
http://www.dot.state.ak.us

Ak. Dept. of Fish & Game
http://www.adfg.state.ak.us/

Federal Agencies

Joint Pipeline Office
http://www.jpo.doi.gov/

Bureau of Land Management
http://www.blm.gov

Occupational Safety & Health Administration
http://www.osha.gov

US Fish & Wildlife Service
http://www.fws.gov

US Dept. of Transportation
http://www.dot.gov

USDOT Office of Pipeline Safety
http://ops.dot.gov

US Environmental Protection Agency
http://www.epa.gov

US Army Corps of Engineers
http://www.usace.army.mil

Pipeline Operators and ROW Lessees*

BP
http://www.bp.com

BP Alaska
http://alaska.bp.com

ConocoPhillips Company
http://www.conocophillips.com

ConocoPhillips Alaska Inc.
http://www.conocophillipsalaska.com

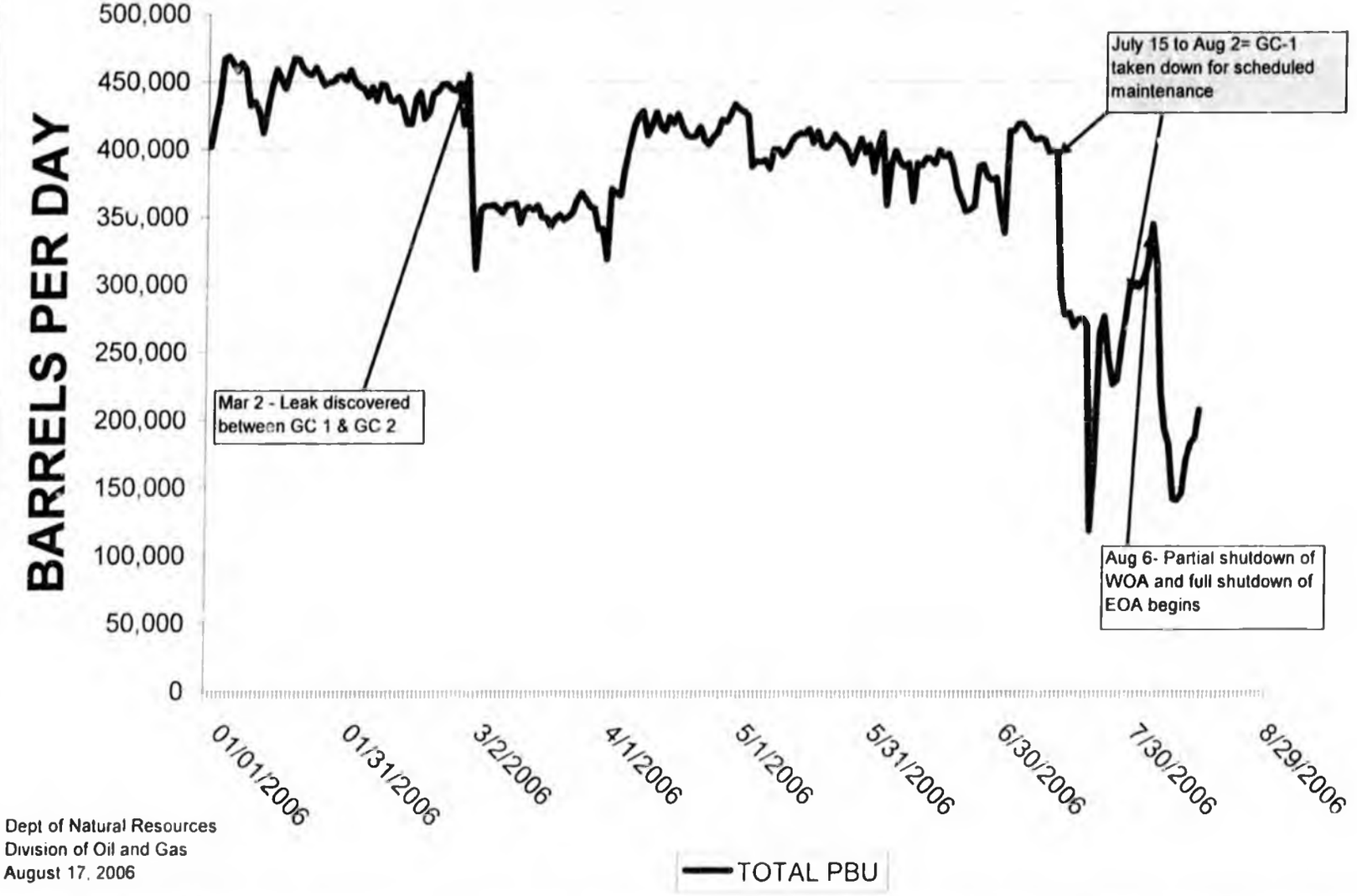
Tesoro Corporation
http://www.tsocorp.com

Marathon Oil Corporation
http://www.marathon.com

North Slope Borough
http://co.north-slope.ak.us

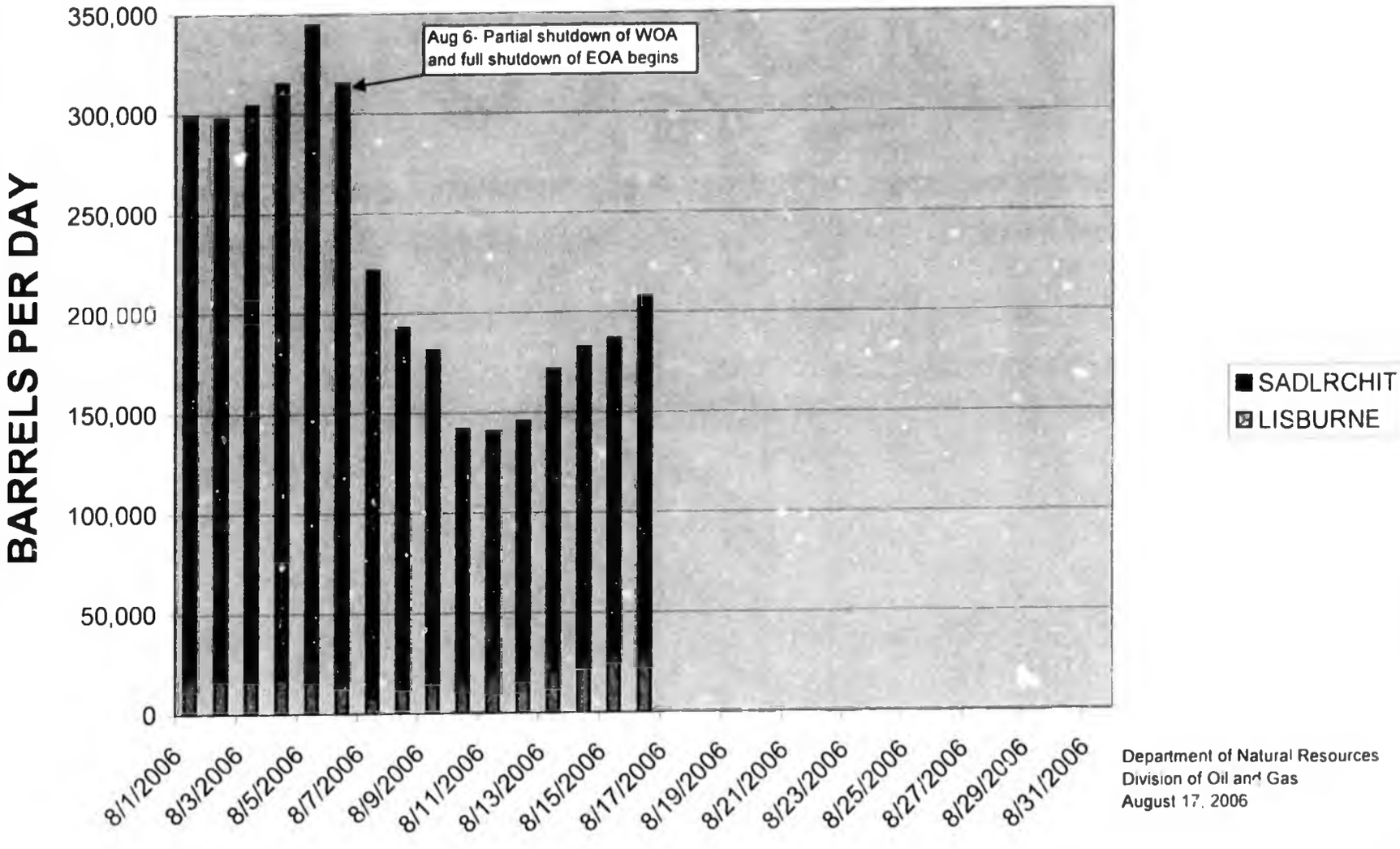
**Note: not all pipeline operators and ROW lessees mentioned in this report are listed above because either they do not have, or we could not locate, websites.*

Prudhoe Bay Unit Daily Production
January-August 2006



Dept of Natural Resources
Division of Oil and Gas
August 17, 2006

Prudhoe Bay Unit Daily Production
August 2006

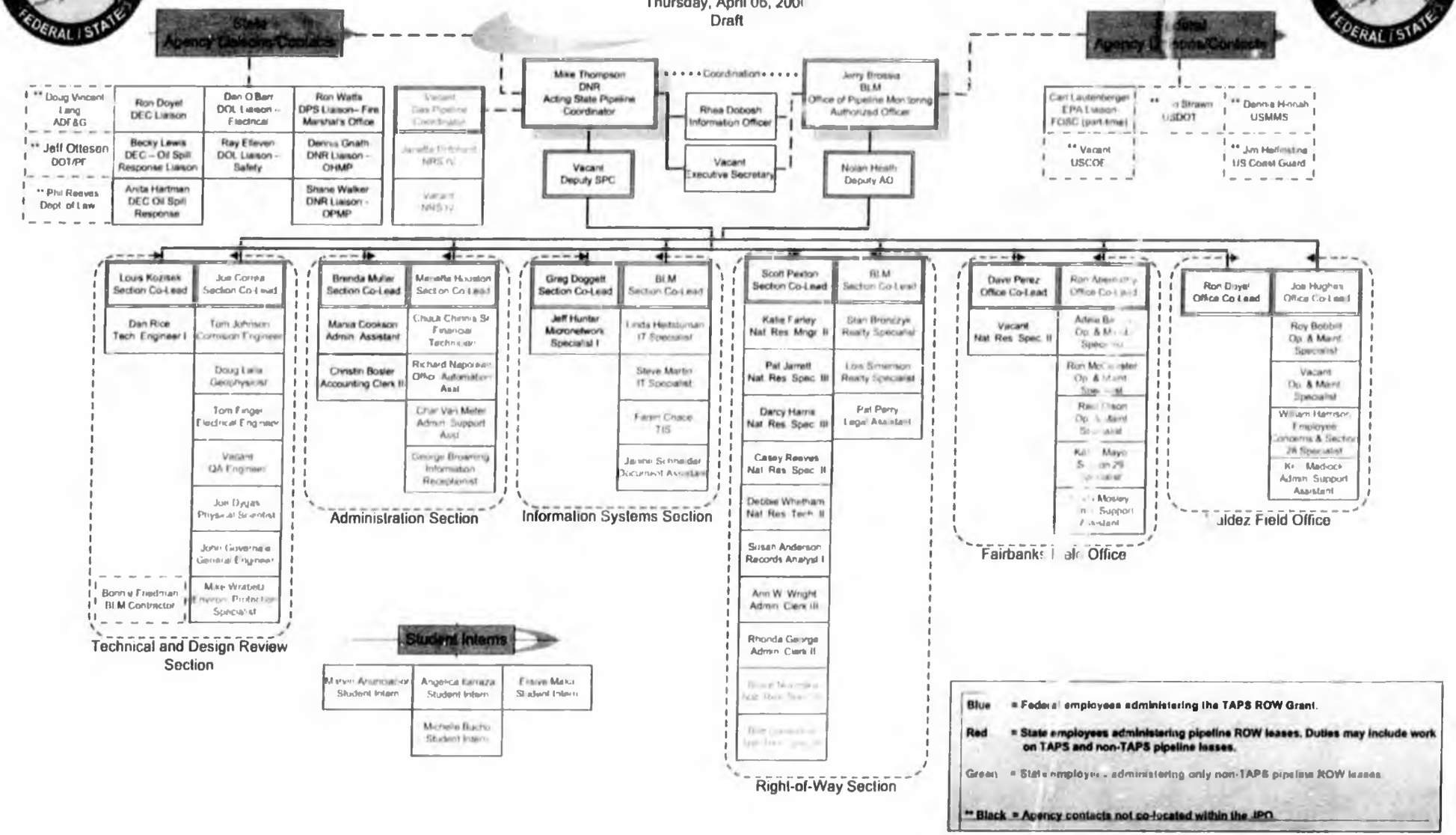


Department of Natural Resources
Division of Oil and Gas
August 17, 2006

Joint Pipeline Office Organizational Chart

Thursday, April 06, 200(

Draft



Joint Pipeline Office Organizational Chart

Thursday, April 06, 2006

Draft

State Agency Liaisons/Contacts

** Doug Vincent-Lang ADF&G	Ron Doyel DEC Liaison	Dan O'Barr DOL Liaison – Electrical	Ron Watts DPS Liaison– Fire Marshal's Office	Vacant Gas Pipeline Coordinator
** Jeff Ottesen DOT/PF	Becky Lewis DEC – Oil Spill Response Liaison	Ray Elleven DOL Liaison - Safety	Dennis Gnath DNR Liaison - OHMP	Janetta Pritchard NRS IV
** Phil Reeves Dept. of Law	Anita Hartman DEC Oil Spill Response		Shane Walker DNR Liaison - OPMP	Vacant NRS IV

Mike Thompson
DNR
Acting State Pipeline Coordinator

Coordination

Rhea Dobosh
Information Officer

Vacant
Executive Secretary

Jerry Brossia
BLM
Office of Pipeline Monitoring
Authorized Officer

Vacant
Deputy SPC

Nola Heath
Deputy AO

Federal Agency Liaisons/Contacts

Carl Lautenberger EPA Liaison FOSC (part-time)	** Jon Strawn USDOT	** Dennis Hinnah USMMS
** Vacant USCOE		** Jim Helfinstine US Coast Guard

Technical and Design Review Section

Louis Kozisek Section Co-Lead	Joe Correa Section Co-Lead
Dan Rice Tech. Engineer I	Tom Johnson Corrosion Engineer
	Doug Lalla Geophysicist
	Tom Finger Electrical Engineer
	Vacant QA Engineer
	Joe Dygas Physical Scientist
	John Governale General Engineer
Bonnie Friedman BLM Contractor	Mike Wrabetz Environ. Protection Specialist

Administration Section

Brenda Muller Section Co-Lead	Manetta Houston Section Co-Lead
Mania Cookson Admin. Assistant	Chuck Chinnis Sr. Financial Technician
Christin Bosler Accounting Clerk II	Richard Napolean Office Automation Asst.
	Char Van Meter Admin. Support Asst.
	George Browning Information Receptionist

Information Systems Section

Greg Doggett Section Co-Lead	BLM Section Co-Lead
Jeff Hunter Micronetwork Specialist I	Linda Heitstuman IT Specialist
	Steve Martin IT Specialist
	Faren Chace TIS
	Janine Schneider Document Assistant

Right-of-Way Section

Scott Pexton Section Co-Lead	BLM Section Co-Lead
Katie Farley Nat. Res. Mngr. II	Stan Bronczyk Realty Specialist
Pat Jarrett Nat. Res. Spec. III	Lois Simenson Realty Specialist
Darcy Harris Nat. Res. Spec. III	Pat Perry Legal Assistant
Casey Reeves Nat. Res. Spec. II	
Debbie Whetham Nat. Res. Tech. II	
Susan Anderson Records Analyst I	
Ann W. Wright Admin. Clerk III	
Rhonda George Admin. Clerk II	
Bruce Novinska Nat. Res. Spec. III	
Britt Constatine Nat. Res. Spec. II	

Fairbanks Field Office

Dave Perez Office Co-Lead	Ron Abernathy Office Co-Lead
Vacant Nat. Res. Spec. II	Adele Bacon Op. & Maint. Specialist
	Ron McCallister Op. & Maint. Specialist
	Reid Olson Op. & Maint. Specialist
	Kathy Mayo Section 29 Specialist
	Linda Mosley Admin. Support Assistant

Valdez Field Office

Ron Doyel Office Co-Lead	Joe Hughes Office Co-Lead
	Roy Bobbitt Op. & Maint. Specialist
	Vacant Op. & Maint. Specialist
	William Harrison Employee Concerns & Section 28 Specialist
	Kelli Madlock Admin. Support Assistant

Student Interns

Marvin Anunciacion Student Intern	Angelica Ilarraza Student Intern	Elisive Maka Student Intern
	Michelle Bucho Student Intern	

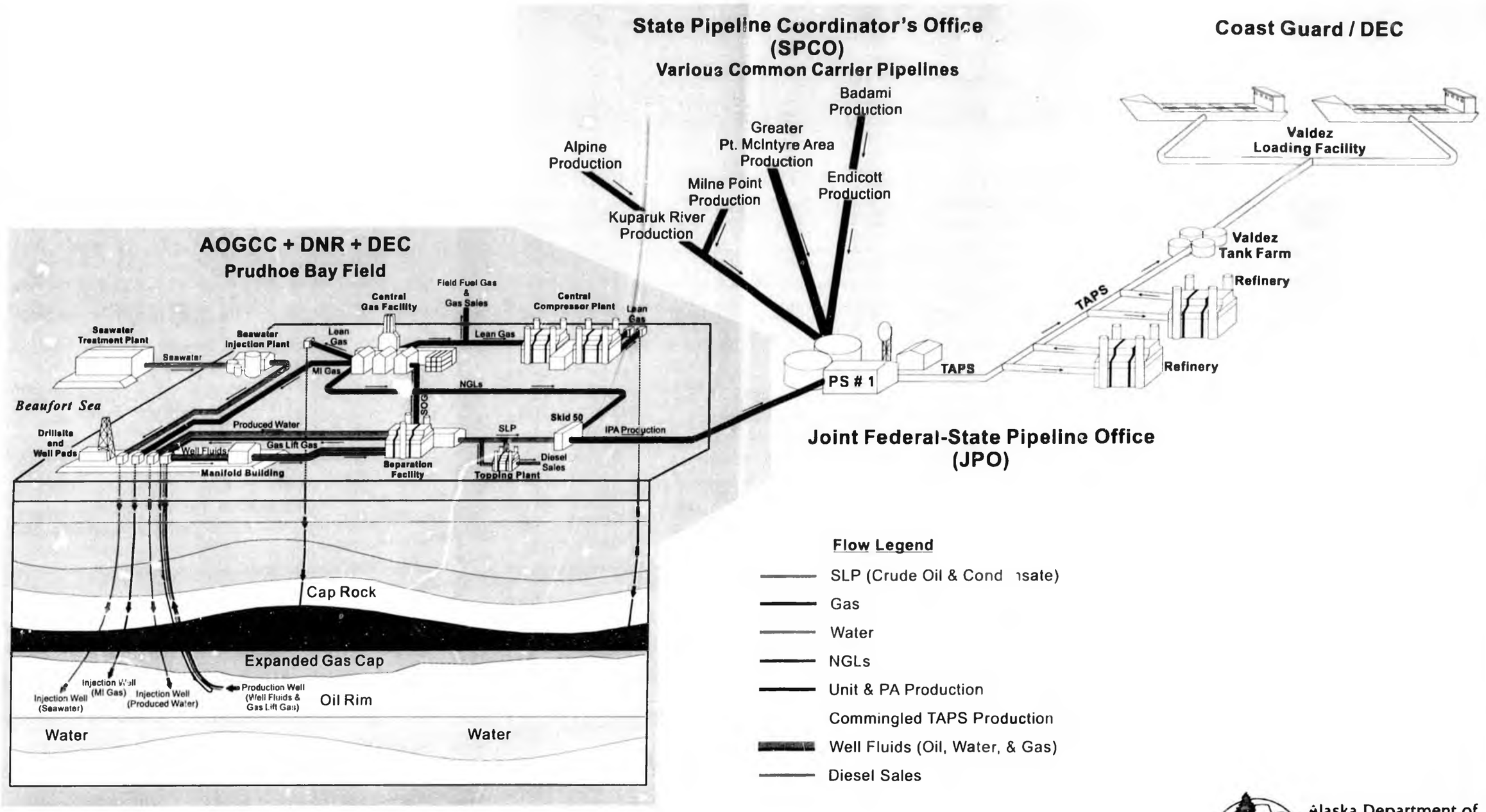
Blue = Federal employees administering the TAPS ROW Grant.

Red = State employees administering pipeline ROW leases. Duties may include work on TAPS and non-TAPS pipeline leases.

Green = State employees administering only non-TAPS pipeline ROW leases.

**** Black** = Agency contacts not co-located within the JPO.

Regulatory Authorities



Alaska Department of
NATURAL RESOURCES
DO&G 08/17/06

ALYESKA'S COMPREHENSIVE QUALITY ASSURANCE PROGRAM

Commitment to Excellence

Commitments + Objectives

Quality Policy

Alyeska Pipeline Service Company is committed to excellence in operating and maintaining TAPS in a manner that keeps people safe, protects the environment, and ensures the integrity of the pipeline system. This commitment to excellence means that

TAPS Employees (Alyeska Pipeline Service Company employees and contractor employees who work on TAPS **)** will:

- Comply with laws and regulations, Corporate Policies and Code of Conduct
- Assess and manage risks
- Demonstrate responsibility for the quality of their work
- Understand requirements and follow established methods of compliance
- Improve personal productivity, accuracy and ability
- Apply proactive planning to prevent problems
- Identify, report and when possible, resolve concerns
- Initiate, recommend or implement solutions

What Alyeska expects of you

Supervisors, Managers, Contract Stewards, Program Managers and Process Owners will:

- Support the people performing work
- Ensure work done under their leadership satisfies applicable requirements and expectations
- Maintain an open business environment where employees are supported in identification of concerns and recommended solutions
- Develop and implement business controls that ensure regulatory requirements and commitments are satisfied
- Monitor compliance and process performance
- Report compliance status and process effectiveness

+ Methods of Compliance

How you do it

Federal Grant of ROW Sections 9 & State ROW Lease (G/L) Section 16 Commitments for a Comprehensive Quality Assurance Program:

	Implementing Business Processes and Programs that combined represent the Alyeska comprehensive Quality Assurance Program	QA 16 Grant & Lease Quality Assurance Components: Management Controls & Assurance	Environmental Protection Provisions	Safety	Asset Maintenance	Design Control & Information Management	Vendor Selection	Records Identification & Retrieval
	Comprehensive Programs (cross-functional)							
		X						
		X	X					
		X		X	X	X		
					X			
					X			
Plan	**Leadership, Direction, Objectives and Resource Allocation**							
	Management System Governance [AMS-023]	X						
	Responsibilities and Accountabilities							
	Roles and Responsibilities [AMS-014]	X						
	Risk (Criticality) Analysis & Planning							
	Risk Management [AMS-017]	X	X	X				
	Maintenance Strategy [AMS-026] *				X	X		
	Emergency Preparedness Planning [AMS-025]	X	X	X				
	Regulatory Compliance							
	Regulatory Compliance [AMS-002]	X	X			X		X
Do	**Third Party Goods and Services**							
	Contract Acquisition [AMS-010]	X				X	X	X
	Contract Work Management [AMS-029] *	X				X	X	X
	Procurement and Materials [AMS-013] *	X				X	X	X
	Competencies and Training							
	Training & Qualification Process [AMS-011]	X				X		X
	Information and Change Management							
	Documents [AMS-001] *	X				X		X
	Master Drawing Update [AMS-028] *					X		
	Records Management [AMS-018]							X
	Organizational Change Management [AMS-014]	X						
	Design Control and Inspection							
	Engineering [AMS-004] *	X			X	X	X	
	Inspections and Testing [AMS-031] *	X			X	X		
	Performing Work							
	Project Management [AMS-003]				X	X		
	Maintenance Work Management [AMS-027] *	X			X	X		
	Emergency Response [AMS-026]		X	X	X			
Check	**Performance Analysis & Monitoring**							
	Assessment [AMS-019]	X		X				
	Internal Audit [AMS-020]	X						
	Incident Reporting, Investigation & Analysis [AMS-024]	X	X	X				
	Performance Measurement & Monitoring [AMS-021]	X			X			
Adjust	**Management and Correction [activities in each process]**							
	Management Action and Commitment [AMS-012]	X	X	X	X			

Comprehensive Program + Selected AMS Processes

KEY: A highlighted cell indicates a process or program that implements appropriate business controls and performance monitoring to meet Quality Assurance Component Objectives linked to Grant and Lease commitments. An asterisk * indicates a process with applicable implementing sub-procedures.

+ Methods of Monitoring + Methods of Reporting

How we know

Management Review of QA Assessments

The evidence gathered by the program and process QA assessments are provided to Executive Leadership for a management review. The management review determines the extent to which quality assurance criteria are met and provides direction on implementing improvements.

Alyeska Management System (AS-243)

How We Manage

Plan	**Leadership, Strategy, Objectives and Resource Allocation**
	Long Range Strategic and Business Planning (AMS-005)
	Management System Governance (AMS-023)
	Initiative Approval (AMS-022)
	Responsibilities and Accountabilities
	Roles and Responsibilities (AMS-014)
	Risk (Criticality) Analysis and Planning
	Risk Management (AMS-017)
	Maintenance Strategy Process (AMS-026)
	Commercial Strategy Development (AMS-030)
	Emergency Preparedness Planning (AMS-025)
	Regulatory Compliance
	Regulatory Compliance (AMS-002)
Do	**Financial Stewardship**
	Authority for Expenditures (AMS-008)
	Accounting (AMS-032)
	Third Party Goods and Services
	Contract Acquisition (AMS-010)
	Contract Work Management (AMS-029)
	Procurement and Materials (AMS-013)
	Competencies and Training
	Training and Qualification Process (AMS-011)
	Information and Change Management
	Documents (AMS-001)
	Master Drawing Update (AMS -009)
	Organizational Change Management (AMS-015)
	Records Management (AMS-016)
	Communications
	Government Interaction (AMS-006)
	Communications (AMS-018)
	Design Control and Inspection
	Engineering (AMS-004)
	Inspection and Testing (AMS-031)
	Performing Work
	Project Management (AMS-003)
	Maintenance Work Management (AMS-027)
	Emergency Response (AMS-028)
Check	**Performance Analysis and Monitoring**
	Assessment (AMS-019)
	Internal Audit (AMS-020)
	Incident Reporting, Investigation & Analysis (AMS-024)
	Performance Measurement and Monitoring (AMS-021)
Adjust	**Improvement and Correction (imbeded in each process)**
	Management Action and Commitment Process (AMS-012)
	Motivation
	Performance Expectation and Review (AMS-007)
	Performance Recognition and Reward (AMS-033)

What We Manage

People
Health Safety and Environment
Contingencies
Physical Assets
Transport Oil

North Slope Pipelines Regulated by the State Pipeline Coordinator's Office (SPCO)

Location	ADL	Name (product)	Length in Miles*	ROW Lessee
North Slope	415701	Alpine Oil	34	ConocoPhillips Company
North Slope	415932	Alpine Diesel	34	ConocoPhillips Company
North Slope	415857	Alpine Utility (Grant)	34	ConocoPhillips Company
North Slope	415472	Badami Sales Oil	25	BP Transportation (Alaska)
North Slope	415965	Badami Utility	31	BP Transportation (Alaska)
North Slope	410562	Endicott (Oil)	26	Endicott Pipeline Company
Southcentral	228162	Kenai Kachemak (Gas)	50	Kenai Kachemak LLC
North Slope	402294	Kuparuk (Oil)	28	Kuparuk Transportation Company
North Slope	409027	Kuparuk Extension (Oil)	9	Kuparuk Transportation Company
North Slope	410221	Milne Point (Oil)	10	Milne Point Pipeline LLC
North Slope	416172	Milne Point Products	10	Milne Point Pipeline LLC
Southcentral	69354	Nikiski Alaska (Refined oil products)	70	Tesoro Alaska Pipeline Company
North Slope	415700	Northstar Oil	17	BP Transportation (Alaska)
North Slope	415975	Northstar Gas	16	BP Transportation (Alaska)
North Slope	416202	Nuiqsut Natural Gas	14	North Slope Borough
North Slope	411731	Oliktok (Natural Gas Liquids)	28	Oliktok Pipeline Company

**The length values given in this table are the approximate length of the pipeline system. The length of pipeline on State-leased ROW lands may be shorter. For detailed information about State lands in a ROW, go to the chapter for that pipeline.*

A Short Chronology of the Joint Pipeline Office

1990 – 2005 Only