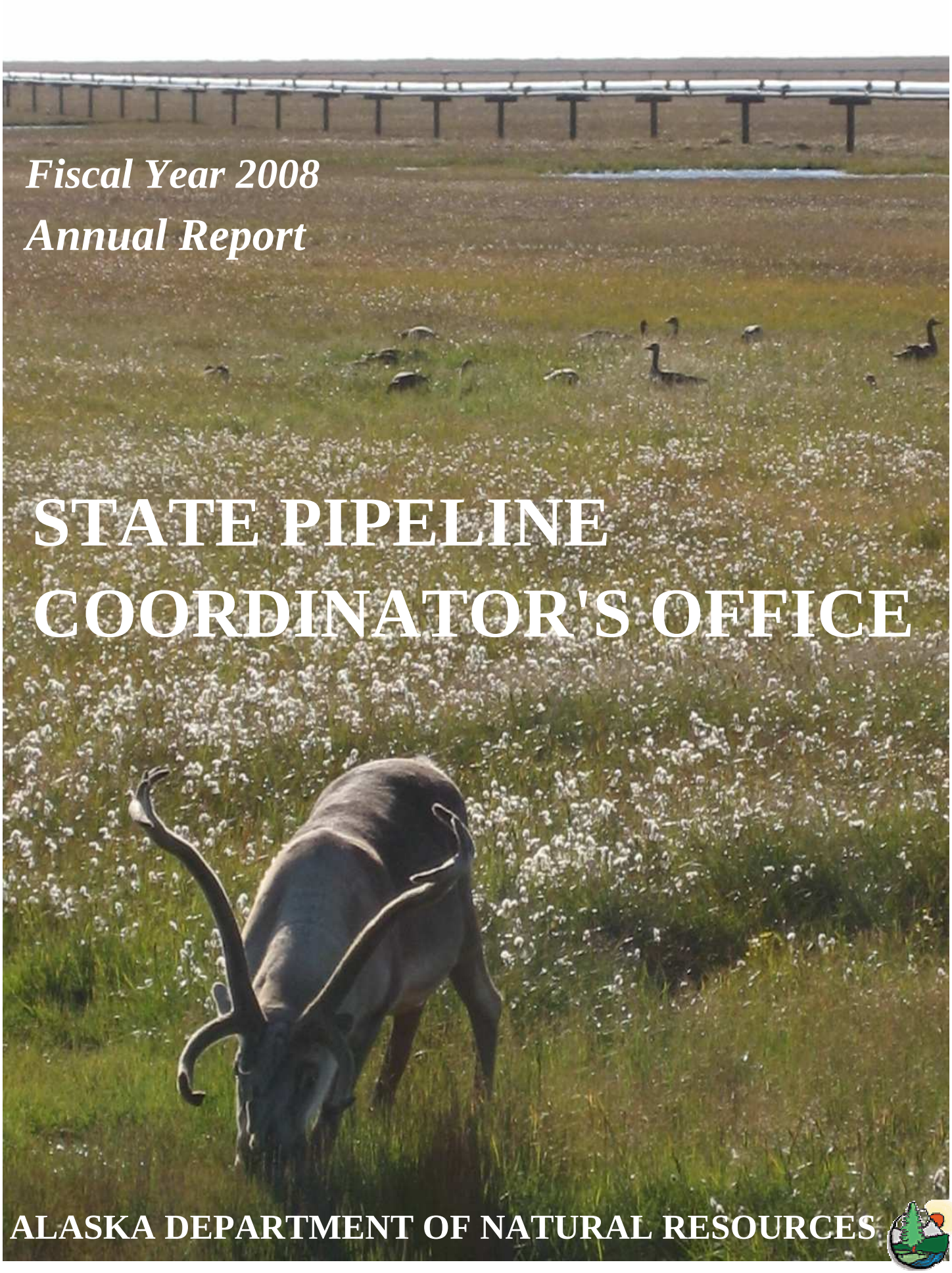

Fiscal Year 2008

Annual Report

STATE PIPELINE COORDINATOR'S OFFICE

ALASKA DEPARTMENT OF NATURAL RESOURCES

Executive Summary

The 2008 State Pipeline Coordinator's Office Annual Report describes the status of pipeline right-of-way leases issued by the state under Alaska Statute 38.35, the Alaska Right-of-Way Leasing Act, and one grant of right-of-way for a utility pipeline issued under Alaska Statute 38.05, the Alaska Lands Act. The report is produced by the State Pipeline Coordinator's Office, an agency within the Alaska Department of Natural Resources co-located in the Joint Pipeline Office.

The state fiscal year begins on July 1 and ends on June 30 of the following year. Fiscal year 2008 began July 1, 2007 and ended June 30, 2008. This report includes information about the prior year's construction, operations, and maintenance activities for jurisdictional pipelines. Summaries of the Alaska Department of Natural Resources lease administration and compliance oversight activities related to those pipelines and rights-of-way are included.

In many areas, the pipeline right-of-way leases overlap with State and Federal laws and regulations. Notable areas are public safety, worker safety, common carrier transportation, taxation, and environmental compliance. In areas where an agency's statutory or regulatory authority overlaps with a lease condition or stipulation, the State Pipeline Coordinator relies on agency enforcement determinations for lease compliance. In those instances, the State Pipeline Coordinator coordinates with the jurisdictional agency on oversight related to pipeline and right-of-way management.

The purpose of the State Pipeline Coordinator's Annual Report is to summarize annual lessee and SPCO activities associated with each right-of-way lease. The report generally provides some level of background information, a summary of the lessee's annual report, status of issues identified in previous years monitoring, a summary of the current year SPCO oversight program, and an overview of FY08 activities. The Fiscal Year 2006 and 2007 Annual Reports are available at the JPO website www.jpo.doi.gov.

This report is intended for use by the public, government agencies, pipeline lessees, and others interested in these pipelines.

This year, the annual report integrates information for all State Pipeline Coordinator's Office activities, including state oversight of the Trans-Alaska Pipeline System.

Acronyms and Abbreviations

All of the acronyms and abbreviations used in this report are defined in Appendix A.

Contact Information

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(907) 257-1300

Cover Photo

This photo of caribou and waterfowl near the Badami Pipelines was taken during the course of compliance monitoring fieldwork in August 2007.

Unless otherwise indicated, all photographs in this report were taken by the SPCO Lease Compliance Section, or were provided by the SPCO coordinating agencies. All maps are adapted from maps available publicly through DNR's Alaska Mapper.

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INTRODUCTION

I. Federal/State Joint Pipeline Office

The Joint Pipeline Office (JPO) was established in 1990 with the vision, "*To work proactively with Alaska's oil and gas industry to safely operate, protect the environment, and continue transporting oil and gas in compliance with legal requirements.*" The JPO Executive Council, consisting of executive representatives from each JPO parent agency, authorizes the Operating Agreement for the JPO on a periodic basis.

The state authorized its participation in the current structure of the JPO through the Alaska Department of Natural Resources (DNR) under the authority granted by Article III of the Alaska Constitution and by Alaska Statute (AS) 44.17.060. The final Cooperative Agreement between the Bureau of Land Management (BLM) and the DNR for formation of the joint office was finalized on March 9, 1990. In July 1990, state and federal agencies agreed to work together cooperatively as the Joint Pipeline Office.

The JPO is an umbrella organization of state and federal agencies responsible for regulation and oversight of the Trans-Alaska Pipelines System (TAPS), and other non-infield oil and gas pipelines in Alaska. The JPO was formed to provide better service to the public and industry by eliminating duplication of work; coordinating activities; improving communication between agencies, industry, and the public; sharing expenses; and streamlining the permitting process.

While all agencies retain their individual authorities, agencies collaborate and frequently work as a team on administrative, technical, and regulatory issues regarding jurisdictional oil and gas infrastructure. Agency personnel participate in self-directed work teams, such as the Oil Spill Team and the Corrosion Team. Agencies coordinate activities such as permitting and field oversight, as needed.

The JPO is comprised of staff with technical expertise in land management, engineering, geophysics, fish and wildlife biology, safety codes, electrical codes, fire codes and oil spill planning and response. Cumulatively, the JPO technical staff has decades of experience specific to pipeline oversight.

Beginning in fiscal year (FY) 2007 and continuing through FY08, state and federal agencies of the JPO have worked cooperatively to develop a new Operating Agreement. The Operating Agreement is intended to clarify roles and responsibilities in a complex interagency environment where multiple authorities overlap. The Executive and Operational Agreements and attachments are available for review on the JPO website: http://www.jpo.doi.gov

II. State Pipeline Coordinator's Office

Alaska's development of its natural resources is anchored by oil and gas exploration and production. Oil, gas and utility pipelines provide the transportation infrastructure necessary to deliver these products to market. The DNR, State Pipeline Coordinator's Office (SPCO) is the lead agency for administering the pipeline right-of-way (ROW) leasing process and coordinating pipeline regulatory oversight for jurisdictional pipelines. Lease and regulatory compliance for many pipelines in Alaska is accomplished in coordination with other agencies through the State-Federal Joint Pipeline Office.

The Right-of-Way Leasing Act (AS 38.35) sets forth the procedures governing an application for a pipeline ROW across State lands. Under this Act, the DNR Commissioner is granted all powers necessary to lease State land for pipeline ROW purposes.

The State of Alaska's policy, as set out in AS 38.35.010, is that development, use, and control of a pipeline transportation system make the maximum contribution to the development of the human resources of this state, increase the standard of living for all its residents, advance existing and potential sectors of its economy, strengthen free competition in its private enterprise system, and carefully protect its incomparable natural environment. The DNR Commissioner has been given all powers necessary and proper to implement this policy and to grant leases of State land for pipeline rights-of-way, to transport products under conditions prescribed by AS 38.35.015 and the associated administrative regulations.

The ROW Leasing Act requires consideration of the applicant's technical capability to protect state and private property interests. The State property interests at stake are the state transportation system and lands over which the pipeline will pass. The most significant manner in which the applicant will protect such state property interests is through the design, construction, operation, and maintenance of a safe pipeline system.

The ROW lease between the State and the Lessee covers a wide range of activities and governs the conduct between the parties. The lease covers the full life of the pipeline: construction, operations, maintenance, and termination. The underlying theme throughout the lease is protection of human health, safety and the environment, established by safe pipeline operations and mitigation of environmental impacts.

The lease is generally structured to address these themes. The lease sections cover several general terms, most of them legal or administrative. The terms are both substantive and procedural, and govern the relationship and interaction between the State and the lessee.

The lease incorporates a comprehensive set of stipulations that impose objective environmental and technical conditions on the lessee, to assure that the pipeline activities are conducted in a safe manner that complies with the lease, as well as applicable laws and regulations. The stipulations also require the lessee to establish processes, programs, and systems for pipeline operations. The implementation of these programs and systems helps to insure the integrity of the pipeline and pipeline operations.

Many sections and stipulations of the lease impose requirements that are the same as, or overlapped by legal requirements of state and/or federal laws and regulations, and thus administered and enforced by separate regulatory agencies. In cases where another regulatory agency's program monitors and enforces compliance with requirements that include the requirements of a specific lease section or stipulation, the SPCO relies primarily on that agency's focused, regulatory enforcement to assure compliance with the included Lease requirements. This reliance further limits duplication of efforts while utilizing the subject matter expertise of each regulatory agency to best effect.

Through reimbursable service agreements (RSA), the SPCO co-locates staff from the DNR, Division of Coastal and Ocean Management (DCOM); Alaska Department of Fish and Game (ADF&G)[1] Alaska Department of Environmental Conservation (DEC), Alaska Department of Labor and Workforce Development (DOLWD); and the Alaska Department of Public Safety, State Fire Marshal's Office (SFMO). Appendix B, SPCO Staff Resources provides a visual depiction of the SPCO staff resources. In addition to performing regulatory functions, each agency provides the State Pipeline Coordinator and the BLM Authorized Officer technical expertise in the adjudication of state lease and federal grant requirements.

The DNR component of the SPCO operating structure is functionally organized in four sections, Engineering, Lease Compliance, Right-of-Way and Permits, and Administration. The roles and responsibilities of each section and each of the participating state agencies are briefly described below:

1. Engineering Section

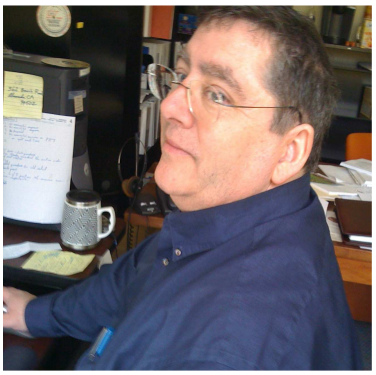

Figure 1 *Louis Kozisek (SPCO)*

Figure 2 *Keven Kleweno (SPCO)*

Figure 3 *John Klein (SPCO)*

The Engineering Section has three main goals: to provide technical oversight of facilities, equipment, infrastructure, and activities on pipeline leases; to provide engineering assistance to the SPCO and liaison agencies; and to provide engineering recommendations to the DNR Commissioner and State Pipeline Coordinator (SPC).

The Engineering Section hosted an engineering extern and an intern during FY08. The Intern Program was part of the State's program to recruit qualified applicants. The Extern Program hosted a regional high school teacher, with the objective of providing outreach to the community regarding education in engineering, the sciences, natural resource management, and environmental protection.

[1] The ADF&G Habitat Division was housed in DNR during FY08 and called the Office of Habitat Management and Permitting.

2. Lease Compliance Section

Figure 4 *Ann Wright & Bruce Novinska (SPCO)*

Figure 5 *Tammas Brown (SPCO)*

Figure 6 *Darcy Harris (SPCO) & Britt Arnesen (SPCO)*

The Lease Compliance Section (Compliance Section) was created in FY08 to perform oversight for all SPCO jurisdictional pipeline ROW leases authorized under AS 38.35. The Compliance Section monitors lessee compliance with lease criteria. In support of this goal, the Compliance Section works closely with the Engineering and the ROW and Permits Sections within the SPCO, as well as other state agencies, federal agencies, lessees, and operators. The Compliance Section verifies lease compliance to ensure that the ROW is managed in a manner that ensures safety and environmental awareness.

During FY08, the Compliance Section focused on training, planning and establishing a physical presence on the ROWs and associated pipeline facilities, including TAPS.

It is important to understand the authority that various agencies have over SPCO jurisdictional pipelines and their ROW leases. When other agencies have primary regulatory authority, the Compliance Section coordinates with those agencies to substantiate compliance with applicable regulations, as well as Lease requirements. For lease sections and stipulations where the SPCO has sole authority, the Compliance Section verifies adherence to the lease through surveillance report and assessment (detailed evaluation process) activities.

The Compliance Section maintains a presence in the field throughout the year and retains an open dialog with lessees, periodically checking documentation, procedures, and programs. The procedures and focus for the Compliance Section are dynamic, adjusting to individual pipeline activities and adopting a model of ongoing improvement.

3. Right-of-Way and Permits Section

Figure 7 *From left to right: Barb Turner (APSC), Pat Jarrett (SPCO), Katie Farley (SPCO), and Glenda Smith (SPCO)*

The SPCO Right-of-Way and Permits Section processes ROW lease applications and amendments, implements public processes outlined in AS 38.35.070 *Notice of Application* and AS 38.35.080 *Analysis and Public Hearing*, issues project-specific authorizations, administers rental and other payments, reviews letters of non-objection, and performs other functions as necessary. The ROW and Permits Section also issues various DNR permits necessary for the operations and maintenance of TAPS, such as temporary water use permits (TWUPs), material sale contracts, and land use permits (LUPs) (Appendix D, Authorizations, Rights-of-Way, and Permits Issued for TAPS, by Quarter). DNR natural resource specialists annually conduct inspections and complete surveillance reports for operating material sale sites on state land along TAPS (Appendix I, SPCO Surveillance Reports Issued, FY08).

All leases and lease amendments can be viewed in portable digital format at http://www.jpo.doi.gov/SPCO/SPCO.htm

4. Administration Section

The SPCO Administrative Section provides clerical support to SPCO staff in addition to managing the administrative functions related to personnel, payroll, recruitment, budgeting, accounting, facility management, travel, property control, and the procurement of goods and services. The SPCO budget is revenue based and primarily funded via reimbursements from industry. State agency representatives are supported through Reimbursable Service Agreements (RSA) administered by the SPCO. Participation by other state agencies in pipeline oversight allows the SPCO to integrate the expertise and authority of various agencies into one coordinated office. Combined program costs for SPCO during State Fiscal Year 2008 totaled $3,439,000 (Figure 8).

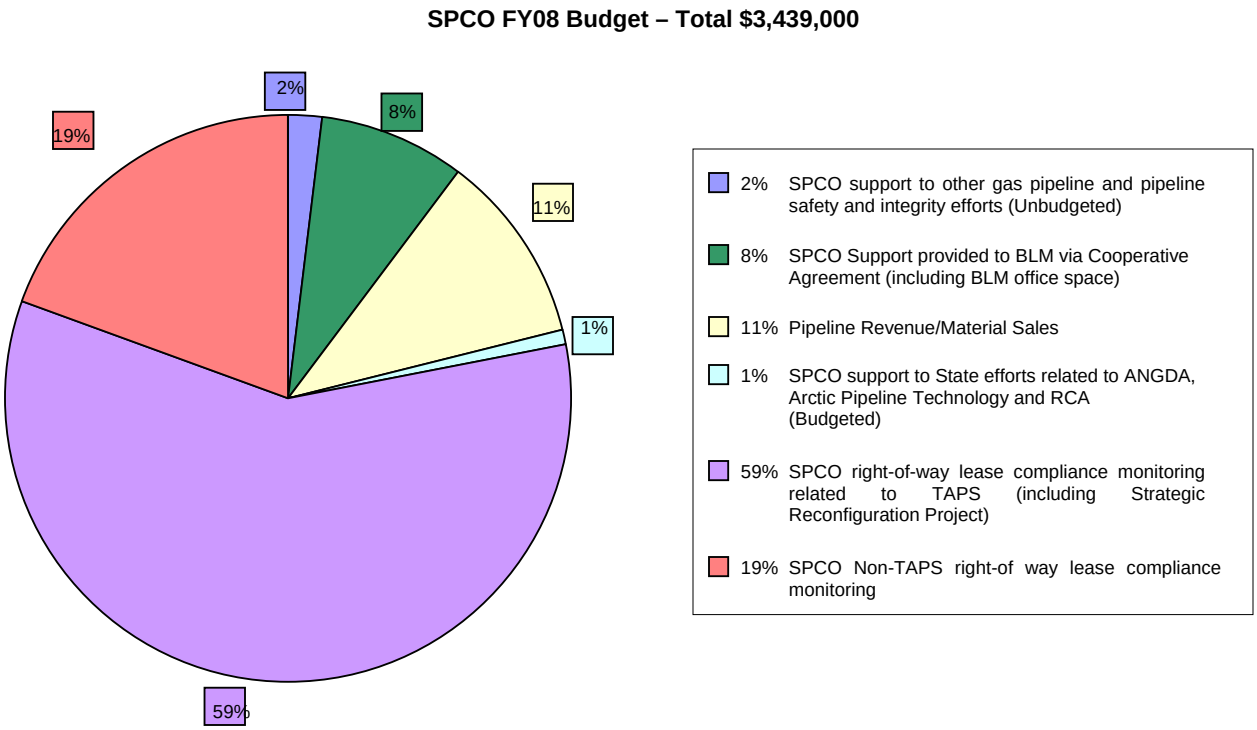

Figure 8 *SPCO's FY08 Program Costs*

5. State Agency Representatives

Other state agencies participating within the SPCO are assigned primarily to the oversight of TAPS. These agencies include the DEC, DOLWD, DNR Office of Habitat Management and Permitting (OHMP – ADF&G, Habitat Division as of July 1, 2008), DCOM {Manages the Alaska Coastal Management Program [ACMP]}), and Department of Public Safety, SFMO and are briefly described below:

5.1 Alaska Department of Environmental Conservation

Figure 9 *Becky Spiegel (DEC/SPCO)*

Figure 10 *Ron Doyel (DEC/SPCO)*

The DEC is charged with the protection of human health and the environment. This is accomplished by implementing state statutes and regulations governing jurisdictional pipelines and infrastructure throughout Alaska. Three DEC positions are located within the SPCO.

The DEC Liaison provides coordination and policy information regarding contaminated sites, water quality, air quality permits, solid waste permits, environmental health permits, and wastewater operations and permits. Two Environmental Program Specialists are responsible for ensuring TAPS and the Valdez Marine Terminal (VMT) compliance with state oil and hazardous substance pollution control statutes and regulations by reviewing oil discharge prevention and contingency plans (C-Plans), conducting facility and equipment inspections, conducting compliance audits, and conducting and evaluating response exercises.

5.2 Alaska Department of Labor and Workforce Development

DOLWD has two positions in SPCO a Safety Liaison and an Electrical Inspector. At this time, these positions only address issues regarding TAPS.

Figure 11 *Dan O'Barr (DOLWD/SPCO), inspecting a junction box for the new CP system recently installed.*

Figure 12 *Ray Elleven (DOLWD/SPCO), refueling an APSC vehicle at PS01.*

The DOLWD Safety Liaison serves as the SPCO Program Manager on worker safety and DOLWD technical and policy objectives. This position conducts annual safety inspections of TAPS facilities, conducts worksite safety inspections, reviews project safety plans, monitors Alyeska Pipeline Service Company (APSC) accident statistics, and consults with JPO staff on employee safety issues. This position also serves as the SPCO Safety Manager by conducting safety training for JPO staff and maintains the JPO safety manual.

The DOLWD Electrical Inspector serves as the SPCO Program Manager on compliance with electric issues, electrical licensing requirements, and DOLWD technical and policy objectives related to electrical installation. This position conducts electrical inspections of new construction and modification of existing electrical systems and consults with JPO staff and APSC on electrical issues.

5.3 Alaska Department of Natural Resources

In addition to the DNR staff, working directly for the SPCO, representatives from OHMP (ADF&G Habitat Division in FY09) and the Division of Costal and Ocean Management also participate in the JPO.

Division of Costal & Ocean Management

Mission: The Alaska Coastal Management Program provides stewardship for Alaska's rich and diverse coastal resources to ensure a healthy and vibrant Alaskan coast that efficiently sustains long-term economic and environmental productivity.

The DCOM representative to the SPCO manages the Alaska Costal Management Program. The position coordinates the State's review of onshore oil and gas exploration and development projects and jurisdictional pipelines for consistency with the ACMP requirements. The DCOM representative works closely with state/federal/coastal district agencies to coordinate consistency reviews and properly implement the ACMP. Assistance in coordinating their internal procedures with the consistency review process is a DCOM service. The DCOM representative provides aide to representatives of local, state, and federal governments, industry (applicants), and the public by assisting them with the permitting process. On behalf of the SPCO, the DCOM representative typically coordinates reviews of new construction and routine maintenance and repair activities for TAPS and other jurisdictional pipelines.

Figure 13. *Dennis Gnath (OHMP/SPCO), boarding an APSC helicopter for a surveillance over- flight of the PS05 area of TAPS.*

Office of Habitat Management and Permitting

The OHMP liaison acts as staff assistant to the Executive Director of OHMP (Habitat Division of ADF&G as of 7/1/08) for statewide TAPS and other pipeline related issues. The liaison also administers the Fish Habitat Permit Program under AS 41.14.840 and AS 41.14.870, which includes issuing permits, conducting compliance inspections (using SPCO surveillance procedures), and takes enforcement actions. When necessary the liaison revises and reissues programmatic permits for low water crossing maintenance, vehicle stream crossings, and oil spill training using approved devices (i.e. temporary dams, inclined culverts, or under/overflow devices).

The liaison communicates and cooperates with other DNR divisions (including the ACMP), other state and federal agencies, and the lessee during the review and approval of: 1) pipeline pre-construction, 2) construction, 3) operation, 4) maintenance and 5) termination activities, which are related to design criteria, project plans, schedules, procedures, manuals, technical specifications, drawings, facility site selection, alignments, and restoration or mitigation proposals, in order to avoid and mitigate foreseeable impacts to fish and wildlife resources, habitats, and public use of fish and wildlife. As part of this cooperation, the liaison prepares surveillances and assessments that document the lessee's compliance with environmental and other stipulations of the lease, and or, grant. The liaison also reviews and comments on the TAPS and VMT oil spill contingency plans under AS 46.04.030(j) and AS 16.05.020; and participates in oil spill response for those spills potentially impacting fish and wildlife populations or habitat.

The liaison coordinates with JPO managers to accomplish OHMP objectives through execution of elements of the RSA and plans and prepares annual budgets and work programs for the OHMP component of the SPCO in coordination with the OHMP Executive Director's Office, the SPC, and the Federal Authorized Officer (AO) for the BLM, Office of Pipeline Monitoring.

Note: *On July 1, 2008, the duties and responsibilities for oversight of fish resources and habitats transferred back to the ADF&G, Division of Habitat, from the DNR, Office of Habitat Management and Permitting. At the time of this publication, the SPCO/OHMP Liaison position transferred to the ADF&G, and remained the SPCO Liaison position for these responsibilities*

5.4 Department of Public Safety, State Fire Marshal's Office

Figure 14 *John Cawthon (SFMO/SPCO)*

These photographs were taken during the transition period between Mr. Nicolello being appointed as the Deputy State Fire Marshall and Mr. Cawthon beginning work at the SPCO/JPO as the liaison to the SFMO.

Figure 15 *Kelly Nicolello (SFMO/SPCO)*

The Fire Specialist performs four basic functions under the authority of the State Fire Marshal and the sections and stipulations of the Grant and Lease for SPCO jurisdictional pipelines. The four functions are Fire Inspections, Construction/Building Inspections, Building/Fire System Plan Reviews, and other miscellaneous activities. Work in FY08 pursuant to a RSA between DNR and the Department of Public Safety, will mean oversight by the State Fire Marshall's Office of additional pipelines, as well as TAPS during FY09.

III. SPCO Jurisdictional Pipelines

The SPCO monitors lease compliance for 17 existing pipelines within the State of Alaska. Table I provides summary information for each of the 17 pipelines. More detailed information with respect to physical characteristics of each pipeline; lease required contact information; acreage, survey, and lease information; and lease appraisal is available in Appendices, E, F, G, and H, respectively.

Table I. Pipelines Subject to SPCO Monitoring and Oversight.

Issued ROW Leases	ADL #	Location	Length (Miles)*	Lessee(s)	Operating Status
Alpine Oil Pipeline	415701	North Slope	34	ConocoPhillips Company	Operating
Alpine Diesel Pipeline	415932	North Slope	34	ConocoPhillips Company	Operating
Alpine Utility Pipeline (Grant)	415857	North Slope	34	ConocoPhillips Company	Operating
Badami Sales Oil Pipeline	415472	North Slope	25	BP Transportation (Alaska)	Operations suspended
Badami Utility Pipeline	415965	North Slope	31	BP Transportation (Alaska)	Operations suspended
Endicott (Oil) Pipeline	410562	North Slope	26	Endicott Pipeline Company	Operating
Kenai Kachemak (Gas) Pipeline	228162	Cook Inlet	50	Kenai Kachemak Pipeline, LLC	Operating
Kuparuk (Oil) Pipeline	402294	North Slope	28	Kuparuk Transportation Company	Operating
Kuparuk (Oil) Pipeline Extension	409027	North Slope	9	Kuparuk Transportation Company	Operating
Milne Point (Oil) Pipeline	410221	North Slope	10	Milne Point Pipeline, LLC	Operating
Milne Point Products Pipeline	416172	North Slope	10	Milne Point Pipeline, LLC	Operations suspended
Nikiski Alaska Pipeline	69354	Cook Inlet	70	Tesoro Alaska Pipeline Company	Operating
Northstar Oil Pipeline	415700	North Slope	17	BP Transportation (Alaska)	Operating
Northstar Gas Pipeline	415975	North Slope	16	BP Transportation (Alaska)	Operating
Nuiqsut Natural Gas Pipeline	416202	North Slope	14	North Slope Borough	Operating (June 2008)
Oliktok (Natural Gas) Pipeline	411731	North Slope	28	Oliktok Pipeline Company	Operating
Trans-Alaska Pipeline System (TAPS)	63574	Prudhoe Bay to Valdez	800	**	Operating

** The length values given in the table are the approximate length of the pipeline or proposed pipeline. The length of pipeline on state-leased ROW lands may be shorter. For more information about state lands in a ROW, go to the section of this report for that pipeline.*

*** BP Pipelines (Alaska) Inc. (46.93%), ConocoPhillips Alaska Transportation Inc. (28.29%), Exxon/Mobil Pipeline Company (20.34%), Unocal Pipeline Company (1.36%), Koch Alaska Pipeline Co. LLC (3.08%)*

The SPCO is coordinating the State's efforts on several proposed pipeline projects in various stages of progress. At the time of this writing none of the pipelines referenced in Table II have been constructed.

Table II. Proposed pipelines in the ROW pre-application or application phase of development

ROW Applications	ADL #	Location	Length (Miles)*	Applicant	Application Status
Alaska Natural Gas Transport System (ANGST)	403427	n/a	n/a	Alaskan Northwest Natural Gas Transportation Company and TransCanada Alaska Company, LLC	Withdrawn (02/2008)
ANGTS (Federal Grant)	414956	Varies	294.65	Applicant is Alaskan Northwest Natural Gas Transportation Company	Federal Grant (Waiver of Administration).
Dayville Road Pipelines A, B, and C	229284 229285 229286	Valdez	1	Petro Star Incorporated	Application
Denali - The Alaska Gas Pipeline	n/a	n/a	n/a	Denali - The Alaska Gas Pipeline LLC	Pre-application
ENSTAR Pipeline	n/a	North Slope to Southcentral	n/a	ENSTAR	Pre-application
Eastern North Slope Oil Pipeline	417577	North Slope	45	DNR, Office of Project Management and Permitting	Application
Eastern North Slope Gas Pipeline	417578	North Slope	45	DNR, Office of Project Management and Permitting	Application
Glennallen to Palmer (Spur Gas) Pipeline	229297	Southcentral	148	Alaska Natural Gas Development Authority (ANGDA)	Conditional Lease
Amend the Glennallen to Palmer (Spur Gas) Pipeline to include Glennallen to Fairbanks and Palmer to Beluga	229297	Southcentral		Alaska Natural Gas Development Authority (ANGDA)	Pre-application
Trans-Alaska Gas System (TAGS)	413342	Prudhoe Bay to Valdez	797	Yukon Pacific Corporation (YPC)	Conditional Lease
TAGS (Federal Grant administered by DNR)	415224	Varies	797	Yukon Pacific Corporation (YPC)	Federal Grant (Waiver of Administration)

For the purpose of this report, the SPCO jurisdictional ROW lease information is presented geographically, segmented into Statewide, Southcentral and North Slope regions.

1.0 STATEWIDE PIPELINE

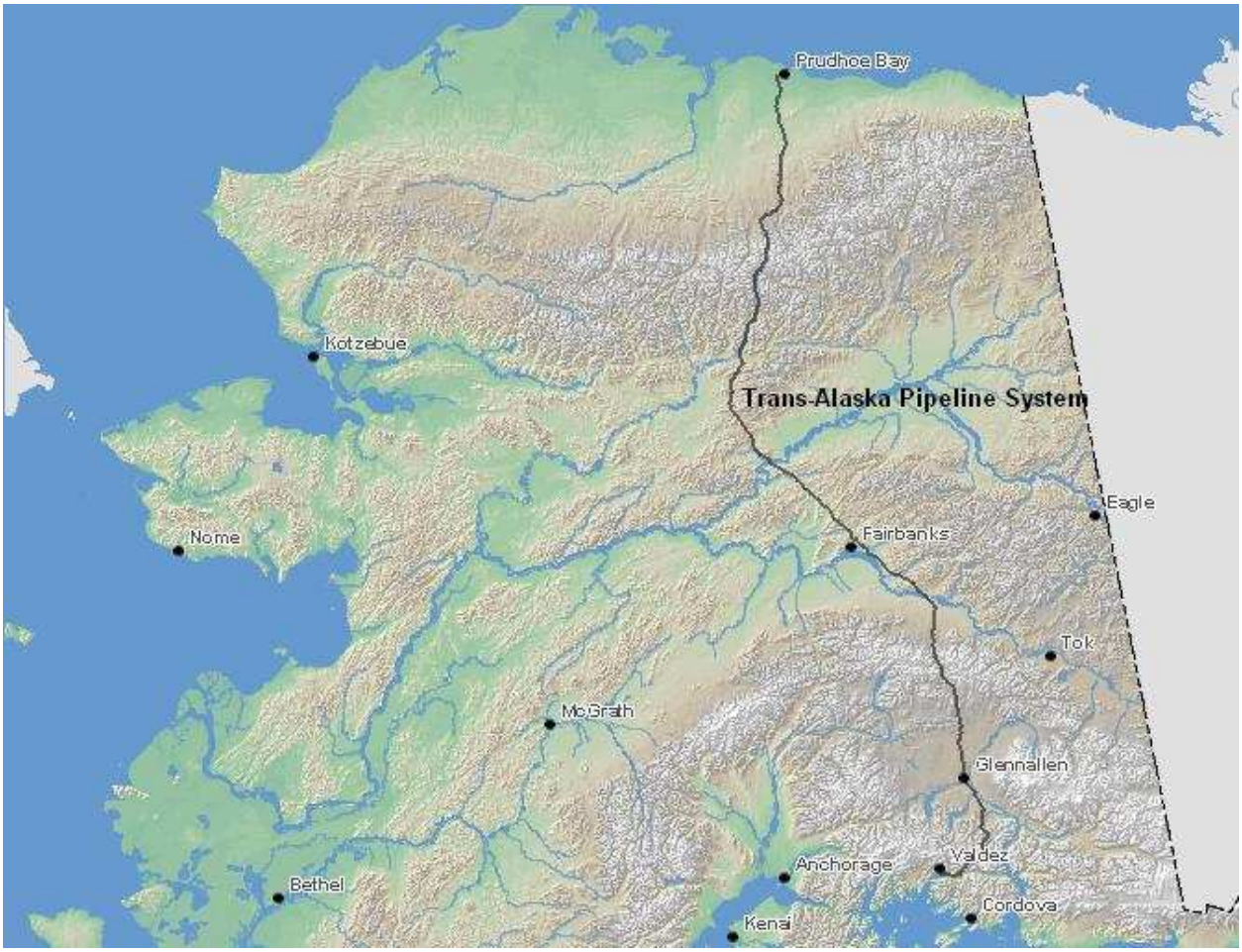

Figure 16 *Map depicting TAPS route*

1.1 Trans-Alaska Pipeline System

Figure 17 *Looking south towards PS03 from the TAPS ROW drive lane.*

1.1.1 Right-of-Way Lease and Pipeline System Overview

Shortly after oil was discovered at Prudhoe Bay in 1968, the owner companies (Lessees) established the Alyeska Pipeline Service Company in 1970 to build and operate the TAPS (Appendix F, Lease Required Contact Information). The State of Alaska ROW Lease Agreement for TAPS was executed May 3, 1974, and renewed for another 30 years on November 26, 2002 (Appendix G, Acreage, Survey, and Lease Information). The Lease applies to the approximately 344 miles of State owned TAPS ROW. Approximately 376 miles of Federal lands and 80 miles of private lands (including Native Corporation and Native Allotment lands) account for the remainder of the 800-mile ROW. APSC has fee-simple ownership of 8.2 miles of ROW primarily consisting of lands associated with pump stations 1, 8 and 9 and the VMT.

TAPS was originally comprised of an 800-mile, 48-inch-diameter pipeline, the VMT, 11 pump stations (original plans specified 12 pump stations, only 11 were actually constructed), and various support facilities (Appendix E, Physical Characteristics of SPCO Jurisdictional Pipelines). To support construction of the pipeline, a permanent haul road was constructed from the Yukon River to Prudhoe Bay in 1974. Ownership and control of this road was transferred to the State of Alaska in 1978 and named the James B. Dalton Highway in 1981.

TAPS has 177 pipeline valves strategically placed along the pipeline to isolate sections of the pipeline and to minimize the size of potential spills in the event of a pipe rupture. The valves are placed to limit the amount of a spill at any point to a maximum of 50,000 barrels from static

drain down. Remotely operated valves are placed at major river crossings and other locations where quick closure would be necessary in an emergency.

Today, four pump stations are used to pump oil, while others only have instrumentation and miscellaneous facilities. Some are fully manned, some are de-manned; many were once active installations, but are now shut down because of declining throughput.

The active stations currently pumping oil through TAPS are Pump Stations (PS) 01, 03, 04 and 09. PS07 was placed in warm standby mode in 2007. PS05 provides pressure relief for the pipeline as the oil crests over Atigun Pass in its journey south. Pump Stations 01, 03 and 04 work together to push oil from Milepost (MP) 0, the start of TAPS near the Arctic Ocean, which is at an altitude of 22 feet above sea level, to the divide at Atigun Pass, altitude 4,739 feet. TAPS crosses three major mountain ranges, but it attains its highest elevation at Atigun Pass, crossing the Brooks Range.

Although there are exceptions, each of the pump stations typically has facilities and equipment housed within structures for protection against the environment. The facilities at PS01, 03, and 04 include electrical power generation, pumps, isolation valves, fuel-handling facilities, and station and support facilities. The facilities at PS09 include all of the previously listed equipment except primary electrical generators. It obtains its electricity from a commercial grid. All of the pump station locations are fenced and security is provided at each station. A number of the originally constructed stations, such as PS 02, 06, 08, 10, and 12, have had their major equipment shut down and removed.

The VMT is at the southern end of TAPS, located in the ice-free Port of Valdez at the northeastern end of Prince William Sound. The VMT site covers about 1,000 acres on the southern shore of Port Valdez. At the VMT, oil is loaded onto tankers for shipment to markets. The VMT has a vapor recovery system for the crude-oil storage and relief tanks, a power house, support facilities, crude storage, tanker berths, crude-oil handling systems, and metering facilities.

The TAPS facilities are maintained and upgraded on an ongoing basis. This helps to ensure safe and efficient operation and minimizes the likelihood of accidental releases. APSC conducts many types of inspections. Some inspections are visual, from either the ground or the air. In addition, maintenance pigs are launched every week or two, and smart pigs, are typically launched every three years. Geopigs, which determine the spatial location of the pipeline, are typically launched every five years. Pigs are launched into the pipeline at PS01 and 04 and are pushed south by the flow of oil. Maintenance pigs are mechanical devices that can be used to clean wax and asphaltenes from interior pipe walls. Smart pigs and geopigs are in-line inspection (ILI) devices. ILI can be used to survey interior pipe diameter, to detect corrosion on the inside or outside walls of the pipe, and to measure pipe movement. When necessary, repairs are made to the pipeline to correct problems. The largest repair to date was the replacement of 8.5 miles of corroded pipeline at Atigun Pass in 1991.

TAPS throughput peaked in 1988, triggering an evaluation of future operating conditions by the TAPS operators. Conceptual modifications were reported in the Final Environmental Impact Statement for the TAPS Right-of-Way Renewal in 2002 and a conceptual engineering review was developed in 2003. The TAPS owners (Lessees) approved changes to the pump station

configurations, referred to as Strategic Reconfiguration (SR). The SR project was started in 2002 and is projected to be complete in 2011. Its benefits include increased flexibility in adapting to changes in crude oil transportation through the TAPS, equipment better sized to the reduced TAPS throughput, technological improvements, greater automation, and optimization of support infrastructure and resource utilization.

1.1.2 Lessee's Activities

APSC does not provide the SPCO with a single annual report, as do other lessees. APSC does provide many individual reports to the JPO about different aspects of TAPS on an annual basis. APSC and the state and federal agencies have significantly more interaction with each other and instead, information is provided through a variety of mechanisms.

Agency representatives from the JPO meet monthly with APSC (Lands and Permits Meeting) to provide for coordinated review of APSC's projects list. For each project, JPO staff advise APSC of project-specific requirements, such as regulatory agency permits; potential application of the ACMP; AS 38.05 land use permits; Notice to Proceed requirements; Off ROW authorizations; potential permitting timelines; and other factors that need to be addressed for the project to move forward. This information is incorporated into APSC's project applications and schedules.

For larger and more complex projects, JPO staff (permit and land managers, subject matter experts, agency liaisons and engineers) and APSC staff (engineers, subject matter experts, environmental specialists, and permit specialists) conduct several project-specific meetings. APSC and JPO have agreed to meet early in the project-planning stage of complex projects to identify specific concerns, such as damage to fish and wildlife habitat, so that engineers can design the project to avoid or mitigate these impacts. Several meetings may be held to update the participants and resolve any new issues as they arise. In addition to these meetings, JPO representatives communicate on a regular basis with their respective APSC counterparts to work through issues within their area of expertise. After the final engineering design is complete and all of the necessary permits and authorizations have been acquired, APSC releases the Issued for Construction (IFC) package that authorizes the actual work. The IFC package includes all state and federal permits, authorizations and Lease stipulation requirements, as well as APSC's internal safety, quality, environmental, and engineering requirements.

APSC and JPO member agencies also meet monthly to discuss SR-related issues. These meetings cover a variety of topics including safety, engineering, schedule, operational issues, staffing, construction schedules, and project modifications.

In FY08, APSC and JPO member agencies met once a week to discuss "Hot Topics". The meeting purpose was to provide a two-way mechanism to share information and to address lease, grant, and other regulatory issues on a regular basis. The meeting generated an "Action Item List" used to track deadlines or the progress of a specific issue or project. These meetings were eventually superseded by other venues. Currently the JPO and APSC meet every other week to discuss pipeline operational issues.

Throughput

Total TAPS throughput for the calendar year 2007 was 270,161,990 bbls of processed crude oil. TAPS specifications allow minor amounts of basic sediment and water, up to 0.35%. The

average daily throughput for the first ten months of calendar year 2008 was 695,270 bbls. TAPS continues to be in decline in throughput caused by decreasing oil production from the North Slope oil fields.

Reliability

APSC reported their Reliability Factor reported in calendar year 2007 as 99.83%. They reported their year-to-date Reliability Factor in calendar year 2008 as 99.54%.

1.1.3 JPO/SPCO Activities

SPCO Field Activities

SPCO staff and agency liaisons spent a total of 367 days conducting oversight of TAPS (Appendix C, SPCO Days in the Field, FY08). The amount of time spent in the field by organization was: DNR/SPCO, 159 days; DOLWD, 107 days; Department of Public Safety/SFMO, 60 days; DEC, 23 days and; DNR/OHMP (now ADF&G, Habitat Division), 18 days.

TAPS Strategic Reconfiguration

SR is the biggest overhaul of the TAPS since construction. It is a multi-year project, officially started in 2002 and projected to be complete in 2011. It involves numerous upgrades, but the centerpiece of the project is the conversion of four pump stations to lower capacity pumps and electric drive. Three pump stations will have stand-alone electric power generation added.

The four SR pump stations are (in order of their conversion dates): PS09, PS03, PS04, and PS01. In addition, PS05 will remain to provide pressure relief. The control system, valves, and support systems are being modified as part of SR. PS12 was decommissioned and its facilities removed, the PS12 breakout tank remains in a standby mode for return to service for purposes of oil spill response, temporary storage, and piping for cold restart. PS07 was placed in standby status, with eventual plans to dismantle and remove it.

PS09 SR equipment came on-line in February 2007. PS09 is located on private land and powered from the Golden Valley Electric commercial power grid. The startup of PS09 identified several problems that required engineering solutions to correct. During its first year of operation, it experienced many short shutdowns. Few of these were of sufficient duration to affect overall TAPS throughput. The JPO noted a significant improvement in reliability in the second year of operation. When APSC modified their SR project schedule in 2006, one reason for bringing pump stations on-line one at a time instead of concurrently was to incorporate lessons learned into the next pump station scheduled for startup.

Consistent with this concept, the SPCO amended the PS03 Notice-to-Proceed (NTP) to address resolution of issues identified at PS09, including welding documentation, air intake icing, vibration, backup power generation, and operational acceptance/legacy equipment isolation. PS03, which is located on state land, was the second SR site to come on-line, and is the first location started up with primary power generation.

The SR project team uncovered evidence of several problems in welding inspection and quality control in the original work performed in 2006, prior to the project shutdown and subsequent restart. They elected to re-inspect all welds. Some of these problems were in the oil transportation piping and some were in the diesel fuel line. It was agreed that the primary jurisdictional agency for the oil transportation system was US Department of Transportation (USDOT), Pipeline and Hazardous Materials Safety Administration (PHMSA). The SPCO monitored the remediation efforts. The diesel supply system was not jurisdictional to PHMSA; consequently, the SPCO had greater participation in the oversight of the repair efforts on this system.

Figure 18 *Aerial view of the new SR pump modules at PS03, provided by APSC*

PS03 was started up on a preliminary trial basis on December 11, 2007. By the end of that month, it was placed in full 24-hour duty. In early January 2008, the SR equipment was taken off-line again and the legacy equipment operated for approximately one month. The cause of this was the cold weather. The manufacturer of the turbines advised APSC not to operate the turbines in ambient temperatures below -40°F, because of concerns about the low inlet temperatures and its possible effects on the performance of the inlet vanes and the emission equipment. This recommendation was not based upon any evidence that continued operation would cause problems. It was based upon indeterminacy because the manufacturer lacked operating data below -40°F.

Engineers from the SPCO were onsite for startup of the new equipment. They also observed the pre-startup safety check conducted by BP, a Process Health, Safety, Security, and Environmental Review. This was an independent evaluation of only the safety items involved in startup by one of TAPS' major owners. It was conducted in addition to all of the APSC internal procedures that attempt to ensure safety, environmental protection and a trouble-free startup.

The procurement specifications for the turbine system required the equipment to operate down to -70°F. A review of temperature records over the past 12 years at the site revealed no instances where the ambient temperature dipped below -53°F. Each one of these turbines has an inlet system that tempers inlet air prior to combustion. The valve in the airflow inlet preheat system appeared to be the source of most of the cold-weather performance issues. This valve has been modified and other upgrades, such as anti-icing sensors, added to enhance reliability.

In early February 2008, APSC restarted the TAPS SR equipment at PS03. It has been in the primary mode ever since, with one minor exception for firmware upgrades to the Variable Frequency Drives. Prior to restart, APSC made inlet vane and airflow modifications that they hoped would attenuate the stratification of the turbine inlet air. In February, they concluded that the primary problem was a bypass valve not opening (or modulating) fully under certain conditions. The valve controls the flow of pre-heat air from a heat exchanger that uses thermal energy from the turbine exhaust into the inlet to control inlet air temperatures reaching the combustor section. APSC completed these modifications by the end of February 2008. During March, the North Slope and northern Brooks Range experienced a three-week cold spell. During this period, temperatures dropped to a low of -52°F (the coldest temperatures that the site has experienced for which we have accurate site-specific records). The turbines performed well during this period.

APSC continues to experience difficulties synchronizing the mainline turbine generators at PS03 and their backup diesel generators at PS09. Work is currently underway at PS09 to install a permanent load bank and make corrections to the automation software at both pump stations to get the generators to run in parallel as designed. Glycol leaks and fan belt failures under extreme cold conditions continue to cause problems with all the new diesel generators. Solutions are currently being evaluated and implemented.

DOLWD conducted several PS03 work site inspections in FY08 with only minor safety violations, which were corrected. Energy Isolation procedures were reviewed and no trends were noted. The diesel filling procedure was evaluated and successfully implemented. One PS04 SR work site inspection in FY08 identified no safety violations.

At PS04, DEC reviewed and approved the installation of the domestic wastewater plant and outfall; a project undertaken as part of APSC's SR project. The basin construction requirements were coordinated with APSC, BLM, and DNR. The outfall basin was designed to alleviate concerns of thermal erosion at the site while meeting DEC wastewater permits and water quality criteria.

To provide support for the SR construction efforts, APSC proposed building several temporary man camps. These camps were reviewed by JPO agencies for compliance with state and federal requirements. Ultimately, one temporary camp was authorized by BLM and installed at Atigun (Dalton Highway milepost 250) to house workers.

TAPS Strategic Reconfiguration – Pump Station Reliability and Contingency Planning

Since March 1, 2008, after the initial debugging and startup period, the SR equipment at PS03 has experienced 21 shutdowns, totaling 14 hours, 49 minutes (Table III, PS03 Shutdowns Related to Operation of New SR Equipment). The longest shutdown lasted three hours and one

minute the shortest was nine minutes. No throughput was lost because Tanks 110 and 111 at PS01 can accommodate the producers' flow for such short-duration shutdowns.

The following table has been generated from APSC's shutdown reports. The reporting period exceeds the date range of FY08. The exception was made to provide information that is more complete to the reader. The start date was at the beginning of operations, after the month long shutdown, and after many of the modifications for cold-temperature operation were completed. The end date is the date of this writing.

Table III. PS03 Shutdowns Related to Operation of New SR Equipment.

Incidents of PS03 Shutdowns Causing the TAPS North End to be Idled (After Turbine Generator Valve & Vane Modifications, Starting March 1, 2008)					
	Date	**Stop (Hr:Min)**	**Re-Start (Hr:Min)**	**Duration (Hr:Min)**	**Narrative**
1	3/1/08	02:40	03:30	0:50	Loss of Station Control Panel permissives during pig passage
2	3/26/08	18:02	18:30	0:28	Frequency control on TG 3601
3	3/29/08	13:48	13:54	0:06	Under frequency load shed
4	3/29/08	18:39	19:58	1:19	Under frequency load shed
5	5/6/08	14:02	14:53	0:51	Main Pipeline Unit (MLU) reverse-rotation indication. MLU went to idle.
6	5/22/08	18:47	19:44	0:57	TG 3601 tripped off-line. High lube oil temp.
7	5/23/08	09:53	10:19	0:26	TG tripped off-line. High lube oil temp.
8	5/30/08	07:57	08:31	0:34	TG 3601 Control Net I/O card failure
9	6/6/08	15:43	16:00	0:17	Loose connection to the Emergency Shut Down button
10	6/9/08	12:25	13:00	0:35	Shutdown while accessing Turbine Control Panel
11	6/22/08	13:25	14:59	1:34	TG 3601 tripped
12	6/24/08	15:00	15:08	0:08	TG 3601 and 3602 tripped under frequency load shed
13	6/27/08	09:03	09:25	0:22	Pilot Gas Valve Position Indicator
14	7/9/08	04:31	04:40	0:09	MLU-2 S/D on Low Lube Oil Accumulator Pressure
15	7/9/08	12:19	13:06	0:47	TG 2 S/D on High Fluid Level in Wash Tank
16	9/11/08	14:29	15:07	0:38	MLU-2 Shutdown on False High Sump Alarm.
17	9/11/08	14:32	14:32	0:00	ATT Radio Comm. Problem
18	9/17/08	14:24	14:32	0:08	MLU #1 Shut Down on Low Oil Pressure
19	9/23/08	05:02	08:03	3:01	MLU-1 Shut Down Because of Air Compressor Problem
20	10/20/08	07:42	08:53	1:11	Sequence of Failures Starting w/ MLU-1 Hi Winding Temp
21	11/2/08	12:32	13:00	0:28	PS03 TG-1 primary generator tripped off-line. All MLUs S/D

PS09 SR equipment began operation in February 2007. It obtains its power from the Golden Valley Electric Association commercial grid and consequently has less equipment and is less complex than PS03. Specifically, PS09 has three new and smaller pumps, three electric motors to provide motive power to the pumps and Variable Frequency Drives to control pump output. In addition to the equipment mix found at PS09, PS03 has two turbine generators and all of the supporting equipment for fuel supply and for onsite primary power generation. PS09 had numerous minor shutdowns during its first year of operation. The majority of these short-duration outages were caused by disruption of the commercial power supply. Many others were caused by alarm set points and alarm hierarchies that were not optimized for the equipment and the situations. APSC has had initiatives to manage their alarms and hierarchies. Golden Valley Electric has taken steps to upgrade their service to the PS09 area. No throughput has been lost because of these problems due to their short duration and the fact that PS09 now has an elastic hydraulic supply situation, caused by the lower throughput. Shutdowns at PS09 during the second year of operation have thus far been rare.

The SPCO has tracked the reliability of PS03 SR since startup. March 1 to November 2, 2008, there were 21 minor shutdowns. None was of sufficient length to affect TAPS throughput. The following are the SPCO data, derived from APSC electronic notifications:

The SPCO monitored the post startup-operations of PS03. The most significant event occurred when APSC took the new SR equipment off-line for about a month, from early January to early February, during some of the winter's coldest weather. Even though the equipment functioned well during the cold spell in March, review of the operations of the new SR equipment, discussions between the SPCO and APSC and APSC's own internal analysis led APSC to delay, until June 2009, removal of the tie-in tees between the oil lines connecting the old and new equipment.

In order to retain the legacy equipment, the SPCO coordinated with the DEC Air Quality Division to "*Evaluate the possible extension of Air quality permits for TAPS legacy equipment*" while operating the new SR equipment. DEC reviewed the request and provided interpretation and guidance concerning APSC compliance with air quality permit requirements while maintaining the legacy equipment to support the JPO system reliability goals and still ensuring compliance with DEC regulations.

The decision to retain the legacy equipment until June 2009 provides another level of redundancy for the SR equipment during the winter 2008-2009. The legacy equipment may be brought on-line with several days' work. APSC's plan is to remove the connection tees during the June 2009 shutdown. This will effectively isolate the old and the new equipment.

During the summer of 2008, APSC performed some upgrades and analyzed SR equipment performance in more detail. In response to a study of power contingency generation conducted by a consultant, APSC converted the emergency generation system to provide power for station limit block valves. These are valves located at most major plants, refineries, pumping stations, etc. Their purpose is to isolate the battery limits of the plant or station from return or supply lines in the case of an emergency or major event. APSC also performed several upgrades and installed interties between the old and new areas, so that certain legacy areas and systems could be powered and heated by the SR electrical system. APSC also made contingency plans for

moving portable generators located at the PS04 SR construction site to PS03 as backup, if necessary.

APSC will continue their efforts to develop a contingency plan for portable power generation. Contingency planning remains a topic of review for the SPCO.

Pump Station 03 Valves

As part of SR oversight at PS03, a SPCO Compliance Section member was on site to follow up on concerns within the office that the suction valve placed on site for temporary use during the transition from legacy to SR equipment was rated to -20° Fahrenheit, which was not in accordance with the design basis for such valves. This visit was conducted in January 2008

Although these valves are intended for temporary use and will be removed when the legacy equipment is isolated, delays in the project may require use of these valves in winter conditions below their design temperature rating. The use of this valve was confirmed in the field. The valve was wrapped with a heated blanket and insulated to protect it against potential ambient temperature drops below -20° Fahrenheit.

Pigging Related Activities

APSC performs maintenance pigging and ILI using smart pigs. The maintenance pigging consists of launching brush pigs into TAPS to clean the pipe. The pigs remove mostly paraffins (a type of wax), but also sediments, scale and asphaltenes (longer-chain hydrocarbons). The amounts of paraffin and asphaltenes that settle out of solution vary with fluid temperature. Therefore, maintenance pigging runs are not conducted on an exact schedule, but adapted for conditions and time of year. TAPS has two pig launching sites, the first at the beginning of the pipeline, at PS01, and the second on the north side of the Brooks Range, at PS04. The colder temperatures between PS04 to VMT means APSC performs a higher frequency of cleaning with pigs in this section. Typically, cleaning pigs are launched every 10 days to two weeks in the PS01 to PS04 section and once every week in the PS04 to VMT section.

APSC has used two different types of ILI devices: 1) smart pigs, to detect corrosion and some types of mechanical defects, and 2) geopigs, to determine the location of the pipe spatially in three dimensions. They run smart pigs every three years, under a Cooperative Management Agreement with the JPO. This information helps to identify areas of corrosion damage and the depth of defects. Smart pigs can also pick up certain other types of anomalies, such as some forms of buckling, certain types of cracks, some inclusions, or pipe manufacturing defects. APSC runs geopigs every five years to ascertain movement of the mainline pipe. This information is especially helpful to ascertain movement in buried sections in higher-risk areas, such as trenched river crossings and slopes that have the potential for mass soil movement.

Pipeline and Hazardous Materials Safety Administration Oversight of TAPS

A Federal agency, the PHMSA, regulates many of the activities and conditions on TAPS. The main oil pipeline is regulated via 49 CFR Part 195. The natural gas supply line to PS01 through PS04 is regulated via 49 CFR Part 192. PHMSA inspectors look at the conditions of TAPS, investigating the condition and maintenance of items such as valves, mechanical damage, pipe

support conditions, control rooms, SCADA, smart pigging information, corrosion, pipe strength, and other safety items. They also regulate pipeline operators' actions, such as procedures and critical incident response. Tables IV and V provide a summary of their past actions for 2002-2008 on TAPS.

Enforcement Actions on TAPS

Most of the following information has been summarized from PHMSA's enforcement website: https://primis.phmsa.dot.gov/. Additionally, specific information for Alaska can be found at: https://primis.phmsa.dot.gov/comm/StatePages/Alaska.htm. PHMSA maintains a system of pipeline mapping for Alaska and the rest of the United States. It can be accessed at: http://www.npms.phmsa.dot.gov/.

Table IV. PHMSA Actions Initiated for APSC: 2002-2008*.

Year	Corrective Action Orders	Notices of Probable Violation	Civil Penalties Proposed	Notices of Amendment	Warning Letters
2002	0	2	$103,000	4	2
2003	0	1	$18,500	1	1
2004	0	1	$0	1	1
2005	0	1	$84,000	2	1
2006	0	1	$350,000	1	0
2007	0	1	$817,000	1	1
2008	1	4	$338,000	0	4
Totals	1	11	$1,710,500	10	10

***DEFINITIONS**

Corrective Action Orders: PHMSA may issue a Corrective Action Order if it determines that a particular pipeline represents a serious hazard to life, property, or the environment. Corrective Action Orders are described in 49 CFR 190.233.

Notices of Probable Violation: Notices of Probable Violations (NOPVs) are commonly used as an enforcement tool. The administrative enforcement procedures and other regulations governing the enforcement program are described in 49 CFR 190 Subpart B "Enforcement."

Notices of Amendment: PHMSA inspections, incident investigations, and other oversight activities routinely identify shortcomings in an operator's plans and procedures under PHMSA regulations. Notices of Amendment and the procedures for their issuance and enforcement are described in 49 CFR 190.237.

Warning Letters: For some lower risk probable violations and program deficiencies, PHMSA has the option of issuing a Warning Letter notifying the operator of alleged violations. Warning Letters are described in 49 CFR 190.205.

Table V. PHMSA Actions Resolved for APSC: 2002-2008*.

Year	Corrective Action Orders Closed	Final Orders Issued	Civil Penalties Assessed	Notices of Amendment Closed	Consent Orders Issued
2002	0	0	$0	0	0
2003	0	1	$0	0	0
2004	0	2	$45,000	0	0
2005	0	1	$17,500	2	0
2006	0	2	$20,000	3	1
2007	0	2	$0	4	0
2008	0	0	$0	0	0
Totals	**0**	**8**	**$82,500**	**9**	**1**

DEFINITIONS

Corrective Action Orders Closed: When PHMSA verifies that all of the corrective actions identified in a Corrective Action Order have been successfully completed by the operator, the Order is closed.

Final Orders Issued: After an operator has been given an opportunity to respond to a Notice of Probable Violation, the Associate Administrator for Pipeline Safety issues a Final Order, making findings of fact and ordering appropriate relief, if any. Civil penalties may be assessed and/or the operator may be required to comply with specified corrective actions. Final Orders considered "closed". Final Orders are described in 49 CFR 190.213.

Civil Penalties Assessed: This table shows the total civil penalties assessed in the Final Orders issued during a given calendar year. Because some Cases take more than a year to resolve, some of these assessed civil penalties are for Cases initiated in prior years.

Notices of Amendment Closed: After the operator has an opportunity respond, to defend its actions or provide further information to clarify the alleged inadequate procedures. After PHMSA verifies that the operator's procedures have been amended and each of the inadequacies successfully addressed, the enforcement Case is closed.

Consent Orders Issued: Once PHMSA has issued a Corrective Action Order or given notice to an operator of other proposed enforcement action, PHMSA and the operator may occasionally agree to the issuance of a Consent Order in lieu of a Compliance Order or the imposition of civil penalties. Consent Orders are described in 49 CFR 190.219.

Low-Flow/Cold-Restart on TAPS

APSC proposed a series of studies to deal with low throughput issues. Many of these efforts will also aid in the capability of TAPS to restart successfully in winter. The SPCO made comments on these studies and suggested that APSC consider additional studies, especially a study of ice formation in the pipeline and its effects on restart capabilities. What direction this effort will take is, at present, largely undetermined, but it will be extensive. It will consider issues such as ice formation at low temperatures, the effects of ice on the pipeline equipment and instrumentation, viscosity and gelling of oils, recirculation of the fluid, emulsification of the mixture, and water removal at the processing facilities upstream.

Automation Systems and the New Operations Control Center

APSC opened a new Operations Control Center (OCC) in Anchorage and after a trial period, transferred operational control from the Control Center in Valdez to the new Anchorage facility. The SPCO monitored the work. This type of work can be expected to experience many small glitches. The transfer was relatively free of major issues, a result of the extensive testing and simulations performed. As an added safeguard, APSC implemented parallel operations of old

and new systems and equipment, allowing them to fall back on tried and tested hardware and software, should any unforeseen difficulties occur.

The old control room had served for over 30 years. With many upgrades, it had functioned since the start of TAPS operations in 1977. The new OCC is more than just a replacement of the original pipeline control center. It is the culmination of many instrumentation and equipment replacements, improvements in the reliability and redundancy of communications equipment, servers, protocols, programming, and other infrastructure involved in automated monitoring and control of a modernized pipeline system. Many of the control, maintenance, and calibration activities that previously could only be performed on-site are now performed by operators at the new OCC in Anchorage.

One feature, in particular, is worthy of additional discussion: the creation of a separate system for safety functions. APSC relocated their safety related communications and command functions to a separate system. The control functions of the new system can be thought of as two parallel systems, one for routine operations, and one for safety functions. The safety control system is called Safety Integrity Pressure Protection System (SIPPS). SIPPS was constructed and tested to a standard and protocol called Safety Integrity Level (SIL) 2. This type of control system is usually found in process plants, and many of these systems are required by regulation. Pipelines are not required to conform to a SIL level and TAPS now stands as one of the rare instances of this higher level of integrity being implemented for a pipeline transportation system.

The OCC initiated parallel operations with the Valdez Control Room on January 10, 2008. This phase of the OCC Relocation Project followed several months of Functional Check Out and Site Acceptance Testing performed on all communications, networks, control systems, and applications. The final phase of the transition will follow gradually. The Valdez equipment will be left in place, but not repaired and replaced. Eventually, the sole backup to the Anchorage OCC will not be in Valdez, but at the new Alternate Operations Control Center (AOCC) in the Wasilla-Palmer area. Construction of the AOCC started this past year.

APSC is nearing the final implementation of a Security Operation Control Center (SOCC) designed to remotely-manage facility access and security responses along TAPS. The SOCC is located in Anchorage, and is in the same building as the new Operations Control Center. The SOCC is connected to field locations through a system that provides centralized control of security cameras, digital video management, intrusion alarms, and facility access. The new security center was built in parallel with other security upgrades, such as monitoring cameras and magnetic card-key access, at various pump stations.

Lightning Protection

Providing facilities with lightning protection to a widely used lightning standard is part of the TAPS Lease, as well as the Federal Grant. This office determined during renewal in 2002 that TAPS was deficient in many areas. A Memorandum of Agreement that provided for upgrading lightning protection was the last condition prior to Lease Renewal in November 2002. This effort, however, experienced many delays. Nearly all of the SR facilities that were designed and built did not conform to the lightning standard. These deficiencies were rectified and in July

2008, APSC completed the last of the remediation and repairs required under the Memorandum of Agreement.

Pump Station 02 Workpad Refrigeration

In July 2007, after analysis of the geothermal conditions at PS02, the SPCO approved a two-year waiver of the Design Basis, allowing APSC to shut off the Mainline Refrigeration Unit at PS02. This was in preparation for the work to re-route the pipeline that was planned for 2008. The analysis indicated that the risk of settlement with no refrigeration in this area was extremely low. An elevation monitoring program was instituted as a backup. This would be an alert if the pipe subsided unexpectedly. The risk of this happening was considered to be extremely low given (1) the types of soils in the area, (2) throughput was reduced and this, in turn, reduced the heat input into the ground, and (3) the previous three decades of operations had established a stable thaw regime in the area.

Pump Station 02 Mainline Re-Route

Because of declining throughput, PS02 was reduced to warm standby status, then cold standby, and for the past several years has been in a deactivated status. The mainline flow still traveled through older facilities and piping, including buried vaults, and areas of reduced or no-flow, known as "dead legs". These are areas have a higher risk of corrosion. To reduce exposure to risk and modify the facilities for present-day conditions, APSC re-routed the mainline around the old facilities. The replacement piping is depicted in Figure 19. The new configuration consists of the angled segments of pipe on the right side of the PS02 main gravel pad. The diversion of the mainline flow into the new pipe section occurred during the August 2008 shutdown, with a stopple arrangement.

Figure 19 *Aerial photograph of PS02 after the re-route project, provided by APSC.*

The DEC Liaison provided coordination between the DEC Industry Preparedness Program (IPP) and Water Division personnel and the SPCO ROW and Permits staff to oversee water quality permitting and compliance issues associated the PS02 mainline realignment project. The primary DEC review and coordination effort focused on APSC's proposal to use the secondary containment system for an out-of-service crude oil storage tank to hold excavation wastewater and hydrostatic test wastewater and to ensure final disposition of that water met DEC's discharge requirements. The project was completed successfully with necessary permits and in compliance with DEC regulations.

A representative of the SPCO Compliance Section inspected PS02 in June to observe the status of activities related to the re-route project. At that time, vertical support member (VSM) postholes were being drilled, and filled for freeze back. APSC was in the process of evaluating slurry temperatures, as they were slightly higher than originally anticipated. The SPCO compliance report noted that APSC had used well placed pads to protect the vegetation. Equipment and pipeline parts were staged along the length of the planned re-route as well. The Compliance Section also reviewed progress of tank farm liner investigations, which were being carried out in anticipation of discharging the hydrostatic-test water into that space, in a later stage of the re-route project.

TAPS Bridges and Floodplain Monitoring

APSC Pipeline and Civil Maintenance Coordinators (P&CM) and Engineers have conducted River and Floodplain Monitoring since construction of TAPS. This monitoring program is accomplished by using aerial surveillance specifically to observe and document changes in river environments that may affect the TAPS. The DNR/OHMP and SPCO Engineering Section received APSC's list of preliminary recommendations of sites needing "corrective maintenance" and "predictive maintenance" (corrective maintenance was recommended in 2008; predictive maintenance needs to be prioritized, planned and scheduled in 2009 or later years). APSC requested SPCO input on project timing and scope to avoid or minimize impact to fish and wildlife resources and habitats. During FY08, the SPCO provided the requested information to APSC during the early planning stages of those future projects.

DNR led an effort that involved three other agencies, comprised of BLM, PHMSA, and the US Coast Guard, to reiterate previous bridge agreements made during the 1990s on the schedule of bridge inspections and the qualifications of bridge inspectors. In addition, a member of the Engineering Section accompanied representatives of APSC on inspection trips of bridges along TAPS.

Integrity Investigations

APSC has an ongoing program of mainline integrity investigations. These investigations are a follow-up to their in-line inspection program. In FY08, the DNR Compliance Section participated in oversight of three integrity investigations, PS01, pipeline milepost (PLMP) 22.9, and PLMP 784.5. At each location, the SPCO Compliance Section reviewed the IFC package, with accompanying procedures, specifications, permit conditions and site-specific health, safety, and environmental plans.

At the PLMP 22.9 dig, the Compliance Section was able to observe the site before, during, and after disturbance. Dewatering at this dig was a concern. The large amount of water encountered during the dig overwhelmed APSC's filter bag system, which required stopping the excavation until a large settling pond could be built. DEC's Water Division staff was involved in resolution of the issue. Due to the dewatering issues at this location, an interagency team was developed to participate in the next scheduled integrity investigation at PLMP 784.5, which had the potential to encounter significant volumes of water as well. The interagency team that went to the dig included the JPO/BLM corrosion engineer and field surveillance staff, a member of the Compliance Section, and three DEC representatives. No significant volume of water was encountered during the excavation.

System integrity investigations and the resulting dewatering during excavation continue to be a high priority for the JPO and DEC. The DEC Liaison provided information concerning permitting requirements, project considerations, and coordination of oversight activities with the SPCO Compliance Section for multiple dewatering events on TAPS during FY08.

During FY08, filter bags used by APSC as primary treatment of excavation wastewater experienced failures. DEC Water Division staff and the DEC Liaison worked with the SPCO and APSC to identify the cause of the failures and correct the deficiencies. In addition, BLM field surveillance personnel observed that APSC may not be using site-specific documented plans for excavation dewatering activities and brought this concern to DEC. DEC staff are reviewing the information provided by BLM and will continue to follow-up with APSC if it is determined that project planning is deficient for dewatering activities.

Integrated Management of Change Assessment

As part of the coordinated JPO PS03 oversight effort, the SPCO Compliance Section evaluated the PS03 SR Integrated Management of Change (IMOC) process. IMOC is a new program APSC implemented to make the transition processes and the decision-making more consistent. Although IMOC was not fully implemented, it was used for the first time in a significant way, to manage some of the processes involved in the start up of the new SR equipment at PS03. IMOC is best understood as an umbrella process (or meta-process). After meeting with APSC personnel in Anchorage, the assessor traveled to Fairbanks to meet with various IMOC participants, and then to PS03 to observe actions in the field. The assessment concluded that the IMOC process could not be determined satisfactory or unsatisfactory based on the information provided by APSC and observations in the field (Assessment report ANC-07-A-013, SPCO Letter No. 07-119-TG). The conclusion was indeterminate, but the assessment report provides detailed discussion and observations about the IMOC process.

Mineral Material Site Surveillance

During FY08, the SPCO ROW & Permits Section conducted inspections and completed surveillance reports for twenty-six of the twenty-eight operating material sale sites on state land along TAPS (Surveillance Report Numbers 07-TAPS-S-001 through 07-TAPS-S-034).

The sites were inspected to determine compliance with the material sale contract, mining and reclamation plans, and TAPS Lease Stipulation 2.6 (Material Sites). The material sites were found to be generally clean, well-maintained and met requirements. Two minor unsatisfactory

observations pertaining to two contracts were reported at one material site location, Operations Material Site (OMS) 7-1 (ADL 230017 and ADL 230047).

The unsatisfactory observations pertained to one attribute regarding side slopes on the rock face, which appeared to be steeper than provided in the mining plan. These unsatisfactory conditions were later resolved by APSC (APSC Government Letter No. 16241 dated June 17, 2008).

Figure 20 *ROW & Permits section during annual inspection of TAPS material sites.*

Lease Amendments, Permits, and other Authorizations

During FY08, the SPCO ROW & Permits Section completed 40 authorizations in support of TAPS maintenance and repair activities. This included 14 authorizations or amendments for temporary water use, eight material sale contracts, seven LUPs, one ROW lease amendment, one right-of-way for a TAPS access road, seven authorizations to operate equipment outside of the ROW per Lease Stipulation 2.9.1, and two waivers to the JPO Brushing Policy. These authorizations are summarized in Appendix D, Authorizations, Rights-of-Way, and Permits Issued for TAPS by Quarter in FY08.

In addition, the SPCO Engineering Section developed an NTP for work at PLMP 85.1 for the Dan Creek Boat Launch. The project was started in August 2007 and completed in September 2007.

Solid Waste Disposal Sites

In FY08, the JPO worked with APSC to modify their existing solid waste disposal strategy along TAPS and to develop an oversight strategy for solid waste disposal sites (SWDS). APSC maintains three active SWDS permits along TAPS. This strategy assisted APSC in alleviating water quality concerns related to the accumulation of surface water runoff and snowmelt. It also improves the ability of the JPO to monitor and oversee APSC management of SWDS.

SPCO reviewed APSC plans to repair the cap on former SWDS 124-1 located just south of the old Happy Valley Camp pad. The site had been an active waste disposal site during TAPS construction, serving the Happy Valley construction camp. The site was permitted by BLM in 1974. This site was closed shortly after TAPS construction. The original soil cover no longer served its intended function, allowing previously deposited waste to be exposed to the atmosphere. APSC determined a new cap was required and proposed to remediate the site and reconstruct a new cover.

Staff consulted with DEC Contaminated Sites and Solid Waste program staff concerning the regulatory and environmental issues and coordinated with SPCO ROW and Permits and Engineering Sections to provided recommendations for maintenance of the site. The effort ensured stabilization of the site. APSC successfully completed the project as authorized by the SPCO during the summer of 2008.

Figure 21 *SWDS 124-1 after site stabilization.*

Oil Discharge Prevention & Contingency Planning

C-Plans are required for the TAPS Pipeline and the VMT by State regulation, the Lease and the Grant. C-Plans are renewed every five years by DEC and they are reviewed annually by the BLM as a Grant requirement. DEC's IPP staff at the SPCO review renewal applications, major amendment applications, and routine applications in coordination with the BLM and with input from the other JPO agencies with interest in the C-Plans, including the EPA, DNR, ADF&G, and PHMSA. DEC accomplishes its implementation of C-Plan requirements by reviewing plans, conducting and evaluating drills and exercises, and conducting audits and inspections.

Drills and Exercises

DEC's FY08 goal for spill responses drills and exercises for TAPS and the VMT was to participate in the design and evaluation of six major exercises and four localized exercises. Due to scheduling conflicts, staff shortages, and prioritization of TAPS C-Plan litigation work[2], DEC staff participated in two major VMT exercises and one major TAPS exercise. JPO's BLM staff participated in several exercises not attended by DEC and DEC reviewed their findings.

For major exercises, joint evaluation reports were prepared to reflect the objectives met, lessons learned, and future recommendations generated by the exercise activities

The three major exercises DEC attended in FY08 were: 1) TAPS Gulkana River Combined Resources Exercise; 2) VMT Incident Management Team Environmentally Sensitive Area Exercise; and 3) the VMT Area 58 Drainage Equipment Deployment Exercise.

[2] Following the renewal of the TAPS C-Plan in 2006, several public reviewers jointly requested an adjudicatory hearing on many aspects of DEC's approval decision. Throughout FY08, DEC staff at the JPO prepared for the hearing, which was held in June 2008. Litigation is on-going at this time.

Inspections
DEC's FY08 goal for TAPS and VMT inspections focused on response equipment and reviewing response training status. Ten response equipment inspections were planned, and seven were accomplished. The number of inspections completed reflects staff shortages and prioritization of TAPS C-Plan litigation work, as noted above. Quarterly training reports for TAPS were reviewed, and DEC staff worked closely with BLM staff to review detailed training status reports.

VMT C-Plan
The VMT C-Plan underwent the required five-year public review and renewal process in FY08. The renewal application was approved by DEC in May, and included a lengthy public review process that began with submission of the renewal application in June 2007. The approval included four conditions requiring further edits and amendments. As part of the on-going oversight of VMT compliance with State statutes and regulations as well as the facility C-Plan, DEC staff met quarterly with APSC, BLM, US Coast Guard, and Prince William Sound Regional Citizens' Advisory Council representatives to review operational status, discuss emerging compliance or improvement issues, and to assure coordination among interested and jurisdictional entities.

TAPS C-Plan
Throughout FY08, DEC was involved in preparation for an administrative hearing related to the contested November 30, 2006 approval of the TAPS Pipeline C-Plan. The formal hearing concluded on June 12, 2008, with follow-up briefs submitted shortly thereafter. The administrative appeal process continues into FY09, so far without resolution.

As part of ongoing oversight of the TAPS Pipeline compliance with state statutes and regulations as well as the TAPS Pipeline C-Plan, DEC staff together with BLM and EPA representatives at the JPO met regularly with APSC staff. The purpose of the regularly scheduled meetings (eight in FY08) is to coordinate C-Plan, drill and exercise, inspection, audit and emerging operational issues with the various oversight agencies and APSC. Eight routine amendments to the TAPS Pipeline C-Plan were reviewed and approved by DEC, and one temporary tank usage waiver for PS04 was reviewed and approved. Quarterly contractor training and exercise reports were also reviewed. In addition, DEC granted APSC major exercise "credit" for their real-time oil discharge response to a leak from remote gate valve 32. This "credit" resulted in APSC conducting three rather than four major exercises in FY08.

Reported Oil and Hazardous Substance Discharges

During FY08, APSC reported 47 spills associated with TAPS and VMT operations. While all spills of petroleum products and hazardous materials are reportable, the DEC C-Plans do not cover all facility processes and operations. The largest crude oil spill was a 10-gallon spill of Alaska North Slope Crude from a leaking valve seal. The largest reported individual spill volume was 23 gallons of transmission oil caused by equipment failure. The largest crude oil spill was a 10-gallon spill of Alaska North Slope Crude from a leaking valve seal. A total of 3,400 pounds of Halon was released at PS01 in two separate instances. The remaining spills were less that 10 gallons and most were less than one gallon. The types of products spilled varied but were mostly diesel fuel or glycol. All of the reported spills were responded to by

APSC and/or contract personnel and cleaned up. DEC personnel reviewed these spill reports to investigate the cause of the release and to ensure cleanup efforts meet State standards. In addition, spill reports were reviewed by DEC IPP staff to evaluate compliance with spill prevention measures described in approved C-Plans.

Safety Inspections

The DOLWD Safety Liaison conducted 32 annual safety inspection of APSC facilities for compliance with lease and grant stipulation 1.20 *Health and Safety*. Federal Occupational Safety and Health Standards (29 CFR 1910 and 29 CFR 1926) are used for an inspection standard. The facilities include each pump station, the Response Bases, the VMT, the drag reducing agent (DRA) Injection sight at PLMP 238, and the Fairbanks area shops and storage facilities.

In addition to annual inspections, the DOLWD Safety Liaison conducted nine work site inspections for compliance with lease and grant stipulation 1.20 *Health and Safety*. The inspection standard for a work site is the same as annual inspections with more emphasis on safety programming and procedures. The VMT Tank Eight Cleaning, Ballast Water Treatment Vapor Recovery Project, Remote Gate Valve (RGV) 72 Replacement, and Pre-Shutdown of PS09; accounted for four of the work site inspection and SR activities at PS03 and PS04 accounted for five of the work site inspections. A complete list of surveillance reports prepared as a result of these inspections can be found in Appendix I, SPCO Surveillance Reports Issued in FY08.

A total of 21 Safety violations were identified in FY08. These violations were minor in nature and have been corrected.

Injuries

There were eighteen recordable injuries during FY08. A “Recordable Injury” is any injury requiring medical treatment. Of the eighteen Recordable Injuries, six were Days-Away-From-Work-Cases, and one was a Restricted-Work-Case meaning the employee returned to work but could not conduct all or some of their regular job duties.

One incident resulted in three of the eighteen injuries. The PS05 area was conducting Annual Boat Handling/Operator training session when the airboat hit an eight-foot sand and gravel river bank. One of the contract employees was ejected from the boat resulting in a Days-Away-From-Work-Case injury. The other two contract employees received medical treatment, returned to work and were classified Recordable Injuries.

APSC injury rates are below the Bureau of Labor Statistics national average for North American Industry Classification System code 486110, Crude Oil Pipeline Transportation. These rates are maintained by calendar year.

As of December 31, 2007, the national Recordable Injury rate for Crude Oil Pipelines was 2.0 injuries per 200,000 hours worked. APSC had a Recordable Injury rate of 0.25 injuries per 200,000 hours worked, their contractors had a recordable rate of 0.66 injuries per 200,000 hours worked, and the combined APSC/Contractor rate was 0.55 injuries per 200,000 hours worked.

The national Days-Away-From-Work and Restricted-Work rate for Crude Oil Pipelines was 0.9 injuries per 200,000 hours worked. APSC had a rate of 0.0 injuries per 200,000 hours. Their contractors had a rate of 0.24 injuries per 200,000 hours worked, and the combined APSC/Contractor rate was 0.17 injuries per 200,000 hours worked.

APSC is on track to maintain this successful record for 2008.

Electrical Inspections

DOWLD inspections of the fiber optic cable system revealed that initial installation was non-complaint with the National Electric Code. APSC continues to upgrade their fiber optic cable installations and reliability is improving.

APSC has made significant improvement in their effort to install only electrical equipment that is approved by a Nationally Recognized Testing Laboratory (NRTL). As recently as January 16, 2008, four new control panels at the VMT were not properly labeled to indicate they were listed or tested to a US NRTL standard as required by state law.

The DOLWD Electrical Inspector tracks code violations identified and the number of verified code corrections. Inspectors physically review electrical work during random on-site inspections to verify that code requirements are met. The percentage change in code violations corrected is affected by the number of violations that are corrected in the following year. The Electrical Inspector focused on receiving timely verification of code violation abatements. In FY08, the Electrical Inspector performed 42 inspections, issued 13 notices of violation (all have been corrected) and reviewed 20 Certificates of Fitness.

Fire and Life Safety

The Fire Specialist performs four basic functions under the authority of the State Fire Marshal and the sections and stipulations of the Grant and Lease for the TAPS. The four functions are Fire Inspections, Construction/Building Inspections, Building/Fire System Plan Reviews, and other miscellaneous activities.

Annual fire inspections were performed for all TAPS pipeline and pipeline related facilities in FY08. Potential fire and life safety hazards were identified, appropriate code references were cited, and corrective action is left up to APSC to complete within a given time frame (all corrective actions are identified in the 2006 International Fire Code, Building Code, and Referenced Standards). Building inspections are performed on new and remodeled buildings, corrections are identified per approved plans and adopted codes, and corrective actions are completed within a given time frame.

Plan reviews were performed for all new and upgraded fire systems, buildings, remodels, and new structures etc. on TAPS. Plans were reviewed to the 2006 International Building Code, International Fire Code, Alaska Administrative Code, and Referenced Standards. Plans are submitted, comments are generated, and responses and/or corrections are addressed or resolved before a Plan Review Certificate is issued. New construction was also reviewed for structural integrity. Construction work can begin once the Plan Review Certificate is issued.

Miscellaneous activities include code interpretations (both verbal and written), investigation of employee concerns, assessment, and evaluation of fire systems, and code modification review. Questions and concerns from APSC regarding fire systems and building systems are researched and comments are issued if requested. The TAPS Fire Specialist is also responsible for coordinating with other JPO agencies regarding Fire, Life, and Safety issues, coordinating process, and tracking approval of permit applications for TAPS projects.

The State Fire Marshal's Office (SFMO), Fire Specialist evaluated APSC'S current fire response capability under the current operational configuration and anticipated operations in a post-SR environment, specifically for PS03, PS04, and PS09 as it pertains to meeting the intent of ROW Lease and Grant stipulations. The Fire Specialist also reviewed National Fire Protection Association 600 Industrial Fire Brigade requirements and measured APSC adherence to these requirements. The Fire Specialist also evaluated equipment not listed for use in a cold environment such as the Water Mist system used for fire suppression in the Turbine Generators at PS03 and PS04.

Annual fire inspections for all TAPS facilities were performed May 28 to July 15, 2008 to identify code violations, hazards, and suggest corrective action. A total of 385 pipeline facility inspections, 27 plan reviews, 22 permits issued and 85 VMT inspections were accomplished in FY08.

In addition, on September 19 through 21, 2007, 14 repeater sites were inspected. Fire detection and suppression systems at all 14 sites had not been serviced since April 2003. An Order to Correct was issued to APSC and AT&T.

Construction inspections were also performed for new TAPS construction projects to ensure compliance with approved plans and specifications.

In FY08, APSC, JPO, and Underwriter's Laboratories (UL) met to discuss listing issues. UL indicated field evaluations of listed fire detection and gas components in UL 508 panels in the field would no longer be provided. UL informed the group that all determinations for panels previously inspected will remain in effect. This will be an issue for any future fire panels that are not listed by the manufacturer. APSC fire panels have yet to be field-tested and certified. Currently, we are waiting for the outcome of a conversation between APSC's fire panel/system provider and UL before further action is initiated. An action plan for addressing this issue has not been provided by APSC.

The TAPS Fire Safety Specialist is also addressing cold weather equipment listing that does not meet the APSC design basis for suppression system in turbine generators at PS03 and PS04. The Marioff High Fog suppression system is designed to operate at higher ambient temperatures.

<u>Alaska Coastal Management Program – FY08 Reviews</u>

Channel Plug Rehabilitation, PLMP 24.8

The scope of review for the project encompassed the disposal of interest in approximately 3.2 acres from state land that was added to the current TAPS Lease of ROW for approximately 30 years.

Repair Eroded Guidebank, PLMP 784.3
APSC proposed to place approximately 1,500 cubic yards of gravel to restore the original footprint along approximately 300 feet of the southerly side of the existing 1,700-foot-long guidebank. The gravel was faced with approximately 1,500 cubic yards of Class III/IV rip-rap. To minimize disturbance to vegetation the site was accessed from the existing TAPS right-of-way. The gravel and rip rap was hauled to the site with rock trucks and placed on the guidebank with a backhoe. No material was stockpiled on the floodplain of Browns Creek or the Lowe River.

Pump Station 02 Mainline Reroute
APSC requested the SPCO amend the existing TAPS ROW to expand the existing workpad at PS02 to facilitate the pipe replacement project. The additional lands were within an area approximately 300 feet long by 100 feet wide situated adjacent to and east of the existing TAPS ROW and containing approximately one acre.

Corrosion and Mechanical Damage Investigations and Repairs
Based on ILI information, APSC selected five sections of the TAPS mainline pipe to investigate in 2008. The purpose of the project was to investigate the integrity of the mainline pipe, to repair the pipe if needed, and to re-coat the pipe. Two of the sites were above ground pipe (PLMP 634.41 and PLMP 636.49) where temporary land use and dewatering are not required. The other three sites (PLMP 0.13, PLMP 22.9, and PLMP 784.50) were below ground pipe where excavations are required to inspect the pipe. These activities required Fish Habitat permits issued by the Office of Habitat Management and Permitting and authorizations for the Excavation Dewatering Activities from the DEC.

Fish and Wildlife Related Permitting, Monitoring and Oversight

Fish
DNR/OHMP staff conducted field inspections of the TAPS ROW with an APSC representative (APSC Fish and Wildlife Subject Matter Expert) at various locations along the 800-mile pipeline corridor. Pre- and post-project sites were visited and written surveillances were completed at a representative sample of the locations. Solutions for construction, maintenance, and project timing to avoid or minimize impacts to fish resources and habitats were also discussed.

There were 51 total reviews and permits issued in FY 08 (43 Fish Habitat Permits; 3 No Permit Required Letters; and 5 written comments on other agency permits). Visual inspections were conducted at 124 cross-channel structures, while 54 sites received a detailed written surveillance reports (and photographs) that were entered into the JPO document tracking system. A full listing of surveillance reports can be found in Appendix I, SPCO Surveillance Reports Issued in FY08.

DNR/OHMP staff inspected select segments along TAPS in FY08. The surveillance reports revealed that APSC Baseline Crews have been actively maintaining low water crossings and culvert structures along the ROW in compliance with the conditions and stipulations of Fish Habitat Permit FH 07-SPO-0007 to ensure efficient fish passage.

Slate Creek, PLMP 408.35, received a minor unsatisfactory (UNSAT) finding. The 10-foot diameter multi-plate corrugated metal pipe inlet is elevated from the streambed and is bowing at its mid-point. The perched inlet could develop into a fish passage barrier during low flow conditions. The culvert is scheduled for replacement in fall 2008; an engineering solution is required because of its proximity to VSMs supporting the aboveground pipe. Baseline crews will perform the work.

Hess Creek, PLMP 378.6 received an UNSAT for non-compliance with Lease Stipulation 2.4.3.1 (Crossing of Streams, Rivers or Flood Plains). Against the advise of the SPCO Habitat Biologist in 2005, APSC installed rock vane structures that are angled downstream and designed to be overtopped at ordinary high water (OHW) (or near bankfull flows). This configuration re-directs flowing water into the bank (or floodplain) that is being protected, thus exposing it to direct erosion during bankfull flows. As a result, an estimated 900 cubic yards of (floodplain) gravel material and about 160 linear feet of willow cuttings (live dikes placed between the rock vanes) eroded into the active channel during (3) mild break-up events and were transported downstream. No follow-up action required.

During a routine inspection of low water crossings in the PS12 area, DNR/OHMP staff discovered a pile of fine silt material stockpiled adjacent to the Little Tonsina River, at PLMP 732. APSC was contacted and asked to dispose of the material properly (in a manner that prevents its entry into any fish-bearing waters). The material was removed and disposed of in a timely manner, thus avoiding a Notice of Violation.

On August 26, a submerged object reported in the Atigun River at the outlet to Galbraith Lake was pulled onto the bank of the Atigun River by Baseline personnel. The object was sling-loaded by helicopter to the boat ramp at containment site 3-29 on August 28 and disposed of the same day. The object was identified as an initial response team box with a metal frame; this was an old spill response box from PS04. No further action was required.

Several issues were noted at the Tonsina Bridge revetment. The gravel topping layer along the revetment was beginning to settle and create “sink holes” along the restoration area. This created a dangerous walking surface. There was an unusual log pile near the upstream portion of the restoration that did not seem to provide any bank stability or bank complexity, since it was above the OHW pipeline. At the upstream end of the revetment, the toe of the slope entirely blocked the outlet of a side channel that feeds directly into the Tonsina River. The blockage violates Alaska Statues, relative to free and efficient passage of fish, APSC was issued a Notice of Violation. The blockage was removed and the problem corrected to the satisfaction of ADF&G in FY09.

DNR/OHMP actively works with APSC in their stream evaluation efforts. In FY08, APSC conducted fish stream surveillances at 648 sites along TAPS. APSC Civil Maintenance crews worked on 98 of those drainage structures in 2007; 24 sites (<4%) required extensive repair (and Fish Habitat Permits) to provide long-term fish passage; and 74 sites (>11%) required routine maintenance (under the linewide Fish Habitat Permit); the remaining 550 sites (85%) required no work.

Wildlife

During recent years, workers at the VMT have observed an increase in the number of nesting black-legged kittiwakes (*Rissa tridactyla*) on the Tanker Berths (Figure 22). As a colony-nesting species that has experienced area wide population growth, kittiwake use of the VMT has the potential to continue to increase in the future. The increase of nesting activity has caused a variety of safety and environmental issues. There are four primary concerns related to the increase in nesting kittiwakes on the berths. These include:

1. Increased risk to health and safety of workers on active and inactive berths,
2. Increased risk of incidental takes of nests and young on active berths,
3. Increased potential for large numbers of birds to become injured or oiled during an incident or oil spill response, and
4. Increased potential for delays of maintenance during the nesting season, resulting in increased safety and environmental risks.

Figure 22 *Nesting black-legged kittiwakes (Rissa tridactyla) on Tanker Berth 5 (June 22, 2005)*

The reason that the kittiwakes are using the berths is that they have found sanctuary at these locations. In 2004, APSC initiated an effort to move the birds from the berths and eliminate this sanctuary. Displaced birds moved to other locations when the exclusion devices and active hazing caused the kittiwakes to shift their activities. This program was discontinued in 2005 and 2006, the birds have returned, and numbers increased. The US Fish and Wildlife Service (USFWS) recently estimated the kittiwake population at the tanker berths at 12,000 birds (4,500 active nests). This colony has also been named the "Dayville Colony" by the USFWS and is considered the third largest kittiwake colony in Prince William Sound.

In mid-2007, APSC partnered with villagers from Tatitlek and Chenega to conduct a subsistence harvest of gull eggs within the VMT (with limited success). In 2008, APSC acquired a Migratory Bird Depredation Permit from the USFWS, which authorizes certain management and control activities (harvest up to 100 eggs and test nesting exclusionary devices) necessary to provide for human health and safety, protect personal property, or allow resolution of injury to people or property. A depredation permit is intended to provide short-term relief until long-term measures can be implemented to reduce or eliminate the problem through non-lethal control techniques.

2.0 SOUTHCENTRAL PIPELINES

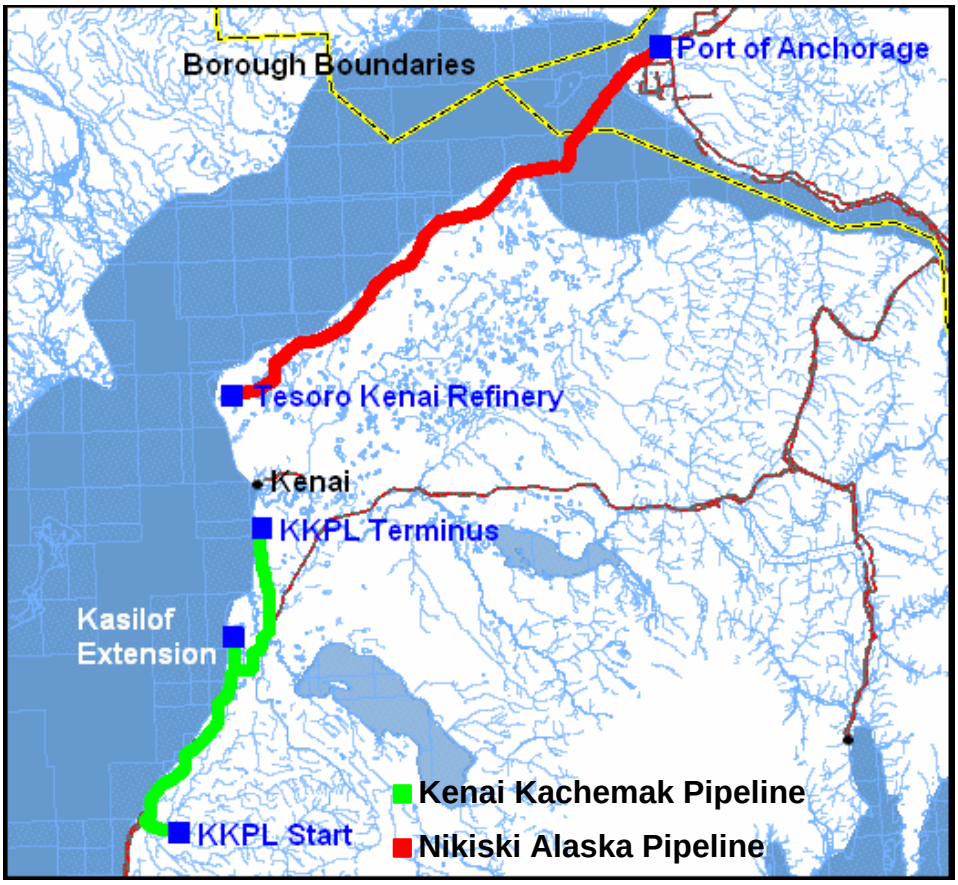

Figure 23 *Area map of Southcentral Pipelines*

2.1 Kenai Kachemak Pipeline

Figure 24 *The KKPL pig launcher is located near the Happy Valley production pad. The 6.3-mile extension was built in 2004.*

2.1.1 Right-of-Way Lease and Pipeline System Overview

The Kenai Kachemak Pipeline (KKPL) is a high-pressure, buried, natural-gas transmission pipeline on Alaska's Kenai Peninsula. It was built in three phases during 2003, 2004, and 2006. The KKPL mainline was built with 12-inch pipe of 0.330 and 0.500-inch wall thickness, and is rated for a maximum allowable operating pressure of 1,480 psig. Specific physical characteristics of the pipeline and extensions are provided in Appendix E, Physical Characteristics of SPCO Jurisdictional Pipelines.

KKPL begins at the Happy Valley production pad and ends at the Marathon Oil Company 500 Master Meter Building, running generally south to north. Seven Cook Inlet production pads currently transport natural gas through KKPL. Some natural gas is distributed from KKPL for local use. For this reporting period, the operator of KKPL was NORSTAR Pipeline Company. Beginning September 2008, Marathon Pipe Pipeline, LLC became the pipeline operator.

The ROW lease was issued to KKPL, LLC, on November 26, 2002. The lease was amended twice and is set to expire on November 25, 2032. The first amendment, executed on June 16, 2004, added 48 acres to the ROW to accommodate Phase 2 of construction, referred to as the Happy Valley Extension (HVE). The second amendment, executed on April 24, 2006, added 35.6 acres of state land for construction of Phase 3, referred to as the Kasilof Extension (KE). Appendix G, Acreage, Survey, and Lease Information, contains additional lease information.

In FY08, the pipeline ROW was 60 feet wide in most areas, to allow for construction. The *ROW Release of Interest,* when finalized in FY09, will reduce the ROW to an operational width of 20

feet. Specific acreage amounts associated with the construction and operational ROW width are provided in Appendix H, Pipeline Right-of-Way Lease Appraisal Information.

2.1.2 Lessee's Annual Report

The Annual Report for KKPL was submitted on January 31, 2008 (Appendix J, SPCO Reporting Requirements). The SPCO reviewed the KKPL 2007 Annual Report and found it to be improved from previous reports (SPCO Letter No. 08-010-WW).

The SPCO reviewed the annual report and extracted some of the more significant items associated with 2007 KKPL operations. These included an audit of lease compliance, One-Call program participation, corrosion-associated inspections, cathodic protection (CP) inspections, and aerial patrol results that are described in more detail below.

Throughput, Pigging and Reliability

KKPL, LLC, reported pipeline throughput and pigging activities in their 2007 annual report. This information has been summarized in Table VI.

Table VI. Throughput and Pigging Information for KKPL, 2007.

Pipeline System	2007 Throughput	Maximum Operating Pressure (MOP)	Maintenance Pigging	Last Smart Pig Run	Pipeline Operator
KKPL (Total)	22.65 billion cubic feet	1,480 psig	Not routinely	2005 Baseline	NORSTAR Pipeline

Audit

In 2007, a third party contractor performed an audit of the Operator's quality assurance and surveillance and maintenance programs to recommend changes necessary to address unsatisfactory items identified by the SPCO (SPCO Letter No. 07-080-WW). Following the audit, the SPCO, Lessee, and Operator worked together to improve and update the quality assurance program (QAP) for KKPL. The change in Operator (September 2008) has delayed SPC approval of changes to the QAP.

Public Safety

The operator participates in the *One-Call* damage prevention program. In 2007, there were 340 locate requests, which resulted in 62 onsite locates, and nine high-pressure standbys. The One-Call program is important to the community and key to prevention of third-party pipeline damage that could threaten public safety.

Corrosion Protection

To minimize the potential for internal corrosion, the operator regularly sampled gas for quality and water content. The operator monitors to the requirements of 49 CFR 192.475 and 49 CFR 192.477. The data from 91 samples were submitted to the SPCO in the annual report. All samples indicated dew points were below the flowing temperature of the gas. Hydrogen Sulfide (H2S) samples ranged from 0-0.3 ppm.

Cathodic Protection

The operator inspects rectifiers a minimum of six times during the year. As part of their cathodic protection program, a pipe-to-soil survey is completed once a year and coupon current readings are taken periodically at four locations along the KKPL and every mile of the Kasilof Extension. A pipe-to-soil survey was completed in October 2007.

Valve Inspection and Maintenance

The two Control Valves and operating valves were inspected and serviced on August 22, 2007. Normal maintenance was performed on pressure relief valves on August 21 and 22, 2007. Both of these tasks are required by PHMSA regulations 49 CFR Part 192.

Leak Surveys

NORSTAR conducted two leak surveys in 2007. The first survey was conducted on January 18, 22, and 24, 2007. The second survey was performed on July 16 through July 19, 2007. No leaks were found during either survey.

Aerial and Ground Surveillance

There were 30 aerial patrols of the KKPL during 2007. During those flights, and other drive-by inspections, personnel checked pipeline and ROW conditions for encroachments, construction activities, and other changes in the ROW. There were no major findings.

2.1.3 SPCO Activities

The SPCO focused on the QAP, construction ROW relinquishment, appraisal and rental adjustments, and finally, operator transition activities during this reporting period. These activities are presented, in more detail, below:

SPCO Field Trips

The SPCO performed KKPL ROW inspections twice during FY08. On October 25, 2007, Compliance Section staff evaluated the ROW in connection with the release of interest process. Staff observed no compliance issues that would preclude the release of interest, as reflected in four surveillance reports with satisfactory findings (SPCO Letter No. 07-091-WW). On June 26, 2008, SPCO staff joined a Marathon Pipe Pipeline, LLC representative on a tour of the entire pipeline ROW and associated facilities; 12 surveillance reports were completed, all reflecting satisfactory conditions (SPCO Letter No. 08-043-CT). Statistics from those surveillance reports will be reflected in the FY09 SPCO Annual Report.

Quality Assurance Program

The QAP for KKPL was approved by the SPCO on November 25, 2002, and has not been amended since the original lease was issued (SPCO Letter No. 02-289-DW). The Lessee is responsible for complying with the QAP during pipeline activities throughout all phases of construction, operations, maintenance, and termination. A member of the Compliance Section reviewed the KKPL QAP with pipeline owner and operator representatives on August 15, 2007. During this program review, the Compliance Section found several components of the program

to be unsatisfactory (SPCO Letter No. 07-080-WW). The primary deficiency noted by the SPCO was that the personnel requirements, as specified by the QAP, were not being met therefore the corresponding responsibilities of the positions could not be accomplished (Surveillance report 07-SPCO-S-062, Appendix I, SPCO Surveillance Reports Issued in FY08). The SPCO, Lessee, and Operator established a working group to resolve this issue.

Throughout the spring of 2008, the KKPL owner and operator representatives, worked with SPCO Compliance Section staff to discuss changes to the QAP (SPCO Letter Nos. 07-092-WW, 08-011-WW, and 08-031-CT). Although NORSTAR was making progress on resolving the issue, the transition to Marathon Pipe Pipeline, LLC as the operator has delayed revisions of the QAP.

Construction ROW Relinquishment

On October 25, 2007, representatives of the Compliance Section and the ROW and Permits Section performed a joint inspection of state lands in the KKPL construction ROW to evaluate their condition, as part of the process to transition from a construction ROW to a smaller operational ROW. The intent of the inspection was to evaluate the condition of land being relinquished back to the state with respect to damage or other conditions unacceptable to the DNR Commissioner. The inspection did not reveal any conditions requiring further attention which will allow the construction ROW relinquishment process to move forward (SPCO Letter No. 07-091-WW).

Appraisal and Rental Adjustment

The SPCO requested that the HVE and KE be added to the appraisal due for the original KKPL ROW (SPCO Letter No. 07-100-TG). On November 15, 2007, the SPCO approved a request to extend the due date for the appraisal to February 2008 (SPCO Letter No. 07-112-TG). Based on the submitted appraisals for the HVE and the KE portions of the ROW, the SPCO adjusted the rental amount for those sections of leased land and set the rental payment date for all KKPL leased lands to November 26 of each year (SPCO Letter No. 07-091-TG). Appendix H, Pipeline Right-of-Way Lease Appraisal Information, contains a listing of current appraisal information. As part of this work, the SPCO performed an audit of the financial account history of the KKPL.

Pipeline Operator Transition

SPCO staff participated in a series of meetings between NORSTAR, Marathon Oil Company, and Marathon Pipe Pipeline, LLC during calendar year 2007 and 2008. Several of these meetings and a field trip on June 26, 2008, facilitated information exchanges related to the Lessee's planned transition from NORSTAR as operator to Marathon Pipe Pipeline, LLC as operator. At the end of this reporting period, the SPCO was continuing to work with the Marathon Pipe Pipeline, LLC transition team. It is anticipated that NORSTAR will hand off operational control to Marathon Pipe Pipeline in FY09. This transition provided an opportunity for the SPCO to review and request updates for contact information required by the lease (Appendix F, Lease Required Contact Information). This information was received on July 23, 2008.

2.2 Nikiski Alaska Pipeline

Figure 25 *Mainline Valve #5 is a remotely-operated valve near Point Possession, where the pipeline transitions to sub-sea to cross Turnagain Arm.*

2.2.1 Right-of-Way Lease and Pipeline System Overview

Nikiski Alaska Pipeline, referred to by the Lessee as the Tesoro Alaska Pipeline (TAPL), is buried and begins at the Tesoro Kenai Refinery in Nikiski, where the mainline pumps, meters, and pig launcher are located. The pipeline routes along the Kenai Spur Highway through the Captain Cook State Recreation Area and then parallels the coast to Point Possession before crossing the Turnagain Arm. The pipeline route continues along the Tony Knowles Coastal Trail, through the Ted Stevens Anchorage International Airport, and along Northern Lights Boulevard. It is located near the Alaska Railroad ROW for the remainder of the route, terminating at the Port of Anchorage.

The 10.75-inch diameter pipeline transports refined petroleum products, including jet fuel, gasoline, and diesel, from Tesoro's Kenai Refinery to the Port of Anchorage. The pipeline operates under PHMSA pipeline safety regulations. It was constructed in 1976 with pipe that varies in wall thickness from 0.188 to 0.625 inches. The TAPL maximum operating pressure (MOP) is 1,440 psig. TAPL was last inspected with a smart pig in January 2007. The pipeline transports final products of a quality suitable for industrial, government, commercial, and consumer use. Therefore, maintenance pigs are not routinely used, but batch pigs are. Batch pigs are used to separate different products within the pipeline. Specific physical characteristics of the pipeline are provided in Appendix E, Lease Required Contact Information.

The ROW lease, ADL 69354, was executed on January 30, 1976 and is scheduled to expire January 29, 2031 (Appendix G, Acreage, Survey, and Lease Information for SPCO Jurisdictional Pipelines). The lease has been amended four times. The pipeline ROW is typically ten feet wide

for operations and maintenance (Appendix H, Pipeline Lease Appraisal Information). The total system length is 68.9 miles (52.8 miles located on state land, occupying 64 total acres of state land).

2.2.2 Lessee's Annual Report

Tesoro submitted the *2007 Annual Comprehensive Report on Pipeline Activities and State of the Pipeline System* in January 2008. The Compliance Section reviewed Tesoro's 2007 Report in relation to the minimum annual reporting requirements and requested additional information to provide a better understanding of the state of the pipeline system (Appendix J, SPCO Letter No. 08-014-CT). In response, Tesoro provided the requested information on May 14, 2008.

Below are extracted highlights from the Lessee's 2007 Annual Report:

Throughput, Pigging and Reliability

Tesoro reported no abnormal operating conditions during 2007. The throughput and pigging information are provided in Tables VII and VIII. No reliability data was included in Tesoro's report, but standard pipeline reliability analysis is of limited use in this instance. This pipeline transports refined products and its throughput is typically based upon end user demand, not operational readiness.

Table VII. Throughput and Pigging Information for TAPL, 2007.

Pipeline System	2007 Throughput	MOP	Maintenance Pigging	Last Smart Pig Run	Pipeline Operator
TAPL	14,013,246 barrels	1,440 psig	Not routinely	January 2007	Tesoro

Table VIII. Refined Product Transported through the TAPL, 2007.

Product	2008 Throughput
Jet-A	7,991,967 barrels
Unleaded gasoline	3,859,521 barrels
Ultra-low-sulfur Diesel (ULSD)#1	887,082 barrels
Premium unleaded	607,155 barrels
ULSD #2	566,793 barrels
Diesel-2	100,728 barrels
Total	*14,013,246 barrels*

Maintenance Activities

During 2007, Tesoro brushed the ROW from mileposts 18 to 46 and 60 to 66. As required by PHMSA, and as part of the Operator's monitoring program, Tesoro inspected the mainline valves on eight occasions and inspected the pipeline ROW at least 26 times.

Corrosion Management

Tesoro recorded rectifier readings monthly. The annual cathodic protection survey was completed in November 2007 by a third-party engineering consultant. During spring and early

summer, a new rectifier and single deep-well anode were installed to replace the old rectifier and shallow anodes, which were arranged in a groundbed.

Pipeline Safety Activities

Tesoro participates in the *One-Call* damage prevention program through Alaska Digline. Notifications of excavation work being performed near the pipeline were sent to Tesoro for evaluation. There were 758 one-calls regarding dig activities in the vicinity of the pipeline in 2007. Tesoro recorded no instances of third-party damage, no instances of exceeding the MOP, and no reportable PHMSA Safety Related Conditions for 2007.

Integrity Investigations

Following an ILI investigation in January of 2007, Tesoro identified five immediate repair anomalies, and reduced the operating pressure to 80% MOP, per their Integrity Management Plan. PHMSA requires that certain types of defects be repaired immediately and certain other types be repaired within 180 days. The reduced operating pressure was maintained until all inspection and repairs resulting from the ILI run had been completed. All repairs with required repair intervals were completed within the required timeframe. Thirteen sites were inspected as a result of the ILI investigation. The final repair, a subsea repair of a top-side dent was completed in June 2007, utilizing a PLIDCO clamp. After this was completed, the pipeline was returned to normal service. The SPCO surveillance for the in-line inspection and subsequent integrity investigations was reported in the FY07 SPCO Annual Report.

Interactions with Pipeline and Hazardous Materials Safety Administration

As a result of an audit in February of 2007, PHMSA issued a Notice of Amendment to Tesoro, which has already been resolved.

Additional information related to PHMSA activities can be found at:
https://primis.phmsa.dot.gov/comm/reports/enforce/Actions_opid_30735.html#_TP_1_tab_1.

2.2.3 SPCO Activities

SPCO staff participated in three trips along Tesoro's Nikiski Alaska Pipeline ROW during FY08. The SPCO joined in a multi-agency site visit to Fish Creek within the Municipality of Anchorage on October 4, 2007. A trip on October 24, 2007, was to observe a spill drill. A third trip on April 3, 2008, included travel along the ROW, by all-terrain vehicle, to observe drilling activities for the installation of the new cathodic protection anode near Point Possession. Details related to SPCO work in support of the Nikiski Alaska Pipeline can be found below.

Fish Creek Pipeline Crossing

The Compliance Section coordinated an interagency site visit to the TAPL crossing of Fish Creek, near an Anchorage residential area, with representatives of the OHMP (now ADF&G, Habitat Division), PHMSA, and Tesoro on October 4, 2007. The purpose of the visit was to assess the current site condition, and how it might affect pipeline integrity, fish passage, public safety, and the environment, and to address questions raised about the crossing during a June 13, 2006 interagency meeting at the JPO. The concern was related to the pipe section that was

suspended in the creek. Remotely-Operated Mainline Valve (MLV) 9 was located approximately 1,000 feet upstream of Fish Creek.

PHMSA evaluated pipeline integrity using information submitted by Tesoro. The review did not find any immediate problems with pipeline integrity at this area. The conclusion was based on 2004 ILI data (the 2007 data was not available at that time). A memorandum dated October 9, 2007, was distributed to various stakeholders to describe the history and current condition of the site. Issues discussed included depth of cover, land ownership, and fish passage. The memorandum recommended further research regarding land ownership and lease applicability (although this was not completed in FY08).

Oil Spill Response Training

In order to practice spill response measures, Tesoro simulated a pipeline rupture at a salmon stream near Moose Point on October 24, 2007. One member of the SPCO Compliance Section attended this drill as an observer. Over 125 Tesoro employees, agency representatives, and contractors participated in the drill, which was largely a "table top" exercise at the headquarters of Cook Inlet Spill Prevention and Response, Inc, the regional spill response cooperative. Spill response and preparedness are jurisdictional to DEC, so the SPCO representative did not make compliance observations regarding this field trip and deferred to DEC on these issues.

Cathodic Protection – Project Oversight

The SPCO reviewed plans for a new active electronic cathodic protection system designed for the pipeline. The intent of the system, a deep-well anode bed, was to provide enhanced corrosion protection, especially in the shore transition area on the south side of Turnagain Arm.

On March 4, 2007, the SPC approved the installation of a cathodic protection facility at MLV-5 of the TAPL within Section 19, Township 11 North, Range 6 West, SM, AK.

Members of the SPCO Compliance and Engineering sections performed an inspection of the cathodic protection project at MLV-5 on April 3, 2008. The scope of SPCO fieldwork included observing access to the site, work practices at the site, drilling operations, and compliance with various state authorizations.

The primary deficiency noted were several instances where project staff did not adhere to project and permitting requirements. The SPCO will continue to coordinate with the Lessee to address this issue.

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3.0 NORTH SLOPE PIPELINES

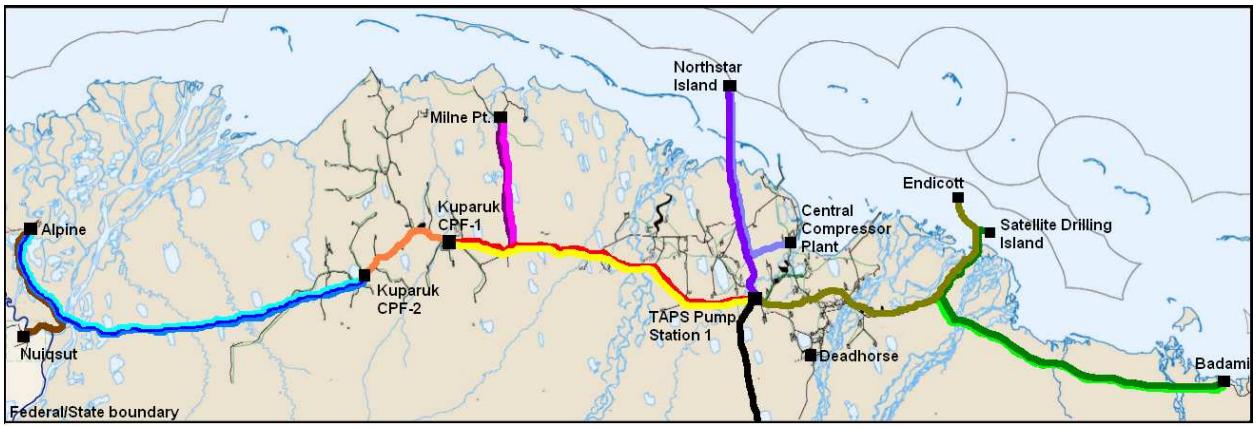

Figure 26 *Map of North Slope area Pipelines*

- Alpine Oil Pipeline*
- Alpine Diesel Pipeline
- Alpine Utility Pipeline
- Badami Sales Oil Pipeline*
- Badami Utility Pipeline
- Endicott Pipeline*
- Kuparuk Oil Pipeline*
- Kuparuk Pipeline Extension*
- Milne Point Oil Pipeline*
- Milne Point Products Pipeline
- Northstar Oil Pipeline*
- Northstar Gas Pipeline
- Nuiqsut Natural Gas Pipeline
- Oliktok Pipeline
- Trans-Alaska Pipeline System (a portion of)*

**AS 38.35 crude oil pipeline leases*

3.1 Alpine Pipelines

Figure 27 *To minimize surface disturbance, the Alpine pipelines were built "roadless" crossing tundra. Helicopters are used for access when tundra travel and/or the Alpine Ice Road are not available.*

3.1.1 Right-of-Way Lease and Pipeline System Overview

Three pipelines, each approximately 34 miles long, connect the North Slope's westernmost development, Alpine, to infrastructure in the Kuparuk River Unit (KRU). The Alpine Oil Pipeline transports processed crude oil from the Alpine Central Processing Facility (CPF) to the KRU Central Processing Facility (CPF)-2. The Alpine Diesel Pipeline transports heating fuel and other petroleum products back from CPF-2 to the Alpine development. The Alpine Utility Pipeline transports treated seawater from Kuparuk to Alpine for use in enhanced oil recovery.

For most of their length, the pipelines are above-grade on VSMs that place the pipeline a minimum of five feet above the tundra to prevent any blockage of wildlife passage. The lines also cross most river drainages on the VSM support system, including the Kachemach and Miluveach Rivers and Kalubik Creek. The exceptions to above ground configuration are the KRU road crossings and the Colville River crossing. Horizontal Directional Drilling (HDD) was used at the Colville River to place the pipe within a nitrogen-filled casing that crosses under the river.

For most of the route, the 14-inch Alpine Oil and the 12-inch Alpine Utility Pipelines are uncoated, insulated with polyurethane, and jacketed in galvanized steel. The 2-inch Alpine Diesel Pipeline is not insulated and is uncoated. Where the pipes cross under the Colville River, all three pipes are fusion bonded and epoxy coated. The Alpine Oil and Utility Pipelines are installed within individual casings. The Alpine Diesel Pipeline, two fiber optic cables (one spare) and a conduit for future power are bundled within a separate casing. All the pipelines have cathodic protection and leak detection systems. Above ground, the Alpine Pipelines share the horizontal and vertical supports with a fiber optic cable. Specific physical characteristics of the Alpine Pipelines are provided in Appendix E, Physical Parameters of SPCO Jurisdictional Pipelines.

Transportation to the Alpine development is limited to air travel in the summer. In the winter, transportation is either by air or by ice road. There is no permanent workpad adjacent to most of the Alpine Pipeline system. Therefore, pipeline maintenance and other operational functions are

typically planned in the winter, when tundra travel is permitted by the DNR Division of Mining, Land and Water, Northern Region.

ConocoPhillips Company (CPC) is the Lessee/Grantee for the three Alpine Pipelines. Alpine Transportation Company is a general partnership between Alpine Pipeline Company, Anadarko Alaska Pipeline Systems, Arctic Slope Regional Corporation, and Kuukpik Transportation Company. The Alpine Transportation Company owns the Alpine Oil Pipeline. CPC owns the Alpine Pipeline Company. ConocoPhillips Alaska, Inc. (CPAI) owns the Alpine Utility Pipeline and the Alpine Diesel Pipeline. Although the pipelines share vertical support members, they each have their own ROW lease or grant. The overlapping ROWs are each 50 feet wide, except at river crossings. More information regarding ROW status and lease appraisal information can be found in Appendix H, Pipeline Lease Appraisal Information. With the execution of the leases and grant on December 31, 2002, CPC became the Lease/Grant holder and is responsible for compliance with the ROW agreement requirements. Appendix G, Acreage, Survey, and Lease Information, contains additional lease information and Appendix F, Lease Required Contact Information**,** shows lease required contact information.

3.1.2 Lessee's Annual Report

ConocoPhillips submitted a comprehensive annual report, however they have not granted permission to the SPCO to disclose or reproduce the information contained therein, with the exception of throughput, pigging, and reliability.

Throughput, Pigging and Reliability

The report included throughput information for 2007 for all three pipelines (Table IX).

Table IX. Throughput and Pigging Information for the Alpine Pipelines, 2007.

Pipeline System	2007 Throughput	Flow Rates	MOP	Maintenance Pigging	Last Smart Pig Run	Pipeline Operator
Alpine Oil	45,485,052 net barrels	145,000 bpd	2,064 psig at 180° F	13 times	2005	CPAI*
Alpine Diesel	4,246,068 gallons arctic heating fuel	15 gpm	1,366 psig at 100° F	4 times	n/a (hydro-test)	CPAI
Alpine Utility	42,669,445 barrels	135,000 bpd	2,160 psig at 150° F	19 times	2005	CPAI

*ConocoPhillips Alaska, Inc

The Alpine Oil Pipeline, commissioned in November 2000, had a reliability rate of 99.9% during this reporting period (2007). The Alpine Utility Pipeline had a reliability rate of 99.9%. The Alpine Diesel Pipeline had a 100% reliability rate.

3.1.3 SPCO Activities

SPCO Field Activities

The SPCO made two trips along the Alpine Pipelines ROWs in FY08. A trip in October 2007 was made to observe an ILI run through the utility pipeline, and a second trip in January 2008

was to observe the PHMSA required hydrostatic test for the diesel pipeline (Appendix I, SPCO Surveillance Reports Issued in FY08.).

In-line Inspection
Two members of the SPCO compliance section, escorted by a representative of CPC conducted a surveillance of the Alpine Utility Pipeline ILI tool run on October 1 and 2, 2007. They observed the launch, tracking, and retrieval of the ILI tool (SPCO Letter No. 07-090-WW).

Hydrostatic Testing of the Alpine Diesel Pipeline
The SPCO Compliance Section traveled to Alpine to observe a planned hydrostatic test of the Alpine Diesel Pipeline on January 8 and 9, 2008. The purpose of the test was to verify the pipeline integrity as part of CPAI's USDOT Integrity Management Program. The Team, with support from the Engineering Section, spot-checked various portions of the test procedure, observed pressuring up of the pipeline at the Alpine facility, and observed energy isolation at both the Alpine and KRU CPF-2 locations. Due to fluctuations in ambient temperature, the pipeline pressure was not stabilized enough to begin the 8-hour test until evening, requiring the single qualified crew to stay up for at least 8 hours beyond the end of their regularly scheduled 12-hour shift (SPCO letter 08-006-WW).

Right-of-Way and Permits Section

After review of an August 30, 2007 letter from CPAI, the SPC had no objection to specified pipeline maintenance and pig recovery operations within the ROW of the Alpine Oil Pipeline, Alpine Diesel Pipeline, and Alpine Utility Pipeline (SPCO Letter No. 07-085-TG).

3.2 Badami Pipelines

Figure 28 *To minimize surface disturbance, the Badami pipelines were built "roadless" without an access road. Vehicle access is available in the tundra travel season and helicopters are used year-round.*

3.2.1 Right-of-Way Lease and Pipeline System Overview

The Badami Pipelines connect the North Slope's easternmost oil development, Badami Oil Field, to the Endicott Pipeline. The 12-inch Badami Sales Oil Pipeline begins at the Badami Central Production Facility, where the pig launcher, mainline pumps, and metering equipment are located (Appendix E, Physical Parameter of SPCO Jurisdictional Pipelines). It ends approximately 25 miles to the west at the tie-in with the Endicott Pipeline, where there is a pig receiver.

The 6-inch Badami Utility Pipeline begins at Endicott's Main Production Island (MPI). It was designed to transport miscible injectant from MPI to the Badami Central Production Facility. It operated intermittently to supply fuel gas for starting up the Badami facility and operated briefly in August 2007 to supply gas to push an ILI tool through the Badami Oil Pipeline.

The ROWs for both pipelines were in construction-width status during FY08. The Badami Sales Oil Pipeline has a construction width of 300 feet, except at the buried river crossings where the ROW expands to 2,000 feet. The Badami Utility Pipeline has a construction width of five feet between the Endicott tie-in and the Badami Central Production Facility and an expanded width of 300 feet between the Endicott tie-in and the MPI. Construction of the Badami Utility Pipeline took place within the ROW of the Sales Oil Pipeline.

The leases for both pipelines were executed on December 15, 1997 and are set to expire on December 14, 2022 (Appendix G, Acreage, Survey, and Lease information).

3.2.2 Lessee's Annual Report

BP Transportation (Alaska) Inc (BPTA) submitted a comprehensive Annual Report to the SPCO on February 15, 2008, which presented information for seven pipelines, including the Badami Pipelines. The report format paralleled the SPCO reporting requirements and met SPCO expectations, which was appreciated (Appendix J, SPCO Annual Reporting Requirements). The report provided appropriate detail and supporting information. The quality of the BPTA report has improved noticeably over the past several years and the SPCO acknowledges their efforts in this area.

There has been an effort on the part of BPTA and the SPCO to improve communications this past year with the establishment of quarterly meetings (Appendix F, Lease Required Contact Information). This allowed BPTA to update the SPCO on activities and plans related to all of the BPTA lines, and for questions to be raised and responded to by both parties.

Significant items excerpted and extracted from the BPTA Annual Report, with regard to the Badami Sales Oil Pipeline, are presented below.

Throughput, Pigging and Reliability

BPTA reported pipeline throughput and pigging activities in their 2007 annual report. This information has been summarized in Table X.

Table X. Throughput and Pigging Information for the Badami Pipelines, 2007.

Pipeline System	2007 Throughput	MOP	Maintenance Pigging	Last Smart Pig Run	Pipeline Operator
Badami Sales Oil	221,205 net barrels	1,415 psig at 150° F (design)	Twice in 2006	2007*	BPXA
Badami Utility	43,252 Mscf**	Not in service	Not in service	Never	BPXA

** ILI run at decommissioning of sales oil pipeline (August 27, 2007). No data gathered beyond mile 5.9*
*** Used to push decommissioning pigs on sales oil pipeline.*

The reported gas throughput reflects the amount of gas transported from Endicott to push the decommissioning pigs through the Badami Sales Oil Pipeline. The Badami Oil Pipeline was purged on August 27, 2007 and at that time, an ILI tool was run through the pipeline. The tool did not collect data beyond pipeline milepost 5.9. Prior to the ILI run and the decommissioning of the sales oil pipeline, a series of cleaning/maintenance pigs were run during June and July. Since the pipeline is temporarily out of operation, BPTA has no plans to run another ILI at this time.

There was one unplanned shutdown of the Badami Pipeline due to the failure of a Remote Terminal Unit (RTU) on May 22, 2007. The Badami oil pipeline can be considered 99.7% reliable during this operating period.

Assurance Programs

Quality Assurance Program

BPTA has a comprehensive QAP designed to protect the safety and health of all people involved in their operations. There are numerous elements to the program including leadership,

accountability, risk assessment, training, third party assessments, obligation tracking, workplace safety information, crisis and emergency management, incident investigation, corrective and preventative actions, and assessments and improvements. BPTA uses planned, systematic processes to evaluate and document whether they have met the parameters of their QAP, as well as all lease stipulations and PHMSA requirements. The QAP applies to all of the BPTA pipelines and provides continuity across the BPTA leases.

PHMSA Integrity Management Program and Risk Assessment
Since 2006, BPXA, the Badami Operator, has applied their USDOT Integrity Management Program to the Badami Oil Pipeline, including an annual risk assessment. A key output of risk assessments are preventive and mitigative measures that will directly reduce any risk to pipeline integrity or that could prevent or mitigate the consequences of a pipeline failure. The initial baseline risk assessment under this program was performed in 2006. It included the following analyses: Fate and Transport analysis, Surge Analysis Summary and Stress Corrosion Cracking Analysis. This risk assessment completed in December 2006 still had items being closed out at the time of the annual risk assessment for 2007.

Given the shortened review cycle between the two assessments, only a qualitative risk assessment was performed in 2007. A review of current operating conditions and the status of the assumptions made for the 2006 risk assessment were used to give an indication of pipeline fitness for operation. Items requiring action included such things as recurring inspections of minor corrosion, areas of missing sheet metal (insulation bands), VSM settlement, and sheet metal perforations. Only one new action item was added for Badami pipelines in 2007.

PHMSA aerial inspections are conducted approximately every two weeks, the formal walking speed ground survey is once a year, the cathodic protection survey is conducted once a year, and the risk assessment is also conducted once a year. These will be discussed further in the surveillance and monitoring section later in this report.

Corrosion Program
The internal corrosion program is divided into four elements: 1) Corrosion Rate Monitoring, 2) Erosion Rate Monitoring, 3) Frequent Inspection Program, and 4) the Comprehensive Integrity Program. The external corrosion program is less systematic because external corrosion is more random. External corrosion is primarily associated with water absorption by the thermal insulation that surrounds the pipelines. Particular areas of concern include the weld packs, which surround the welds made during construction and therefore must be field-applied. Corrosion prevention inspections, such as ultrasonic external inspections and ILI runs, are included in the operator's surveillance and monitoring efforts.

Internal Safety Program
Each independent facility, including Badami, takes ownership of their internal safety programs and employees formally monitor each other's safety behavior-based techniques. These observations include items such as suggestions or positive reinforcement of observed good practices, as well as deficiencies. The effectiveness of the program is demonstrated by the safety statistics. Badami has had no reportable OSHA days away from work, OSHA recordable accidents/incidents, OSHA first aid, or major BPXA incident reports for pipelines for the last three years.

Surveillance and Monitoring Program

The SMP is designed to detect and abate situations that endanger health, safety, environment, or pipeline integrity. The program must be reviewed and approved by the SPCO. BPTA submitted a revised program for approval this year that includes an expanded matrix with details about surveillances, monitoring, maintenance and other requirements for both active and out-of-service pipelines this year. The fieldwork and inspection carried out for the Badami Pipelines by BPXA are laid out below (Table XI).

Table XI. Operator Fieldwork and Inspections Completed for the Badami Pipelines, by quarter, 2007.*

Quarter	Activities
01/01/2007-03/31/2007 (*First Quarter*)	USDOT Aerial Inspections, (~every 2 weeks)
4/1/2007-6/30/2007 (*Second Quarter*)	USDOT Aerial Inspections, (~every 2 weeks)
	Ground Walking Speed Survey
	Complete installation of vibration dampeners
	2008 Risk Assessment Review - Oil Pipeline (USDOT IMP)
7/1/2007-9/30/2007 (*Third Quarter*)	USDOT Aerial Inspection (~every 2 weeks)
	Sagavanirktok River Weir Monitoring
	Cathodic Protection Survey
10/1/2007-12/31/2007 (*Fourth Quarter*)	USDOT Aerial inspection (~every 2 weeks)

** Table provided by BPTA in their 2007 Annual Report*

In-Pipeline Inspections

Aerial Surveys

Shared Services Aviation (under contract) conducted 79 aerial inspections of the Badami pipelines in 2007 that fulfilled both SPCO and PHMSA surveillance and patrol requirements. Four of the flights utilized FLIR technology. In addition to the Shared Services Aviation surveillances, three helicopter surveys were conducted. Individuals conducting these surveys have comprehensive inspection lists that require surveillants to check for any discrepancies at the valves, any changes in the pipe support system, condition of pipe insulation, erosion (especially at river crossings), condition of the Badami weir, the condition of the RTUs, and other items. Missing vibrations dampeners were noted during several aerial and ground surveys. A repair/replacement plan was to be conducted during winter 2007-2008. The most significant item identified during these inspections was a propane leak at RTU-2, discovered by a helicopter pilot.

Ground Surveys

The Badami pipelines were also checked three times using ground surveys. The annual ground survey was completed in April 2007. As part of this effort, 93 PHMSA defined observations were noted on the Badami Utility Pipeline and 20 observations on the Badami Oil Pipeline. Maintenance crews accompanying the inspection crew corrected some deficiencies on the spot. Jacked or settled VSMs were noted and referred for a survey by professional surveyors. Vibration dampener damage will be fixed during winter 2008-2009. Other minor findings included missing pieces of sheet metal or broken insulation straps/bands, and minor sheet metal perforations.

Cathodic Protection Survey
The annual CP survey was completed in August 2007. The work was done to ensure compliance with requirements of 49 CFR 192.165 and 49 CFR 195.573. CP systems are only necessary at buried river crossings where the pipeline was trenched under the Kadleroshilik River, the Shaviovik River, and the East Channel of the Sagavanirktok River.

Fish and Wildlife Monitoring
The ADF&G and USFWS have notification requirements associated with grizzly and polar bear dens. Each agency must be notified upon identification of new den sites. BPTA must also avoid work in the vicinity of known den sites unless authorized by the jurisdictional agency. In FY08, no occupied grizzly bear dens were encountered on the Badami ROW and no new polar bear dens were found. Polar bears are now listed as threatened under the Endangered Species Act. The Spectacled Eider is also listed as threatened under the Endangered Species Act. No Spectacled Eider nests were identified during FY08 work activities.

The SMP includes inspection of all fish streams to ensure fish passage is not being impeded. In FY08, BPTA identified no locations where fish passage was blocked.

Maintenance and Construction Activities

Badami Weir
On the East Channel of the Sagavanirktok, the construction of the pipeline river crossing started a sequence of changes in drainage that eventually affected a nearby oxbow lake and posed a potential threat to a larger wetland system. A weir was constructed across a tributary to the East Channel of the Sagavanirktok River to mitigate this disturbance.

The Lessee and Operator worked with state and federal agencies on a weir design that would minimize erosion and maintain water levels in the adjacent wetlands and water bodies. The weir was initially constructed in 2002. The Lessee is required to conduct three summer surveys of the weir until the site is adequately stabilized. The surveys assess bank erosion, flooding conditions, and surface conditions.

Reports from previous years indicated that the weir was not functioning properly. Discussion continued between the Lessee, the Operator, and the SPCO throughout 2007 to achieve a permanent engineered solution for the weir. BPTA submitted the *2007 Interim Corrective Action and Data Acquisition Plan*, which was approved by the SPC on February 26, 2007 (SPCO letter No. 07-025-WW). The interim activities include geotechnical investigations, hydrology investigations, and short-term stabilization measures. The area subject to erosion in previous years was armored with sand and gravel bags. Placement of the bags raised the ground surface adjacent to the weir in order to direct rising flood waters towards the weir. Additionally, a thermoelectric generator, two 1,000-gallon propane tanks, and cameras were installed at the Badami Pipeline RTU 2 pad on the east bank of the east channel of the Sagavanirktok River, to monitor the area.

Summer 2007 inspections of the Badami Weir were conducted on June 16, July 13, and August 10, 2007. On November 14, 2007, the Lessee submitted to the SPCO results of the data collection and the monitoring activities in the *Select Phase Report*.

ROW Backfill Subsidence
On July 13, 2007, the SPCO identified a section of the Badami ROW where backfill had subsided on top of the buried pipeline on the east bank of the Shaviovik River. The Operator conducted a follow-up site inspection in July. The inspection evaluated soils, vegetation, hydrology, and the potential for further subsidence and/or erosion at the site. Neither standing water nor channeling was present. Colonization of the disturbed site was already occurring and additional site work could have caused a setback of the natural recovery process. Given the ongoing recovery of the site, and the fact that the subsidence poses no threat to pipeline integrity, the report recommended no rehabilitation of the site at this time. Results of the site evaluation were provided as an appendix to the Lessee's 2007 annual report.

RTU Failure and valve shutdown
RTU 3 experienced a power failure and caused a valve closure and shutdown of the oil pipeline on May 22, 2007. RTUs have microprocessors that summarize, filter, and process large volumes of data that is either sent on to other control units or directly controls an action. The unit that failed was repaired and the pipeline was restarted after several hours. During the shutdown, oil was routed from the pipeline into a separation vessel. The pipeline did not exceed Maximum Operating Pressure (MOP).

3.2.3 SPCO Activities

The FY08 SPCO activities related to the Badami pipelines included engineering design review, field inspections, review of the SMP, review and approval of the temporary warm shutdown plan for the Badami Oil Pipeline, receipt, and review of updated appraisals for the Badami Pipelines, and calculating rental adjustments.

The SPCO made three trips to inspect the Badami pipeline operations and ROWs in FY08. On two of these trips, the SPCO staff joined Lessee and Operator representatives for scheduled summer 2007 and 2008 inspections of the Badami Weir site. On the trip in July of 2007, all stream crossings were observed and special note was taken of the previously observed subsidence trench at the Shaviovik River crossing, in addition to the weir location itself. The SPCO staff did not identify any immediate concerns at the Shaviovik River crossing. The SPCO did request that the trench be evaluated to determine what if any remediation might be necessary. The resulting report indicated no need for action on the trench. No additional concerns were identified for the weir during these two trips. An additional trip was taken in August 2007, when a member of the SPCO Compliance Section observed the 2007 planned ILI run along the Badami Oil Pipeline in preparation for the warm shutdown. More detail is provided below.

Pipeline Operations – Discontinuance of Service

On September 20, 2007, the State Pipeline Coordinator approved a BPTA request for the temporary discontinuance of service of the 12-inch Badami Sales Oil Pipeline and the 6-inch Badami Utility Pipeline by September 30, 2007. BPTA indicated that shipments would be suspended until the pressure in the Badami reservoir recharges.

Badami Weir

In FY08, the SPCO worked with the Lessee, the Operator, and other agencies, to find ways to augment the existing weir structure to improve its performance in maintaining the correct drainage and the correct lake-water surface elevation.

SPCO personnel conducted two site visits during this reporting period. The first visit was conducted on July 13, 2007, to monitor interim corrective actions necessary for the weir to function as intended while a permanent solution was being designed. The second visit was conducted by members of the SPCO Engineering and Compliance Sections and BPXA, the pipeline operator, on June 16, 2008. The inspection revealed that the interim corrective action for the Badami Weir, which began in spring 2007, appeared to prevent bypass flow around the weir and the wetland levels were being adequately maintained. Surveillance reports for this trip will be completed in FY09.

During development of a permanent solution, the SPCO approved interim corrective actions that were implemented in spring 2007. Continuing observations this year indicated that the interim modifications to the Badami Weir were successfully maintaining adequate water levels to sustain the wetlands. The Lessee plans to install permanent modifications to the structured in the winter of 2008/2009.

Figure 29 *The Badami Weir was installed on the West bank of the East Channel of the Sagavanirktok River to control erosion. The pipeline crossing location intersected a natural drainage channel of the wetland system visible in the upper left quadrant of the photo. The sandbar in the river (bottom right) was created by the erosion of the backfilled trench the summer after pipeline construction in 2000. Flow is left to right. The weir, installed in 2002, also maintains water levels in the wetlands, protecting sensitive Arctophila fulva habitat.*

ROW Backfill Subsidence

On July 13, 2007, SPCO personnel conducted an inspection trip that focused on river and stream crossings along the Badami Pipeline ROWs (SPCO Letter No. 07-085-WW). Two surveillance reports described potential unsatisfactory conditions under Lease Stipulation 1.6.1 because BPTA had not reported trench subsidence at the Shaviovik River as required by the approved SMP (Appendix I, SPCO Surveillance Reports Issued in FY08). Follow-up communications documented that the minimum depth of cover was likely still met. No follow-up by the Lessee has been required because natural vegetation colonization on the backfill is proceeding adequately, and any further work could set back the pace of natural recovery.

In-Pipeline Inspection

The SPCO observed the launch and retrieval of an ILI tool during the shutdown of the Badami Oil Pipeline on August 27, 2007. Gas from the Badami Utility Pipeline was used to push the ILI tool through the pipeline to the pig receiver at the Endicott/Badami tie-in. No surveillance reports resulted from this trip, which also included a ROW over-flight.

ROW Relinquishment

The Lessee submitted an initial as-built survey for both pipelines in 2003. The SPCO requested additional information required to portray the two overlapping ROWs accurately.

When the *ROW Release of Interest* process is completed, the ROW for each pipeline will be reduced to the operations width, which is anticipated to be 60 feet, with an additional 10 feet at the valve pads. The final width will depend on the final as-built.

ROW Rental Adjustment

On March 20, 2008, the SPCO notified BPTA that the State Review Appraiser reviewed and certified Appraisal No. 3498 (SPCO Letter No. 08-013-TG). Based on the annual fair market value of the land reported in the appraisal, the annual rental was adjusted to $181,122 for the Badami Utility Pipeline ROW (Appendix H, Pipeline Lease Appraisal Information).

On March 27, 2008, SPCO informed BPTA that the State Review Appraiser reviewed and certified Appraisal No. 3498 (SPCO Letter No. 08-017-TG). Based on the annual fair market value of the land reported in the appraisal, the annual rental for the construction ROW was adjusted to $540,144 for the Badami Sales Oil Pipeline ROW (Appendix H, Pipeline Lease Appraisal Information).

3.3 Endicott Pipeline

Figure 30 *During an August 2007 integrity investigation of the Endicott Pipeline at the Causeway Tee, material was stockpiled near the work site. The Badami Utility Pipeline (with vibration dampeners in foreground) shares the same vertical and horizontal supports as the Endicott Pipeline from the Badami tie-in to the Causeway Tee, where the Utility Pipeline diverges toward the Satellite Drilling Island.*

3.3.1 Right-of-Way Lease and Pipeline System Overview

The Endicott Development is located offshore in the Beaufort Sea, about 15 miles east of Prudhoe Bay. The facilities are located approximately 2.5 miles seaward of the Sagavanirktok River Delta and shoreward of the barrier islands, in water up to 14 feet deep. The Endicott facility includes the Main Production Island (MPI), the Satellite Drilling Island (SDI), and Endeavor Island immediately adjacent to the MPI. They are linked to shore by a 1.9-mile long causeway that extends from the Sagavanirktok River delta to the Inter-island causeway that links the MPI and the SDI. The causeway has three permanent breeches placed to ensure fish passage and maintain water quality. A 1.5-mile gravel approach connects the southern end of the causeway to the Sagavanirktok River Delta uplands where it connects with an 8-mile gravel road that ties into the Prudhoe Bay road system. This provides year-round access to Endicott facilities and pipelines.

The Endicott Pipeline transports processed crude oil from the Endicott Development approximately 26 miles above ground on VSMs to TAPS PS01. The 16-inch diameter pipeline begins at Endicott's MPI and is mounted on VSMs along the causeway to shore, where it parallels the road system to PS01. The Badami Oil Pipeline ties into the Endicott Pipeline at approximately the mid-point. Additional information regarding the physical features of the Endicott Pipeline can be found in Appendix E, Physical Characteristics of SPCO Jurisdictional Pipelines. During 2006, Flow Stations 1 and 2, and the crude oil topping unit (COTU) were tied into the Endicott Pipeline, allowing oil from Greater Prudhoe Bay (GPB) to temporarily route some of its production through the Endicott Pipeline to PS01. It is anticipated that GPB will no longer use these connections by the end of 2008.

The operations ROW for the Endicott Pipeline is approximately 150 feet wide, except along the causeway, where the ROW is 500 feet wide (Appendix G, Acreage, Survey, and Lease

Information). The pipeline crosses the West Channel Sagavanirktok River on a pipe bridge. The as-built for Endicott Pipeline alignment in the area of the new GPB connections is shown incorrectly and there are plans to have it resurveyed.

3.3.2 Lessee's Annual Report

BPTA, the owner of Endicott Pipeline Company, submitted a comprehensive Annual Report to the SPCO on February 15, 2008, which presented information for seven pipelines, including the Endicott Pipeline. The report format paralleled the SPCO reporting requirements and met SPCO expectations (Appendix J, SPCO Annual Reporting Requirements). The report provided appropriate detail and supporting information. The quality of the BPTA report has improved noticeably over the past several years and the SPCO acknowledges their efforts in this area.

There has been an effort on the part of BPTA and the SPCO to improve communications this past year with the establishment of quarterly meetings (Appendix F, Lease Required Contact Information). This allowed BPTA to update the SPCO on activities and plans related to all of the BPTA lines, and for questions to be raised and responded to by both parties.

Significant items excerpted and extracted from the BPTA Annual Report, with regard to the Endicott Pipeline, are presented below.

Throughput, Pigging and Reliability

BPTA reported pipeline throughput and pigging activities in their 2007 annual report. This information has been summarized in Table XII.

Table XII. Throughput and Pigging Information for the Endicott Pipeline, 2007:

Pipeline System	2007 Throughput	MOP	Maintenance Pigging	Last Smart Pig Run	Pipeline Operator
Endicott	5,957,551 net barrels	1,200 psig at 180° F (operating)	Quarterly	2005	BPXA

The reported net throughput reflects the amount of oil, without water and sediment, from Endicott. The Endicott Pipeline did not experience an unplanned shutdown in 2007. Their reliability, or operational readiness, was 100%.

Cleaning and maintenance pigs were run quarterly through the Endicott Pipeline. The last smart pig run was in 2005. The next smart pig run through the Endicott Pipeline is scheduled for 2008.

Assurance Programs

Quality Assurance Program

BPTA has a comprehensive QAP designed to protect the safety and health of all people involved in their operations. There are numerous elements to the program including leadership, accountability, risk assessment, training, third party assessments, obligation tracking, workplace safety information, crisis and emergency management, incident investigation, corrective and preventative actions, and assessments and improvements. BPTA uses planned, systematic processes to evaluate and document whether they have met the parameters of the QAP, as well as

all lease stipulations and PHMSA requirements. The QAP applies to all of the BPTA pipelines and provides continuity across the BPTA leases.

PHMSA Integrity Management Program and Risk Assessment
Since 2006, BPXA, the Operator for Endicott Pipeline, has applied their USDOT Integrity Management Program to the pipeline and includes an annual risk assessment. A key output of risk assessments are preventive and mitigative measures that will directly reduce any risk to pipeline integrity or that could prevent or mitigate the consequences of a pipeline failure. An initial baseline risk assessment under this program was performed in 2006. It included the following analyses: 1) Fate and Transport analysis, 2) Surge Analysis Summary, and 3) Stress Corrosion Cracking Analysis. This risk assessment completed in December 2006 still had items being closed out at the time of the annual risk assessment for 2007.

Given the shortened review cycle between the two assessments, only a qualitative risk assessment was performed in 2007. A review of current operating conditions and the status of the assumptions made for the 2006 risk assessment were used to give an indication of pipeline fitness for operation. Items requiring action included such things as recurring inspections of minor corrosion, areas of missing sheet metal (insulation bands), VSM settlement, and sheet metal perforations. Five new action items were added for the Endicott Pipeline in 2007.

PHMSA requires frequent inspections of the pipeline and provides regulatory oversight on any findings and required follow-up.

Corrosion Program
The internal corrosion program is divided into four elements: 1) Corrosion Rate Monitoring, 2) Erosion Rate Monitoring, 3) Frequent Inspection Program, and 4) the Comprehensive Integrity Program. The external corrosion program is less systematic because external corrosion is more random. External corrosion is primarily associated with water absorption by the thermal insulation that surrounds the pipelines. Particular areas of concern include the weld packs, which surround the welds made during construction and therefore must be field-applied. Corrosion prevention inspections, such as ultrasonic external inspections and ILI runs, are included in the Operator's surveillance and monitoring efforts.

In addition to standard PHMSA required corrosion inspections, the buried segment of the pipeline at the road crossing on the Endicott Causeway was opened during an excavation for pipe spool replacements of the Inter-Island Water Pipeline and Gas Lift lines (not lines under the authority of the SPCO). This provided an opportunity for ultrasonic testing and visual inspection of the pipeline. Increases in the amount of external corrosion, originally identified during a 1998 inspection, were noted, but were not significant. The fit-for-service calculations showed that the pipe was still safe to operate at 105% of MOP. The pipe was reinsulated and placed back in its casing at the conclusion of the integrity dig.

Internal Safety Program
Each independent facility, including Endicott, takes ownership of their internal safety programs and employees formally monitor each other's safety behavior-based techniques. At Endicott this last year employees submitted 465 safety related observations. These observations include items such as suggestions or positive reinforcement of observed good practices, as well as deficiencies.

The effectiveness of the program is demonstrated by the safety statistics. Endicott has had no reportable OSHA days away from work, OSHA recordable accidents/incidents, OSHA first aid, or major BPXA incident reports for pipelines for the last three years.

Surveillance and Monitoring Program

The SMP is designed to detect and abate situations that endanger health, safety, environment, or pipeline integrity. The program must be reviewed and approved by the SPCO. BPTA submitted a revised program for approval this year that includes an expanded matrix with details about surveillances, monitoring, maintenance and other requirements for both active and out-of-service pipelines.

Ground Surveys

PHMSA requires drive-by inspections of the Endicott Pipeline at an interval of at least once every three weeks, and a minimum of 26 times a year. During these surveys any changed or unusual condition on or adjacent to the pipeline is noted, and receives follow up as appropriate. Additionally, PHMSA requires an annual walking-speed ground survey with more extensive visual inspection requirements. While these surveys, and any follow-up work requirements, are conducted under the authority of the PHMSA, they coordinate and cooperate with the SPCO.

The number of drive-by inspections of the Endicott Pipeline in 2007 exceeded the minimum frequency required by the SMP (Table XIII, Operator Fieldwork and Inspections Completed for the Endicott Pipeline, by quarter, in 2007). Copies of all inspection reports were included in an additional volume to the Lessee's 2007 annual report. The increased number of inspections was mandated by DEC in October 2006 and remained in place until a test of the leak detection system March 29, 2007, showed that it met DEC regulatory requirements.

In addition to regular visual surveys, the Operator monitored the pipe in the area of the new connections with hand held FLIR equipment. This was done frequently during the construction period to supplement the leak detection system.

The annual USDOT ground survey was performed November 25 and 30, 2007. There were no significant findings.

Visual surveys were also completed of the vaults at the Endicott "Y" (causeway intersection).

Table XIII. Operator Fieldwork and Inspections Completed for Endicott, by quarter, 2007*

Quarter	Activities
01/01/2007-03/31/2007 (*First Quarter*)	US DOT drive-by inspections, (~every 2 weeks)
	Cleaning/Maintenance pig run – Oil Pipeline
4/1/2007-6/30/2007 (*Second Quarter*)	US DOT drive-by inspections, (~every 2 weeks)
	Cleaning/Maintenance pig run on Oil Pipeline
	2008 Risk Assessment Review - Oil Pipeline (US DOT IMP)
7/1/2007-9/30/2007 (*Third Quarter*)	US DOT drive-by inspection (~every 2 weeks)
	Ground Walking Speed Survey
	Vault survey of Tee and Ice Road vaults
	Scheduling of smart pig run for Oil Pipeline
	Cleaning/Maintenance pig run(s) Oil Pipeline

Table XIII Continued.

Quarter	Activities
10/1/2007-12/31/2007 (*Fourth Quarter*)	US DOT drive-by inspection (~every 2 weeks)
	Cleaning/Maintenance pig run on Oil Pipeline

**Table provided by BPTA in their 2007 Annual Report*

Fish and Wildlife Monitoring

The ADF&G and USFWS have notification requirements associated with grizzly and polar bear dens. Each agency must be notified when new den sites are located. The operator must also avoid work in the vicinity of known den sites unless authorized by the jurisdictional agency. In FY08, no occupied grizzly bear dens were encountered on the Endicott Pipeline ROW and no new polar bear dens were identified. Polar bears are now listed as threatened under the Endangered Species Act. The Spectacled Eider is also listed as threatened under the Endangered Species Act. No active Spectacled Eider nests were identified during FY08 work activities.

The SMP includes inspection of all fish streams to ensure fish passage is not being impeded. In FY08, BPTA identified no locations where fish passage was blocked.

Maintenance, Construction Activities and Unplanned Events

2006 Transit Pipeline Oil Spill

BPXA's replacement of GPB oil transit lines impacted Endicott Pipeline operations. As described in the FY07 SPCO annual report, Flow Station 1, Flow Station 2, and the COTU were connected to the Endicott Pipeline. Only the Flow Station 2 and COTU connections were commissioned. In 2007, BPXA replaced a temporary support at the Flow Station 2 connection with a permanent structure. The pipeline replacement projects resulted in construction activities occurring within the Endicott Pipeline ROW, including pipeline installation, ice road construction, pad expansions, and additional surface facilities. These were handled through letters of non-objection.

Communication Cable and Fiber Optic Cable

An old communication cable hanging under the Endicott Pipeline, in an area near the Badami tie-in, was removed. A fiber optic cable and associated junction boxes were placed within the ROW from the MPI to the SDI, replacing a failing fiber optic segment. The new fiber optic cable will support increasing demand for an updated voice and data infrastructure to support critical facility communications.

Abnormal Operations

On August 12, 2007, the Endicott Pipeline's incoming flow rate to TAPS PS01 abruptly increased from approximately 6,000 to 66,000 bpd without warning, temporarily exceeding the available metering capacity until a second meter could be brought online. Subsequently, the rate dropped to 1,000 bpd and then slowly came back to a more normal range. The situation repeated again the same day. BPXA evaluated the surge and determined it was not an integrity issue with respect to pipeline pressure. The PHMSA allows pressure transients of up to 10% beyond a pipeline's MOP.

3.3.3 SPCO Activities

Integrity Investigations

In FY08, the Lease Compliance Section visited the Endicott Pipeline ROW to observe the integrity investigation at the causeway intersection on August 5, 2007. Satisfactory conditions were noted in three surveillance reports (SPCO Letter No. 07-066-WW) (Appendix I, SPCO Surveillance Reports Issued in FY08).

Oil Transit Pipeline – Endicott Tie-In

The SPCO completed a review, including an engineering review, and had no objections to proposed activity within the Endicott Pipeline ROW for installation of access bridges and platforms for permanent access to valves and upstream transducers at the Oil Transit Pipeline Bypass at Flow Station 2 (SPCO Letter No. 07-052-TG).

On April 30, 2007, the SPC authorized temporary connections between the Endicott Pipeline System and BPXA-operated facilities Flow Station 2 and the COTU. As a result of an engineering review, the SPCO stipulated a condition that a temporary support be removed prior to summer.

Maintenance Activities

The SPCO issued a letter of non-objection for BPXA to perform maintenance work on other equipment within the Endicott ROW (SPCO Letter No. 07-066-TG). The work required excavation of the soil around the Endicott Pipeline, and three adjacent lines, to replace portions of the buried inter-island produced water pipeline and gas-lift header line. While the area was exposed, a portion of the Endicott Pipeline was inspected, and an as-built was made of all buried lines.

The SPCO also had no objection to proposed work to place fiber-optic cable and fiber-optic junction boxes within the Endicott Pipeline ROW from the MPI to the SDI (SPCO Letter No. 07-097-TG).

ROW Appraisal

The State Review Appraiser reviewed and certified Appraisal No. 3498. Based on the annual fair market value of the land reported in the appraisal, the annual rental was adjusted to $735,627 for the Endicott Pipeline ROW (SPCO Letter No. 08-014-TG) (Appendix H, Pipeline Lease Appraisal Information).

3.4 Kuparuk and Oliktok Pipelines

Figure 31 *Localized external corrosion was discovered at this location along the Kuparuk Pipeline in August 2007, requiring a Safety-Related Condition Report to the PHMSA. The location was repaired with a pressure-containing sleeve.*

3.4.1 Right-of-Way Lease and Pipeline System Overview

The Kuparuk Transportation Company (KTC) is a general partnership between Kuparuk Pipeline Company (owned by ConocoPhillips Company), BP Transportation (Alaska), Inc. and Union Kuparuk Pipeline Company and is the Lessee for the Kuparuk (KPL), Kuparuk Extension (KPE) and Oliktok (OPL) Pipelines (Appendix F, Lease Required Contact Information). The Lessee for OPL is Oliktok Pipeline Company (owned by ConocoPhillips Company).

KPL transports processed crude oil from Kuparuk Central Processing Facility One (CPF-1) 28 miles east to TAPS PS01. Additional oil enters the KPL approximately six miles downstream from the CPF-1 at the Milne Point tie-in. The 9.2-mile KPE ties the Alpine Oil Pipeline transporting oil from the Colville River Unit, into the KPL. It transports oil from CPF-2 to a connection manifold at CPF-1 after which it is transported to PS01 in the KPL. The OPL begins adjacent to skid-50 at TAPS PS01 and transports natural gas liquids from Prudhoe Bay to Kuparuk CPF-1 to support operations. KPL and OPL share the same horizontal and vertical supports between CPF-1 and TAPS PS01.

The road systems in the Kuparuk Unit and Western Prudhoe Bay provide year-round access to the Kuparuk production facilities. Access roads are also available along the ROW itself with the exception of the river crossings. The KPL and OPL cross the Kuparuk River floodplain and various tributaries as well as Central Milne Creek, East Creek, Sakonowyak River, and the Putuligayak River. KPE crosses Ugnuravik River and a minor unnamed drainage. All three pipelines are located above ground except at caribou and road crossings where they have been placed below grade within casings, which provide an annulus of air and galvanic isolation.

The "original" 16-inch Kuparuk Pipeline, laid in 1981, carried processed crude oil to PS01. Later that same year, the KPE was constructed from CPF-2 to CPF-1, and was comprised of both 12 and 18-inch segments. In 1984, when the new 24-inch Kuparuk Pipeline was laid, the "original" Kuparuk Pipeline was converted to the Oliktok Pipeline, which now carries natural gas liquids from PS01 (skid-50) back to CPF-1. Specific physical characteristics of the pipeline are provided in Appendix E, Physical Characteristics of SPCO Jurisdictional Pipelines.

All three of these pipeline ROWs are in operational width, typically 150 feet. Although the KPL and OPL share supports, they have separate ROW leases. The KPL was amended in 2004 to place a pig launcher shelter near CPF-1. Additional lease information can be found in Appendix G, Acreage, Survey, and Lease Information.

3.4.2 Lessee's Annual Report

ConocoPhillips submitted a comprehensive annual report, however they have not granted permission to the SPCO to disclose or reproduce the information contained therein, with the exception of throughput, pigging, and reliability.

Throughput, Pigging and Reliability

The report included 2007 throughput information for all three pipelines (Table XIV).

Table XIV. Throughput and Pigging Information for Kuparuk and Oliktok Pipelines, 2007.

Pipeline System	2007 Throughput	MOP	Maintenance Pigging	Last Smart Pig Run	Pipeline Operator
KPL	114,796,833 barrels	1,415 psig at 150° F	Monthly	2006	CPAI
KPE	77,665,001 barrels	1,415 psig at 150° F	Not piggable	Not piggable	CPAI
OPL	9,806,123 barrels	1,415 psig at 150° F	Not piggable	Not piggable	CPAI

Operations Reliability

During 2007, the KPL and KPE were both 99.9% reliable. The OPL was 100% reliable during this time.

3.4.3 SPCO Activities

Details related to SPCO work in support of the Kuparuk, Kuparuk Extension, and Oliktok pipeline leases are summarized in the following section:

SPCO Field Trips

SPCO staff traveled on August 21, 2007 to the Kuparuk CPF-2, as follow-up to two DRA spills. The SPCO staff also traveled the entire ROW, including the temporary ice road, to view many of the sites, near the Kuparuk River, which were selected for external inspection along the Kuparuk and Oliktok ROWs. A full list of surveillance reports, including those produced as a result of the above field trips can be found in Appendix I, SPCO Surveillance Reports Issued in FY08.

Kuparuk Extension Pipe Replacement

In FY08, KTC initiated the permitting actions necessary to replace a portion of the KPE. The project will replace approximately 4.15 miles of the 12-inch portion of the pipeline between CPF-2 and Drill Site 2Z with 18-inch pipe and the addition of a pig receiver on the CPF-1 pad and a pig launcher on the CPF-2 pad.

The purpose of the project is to modify the pipeline system to allow use of pigs. KPE cannot be pigged in its current configuration because of the differences in pipeline diameter. Currently, corrosion inspections of the pipe are accomplished using external measurement tools such as radiographic and ultrasonic techniques.

Project approval required coordination among permitting agencies to ensure the regulatory timeline and proposed construction timeline were compatible. The state, federal and municipal government agencies that participated in the permitting process included: DNR/DCOM (ACMP Consistency Review), DNR/Division of Mining, Land and Water, DNR/SPCO, PHMSA, US Army Corps of Engineers, DEC, ADF&G, and the North Slope Borough.

KTC plans to begin construction the winter of 2008/2009 and all permits and authorizations, including the ROW Lease amendment, should be completed. The final stages of the project, installation of the pigging modules and turnover to operations, are anticipated to be complete in the third quarter of 2010. The SPCO Compliance Section will perform compliance oversight for the duration of the project.

Bridge Replacement

KTC requested SPCO approval to replace the bridge over Smith Creek with one of a similar design. The bridge had deteriorated under normal usage and replacement, rather than repair, was the preferred option. SPCO Engineering review of the proposed project indicated that the replacement bridge was a close match in function to the original one. The SPCO issued an authorization for the project, which also received a consistency determination from the DCOM.

Drag Reducing Agent Spills

A member of the Compliance Section traveled to KPE on August 21, 2007 to obtain further information regarding two spills (which were similar in nature) of DRA at CPF-2. The two spills appeared to be caused by human error and later analysis showed that a temporary change in the quantity and the method of handling DRA along with a complex piping configuration contributed to the likelihood of the errors. Long-term solutions were planned to address these issues and temporary measures were put in place to prevent inadvertent operation of the valves.

Surveillance results identified two areas of concern. Housekeeping within the DRA module was found to be unsatisfactory due to DRA product observed on the walls, floor, and ceiling (SPCO Letter No. 07-SPCO-073). CPAI later provided documentation that the module was cleaned. A second issue was identified when the surveillant observed DRA product on the outside of the storage containers and in visible quantities on the pad and adjacent tundra (SPCO Letter No. 07-SPCO-S-075). CPAI offered two explanations: 1) either one of the prior spills was not completely cleaned up, or 2) the DRA product was blowing out of the hatch, left open for

ventilation, on the top of the storage container. Liquid and solid DRA covered the opening around the hatch and adjacent areas of the container's exterior.

The surveillant also visited a location on the KPL where external corrosion had been identified. The pipe was still exposed prior to repair, so the surveillant was able to observe the corrosion (SPCO Letter No. 07-084-WW).

On November 8, SPCO personnel met with various CPAI and KTC officials to discuss the surveillance. A representative of the DEC Northern Region participated by phone. CPAI submitted a detailed response to all the issues identified on November 15, 2007. Their response is available in the case file. The DEC representative stated that he did not believe the DRA observed on the pad and tundra to be a reportable release because the material data safety sheet provided for the DRA product did not show it to be an environmentally hazardous product in the dried form. The material data safety sheet did not disclose many of its ingredients, calling them "proprietary". The SPCO defers to the agency with the primary jurisdiction; DEC's interpretation was used and the issues were closed. CPAI corrective action included new valve procedures, color coding and labeling, additional containment, and installation of level indicators.

Kuparuk Pipeline Extension Corrosion Leak at VSM 53

SPCO representatives traveled to the location of the previously mentioned external corrosion related leak on the KPE at VSM 53 at the southeast corner of the CPF-2 pad on October 1, 2007. The findings were relayed to the SPC in a memorandum dated October 16, 2007. The SPC concluded that no state lands were impacted because of the leak and that CPAI reported and handled the incident in accordance with their programs and procedures. Coincidentally, this particular location was part of the 33 1/3% of the pipeline that had its insulation inspected that year, allowing it to be identified as "heavy wet" for earlier sequencing in follow-up, and that the follow-up occurred soon enough. The memo noted that an additional 5% of similar locations (20 in total) were scheduled for earlier-than-normal inspection because of the incident.

Work Site Inspection

On April 9-10, 2008, SPCO Compliance Section members visited the work site and ice road established for external inspection and refurbishment of insulation in an area of the KPL and the OPL between VSMs 1658 and 1712. Work included the erection of scaffolding to access the pipes, removal of insulation from the pipes in designated areas, pipe inspection, and repair of minor corrosion. When the work was completed, a higher grade of insulation was placed over the stripped areas of the pipe. The surveillants found that the maintenance work, identified in the letters from KTC and Oliktok Pipeline Company, dated February 12, 2008, was being addressed adequately and in accordance with the QAP and Kuparuk and Oliktok Pipeline leases (SPCO Letter No. 08-023-CT).

Figure 32 *Wet insulation was removed and replaced and the Kuparuk and Oliktok Pipelines were inspected for corrosion in April 2008.*

Appraisals

On December 21, 2007, the SPCO relayed that the State Review Appraiser had reviewed and approved Appraisal Numbers 3190-1, 3190-1, and No. 3190-1 (SPCO Letter Nos. 07-116-TG, 07-117-TG, and 07-118-TG). Based on the annual fair market value of the land reported in the appraisal, the annual rental for the ROW was adjusted to $370,347 for the Oliktok Pipeline ROW, $138,599 for the Kuparuk Extension Pipeline ROW, and $370,347 for the Kuparuk Pipeline ROW (Appendix H, Pipeline Lease Appraisal Information).

3.5 Milne Point Pipelines

Figure 33 *Milne Point pig receiver located at Module 68 at the north side of Spine Road.*

3.5.1 Right-of-Way Lease and Pipeline System Overview

There are two SPCO jurisdictional pipelines associated with Milne Point operations, a sales oil pipeline and a natural gas liquids (NGL) product supply pipeline, the Milne Point Product Pipeline. Milne Point Pipeline (MPPL) was built in 1984-85 to transport processed sales oil from the Milne Point Unit to the Kuparuk Pipeline System. The approximately 10-mile MPPL connects the Milne Point Central Facilities Pad (CFP) at Module 58 to the Kuparuk Pipeline at a point that is shortly beyond Module 68, after crossing under Spine Road, just east of CPF-1. The MPPL is piggable from the Milne CFP to Module 68. A pig receiver, metering equipment, and leak detection equipment are at this location.

The Milne Point Products (NGL) Pipeline was built in 2000 and placed on the same supports as the MPPL to transport natural gas liquids from the Oliktok Pipeline to Milne CFP to be used in enhanced oil recovery. The NGL products pipeline was shut down in 2002 and has not been operated since. In December 2006, with SPCO authorization, the Milne Point Products Pipeline was purged and physically disconnected from the Oliktok Pipeline. Both of the pipelines have year-round ROW road access.

The 14-inch oil pipeline is piggable, with the exception of a short length between Module 68 and the Kuparuk tie-in. This short section of unpiggable pipeline was replaced in 2007 with corrosion-resistant duplex stainless steel.

The NGL products pipeline is an eight-inch pipeline. Both lines are supported by above-ground VSM support systems. Specific physical characteristics of the pipelines are provided in Appendix E, Physical Characteristics of SPCO Jurisdictional Pipelines.

The ROW for the MPPL is at its operational width, approximately 150 feet wide. The ROW for the NGL products pipeline is still in construction width, varying from 185 to 800 feet. An as-built survey will need to be submitted to the State to initiate the Release of Interest process. In 2006, the Lessee abandoned the NGL-carrying Milne Point Products Pipeline, per PHMSA regulations. The NGL products pipeline was physically disconnected and taken out-of-service, eliminating PHMSA oversight. The state ROW will remain in effect until the pipeline lease is formally terminated. Additional lease information can be found in Appendix G, Acreage, Survey, and Lease Information.

3.5.2 Lessee's Annual Report

BPTA, the owner and lessee for the Milne Point pipelines, submitted a comprehensive Annual Report to the SPCO on February 15, 2008, which presented information for seven pipelines, including the Milne Point pipelines. The report format paralleled the SPCO reporting requirements and met SPCO expectations (Appendix J, SPCO Annual Reporting Requirements). The report provided appropriate detail and supporting information. The quality of the BPTA report has improved noticeably over the past several years and the SPCO acknowledges their efforts in this area.

There has been an effort on the part of BPTA and the SPCO to improve communications this past year with the establishment of quarterly meetings (Appendix F, Lease Required Contact Information). This allowed BPTA to update the SPCO on activities and plans related to all of the BPTA lines, and for questions to be raised and responded to by both parties.

Significant items excerpted and extracted from the BPTA Annual Report, with regard to the Milne Point pipelines, are presented below.

Throughput, Pigging and Reliability

BPTA reported pipeline throughput and pigging activities in their 2007 annual report. This information has been summarized in Table XV.

Table XV. Throughput and Pigging Information for the Milne Point Pipelines, 2007

Pipeline System	2007 Throughput	MOP/MAOP	Maintenance Pigging	Last Smart Pig Run	Pipeline Operator
MPPL (Oil)	13,290,709 net barrels	1,350 psig	Quarterly	2006	BPXA
Milne Point Product Pipeline (NGL)	Not in service	Not in service	Not in service	n/a	BPXA

The net throughput reported for the MPPL reflects the amount of oil transported, without water and sediment. No throughput was reported for the products pipeline, reflecting the fact that it is no longer operational. The MPPL did not experience an unplanned shutdown in 2007, so their reliability and operational readiness can be considered 100%.

Cleaning and maintenance pigs were run quarterly through the MPPL. The last ILI smart pig run was in 2006. The next smart pig run is scheduled for 2008.

Assurance Programs

Quality Assurance Program
BPTA has a comprehensive QAP designed to protect the safety and health of all people involved in their operations. There are numerous elements to the program including leadership, accountability, risk assessment, training, third party assessments, obligation tracking, workplace safety information, crisis and emergency management, incident investigation, corrective and preventative actions, and assessments and improvements. BPTA uses planned, systematic processes to evaluate and document whether they have met the parameters of the QAP, as well as all lease stipulations and PHMSA requirements. The QAP applies to all of the BPTA pipelines and provides continuity across the BPTA leases.

PHMSA Integrity Management Program and Risk Assessment
Since 2006, the pipeline operator, BPXA, has applied their USDOT Integrity Management Program to the MPPL and includes an annual risk assessment. Key outputs of risk assessments are preventive and mitigative measures that will directly reduce risk to pipeline integrity or that could prevent or mitigate the consequences of a pipeline failure. The initial baseline risk assessments under this program were performed in 2006. They included the following analyses: 1) Fate and Transport analysis, 2) Surge Analysis Summary and 3) Stress Corrosion Cracking Analysis. This risk assessment completed in December 2006 still had items being closed out at the time of the annual risk assessment for 2007.

Due to the shortened review cycle between the two assessments, only a qualitative risk assessment was performed in 2007. A review of current operating conditions and the status of the assumptions made for the 2006 risk assessment were used to give an indication of pipeline fitness for operation. Items requiring action included such things as recurring inspections of minor corrosion, areas of missing sheet-metal jackets (insulation bands), VSM settlement, and sheet-metal perforations. Three new action items were added for the MPPL in 2007.

The PHMSA requires frequent inspections of the pipeline, provides regulatory oversight on any findings, and requires follow-up.

Corrosion Program
The internal corrosion program is divided into four elements: 1) Corrosion Rate Monitoring, 2) Erosion Rate Monitoring, 3) Frequent Inspection Program, and 4) the Comprehensive Integrity Program. The external corrosion program is less systematic because external corrosion is more random. External corrosion is primarily associated with water absorption by the thermal insulation that surrounds the pipelines. Particular areas of concern include the weld packs, which surround the welds made during construction and therefore must be field-applied. Corrosion prevention inspections, such as ultrasonic external inspections and ILI runs, are included in the Operator's surveillance and monitoring efforts.

Field verifications of all anomalies identified during the 2006 ILI run were completed in 2007. All follow-up actions carried over from the 2006 ground surveys were closed out. Three areas of external corrosion that had previously been identified were sleeved in spring 2007.

Minor corrosion noted on a low point drain near Module 68 had made the unpiggable section of the pipe, particularly the center weld pack, suspect for further corrosion. This concern was alleviated in 2007 when the unpiggable section was removed and replaced with duplex stainless project. The section removed and replaced was approximately 650 linear feet. After the section was removed, it was cleaned and visually inspected. The center weld pack was clean and dry, and no internal corrosion was found.

Internal Safety Program

Each independent facility, including Milne Point, takes ownership of their internal safety programs and employees formally monitor each other's safety behavior-based techniques. At Milne Point, in the last year, employees submitted 1,058 safety related observations. These observations include items such as suggestions or positive reinforcement of observed good practices, as well as deficiencies. The effectiveness of the program is demonstrated by the safety statistics. Milne Point had no reportable OSHA days away from work, OSHA recordable accidents/incidents, OSHA first aid, or major BPXA incident reports for pipelines for the last three years.

Surveillance and Monitoring Program

The SMP is designed to detect and abate situations that endanger health, safety, environment, or pipeline integrity. The program must be reviewed and approved by the SPCO. BPTA submitted a revised program this year that included an expanded matrix, which included details about surveillances, monitoring, maintenance and other requirements for both active and out-of-service pipelines.

Ground Inspection

PHMSA requires drive-by inspections at Milne Point at an interval not less than once every three weeks, and at least 26 times a year. During these surveys any changed or unusual condition on or adjacent to each pipeline is noted, and receives follow up as appropriate. Additionally, PHMSA requires an annual walking-speed ground survey with more extensive visual inspection requirements. While these surveys, and any follow-up work requirements, are conducted under the authority of PHMSA, they coordinate and cooperate with the SPCO.

The number of drive-by inspections of the MPPL in 2007 exceeded the minimum frequency required by the SMP. Milne Point Security conducted 32 routine drive-by inspections of the ROW in 2007, noting only minor maintenance issues (Table XVI, Operator Fieldwork and Inspections Completed for the Milne Point Pipelines, by quarter, during 2007). In response to leak detection alarms or communication losses, the Control Room operators requested an additional 68 drive-by inspections to rule out any problems.

The annual USDOT ground survey was performed November 10-12, 2007. All observations noted were forwarded to the Milne maintenance planner and repairs were worked through their work order system. There were no significant issues.

Copies of all inspection reports were included in an additional volume to the Lessee's 2007 annual report.

Table XVI. Operator Fieldwork and Inspections Completed for the Milne Point Pipelines, by quarter, 2007.

Quarter	Activities
01/01/2007-03/31/2007 (*First Quarter*)	US DOT drive-by inspections (~every 2 weeks)
	Cleaning/Maintenance Pig run on Oil Pipeline
	Module 68 Communication Upgrade (continuing)
4/1/2007-6/30/2007 (*Second Quarter*)	US DOT drive-by inspections (~every 2 weeks)
	Cleaning/Maintenance Pig run on Oil Pipeline
	2008 Risk Assessment Review - Oil Pipeline (US DOT IMP)
7/1/2007-9/30/2007 (*Third Quarter*)	US DOT drive-by inspections (~every 2 weeks)
	Cleaning/Maintenance Pig run on Oil Pipeline
	Scheduling of Smart Pig run on Oil Pipeline
10/1/2007-12/31/2007 (*Fourth Quarter*)	US DOT drive-by inspections (~every 2 weeks)
	Cleaning/Maintenance Pig run on Oil Pipeline
	Ground Walking Speed Survey

Fish and Wildlife Monitoring

The ADF&G and USFWS have notification requirements associated with grizzly and polar bear dens. Each agency must be notified when new den sites are located. The operator must also avoid work in the vicinity of known den sites unless authorized by the jurisdictional agency. In FY08, no occupied grizzly bear dens were encountered on the Endicott ROW and no new polar bear dens were identified. Polar bears are now listed as threatened under the Endangered Species Act. The Spectacled Eider is also listed as threatened under the Endangered Species Act. No active Spectacled Eider nests were identified during FY08 work activities. Additionally BPXA conducted a directed nest survey at Milne Point in the area of L Pad. No Spectacled Eiders nests were found. The nests identified included White Fronted Geese (3), Semipalmated Sandpipers (3) and Lapland Longspur (1).

Maintenance, Construction Activities and Unplanned Events

Leak Detection

BPXA, operator of the Milne Point pipelines, has replaced the power generation system used for the Leak Detection System and Emergency Shutdown Valves at Module 68. The location of this power generation system is at the intersection of the Milne Point Road and the Spine Road. A Module 68 communications upgrade is also in progress. A PHMSA abnormal operating condition occurred at this location due to communication problems resulting from radio interference, on July 21, 2007.

3.5.3 SPCO Activities

In FY08, the primary focus for the SPCO included project reviews, authorizations, and pre-fabrication/fabrication observations related to a pipe replacement project on the MPPL in which the Lessee removed a segment of carbon-steel pipe and replaced it with duplex stainless-steel

pipe. During this reporting period, the SPCO also received an approved and updated appraisal for the Milne Point Products Pipeline.

In FY08, SPCO made two trips to the Milne Point (Oil) Pipeline. SPCO staff observed prefabrication work for the duplex stainless steel pipeline-segment replacement project. At the end of August 2007, staff traveled to Milne (Oil) Point Pipeline to observe installation activities related to the duplex stainless steel replacement project. The new portion of pipe extends between MPPL Module 68 and the tie-in to the Kuparuk Pipeline, replacing an un-piggable section of pipe. More information regarding SPCO activities is provided below:

Pipe Replacement

A length of the Milne Point Pipeline was replaced, primarily because of corrosion. The pipeline operator decided to replace the original carbon steel with duplex stainless steel. This is an exotic metallurgy with superior corrosion resistance. The plans were reviewed by the Engineering Section and a number of comments provided to the Lessee. These comments were considered and most were incorporated into the final design.

On July 20, 2007, the SPC issued authorization under 1.7.1 of the ROW Lease for the Lessee to construct the Milne Point Pipeline line Segment Replacement with a condition to provide a copy of fully stamped IFC drawings within 60 days and before September 20, 2007 (SPCO Letter No. 07-062-TG).

The Compliance Section visited the Flowline Alaska facility in Fairbanks on July 12, 2007 to observe prefabrication activities related to the duplex stainless steel project. At Flowline, they discussed quality assurance, viewed the quality assurance laboratory, and observed various processes in the facility such as insulation and jacket fabrication, pipe coating, and welding. Seven surveillance reports were issued as a result of the visit, all reflected satisfactory findings (SPCO Letter No. 07-075-WW) (Appendix I, SPCO Surveillance Reports Issued in FY08)

On August 26-29 and September 7, 2007, a member of the Compliance Section, accompanied by representatives of BPTA, conducted a surveillance of the Duplex Stainless Steel Replacement project (Module 68 to Kuparuk Pipeline Tie-in) and the cleaning of the removed pipe. They viewed removal of some of the old pipe, as well as isolation kit installations, and toured the temporary pipe cleaning facility. Four surveillance reports were completed for the field trip. All found satisfactory conditions (SPCO Letter No. 07-086-WW).

ROW Appraisals

The SPCO notified the Lessee on March 19, 2008, that the State Review Appraiser reviewed and certified Appraisal No. 3498 (SPCO Letter No. 08-015-TG). Based on the annual fair market value of the land reported in the appraisal, the annual rental was adjusted to $162,845 for the Milne Point (Oil) Pipeline ROW (Appendix H, Pipeline Lease Appraisal Information).

The SPCO notified the Lessee on March 25, 2008 that the State Review Appraiser reviewed and certified Appraisal No. 3498 (SPCO Letter No. 08-016-TG). Based on the annual fair market value of the land reported in the appraisal, the annual rental was adjusted to $225,292 for the Milne Point Product Pipeline ROW.

3.6 Northstar Pipelines

Figure 34 *The Northstar Oil Pipeline crosses the Putuligayak River in the foreground.*

3.6.1 Right-of-Way Lease and Pipeline System Overview

There are two BPTA pipelines associated with Northstar operations. The Northstar Oil Pipeline originates at the Northstar Production Facility, located on Northstar Island in the Beaufort Sea and runs 17 miles to PS01. The pig launcher, mainline pumps, metering, and leak detection equipment are located on Northstar Island. The Northstar Gas Pipeline transports natural gas from the Prudhoe Bay Central Compressor Plant west and then north approximately 16 miles to Northstar Island. For the six miles from the production island to the landfall of the pipelines at Point Storkersen, the lines are bundled and buried in a trench under the Beaufort Sea. At Point Storkersen, the pipelines transition to aboveground. They share the same VSMs for approximately six miles from the transition to the Central Compressor Plant. From there the oil pipeline continues separately to PS01. Onshore, both pipes are aboveground, with the minor exceptions of road and caribou crossings. There is no road access for most of the aboveground portions of the ROWs.

The diameter of both the sales oil pipeline and the gas pipeline is 10 inches (nominal). The subsea section of the pipelines employs a leak detection system called LEOS, which is designed to sense hydrocarbon vapors in the soil surrounding the pipelines. This equipment is in addition to the oil pipeline's standard leak detection system, which monitors pressure, volume, and temperature to detect releases. The aboveground portions of the pipelines are monitored in accordance with the SMP. Both pipelines are piggable. Additional information regarding the physical parameters of the pipeline can be found in Appendix E, Physical Characteristics of SPCO Jurisdictional Pipelines.

Both the Northstar Oil and Gas Pipeline ROW leases went into effect on October 1, 1999, and expire on September 30, 2019 (Appendix G, Acreage, Survey, and Lease Information). The process for relinquishment of the construction ROWs has been initiated, but during this reporting

period, both ROWs remain at construction width (Appendix H, Pipeline Lease Appraisal Information). The construction width varies between 440 and 1,725 feet and includes several staging areas. When the *ROW Release of Interest* process is completed, likely in FY09, the operations ROW on state land will typically be 200 feet wide.

3.6.2 Lessee's Annual Report

BPTA submitted a comprehensive Annual Report to the SPCO on February 15, 2008, which presented information for seven pipelines, including the Northstar pipelines. The report format paralleled the SPCO reporting requirements and met SPCO expectations (Appendix J, SPCO Annual Reporting Requirements). The report provided appropriate detail and supporting information. The quality of the BPTA report has improved noticeably over the past several years and the SPCO acknowledges their efforts in this area.

Additionally, there has been an effort on the part of BPTA and the SPCO to improve communications this past year with the establishment of quarterly meetings (Appendix F, Lease Required Contact Information). This allowed BPTA to update the SPCO on activities and plans related to all of the BPTA lines, and for questions to be raised and responded to by both parties.

The following items on the Northstar pipelines are excerpted from the BPTA Annual Report.

Throughput, Pigging and Reliability

BPTA reported pipeline throughput and pigging activities in their 2007 annual report. This information has been summarized in Table XVII.

Table XVII. Throughput and Pigging Information for Northstar Pipelines, 2007

Pipeline System	2007 Throughput	MOP	Maintenance Pigging	Last Smart Pig Run	Pipeline Operator
Northstar Oil	18,881,267 net barrels	1,480 psig at 100° F	2 X month	2006	BPXA
Northstar Gas	29 billion cubic feet	1,480 psig	2 X year	2006	BPXA

The net throughput reported for the Northstar Oil Pipeline reflects the amount of oil transported, without water and sediment. The oil pipeline experienced four unplanned shutdowns during 2007. On January 19, 2007, during routine maintenance at a location near where the Northstar pipelines transition from subsea to aboveground, voltage was unintentionally introduced into the valve control system; this initiated valve closure, increased pipeline pressure, and shut down the pipeline. After it was confirmed that all systems were normal, operators opened the valve and operations resumed. On April 30, 2008, another shutdown occurred during a routine pigging operation when a pig became lodged in the receiver, blocking the normal flow of oil. The resulting increase of pressure activated the high-pressure shutdown switch at the main shipping pumps. The MOP was not exceeded. On May 29, 2007 during a planned system upgrade at the Northstar Oil Pipeline crude heater, a technician accidentally set off an indicator that the uninterruptible power supply had shut down. This triggered a chain of events that forced a shutdown of the sales oil pipeline. The problem was quickly resolved and the pipeline returned to normal operations within 5 minutes. A helicopter inspection of the on-shore portion of the pipeline was conducted to confirm that it was still properly cradled on all the VSMs. On

December 28, 2007, a total loss of power at PS01 triggered the closure of an inlet valve on the Northstar Oil Pipeline. It remained out of service for approximately 4 hours.

The cumulative hours lost during the four unplanned shutdowns totaled less than 24 hours. BPTA reported the Northstar Oil Pipeline reliability at approximately 99.7%.

Cleaning and maintenance pigs were run approximately every two weeks in the Northstar Oil Pipeline. The last ILI smart pig run was in 2006.

Assurance Programs

Quality Assurance Program

BPTA has a comprehensive QAP designed to protect the safety and health of all people involved in their operations. There are numerous elements to the program, including leadership, accountability, risk assessment, training, third-party assessments, obligation tracking, workplace safety information, crisis and emergency management, incident investigation, corrective and preventative actions, and assessments and improvements. BPTA uses planned, systematic processes to evaluate and document whether they have met the parameters of the QAP, as well as all lease stipulations and PHMSA requirements. The QAP applies to all of the BPTA pipelines and its intent is to provide continuity across the BPTA leases.

PHMSA Integrity Management Program and Risk Assessment

Since 2006, BPXA, the Northstar Operator, has applied their USDOT Integrity Management Program to the Northstar Oil Pipeline, including an annual risk assessment. A key output of risk assessments are preventive and mitigative measures that will directly reduce any risk to pipeline integrity or that could prevent or mitigate the consequences of a pipeline failure. The initial baseline risk assessment under this program was performed in 2006. It included the following analyses: Fate and Transport analysis, Surge Analysis Summary and Stress Corrosion Cracking Analysis. This risk assessment completed in December 2006 still had items being closed out at the time of the annual risk assessment for 2007. Because of the shortened review cycle between the two assessments, only a qualitative risk assessment was performed in 2007. A review of current operating conditions and the status of the assumptions made for the 2006 risk assessment were used to give an indication of pipeline fitness for operation. Four action items were added in 2007 to the list established for the Northstar pipelines in 2006.

PHMSA requires regular inspections of the pipeline and provides regulatory oversight over any findings or action items.

Corrosion Program

The internal corrosion program is divided into four elements: 1) Corrosion Rate Monitoring, 2) Erosion Rate Monitoring, 3) Frequent Inspection Program, and 4) the Comprehensive Integrity Program. The external corrosion program is less systematic because external corrosion is more random. External corrosion is primarily associated with water absorption by the thermal insulation that surrounds the pipelines. Particular areas of concern include the weld packs, which surround the welds made during construction and therefore must be field-applied. Corrosion prevention inspections, such as ultrasonic external inspections and ILI runs, are included in the Operator's surveillance and monitoring efforts.

Field verifications of all anomalies identified during the 2006 ILI run were completed in 2007. The ILI run for Northstar assessed both metal loss (corrosion) and strain that might result from pipeline movement. There were a few anomalies reported for both pipelines. Further analysis indicated they were probably the result of manufacturing anomalies and not metal loss due to corrosion. Field verifications at eight locations were conducted utilizing a digital radiographic technique, and no corrosion was noted. For the results of the strain analysis, see the section below on subsidence.

An assessment of the cathodic protection system for the buried pipeline sections took place in August 2007. Using primarily portable reference electrode measurements, BPTA indicated that they had confirmed that the system met PHMSA standards.

Internal Safety Program

Each independent facility, including Northstar, takes ownership of their internal safety programs and employees formally monitor each other's safety behavior. At Northstar during the last year, employees submitted 1,847 safety-related observations. These observations include items such as suggestions or positive reinforcement of observed good practices, as well as deficiencies. The effectiveness of the program is demonstrated by the safety statistics. Northstar has had no reportable OSHA days away from work, OSHA recordable accidents/incidents, OSHA first aid, or major incident reports for pipelines for the last three years.

Surveillance and Monitoring Program

The Surveillance and Monitoring Program is designed to detect and abate situations that endanger health, safety, environment, or pipeline integrity. The program must be reviewed and approved by the SPCO. BPTA submitted a revised program this year. It includes an expanded matrix that includes details about surveillances, monitoring, maintenance and other requirements for both active and out-of-service pipelines. Table XVIII summaries fieldwork and inspections completed in 2007 for the Northstar Pipelines.

Aerial Inspections

PHMSA requires aerial inspections of the Northstar pipelines approximately every 2 weeks, but not less than 26 times a year. During these surveys, any changed or unusual condition on or adjacent to each pipeline is noted. PHMSA also requires follow up as appropriate. Shared Services Aviation conducted 60 visual aerial inspections of the Northstar pipeline route in 2007. Two over-flights included FLIR assessments. In July, a pilot mapped and reported a dark area as a possible sheen. The area was between the Seawater Treatment Plant and Northstar Island. BPXA personnel inspected the area by helicopter and determined it was submerged ice, remnants of the ice road, which appeared as a dark sheen when viewed from certain angles. No leak alarms occurred during this time.

Ground Inspections

The annual, PHMSA-required, walking-speed ground survey of the above-ground pipe includes extensive visual inspections. These surveys, and any follow-up work requirements, are conducted under the authority of the PHMSA. However, PHMSA often coordinates and cooperates with the SPCO. The Northstar ground survey was conducted April 9-10, 2007. Tracked vehicles were used to access and inspect the pipeline from Pont Storkersen to PS01. No deficiencies or discrepancies were observed.

Table XVIII. Operator Fieldwork and Inspections Completed for the Northstar Pipelines, by Quarter, 2007*

Quarter	Activities
01/01/2007-03/31/2007 (*First Quarter*)	US DOT Aerial Inspections, (~every 2 weeks)
	Cleaning/Maintenance Pig run(s) – Oil Pipeline
	Thermistor Readings
4/1/2007-6/30/2007 (*Second Quarter*)	US DOT Aerial Inspections, (~every 2 weeks)
	Ground Walking Speed Survey
	Cleaning/Maintenance Pig run(s) on Oil Pipeline
	Digital Radiography on Gas and Oil Pipelines
	Cathodic Protection Survey
	2008 Risk Assessment Review - Oil Pipeline (US DOT IMP)
7/1/2007-9/30/2007 (*Third Quarter*)	US Dot Aerial Inspection (~every 2 weeks)
	Cleaning/Maintenance Pig run(s) Oil Pipeline
	Bathymetry Survey: Strudel Scour/Ice Gauging
10/1/2007-12/31/2007 (*Fourth Quarter*)	US Dot Aerial inspection (~every 2 weeks)
	Cleaning/Maintenance Pig run(s) on Oil Pipeline
	Corrosion Monitoring of pipe transition in island vault

**Table provided by Lessee in the 2007 Annual Report*

Subsea Pipeline Monitoring - Sea Floor Subsidence

BPTA conducts an annual bathymetric survey of the subsea Northstar ROW, to monitor subsidence, ice gouging, ice wallows and strudel scour. The results of the 2007 bathymetric profile closely resembled that from 2006 with just a few changes worth noting. Subsidence was seen along the pipeline alignment in 12 areas. Some of these had been previously identified in 2006. The depth of the subsidence ranged between 1.0 and 3.2 feet (measured relative to the average elevation of the sea bottom in the area). The depth of the subsidence was not considered severe; it did not reduce the amount of backfill below the permitted minimum of six feet. Regardless, BPXA chose to place 3,400 cubic yards of gravel over five of the subsidence locations in August 2007 in an attempt to minimize future risk to the pipelines in those areas.

A concern with subsidence of the sea floor is its effect of on the buried pipe. An ILI tool was run in 2006, to evaluate any wall loss due to corrosion. It also gathered location information to evaluate pipe movement. Calculations in 2006 showed a maximum pipe movement of 0.5 feet, which was not cause for immediate concern, but it has been the subject of further analysis this past year. In 2007, comparisons were made between the pipeline geometry profiles done in 2003 with those made in 2006. A strain analysis was performed by comparing the two profiles and identifying changes in curvature between 2003 and 2006. The review did find changes in the

pipe curvature that appear to correlate with areas of sea floor subsidence. The review showed that the degree of strain documented (0.05%-0.07%) was well below BPXA's maximum pipe bending strain criteria (0.15%). At this time, a significant reserve of deformation capacity remains, but this is an issue that will continue to be monitored closely.

Subsea Pipeline Monitoring - Ice Gouging
The bathymetric profile identified 22 ice gouges along the Northstar pipeline route, but only two that crossed the pipeline alignment. The depths of those two gouges were 0.4 and 0.8 feet, and neither reduced the backfill below the six-foot minimum requirement. The deepest ice gouge in the survey area was 5.1 feet. It was located 183 feet to the east of the pipeline.

Subsea Pipeline Monitoring - Ice Wallow
Ice wallows are depressions in the sea bottom caused by grounded ice that is agitated in-place by waves, current or other ice. They are easily distinguished from regular ice gouges. Eight ice wallows were identified by the Northstar bathymetric survey. It is noteworthy because it is only the second time they have ever been documented in this area. They were found in water depths ranging from 12.5 to 34.7 feet. None were located directly over the pipeline.

In early October 2006, there was a severe storm in this area. Among other things, this storm moved large ice floes into the area. The storm moved the ice floes around. High winds and large waves drove them aground. BPXA concluded that this storm, coupled with unusual ice conditions for that time of year, is likely responsible for the unusual number of ice gouges and ice wallows seen in the 2007 bathymetric survey.

Subsea Pipeline Monitoring - Strudel Scour
Sonar was used to search for strudel scour, a localized phenomenon caused when melting freshwater overflows shore fast sea ice and suddenly makes it way under the ice (through a crack or hole) creating a drain hole where the water circles downward (like a sink drain). The large volume and velocity of the water moving through an opening in the ice can create significant scour holes on the sea floor. Flooding from the Kuparuk River was low by historical standards in 2007, and it did not move as far seaward as in past years, so there was little evidence of strudel scour. Only eight locations for drainage, all circular were found in the project area. This is the smallest number recorded since annual monitoring was initiated in 2000. BPXA checked all eight drainage sites for strudel scour. They found six scour features. The depths of the scours ranged from 0.6 to 4.0 feet. Their horizontal measurements ranged from five to 39 feet. Two of the scours did overlap the backfill over the pipeline, but their effects were not consequential because they were both under 0.9 feet and did not reduce the backfill depth below the required six feet.

Point Storkersen - Erosion Monitoring
Point Storkersen is where the sub sea pipeline transitions to above ground supports. Shoreline erosion in this area is monitored annually using 10 shore-perpendicular profiles. The 2007 *Post-Construction Coastal Stability Analysis* showed no bluff retreat. BPXA concluded that no erosion mitigation is necessary at this time, but the area will continue to be monitored annually.

Post-construction vegetation rehabilitation over the trench backfill and the gravel remnant is also monitored annually. Although there is annual variation, the vegetative cover appears to be

successfully stabilizing the sand backfill. Variability in vegetative cover was attributed to wildlife grazing. Caribou and musk ox sign were present. No additional remediation was recommended at this time.

Point Storkersen - Thaw Bulb Monitoring
At the shore crossing for the pipeline, thermistor data is recorded regularly to monitor changes in the soil temperatures and measure the thaw bulb around the oil pipeline. The concern is that an increase in the thaw bulb can create subsidence beyond the design limits. In areas of permafrost along the shore, such as Point Storkersen, increased temperatures can also induce increased shore erosion.

The data does show that the thaw bulb has grown beyond the excavated trench. This data alone does not mean there is a serious problem. It has to be considered in conjunction with data from the subsidence monitoring of the pipeline and the area and pipe elevations collected by the ILI device and allowable limits of subsidence in the design. BPXA concluded that no mitigation was warranted at this time, but they will continue to collect thermistor data and evaluate the situation in conjunction with other criteria annually.

Maintenance

Elevations were corrected on the adjustable VSM supports in the Point Storkersen area.

3.6.3 SPCO Activities

The SPCO focus on the Northstar Pipelines this fiscal year included: an initial Engineering Section review and comparison between the originally designed pipeline shore transitions and the as-constructed shoreline transitions; a review of the revised SMP; issuance of a letter of non-objection for third party activities (installation of a fiber optic pipeline); and an initial review of a request for transfer of the Northstar leases to Northstar Pipeline Company, LLC.

The SPCO traveled to Northstar Island and the Northstar Pipelines ROWs two times during FY08, once at the beginning of September 2007, in response to a release of interest request, and a second time February 6, 2008, accompanying a PHMSA representative on an audit trip. More detail on SPCO activities is provided below:

Pipeline Shore Transition

The Compliance Team noted some time ago that the Northstar Oil Pipeline did not fully rest on support structures near the shore transition area. After consultation with the SPCO Engineering Section and BPXA engineers, it was determined that the transition from below-ground to above-ground modes at Point Storkersen was actually constructed with an additional loop, intended to provide flexibility when the pipe subsided, even though the original design assumed limited subsidence. The additional loop caused the pipeline to sag. Although BPXA provided information that the sag did not cause unacceptable stress on the pipeline, they recently installed some adjustable base supports to level the sag. The additional loop and supports are not part of the design approved at the time the lease was executed. The Lessee recently provided drawings that detail the changes and the SPCO Engineering Section will review them.

Release of Interest – ROW Inspection

The SPCO Compliance and ROW and Permits Sections jointly inspected the Northstar ROW from September 5 through 7, 2007, as part of the *ROW Release of Interest* process to ascertain whether state lands in the Construction ROW were in adequate condition to be released. No unsatisfactory conditions were noted (SPCO Letter No. 07-079-WW).

PHMSA Audit – SPCO Participation

The SPCO accompanied a PHMSA inspector during a routine audit of the Northstar facility February 5-6, 2008. In addition to observing the PHMSA audit protocols and BPXA procedures and programs, the group toured Northstar Island and the production facilities. During the trip, the SPCO surveillant noted a light sheen in the "log cabin" vault on the island, where the pipelines transition from belowground into the facilities area (SPCO Letter No. 08-012-WW, Appendix I, SPCO Surveillance Reports issued in FY08). The sheen turned out to be a non-reportable quantity of mastic, which had dripped from recent maintenance activities. This highlighted the need for a procedure requiring regularly planned inspections of the vault. The Northstar Area Manager took the proactive step of developing the vault inspection procedure and accompanying work orders immediately. Vault inspection was incorporated into a draft SMP submitted to the SPCO (still under review).

SPCO Letters of Non-Objection

The SPCO offered no objection on October 9, 2008 to proposed work to install a fiber optic cable in the Northstar Gas Pipeline ROW between the Central Compressor Plant and the Central Gas Facility and between the Central Compressor Plant and Point McIntyre #2.10/9/2007 (SPCO Letter Nos. 07-095-TG and 07-096-TG).

SPCO had no objections to proposed work to place a lighted and heated storage connex on the Caribou Pad located off C-Pad Road between C-Pad and the Central Gas Facility within the Northstar Gas Pipeline ROW (SPCO Letter No. 07-099-TG).

ROW – Transfer of Interests

The SPCO received and initiated review of a request to transfer the Northstar leases to Northstar Pipeline Company (NPC), a limited liability company. Updated Lease required contact information for the Northstar Pipelines can be found in Appendix F, Lease Required Contact Information. The Regulatory Commission of Alaska (RCA) approved a transfer of interests in the Northstar pipelines from BPTA to NPC LLC. Ownership of NPC is reflective of ownership of the Northstar Unit.

3.7 Nuiqsut Natural Gas Pipeline

Figure 35 *The Nuiqsut Natural Gas Pipeline is the yellow pipeline in the foreground. It rests on intermediate supports that are attached to the Alpine pipelines, supported by a system of horizontal and vertical supports. The pipeline is aboveground on these supports from Alpine to the Colville River site, where it transitions to belowground the rest of the way to Nuiqsut.*

3.7.1 Right-of-Way Lease and Pipeline System Overview

The Nuiqsut Natural Gas Pipeline (NNGP) was constructed by the North Slope Borough (NSB) to transport natural gas from the ConocoPhillips Alpine Production pad to the village of Nuiqsut, located within the Colville River Delta. The 14.4-mile NNGP shares horizontal and vertical supports with the Alpine Pipelines from the production pad to the west bank of the Colville River. There the NNGP transitions belowground and continues to the village. Only 2.4 miles of the 14.4-mile NNGP are located on state land – a section of the aboveground pipeline and the trenched crossing of the Nechelik Channel of the Colville River.

The NNGP is a three and one-half inch diameter coiled tubing pipeline with a wall thickness of 0.203 inches designed to operate at 1,440 psig. The NNGP was supplied with an external coating applied at the factory. A continuous magnesium strip cathodic protection system was installed on the belowground portion of the NNGP. The pipeline is subject to PHMSA jurisdiction and operates under 49 CFR 192 regulatory requirements.

The pipeline project began in 1999 and construction was completed soon after. Operational startup of the pipeline was delayed for nine years. Pipeline operation began in 2008 and will deliver natural gas for heating and production of electricity to the community of approximately 380 residents. This will dramatically reduce energy costs for this remote Alaskan community. Once the system is fully operational, Nuiqsut will become the second North Slope community (after Barrow) to provide heat and generate electricity from natural gas.

The NNGP ROW lease, ADL 416202, was executed on March 15, 1999 and is scheduled to expire on March 14, 2019. The pipeline operational ROW width is 50 feet in the aboveground mode and 200 feet at the river crossing. The ROW as-built survey was approved by DNR on December 17, 2003; it encompasses 17.67 acres of state lands. Additional lease information is available in Appendix G, Acreage, Survey, and Lease Information. The NNGP is due for reappraisal next year (Appendix H, Pipeline Lease Appraisal Information).

3.7.2 Lessee's Annual Report

The Lessee requested a report due date extension to February 29, 2008, which was granted and afterwards extended to March 31, 2008. The Lessee submitted the 2007 *Annual Comprehensive Report* on May 6, 2008. It was received by the SPCO on May 14, 2008 (Appendix J, Annual Reporting Requirements for ROW Lessees).

The NSB reported that in 2007, pipeline construction activities were nearing completion. Most of the remaining activities were not related to the pipeline itself, but to the distribution system within the village and the power generating system. The pipeline was not yet operational during this reporting period. A telephone link was established between the Nuiqsut distribution systems and the Alpine Production Facility to aid in communications and response to incidents.

Pipeline Reroute

The Lessee completed work on a major project to re-route a portion of pipeline below the Nechelik Channel crossing submerged state land. A copy of the final construction activities report was included in the 2007 Annual Report. The Lessee reported that construction plan approval was obtained in 2007 prior to the repair work in the Nechelik Channel, but SPCO surveillance of that project resulted in unsatisfactory attributes in two surveillance reports (SPCO Surveillance Report Nos. 07-SPCO-S-022 and 024) because contractors began work before the plan was approved. This is detailed in the FY07 SPCO annual report.

Surveillance and Monitoring Program

The NNGP SMP containing commitments to monitor and maintain the pipeline was approved on June 6, 2008 (SPCO Letter No. 08-034-CT). Informal monitoring was conducted prior to that time and had already identified issues requiring repair, such as locations of pipe-to-pipe contact, coating damage, and potentially exposed piping at the Nechelik Channel. The pipe-to-pipe contact and exposed piping conditions were repaired in 2006 and 2007, respectively. The coating damage inspection data was evaluated by a professional engineer and the pipe was determined fit-for-service.

3.7.3 SPCO Activities

Pipeline Startup Activities

At the close of FY08, conditioned natural gas from Alpine entered the NNGP for the first time. Preparing for pipeline start-up entailed careful coordination between the NSB, contractors, the SPCO, and other agencies. SPCO correspondence regarding start-up during FY08 is summarized in Table XIX.

Table XIX. Listing of SPCO activities in support of NNGP start-up, FY08

Date	SPCO Letter #	Subject
8/31/2007	07-074-WW	SPCO review of amended QAP
10/4/2007	07-078-WW	SPCO request for engineering evaluation of coating damage
11/7/2007	07-088-WW	SPCO review of proposed SMP
11/8/2007	n/a	Letter from DNR Commissioner Tom Irwin to NSB Mayor Edward Itta regarding outstanding issues
12/18/2007	n/a	Follow-up letter from DNR Commissioner to NSB Mayor
12/28/2007	07-115-TG	Update on coating damage
5/12/2008	08-027-CT	Section 13 start-up deadline extension to July 15, 2008; status of outstanding issues
5/14/2008	08-028-CT	Transmittal of surveillance reports 08-SPCO-S-054 through 070 (all satisfactory) regarding NNGP start-up readiness
5/22/2008	n/a	Engineering recommendation from SPCO Chief Engineer concluding the SPCO should not object to pipeline start-up
5/23/2008	08-055-TG	SPCO non-objection to pipeline start-up
6/6/2008	08-034-CT	SPCO approval of SMP
6/10/2008	08-036-CT	Congratulations from SPCO to NSB for overcoming challenges and moving towards a ceremonial pipeline start-up

Damage to the Pipeline Coating

To evaluate start-up readiness for the NNGP, the SPCO prepared a list of all covenants and stipulations in lease ADL 416202. The list was divided into sections A, B, and C. Section A contained items that required field verification prior to start-up; section B contained items that were resolved in person or through correspondence between the Compliance Section and NSB and contractors; and section C contained items deemed not relevant to start-up.

To field verify those elements identified in section A, members of the SPCO Compliance Section traveled to Nuiqsut to observe the entire pipeline length. Walking and utilizing a tracked vehicle, they inspected the entire aboveground NNGP, photographing hundreds of coating damage locations, and visiting the site of the buried section of pipe at the Nechelik Channel. The SPCO first identified coating damage along the NNGP during SPCO surveillance conducted in March 2007 (SPCO Letter No. 07-051-WW). In addition to reviewing the coating damage photographs from the FY08 field inspection, the SPCO made the photographs available to PHMSA representatives who have jurisdiction over the pipeline. Surveillance reports 08-SPCO-S-054 through 070 documented the satisfactory status of each lease condition on the "A" list. SPCO Engineering evaluated the information and did not identify any new issues that would preclude pipeline start-up, other than the already documented coating damage.

SPCO engineering reviewed the documentation and evidence available on the condition of the pipeline. Startup of a pipeline eight years after construction completion is unprecedented. Because of business reasons, pipelines are started soon after completion.

The engineering review identified one item as the largest risk associated with the startup delay: external coating damage at numerous sites and the potential for consequent corrosion. The SPCO required that the Lessee evaluate this issue prior to pressurizing the pipeline. The SPCO

requested that the lessee have the pipeline inspected for existing external corrosion by qualified inspectors and submit a stamped engineering report prior to startup (SPCO Letter No. 07-078-WW).

NSB contracted for a non-destruction examination of representative coating damage locations and submitted a report dated May 9, 2008, stamped by a professional engineer. The report concluded that little or no corrosion has occurred within areas of coating damage along the NNGP and that the pipeline can operate within operating pressure limits. Engineering reviewed the inspection report and the engineering report and concluded that they met the requested requirements (SPCO Letter No. 08-027-CT). Based upon the inspection and engineering reports, SPCO Engineering concluded that startup risks had been minimized.

The pipeline was pressurized with natural gas immediately after the FY2008 reporting period, in July 2008. Delays in operating new gas generators and building heating conversion prevented full usage of the available natural gas. The NSB anticipates that electrical generation will begin October or November of 2008 and that building heating conversions will start soon thereafter. This should result in greater utilization of the pipeline capacity.

Surveillance and Monitoring Program

The SPCO reviewed the NNGP SMP, and met with lessee representatives to discuss modifications necessary to ensure approval of their SMP prior to start up. The NSB submitted a final revised SMP on, June 5, 2008, which the SPCO approved on June 6, 2008, prior to startup (SPCO Letter No. 08-034-CT).

Quality Assurance Program

The SPCO approved the NNGP Quality Assurance Program on March 10, 1999 (SPCO Letter No. 99-033-MC). It has not been amended since the original lease was issued. The lessee is currently working with the SPCO to develop an updated quality program. The lessee is responsible for complying with the program throughout all phases of construction, operations, maintenance, and termination. The NSB awarded a contract to a mechanical contractor for operating the NNGP.

2006 Lessee Annual Report

The SPCO decided not to formally review the 2006 Lessee Annual Report, which was submitted on April 2, 2008. The information in the report was not current by that date. The SPCO deferred responding formally to the 2007 Lessee Annual Report, received May 14, 2008, until after startup. The SPCO accepted the report as-is, and will provide the lessee with a letter detailing annual report requirements for next year. The SPCO plans to review the 2008 annual report after it is submitted.

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4.0 OUTLOOK FOR FISCAL YEAR 2009

The SPCO will continue to pursue its' mission in FY09. Coordination with federal agencies in the JPO is an important factor in providing efficient oversight of jurisdictional pipelines. PHMSA is in the process of increasing staff and regulatory compliance efforts in Alaska. To address these and other issues, the JPO agencies, over the past year, have developed an Operational Agreement to ensure coordination and cooperation results in efficiently benefiting all participants. This agreement will help the SPCO achieve its mission and goals as outlined below:

SPCO Mission

- Process applications under the Alaska Lands Act and the Right-of-Way Leasing Act and negotiate and deliver pipeline and other ROW leases in a manner that serves the State's interests
- Administer leases under SPCO jurisdiction including revenue, permitting, authorizations, and oversight of the construction, operation, maintenance, and termination of pipelines on State leased land.
- Coordinate SPCO TAPS Lease oversight with state and federal agencies to ensure that TAPS remains available for delivery of North Slope crude oil to the marketplace.
- Keep the public informed of SPCO activities.

General FY09 Goals

- Maintaining an adequate workforce to deliver essential services, including but not limited to, assessment of pipeline ROW lease compliance, pipeline ROW issuance and amendments, and engineering reviews
- Through regulatory and lease compliance oversight, minimize pipeline shutdowns and environmental hazards due to corrosion and other factors.
- Coordinating pipeline permitting and oversight with other state and federal authorities.

In addition to the mission and goals described above, the SPCO FY09 work efforts, including ongoing regulatory and lease administration activities, will focus on:

Gas Pipeline pre-application/application efforts:

The SPCO is currently responsible for coordinating the State's efforts on the pre-application phase of the ENSTAR, ANGDA, and Denali - The Alaska Gas Pipeline LLC projects. In addition, the SPCO will administer the TransCanada Alaska Company, LLC pre-application process until the Alaska Gasline Inducement Act (AGIA) Coordinator's Office is established and functional. As these projects move forward, it is anticipated that the SPCO workload will increase significantly.

Statewide Pipelines:

The SPCO member agencies will continue to carry out oversight of TAPS. In addition to lease compliance monitoring, agencies will provide regulatory oversight of TAPS operational activities.

The TAPS Strategic Reconfiguration (SR) project requires oversight of the two operational pump stations, PS03 and PS09 as well as oversight of PS04, which is currently under construction. It is anticipated that PS04 SR equipment will become operational sometime during the first quarter of 2009.

Regional Pipelines:

SPCO staff will continue efforts to monitor lessee compliance with pipeline ROW lease conditions and stipulations. It is anticipated that all jurisdictional pipelines will have some level of ongoing surveillance and assessment work, as well as a focus on special projects or issues as assigned by the State Pipeline Coordinator.

In FY09, the Department of Public Safety, State Fire Marshal's Office will increase their efforts associated with non-TAPS jurisdictional pipelines. It is anticipated that this will include plan reviews and annual inspections and other duties previously outlined in this report.

APPENDICES

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Appendix A –Acronyms and Abbreviations

ACMP	Alaska Coastal Management Program
ADF&G	Alaska Department of Fish and Game
AGIA	Alaska Gasline Inducement Act
ANGDA	Alaska Natural Gas Development Authority
ANGTS	Alaska Natural Gas Transport System
AO	Federal Authorized Officer (BLM)
AOCC	Alternate Operations Control Center
APSC	Alyeska Pipeline Service Company
AS	Alaska Statute
ASLS	Alaska State Land Survey
BLM	Bureau of Land Management
BPTA	BP Transportation (Alaska) Inc
BPXA	BP Exploration (Alaska)
BWT	Ballast Water Treatment Plant
CAH	Central Arctic Herd
CFP	Central Facilities Pad
CFR	Code of Federal Regulations
COTU	Crude Oil Topping Unit
COTS	Corrected on the Spot
CP	Cathodic Protection
CPAI	ConocoPhillips Alaska, Inc.
CPC	ConocoPhillips Company
CPF	Central Processing Facility
C-Plan	Oil Discharge Prevention and Contingency Plan
DCOM	Division of Coastal and Ocean Management (DNR)
DEC	Alaska Department of Environmental Conservation
DNR	Alaska Department of Natural Resources
DOLWD	Alaska Department of Labor and Workforce Development
DRA	Drag Reducing Agent
FLIR	Forward Looking Infrared
FY	Fiscal Year
GPB	Greater Prudhoe Bay
GRB	Glennallen Response Base
HDD	Horizontal Directional Drilling
HSM	Horizontal Support Members
HVE	Happy Valley Extension
IFC	Issued for Construction
ILI	In-Pipeline Inspection
IMOC	Integrated Management of Change

IPP	Industry Preparedness Program (DEC)
JPO	Joint Pipeline Office
KE	Kasilof Extension
KKPL	Kenai Kachemak Pipeline
KPB	Kenai Peninsula Borough
KPE	Kuparuk Pipeline Extension
KPL	Kuparuk Pipeline
KRU	Kuparuk River Unit
KTC	Kuparuk Transportation Company
LUP	Land Use Permits
LWC	Low Water Crossing
MAOP	Maximum Allowable Operating Pressure
MLU	Main (Pipe)line Unit
MLV	Mainline Valve
MOP	Maximum Operating Pressure
MPI	Main Production Island
MPPL	Milne Point Pipeline
NGL	Natural Gas Liquids
NNGP	Nuiqsut Natural Gas Pipeline
NOA	Notice of Amendment
NOPV	Notice of Probable Violation
NPC	Northstar Pipeline Company
NRM	Natural Resource Manager (DNR)
NRS	Natural Resource Specialist (DNR)
NRTL	Nationally Recognized Testing Laboratory
NSB	North Slope Borough
NTP	Notice to Proceed
OCC	Operations Control Center
OHMP	Office of Habitat Management and Permitting (DNR) (Now ADF&G Habitat Division)
OHW	Ordinary High Water
OMS	Operations Material Site
OPL	Oliktok Pipeline
OSHA	Occupational Safety and Health Administration
P&CM	Pipeline and Civil Maintenance Coordinators
PHMSA	Pipeline and Hazardous Materials Safety Administration
PLMP	Pipeline Milepost
PS	Pump Station
PSIO	Pipeline Systems Integrity Office
QAP	Quality Assurance Program
RCA	Regulatory Commission of Alaska

RGV	Remote Gate Valve
ROW	Right-of-Way
RSA	Reimbursable Service Agreement
RTU	Remote Terminal Unit
SAT	Satisfactory
SCADA	Supervisory Control and Data Acquisition
SDI	Satellite Drilling Island
Sec.	Section
SERVS	Ship Escort Response Vessel System (TAPS)
SFMO	State Fire Marshal's Office
SIL	Safety Integrity Level
SIPPS	Safety Integrity Pressure Protection System
SMP	Surveillance and Monitoring Program
SOCC	Security Operation Control Center
SPC	State Pipeline Coordinator
SPCO	State Pipeline Coordinator's Office
SR	Strategic Reconfiguration
Stip.	Stipulation
SWDS	Solid Waste Disposal Sites
TAGS	Trans-Alaska Gas System
TAPL	Tesoro Alaska Pipeline (Nikiski Alaska Pipeline)
TAPS	Trans-Alaska Pipeline System
TWUP	Temporary Water Use Permit
UL	Underwriter's Laboratories
ULSD	Ultra-low-sulfur Diesel
UNSAT	Unsatisfactory
USDOT	US Department of Transportation
USFWS	US Fish and Wildlife Service
VMT	Valdez Marine Terminal
VSM	Vertical Support Member
YPC	Yukon Pacific Corporation

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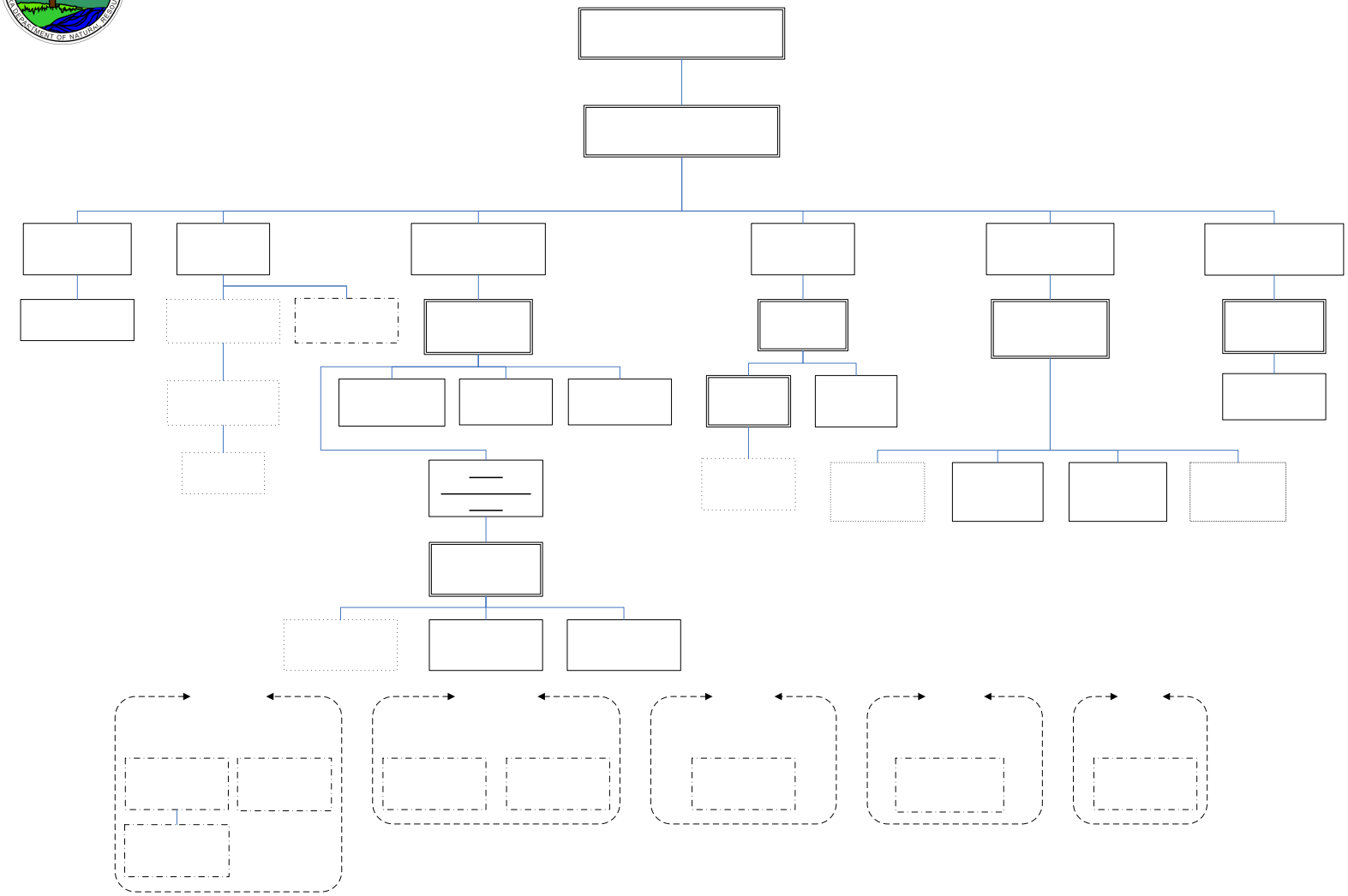
Appendix B – SPCO Staff Resources



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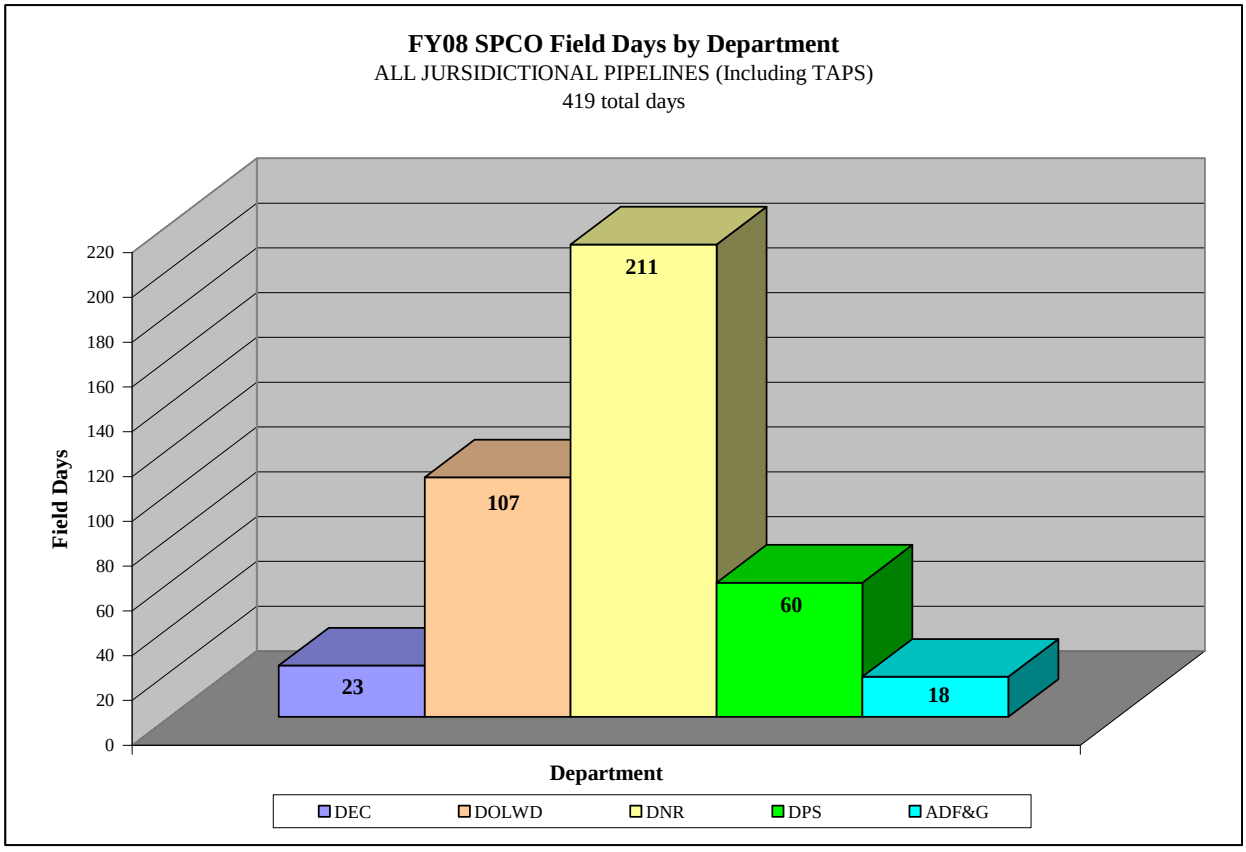
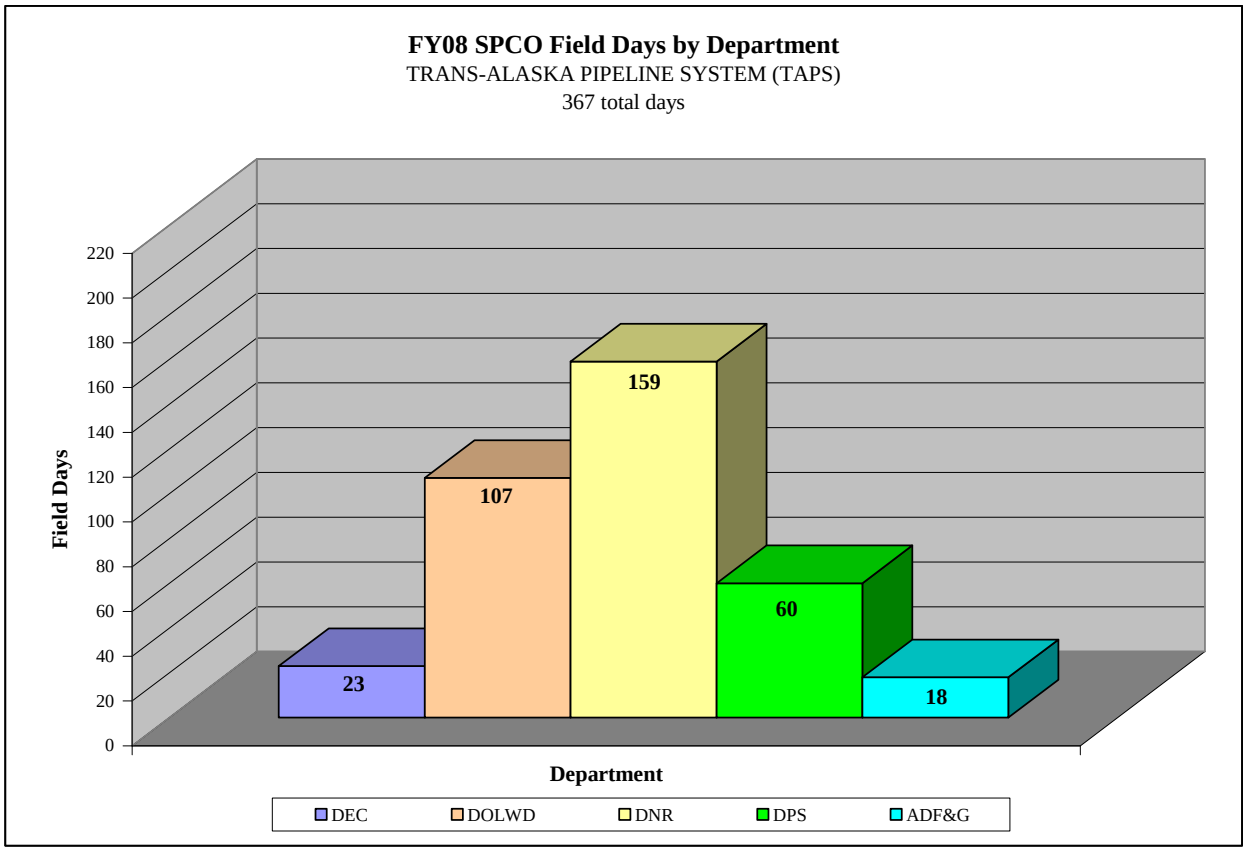
APPENDIX C – SPCO DAYS IN THE FIELD, FY08





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Appendix D - Authorizations, Rights-of-Way, and Permits Issued for TAPS, by Quarter.

First Quarter FY08: July 01, 2007 – September 30, 2007

Permit / ADL Number	Date	Location	Description
TWUP P2007-9	7/6/2007	Sec*. 24, T. 9 S, R. 7 W, CRM AK	A TWUP was issued, effective July 9, 2007, to withdraw up to 80,000 gallons per day total from two sources: a snowmelt drainage ditch and an avalanche diversion pond. The water will be used for processing tank bottoms removed from the crude oil storage tanks at the VMT.
ADL 418012	7/6/2007	Sec. 8, T. 8 S., R. 14 E., UM, AK	A material sale contract was issued at OMS 119-4 to remove 30,000 cubic yards of silty, sandy, and fine to coarse gravel with occasional cobbles and consists of approximately 35.0 acres.
ADL 418016	7/6/2007	Sec. 14, 22, and 23, T. 11 N, R. 14 E, UM, AK	A material sale contract to remove 50,000 cubic yards of pit run gravel was issued at the Put 23 Mine Site/Oxbow Pit and consists of approximately 349 acres.
ADL 415099	7/24/2007	Sec. 17 & 18, T. 4 S, R. 14 E, UM, AK	A ROW was granted for a private, non-exclusive ROW containing approximately 10.04 acres to realign TAPS Access Road 123 APL/AMS-2 and install a boat launch and turnaround area below ordinary high water on the Sagavanirktok River.
ADL 418013	8/16/2007	Sec 33, T. 3 N, R. 1 W, FM, AK	A material sale contract was issued at OMS 63-1 to remove 5,000 cubic yards of deeply weathered, highly fractured, relatively soft schistose bedrock and consists of approximately 13 acres.
ADL 418014	8/16/2007	Sec. 35, T. 29 N, R. 12 W, FM, AK	A material sale contract was issued at OMS 98-3.1 to remove 10,000 cubic yards of Sandy gravel with some silt and cobbles and consists of approximately 40 acres.
ADL 418025	8/16/2007	Sec. 23, T. 7 N, R. 5 W, FM, AK.	A material sale contract was issued at OMS 69-1R to remove 20,000 cubic yards of weathered bedrock. The site consists of approximately 9.0 acres.
ADL 418012	8/16/2007	Sec.30, T. 14 S, R. 10 E, FM, AK	A material sale contract was issued at OMS 41-3 to remove 20,000 cubic yards of rip rap. The site consists of approximately 7.0 acres and is situated within Alaska Department of Transportation & Public Facilities Material Site 71-0-005-2.
ADL 63574	9/10/2007	near TAPS PLMP 778.6	An off ROW authorization, per Lease Stipulation 2.9.1, was issued to enter public land via foot, passenger vehicles, and small rubber-tired or tracked equipment to conduct dewatering, water quality monitoring, and other short-term, non-intrusive activities related to cathodic protection enhancements at the former Sheep Creek Camp near PLMP 778.6.
LAS 26568	9/13/2007	Sec. 7, T. 9 S, R. 3 W, CRM, AK	A LUP containing approximately 4.0 acres was issued to provide room for construction equipment to maneuver around the area where new anodes will be installed around the existing buried anodes within the TAPS ROW at the former Sheep Creek Camp pad.
LAS 26569	9/13/2007	Sec. 4 and 9, T. 8 S, R. 2 W, CRM, AK	A LUP containing approximately 2.0 acres was issued for conducting flood repairs on Bear Creek by removing one to two feet of bed-load deposits caused by the 2006 Valdez floods. The work will occur along approximately 250 feet of the creek upstream of the TAPS crossing.
LAS 26563	9/28/2007	NE4 Sec.21, T. 3 S, R. 1 E, CRM, AK	A LUP containing approx. 0.86 acres was issued for construction of a pilot channel within an unvegetated gravel bar in the Tonsina River in support of a river erosion control project adjacent to the ROW.

*Section = Sec.	Township = T.	South = S	North = N	Range = R.	East = E	West = W	Copper River = CR	Fairbanks = F	Umiat = U	Meridian = M

Second Quarter FY08: October 1, 2007 – December 31, 2007

Permit / ADL Number	Date	Location	Description
ADL 63574	10/22/2007	PLMPs 790.5, 791.9 and 793.9	An off ROW authorization, per Lease Stipulation 2.9.1, was issued to enter public land via foot, passenger vehicles, and small rubber-tired or tracked equipment to conduct dewatering, water quality monitoring and other short-term, non-intrusive activities related to conducting flood damage repairs at drainages in Lowe River Valley near TAPS PLMPs 790.5, 791.9 and 793.9.
LAS 26613	10/22/2007	Sec. 30, T. 4 S, R. 5 E, FM, AK	A LUP containing approximately 1.0 acre was issued for making minor adjustments to the drainage known as the Little Salcha River Tributary. These adjustments will be made upstream of a newly installed culvert across the TAPS workpad near PLMP 489.7.
TWUP P2007-11	11/15/2007	Sec. 16, T. 7 N, R.14 E, UM AK.	A TWUP was issued, effective June 1, 2008, to appropriate up to 30,000 gallons per day from an unnamed creek along PS03 access road for dust suppression around the PS03 area.
TWUP P2007-13	11/19/2007	Sec. 31, T. 14 S, R. 10 E, FM AK	A TWUP was issued, effective May 1, 2008, to appropriate up to 35,000 gallons per day from a pond within OMS 41-1R. The water will be used for slurry activities associated with VSM maintenance at OMS 41-1R and for dust abatement and compaction activities.
TWUP P2007-12	11/20/2007	Sec. 17, T. 5 S, R. 6 E, FM AK	A TWUP was issued, effective May 1, 2008, to appropriate up to 35,000 gallons per day from a pond within OMS 53-2. The water will be used for slurry activities associated with VSM maintenance at OMS 53-2 and for dust abatement and compaction activities.
LAS 26597	12/3/2007	Sec. 19, 27, 28, 29, 30, and 34 of T. 9 S, R. 5 W, CRM, AK	A LUP containing approximately 3.0 acres was issued to conduct repairs upstream of TAPS crossings at PLMP 790.5, 791.9, and 793.9 by removing bed-load deposits caused by the 2006 Valdez floods.
TWUP P2007-14	12/20/2007	Sec.32, T. 4 S, R. 5 E, FM, AK	A TWUP was issued, effective June 1, 2008, to appropriate up to 15,000 gallons per day from the Little Salcha River. The water will be used for general road maintenance and dust suppression along the TAPS right-of-way between PLMP 480 and PLMP 495.83.
TWUP P2007-5 Amendment 1	12/24/2007	PS09	An existing TWUP was amended to extend the temporary water use for withdrawal of up to 10,000 gallons of water per day from the well at PS09 through December 31, 2009. The water will be used to support ROW workpad excavation and pad maintenance activities.

Third Quarter FY08: January 1, 2008 - March 31, 2008

Permit / ADL Number	Date	Location	Description
TWUP P2007-15	1/23/2008	Sec. 17, T.1 S, R. 2 E, FM, AK	A TWUP was issued, effective 5/1/2008, to appropriate up to 15,000 gallons per day from the Gettinger Gravel Pit. The water will be used for hydrostatic testing, miscellaneous construction activities, and source control testing at Nordale Yard.
ADL 63574	2/5/2008	TAPS PLMP 22.9	An off ROW authorization, per Lease Stipulation 2.9.1, was issued to enter public land via passenger vehicles and small rubber-tired or tracked equipment to conduct dewatering, water quality monitoring and other short-term, non-intrusive activities related to a pipeline integrity investigation at TAPS PLMP 22.9.
LAS 26696	2/6/2008	Sec.19 of T. 7 N, R. 14 E, UM, AK	A LUP containing approximately 0.69 acres was issued to excavate a section of the buried TAPS pipe to investigate the integrity of the pipe, repair the pipe if needed, and re-coat it. The land use area is located at TAPS PLMP 22.9.
TWUP P2007-7 Amendment 1	2/12/2008	Sec. 8, T. 12 S, R. 12 E, UM, AK	An existing TWUP was amended to allow an additional use of water to provide domestic water for the temporary housing at Old Atigun Camp pad location at Dalton Highway Milepost 243.
TWUP P2006-3 Amendment 1	2/12/2008	PS02	An existing TWUP was amended to relinquish the water source of the well at TAPS PS02.
Permit / ADL Number	**Date**	**Location**	**Description**
ADL 63574	2/29/2008	Sec. 34, T. 9 S, R. 4 W, CRM, AK	An off ROW authorization, per Lease Stipulation 2.9.1, was issued to operate mobile ground equipment on state land outside the ROW to access the integrity investigation at TAPS PLMP 784.5.
ADL 63574	3/4/2008	Sec. 18, T. 2 N, R. 14 W, FM, AK	An off ROW authorization was issued to operate mobile ground equipment on state land outside the ROW on Jim River to conduct winter oil spill response training including trenching and auguring.
ADL 63574	3/14/2008	PLMP 503 to 516	A waiver to Specific Requirement No. 4 of the July 2005 JPO Brushing Policy to trim shrubs that are more than six feet beyond the edge of the non-pipeline side of the drivelane at TAPS PLMP 503 to PLMP 516.
ADL 63574	3/24/2008	PLMP 516 to 523	A waiver to Specific Requirement No. 4 of the July 2005 JPO Brushing Policy to trim shrubs that are more than six feet beyond the edge of the non-pipeline side of the drivelane at TAPS PLMP 516 to PLMP 523.

Fourth Quarter FY08: April 1, 2008 - June 30, 2008

Permit / ADL Number	Date	Location	Description
TWUP P2008-1	4/30/2008	Sec. 7, T. 1 N, R. 15 E, UM, AK	A TWUP was issued to appropriate up to 260,000 gallons per day of water from the Sagavanirktok River to conduct hydrostatic testing of approximately 1,700 feet of new 48-inch mainline pipe at PS02 and clean approximate 1,700 feet of retired 48-inch mainline pipe, located.
ADL 63574	4/23/2008	Sec. 7 T.1 N, R. 15 E, UM, AK	An amendment of the ROW for TAPS was executed as a modification to the land description to add approximately 1.0 acre situated adjacent to and east of the existing TAPS right-of-way at PS02. The land added to the ROW is located at TAPS PLMP 57.7.
ADL 63574	4/30/2008	PS02	An off ROW authorization, per Lease Stipulation 2.9.1, was issued to cross public lands outside of the TAPS ROW by passenger vehicles and small, rubber-tired or tracked equipment to conduct dewatering, water quality monitoring and other short-term, non-intrusive activities related to the mainline reroute project at PLMP 57.7.
TWUP P2007-11 Amendment 1	5/5/2008	PS03	An existing TWUP was amended to change the water use to add construction and pad maintenance support as well as dust suppression around the PS03 area.
TWUP P2007-5 Amendment 2	5/5/2008	Sec. 27, T. 11 S, R. 10 E, FM, AK	An existing TWUP permit was amended to withdraw water from the well at PS09 to support ROW work pad excavation and pad maintenance activities.
ADL 63574	6/2/2008	Pipeline-wide	A jointly signed JPO letter with an off ROW authorization was issued to cross public lands to conduct routine, low-impact activities in support of TAPS operations and maintenance activities.
LAS 26837	6/13/2008	Sec. 34, T. 9 S, R. 4 W, CRM, AK	A LUP containing approximately 1.0 acre was issued to restore the original footprint along approximately 300 feet of the southerly side of the existing 1,700-foot long guidebank on Browns Creek. The guidebank served to protect the buried TAPS pipeline and the power pipeline in this vicinity and was damaged during the 2006 Valdez flood.
ADL 230398	6/23/2008	Sec. 31, T. 3 S, R. 1 E, CRM, AK	A negotiated material sale contract was issued at OMS 14-0 to remove 3,500 cubic yards of fractured and weathered bedrock. The material site consists of approximately 13.0 acres.
ADL 418278	6/23/2008	Sec. 13 and 24, T. 3 N, R. 2 W, FM, AK	A negotiated material sale contract was issued at OMS 63-4 to remove 6,000 cubic yards of fractured and weathered bedrock. The material site consists of approximately 9.5 acres
TWUP P2005-16 Amendment 1	6/26/2008	PS02 area	An existing TWUP was amended to change the water use to add hydrostatic testing and pipe cleaning at PS02 as well as pad maintenance and dust suppression from PLMP 5.12 to 58 and the PS02 area.
TWUP P2006-3 Amendment 2	626/2008	PS02 area	An existing TWUP was amended to change the water use to add hydrostatic testing and cleaning pipe at PS02 as well as pad maintenance and ice road construction from TAPS PLMP 63.15 to PLMP 84.4.

Appendix E - Physical Characteristics of SPCO Jurisdictional Pipelines

Pipeline System	Diameter	Wall Thickness	Product	Year Constructed	System Length
Alpine Diesel Pipeline	2.375-inch	0.156-inch	Arctic Heating Fuel	1998-1999	34.2 miles (23.7 miles on state land)
Alpine Oil Pipeline	14-inch	0.312 to 0.438-inches	Sales Oil	1998-1999	34.2 miles (23.7 miles on state land)
Alpine Utility Pipeline	12.75-inch	0.330-inch	Treated Seawater	1998-1999	34.2 miles (23.7 miles on state land)
Badami Sales Oil Pipeline	12-inch	0.281-inch aboveground 0.500-inch belowground	Sales Oil	1998	25 miles (all on state land)
Badami Utility Pipeline	6-inch	0.375-inch aboveground 0.432-inch river crossing	Natural Gas and Product	1998	31 miles (all on state land)
Endicott Pipeline	16-inch	0.312-inch	Sales Oil	1987	26 miles (all on state land)
Kasilof Extension to KKPL	6.63-inch	0.280 and 0.432-inch	Natural Gas	2006	4.2 miles (all on state land)
KKPL Mainline and HVE	12.75-inch	0.330 and 0.500-inch	Natural Gas	2003-2004	50 miles including the HVE (42 miles on state land)
Kuparuk Pipeline	24-inch	0.406-inch (0.750-inch in Kuparuk Floodplain)	Sales Oil	1984	28 miles (all on state land)
Kuparuk Pipeline Extension	12 and 18-inch	0.375-inch	Sales Oil	1981	9 miles (all on state land)
Milne Point (Oil) Pipeline	14-inch	0.312-inch	Sales Oil	1984	10 miles (all on state land)
Milne Point Product Pipeline	8-inch	0.277-inch	Natural Gas Liquids	2000	10 miles (all on state land)
Nikiski Alaska Pipeline	10.75-inch	0.188 to 0.625-inches	Jet Fuel, Gasoline, Diesel	1976	68.9 miles (52.8 miles on state land)
Northstar Gas Pipeline	10.15-inch	0.307-inch (0.594-inch sub-sea)	Natural Gas	2000-2001	16 miles (all on state land)
Northstar Oil Pipeline	10.75-inch	0.307-inch (0.594-inch sub-sea)	Sales Oil	2000-2001	17 miles (all on state land)
Nuiqsut Natural Gas Pipeline	3.5-inch	0.203-inch	Natural Gas	1998-1999	14.4 miles(2.4 miles on state land)
Oliktok Pipeline	16-inch	0.342-inch (0.750-inch in Kuparuk Floodplain)	Natural Gas Liquids	1981	28 miles (all on state land)
TAPS	48-inch	0.462 to 0.562-inches	Sales Oil	1975-1977	800 miles

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Appendix F - Lease Required Contact Information

Pipeline	Lease Sec/Stip	Registered Agent	Leases Sec/Stip	Authorized Representative	Lease Sec/Stip	Field Representative
Alpine Pipelines	Sec. 30	Ms. Karen L. Kennedy Manager Operations & Engineering Alpine Transportation Company P.O. Box 100360 ATO 908 Anchorage, AK 99510-0360	Sec. 30	Ms. Karen L. Kennedy Operations and Engineering Manager Alpine Transportation Co. P.O. Box 100360 ATO 908 Anchorage, AK 99510-0360	Sec. 30	Mr. Malcolm Huson NSOD Pipeline Operations Supervisor ConocoPhillips Alaska, Inc. P.O. Box 196105, NSK 22 Anchorage AK 99519-6105
Badami Pipelines	Sec. 8(j)	CT Corporation, Re: BPTA Suite 2002 9360 Glacier Highway Juneau, Alaska 99801	Sec. 26	Mr. Michael Rocereta Vice President, BPTA, Inc. P.O. Box 190848 Anchorage, AK 99519-0848	Sec. 26	Bruce W. Robinson / Thomas J. Barnes Mail Stop END 900 E. Benson Blvd. Anchorage, AK 99508
Endicott	Sec. 4(j)	CT Corporation, Re: BPTA 9360 Glacier Highway, Suite 2002 Juneau, Alaska 99801	Stip. 1.3.2	Mr. Michael Rocereta Vice President, BPTA P.O. Box 190848 Anchorage, AK 9519-0848	Stip. 1.3.2	Bruce W. Robinson / Thomas J. Barnes BPXA, Mail Stop END 900 E. Benson Blvd. Anchorage, AK 99508
KKPL	Sec. 8(j)	Ms. Jaci Stasak Marathon Pipe Pipeline, LLC PO Box 2399 Kenai, Alaska 99611	Sec. 30	Mr. Daniel Riemer, President Kenai Kachemak Pipeline, LLC 5555 San Felipe Road Houston, Texas 77056	Sec. 30	Marathon Pipe Pipeline, LLC Attn: Mr. Raymond Price Kenai Area Manager PO Box 2399 Kenai, Alaska 99611
Kuparuk and Kuparuk Extension	Sec. 4(j)	Ms. Karen L. Kennedy Operations & Engineering Manager Kuparuk Transportation Company P.O. Box 100360 ATO 908 Anchorage, AK 99510-0360	Stip. 1.3.2	Ms. Karen L. Kennedy Operations & Engineering Manager Kuparuk Transportation Company P.O. Box 100360 ATO 908 Anchorage, AK 99510-0360	Stip. 1.3.2	Malcolm Huson NSOD Pipeline Operations Supervisor ConocoPhillips Alaska, Inc. P.O. Box 196105, NSK 22 Anchorage AK 99519-6105
Milne Point Oil	Sec. 4(j)	CT Corporation Re: BPTA 9360 Glacier Highway Ste 2002 Juneau, Alaska 99801	Stip. 1.3.2	Mr. Michael Rocereta Vice President, BPTA P.O. Box 190848 Anchorage, AK 9519-0848	Stip. 1.3.2	Dale O. Kruger / Jeff R. Michels Mail Stop MPU 900 E. Benson Blvd. Anchorage, AK 99508
Milne Point Product (NGL)	Sec. 8(j)	CT Corporation Re: BPTA 9360 Glacier Highway Ste 2002 Juneau, Alaska 99801	Sec. 30	Mr. Michael Rocereta Vice President, BPTA P.O. Box 190848 Anchorage, AK 9519-0848	Sec. 30	Dale O. Kruger / Jeff R. Michels Mail Stop MPU 900 E. Benson Blvd. Anchorage, AK 99508
Nikiski Alaska	Sec. 11	Tesoro Alaska Pipeline Co. Attn: Shawn Brown Manager Pipeline & Terminals P.O. Box 3369 Kenai, AK 99611	Stip 1.4.2		Sec. 30	Mr. Shawn Brown Manager, Pipelines & Terminals Tesoro Alaska Pipeline Co. P.O. Box 3369 Kenai, AK 99611

Appendix F, Continued

Pipeline	Lease Sec/Stip	Registered Agent	Leases Sec/Stip	Authorized Representative	Lease Sec/Stip	Field Representative
Northstar Pipelines	Sec. 8(j)	CT Corporation Re: BPTA 9360 Glacier Highway Ste 2002 Juneau, Alaska 99801	Sec. 30	Mr. Michael Rocereta Vice President, BPTA P.O. Box 190848 Anchorage, AK 9519-0848	Sec. 30	Wayne Kuykendall / Gary Herring Mail Stop Northstar 900 E. Benson Blvd. Anchorage, AK 99508
Oliktok Pipeline	Sec. 4(j)	Ms. Karen L. Kennedy Operations & Engineering Manager Oliktok Pipeline Company P.O. Box 100360 ATO 908 Anchorage, AK 99510-0360	Stip 1.3.2	Ms. Karen L. Kennedy Operations & Engineering Manager Oliktok Pipeline Company P.O. Box 100360 ATO 908 Anchorage, AK 99510-0360	Stip 1.3.2	Malcolm Huson NSOD Pipeline Operations Supervisor ConocoPhillips Alaska, Inc. P.O. Box 196105, NSK 22 Anchorage AK 99519-6105
TAPS	Sec. 12	Alyeska Pipeline Service Company Attn: Mr. Kevin Hostler, President PO Box 196660 Anchorage, AK 99519-6660	Stip 1.5.3	Mr. Joseph Roberson JPO/DOT Liaison Director, APSC P.O. Box 196660, MS 502 Anchorage, AK 99519-6660	N/A	N/A

Appendix G - Acreage, Survey, and Lease Information.

ADL #	Lease Name	Lease Effective Date	Lease Expiration Date	Lessee	State Acreage	Survey #
415932	Alpine Diesel Pipeline	12/15/1998	12/14/2018	ConocoPhillips Company	128.51 acres	EPF 2002-40
415701	Alpine Oil Pipeline	12/15/1998	12/14/2018	ConocoPhillips Company	148.66 acres	EPF 2002-40
415857*	Alpine Utility Pipeline	1/6/1999	1/5/2019	ConocoPhillips Company	148.65 acres	EPF 2002-40
415472	Badami Sales Oil Pipeline	12/15/1997	12/14/2022	BP Transportation (Alaska) Inc.	1,240 acres	EPF 2002-18
415965	Badami Utility Pipeline	12/15/1997	12/14/2022	BP Transportation (Alaska, Inc.	352.1 acres	EPF 2002-18
410562	Endicott Pipeline	8/5/1986	5/2/2034	Endicott Pipeline Company*	1,072.636 acres	ASLS 84-96
228162	Kenai Kachemak Pipeline	11/26/2002	11/25/2032	Kenai Kachemak Pipeline, LLC	310.55 acres	KKPL - EPF 2004-45 HVE - EPF 2005-41 KE - EPF 2007-04
402294	Kuparuk Pipeline	8/26/1980	5/2/2034	Kuparuk Transportation Company	485.58 acres	ASLS 87-15
409027	Kuparuk Pipeline Extension	3/18/1983	5/2/2034	Kuparuk Pipeline Company	159.09 acres	ASLS 87-15
410221	Milne Point (Oil) Pipeline	1/15/1985	5/2/2034	Milne Point Pipeline, LLC**	186.92 acres	ASLS 84-114
416172	Milne Point Products Pipeline	12/5/2000	12/4/2030	Milne Point Pipeline, LLC**	258.6 acres	
69354	Nikiski Alaska Pipeline	1/30/1976	1/29/2031	Tesoro Alaska Pipeline Company	64 acres	ASLS 1976-215
415975	Northstar Gas Pipeline	10/1/1999	9/30/2019	BP Transportation (Alaska), Inc.	2,111.14 acres	EPF 2002-17
415700	Northstar Oil Pipeline	10/1/1999	9/30/2019	BP Transportation (Alaska), Inc.	1,50.92 acres	EPF 2002-17
416202	Nuiqsut Natural Gas Pipeline	3/15/1999	3/14/2019	North Slope Borough	17.67 acres	As-built survey approved by DNR 12/17/2003
411731	Oliktok Pipeline	6/1/1986	5/2/2034	Oliktok Pipeline Company	485.58 acres	ASLS 87-15
63574	Trans-Alaska Pipeline System	5/3/1974	5/2/2034	***	6,021.87 acres ****	Multiple surveys*****

** ADL 415857 is a ROW Grant, not a lease.*
*** Wholly owned by BPTA*
**** BP Pipelines Alaska Inc. (46.93%), ConocoPhillips Alaska Transportation Inc. (28.29%), Exxon/Mobil Pipeline Co. (20.34%), Unocal Pipeline Company (1.36%), Koch Alaska Pipeline Co. LLC (3.08%)*
***** Per Appraisal 3165, DNR Summary of Appraisal dated 7/21/2006, and Memorandum of May 17, 2007 from the Review Appraiser to the SPCO to add fuel gas line acreage.*
****** Includes the TAPS centerline survey, surveys of pump stations on State land, and as-builts for ROW amendments.*

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Appendix H - Pipeline Right-of-Way Lease Appraisal Information

Pipeline	ADL #	Status	State Acres	Rental	Next Appraisal Due (Prior to)
Alpine Oil	415701	Operations ROW	148.66	$22,299	12/15/2008
Alpine Diesel	415932	Operations ROW	148.51	$22,276	12/15/2008
Alpine Utility	415857	Operations ROW	148.65	$22,298	12/15/2008
Badami Oil	415472	Construction ROW	1,240.00	$540,144	12/15/2012
Badami Utility	415965	Construction ROW	352.10	$181,122	12/15/2012
Endicott	410562	Operations ROW	1,072.64	$735,627	8/5/2013
Kenai Kachemak	228162	Construction ROW	310.60	$88,389	11/26/2012
Kuparuk	402294	Operations ROW	485.58	$370,347	8/26/2013
Kuparuk Extension	409027	Operations ROW	159.09	$138,599	4/18/2013
Milne Point (Oil)	410221	Operations ROW	186.92	$162,845	1/15/2013
Milne Point Products	416172	Construction ROW	258.60	$225,292	12/5/2010
Oliktok	411731	Operations ROW	485.58	$370,347	1/20/2013
Nikiski Alaska	69354	Operations ROW	64.02	$15,380	1/30/2011
Northstar Oil	415700	Construction ROW	2,111.14	$409,796	10/1/2009
Northstar Gas	415975	Construction ROW	150.92	$55,980	10/1/2009
Nuiqsut Natural Gas	416202	Operations ROW	17.67	$2,468	3/15/2009
TAPS	63574	Operations ROW	6,021.87	$220,956	*

** Last Appraisal (No. 3165) was completed in 2002 and is under appeal. SPCO and DNR Appraisal Section agreed a retrospective appraisal is acceptable upon appeal resolution.*

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Appendix I - SPCO Surveillance Reports Issued, FY08

(Does not include DEC Oil Spill, State Fire Marshal, or Electrical Inspector Reports)

Pipeline	Inspection Date	Date Signed	Sec/ Stip	Description	Report #	Finding
Alpine Diesel	1/8-9/08	3/4/08	Sec 15	Conduct of operations	08-SPCO-S-001	SAT
Alpine Diesel	1/8-9/08	3/4/08	Stip 1.5.1	Conduct of operations: Design Criteria	08-SPCO-S-002	SAT
Alpine Diesel	1/8-9/08	3/4/08	Stip 1.6.1	Surveillance & monitoring	08-SPCO-S-003	SAT
Alpine Diesel	n/a	3/18/08	Stip 1.6.1	Surveillance & monitoring	08-SPCO-S-014	SAT
Alpine Diesel	n/a	3/26/08	Stip 1.14.1	Annual reporting	08-SPCO-S-009	SAT
Alpine Oil	n/a	3/18/08	Stip 1.6.1	Surveillance & monitoring	08-SPCO-S-015	SAT
Alpine Oil	n/a	3/26/08	Stip 1.14.1	Annual reporting	08-SPCO-S-010	SAT
Alpine Utility	10/1-2/07	11/30/07	Stip 1.6.1	Surveillance & monitoring	07-SPCO-S-089	SAT
Alpine Utility	10/1-2/07	11/30/07	Stip 3.2.1	Corrosion	07-SPCO-S-090	SAT
Alpine Utility	n/a	3/18/08	Stip 1.6.1	Surveillance & monitoring	08-SPCO-S-016	SAT
Alpine Utility	n/a	3/26/08	Stip 1.14.1	Annual reporting	08-SPCO-S-011	SAT
Badami Oil	5/31/07	8/7/07	Stip 2.3	Erosion and sedimentation	07-SPCO-S-046	SAT
Badami Oil	5/31/07	8/7/07	Stip 2.7	Disturbance of natural waters	07-SPCO-S-047	SAT
Badami Oil	7/13/07	10/24/07	Stip 1.6	Surveillance and monitoring	07-SPCO-S-076	UNSAT (M)[3]
Badami Oil	7/13/07	10/24/07	Stip 2.3	Erosion and sedimentation	07-SPCO-S-077	SAT
Badami Oil	7/13/07	10/24/07	Stip 2.6.1	Big game movements	07-SPCO-S-078	SAT
Badami Oil	7/13/07	10/24/07	Stip 2.7	Disturbance of natural waters	07-SPCO-S-079	SAT
Badami Oil	n/a	4/14/08	Stip 1.6.2	Annual reporting	08-SPCO-S-023	SAT
Badami Utility	5/31/07	8/7/07	Stip 2.3	Erosion and sedimentation	07-SPCO-S-048	SAT
Badami Utility	5/31/07	8/7/07	Stip 2.7	Disturbance of natural waters	07-SPCO-S-049	SAT
Badami Utility	7/13/07	10/24/07	Stip 1.6	Surveillance and monitoring	07-SPCO-S-080	UNSAT(M)
Badami Utility	7/13/07	10/24/07	Stip 2.3	Erosion and sedimentation	07-SPCO-S-081	SAT
Badami Utility	7/13/07	10/24/07	Stip 2.6.1	Big game movements	07-SPCO-S-082	SAT
Badami Utility	7/13/07	10/24/07	Stip 2.7	Disturbance of natural waters	07-SPCO-S-083	SAT
Badami Utility	n/a	4/14/08	Stip 1.6.2	Annual reporting	08-SPCO-S-024	SAT
Endicott	8/5/07	8/13/07	Stip 1.11.1	Protection of health and safety	07-SPCO-S-050	SAT
Endicott	8/5/07	8/13/07	Stip 1.17.1	Regulation of public access	07-SPCO-S-051	SAT
Endicott	8/5/07	8/13/07	Stip 3.4.1 (5)	Early detection of corrosion	07-SPCO-S-052	SAT
Endicott	n/a	4/14/08	Stip 1.3.3	Annual reporting	08-SPCO-S-025	SAT
Endicott	n/a	4/14/08	Sec 4	Annual reporting	08-SPCO-S-030	SAT
KKPL	8/15/2007	10/11/2007	Sec 8	Covenants of lessee	07-SPCO-S-060	SAT
KKPL	8/15/2007	10/11/2007	Sec 14	Plans and permitting	07-SPCO-S-061	SAT

[3] M = Minor

Appendix I, continued

Pipeline	Inspection Date	Date Signed	Sec/ Stip	Description	Report #	Finding
KKPL	8/15/2007	10/15/2007	Stip 1.4.1	Quality assurance program	07-SPCO-S-062	UNSAT (S)[4]
KKPL	10/25/2007	12/14/2007	Stip 2.2	Minimize surface disturbance	07-SPCO-S-091	SAT
KKPL	10/25/2007	12/14/2007	Stip 2.7	Stabilize, revegetate	07-SPCO-S-092	SAT
KKPL	10/25/2007	12/14/2007	Stip 2.8	Proper disposal of waste	07-SPCO-S-093	SAT
KKPL	10/25/2007	12/14/2007	Stip 2.11.1	Spill and discharge reporting	07-SPCO-S-094	SAT
KKPL	n/a	3/14/2008	Stip 1.13.1	Annual report	08-SPCO-S-006	SAT
Kuparuk	4/9-10/08	4/30/08	Sec 4	Covenants of lessee	08-SPCO-S-032	SAT
Kuparuk	4/9-10/08	4/30/08	Sec 7	Reservation of rights	08-SPCO-S-033	SAT
Kuparuk	4/9-10/08	4/30/08	Sec 10	Duty to prevent, abate	08-SPCO-S-034	SAT
Kuparuk	4/9-10/08	4/30/08	Stip 1.9.1	Conduct of operations	08-SPCO-S-035	SAT
Kuparuk	4/9-10/08	4/30/08	Stip 1.11.1	Health and safety	08-SPCO-S-036	SAT
Kuparuk	4/9-10/08	4/30/08	Stip 1.17	Regulation of access	08-SPCO-S-037	SAT
Kuparuk	4/9-10/08	4/30/08	Stip 2.2.2.1	Water and land pollution	08-SPCO-S-038	SAT
Kuparuk	4/9-10/08	4/30/08	Stip 2.3	Erosion & sedimentation control	08-SPCO-S-039	SAT
Kuparuk	4/9-10/08	4/30/08	Stip 2.4.6.1	Big game movements	08-SPCO-S-040	SAT
Kuparuk	4/9-10/08	4/30/08	Stip 3.1.2.5	Pipeline standards	08-SPCO-S-041	SAT
Kuparuk	4/9-10/08	4/30/08	Stip 3.4.1(5)	Pipeline corrosion	08-SPCO-S-042	SAT
Kuparuk	N/A	3/26/08	Stip 1.3.3	Annual Reporting	08-SPCO-S-012	SAT
Kuparuk	N/A	3/26/08	Stip 1.8.3	Quality Assurance	08-SPCO-S-013	SAT
Kuparuk Extension	8/21/07	10/17/07	Sec 4(d)	State's right of access	07-SPCO-S-071	SAT
Kuparuk Extension	8/21/07	10/17/07	Stip 1.8.2	Quality assurance	07-SPCO-S-072	SAT
Kuparuk Extension	8/21/07	10/17/07	Stip 1.11.1	Health and safety	07-SPCO-S-073	UNSAT (M)
Kuparuk Extension	8/21/07	10/17/07	Stip 2.10.1	Spill reporting	07-SPCO-S-074	SAT
Kuparuk Extension	8/21/07	10/17/07	Stip 2.10.1	Spill reporting	07-SPCO-S-075	UNSAT (M)
Kuparuk Extension	n/a	3/26/08	Stip 1.3.3	Annual reporting	08-SPCO-S-017	SAT
Kuparuk Extension	n/a	3/26/08	Stip 1.8.3	Quality assurance	08-SPCO-S-018	SAT
Milne Point (Oil)	8/26-29/07	10/31/07	Sec 11	Authorization required	07-SPCO-S-084	SAT
Milne Point (Oil)	8/26-29/07	10/31/07	Stip 1.6.2	Surveillance and maintenance	07-SPCO-S-085	SAT
Milne Point (Oil)	8/26-29/07	10/31/07	Stip 1.7.1	Authorization required	07-SPCO-S-086	SAT
Milne Point (Oil)	8/26-29/07	10/31/07	Stip 1.10.1	SMP: Pipeline integrity	07-SPCO-S-087	SAT
Milne Point (Oil)	8/26-29/07	10/31/07	Stip 1.11.1	Health and safety	07-SPCO-S-088	SAT
Milne Point (Oil)	n/a	4/14/08	Stip 1.3.3	Annual reporting	08-SPCO-S-026	SAT
Milne Point (Oil)	n/a	4/14/08	Sec 4	Annual reporting	08-SPCO-S-031	SAT
Milne Point (Oil)	7/12/07	8/22/07	Sec 6	Plans for review	07-SPCO-S-053	SAT

[4] S = Significant

Appendix I, continued

Pipeline	Inspection Date	Date Signed	Sec/ Stip	Description	Report #	Finding
Milne Point (Oil)	7/12/07	8/22/07	Stip 1.2	Contractor compliance	07-SPCO-S-054	SAT
Milne Point (Oil)	7/12/07	8/22/07	Stip 1.6	Plans for review	07-SPCO-S-055	SAT
Milne Point (Oil)	7/12/07	8/22/07	Stip 1.7	Authorization required	07-SPCO-S-056	SAT
Milne Point (Oil)	7/12/07	8/22/07	Stip 1.8	Quality assurance	07-SPCO-S-057	SAT
Milne Point (Oil)	7/12/07	8/22/07	Stip 3.1	Welder qualification	07-SPCO-S-058	SAT
Milne Point (Oil)	7/12/07	8/22/07	Stip 3.4	Corrosion	07-SPCO-S-059	SAT
Milne Point Products	n/a	4/14/08	Stip 1.13.1	Annual reporting	08-SPCO-S-027	SAT
Nikiski Alaska	n/a	4/7/08	Sec 8	Access to property and records	08-SPCO-S-007	SAT
Nikiski Alaska	n/a	4/7/08	Stip 1.15.3	Annual Reporting	08-SPCO-S-008	UNSAT (M)
Northstar Gas	9/5-7/07	10/9/07	Sec. 8(d)	State's access to property and records	07-SPCO-S-066	SAT
Northstar Gas	9/5-7/07	10/9/07	Sec. 14(a)	Quality assurance program	07-SPCO-S-067	SAT
Northstar Gas	9/5-7/07	10/9/07	Sec. 16(a)	Environmental compliance	07-SPCO-S-068	SAT
Northstar Gas	n/a	4/14/08	Stip 1.14.1	Annual Reporting	08-SPCO-S-028	SAT
Northstar Oil	9/5-7/07	10/9/07	Sec 8(d)	State's access to property and records	07-SPCO-S-063	SAT
Northstar Oil	9/5-7/07	10/9/07	Sec. 14(a)	Quality assurance program	07-SPCO-S-064	SAT
Northstar Oil	9/5-7/07	10/9/07	Sec. 16(a)	Environmental compliance	07-SPCO-S-065	SAT
Northstar Oil	n/a	4/14/08	Stip 1.14.1	Annual Reporting	08-SPCO-S-029	SAT
Nuiqsut	n/a	2/28/08	Stip. 1.14.1	Annual reporting (2006)	08-SPCO-S-004	UNSAT (S)
Nuiqsut	n/a	2/28/08	Stip. 1.14.1	Annual reporting (2007)	08-SPCO-S-005	UNSAT (M)
Nuiqsut	4/23/08	5/13/08	Sec. 1	Lease of ROW	08-SPCO-S-054	SAT
Nuiqsut	4/23/08	5/13/08	Sec. 6(a)(c)	Reservation of rights	08-SPCO-S-055	SAT
Nuiqsut	4/23/08	5/13/08	Sec. 7	Access to waters	08-SPCO-S-056	SAT
Nuiqsut	4/23/08	5/13/08	Sec. 8 (d)(h)(j)	State's right of access	08-SPCO-S-057	SAT
Nuiqsut	4/23/08	5/13/08	Sec. 9(b)	Contractors, agents, and employees	08-SPCO-S-058	SAT
Nuiqsut	4/23/08	5/13/08	Sec. 14(d)	Plans and permitting	08-SPCO-S-059	SAT
Nuiqsut	4/23/08	5/13/08	Sec. 30	Authorized representatives	08-SPCO-S-060	SAT
Nuiqsut	4/23/08	5/13/08	Sec. 40	Compliance	08-SPCO-S-061	SAT
Nuiqsut	4/23/08	5/13/08	Stip. 1.2.1	Communications	08-SPCO-S-062	SAT
Nuiqsut	4/23/08	5/13/08	Stip. 1.5.2	Conduct of operations	08-SPCO-S-063	SAT
Nuiqsut	4/23/08	5/13/08	Stip. 1.7.2	Health and safety	08-SPCO-S-064	SAT
Nuiqsut	4/23/08	5/13/08	Stip. 1.11.2	Regulation of access	08-SPCO-S-065	SAT
Nuiqsut	4/23/08	5/13/08	Stip. 1.12.1	Use of existing facilities	08-SPCO-S-066	SAT
Nuiqsut	4/23/08	5/13/08	Stip. 1.13	Storage	08-SPCO-S-067	SAT
Nuiqsut	4/23/08	5/13/08	Stip. 2.3.1.1	Erosion and sedimentation	08-SPCO-S-068	SAT
Nuiqsut	4/23/08	5/13/08	Stip. 2.6.1	Big game movements	08-SPCO-S-069	SAT
Nuiqsut	4/23/08	5/13/08	Stip. 2.8.1	ROW traffic	08-SPCO-S-070	SAT
Oliktok	n/a	3/26/08	Stip 1.3.3	Annual reporting	08-SPCO-S-019	SAT

Appendix I, continued

Pipeline	Inspection Date	Date Signed	Sec/ Stip	Description	Report #	Finding
Oliktok	n/a	3/26/08	Stip 1.8.3	Quality assurance	08-SPCO-S-020	SAT
Oliktok	4/9-10/08	4/30/08	Sec 4	Covenants of lessee	08-SPCO-S-043	SAT
Oliktok	4/9-10/08	4/30/08	Sec 7	Reservation of rights	08-SPCO-S-044	SAT
Oliktok	4/9-10/08	4/30/08	Sec 10	Duty to prevent, abate	08-SPCO-S-045	SAT
Oliktok	4/9-10/08	4/30/08	Stip 1.9.1	Conduct of operations	08-SPCO-S-046	SAT
Oliktok	4/9-10/08	4/30/08	Stip 1.11.1	Health and safety	08-SPCO-S-047	SAT
Oliktok	4/9-10/08	4/30/08	Stip 1.17	Regulation of access	08-SPCO-S-048	SAT
Oliktok	4/9-10/08	4/30/08	Stip 2.2.2.1	Water and land pollution	08-SPCO-S-049	SAT
Oliktok	4/9-10/08	4/30/08	Stip 2.3	Erosion & sedimentation control	08-SPCO-S-050	SAT
Oliktok	4/9-10/08	4/30/08	Stip. 2.4.6.1	Big game movements	08-SPCO-S-051	SAT
Oliktok	4/9-10/08	4/30/08	Stip 3.1.2.5	Pipeline standards	08-SPCO-S-052	SAT
Oliktok	4/9-10/08	4/30/08	Stip 3.4.1(5)	Pipeline corrosion	08-SPCO-S-053	SAT
Pipeline	**Inspection Date**	**Date Signed**	**Sec/ Stip**	**Description**	**Report #**	**Finding**
TAPS	3/19/07	7/5/07	Stip 1.20.1	Health and Safety (PS09)	ANC-07-S-108	COTS
TAPS	3/20/07	7/5/07	Stip 1.20.1	Health and Safety (GRB)	ANC-07-S-101	COTS
TAPS	3/20/07	7/5/07	Stip 1.20.1	Health and Safety (MRL 1)	ANC-07-S-103	SAT
TAPS	3/20/07	7/5/07	Stip 1.20.1	Health and Safety (MRL 2)	ANC-07-S-104	SAT
TAPS	3/20/07	7/5/07	Stip 1.20.1	Health and Safety (MRL 7)	ANC-07-S-105	SAT
TAPS	3/20/07	7/5/07	Stip 1.20.1	Health and Safety (PS10)	ANC-07-S-106	SAT
TAPS	3/20/07	7/5/07	Stip 1.20.1	Health and Safety (PS12)	ANC-07-S-107	SAT
TAPS	5/22/07	11/28/07	Stip 2.4, 2.5	Erosion Control Project (PLMP 378.54)	ANC-07-S-238	UNSAT
TAPS	5/22/07	11/28/07	Stip 2.4, 2.5	Block Point (PLMP 412.47)	ANC-07-S-239	SAT
TAPS	5/23/07	11/28/07	Stip 2.4, 2.5	Culvert Inspection (PLMP 480.74)	ANC-07-S-241	SAT
TAPS	5/23/07	11/28/07	Stip 2.4, 2.5	Bridge Channel (PLMP 483.90)	ANC-07-S-242	SAT
TAPS	5/23/07	11/28/07	Stip 2.4, 2.5	Culvert Inspection (PLMP 484.93)	ANC-07-S-243	SAT
TAPS	5/23/07	11/28/07	Stip 2.4, 2.5	Culvert Inspection (PLMP 485.34)	ANC-07-S-244	SAT
TAPS	5/23/07	11/28/07	Stip 2.4, 2.5	Culvert Inspection (PLMP 485.51)	ANC-07-S-245	SAT
TAPS	5/23/07	11/28/07	Stip 2.4, 2.5	Culvert Inspection (PLMP 485.78)	ANC-07-S-246	SAT
TAPS	5/23/07	11/28/07	Stip 2.4, 2.5	Bridge Channel (PLMP 490.80)	ANC-07-S-249	SAT
TAPS	5/23/07	11/28/07	Stip 2.4, 2.5	Culvert Inspection (PLMP 491.94)	ANC-07-S-250	SAT
TAPS	6/4/07	7/24/07	Stip 1.20.1	Health and Safety (VMT)	ANC-07-S-115	COTS
TAPS	6/4/07	7/24/07	Stip 1.20.1	Health and Safety (VMT BWT)	ANC-07-S-116	SAT
TAPS	6/4/07	7/24/07	Stip 1.20.1	Health and Safety (VMT Office)	ANC-07-S-122	SAT
TAPS	6/5/07	7/24/07	Stip 1.20.1	Health and Safety (VMT)	ANC-07-S-117	COTS
TAPS	6/5/07	7/24/07	Stip 1.20.1	Health and Safety (VMT Maintenance)	ANC-07-S-118	COTS
TAPS	6/5/07	7/24/07	Stip 1.20.1	Health and Safety (VMT OCC)	ANC-07-S-123	SAT
TAPS	6/6/07	7/24/07	Stip 1.20.1	Health and Safety (VMT Marine)	ANC-07-S-119	COTS
TAPS	6/6/07	7/24/07	Stip 1.20.1	Health and Safety (SERVS)	ANC-07-S-120	COTS

Appendix I, continued

Pipeline	Inspection Date	Date Signed	Sec/ Stip	Description	Report #	Finding
TAPS	6/6/07	7/24/07	Stip 1.20.1	Health and Safety (VMT TCC)	ANC-07-S-124	SAT
TAPS	6/6/07	7/24/07	Stip 1.20.1	Health and Safety (VMT Laboratory)	ANC-07-S-125	SAT
TAPS	6/26/07	7/24/07	Stip 1.20.1	Health and Safety (PS03)	ANC-07-S-121	COTS
TAPS, ADL 418013[5]	7/22/07	2/13/08	Stip 2.6	Material Sales (OMS 63-1)	07-TAPS-S-002	SAT
TAPS, ADL 416938	7/23/07	2/13/08	Stip 2.6	Material Sales (OMS 63-1)	07-TAPS-S-001	SAT
TAPS, ADL 416767	7/23/07	2/13/08	Stip 2.6	Material Sales (OMS 63-4)	07-TAPS-S-003	SAT
TAPS, ADL 417722	7/23/07	2/13/08	Stip 2.6	Material Sales (63-DOT)	07-TAPS-S-004	SAT
TAPS, ADL 417118	7/23/07	2/13/08	Stip 2.6	Material Sales (65-1M)	07-TAPS-S-005	SAT
TAPS, ADL 417119	7/24/07	2/13/08	Stip 2.6	Material Sales (OMS 66-1R)	07-TAPS-S-006	SAT
TAPS, ADL 417120	7/24/07	2/13/08	Stip 2.6	Material Sales (OMS 67-1)	07-TAPS-S-007	SAT
TAPS, ADL 416939	7/24/07	2/13/08	Stip 2.6	Material Sales (OMS 68-1)	07-TAPS-S-008	SAT
TAPS, ADL 417854	7/24/07	2/13/08	Stip 2.6	Material Sales (OMS 68-4)	07-TAPS-S-009	SAT
TAPS, ADL 418025	7/24/07	2/18/08	Stip 2.6	Material Sales (OMS 69-1R)	07-TAPS-S-010	SAT
TAPS, ADL 416941	7/24/07	2/13/08	Stip 2.6	Material Sales (OMS 70-0.0)	07-TAPS-S-011	SAT
TAPS, ADL 416940	7/24/07	2/13/08	Stip 2.6	Material Sales (OMS 71-0)	07-TAPS-S-012	SAT
TAPS, ADL 417121	7/24/07	2/13/08	Stip 2.6	Material Sales (OMS 71-0)	07-TAPS-S-013	SAT
TAPS, ADL 416942	7/24/07	2/13/08	Stip 2.6	Material Sales (OMS 71-8)	07-TAPS-S-014	SAT
TAPS, ADL 417417	7/24/07	2/13/08	Stip 2.6	Material Sales (71-lHR)	07-TAPS-S-015	SAT
TAPS	7/25/07	2/13/08	Stip 2.6	Material Sales (OMS 73-1R)	07-TAPS-S-016	SAT
TAPS	7/25/07	2/13/08	Stip 2.6	Material Sales (OMS 74-2HR)	07-TAPS-S-017	SAT
TAPS, ADL 416943	7/25/07	2/13/08	Stip 2.6	Material Sales (OMS 75-1R)	07-TAPS-S-018	SAT
TAPS, ADL 416944	7/25/07	2/13/08	Stip 2.6	Material Sales (OMS 76-2.1)	07-TAPS-S-019	SAT
TAPS, ADL 416937	7/25/07	2/13/08	Stip 2.6	Material Sales (OMS 35-1.2)	07-TAPS-S-030	SAT
TAPS, ADL 416770	7/26/07	2/13/08	Stip 2.6	Material Sales (OMS 98-3.1)	07-TAPS-S-020	SAT
TAPS, ADL 418014	7/26/07	2/14/08	Stip 2.6	Material Sales (OMS 98-3.1)	07-TAPS-S-021	SAT
TAPS, ADL 416945	7/26/07	2/13/08	Stip 2.6	Material Sales (OMS 119-4)	07-TAPS-S-022	SAT
TAPS, ADL 418015	7/26/07	2/13/08	Stip 2.6	Material Sales (OMS 119-4)	07-TAPS-S-023	SAT
TAPS, ADL 418032	7/26/07	2/13/08	Stip 2.6	Material Sales (OMS 119-4)	07-TAPS-S-023	SAT
TAPS, ADL 418016	7/27/07	2/13/08	Stip 2.6	Material Sales (Put 23/Oxbow Pit)	07-TAPS-S-025	SAT
TAPS, ADL 418012	7/27/07	2/13/08	Stip 2.6	Material Sales (OMS 41-3)	07-TAPS-S-031	SAT
TAPS	8/14/07	9/24/07	Stip 1.20.1	Health and Safety (PS06)	ANC-07-S-168	UNSAT (M)
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 730.17)	ANC-07-S-251	COTS[6]
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 730.25)	ANC-07-S-252	SAT
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 730.36)	ANC-07-S-253	COTS

[5] ADL numbers are included for Material Sales Sites
[6] COTS= corrected on the spot

Appendix I, continued

Pipeline	Inspection Date	Date Signed	Sec/ Stip	Description	Report #	Finding
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 730.47)	ANC-07-S-254	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	CMP to LWC (PLMP 730.66)	ANC-07-S-255	SAT
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 730.72)	ANC-07-S-256	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 730.78)	ANC-07-S-257	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 730.85)	ANC-07-S-258	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 731.00)	ANC-07-S-259	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 731.16)	ANC-07-S-260	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 731.26)	ANC-07-S-261	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 731.34)	ANC-07-S-262	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 731.44)	ANC-07-S-263	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 731.50)	ANC-07-S-264	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 731.69)	ANC-07-S-265	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 731.78)	ANC-07-S-266	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 731.86)	ANC-07-S-267	COTS
TAPS	8/14/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 731.95)	ANC-07-S-268	SAT
TAPS	8/15/07	9/26/07	Stip 1.20.1	Health and Safety (PS05)	ANC-07-S-169	COTS
TAPS	8/15/07	9/24/07	Stip 1.20.1	Health/Safety (PLMP 238 DRA Facility	ANC-07-S-170	SAT
TAPS	8/15/07	9/24/07	Stip 1.20.1	Health and Safety (PS02)	ANC-07-S-187	SAT
TAPS	8/16/07	9/24/07	Stip 1.20.1	Health and Safety (PS01)	ANC-07-S-171	SAT
TAPS	8/16/07	9/24/07	Stip 1.20.1	Health and Safety (PS04)	ANC-07-S-172	SAT
TAPS	8/16/08	9/24/07	Stip 1.20.1	Health and Safety (PLMP 275)	ANC-07-S-173	COTS
TAPS	8/20/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 314.81)	ANC-07-S-235	COTS
TAPS	8/20/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 315.24)	ANC-07-S-236	COTS
TAPS	8/20/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 344.96)	ANC-07-S-237	COTS
TAPS	8/21/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 160.00)	ANC-07-S-228	SAT
TAPS	8/21/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 169.00)	ANC-07-S-229	SAT
TAPS	8/21/07	11/28/07	Stip 2.4, 2.5	Revetment (PLMP 197.50)	ANC-07-S-230	SAT
TAPS	8/21/07	11/28/07	Stip 2.4, 2.5	Revetment (PLMP 217.00)	ANC-07-S-231	SAT
TAPS	8/21/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 219.52)	ANC-07-S-232	SAT
TAPS	8/21/07	11/28/07	Stip 2.4, 2.5	Culvert Inspection (PLMP 233.38)	ANC-07-S-233	SAT
TAPS	8/21/07	11/28/07	Stip 2.4, 2.5	Culvert Inspection (PLMP 233.54)	ANC-07-S-234	COTS
TAPS	8/22/07	11/28/07	Stip 2.4, 2.5	Boat Ramp Launch (PLMP 92, Sag River)	ANC-07-S-220	SAT
TAPS	8/22/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 99.99)	ANC-07-S-221	COTS**
TAPS	8/22/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 102.45)	ANC-07-S-222	COTS
TAPS	8/22/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 124.80)	ANC-07-S-223	SAT
TAPS	8/22/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 127.17)	ANC-07-S-224	COTS
TAPS	8/22/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 128.62)	ANC-07-S-225	SAT

Appendix I, continued

Pipeline	Inspection Date	Date Signed	Sec/ Stip	Description	Report #	Finding
TAPS	8/22/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 153.59)	ANC-07-S-226	SAT
TAPS	8/22/07	11/28/07	Stip 2.4, 2.5	Block Point (PLMP 154.12)	ANC-07-S-227	SAT
TAPS	8/23/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 3.90)	ANC-07-S-213	SAT*
TAPS	8/23/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 4.12)	ANC-07-S-214	SAT
TAPS	8/23/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 10.41)	ANC-07-S-215	SAT
TAPS	8/23/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 11.08)	ANC-07-S-216	SAT
TAPS	8/23/07	11/28/07	Stip 2.4, 2.5	Culvert Inspection (PLMP 25.10)	ANC-07-S-217	SAT
TAPS	8/23/07	11/28/07	Stip 2.4, 2.5	Culvert Inspection (PLMP 40.09)	ANC-07-S-218	SAT
TAPS	8/23/07	11/28/07	Stip 2.4, 2.5	Culvert Inspection (PLMP 71.45)	ANC-07-S-219	SAT
TAPS	8/28/07	9/24/07	Stip 1.20.1	Health and Safety (PS03)	ANC-07-S-174	COTS
TAPS, ADL 228834	9/24/07	2/13/08	Stip 2.6	Material Sales (OMS 3-1.1)	07-TAPS-S-026	SAT
TAPS, ADL 228901	9/25/07	2/13/08	Stip 2.6	Material Sales (OMS 3-2)	07-TAPS-S-027	SAT
TAPS, ADL 230017	9/25/07	3/14/08	Stip 2.6	Material Sales (OMS 7-1M)	07-TAPS-S-028	UNSAT (M)
TAPS, ADL 230047	9/25/07	2/13/08	Stip 2.6	Material Sales (OMS 7-1M)	07-TAPS-S-029	UNSAT (M)
TAPS	9/25/07	10/31/07	Stip 1.20.1	Health and Safety (PS03)	ANC-07-S-201	COTS
TAPS	9/25/07	11/1/07	Stip 1.20.1	Health and Safety (PS03)	ANC-07-S-202	UNSAT (S)
TAPS	9/25/07	11/1/07	Stip 1.20.1	Health and Safety (PS03)	ANC-07-S-203	SAT
TAPS	9/25/07	11/1/07	Stip 1.20.1	Health and Safety (PS03)	ANC-07-S-204	SAT
TAPS, LAS 24181	9/27/07	2/13/08	Stip 2.6	Material Sales (OMS 41-1R)	07-TAPS-S-034	SAT
TAPS	10/5/07	11/1/07	Stip 1.20.1	Health and Safety (PS03)	ANC-07-S-205	SAT
TAPS	10/10/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 448.29)	ANC-07-S-240	COTS
TAPS	10/10/07	11/28/07	Stip 2.4, 2.5	Low Water Crossing (PLMP 488.23)	ANC-07-S-247	SAT
TAPS	10/10/07	11/28/07	Stip 2.4, 2.5	Culvert Inspection (PLMP 485.78)	ANC-07-S-248	SAT
TAPS	10/22/07	11/21/07	Stip 1.20.1	Health and Safety (PS06)	ANC-07-S-211	SAT
TAPS	11/9/07	11/21/07	Stip 1.20.1	Health and Safety (PS03)	ANC-07-S-210	SAT
TAPS	11/9/07	11/21/07	Stip 1.20.1	Health and Safety (PS03)	ANC-07-S-210	SAT
TAPS	1/16/08	3/5/08	Stip 1.20.1	Health and Safety (PS03)	ANC-08-S-005	COTS
TAPS	2/11/08	3/5/08	Stip 1.20.1	Health and Safety (PS03)	ANC-08-S-004	SAT
TAPS	2/12/08	3/5/08	Stip 1.20.1	Health and Safety (PS07)	ANC-08-S-006	SAT
TAPS, ADL 417721	n/a	2/13/08	Stip 2.6	Material Sales (OMS 49-3)	07-TAPS-S-032	SAT
TAPS, ADL 417117	n/a	2/13/08	Stip 2.6	Material Sales (OMS 53-2)	07-TAPS-S-033	SAT
TAPS	2/13/08	3/5/08	Stip 1.20.1	Health and Safety (PS09)	ANC-08-S-007	SAT
TAPS	2/13/08	3/5/08	Stip 1.20.1	Health and Safety (PS10)	ANC-08-S-008	UNSAT (M)
TAPS	2/13/08	3/5/08	Stip 1.20.1	Health and Safety (PS08)	ANC-08-S-009	SAT
TAPS	2/14/08	3/5/08	Stip 1.20.1	Health and Safety (Nordale Yard)	ANC-08-S-010	COTS
TAPS	2/14/08	3/5/08	Stip 1.20.1	Health & Safety (North Pole Metering)	ANC-08-S-011	UNSAT (M)

Appendix I, continued

Pipeline	Inspection Date	Date Signed	Sec/ Stip	Description	Report #	Finding
TAPS	2/14/08	3/5/08	Stip 1.20.1	Health & Safety (Rotating Eqpt. Shop)	ANC-08-S-012	SAT
TAPS	2/14/08	3/5/08	Stip 1.20.1	Health & Safety (Fairbanks Fab Shop)	ANC-08-S-013	UNSAT (M)
TAPS	2/14/08	3/5/08	Stip 1.20.1	Health & Safety (CEI & Metallurgy Shop)	ANC-08-S-014	SAT
TAPS	2/15/08	3/25/08	Stip 1.20.1	Health and Safety (Equipment Shop)	ANC-08-S-015	SAT
TAPS	2/15/08	3/25/08	Stip 1.20.1	Health & Safety (Materials Warehouse)	ANC-08-S-016	SAT
TAPS	2/15/08	3/5/08	Stip 1.20.1	Health and Safety (Pipeline Wide Shop)	ANC-08-S-017	SAT
TAPS	3/24/08	4/1/08	Stip 1.20.1	Health and Safety (PS03)	ANC-08-S-023	SAT
TAPS	4/21/08	4/22/08	Stip 1.20.1	Health and Safety (PS10)	ANC-08-S-027	SAT
TAPS	4/21/08	4/22/08	Stip 1.20.1	Health & Safety (North Pole Metering)	ANC-08-S-028	SAT
TAPS	4/21/08	4/22/08	Stip 1.20.1	Fairbanks Fab Shop)	ANC-08-S-029	SAT
TAPS	6/2/08	6/20/08	Stip 2.4, 2.5, 2.12	Culvert Inspection (PLMP 784)	08-TAPS-S-010	SAT
TAPS	6/2/08	6/20/08	Stip 2.4, 2.5, 2.12	Culvert Inspection (PLMP 784)	08-TAPS-S-011	SAT
TAPS	6/2/08	6/20/08	Stip 2.4, 2.5, 2.12		08-TAPS-S-012	SAT
TAPS	6/2/08	6/20/08	Stip 2.4, 2.5, 2.12		08-TAPS-S-013	SAT
TAPS	6/2/08	6/20/08	Stip 2.4, 2.5, 2.12		08-TAPS-S-014	SAT
TAPS	6/2/08	6/20/08	Stip 2.4, 2.5, 2.12	Yetna Creek, PLMP 691.87)	08-TAPS-S-015	SAT
TAPS	6/2/08	6/20/08	Stip 2.4, 2.5, 2.12	NF Yetna Creek, PLMP 691.71)	08-TAPS-S-016	SAT
TAPS	6/2/08	6/2008	Stip 2.4, 2.5, 2.12	Tazlina River Trib. PLMP 690.28	08-TAPS-S-017	SAT
TAPS	6/2/08	6/20/08	Stip 2.4, 2.5, 2.12	Tazlina River Trib. PLMP 690.23)	08-TAPS-S-018	SAT
TAPS	6/2/08	6/20/08	Stip 2.4, 2.5, 2.12	Tazlina River Trib., PLMP 690.16	08-TAPS-S-019	SAT

Appendix J – Annual Reporting Requirements for Lessees

In addition to lease-specific requirements, the SPC has required each lessee to provide an annual comprehensive report that includes, at a minimum:

1. The results of the lessee's surveillance & monitoring program during the preceding year, including annual and cumulative changes in facilities and operations, the effects of the changes, and proposed actions to be taken as a result of the noted changes:
   - *Provide a summary of the scope of all surveillances, audits, self-assessments or other internal evaluations performed by the lessee.*
   - *Summarize findings, action items and other observations identified as a result of all surveillances, audits, self-assessments or other internal evaluations performed by the lessee.*
   - *Describe corrective and preventative actions planned or implemented as a result of surveillances, audits, self-assessments or other internal evaluations performed by the lessee.*
   - *To the extent known, list by quarter, those surveillances, audits, self-assessments or other internal evaluations planned for next year.*
2. The state of, changes to, and results from the last year of the lessee's risk management program, quality assurance program, and internal and external safety programs.
3. Lessee's performance under the right-of-way lease, including stipulations.
4. Information on construction, operations, maintenance, and termination activities necessary to provide a complete and accurate representation of the lessee's activities and the state of the pipeline system.
5. A summary of all events, incidents and issues which had the potential to or actually did adversely impact pipeline system integrity, the environment, or worker or public safety and a summary of the lessee's response.
6. A summary of all oil and hazardous substance discharges including date, substance, quantity, location, cause, and cleanup actions undertaken. Minor discharges below agreed upon thresholds may be grouped into monthly total amounts, provided the number of separate incidents is reported.
7. Any additional information requested by the State Pipeline Coordinator.

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Appendix K – Sources of More Information on the Internet

Other State Agencies Outside of the SPCO

The Alaska Department of Transportation/Public Facilities (DOT/PF) is a coordinating agency that does not currently have any staff co-located within the JPO. The Regulatory Commission of Alaska (RCA) and the Alaska Department of Revenue both have roles in common carrier oversight, while not being integrated members of the JPO or SPCO.

The newly established Petroleum Systems Integrity Office (PSIO) within the DNR Division of Oil and Gas (DOG) is also not a part of the SPCO, although the offices coordinate regularly on oil and gas pipeline issues in Alaska. PSIO and SPCO field personnel will share information about conditions they have observed in the field that apply to the other agency's jurisdiction.

State Agencies

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

Alaska Oil & Gas Conservation Commission
http://www.aogcc.alaska.gov

Department of Environmental Conservation:
Division of Spill Prevention and Responses
Industry Preparedness Program
http://www.dec.state.ak.us/spar/ipp/index.htm

Department of Fish and Game:
Habitat Division
http://www.habitat.adfg.alaska.gov/

Department of Labor & Workforce Development:
Division of Labor Standards and Safety
http://www.labor.state.ak.us/lss/home.htm

Department of Natural Resources:
Division of Coastal & Ocean Management
http://www.labor.state.ak.us/lss/home.htm

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

Department of Natural Resources:
Division of Oil and Gas
http://www.dog.dnr.state.ak.us/oil/

Department of Public Safety:
State Fire Marshall's Office
http://www.dps.state.ak.us/Fire/

Department of Transportation and Public Facilities
http://www.dot.state.ak.us

Regulatory Commission of Alaska
(about the commission)
https://rca.alaska.gov/RCAWeb/AboutRCA/Commission.aspx

Federal Agencies

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

US Army Corps of Engineers: Alaska District
http://www.poa.usace.army.mil/ht/default.htm

US Coast Guard:17th District
http://www.uscgalaska.com/go/site/780/

US Department of the Interior:
Bureau of Land Management, Alaska
http://www.blm.gov/ak/st/en.html

US Department of Labor:
Occupational Safety & Health Administration
http://www.osha.gov

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

US Department of Transportation:
Office of Pipeline Safety: Western Region
http://ops.dot.gov/regions/western.htm

US Environmental Protection Agency:
Region 10: The Pacific Northwest
http://www.epa.gov/region10/

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