

ALASKA LEGISLATURE SPECIAL COMMITTEE/SUBJECT FILES 8672

2633 SCOMM 117 JOINT SPECIAL COMMITTEE ON MERGERS, 1999-2000

Alyeska developed an overall TAPS valve maintenance management plan. The intent of this maintenance program was to inspect and test valve operation, including sealing capabilities and operation of valve actuators, with the goal of ensuring reliable operation of valves.

Mainline Valve Testing Program. Alyeska began testing the performance of mainline valves in 1996. They confirmed Remote Gate Valve 60 would not seal completely when it closed. Information from performing winterization maintenance suggested the problem might not be limited to Remote Gate Valve 60. Corrective maintenance procedures were attempted, including sealants to the seat surface through internal passages designed for this purpose. This failed to mitigate the sealing problems. Four agencies entered into a memorandum of agreement with Alyeska, referred to as the *Valve MOA*, which established a valve testing program to determine the sealing performance of mainline valves and require as necessary interim oil spill contingency plans. Valve testing identified two valves, Remote Gate Valve 80, and Check Valve 122 that had a greater leak-through rate and lower performance than Remote Gate Valve 60. In 1998, Remote Gate Valve 80 was replaced and Check Valve 122 was repaired in place. Remote Gate Valve 60 is currently scheduled for 1999 repair. Although additional testing has identified valves with some leak through, the performance degradation is so slight they may not be candidates for repair and replacement.

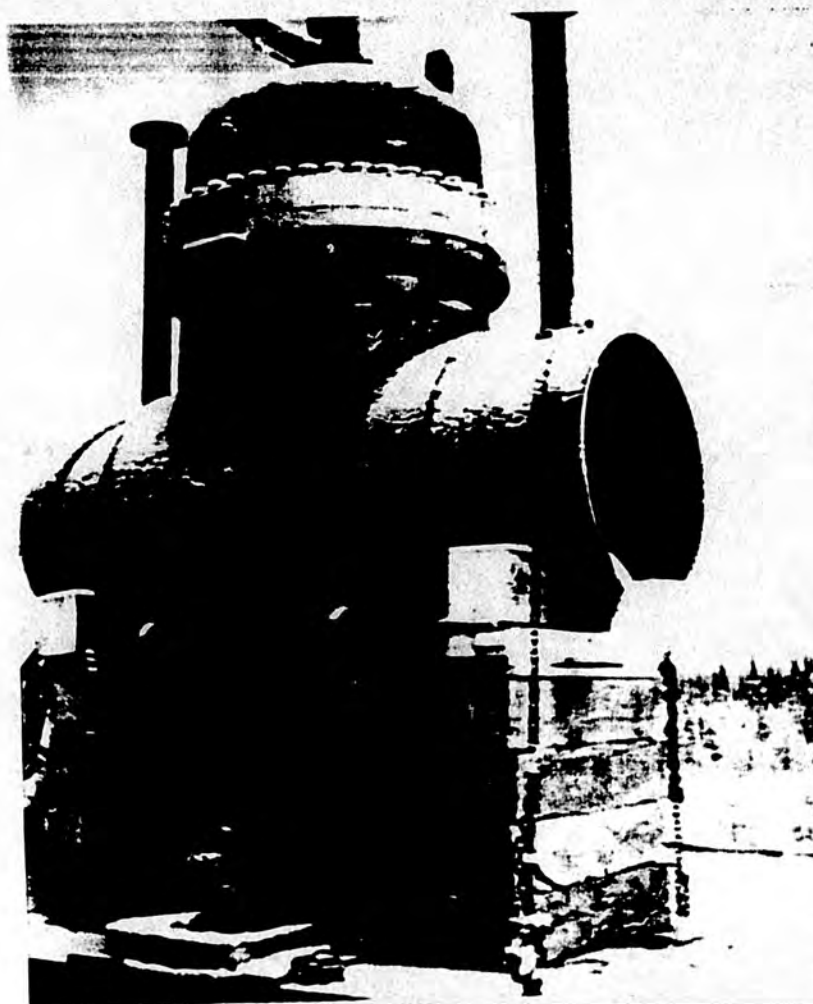
Why Is It Important to "Winterize" Mainline Valves?

The purpose of winterization maintenance on remote gate valves is to inhibit internal corrosion. During this maintenance procedure, water is drained from the valve body and glycol, an antifreeze solution, is pumped in. When internal valve seals perform properly, the contents of the valve body can be drained without the loss of oil from the pipeline. If an internal seal does not perform properly, oil can flow directly into the valve body.

Annual Winterization Finds Valve Problems

During their annual winterization maintenance, Alyeska noted that many mainline gate valves had internal sealing problems. More than half of the remote gate valves showed pressure in the valve body during winterization and testing, which suggested possible internal seal leakage. Alyeska has been defining actual operating performance of all mainline valves.

The valve maintenance program and the mainline valve testing program are subsets of the overall TAPS valve program. The development of the TAPS valve program which integrates elements of the TAPS quality program, maintenance program, configuration management, operations and documentation is a landmark effort for Alyeska. Within Alyeska, different disciplines with different perspectives provide tools and linkages between programs and disciplines to address hardware issues or operations issues in a more comprehensive manner. Alyeska is meeting their goals and commitments with the high priority, high visibility items related to valve maintenance, tests of mainline valve performance with respect to leak through, repairing Check Valve 122 and replacing Remote Gate Valve 80. The preparation and execution of the valve repairs achieved a very high standard.



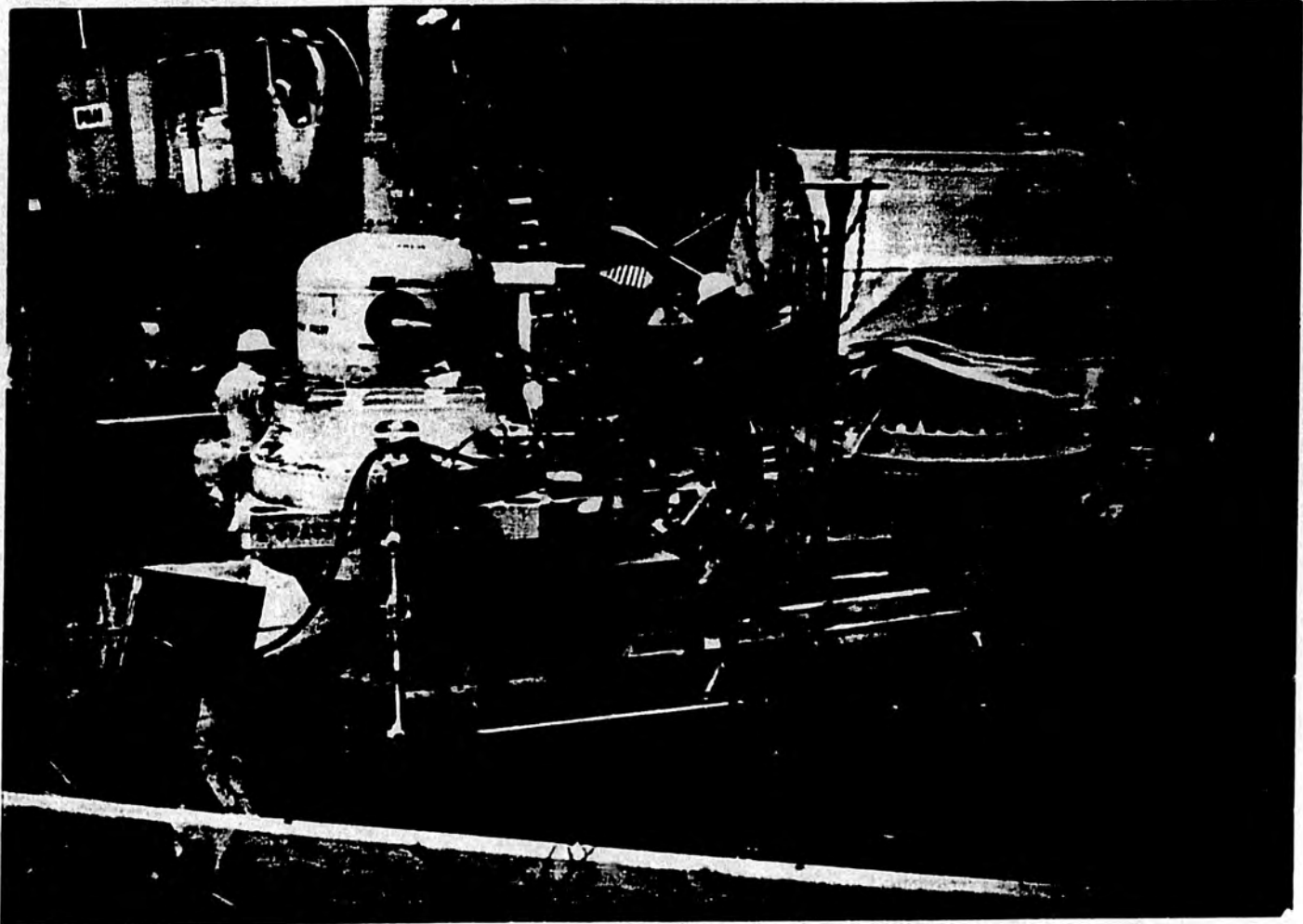
Remote Gate Valve 80

View of Remote Gate Valve that was removed from the mainline due to internal seat leakage. This is a 48-inch slab gate valve and weighs 67,000 lbs.

View of the downstream side of the gate, showing damaged areas.



Check Valve 122 Repair



View of Check Valve 122 repairs. Check Valve 122 is a normally buried valve and is blue in the above photo. The green machine above was used in isolating the check valve from the mainline.

Mainline Valve Maintenance and Repair Projects

In September 1998, TAPS was shut down for two extensive valve maintenance projects. One mainline valve was repaired and another was replaced. Alyeska estimated a down time of 30 to 36 hours, but was able to restart the pipeline within 29 hours after valve work was completed. The planning, preparation and execution of the valve repair and replacement projects achieved a high standard.

Remote Gate Valve 80 was removed from the mainline and replaced with a refurbished gate valve. After Alyeska removed the valve from the pipeline system, the internal parts of the valve were inspected and extensive seat and gate damage was observed. The damage was most severe on the downstream side of the gate and seat. Remote Gate Valve 80 was successfully replaced ahead of schedule.

Check Valve 122 had experienced internal leak through of oil. Damage to the valve parts was minimal, and it is believed that the debris and sludge found at the bottom of the check valve was the reason why it had not sealed properly. It was repaired in place by replacing the seat ring and clapper assembly.

Remote Gate Valve 60 will be removed from the mainline in 1999 and replaced with a refurbished gate valve.

Alyeska has not met the goals for addressing other significant valve concerns, including the below ground valve investigations and the mainline valve maintenance review. This delay is partially due to the reassignment of key personnel in support of Check Valve 122 and Remote Gate Valve 80 projects. While these efforts are important for maintaining integrity of the system in the long term, slippages in these schedules do not result in immediate or significant threats to TAPS integrity or safety. The valve maintenance review will benefit from examination of the components of Remote Gate Valve 80 and Check Valve 122. Maintenance procedures will improve as more is understood about the mechanisms that cause valve deterioration. Full commitment of adequate resources will be needed for the future progress of the TAPS valve program.

TAPS Workpad Surveillance, Monitoring, and Maintenance

- Alyeska's maintenance records only partially documented some workpad and above ground maintenance repairs. This hinders the trending of damage caused by flood, erosion and thawing. JPO considers this to be an instance of noncompliance with Grant and Lease Stipulation 1.18, *Surveillance and Maintenance*. Although Alyeska disagrees that this deficiency is an area of noncompliance, they are working to improve tracking of civil maintenance repairs.
- JPO found that instrumentation along the pipeline that monitor and collect data was not being maintained and repaired. Alyeska is currently working to replace malfunctioned monitoring instrumentation.
- Alyeska has not coordinated well with JPO's regulatory agencies during the planning, scheduling, and design of a number of maintenance projects along the TAPS right-of-way. This, coupled with Alyeska's lack of internal coordination, resulted in delays in the permitting and execution of some projects.

What Is the Purpose of the Workpad?

The workpad is the portion of the TAPS right-of-way which encompasses 1) the gravel fill on which the pipeline is located, 2) the travel lane adjacent to the pipeline, and 3) additional fill required for construction. The workpad was constructed to provide a traffic surface for access and work platforms for the heavy equipment required to install the pipe. It serves as the primary means of access for doing work and inspections to both prevent and respond to any oil or chemical spills on or near the workpad, pipeline, and supporting facilities. The workpad width varies, depending on the pipeline mode, terrain, and soil conditions. Maintaining the workpad is important to provide access to the pipeline system.

JPO conducted surveillances and assessments in 1997 and 1998 to determine whether Alyeska's work pad surveillance, monitoring and maintenance programs complied with the Grant and Lease. JPO conducted surveillances at the pump stations, reviewed the work pad and above ground mainline conditions, reviewed the annual line walk data from 1997-1998, and reviewed right of way surveillance system records. Some of the records JPO reviewed in *Passport* lacked necessary detail of workpad maintenance work Alyeska had completed. JPO found problems with the record keeping of up-to-date workpad maintenance records and coordination of the project permitting process.

Up-To-Date Workpad Maintenance Records. Section 9 of the Grant and Lease requires Alyeska to maintain quality records of natural resource rehabilitation and tangible property repairs. Grant and Lease Stipulation 1.18 requires complete and up-to-date records on maintenance performed along the pipeline system. Some surveillances had documented actions taken but the results were inconsistent. Much of the work pad maintenance is done by Alyeska contractors using a blanket work order for each asset area. The maintenance coordinators for each asset area should provide descriptions of the task to be done under the blanket work order, but some maintenance coordinators did not provide the description. Without the description of each task completed under the blanket work order, it is difficult to track what work pad maintenance has been done, and even more difficult to put today's civil maintenance problems in context with historical performance.

Project Permitting Process. Coordination of projects and permitting is an area where Alyeska has typically excelled. During the past year, however, Alyeska did not coordinate the permitting process with JPO and regulatory agencies during planning, scheduling and design of some maintenance projects. In addition, some of Alyeska's internal teams were not involved in the project development process. JPO had requested Alyeska on several occasions to contact regulatory agencies about potential projects well ahead of proposed construction. Alyeska's lack of overall coordination resulted in delays issuing the permits.

Good coordination and advance planning for the project permitting process is beneficial for Alyeska, JPO, and the regulatory agencies. Projects must be planned and scheduled with JPO and regulatory agencies to ensure both protection of pipeline integrity and the environment. Alyeska did not consider protection of environmental values during the earliest stages of project feasibility and design for a planned project along the Dietrich River at Remote Gate Valve 34. JPO's concern is the protection of pipeline integrity and the environment. The lack of consideration of environmental values forced JPO to weigh issues of pipeline integrity against avoidable environmental damage. This resulted in fewer measures to mitigate adverse

environmental impacts in Alyeska project plans and specifications. To ensure pipeline integrity, JPO granted Alyeska approval to use temporary erosion control measures at Remote Gate Valve 34 on the Dietrich River.

The Importance of Advance Planning for Project Permitting

Workpad erosion is occurring along the Dietrich River, next to Remote Gate Valve 34 at pipeline milepost 185. The erosive forces of the river are undercutting the bank and threatening the workpad surrounding the Remote Gate Valve 34 control facility. JPO granted approval for Alyeska to use temporary erosion control measures. Alyeska plans to divert the main channel of the Dietrich River to install a riprap revetment to prevent further erosion. JPO requested Alyeska to complete the repairs in the fall of 1998. However, Alyeska did not apply for the necessary permits until late February 1999. The permits were originally delayed for several months due to fishery issues, which have been addressed. Alyeska will build the planned revetment before the Dietrich River thaws, which is the time of concern for further erosion.

Why Is the Timing of Maintenance Projects Along Streams So Important?

The Alaska Department of Fish and Game is concerned about the effect of winter construction in streams that support over-wintering of fish populations. Winter is a critical and sensitive time for survival of fish populations in arctic streams. To survive the extreme cold, fish metabolism slows to a state of dormancy, where oxygen decreases to lower levels. Minimal disturbance to this winter fish habitat at this time is critical to survival of fish in northern areas. The part of the river where Alyeska plans to work was determined to be a critical over-wintering fish habitat by the Alaska Department of Fish and Game.

Controlling and Preventing Soil Erosion

Soil erosion is a naturally occurring geologic process, which Alyeska may not always control or prevent, but requires appropriate action to protect the pipeline system. The erosion that occurred along the banks of the Dietrich River, allowed the river to come within 10 feet of Remote Gate Valve 34. Once discovered, this situation required Alyeska to immediately respond to protect the river bank from further erosion, and protect the gate valve facility. The Grant and Lease require that Alyeska conduct surveillance and monitoring to avoid, control, or minimize erosion along the pipeline corridor, especially near water bodies where erosion potential is the highest.

JPO Surveillance of Erosion for Grant and Lease Compliance

In 1998, JPO conducted surveillance and engineering reviews of erosion and its resulting effects in the areas near Pump Stations 1 and 3. The areas included 1) the route of the fuel gas line from Pump Station 1 to Pump Station 4, 2) a washout of a culvert on Coldfoot Hill, and 3) effects of river and floodplain erosion on the Dietrich River, Chena River, Sag River, Marion Creek, Hess Creek, Jarvis Creek, Darling Creek, Miller Creek, Tazlina River, Tsina River, Glacier Creek, and Abercrombie Creek. Before making repairs in these natural areas, Alyeska must obtain land use and environmental permits.

Alyeska uses management control guidelines for the repair of erosion: 1) *Monitoring Procedures* (MP-166), *Surveillance and Monitoring Manual* (MS-31), the design basis, and the 49 Code of Federal Regulations. These guidelines are used for inspection of rights-of-way and crossings under navigable waters. A test of Alyeska's compliance in addressing erosion problems will be their success in planning, permitting, funding and implementing necessary repairs in response to the natural occurrence of erosion. Future monitoring will ensure erosion problems are fixed as they occur. Monitoring Alyeska's response to the specific erosion problems identified in 1998 will be a part in JPO's work planning for 1999 and 2000.

Erosion



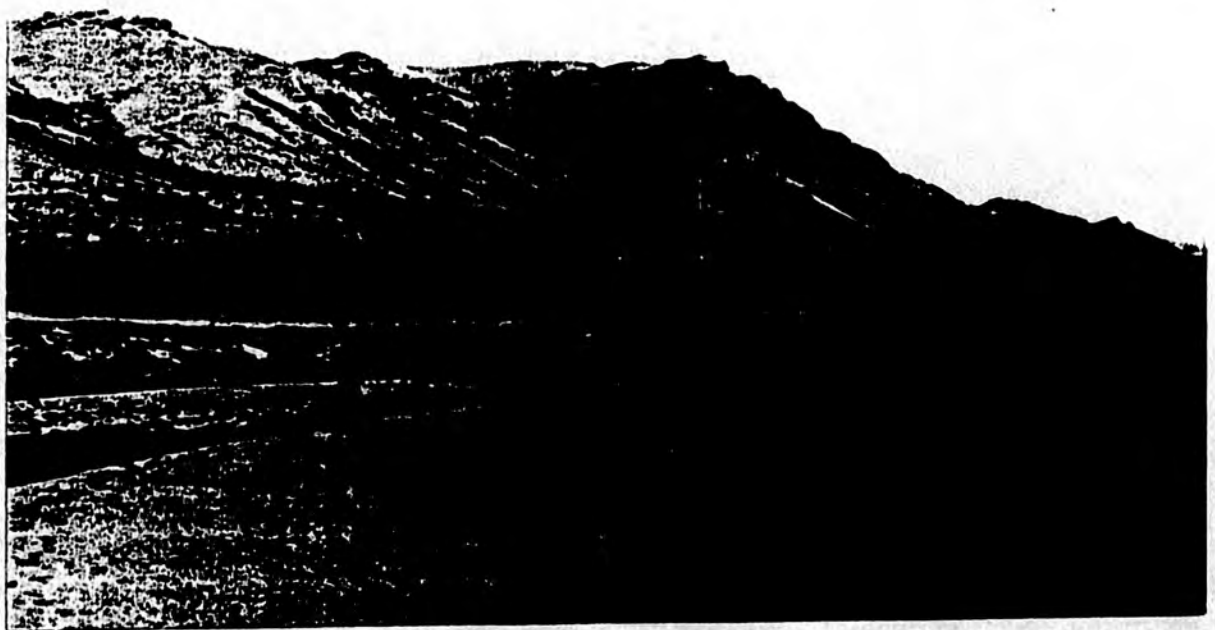
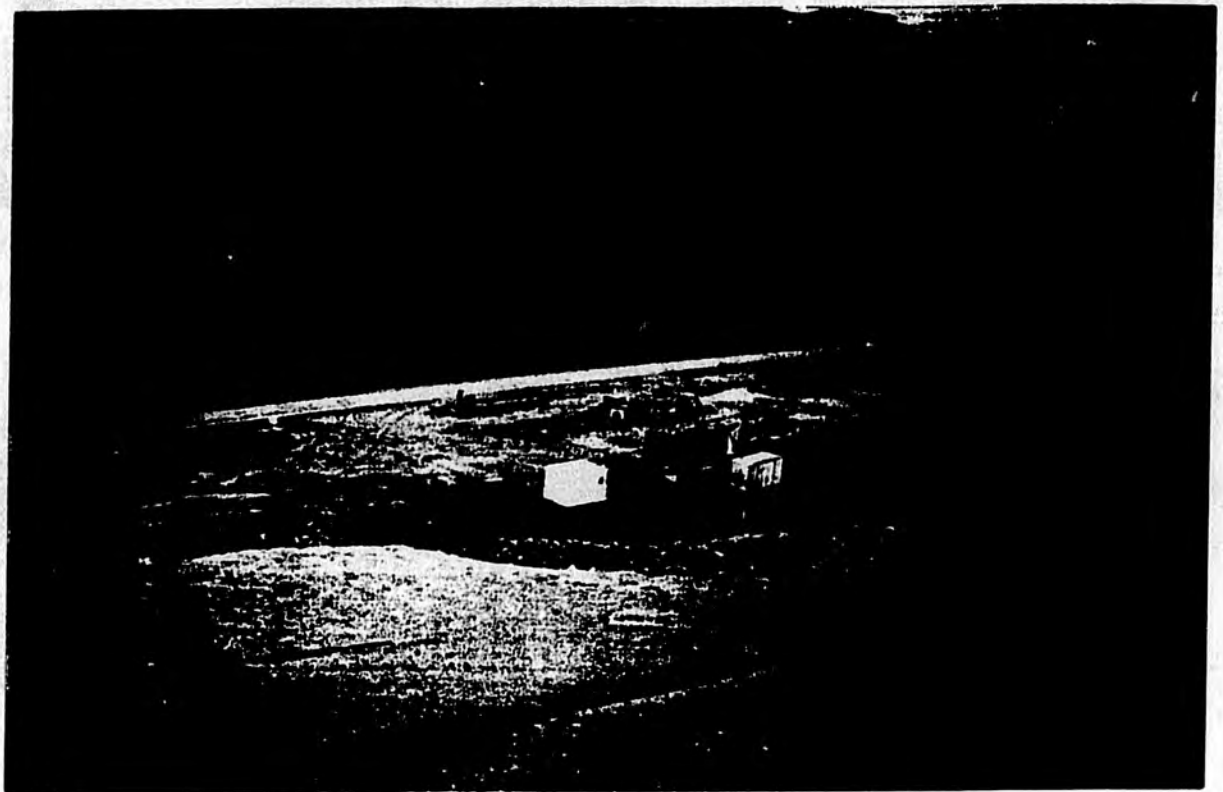
**View of
Erosion
at
pipeline
milepost
229.**



**Erosion
here was
caused
when a
drain
culvert on
the Dalton
Highway
became
blocked
during
heavy
rains.**

Remote Gate Valve 34 Erosion

Remote Gate Valve 34 erosion. The top view is from the air, the bottom view is a winter view. The erosion discussed is in the left of the photos.



Maintenance Manual Revisions. JPO's workpad assessment noted Alyeska revised the critical manuals that affect surveillance, monitoring and maintenance: *Surveillance and Monitoring Manual* (MS-31), *Monitoring Program Procedures* (MP-166), and *Maintenance System Manual* (MP-167). Alyeska committed to use their *Passport* system to record maintenance work activities, and conduct action tracking. JPO's concern has been Alyeska's inability to historically track completed work for TAPS maintenance programs. Alyeska's use of *Passport* to document maintenance work should satisfy JPO's concern in this area.

Changes to the MP-166 and MP-167 Manuals will also rely on the *Passport* system to provide a single, integrated information management system that includes work materials, documentation, and engineering change management to achieve maintenance objectives.

JPO believes some improvement is needed in Alyeska's maintenance of the instruments along the pipeline that

monitor and collect data. Instrumented data is essential as it provides analysts with critical information to identify problems before they become serious or unmanageable. It is important to maintain this instrumentation in good working order. Specific instruments include the piezometers on the back slopes of the Valdez Marine Terminal, monitoring rods at mainline refrigeration units, inclinometers on steep slopes, thermistor strings to measure ground temperature, and other measuring instruments. JPO concluded that Alyeska's lack of complete and up-to-date documentation of maintenance work and not keeping field instrumentation in working order constitutes a noncompliance with Stipulation 1.18. (See chapter 3, Grant and Lease Compliance).

Since major workpad repairs are documented by project records, are small repairs covered?

Maintenance work done under blanket work orders was not adequately documented in *Passport*. Trends on cumulative maintenance work can predict problems or indicate complications.

Why hasn't this been a practical problem before?

Because this knowledge was possessed and trended by key right-of-way maintenance managers formally called "pipeline and civil maintenance (P&CM) managers now called maintenance coordinators. JPO's concern is that as individuals leave, the institutional memory of maintenance work will be lost due to lack of documentation.

Slope Stability

- **Instrumented and monitored pipeline slopes at Treasure Creek and Klutina Hill meet design basis criteria.**
- **The Pump Station 11 slope is not in compliance with design basis requirements and Stipulation 3.5, *Slope Stability* of the Grant and Lease. The *dynamic* factor of safety, or earthquake contingency for this slope is less than 1.0. JPO is currently reviewing the Pump Station 11 risk assessment. Alyeska agreed to submit a request for a design basis change for the *static* factor of safety on the Pump Station 11 slope.**
- **The slopes at Squirrel Creek are not in compliance with design basis requirements and Stipulation 3.5, *Slope Stability* of the Grant and Lease. Instrumented thermistor data shows the Squirrel Creek slopes are thawed, resulting in a degradation of permafrost and a noncompliance with Stipulation, 3.9, *Construction and Operation*. The degree of integrity of the Squirrel Creek slopes under design contingency earthquake conditions is in question and under review by JPO and Alyeska. If these slopes cannot be demonstrated as being safe, civil improvements must be**

completed. The slope stability issues are being aggressively worked by both Alyeska and JPO. Alyeska has scheduled a risk assessment later this year to evaluate the Squirrel Creek slopes.

The Importance of Design Basis and Factors of Safety for Slope Stability

What is the Design Basis?

The design basis is a compilation of current engineering criteria for facilities within the Trans-Alaska Pipeline System (TAPS). These criteria determine the engineering standards for the facilities that comprise TAPS. Design basis standards represent quantitative and qualitative values for facilities and have been agreed upon by the TAPS owners, Alyeska Pipeline Service Company, and the Joint Pipeline Office. The design basis serves as a collection of technical standards and requirements for the purpose of construction, operation and maintenance of the pipeline system.

How is the Design Basis used for slope stability?

The pipeline traverses many slopes along its route. Some of these slopes are steep, and some have ice-rich soils or other soil conditions that make them susceptible to down slope movement. The TAPS design basis considers all slopes greater than 10% significant slopes. These slopes must be designed to withstand a "design contingency earthquake," which is a rare earthquake of extreme magnitude which may occur at intervals of several hundred years. For *static* conditions, the calculated factor of safety for the slope must be at least 1.5. For *dynamic* conditions, the slope must be capable of resisting dynamic stresses with a factor of safety no less than 1.0, or total slope movements no greater than 5 inches.

Are the slopes safe?

At the present time JPO questions the degree of integrity of the Squirrel Creek and Pump Station 11 slopes. The Squirrel Creek risk assessment will address this issue.

Is Alyeska working this issue aggressively?

The slope stability issues are being aggressively worked by both Alyeska and JPO. Nothing in this report should suggest lack of responsiveness by Alyeska. Rather, this report presents a "mid-course" status report of an actively, evolving technical evaluation.

Monitoring Slope Stability. At the time of TAPS construction, any slopes greater than 10% that the pipeline traversed, were studied for the potential occurrence of mass movement. Of the slopes studied, Alyeska identified 49 slopes that would need continuous future monitoring. Four of the 49 monitored slopes posed enough of a concern for Alyeska and JPO to warrant instrumented monitoring. Alyeska maintains detailed historical records of their monitoring of these slopes. JPO evaluated the safety and integrity of the above ground pipeline for slopes at: 1) Treasure Creek, 2) Pump Station 11, 3) Klutina, and 4) Squirrel Creek. The question JPO addressed was whether the pipeline is safe on these slopes, under both *static* and *dynamic* factors of safety. For *static* conditions, the calculated factor of safety for the slope must be at least 1.5. For *dynamic* conditions, the slope must be capable of resisting dynamic stresses with a factor of safety no less than 1.0, or total slope movements no greater than 5 inches.

JPO's review of actual ground conditions based on surveillance, literature reviews, a risk assessment of the Pump Station 11 slope, and a recent report on slope stability by Alyeska shows that slope stability depends on the soil remaining in a frozen state. Golder Associates Inc., Alyeska's contractor, determined the Treasure Creek and Klutina slopes remained frozen, but the Pump Station 11 and Squirrel Creek slopes have partially thawed since TAPS construction. JPO concluded the above ground pipe on the Treasure Creek and Klutina slopes is safe. Factors

of safety for Treasure Creek and Klutina slope continue to meet design basis requirements because these slopes remain frozen and stabilized. However, Alyeska reports show the factors of safety for the Pump Station 11 and Squirrel Creek slopes do not meet design basis requirements.

Squirrel Creek Slope Stability. JPO's field surveillance of two Squirrel Creek slopes along with the cumulative evidence in the Golder Associates report, suggest that slope movement is occurring and will continue to occur in this area. Alyeska's most recent report on slope stability shows the calculated dynamic movement for Squirrel Creek's south slope is seven inches. This exceeds the design basis requirement of five inches, and therefore does not meet design basis requirements for the dynamic factor of safety. The *static* factor of safety is marginal, and the *dynamic* factor of safety does not meet design basis requirements, since the Squirrel Creek slopes have thawed from the time of TAPS construction. This represents a changed geotechnical environment from the original design basis.

The factors of safety for the Squirrel Creek slope are less than the design basis requirements, and therefore do not comply with Stipulation 3.5 of the *Federal Agreement and Grant and State Right-of-Way Lease* (discussed in chapter 3). JPO requested Alyeska to conduct a risk assessment for the Squirrel Creek slopes to clarify additional mitigation possibilities. Alyeska recently agreed to do a risk assessment later this year, preceded by a meeting with JPO to visit the slopes.

Slopes

**View of
Klutina
Slope at
pipeline
mile post
698.**



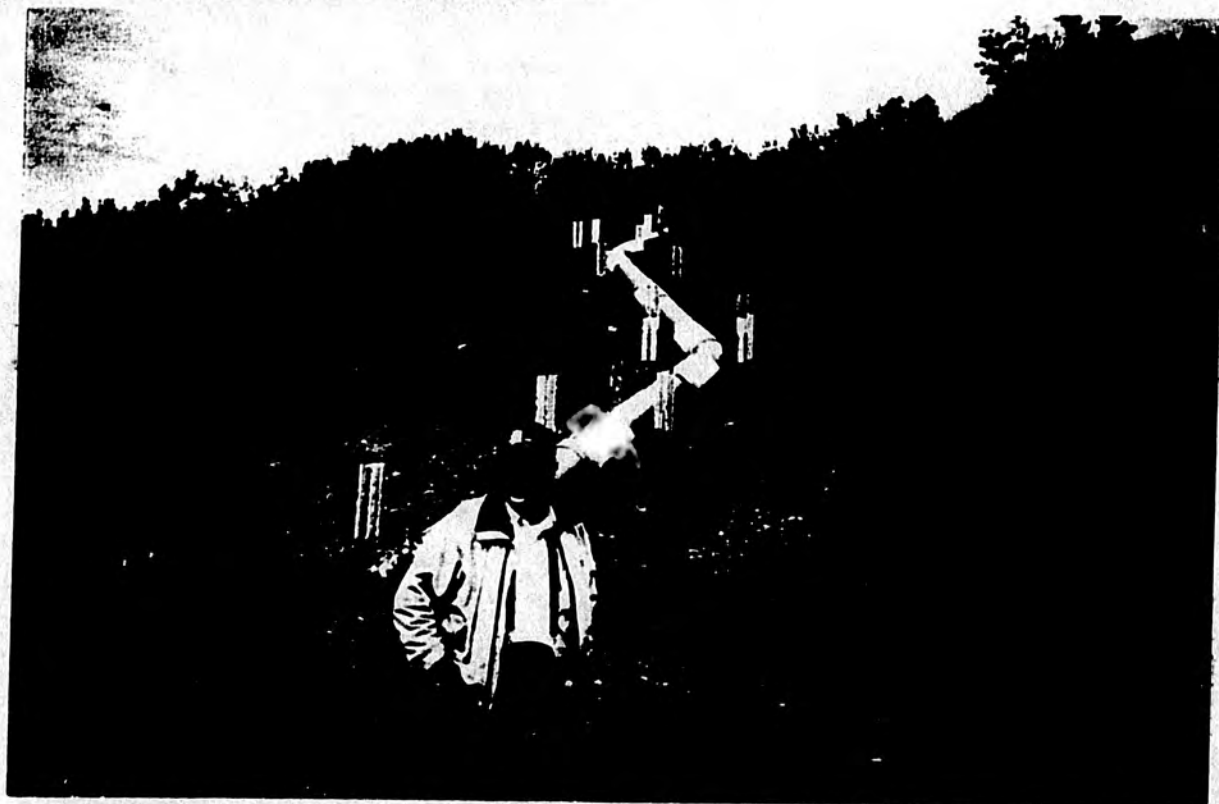
**View of
Squirrel
Creek
Slopes at
pipeline
mile post
717. The
slopes of
concern
are on
both sides
of Squirrel
Creek.**



Slopes



**View of Treasure Creek Slope at
pipeline mile post 442.**



**View of
Pump Station
11 Slope at
pipeline mile
post 686.**

The Importance of Slope Stability for TAPS

What Causes Slope Failure?

Slope failure is normally caused by a combination of factors, including slope angle, amount of soil moisture, and gravity. Although some slope failure is attributed to the amount of moisture the soil is able to hold before giving way, slope failures do occur with dry soil conditions on excessively steep slopes. In Alaska, an additional factor is permafrost which normally stabilizes frozen soils on steep slopes. When permafrost thaws on steep slopes, the soil becomes moisture-laden, less stable, and gravity moves it down slope. Another factor is seismic activity or a design contingency earthquake, which can induce slope failure in some areas under certain conditions.

Squirrel Creek and Pump Station 11 Slopes: Factors of Safety

Slope stability is an issue on the Squirrel Creek slopes because the calculated factors of safety are not in compliance with the design basis requirements of 1.5 for the static, and 1.0 for the dynamic factors of safety. The factor of safety is a measurement of the degree of safety on a slope. A safety factor of 1.0 means the natural forces pushing down slope equals the resisting forces. The Pump Station 11 slope *static* factor of safety is 1.3 and the *dynamic* factor of safety is less than 1.0, neither of which meets the design basis standard.

How Did JPO Approach the Slope Stability and Design Basis Issues?

The approach to evaluating the integrity of the Treasure Creek, Pump Station 11, Klutina, and the Squirrel Creek slopes was similar to how JPO studies other issues:

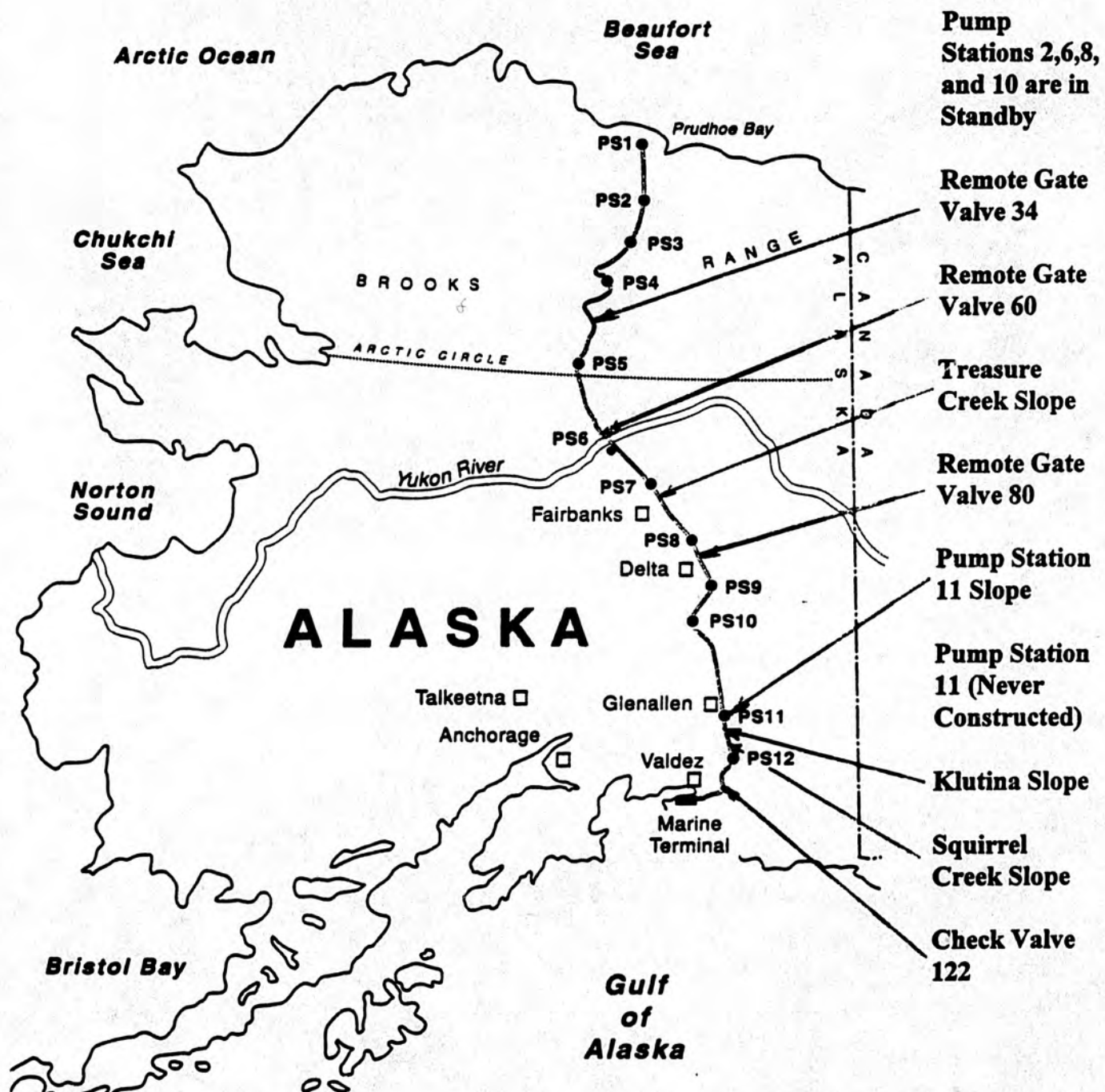
- 1) Determine whether the slopes and above ground pipe are safe.
- 2) Conduct detailed surveillance and assessment work to identify significant findings to be resolved.
- 3) Resolve findings using the risk assessment process.
- 4) Require the system to comply with the design basis or adjudicate engineering supported waivers or modifications.
- 5) Verify that corrective and preventive actions have been completed.

Pump Station 11 Slope Stability. Alyeska performed a risk assessment for the slope at Pump Station 11. The objective of the risk assessment was to determine whether the slope immediately north of Pump Station 11 posed an unacceptable level of risk for the continued safe operation of the pipeline. The items that were considered during the risk assessment were 1) potential hazards that could cause the slope to fail, 2) probable results of those failures, and 3) possible options that could prevent the failures or mitigate the consequences. The risk assessment presented an analysis of three scenarios of slow slope creep, a minor slope failure affecting less than 180 feet of pipe, and a major slope failure affecting more than 180 feet of pipe. In all scenarios, Alyeska's study team concluded that the possibility of a spill or leak of crude oil was very remote. JPO is currently reviewing the final risk assessment received from Alyeska in March 1999.

What does "very remote" really mean?

Very remote means the occurrence of some event is possible but not very probable. For example, the occurrence of earthquakes are often viewed as possible events with varying degrees of probability of occurrence depending on magnitude, location and other factors. The design basis for the TAPS pipeline system contains considerable information regarding the potential and likelihood of occurrence of various magnitude earthquakes. TAPS was designed for the occurrence of large design contingency earthquakes.

Geographic Location of the Trans Alaska Pipeline in Alaska



Locations of Slopes and Valves on the Trans Alaska Pipeline.

Alyeska also concluded that continued monitoring and maintenance was necessary. Further, any maintenance or project work conducted on the Pump Station 11 slope would need a prior engineering evaluation. JPO suggested that Alyeska conduct a study of how to improve drainage on this slope. JPO also recommended that Alyeska request a waiver from the design basis to account for the discrepancy of the static safety factor of 1.3 for the Pump Station 11 slope that doesn't meet the specified value of 1.5. Alyeska recently agreed to prepare and request a waiver and plans to enter it into the design basis for future reference, once it is granted. Alyeska committed to completing the update of the design basis by June 30, 1999.

Continued Monitoring and Maintenance. JPO accepted Alyeska's commitment to implement their 1998-1999 slope stability work plan. Alyeska agreed with JPO that monitoring and continued maintenance of the above ground pipe on all the slopes at the Pump Station 11, Squirrel Creek, Klutina, and Treasure Creek locations is necessary to ensure the safety and integrity of the pipeline.

TAPS Mineral Material Sites

- **The material sites Alyeska uses are clean and well maintained. Erosion was not evident at any of the sites. However, not all the material sites met regulatory requirements. Two sites had excessive vegetation damage, and six sites had slopes that exceeded requirements for steepness. JPO requested Alyeska to submit plans for restoring these sites and corrections will be verified in 1999.**

What are Material Sites and What Are They Used For?

Alyeska has mining contracts to use sites along the pipeline right-of-way to obtain granular material for maintenance and construction. The U.S. Bureau of Land Management and the Alaska Department of Natural Resources require Alyeska to follow a *Mining and Reclamation Plan*, that is attached to every material sale mining contract. Additionally, Alyeska must follow the terms of any accessory permits that may be required, depending on the particular site. The removal of gravel and related construction materials from non-permitted locations is not allowed. The sites must be mined and maintained according to agency regulation. Alyeska uses the materials for:

- New construction
- Repairing the pipeline work pad to fill cracks, depressions, and washouts.
- Bedding and road surface materials for building and maintaining access roads.
- Flood damage control and revetment projects for rivers and streams along the pipeline.

State and Federal inspections are required annually for all active material sites along the TAPS corridor. Both the U.S. Bureau of Land Management and Alaska Department of Natural Resources administer material site programs for lands under their jurisdiction, including sites along TAPS. Alyeska uses 76 material sites on public lands along TAPS for materials mining, and of those, 43 are located on Federal land and 33 are under State jurisdiction.

In July and August 1998, JPO inspected the material sites along TAPS to determine whether Alyeska complied with the Grant and Lease. Stipulation 2.6 of the Grant and Lease specifies that 1) the permittee must apply to purchase gravel and other construction materials taken from public lands, 2) submit a mining plan for removal, and 3) obtain written approval of the Federal

Authorized Officer or the State Pipeline Coordinator at JPO for removal of all materials. Material site boundaries are required to blend with surrounding natural land patterns, and soil erosion and vegetation damage must be prevented.

JPO inspected 72 of the 76 active sites Alyeska uses to mine material. Four of the sites were not inspected due to time and access constraints. JPO assessed whether Alyeska followed the provisions of the material sale contracts and the mining and reclamation plans for each site. The assessment included surveillances from Prudhoe Bay to the Valdez Marine Terminal. JPO inspected each material site and looked at the associated records at the pump stations and concluded the material sites Alyeska uses are clean and well maintained. Erosion was not evident at any of the sites. However, not all the material sites met material sale requirements. Two sites had excessive vegetation damage, and six sites had slopes steeper than allowed by the mining and reclamation plans.

Steep Slopes. JPO found six sites near Pump Stations 5 and 9 where Alyeska may have violated their mining and reclamation plans. All sites had side slopes steeper than the maximum measurement listed in the requirements of the mining plans. JPO recommended that Alyeska bring the slopes of the six sites into compliance with the current mining and reclamation plans. The noncompliance with the mining plans constitutes a noncompliance with the material sale contracts.

Excessive Vegetation Damage. Two sites near Pump Station 5 had excessive vegetation damage where the clearing area boundaries may have expanded to exceed the working limits, causing unnecessary damage to vegetation. This is a noncompliance with Stipulation 2.6.2.1 of the Grant and Lease. Both sites have clearing areas that may be excessive for the amount of material that can be mined under the current material sales contracts. These areas appear to extend beyond the working limits of Alyeska's current mining plan, which doesn't meet their mining plan requirements.

Up-to-Date Records. JPO found deficiencies with material sites paperwork maintained at the pump stations. Twenty-three current material sale contracts and five current mining and reclamation plans were missing from the operations material site files. The material sale contracts do not require that a current copy of the contracts or mining and reclamation plans be retained at the pump stations. However, these documents provide invaluable information to the maintenance coordinators when writing pipeline work permits for material extraction, and efforts in meeting the terms of the contracts and mining plans. These deficiencies were remedied soon after the JPO surveillance.

JPO concluded the overall quality of the sites had not significantly changed since the 1997 inspection. Except for the findings noted in the field inspections, JPO found the sites met the requirements for well maintained, high quality mineral material sites. JPO determined Alyeska complied with all Grant and Lease requirements, except for the sites with vegetation damage and steep slopes. Alyeska provided JPO, 1) the results of their field work after they assessed the vegetation damage for the 2 affected sites, 2) an explanation of the reasons for the excessively cleared areas, and 3) plans for resolving both the material sites vegetation damage and the steep slopes to bring them back into compliance. JPO is reviewing the information.

Chapter 3. Grant and State Lease Compliance

- Five of the ten stipulations evaluated contained some aspects of noncompliance with the Grant and Lease. The five stipulations containing aspects of noncompliance include 1) Surveillance and Maintenance, 2) Conduct of Operations, 3) Material Sites, 4) Slope Stability, and 5) Construction and Operation. The areas of noncompliance relate to maintaining up-to-date records for both system modifications and civil maintenance and inconsistency between existing conditions and design requirements.
- All areas of noncompliance except the material sites represent recurring deficiencies similar to those found in the 1993 audits of TAPS. Alyeska and JPO have met on the underlying issues and Alyeska has efforts underway to address each. JPO will monitor progress and verify all completed corrections.
- The first two areas of noncompliance overlap substantially with those reported in JPO's *CMP Operations Report*. Improved change management as well as timely updating of documents and records will improve performance in both TAPS operations and TAPS maintenance.

Approach To Compliance

JPO's view is that issues of noncompliance remain until corrected, but it is fair to say that none of the issues have required the Authorized Officer or State Pipeline Coordinator to issue a formal order to engage corrective action. All are believed to be correctable in the short term, with the exception of the management of change as it relates to pipeline system maintenance.

What is New? Reporting noncompliance with some stipulations of the Grant and Lease in the CMP reports.

What is Not New? Aspects of noncompliance. Before the CMP report process, JPO identified concerns and deficiencies, which Alyeska corrected. Past JPO monitoring reports and letters seldom related issues with specific stipulations. JPO pursues issues under the Grant and Lease proactively with Alyeska to maintain compliance, and uses the strategic approach of "compliance partnership." This involves frequent communication, proactive problem resolution and a no surprises approach to achieve oversight objectives. JPO's objectives include:

- Continued safe movement of oil through TAPS,
- Compliance with the *Federal Agreement and Grant and State Right-of-Way Lease*.
- Adequate spill and response capability,
- Reduction of TAPS risk by requiring knowledge of hardware condition, effective management controls, protection of the environment, and worker safety.

The Grant and Lease stipulations are divided into three categories, General, Environmental and Technical. Most stipulations of the Grant and Lease contain separate elements, or sub-stipulations. Each sub-stipulation is sometimes broken down into even more separate elements. When JPO identifies noncompliance with one or more elements of a stipulation, it doesn't necessarily mean there is noncompliance with the entire stipulation. This report discusses aspects of the stipulations related to pipeline system maintenance that JPO evaluated in 1997 and 1998. Where instances of noncompliance were reported, this report does not imply that all other aspects of the stipulation are compliant. Instances of noncompliance do not have to be widespread or of long standing significance to be noted.

Construction Plans and Quality Assurance Program

Note: To minimize redundancy, all of the issues and findings discussed in Chapter 2 are not repeated here. This chapter reports the status of stipulation compliance. A complete evaluation of all aspects of stipulation compliance is beyond the scope of this report.

Section 9C, of the *Federal Agreement and Grant of Right-of-Way*, and Section 16C of the *State Right-of-Way Lease* requires Alyeska to maintain quality determination records of natural resource rehabilitation and tangible property repairs. Alyeska's work pad maintenance records lack the necessary information to document the completion and location of repairs, which JPO considers to be an instance of noncompliance with the Grant and Lease. As a result, Alyeska revised three of their maintenance manuals, the *System Integrity Monitoring Manual* (MP-166), the *Maintenance System Manual* (MP-167), and the *Surveillance Manual* (MS-31). JPO will verify whether 1) the manuals are consistent with one another, since they were not before the revisions, 2) whether Alyeska is in compliance with their *Surveillance Manual*, and 3) whether missing maintenance information was added to Alyeska's electronic tracking system, *Passport*.

General Stipulations

1.18 Surveillance and Maintenance

Stipulation 1.18.1. This first stipulation requires the permittee to conduct a surveillance and maintenance program applicable to the subarctic and arctic environment. It should be designed to (1) provide for public health and safety, (2) prevent damage to natural resources, (3) prevent erosion, and (4) maintain pipeline integrity.

The maintenance of Alyeska's electrical work and fire alarm and suppression systems falls under this stipulation. Since the National Electric Code violations were corrected and the fire systems were properly maintained (with only one exception), JPO concluded Alyeska is in compliance with the part of Stipulation 1.18.1, that relates to electrical work, as discussed in chapter 2.

This stipulation does not specify or qualify the amount of civil surveillance and field monitoring instrumentation for the work pad areas between the pump stations and the Valdez Marine Terminal. As discussed earlier in chapter 2, JPO concludes Alyeska does not fully comply with these aspects of Stipulation 1.18.1. Alyeska disagrees they are in noncompliance, but is working to tighten their procedures and improve their trending. There is general agreement between JPO and Alyeska about what should be done, so JPO is currently less concerned with the actual point of noncompliance, and more concerned with corrective action. The ultimate test of compliance with Stipulation 1.18 will be Alyeska's follow through by pump station and Valdez Marine Terminal personnel in adequately documenting maintenance, monitoring, and surveillance information in the upgraded version of *Passport*. Civil maintenance and surveillance will remain an area of JPO vigilance.

Stipulation 1.18.3. This stipulation requires maintenance of complete and up-to-date records on pipeline system maintenance activities and specifically references modification of records. (Stipulation 1.18.3 was also noted in the previously released *CMP Operations* report as an area of noncompliance). JPO surveillances and Alyeska's quality assurance activities showed that modification records, including as-built drawings, were not updated within required time frames. In addition, the work packages JPO reviewed were incomplete. JPO determined that the record keeping of civil maintenance tasks in Alyeska's *Passport* system was inadequate. This constitutes a noncompliance with Stipulation 1.18.3. JPO informed Alyeska of this noncompliance and will track Alyeska's progress to bring this stipulation into compliance.

Stipulations 1.18.2 and 1.18.4. JPO plans to evaluate the second and fourth aspects, Stipulations 1.18.2 and 1.18.4, in future reports. Stipulation 1.18.2 requires a communication system that ensures the transmission of information necessary for the safe operation of the pipeline. The fiber optics project, discussed in JPO's *CMP Operations* report, should improve the pipeline communications system once the project is completed and fully operating. Stipulation 1.18.4 involves access roads and airstrips, which JPO did not evaluate this year. However, JPO has no indication of a noncompliance with this fourth aspect of the stipulation.

1.21 Conduct of Operations

Stipulation 1.21.1 requires the permittee to perform all TAPS operations in a safe and workmanlike manner to ensure the safety and integrity of TAPS, and always employ and maintain personnel and equipment sufficient for that purpose. The issues with this stipulation stem from inattention to procedural requirements and poor change management, rather than direct threats to system integrity or safety. The change management issues previously discussed in the *CMP Operations Report* are inconsistent with operating the system in a safe and workmanlike manner. The turnover of projects without preventive maintenance procedures is another manifestation of this problem. The recent changes in relevant managerial control manuals should address the aspect of this stipulation noncompliance cited in this report. However, JPO believes improvement is needed for the delivery of up-to-date drawings, current maintenance and operating procedures and correct material and parts lists for modified TAPS systems.

2.4 Erosion Control

This stipulation has several elements that address the avoidance and minimization of erosion in and around the pipeline system and related facilities. In 1998, JPO conducted surveillance and engineering reviews of erosion and its resulting effects in the areas near Pump Stations 1 and 3. The areas included 1) the route of the fuel gas line from Pump Station 1 to Pump Station 4, 2) a culvert washout on Coldfoot Hill, and 3) effects of river and floodplain erosion on the Dietrich River, Chena River, Sag River, Marion Creek, Hess Creek, Jarvis Creek, Darling Creek, Miller Creek, Tazlina River, Tsina River, Glacier Creek, and Abercrombie Creek. A test of Alyeska's compliance in addressing erosion problems will be their success in planning, permitting, funding and implementing necessary repairs in response to the natural occurrence of erosion. JPO has not seen anything to evidence noncompliance with this stipulation. Future monitoring will ensure erosion problems are fixed as they occur.

2.6 Material Sites

This stipulation specifies the permittee must 1) apply to purchase gravel and other construction materials taken from public lands, 2) submit a mining plan for removal, and 3) obtain written approval of the Federal Authorized Officer or the State Pipeline Coordinator at JPO for removal of materials from water bodies or other areas. Material site boundaries are required to blend with surrounding natural land patterns. Regardless of the layout of materials sites, soil erosion and vegetation damage must be minimized.

Of the 72 sites inspected in 1998, all but two were found to comply with all aspects of Stipulation 2.6. Two material sites had an excessive amount of vegetation damage. Both sites, which are shared by the Alaska Department of Transportation and Public Facilities, had clearing areas which may be excessive for the amount of material which can be mined under the current material sale contracts. These areas appeared to extend beyond the working limits as identified in the current mining plans. This is a violation of Alyeska's mining and reclamation plan requirements. Alyeska plans to do on-site inspections and survey work on these two sites to determine if the clearing areas extend beyond the working limits.

JPO found six sites that violated Alyeska's mining and reclamation plans. All sites had side slopes steeper than the maximum measurement listed in the requirements of the mining plans. The noncompliance with the mining plans constitutes a noncompliance with the provisions of the Grant and Lease, which specify that all applicable laws and regulations must be followed.

Technical Stipulations

3.5 Slope Stability

This stipulation specifies that areas subject to mudflows, landslides, avalanches, rock falls, and other types of mass movements shall be avoided where practicable in locating the pipeline. Where it is not practicable, measures shall be taken to prevent the occurrence of or protect the pipeline against the effects of mass movements.

JPO evaluated this stipulation for the entire pipeline system and concluded the factors of safety for the Squirrel Creek south slope are not within the requirements of the design basis. The original design was based on frozen ground, and the slope has thawed since construction. The Squirrel Creek south slope is not in compliance with stipulation 3.5, regarding protection of the pipeline against the effects of mass movement. Additional work on Squirrel Creek is needed to bring the slopes into compliance with the design basis. JPO recommended that Alyeska provide a corrective action plan to fix the conditions on this slope and bring it into compliance, starting with a risk assessment. In 1999, Alyeska plans to do a risk assessment for the Squirrel Creek slope with JPO's participation.

In addition, the Pump Station 11 slope does not meet the requirements of the design basis. The *dynamic* factor of safety for this slope is less than 1.0. JPO recommended that Alyeska request a waiver from the design basis to account for the discrepancy of the static safety factor of 1.3 for the Pump Station 11 slope that doesn't meet the specified value of 1.5. Alyeska recently agreed to prepare and request a waiver, and plans to enter it into the design basis for future reference, once it is granted. Alyeska committed to completing the update of the design basis by June 1999.

3.9 Construction and Operation

Stipulation 3.9.1. Compliance with Stipulation 3.9.1 requires that all construction, operation, maintenance, and termination activities in connection with TAPS shall be conducted so as to avoid or minimize thermal and other environmental changes; and to provide maximum protection for the public, fish and wildlife habitat. All working platforms, pads, fills and other surface modifications shall be planned and executed in such a way that any resulting degradation of permafrost will not jeopardize the pipeline foundations. Since the factors of safety for the south slope of Squirrel Creek are not within design basis requirements, this constitutes a noncompliance with the Grant and Lease. Thermistor data shows this slope has thawed, and degradation of permafrost has occurred, which is a noncompliance with the first aspect of this stipulation. This instance of noncompliance is directly linked to and is not distinct from the noncompliance with Stipulation 3.5.

Chapter 4. Employee Concerns and Audit Item Resolution

The Employee Concerns Resolution Program

An employee concern is an assertion of impropriety or deficiency related to the construction, operation, maintenance or management of TAPS. Employee concerns can affect the quality, safety, environmental protection, and integrity of the pipeline.

A critical part of JPO's oversight is to ensure that employees of Alyeska Pipeline Service Company or employees of Alyeska's contractors can voice their concerns about technical and business practices in an atmosphere that promotes free and open communication. Alyeska established the Employee Concerns Program to investigate, resolve and document employee concerns that were not otherwise being resolved. The program is available to all people working on TAPS, including Alyeska and contractor management, supervisors, and employees and other interested persons. Alyeska has several avenues for the expression of employee concerns. Employee concerns should be promptly investigated to gather and analyze facts to determine a course of future action. The Joint Pipeline Office has a toll-free telephone hotline for the anonymous reporting of concerns.

Employee Concerns Related to TAPS Maintenance

- As discussed in earlier chapters, JPO received several employee concerns related to electrical maintenance and fire alarm and suppression systems. Two concerns were validated.

Electrical Maintenance

Several maintenance related concerns were filed directly with JPO. JPO investigated a concern that not all electrical work received third party inspections, as required. This concern was validated. The State electrical inspector issued six notices of violation for this and other items. Alyeska agreed the electrical deficiencies were a problem, and issued corrective action. The action specified that all new electrical installation work done on TAPS would be inspected by a third party inspector. The violations were corrected and verified by the state electrical inspector. These concerns were all closed. JPO agreed with the corrective action and closed the concern. JPO plans to do a field surveillance later this year to verify the corrections.

JPO investigated another maintenance related concern about electrical work proceeding without a work order at a specific location. This is a noncompliance with the work order requirements of Alyeska's Quality Assurance Program. These concerns were reported directly to JPO. Upon investigation, JPO found the work had been completed in compliance with the Quality Assurance Program. After interviewing Alyeska employees and reviewing work orders and permits, JPO did not validate this concern and closed the case.

A third concern was expressed to JPO that electrical work was completed by individuals that did not have a valid and required *Certificate of Fitness*. This concern was not validated and JPO closed this case.

Fire Alarm and Suppression Systems

JPO reviewed several employee concerns related to fire alarm and suppression systems on TAPS. One concern was validated, which included the design installation and maintenance of the fire alarm and suppression systems at Pump Station 7 without appropriate permits from the state fire marshall. With one exception, all locations met state fire marshall regulations concerning permits. The exception was Pump Station 7, where one individual on the site had a permit for alarm systems only. Preventive maintenance work orders were completed by individuals without the proper permits or not working under the direction of a permit holder. Pump Station 7 personnel responded their work was an exception to the Alaska Administrative Code for owner maintenance contrary to the policy for the rest of TAPS. Although not required by the state fire marshall, but for purposes of consistency, the pipeline manager directed Pump Station 7 to follow overall TAPS policy and secure the necessary fire system permits. JPO will follow up with surveillances to validate Alyeska's directive and verify that fire system permits were obtained.

Audit Action Item Resolution

- **Alyeska closed the remaining 1993 maintenance related audit action items. One purpose of JPO's Comprehensive Monitoring Program process is to continually monitor the more significant audit deficiencies to detect recurrence. JPO's concern is that some previously closed audit action items recurred in 1998, such as the six National Electric Code violations discussed in earlier chapters.**

TAPS Audits

In 1993, the U.S. Bureau of Land Management (BLM) contracted with Quality Technology Company to conduct an audit of TAPS operations and maintenance. This audit, which was inspired by testimony of TAPS "whistle blowers" at Congressional oversight hearings, uncovered many systemic deficiencies, including:

- ♦ An ineffective Alyeska quality program,
- ♦ Questionable electric code compliance, and
- ♦ A pipeline that, after 17 years of accumulative modifications, could no longer be shown to be able to withstand major earthquakes or other possible contingencies.

The TAPS owners and Alyeska Pipeline Service Company contracted with Arthur D. Little in 1993, to do an independent assessment of the entire pipeline, which essentially validated the BLM audit. The audit identified several more deficiencies. Most of the problems occurred inside the fences of the pump stations and the Valdez Marine Terminal, rather than along the pipeline itself, where JPO had previously placed monitoring focus. Similarly, few of these deficiencies were environment related, or involved the oil spill contingency plan, two key areas of JPO emphasis.

JPO's CMP Maintenance review shows a trend toward the recurrence of some audit action items. Through ongoing surveillance JPO will continue to monitor Alyeska's progress in preventing the recurrence of these audit items. Although Alyeska closed all maintenance related audit action items, there are still some areas where JPO found some audit items to be recurring:

National Electrical Code Violations

The Alaska Department of Labor electrical inspector found several National Electrical Code violations on TAPS. Electrical work was completed without the required supervision of a journeyman electrician, and third party inspections were not performed for electrical work. Alyeska corrected the violations and JPO verified the corrections. Alyeska made corrective actions to ensure electrical work is being accomplished according to the National Electrical Code. If the cause of these violations remains uncorrected, National Electrical Code violations will continue to occur, repeating audit items identified in the 1993 audits. JPO recommends that Alyeska's quality audits and surveillances vigorously review whether electrical work is indeed inspected, given that this problem has been resistant to solution.

Up-to-Date Maintenance Records

Some records JPO reviewed in *Passport* lacked the detail of maintenance work that had been completed. The Grant and Lease requires Alyeska to maintain quality records of natural resource rehabilitation and tangible property repairs, and to keep current records of maintenance performed along the pipeline system. Alyeska's records lack the necessary detail to document completed maintenance. This is a recurring audit action item.

Valve Maintenance

Alyeska has not met their goals for significant valve concerns, including below ground valve investigations and the mainline valve maintenance review. This delay is partially due to the reassignment of some key personnel in support of Check Valve 122 and Remote Gate Valve 80 projects. While these programs are important for maintaining integrity of the system in the long term, slippages in these schedules do not present immediate, significant threats to TAPS integrity or safety. However, full commitment of adequate resources will be needed for the future progress of these programs, and to prevent this audit item from recurring.

Chapter 5. Future JPO Work Commitment

- **JPO will continue to monitor and evaluate Alyeska's maintenance performance for inclusion in future CMP reports based on TAPS maintenance activities.**

New Contractor Compliance

The Alyeska Alliance contractors, *Price Ahtna*, and *Alaska Petroleum Contractors* were replaced with a new Alliance contractor, *Houston Nana*. During future maintenance tasks, JPO will evaluate whether the new contractor's maintenance activities meet approved plans, associated permits, and compliance with the *Federal Agreement and Grant and State Right-of-Way Lease*.

JPO Oversight for 1999

JPO will continue to closely monitor Alyeska's compliance with the stipulations of the Grant and Lease for TAPS maintenance performance. Future work plans include follow-up surveillances for maintenance tasks completed in 1998 and tasks planned for completion in 1999.

Grant and Lease Compliance

JPO will follow Alyeska's progress in correcting the areas noncompliances with some elements of the stipulations included in the *Federal Agreement and Grant and State Right-of-Way Lease*. Alyeska has been informed that all areas of noncompliance must be corrected and is working to bring them into compliance.

TAPS Electrical Systems

JPO will monitor new TAPS electrical installations in 1999 to verify that Alyeska has implemented corrective action and resolved the electrical code violations. JPO will do surveillances later this year to verify that 1) new electrical installations undergo third party inspections, and 2) new electrical installation work is completed according to the National Electrical Code. Existing facilities are inspected according to Alaska Occupational Safety and Health Administration regulatory requirements.

Employee Concerns Related to Maintenance

Alyeska has directed their staff to follow TAPS policy and obtain the necessary fire system permits. JPO will follow up with surveillances in 1999 to validate Alyeska's directive and verify that fire system permits were obtained.

Preventive Maintenance

Alyeska changed their engineering procedures so that necessary project documentation accompanies turnover of completed projects to the pipeline operators. JPO will monitor future projects to verify preventive maintenance procedures and required documentation is turned over to pipeline operators for completed projects. JPO will monitor the backlog of overdue preventive maintenance tasks and Priority 03 work orders.

Slope Stability

JPO will complete surveillances for 49 other slopes along the TAPS corridor. Resulting conclusions will be based on Alyeska's 1998-1999 slope stability work plan for the problem areas evaluated in this report. Alyeska completed their risk assessment for the Pump Station 11 slope, and JPO is currently reviewing it. JPO will participate in a risk assessment for the Squirrel Creek slope later this year.

JPO recognizes that Alyeska is currently working to stabilize slopes in problem areas. For example, Alyeska has filled depressions in the ground containing vertical support members on the Squirrel Creek slope. In addition, they completed projects on the Pump Station 11, Squirrel Creek, and Tazlina slopes that centered and leveled the support shoes on the vertical support members. JPO will continue to monitor Alyeska's progress on these sites and others that have required slope stability maintenance, such as Wilber Creek and Coldfoot slopes.

Erosion Control

JPO plans to conduct an assessment of erosion in different locations along the pipeline, and will continue to monitor areas already identified as having erosion problems. The work pad that has been threatened by the erosive forces of the Dietrich River will be one area JPO will closely monitor.

Valve Maintenance

Alyeska has begun to address a wide spectrum of valve issues and is meeting high priority goals with acceptable performance. Other related programs of less concern have fallen short of Alyeska's valve maintenance goals. These programs include below ground valve investigations and the valve maintenance review, including the pump stations and the Valdez Marine Terminal. Reaching these goals will require a renewed commitment by Alyeska and continued oversight by JPO in 1999.

Work Pad Maintenance

Alyeska revised three of their maintenance manuals, the *System Integrity Monitoring Manual* (MP-166), the *Maintenance System Manual* (MP-167), and the *Surveillance Manual* (MS-31). JPO will verify whether 1) the manuals are consistent with one another, since they weren't before the revisions, 2) whether Alyeska is in compliance with their *Surveillance Manual*, and 3) whether necessary maintenance information was added to the *Passport* system. JPO's verification will include pipeline surveillance reports and action tracking.

Material Sites

Since annual material site inspections are required by State and Federal regulations, JPO will conduct another annual inspection of all material sites in 1999. JPO will monitor the progress toward correcting the areas of noncompliance relating to vegetation damage and steep slopes. JPO will verify that pump station files contain current material sale contracts and mining and reclamation plans for each operations material site.



LEGISLATIVE TELECONFERENCE NETWORK

90808

SIGN-IN SHEET

SPONSOR: Ut Special Committee on MergerSUBJECT: Proposed BP/ARCO MergerSTART/END TIME: 1 pm DATE: 7-28-99

PLEASE PRINT

	Name/Representing	Address	Zip	Phone No.	Testify	Observe	Bill No.
✓ 1.	Floyd E Heimbuch	2140 Saratoga Ave Anch	99517	276 8563	✓		
✓ 2.	Chirity McMahon / Backbone	5412 W. Denali #4 Anch (mail)	99515	243-4816	✓		
3.	Karen Jewant	4220 B St Ste 200 Anch 99	99503	563-2224		✓	
4.	Robert Mayford	550 W 7th Ste 1100	99501	263-8208		✓	
5.	Eri Sakagake	PO Box 196621 Anch, AK 9	99519	564-3756		✓	
6.	JAMES EISSA	8611 Leeper Circle Anchorage AK	99504	337-3515		✓	
7.	KEVIN BAUKS	DNR-DOG	07	269 8781		✓	
✓ 8.	Steve Conn / AK PIRG	PO Box 101093 Anch	99510	278-3661	✓	✓	
9.	Jim Sykes	Box 101553 Anchorage	99510	277-8910	✓	✓	
10.	Donali Daniels - Commonwealth North	810 N St. Ste 202	99501	278-1414		✓	
11.	HAROLD HEINZE	1336 STAUBACH CIR ANCH	99508	561-6273	✓		
12.	Vic FISCHER			276 7626	✓		
13.	~~STEVE~~ BARBARA WILLIAMS	603 W. 18TH ANCH	99513	278 3661	✓		
14.	Nick Begich	16419 Marcus ER, AK 9	99577	694-1277	✓		
15.	R-A Finberg	PO Box 416 ESEA	99725			✓	



LEGISLATIVE TELECONFERENCE NETWORK SIGN-IN SHEET

SPONSOR: Jt. Special Committee on MergersSUBJECT: BP / ARCO mergesSTART/END TIME: _____ DATE: 7/28/99

PLEASE PRINT

	Name/Representing	Address	Zip	Phone No.	Testify	Observe	Bill No.
1.	Tom Lakosh	PO Box 100648 Anchorage	99510	563-7380	X		
2.	JERRY BROOKMAN	715 MUIR AVE. KENAI	99611	283-9329		✓	
3.	Barbara Williams	PO Box 771754 Eagle River	99577	688-7708	X		
4.	Laura Waldon	4120 Resurrection Rd.	99504	333-7584	X		
5.	R. A. FINEBERG (CHANGE)				(X)	←	
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							

Tell
Tony Knowles
to

STAND UP FOR ALASKA

Back in April we learned that BP Amoco would purchase Arco, Inc.

Along with purchasing ARCO, BP will get the rights to control Alaska's future!!

BACKBONE, a broad-based group of Alaskans came together then to address the many negative consequences of this takeover of Alaska. We are very concerned and want you to join us.

We have sent letters to Governor Knowles that have so far been ignored.

We think this means that he is ignoring the wishes of the people who elected him and that he will pay attention only to the wishes of British Petroleum.

We think this is unacceptable. 83% of you have said you agree.

Tell Tony Knowles you want him to stand up and protect our interests, not the interests of the shareholders of BP. Tell him you want him to act to place strong conditions on this takeover that include:

- Ensuring that Alaskans get maximum production and value for North Slope oil and guaranteeing the sale of our gas now.
- Protecting our land and marine environments and our fishing industry.
- Eliminating a monopoly on the Trans Alaska Pipeline System (TAPS) and getting back our Dismantling, Removal, and Restoration (DR&R) Funds. (\$5 billion that should be in our pocket, not theirs.)
- Maximizing competition and return to Alaskans on North Slope facilities, pipelines, and fields.

Tell Governor Knowles that he must guarantee that we will not have to use our permanent fund to finance the state's budget so that he can give BP shareholders a break on their taxes and royalties.

Call Governor Knowles today at 907-465-3500 and tell him to stand up for Alaska's future, not BP's bottom line.

NO CONDITIONS – NO MERGER

**JOIN BACKBONE TODAY AND PUT
ALASKA'S INTEREST FIRST!**

Standing Up For **Alaska's** Future

5412 West Dimond #4 Anchorage, AK 99515 ♦ 243-4816 ♦ Fax 243-5555 ♦ backbone@alaska.net

**B
a
c
k
b
o
n
e**

Standing Up For **Alaska's** Future

Christy McGraw, Director

**Testimony
BP Amoco - ARCO, Inc. Merger
Joint Special Committee on Mergers
July 28, 1999**

Over the past two months, BACKBONE - Standing Up for Alaska's Future has worked hard to bring the issues of this merger to the minds and hearts of Alaskans.

Our membership and recognition is steadily increasing, and happily, the understanding of Alaskans about the issues involved in this deal is also increasing.

Over the next several weeks, BACKBONE will be mounting a media campaign, sponsoring conferences in two cities, Anchorage and Fairbanks, and writing, publishing and doing a weekly radio show in order to focus support for right action in getting the best deal for Alaska.

In the past week, we published an op-ed piece in the Anchorage Daily News that received wide response. In that article we stated that in a recent poll by Alaska Conservation Alliance, 83% of those 300 folks polled statewide think there should be conditions placed on this takeover. We heard from many of them confirming the seriousness of the matter in their minds. I would like to quote you one response from an insider that came in yesterday's mail. It really struck home.

"Officially I can't say anything - but unofficially this merger is terrible for Alaska. BP will control all the infrastructure and prospective leases on the slope. No one will be able to compete in the future.

As your article stated - Alaska could become a company state.

Please let me know what you are up to and what hope you have for making a difference with this terrible merger.

BP stands for broken promises. They tell soft truths and will change their story after the deal is completed. It will be ugly!"

We have certainly seen the soft truths in BP's media blitz of late. They have asked us to take them at their word that they have the best interests of Alaska at heart. We find this a bit curious.

First, the world's second largest non-governmental oil company *will have no heart, as evidenced by the Wall Street Journal article concerning the Amoco takeover by BP.* And second, it is the nature of huge multinational corporations to have the interests of their shareholders first and foremost in their motivation for development, *not the best interests of Alaskans.*

We don't question BP motives. BP stated clearly under oath before a joint hearing of the Alaska Department of Natural Resources and Alaska Department of Revenue in 1995 that if a project were economic for the Prudhoe Bay Unit (that is, maximized the revenue for the PBU and thus the state of Alaska), but not for BP, then BP would not pursue the project.

As I just quoted from our reader, if we do nothing to protect our interests, "It will get ugly." Especially since Tony Knowles, our chief executive and principal investment manager, is conspicuously absent in our fight for the best deal for our future. He has to date not given us even the courtesy of a response to BACKBONE's letter of May 22, 1999.

In tomorrow's Daily News, and through the next few weeks, we will tell the people of Alaska that we think this means that he is ignoring the wishes of the people who elected him and that he will pay attention only to the wishes of British Petroleum. We think this is unacceptable. 83% of the voters polled said they agree.

We will ask the voters to tell Tony Knowles they want him to stand up and protect our interests, not the interests of the shareholders of BP. We will ask the voters to tell him they want him to act to place strong conditions on this takeover that include:

- Ensuring that Alaskans get maximum production and value for North Slope oil and guaranteeing the sale of our gas now.
- Protecting our land and marine environments and our fishing industry.
- Eliminating a monopoly on the Trans Alaska Pipeline System (TAPS) and getting back our Dismantling, Removal, and Restoration (DR&R) Funds. (\$5 billion that should be in our pocket, not theirs.)
- Maximizing competition and return to Alaskans on North Slope facilities, pipelines, and fields.

Since our governor seems unwilling to act, it is up to you to uphold our constitution and maximize return on our natural resources for the benefit of Alaskans. BACKBONE will do all it can to assist in your endeavors. We have formed committees who will meet to develop specific recommendations on the 9 points we have identified for consideration. They will examine issues of Access, Competition and the State's Position, Natural Gas, and the Environment.

It has been said that a people elects the government it deserves. If Tony Knowles does not act to protect Alaska's interest, BACKBONE asks that you work with us and the people of Alaska to prove we deserve better.

BP could turn Alaska into a company state

By CHRISTY MCGRAW

BP's proposed purchase of the Atlantic Richfield Co. presents one of the most serious economic and political crises Alaska has faced since statehood.

It threatens many things Alaskans care about: clean air and water; schools, social services and public safety; property values; worker safety; high-paying jobs and your Permanent Fund dividend. It threatens our very quality of life. We all must speak up now so that our elected and appointed officials will put the interests of Alaskans and our future before those of the shareholders of BP Amoco.

Alaska's constitution requires that the state's resources be developed for the maximum benefit of Alaska's people. The framers of our constitution were very concerned that one or more companies could gain control over Alaska's resources and then use this control to extract unfair fiscal concessions from the state. It seems they were wise in their vision for our future.

As they foresaw, this takeover would give BP a control over North Slope oil and gas production and transportation, the biggest sources



of revenue funding our state budget. This effective monopoly puts BP in the position of being able to dictate to the state the terms and conditions under which they will produce our oil and gas.

The framers were also concerned that these companies might refuse to develop their Alaska holdings until they'd marketed their resources in other parts of the world. This is called warehousing, and it is exactly why Alaska hasn't been able to market its North Slope natural gas. While it may be good for BP Amoco's bottom line, it is not good for Alaska, our communities and peoples.

As we have seen in the past, BP has again hinted that it may demand reductions in the royalties and taxes it pays. Reductions in the state revenue these produce could lead to:

- weaker safety, health and environmental regulations
- using the Permanent Fund to pay for government
- property tax increases
- statewide sales and income taxes.

There is a way out. State and federal governments often place conditions on mergers, and that's exactly what must be done on this takeover. We, as owners of our resources, must demand that conditions be placed on this sale that will prevent BP from gaining controlling interests over Alaska's oil and gas resources and their related production and transportation systems.

Sound familiar? It is. While we may be threatened now, once BP acquires Arco, it could get a whole lot worse. The proposed takeover threatens to turn Alaska into a company state. If this takeover happens without significant conditions, BP's monopolistic influence will effectively dictate how we do business and how we run our state.

To get you to accept this deal, BP has mounted an extraordinary media campaign. It has spent a small fortune. But, it is a great investment, because — if it works and we don't speak out — it stands to lock oil and gas competitors out of Alaska.

Fortunately, Alaskans aren't buying it. According to a recent statewide poll, Alaskans are both very concerned and paying attention.

A whopping 83 percent of those polled said that significant conditions and limitations should be put on the proposed takeover.

Interestingly for their media efforts, the poll also showed that we distrust big oil. When Alaskans statewide were asked to rate whom they trust for information, oil companies finished last in a field of 11 choices.

There is a way out. State and federal governments often place conditions on mergers, and that's exactly what must be done on this takeover. We, as owners of our resources, must demand that conditions be placed on this sale that will prevent BP from gaining controlling interests over Alaska's oil and gas resources and their related production and trans-

portation systems.

The governor and the Legislature are studying the proposed Arco buyout. That's a good start. But given what's at stake and how much money BP and Arco are spending to influence the outcome, the state needs to commit much greater resources to investigating the acquisition. Our elected officials also need to communicate their findings to the public so that we can all understand what kind of a deal we are getting.

If the Knowles administration negotiates a backroom deal in secret with BP and ARCO, Alaska will lose big. The way to get the best deal for Alaska is to open up the process, to make sure that every Alaskan has a chance to know what's at stake. Alaskans must have opportu-

nities to discuss the problems and potential solutions and then speak as never before.

Our course of action is not that difficult. Alaska needs your help. It could go a long way toward securing Alaska's independence for decades. Alaskans have to tell our elected officials that we are counting on them to enforce the constitution that they have sworn to defend. We need to be able to guarantee that:

- BP can't monopolize the use of facilities, pipelines and ships
- BP can't warehouse our resources
- BP can't control our future financial well-being.

To help retain Alaska's ability to protect its future from control by one oil company, contact your congressional representatives, legislators and the governor today. Tell them you want conditions on the Arco takeover to guarantee Alaska's independence.

□ Christy McGraw is the director of BACKBONE, an organization of Alaskans from all walks of life and all political stripes formed in the face of the Arco buyout to advocate for and protect Alaska's interests. To learn more about the group, contact BACKBONE via e-mail at backbone@alaska.net or call Christy McGraw at 243-4816.

June 1, 1999

NORTH

Senate President Drue Pearce

810 N Street, Suite 202
Anchorage, Alaska 99501
907-276-1414
Fax 907-276-6350

Dear Senator Pearce:

The proposed BP Amoco/ARCO merger will result in a major change in the ownership of the largest oil fields in Alaska and in the ownership of exploration acreage across the North Slope. Worldwide the oil industry is consolidating. This merger presents BP Amoco the opportunity to enhance its global competitiveness and that of its Alaska assets, in large part by achieving efficiency savings in its North Slope operations. The increased efficiencies and enhanced global competitiveness may also benefit Alaska. However, absorption of ARCO, a major oil and gas competitor on the North Slope, will also affect the state's interests in maximizing the exploration, production, and value of North Slope oil and gas. Accordingly, the merger is a matter of utmost importance to Alaska.

Over our 20-year history, Commonwealth North has stood for responsible resource development and sound public policies to achieve that end. We have consistently urged the state and federal governments, owners of Alaska's natural resources, to make these resources available for exploration and development. We have also urged the state and federal governments to fulfill their obligations to collect the revenues to which they are entitled. We have pushed for the removal of the oil export ban, the opening of ANWR, and the marketing of North Slope gas, just to mention a few positions this organization has taken. The common thread throughout all of our study groups and recommendations has been our quest to identify what is best for Alaska in the long term.

Commonwealth North has also been a consistent champion of competition and the market economy. We encourage Alaska to review the BP Amoco/ARCO merger with the goal of preserving competition. Market forces, rather than negotiation and regulation, should be the primary mechanism for developing Alaska's oil and gas resources.

To appropriately address both the opportunities and challenges of the merger, Commonwealth North applauds the formation of teams of internal and external advisors who can review the merger and advise the state of its implications and the state's best interests. We also encourage you to clearly define Alaska's overall goals for its North Slope oil and gas properties. The sooner these goals can be formulated and articulated, the more likely the review of the merger and any related negotiations will be understandable and constructive.

Because change in the oil and gas industry is occurring rapidly, and Alaska relies so heavily on oil and gas related revenues, we believe it would be best for the state to publicly discuss how the merger will affect Alaska's interests. Interested parties, including the public, should be invited to participate in the debates and dialogue regarding the merger and in the development of the state's position. It is important that proponents as well as critics of the merger be included in this discussion.

Founding Co-Chairman
Former Governor
Vice President and
Chief Executive
William A. Egan

Office

Director of Education

Executive Director

As we understand the BP Amoco/ARCO merger is currently structured, we are most concerned that the state's interest be protected in five areas. These issues stand out among a host of complex issues related to future exploration, production, and valuation, that we know you will thoroughly research. We encourage the state to produce position papers on these major issues:

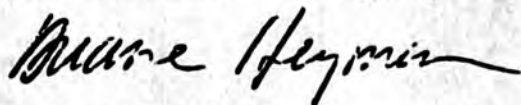
- 1) The Commercialization of North Slope Gas. How will the BP Amoco and ARCO merger affect commercialization of North Slope gas resources?
- 2) Access to North Slope Facilities. How will a new or prospective explorer or operator trying to commercialize a discovery on the North Slope gain access to and benefit from the processing structure that has already been developed?
- 3) Access to Transportation System. Will the existing common carrier pipeline and marine transportation system be accessible at reasonable costs to a new operator or developer on the North Slope?
- 4) Valuation of North Slope Oil. How will the value of North Slope oil be determined for the purpose of calculating state revenues?
- 5) Leasing and Exploration. Will other companies be discouraged from participating in future lease sales because of the proportionally large size of the merged company relative to them?

There may be other issues that also require the state's attention. For example, we encourage the state to pay particular attention to the tools and resources necessary to exercise oversight responsibilities. These tools include: the Oil and Gas Conservation Commission, the Department of Natural Resources, the Royalty Board, and the Regulatory Commission of Alaska as well as its environmental, taxing, and anti-trust authorities.

The challenge Alaska faces is to resolve the concerns created by this proposed merger while preserving the productive working relationships with BP and ARCO that have evolved over the last 20 years. Alaska must treat its partners with respect and dignity, and vice versa, even when our interests may differ. Alaska should work with BP Amoco to produce at the highest values for both parties.

Commonwealth North looks forward to working with you in helping Alaska face these opportunities and challenges.

On behalf of the Commonwealth North Board of Directors,



Duane Heyman
Executive Director

Testimony of Harold Heinze

before the Joint Committee on Mergers --- July 28, 1999

My name is Harold Heinze and I am a thirty year resident of Alaska. In the 1980's I was the President of Arco Alaska and the President of Arco Transportation. In the early 90's I was Commissioner of Natural Resources for Gov. Hickel. I currently do consulting work for Ahtna Inc. I am here today as a private citizen to offer my personal perspective on what I think the legislature should do in regard to the BP-Amoco merger of Arco.

There are several parts to my perspective and they interweave.

The loss of Arco in the Alaskan oil industry is something that I don't particularly like. It certainly damages my own feelings of identity to know that the enterprise that I spent a career with will be no more. I have great empathy for the upheaval and uncertainty that the current employees of both Arco and BP in Alaska will face for a period of several months.

But regardless of those negative feelings, my conclusion is that it is best that the merger go forward. Rather than fearing the merged BP-Amoco company bolstered with Arco's Alaskan people and assets, I believe that the State of Alaska has an opportunity to forge an enhanced future for North Slope oil development. The small reduction of competitive momentum in Alaska is more than offset by the greatly strengthen competitive position of Alaska in the international oil industry.

The approach I see many people taking in reaction to the merger is far to negative and in its bitter rhetoric leaves no basis for a positive relationship. I don't believe that establishing a confrontal relationship with a major segment in the Alaskan economy does anyone good. There is a real danger that some will use this debate of "merger conditions" to erect barriers to oil development, the very oil development that has been and will continue to be in the best interest of the Alaskan people.

Not to say that there aren't issues related to the State of Alaska's interests. But I have taken some time to think it through, and my evaluation is that the real "threats" are limited in number, and manageable through existing mechanisms and agencies. For example, it's clear that Alaska loses when an economic oil field development project is delayed or not undertaken. IF (and underline if) that became an issue in the future, I think you will find that the AOGCC has sufficient authority legally to spotlight and correct that abuse.

I also am a strong believer that if any real abuses (as different from some of the conjured up things I've read) do occur, the public opinion reaction would be strong and I believe that BP-Amoco knows that its best interest aligns with the Alaskan public interest.

Finally my recommendation.

As I remember the Alaska State Constitution assigns the formulation of resource development policy to the legislature and I think you should. I think it is appropriate that this committee focus on defining and enunciating Alaska's development expectations and then communicate those directly and publicly to BP's executive management in Alaska and London. A side-effect of that effort will be a definition of ways to assure that this vision remains in front of all Alaskans and is publicly accountable on an ongoing basis.

Tom Lakosh

From: Tom Lakosh [lakosh@gci.net]
Sent: Monday, July 19, 1999 10:36 AM
To: 'tinak@atg.wa.gov'
Subject: restraint of trade in BP/ARCO merger

Dear Ms. Kondo;

Please review the attached e-mails and Word 97 file for your investigation of the BP/ARCO merger. I am also faxing the response of Governor Knowles as sent through Larry Dietrick of DEC.

There may already be sufficient evidence that BP has practiced restraint of trade through the unavailability of tankers. There has been a controversy regarding the use of vapor recovery systems at the Valdez Marine Terminal, (VMT). There was a "negotiated rule-making" between EPA, Alyeska Pipeline Service Co., (APSC), the state of Alaska, and Prince William Sound Regional Citizens Advisory Council, (PWS RCAC), regarding the amount of tanker loading that could take place at berths that did not have vapor recovery piping. They call this "uncontrolled loading", at berths 1&3, verses controlled loading at berths 4&5, which have vapor recovery piping. The Alaska Dept. of Revenue TAPS throughput projections were used to set the maximum average loading that could take place at uncontrolled berths. APSC said it could load 1.1 mbbl/day at the controlled berths and EPA granted them the difference between the projected throughput and the 1.1 mbbl/day that APSC said it could load. The allowable daily average for uncontrolled loading over the calendar year is as follows: '98- 275 kbbbl/day; '99- 205 kbbbl/day; '00- 1?? Kbbbl/day; '01- 0 bbl/day. This shows projected throughput at '98- 1.375 mbbl/day; '99- 1.305 mbbl/day; '00- 1.2?? mbbl/day; '01- 1.1 mbbl/day.

The shippers, however, have only loaded approximately 1.03 mbbl/day since the vapor recovery has come on line in March of '98. They have proffered a number of excuses, including bad weather and problems with vapor control systems, but BP has refused to load except at controlled berths and at least some of the TAPS reductions in throughput have been accountable to the lack of available tankers. Both the refusal to load and the unavailability of tankers would qualify as restraint of trade. A closer examination of some of the other excuses may well show similar restraint of trade. These unlawful restraints will only be exacerbated as tankers are forced to retire under OPA '90.

Free trade requires that shippers construct additional vapor controls on Berth 3 and build enough tankers to ensure that maximum TAPS throughput can be timely carried to market. These tankers must also be built as good as, or better than, the Millennium Class design of ARCO or the merger would be restraining innovation and quality competition that was clearly occurring prior to announcement of the merger. This won't stop BP from restraining trade at the wellhead, but it would ensure that transportation facilities would be available to meet the projected throughput. Care should be taken to ensure that throughput projections account for all new/projected oil field discoveries and improved production techniques.

Please inform me of the distribution of these materials and your plans to investigate the shipping needs for the projected TAPS throughput. A full analysis of the TAPS trade will be necessary to pin down the exact number of replacement tankers that will be required to prevent restraint of trade. My contact information is on my letterhead in the letter to Governor Knowles below. My analysis concentrates on tanker retirements on the assumption that past retirements have already caused a restraint of trade, and that future retirements will far outstrip the ability of the 3 Millennium tankers to maintain pace with projected throughput. No other tanker replacements have been proposed.

Sincerely, Tom Lakosh



Govmerger.doc

DOUBLE-HULLED TANKERS IN THE TAPS FLEET

Last year, Arco announced its intention to construct state-of-the-art double-hulled tankers for transporting ANS crude oil from the TAPS terminal at Valdez. Arco ordered three "Millenium Class" tankers, with an option to purchase two more. These tankers exceed the standards for double-hulled vessels required by law, and were to be built in advance of the schedule for converting the U.S. tanker fleet to double-hulled vessels mandated by the Oil Pollution Act of 1990 (OPA).

At the same time, BP announced its involvement in a joint project with Maritime Overseas Corporation to build three double-hulled tankers to transport its ANS crude. However, since BP announced its plans to acquire Arco, negotiations for the construction of these three tankers were abruptly terminated. BP has announced its intention to complete construction of the three Millenium Class tankers ordered by Arco once it acquires Arco, but it has made no mention of its own tanker construction project with Maritime Overseas.

As a result of the acquisition, it would appear that instead of six—and possibly eight—new double-hulled tankers joining the TAPS fleet, there will only be three new double-hulled ships plying the TAPS trade. Currently, the TAPS fleet is comprised of tankers averaging nearly 20 years of age, making it one of the oldest fleets operating in U.S. waters. Only three of the 27 ships currently in the fleet have double hulls. These three vessels were completed in 1978 and 1979. No new tankers have been added to the fleet since the Exxon Valdez oil spill.

CHANGES IN PATTERN OF OWNERSHIP FOR THE TAPS FLEET

Title I of OPA sets stringent liability standards for the transport of crude oil in U.S. waters. Since the passage of the Act, most major oil companies have divested themselves of their shipping divisions, which has had the effect of limiting their exposure to liability in the event of an oil spill. Arco did not divest itself of its fleet, deciding instead to retain ownership of Arco Marine.

By contrast, BP does not own the fleet of tankers it utilizes in the TAPS trade. The Merchant Marine Act of 1920 (commonly referred to as the Jones Act) prohibits BP—because it is a foreign company—from owning tankers which transport oil between U.S. ports. As a consequence, BP leases the fleet of tankers it uses to transport Alaska North Slope (ANS) crude to West Coast refineries.

BP recently helped to form a new joint venture from which it now leases the tankers it uses in the TAPS trade. The tankers operating under the auspices of this joint venture were transferred by their owners to independent holding companies that then leased them to the joint venture which in turn leased them to BP. This leasing arrangement has the possible effect of limiting the liability for oil spills from one of these ships to the value of the vessel involved. With the acquisition of Arco, BP will have to divest itself of Arco Marine pursuant to the Jones Act. It is likely that each tanker now owned by Arco Marine will be transferred to an independent holding company, leased to the joint venture, and then leased to BP. This new pattern of ownership for the TAPS fleet appears to significantly reduce corporate accountability, and creates a disincentive for maintaining current standards of marine safety and oil spill prevention.

Tom,

I haven't had time to review your analysis indepth, but I did notice that your list of tankers is different than mine. Missing from your list are the following vessels that are on my list (acquired from RCAC):

Cheasapeake Trader (S), Delaware Trader (S), Potomac Trader (DB), Chevron Mississippi (S, one of the re-measured vessels), Overseas Arctic (S), SeaRiver Long Beach (S, sister ship to the Exxon Valdez and one of the newest single-hulled vessels in the fleet), and SeaRiver Philadelphia (S, another of the re-measured vessels.) On your list but missing from mine are all the retired ships, which include three Arco ships and the three Lion boats, as well as the Overseas Juneau, SeaRiver San Francisco and Overseas Galveston. Also you have the Overseas Washington listed as a BP charter. I thought this vessel was on charter to the State of Alaska and delivers the state's royalty oil to the Tesoro refinery at Nikiski. (I see it every so often when I'm in Homer. It comes into Kachemak Bay to pick up and drop off its pilot.)

Just out of curiosity, where did you get your list? USCG?

Here's the analysis I came up with regarding the retirement and replacement of TAPS tankers under OPA '90; retirement and replacement of escorts (DEC BAT regs); minimum escort combinations and operating procedures (DEC BAT regs, OPA 90 regs); maximum tanker speeds (DEC BAT regs, OPA 90 regs). I hope to explain all the abbreviations and the underlying logic behind the proposed requirements on the phone at 3 PM. If accurate data on cargo volumes and actual turnaround times is obtained a case could be made for restraint of trade action for controlling supply through a lack of ships. The object of the action would be to get the quantity and quality of tankers we need as part of a settlement. Part of the settlement would attach to a secondary action regarding the stifling of innovation and quality competition in BP's shredding of the plans for ARCO's projected construction of 6 to 10 Millennium tankers to replace retired tonnage. We could ask for Millenium class tanker design, or their safety equivalents, to replace both ARCO's and BP's retiring tonnage. One or more of the Western States would have to file their own suit or get the FTC to do it cause I don't see anybody chompping at the bitt to file as a private party. I'd like to chat about my VERP suits and maybe even the BAT suit as well.

Sincerely, Tom

June 1, 1999

Tom Lakosh
PO Box 100648
Anchorage, Ak. 99510
Phone/fax (907) 563-7380
lakosh@gci.net

Dear Governor Knowles:

One month ago I sent the attached e-mail requesting information regarding BP's long term plans for replacing the TAPS tanker fleet. Given the importance of this information to Alaska's future, I would have expected that this information would have been collected immediately and publicly disseminated to inform Alaskans of the impact of the merger on their future.

Unfortunately this information is still not publicly available. Please consider this message a request for all documents held by the state regarding the plans of TAPS shippers to construct or otherwise replace the retiring tanker fleet pursuant to the Public Documents Act.

I would have also expected the state to develop a position paper regarding an appropriate tanker replacement schedule. Would you please supply any state position papers on this matter pursuant to the Public Documents Act.

I have also attached a cursory analysis of the: retirement dates of TAPS tankers; proposed tanker replacement schedule; proposed escort retirement and replacement schedule; proposed escort combinations and procedures; proposed tanker speed limits. I hope that the state's position paper will compare favorably with these analyses.

Sincerely, Tom Lakosh

Dear Governor Knowles:

Would you please consider obtaining additional information from Sir John Browne regarding the long-term plans of BP/Amoco and its subsidiary Alaska Tanker Company for replacement of its tanker fleet and the plans for replacing the potential combined BP/ARCO tanker fleet. The pertinent questions to ask for each corporate combination are:

Please specify each date of tanker replacement and indicate:

- 1) the tanker that will be replaced;
- 2) the design of the replacement tanker;
 - a) the distance between the double hull;
 - b) the number of shafts;
 - c) the number of rudders;
 - d) the number of independent engine rooms;
 - e) bow thruster and horsepower;
 - f) navigation system design;
 - g) tanker size and displacement.

The issue of concern to Alaskans is the effect that the merger will have on the quality of tankers that will be constructed and the resultant safety of oil transportation through Alaskan waters. As you

well know, ARCO Marine Inc. has adopted a corporate philosophy that placed tanker safety at a premium as evidenced by its embarking on plans to replace its fleet with a tanker design that far exceeds the requirements of OPA '90. This design, called the Millennium Class, employs a 10 ft. double hull instead of the 6 ft. required by OPA '90 in addition to a 3,000 hp bow thruster and redundant engine rooms, shafts and rudders. I have discussed this policy with an ARCO VP and other ARCO management and it was related that this policy was ARCO's plan to attract "green customers" on the West Coast where the population is particularly sensitive to environmental issues, particularly marine pollution.

BP has committed to finishing the three Millennium Class tankers already ordered by ARCO, but they have not committed to using this design for replacing the remaining ARCO tankers or their own proxy fleet. Although BP originally sought to compete with ARCO for "green customers" by securing an option to build two of its own Millennium tankers, now that BP has bought out its competition and owns the tanker design it has abandoned the option to build the two Millennium tankers and has sought exemption from the double hull requirements under OPA '90. If BP policies were to continue unabated, this merger would clearly reduce this type of environmentally friendly competition and substantially reduce the safety of oil transportation in Alaskan waters.

The State must recognize and protect this form of competition because of the effect the merger would have on Alaskan's rights under Article VIII of our Constitution. Unlike the "green customers" in the lower 48 who merely choose a "green company", we are guaranteed the highest degree of protection of our natural resources under our Constitution. I have reviewed the minutes of the Constitutional Convention and it clearly shows that Article VIII was specifically constructed to preclude this type of detrimental, monopolistic control of our resources.

Moreover, Alaskans were promised double hull tankers as a major part of the environmental protections to be provided in exchange for our support in passage of the Trans-Alaska Pipeline Act. These promises were again trotted out after EVOS but all of the shippers, except ARCO, reneged on this promise again.

Please do not be taken in by these empty promises again. Despite Sir John Browne's averments before the legislature that both BP and ARCO have the highest standards for environmental protection and safety, it is abundantly clear that only ARCO was willing to fully pursue this commitment. I therefore implore you to get BP's plans for tanker replacement IN WRITING. If it becomes apparent that BP will not provide the level of tanker quality that ARCO was committed to, please consider seeking protection of Alaskan interests through prosecution of federal and state anti-trust laws.

Sincerely, Tom Lakosh

TOM LAKOSH P.O. BOX 100648 ANCHORAGE, AK 99510
 Phone/fax (907) 563-7380 E-mail lakosh@pci.net May 25, 1999

TANKER RETIREMENT SCHEDULE

Vessel	Shipper	KDWT	OPA Date	Hull
ARCO ANCHORAGE	ARCO	120	6/98	S
ARCO FAIRBANKS	ARCO	120	1/99	S
ARCO JUNEAU	ARCO	120	1/99	S
ARCO SPIRIT	ARCO	262	4/00	S
ARCO INDEPENDENCE	ARCO	262	11/00	S
ARCO TEXAS	ARCO	90	11/04	DB
ARCO ALASKA	ARCO	188	12/07	DB
ARCO CALIFORNIA	ARCO	188	7/08	DB
Total	8	1,350	Average size 168k	
DENALI	BP	188	10/06	DB
BT ALASKA	BP	188	5/06	DB
OMI COLUMBIA	BP	136	11/06	S
SOUTHERN LION	BP	?	5/99	S
OVERSEAS JUNEAU	BP	120	12/98	S
NORTHERN LION	BP	?	1/99	S
WESTERN LION	BP	?	1/99	S
OVERSEAS ALASKA	BP	62	12/00	S
OVERSEAS BOSTON	BP	122	4/04	S
OVERSEAS CHICAGO	BP	90	6/05	DB
OVERSEAS OHIO	BP	90	10/05	DB
OVERSEAS NEW YORK	BP	90	12/05	DB
OVERSEAS WASHINGTON	BP	90	3/06	DB
Total	10-13?	1,176	average size 117k	
S/R SAN FRANCISCO	EXXON	76	12/00	S
S/R BATON ROUGE	EXXON	76	3/00	S
S/R BENICIA	EXXON	150	6/02	S
S/R NORTH SLOPE	EXXON	150	2/02	S
S/R GALVESTON	EXXON	27	7/05	S
Total	5	479	Average size 106k	

TOTALS for all shippers from 6/98 to 7/08: 23-26 tankers 3,005-3,750 kdwt Average size 131-144 dwt

TANKER RETIREMENT AND PROPOSED REPLACEMENT SCHEDULE

Year.....	Total kdwt	Retiring Owner/size tanker	Millennium Equivalents	Proposed M. E. tankers deployed	Total M. E. tanker kdw operating by 12/31/0?
98	240	A/120, B/120,	A-1, B-1		
99	240?	A/120, A/120, B/?, B/?, B/?	A-2		
00	738	A/262, A/262, B/62, E/76, E/76	A-4, B-1, E-1	A-2	250 2ea.
01				A-2, B-1, E-1	750 6ea.
02	300	E/150, E/150	E-2	B-1, E-1	1,000 8ea.
03				B-1, E-1	1,250 10ea.
04	212	A/90, B/122	A-1, B-1	B-1	1,375 11ea.
05	297	B/90, B/90, B/90, E/27	B-3, E-1	B-1	1,500 12ea.
06	602	B/188, B/188 B/136, B/90	B-4	B-1	1,625 13ea.
07	188	A/188	A-1	A-1	1,750 14ea.
08	188	A/188	A-1		
98-08 Total	3,005	A/8/1350/168 avg	ARCO-10	ARCO-5 625 kdw	1,750 kdw in 14 tankers or
Total tankers-23		B/10/1176/117 avg	BP-10	BP-6 750 kdw	14 million bbl. capacity,
Average size-135k		E/5/479/106 avg	Exxon-4	Exxon-3 375 kdw	w/14 day avg. turnaround*
		All-23/3,005/131 avg	All-24	All-14 by 12/31/07	can ship 1 mbbl/day TAPS

*Actual average tanker turnaround time is not known and this figure is only a "guestimate". Turnaround time will vary with weather and ports of call changes. The 1 million bbl/day throughput is also an estimate and allowances for throughput fluctuations should be considered.

PROPOSED ESCORT RETIREMENT AND REPLACEMENT SCHEDULE

*Revised in C-plan
Comments 7/07*

Year	Retired Escorts	Replacement Escort	Duty Area
99	Protector, Sea Swift, Stalwart	Nanuq, Tan'erlic, Protector	VMT-HE for all tractors
00	Gulf Service	PRT	HE Sentinel
01	NI ERV	PRT	NI Sentinel
02	ERV, Protector, Sea Flyer	PWS	VMT-HE
04	As necessary		
04 Escort/tug Totals 10 total tugs	PWS-3ea., Guard-1ea.	PRT-2ea.	Theriot-2ea., Barge tugs-2ea.

YEAR 2001 MINIMUM ESCORT COMBINATIONS FOR LADEN SINGLE SHAFT TANKERS SMALLER THAN 150 KDWT

Y '06 T<150kdwt	VMT-BR Buoy	Central PWS	Hinchinbrook Ent.
Sea height greater than 2m	Tethered-PWS, Protector (close escort)	Tethered-PWS, NI PRT (sentinel)	Tethered-PWS, HE PRT (close escort)
Sea height less than 2m	Tethered Guard, Theriot (close escort)	Guard or Theriot, NI PRT (one fire tug must close escort)	Guard or Theriot (close escort), HE PRT (close escort)

YEAR 2001 MINIMUM ESCORT COMBINATIONS FOR LADEN SINGLE SHAFT TANKERS GREATER THAN 150 KDWT

Y '06 T≥150kdwt	VMT-BR Buoy	Central PWS	Hinchinbrook Ent.
Sea height greater than 2m	Tethered-PWS, Protector (close escort)	Tethered-PWS, NI PRT (sentinel)	Tethered-PWS, HE PRT (close escort)
Sea height less than 2m	Tethered PWS, Theriot (close escort)	PWS (close escort), NI PRT (sentinel)	PWS (close escort), HE PRT (close escort)

YEAR 2001 MINIMUM ESCORT COMBINATIONS FOR LADEN DOUBLE SHAFT TANKERS

Y2k Double Shaft	VMT-BR Buoy	Central PWS	Hinchinbrook Ent.
Sea height greater than 2m	Tethered-Guard	NI PRT (close escort)	HE PRT (close escort)
Sea height less than 2m	Tethered-Guard	NI PRT (sentinel)	HE PRT (close escort)

WINTER '99/00 MINIMUM ESCORT COMBINATIONS FOR LADEN SINGLE SHAFT TANKERS SMALLER THAN 150 KDWT

Winter '99/00 T<150kdwt	VMT-BR Buoy	Central PWS	Hinchinbrook Ent.
Sea height greater than 2m	Tethered-Guard, Protector (close escort)	Tethered-PWS, ERV (sentinel)	Tethered-PWS, Gulf Service (close escort)
Sea height less than 2m	Tethered-Guard, Theriot (close escort)	Guard (close escort), ERV (sentinel)	Guard (close escort), Gulf Service (close escort)

WINTER '99/00 MINIMUM ESCORT COMBINATIONS FOR LADEN SINGLE SHAFT TANKERS GREATER THAN 150 KDWT

Winter '99/00 T≥150kdwt	VMT-BR Buoy	Central PWS	Hinchinbrook Ent.
Sea height greater than 2m	Tethered-PWS, Protector (close escort)	Tethered-PWS, NI ERV (sentinel)	Tethered-PWS, Gulf Service (close escort)
Sea height less than 2m	Tethered PWS, Theriot (close escort)	PWS (close escort), NI ERV (sentinel)	PWS (close escort), Gulf Service (close escort)

PROPOSED MAXIMUM* ALLOWABLE TANKER SPEED IN KNOTS OVER GROUND

Maximum tanker speed	Valdez Narrows	Valdez Arm in outbound lane To Buoy 9, Buoy 9, to BR Buoy			Central PWS BR Buoy to HE	Hinchinbrook Ent. OB lane
Ebb tide	6	9	7	10	12	8
Flood tide	5	8	6	10	12	9
Ice within 1 nm		Escort must remain tethered 6			Emrt 6	

Maximum tanker speed	Valdez Narrows	Valdez Arm in separation zone To Buoy 9, Buoy 9, to BR Buoy			Central PWS BR Buoy to HE	Hinchinbrook Ent. Center Line Track
Ebb tide	6	10	8	10	12	9
Flood tide	5	9	7	10	12	10
Ice within 1 nm		Escort must remain tethered 6			Emrt 6	

*These speed limits presume compliance to the minimum tug combinations listed above with all other wind speed and sea height restrictions remaining in place. Each of these maximums could be raised by 1 knot if the secondary escort is a tethered tractor in addition to the minimum tethering requirements listed above.

Tom Lakosh

To: Senator Rick Halford, Chair
Date: July 21, 1999
Joint Special Committee on Mergers

Re: (I) Competition on TAPS; (II) TAPS DR&R

I. Competition on TAPS

Through 1995 no TAPS carrier filed a tariff below the maximum allowable under the 1985 TAPS Settlement Methodology; in other words there had been no competition on TAPS. The Amended Capacity Settlement Agreement of October 1997 was supposed to deal with the competition that became inevitable once shipments dropped below 1.42 million bpd. To assess competition on TAPS, it is necessary to know whether the TAPS carriers filed tariffs below the maximum allowable tariff under TSM since the completion of the Amended Capacity Settlement Agreement in October 1997.

The importance of this line of inquiry is underscored by several factors, including: (1) public and private statements by officials of non-TAPS owner Conoco that excessive TAPS tariffs played a significant role in that company's 1993 decision to abandon its Alaska interests to major TAPS owner BP; (2) the pattern of departure from Alaska of other companies with production interests in the North Slope but little or no stake in TAPS; (3) the Department of Law's claim that the Amended Capacity Settlement Agreement of October 1997 provides an adequate framework for competition; (4) Oxy's protest of that agreement (rejected by FERC), claiming that BP would tend to keep the tariff high to the detriment of non-owner shippers on TAPS such as Oxy; and (5) Tesoro's claim that excessive TAPS tariffs under TSM severely disadvantage non-owner shippers on TAPS.

TAPS tariffs since 1997 are summarized in the following table.

Table 1. Tariffs Filed With FERC (a)

Company	7/1/97	1998	1/1/99	7/1/99
Amerada Hess	\$2.74	\$2.69	\$2.47	\$2.45
Arco	\$2.61	\$2.73	\$2.46	\$2.46
BP	\$2.76	\$2.80	\$2.85	\$2.85
Exxon	\$2.64	\$2.78	\$2.67	\$2.66-\$2.44(b)
Mobil (c)	\$2.94/\$2.63	\$2.84/\$2.75	\$2.61	\$2.56
Phillips	\$2.73	\$2.79	\$2.79	\$2.47
Unocal	\$2.65	\$2.72	\$2.55	\$2.55
Wghtd. Avg. (d)	\$2.71-\$2.70	\$2.74/\$2.74	\$2.71	\$2.70-\$2.65

Notes:

(a) Tariff data from APUC.

(b) Exxon 7/1/99 tariff, filed 6/18/99, offers a volume incentive tariff of \$2.44.

(c) Mobil's 1997 and 1998 tariffs offer a volume incentive tariff.

(d) Weighted averages are calculated based on owner's percentage; volume incentive tariffs assume all oil is shipped at volume incentive rate.

I understand that the Department of Law now wishes to treat each company's maximum allowable tariffs as confidential under the 1985 TAPS Settlement Agreement. However, the TSM worksheet, available publicly, contains weighted average data indicating the maximum allowable tariffs for 1997 through 1999 (aggregate data; not for any given company). Table 2 compares those weighted averages from these two sources.

Table 2. Weighted Average Filed v. TSM Maximum Allowable Tariffs

Wghtd. Avg.	7/1/97	1998	1/1/99	7/1/99
Filed Tariffs(a)	\$2.71-\$2.70	\$2.74/\$2.74	\$2.71	\$2.70-\$2.65
TSM Tariffs (b)	\$2.72	\$2.66	\$2.72	

Notes:

(a) See Table 1.

(b) Maximum allowable TAPS tariffs (calculated from TSMW99.WK4, Sheet E, lines 161-163.)

If these data are accurate, then tariffs filed under the Amended Capacity Settlement Agreement for 1998 and 1999 show very little rate reduction from the maximum allowable tariffs. (In fact, the 1998 tariffs appear to exceed the maximum allowable under TSM by \$0.08 per barrel. From the limited data available, the reasons for this anomaly are not clear. One possible explanation is that the two data sets treat the annual "true-up" adjustment differently.)

>From another perspective, it is interesting - and perhaps very significant - that BP's filed tariffs increased between 1997 and 1999 despite (1) significant reductions in every elements of the tariff that comprises the total revenue requirement - operating expenses, depreciation, recovery of deferred return, DR&R, after-tax margin and income tax allowance and (2) the fact that every other TAPS owner reduced its tariffs over the same period (1997-1999). Under the aggregate TSM estimates for 1999, the total revenue requirement for TAPS was more than 16% lower than that of 1997; during the same period, the TSM production estimate declined by only 13%. On this basis, it is not readily apparent why BP's filed tariff increased. A variety of factors - for example, the "true-up" adjustment (mentioned above) and the difference between actual production and that used in the TSM worksheet - may explain why BP's tariff increased; the data available to the public are not sufficient to draw definitive conclusions. Nevertheless, the fact that most other TAPS owners reduced their tariffs between 1997 and 1999, while BP increased its tariff, may lend credence to Oxy's concern that under the Amended Capacity Settlement Agreement BP could set artificially high tariffs, thereby raising the level from which competing owners would reduce tariffs to attract shipments.

Continuing this line of analysis, it strikes me as arguably significant that, in contrast to BP, ARCO (a net shipper on TAPS) decreased its tariff in 1999; by mid-year, Exxon followed. I don't know whether Exxon has excess capacity on TAPS at this time (historically, Exxon was a net shipper, but only by a small margin and that position was slated to shift sometime around the turn of the century). While the available data are too sketchy to permit definitive conclusions, these data raise significant questions in my mind as to whether the Amended Capacity Settlement Agreement is working as anticipated by theory. Specifically:

* Why didn't BP cut tariffs, as the state and the owners' capacity cushion theory would dictate? Could Oxy have been correct in its concerns that BP would keep its tariff relatively high to reduce its royalties and severance?

* Why did ARCO, with its share of TAPS filled by its own production, reduce tariffs? Does ARCO's tariff cut demonstrate that the power of the tariff over the economics of the net shipper? (Again, maximum allowable tariff data are necessary to frame this

question properly; apparently carrier maximum allowable tariffs are confidential under TSM).

* With ARCO out of the picture, will there be any rate competition on TAPS? Without ARCO's lead, would Exxon have cut tariffs by offering a volume incentive at mid-year? (Note that small-percentage owners Phillips also cut to approximately the ARCO level, that Mobil cut its tariff and Am-Hess lowered its tariff to one cent under ARCO.)

The Amended Capacity Settlement was approved in 1997 with the understandings that the precise effects of the state's capacity cushion could not be anticipated and that Oxy disagreed with the state and the TAPS owners that the Amended Capacity Settlement Agreement would provide an appropriate level of tariff relief through competition. How TAPS owners will set tariffs is difficult to model for two principle reasons: (1) much of the oil is owned by the shipper and the trade-offs between increased tariff revenue and reduced taxes and royalties are difficult to analyze; and (2) each owner must guess what the other owners will do. As indicated here, analysis of how events turned out is handicapped by the fact that key data - maximum allowable tariffs, etc. - are held confidential.

To the extent that the policy-makers place a high value on competition, I believe the questions raised by the public data summarised here suggest that better data on the level of competition on TAPS - manifested by reduced tariffs - should be carefully examined before the state acquiesces to the take-over by the company with the largest stake in TAPS of the company with the second largest share.

II. TAPS DR&R

To provide the legal and quantitative bases for considering how to deal with TAPS dismantling funds, here is a copy of the June 24 report I completed recently for the Alaska Conservation Alliance.

This report assesses the value of the DR&R collections under TSM; the present value of DR&R collections is \$4.5 to \$4.9 billion, compared to an estimated present cost of dismantling of \$2.3 billion. Note also the essential agreement between this analysis and three previous analyses (APUC Staff Expert Witness, 1986; Fineberg, 1992; Univ. Wis. Master's Thesis, 1996), as summarized in Table 8 (p. 20).

If I can provide additional information, please let me know.

Richard Fineberg
Research Associates
PO Box 416
Ester, Alaska 99725

(907) 479-7778
fineberg@alaska.net

SCOMM

117:3



Official Business

ALASKA STATE LEGISLATURE

Joint Special Committee on Mergers

State Capitol
Juneau, AK 99801

Chairman: Senator Rick Halford
Vice Chair: Rep. Joe Green
Senator Drue Pearce
Senator Johnny Ellis
Rep. Brian Porter
Rep. Beth Kerttula
Rep. Jim Whitaker

AGENDA

Thursday, November 18, 1999, 1:00 pm
Anchorage Legislative Information Office
2nd Floor Conference Room

- 1:00 - 5:00 p.m.** Presentations from the State of Alaska Administration,
British Petroleum, ARCO, Alaska Gasline Port Authority,
and other group representatives if time is available /
Questions from Legislators / Listen Only Teleconference
- 1:00** Introduction from the Chair, Senator Halford
- 1:05** Overview of the Charter
State Administration Representatives
British Petroleum Representatives
ARCO Representatives
- 2:00** Presentation by Alaska Gasline Port Authority
Questions from Legislators
- 2:45** Review of Committee Questions provided 11/17
During this review, state and company representatives will address
the questions the committee has previously provided them.
Legislators may ask questions about these areas as they are
addressed, they may also ask questions about these or any other
areas after the presentation.
- 5 - 6:00** Break
- 6:00 - 9:00 p.m.** Public Testimony

As there will also be public testimony taken on Friday, November 19, those who cannot attend on Friday will be taken first.

**Testimony
of
Richard Campbell, President
BP Exploration (Alaska) Inc.
Joint Committee on Mergers
Alaska Legislature
November 18, 1999**

Good afternoon Mr. Chairman, members of the committee, ladies and gentlemen.

I am here to testify in support of the Charter for Development of the Alaskan North Slope and to answer questions about the draft agreement.

The agreement is short, written in plain language and contains clear benchmarks by which to judge BP Amoco's performance.

It is the product of seven months of information sharing and discussions with the state.

By any standard, the Charter looks a lot like the outcome described early on by members of this committee and the Knowles Administration.

It requires major reductions in BP Amoco's ownership of North Slope production and infrastructure.

It ensures the presence of another major oil company or companies in Alaska.

It sets the stage for increased North Slope investment, increased North Slope production and increased state revenue.

And finally, I believe, it addresses concerns still being voiced by some Alaskans.

In today's testimony I will address those concerns. They are control and the size of the required divestitures, gas, enforceability and timing.

Because no one has defined an "acceptable level of control" I will assume for the purpose of this discussion that the status quo is acceptable to most Alaskans.

The fact is that while this agreement does allow an increase in BP Amoco's ownership of North Slope production and infrastructure, it does not deliver a corresponding increase in control.

That's because the carefully drawn operating agreements that govern TAPS and North Slope oil fields remain intact. These agreements mandate "shared control" of these important assets.

By design major operating decisions, major capital investment decisions, major facility access decisions require the approval of almost every owner.

BP Amoco has played an important and influential role in this "shared control" environment.

As a company with an ownership interest in every major producing field, we have been involved in almost all of the development spending that has occurred on the North Slope and we have funded our proportionate share.

The production and asset sales mandated by the Charter are, by any standard, very large.

Acquiring these assets will require investment of billions of dollars.

175,000 barrels of oil a day is of a scale similar to the global oil production of companies familiar to Alaska, such as UNOCAL, Marathon or Phillips.

The buyer or buyers of this production will play a major and very visible role in the Alaskan oil industry.

This second largest field in North America -- and Alaska's newest oil field -- will be operated by one, or possibly two major oil companies.

Together, they could employ 400 to 500 people. Maybe more depending on how they staff their exploration, human resources and business support organizations.

These new operators will be responsible for operating and maintaining these fields, ensuring environmental compliance, forging alliances with Alaska contractors and suppliers and developing plans for continued development of these world class assets.

Because North Slope operating agreements generally require the agreement of companies owning 90 percent or more of a given reservoir, these new players will play a pivotal role in determining the level of forward investment in these fields.

Under the charter, operatorship of the Kuparuk field must go to a company with assets of more than \$8 billion. Alpine to a company with assets of more than \$3 billion.

The new Alaska operators will be companies with major operations in other parts of the world.

Even so, it's important to remember that the assets and production they acquire here will be among the largest in their global portfolios.

Almost overnight, Alaska will become a core area in which to invest the human and financial resources necessary to grow reserves and production.

The Charter ensures these new players will have a level playing field.

We have agreed to sell buyers of North Slope production sufficient capacity in TAPS and North Slope feeder pipelines to move their oil to market. We will also market TAPS capacity to finders of new fields, if they want it.

TAPS will remain an open access, common carrier pipeline that is required to carry production tendered by all North Slope producers at fair, government regulated rates.

The tariff settlement methodology agreed with the state in the mid-1980's is working and remains intact. TAPS tariffs are lower today than they have ever been.

Our goal is to keep tariffs low by keeping production up.

To build exploration interest and encourage exploration activity, we will sell North Slope seismic and well data where we have the legal right to do so, and we will market 620,000 acres of highly prospective state and federal exploration acreage.

We will work with the state to select and manage the sale of this acreage to drive exploration activity and to ensure that other companies end up as exploration operators.

I emphasize that the Charter guarantees companies the right to move forward alone if partners are unable or unwilling to proceed with exploration drilling.

Concerns have also been voiced about how the Charter will affect efforts to achieve the sale of North Slope natural gas.

Simply put... this agreement will enhance those efforts.

We are committed to making the commercialization of the North Slope's abundant gas resources a reality.

After the acquisition – when our ownership of this resource increases from 20 to more than 50 percent – we will form a stand-alone business unit in Alaska to pursue all options for moving our gas to market.

We're going to support their efforts by locating in Alaska BP Amoco's Global Gas Technology Center.

The Center will be staffed with scientists and engineers who are experts in high pressure pipeline construction, LNG plant design and operation, and the use of space age catalysts and membranes to make more efficient the production of so-called "white crude."

The fact that we are locating it here should tell you something about how we view North Slope gas sales in the context of BP Amoco's global gas strategy.

This committee is aware of our efforts to develop competitive LNG and Gas to Liquids projects.

A third option – a gas line to the Lower 48 -- is now on the table.

New technologies and construction methods have made building long distance pipelines less expensive. And the northern expansion of the Canadian pipeline system would mean building a shorter pipeline to carry Alaskan gas.

Couple those cost savings with growing natural gas demand in the United States – the largest natural gas market in the world – and a major opportunity becomes apparent.

So apparent, that two separate groups have recently issued press releases about their plans to pursue development of gas lines to the Lower 48.

It is important to remember that the gas sale options I've described -- LNG, GTL and pipelines to the Lower 48 -- are not mutually exclusive.

We are pleased that other groups and other companies are pursuing their own ideas for moving North Slope gas to market. We won't stand in their way.

In fact, after the acquisition we have guaranteed availability of up to 1.2 billion standard cubic feet of North Slope natural gas a day to any commercial project at a competitive net back price.

Together, with the state, we've agreed on \$1 per million BTUs indexed to oil price.

Concerns have been raised about the enforceability of the Charter.

The first half of the agreement – the section requiring sale of production, acreage, infrastructure and the relinquishment of field operatorships – is a binding contract.

We either conclude the sales in the time allowed or a trustee is appointed to sell those assets for us. The requirements are clearly stated. It won't take a court long to resolve a dispute in the unlikely event there is one.

Our goal is to identify buyers and conclude sales as quickly as possible.

The community and environmental commitments are also clearly defined. Assessing our performance will be easy.

Failure to deliver on our promises would mean loss of credibility with the Alaska public and long term damage to valuable working relationships with the state, its regulatory agencies and citizen oversight groups.

That is a price too steep to pay.

BP Amoco is a company that keeps its commitments.

Four years ago, we promised to build Northstar production facilities in Alaska. Despite lawsuits and permitting delays, those modules are under construction in Anchorage today.

Finally, concerns have been raised about the time allowed Alaskans to review and comment on the Charter.

While the agreement has been on the street for two weeks, this issue has been before us for seven months.

The Knowles Administration brought in national experts and considered input from a broad cross section of Alaskans in formulating the state's position.

That position was laid out for the public in a major speech last summer.

It is no accident that the Charter looks like the agreement described at that time.

Our goal is to complete this acquisition before the end of the year.

I suggest today, that this should be your goal also.

There is a tremendous prize to achieve. The acquisition creates the potential to halt the decline of North Slope oil production and increase production over the next five years.

Significant progress towards this prize can't occur until the production, acreage and asset sales required under the Charter are completed.

The participation of another major company is now required to achieve our goals. We need them here as quickly as possible.

When this situation is resolved, activity levels on the North Slope will pick up.

It is time to end this uncertainty – for oil field service companies, for contractors and for ARCO and BP Amoco employees who are still waiting to know their status.

It is time to go back to work.

Mr. Chairman, that concludes my testimony.

To help in answering the committee's questions, I have asked some key members of my management team to join me today. I'd like to introduce them before we proceed.

Testimony
Kevin Meyers, President
ARCO Alaska, Inc. for
Joint Special Committee on Mergers
Alaska Legislature
November 18, 1999

Mr. Chairman, members of the committee

Thank you for the opportunity to appear before you today.

For the record, I am Kevin Meyers, president of ARCO
Alaska, Inc.

I am here today to urge the members of the committee to
support the merger of ARCO and BP Amoco and the draft Charter.
Finalizing this merger will be a step forward for the companies, our
employees, our shareholders and the people of Alaska.

Concluding the BP Amoco-ARCO merger will bring stability to what has been a year of change in the oil industry. Since oil hit an all-time low of \$8.61 in December of last year, it has risen to \$26/barrel today. We've seen consolidation in the industry worldwide. The merger of BP Amoco - ARCO is a part of that consolidation and critical to Alaska's future.

The merger makes good business sense in the most basic form - economic survival and growth. With continued reductions in operating and development costs, access to exploration acreage, and a working partnership with the State, I see a long-term positive future for the oil industry in Alaska. Aligning the forces of ARCO and BP Amoco ensures investment, production and the ability to survive during the troughs and peaks of oil prices.

After months of negotiation the State of Alaska and BP Amoco have reached an agreement that addresses the concerns expressed about this merger. Most importantly, the Charter preserves most of the cost synergies and production growth the acquisition was expected to deliver in Alaska, while bringing one or more new major players to Alaska.

I would like to stress a very real sense of urgency to completing this merger and ratifying the Charter. It's time to move forward with this approval. Alaskans benefit from a strong oil industry; one that can compete globally for the capital needed to develop Alaska's resources.

Approval of this merger sends a message to the major players in the oil industry and the business community as a whole. It tells them that Alaska is truly open for business and willing to work as partners with the industry for responsible development of the State's resources.

Supporting the Charter agreement will also help end the short-term uncertainty for investment plans in Alaska. With the uncertainty of the merger and now the unknown of one or more new players in Alaska, it has been hard to plan for the immediate future. Because we don't know who will ultimately own the assets, it's difficult to invest new capital.

Timing is critical as the winter construction season approaches. This winter's exploration and construction season is the driver for new production that will come on-line in the next 2-3 years. Our Alaska contractors and vendors are anxiously awaiting the outcome of the merger. This uncertainty not only affects them, but the local Alaska economies the where their employees live as well.

Finalizing the Charter agreement not only makes good business sense, it makes sense to the men and women of ARCO Alaska who have been waiting for this merger to conclude since April 1.

About 1,450 ARCO Alaska employees and 500 BP Amoco employees are waiting to hear the outcome of the merger so they may plan a future for their families. To our employees and their families, timing is critical. I am proud of what the men and women of ARCO Alaska have accomplished this year in the face of great uncertainty. I believe it's a testament to their abilities and what they will bring to their new roles in the BP Amoco family.

Many of our people have played a role in helping to build this great state. Companies like ARCO and BP have been good neighbors, while creating economic opportunity and a better quality of life for all Alaskans.

Before I conclude, I would like to repeat a statement I made in Fairbanks earlier this week because my response has been misquoted.

I was asked if given the rebound of oil price, could ARCO survive if the merger were not approved. Let me state unequivocally, ARCO, as we know it today would cease to exist if the merger were not approved.

ARCO would be an acquisition or merger target for another company. If we were not acquired, ARCO would have to continue to repair its balance sheet, while dramatically restructuring its operations worldwide. These changes would have negative impacts on our Alaska operations.

If we were acquired, that company may not have the financial strength of BP Amoco or the long-term commitment to Alaska that BP has demonstrated over the past 40 years.

Let's not forget that ARCO's senior management, board of directors and its shareholders overwhelmingly approved this merger with BP Amoco.

Thank you. I'll be happy to answer any questions.

CHARTER FOR DEVELOPMENT of the Alaskan North Slope

This Charter for Development of the Alaskan North Slope is entered between the State of Alaska, BP and ARCO on November 5, 1999.

BP and ARCO historically have been major participants in the development of oil resources on the North Slope of Alaska. ARCO discovered the giant Prudhoe Bay oil field in 1968. BP participated in the discovery of Kuparuk the following year. Both were leaders in building the Trans Alaska Pipeline System. Today, they are two of the largest interest owners and operators on the North Slope.



Gas injection and conditioning facilities in the northern portion of the Prudhoe Bay oil field

The environment for finding, developing and producing oil and gas is challenging and complex, in Alaska and the world. The giant Prudhoe Bay and Kuparuk fields are in decline. World energy markets continue to experience price volatility, competition for capital and opportunities, and financial and technical challenges to discover, develop and produce new fields. These challenges have led to large-scale industry consolidation in recent years.

Earlier this year, BP and ARCO proposed to merge. The merger and its potential impact on Alaska have been analyzed and discussed by the Governor, his Cabinet-level review team, the Legislature and the public in private, in hearings and in the media since the announcement.



Governor Knowles and Rodney Chase, President and Deputy Chief Executive Officer of BP Amoco.

There is potential both for benefit and risk to Alaska in the merger as initially proposed. In BP and ARCO's view, Alaska would benefit from the combination's financial strength and expertise, and the increased efficiencies and synergies of the combination would help make Alaska more attractive in a global oil marketplace. But Alaska would, in the State's view, lose a measure of competition, diversity and balance in the exploration, development and production of North Slope resources, and Alaska would lose the varied contributions of a leading corporate citizen.

The State of Alaska is committed to maintaining and enhancing competition, diversity and balance in the exploration, development and production of North Slope resources, sustaining and growing both oil and gas production, and ensuring that the State's natural resources are developed in an environmentally and socially sensitive and responsible manner. The State has determined therefore that its support for the merger must be conditioned upon BP and ARCO making substantial marketplace and community commitments to Alaska.

Therefore, in order to provide for greater competition, diversity, corporate responsibility, renewal and growth in the exploration, development and production of Alaskan North Slope oil and gas, the State, BP and ARCO agree to this Charter and its terms as set forth below.

I. BP and ARCO Commitments Regarding Competition, Diversity and Growth.

A. Sale of Current Production. After the merger is completed, BP and ARCO will sell the following properties in the following manner:

1. Sale of Production. BP and ARCO will sell interests in the North Slope properties producing in aggregate share not less than 175,000 barrels of working interest oil per day to one or more purchasers. For purposes of this paragraph 1.A., quantity will be measured by 1999 average daily production, except the Colville River Unit will be deemed to produce 80,000 barrels (gross) per day.

2. Sale of Interests including Kuparuk. BP and ARCO will enter into a contract of sale with a single qualified company ("Buyer A") at least 125,000 barrels of working interest oil per day, including at least 40% of the Kuparuk River Unit total interest, and will take all reasonable available steps to enable that company to become the operator of that unit. In no event will BP or ARCO continue as operator of that unit after sale of the working interest oil. For purposes of this subparagraph 2, "qualified company" means a company which is currently a joint interest owner in the Kuparuk River Unit, or a company primarily in the energy business with assets of not less than \$8 billion.



Tankage in Kuparuk Field.

3. Sale of Interests in Alpine. BP and ARCO will enter into a contract of sale with a single qualified company ("Buyer B") sufficient interest in the Colville River Unit that after the sale is completed that company will hold at least 40% of the total Colville River Unit interest. BP and ARCO will, in addition, take all reasonable available steps to enable that company to become the operator of that unit. In no event will BP or ARCO continue as operator of that unit after sale of the interest. For purposes of this subparagraph 2, "qualified company" means a company which is currently a joint interest owner in the Colville River Unit, or a company primarily in the energy business with assets of not less than \$3 billion.

4. Sale of Share of Pipelines. BP and ARCO will enter into a contract of sale with Buyer A and Buyer B for a commensurate interest in TAPS and intermediate pipelines as provided in Paragraph H.

B. Sale of NPRA Lease Interests. BP and ARCO will sell not less than 220,000 net acres of their aggregate NPRA holdings to one or more purchasers. BP and ARCO will enter a contract of sale with either Buyer A or Buyer B for not less than 100,000 net NPRA acres, including at least 40% of the net interests in one of the sections of the NPRA designated on Exhibit A to this Charter, and will take all reasonable available steps to enable that company to become the exploration operator in that section.

C. Sale or Relinquishment of State Leases. BP and ARCO will sell or relinquish at least 400,000 net acres of undeveloped state leases, including sufficient interests in onshore/non-unitized state leases to reduce their aggregate holdings in such leases to not more than 500,000 net acres. BP and ARCO will manage the sale of this acreage to result in two exploration operatorships other than BP or ARCO in material and significant geologic play fairways on the North Slope (lease groupings which the parties agree meet this requirement are listed in Exhibit B to this Charter). BP and ARCO agree to meet and confer with representatives of the Alaska Department of Natural Resources, beginning within 10 days

after the merger is completed and continuing for the period reasonably necessary to review the number, status, prospectivity and possible transfer options for all such holdings, as well as intended marketing or relinquishment plans.

D. Terms of Sales. Contracts for the full aggregate amount of the interests sold under paragraphs I.A. and I.B. will be signed within 6 months after the merger is completed and those transactions will be closed not later than 12 months after the merger is completed. Transfers under paragraph I.C. will be made within the period prescribed by law. All transfers of whole or partial interests in the properties and pipelines referenced in paragraphs I.A.-I.C. will be absolute, in good faith and with no minimum price. BP and ARCO agree that they will not reacquire interests transferred under paragraphs I.A.-I.C. by any means without advance approval of the State. Except as specifically provided in paragraphs I.A.-I.C. and otherwise in this Charter, the sales contemplated in paragraphs I.A.-I.C. may be to various parties and include interests from various units and leases as determined by BP and ARCO. BP and ARCO may retain an interest in the units and leases it sells under paragraphs I.A.-I.C., subject to the requirement that any interest retained in exploration leases be subject to non-consent provisions permitting investment by other interest owners without BP or ARCO's consent. Any transfer under paragraphs I.A.-I.C. will be subject to all necessary state and federal regulatory approvals and other requirements. BP and ARCO will use their best efforts to secure such approvals.

E. Data Availability. After the merger is completed, BP and ARCO will make their proprietary North Slope seismic and well data publicly available for purchase by any person where they have the legal right to do so. Where they do not currently have the legal right to do so, they will diligently and in good faith seek permission from the other joint interest owners to make the data available. Unless otherwise approved by the State, BP and ARCO will make the data available by contracting with a third party company that will market the data at prices it independently determines. BP and ARCO will ensure that the data is publicly available as soon as is reasonably practicable but in all events not longer than 3 months after the merger is completed. BP and ARCO will provide the State with (1) a list of which of their North Slope seismic and well data can be made available on their own and which requires the consent of parties other than BP or ARCO, and (2) a list or lists showing all of BP and ARCO's North Slope seismic and well data from 1958 on indicating the acquisition area, the size of the acquisition area, the ownership status (sole, joint, group shoot, trade, purchase or license), when the data was acquired, the survey type, and the operator and the contractor. For data acquired after 1984, these lists will be provided as soon as is reasonably practicable but in all events before December 31, 1999. For data acquired before 1985, these lists will be provided as soon as is reasonably practicable but in all events within 3 months after the merger is completed.

F. Facilities Access.

1. In the State's view, the Commissioner of Natural Resources possesses the statutory, regulatory and contractual authority to require working interest owners in DNR-approved units to provide others access to existing production and other lease facilities, on terms that are non-discriminatory, just and reasonable. The Commissioner may require access whenever necessary to maximize the economic and physical recovery of the State's oil or gas resources, maximize competition among parties seeking to explore and develop the resources, minimize the adverse effects of exploration, development, production and transportation activity, and otherwise to protect the best interests of the State. Binding arbitration between BP or ARCO and others under subparagraph 2 does not affect the Commissioner's authority to resolve questions of facility access.

2. BP and ARCO currently take no position on the State's view. BP and ARCO nevertheless commit that, after the merger is completed, neither BP nor ARCO will unreasonably withhold their voting support as facilities owners for allowing nearby satellites to have access to existing unit facilities on reasonable commercial terms. BP and ARCO agree that if a nearby satellite owner reasonably and diligently negotiates to unsuccessful impasse with facilities owners that include BP or ARCO, and after 90 day advance notice to BP and ARCO, BP and ARCO agree to subject themselves to binding arbitration governed by the rules of the American Arbitration Association on the question of reasonable commercial terms for that access.



Processing Facility at Kuparuk.

G. Purchases From Minor Interest Owners. After the merger is completed, BP and ARCO agree to offer any producer of up to 5,000 barrels per day the terms reflected in the form purchase contract which is Exhibit C to this Charter. BP and ARCO may limit the total purchased under all such contracts to 25,000 barrels per day. Only barrels acquired through a production interest count against the 25,000 barrels per day limit.

H. Divestiture of TAPS and Feeder Lines.

1. In order to satisfy the State's concern that the purchasers of the production interests sold under paragraph I.A. of this Charter (the "Transferee(s)") be similarly situated to BP and ARCO by ownership in TAPS, within the time frame established for paragraph I.A. transfers, BP or ARCO will enter into a contract with each Transferee to sell a share of BP and ARCO's combined interest in TAPS sufficient to carry the production sold to that Transferee. For purposes of this paragraph I.H., production quantity will be measured in the same manner as under paragraph I.A. and TAPS capacity will be measured in accordance with the Amended and Restated Capacity Settlement Agreement in the fixed amount of 1380 mbd.

2. After all contracts contemplated in subparagraph 1 have been entered, and during the remaining term of this Charter, BP or ARCO will offer to sell additional interests in TAPS to any person requesting to purchase a share in TAPS, up to a total aggregate amount under this paragraph I.H. of 22.3547% of total TAPS ownership. The additional transfers contemplated by this subparagraph 2 will be in minimum increments of 2% of total TAPS ownership, valued at not more than the ad valorem tax value as of the time of the offer, less 5%. The parties agree that the price at which the TAPS interest is sold will not be precedent in any property tax proceeding regarding the value of TAPS.

3. Within the time frame established for paragraph I.A. transfers, BP and ARCO will enter into a contract with each Transferee to sell to that Transferee a separate share of BP and ARCO's aggregate interest in the Oliktok pipeline and in each of the intermediate crude oil common carrier pipelines serving the specific units in which the production interests to be transferred to that Transferee are located (the "relevant intermediate pipelines"). The ownership interest in each relevant intermediate pipeline to be sold to each Transferee will be equal to the percentage which the production sold under paragraph I.A. to that Transferee flowing through that pipeline bears to the overall throughput of that pipeline. The relevant production and throughput levels will be measured in the same manner as under paragraph I.A. The percentage of the Oliktok pipeline to be sold will be equal to the percentage share of the KRU sold pursuant to subparagraph I.A.2.

4. Any transfer under this paragraph I.H. will be subject to all necessary state and federal regulatory approvals and any preference rights and required approvals of the other TAPS and relevant intermediate pipeline owners. BP and ARCO will use their best efforts to secure such approvals. BP and ARCO will vote their entire interest in TAPS and the relevant intermediate pipelines in support of any such transfer. In the event any other TAPS or relevant intermediate pipeline owner exercises its preference rights with respect to the sale of a pipeline interest pursuant to subparagraphs 1, 2 or 3 hereof, the sale to that other owner will be considered a sale satisfying the obligations of that subparagraph.

I. Offer to Sell Excess Jones Act Ships. If BP's and ARCO's combined long-term ANS Jones Act fleet requirements are such that one or more ships becomes surplus of those requirements, BP or ARCO (as the case may be), will offer to sell the surplus ship or ships to other ANS producers on reasonable commercial terms. If BP or ARCO does not own the ship or ships, it will not object to arrangements by another ANS producer to acquire the ship or ships from the owner. Further, in the event that the purchaser of the ship or ships seeks ship operation services from the Alaska Tanker Company, Inc., BP will not object. Nothing in this paragraph requires BP or ARCO to assume any liability of another ANS producer concerning any of these transactions.

J. Natural Gas.

1. During the period through December 31, 2001, BP Amoco and Arco agree to commit up to 1.2 billion cubic feet per day of working interest gas to a project to commercialize Alaska North Slope gas, that meets the following criteria by such date:



Prudhoe Bay Central Gas Facility.

- a. The project has sufficient financial backing to underpin a long term 100% take or pay arrangement from the purchaser if the project requires a long term gas sales commitment from the producer(s).
- b. The project has the demonstrated ability to acquire all requisite governmental and partner approvals.
- c. The project commits to a project schedule which includes full ramp-up no later than 2010.
- d. If the project is an LNG project, it must have a minimum netback price for the gas of $P = \$1.00 * (WTI/\$17.50)$ where "P" is the Price per MMBtu applicable to the month of delivery; "WTI" is the Final Settlement price for NYMEX West Texas Intermediate Crude Oil contract for the prompt month. BP Amoco or Arco shall realize the above netback after payment of any taxes, including severance, fees or assessments imposed with respect to the gas at and after the delivery point.
- e. If the project is a pipeline to the Lower 48, it will have a defined tariff structure applicable to gas transported on behalf of BP Amoco or Arco resulting in a total volumetric tariff to Chicago of \$1.60/mcf transported, or less.

BP Amoco or Arco may put forward their own project to take advantage of this commitment.

If more than one project meets the criteria set forth above before December 31, 2001, then the project that offers the highest product of wellhead netback price (net of production, severance or other taxes or fees) times sales volume during the first five years of its life will receive the gas commitment.

2. To be eligible for this commitment, the project shall also be subject to the following :

a. The delivery point for gas will be the Residue gas discharge point of the Low Temperature Separators at the Prudhoe Bay Unit Central Gas Facility, or such other point as agreed by the Parties.

b. The gas will be taken at normal operating conditions at the Residue gas discharge point of the Low Temperature Separators at the Prudhoe Bay Unit Central Gas Facility, or such other point as agreed by the Parties.

c. BP Amoco or Arco will retain the right to recover the liquids contained in the gas stream delivered to any downstream delivery point(s) or extracted while in transit on any pipeline.

II. BP and ARCO's Environmental and Community Commitments.

A. North Slope Environmental Commitments. After the merger is completed, BP and ARCO will take the following steps to improve and protect the environment on the North Slope.

1. Cleanup of Abandoned Sites. BP and ARCO will take a leadership role in the assessment and environmental clean up of the North Slope "orphan sites" identified in Exhibit D1, up to a maximum expenditure under this paragraph II.A.1. of \$10,000,000. In carrying out this role, BP and ARCO will consult with the Alaska Department of Environmental Conservation (ADEC) concerning site goals, standards and methods and will substantially complete the assessment and cleanup to the standards approved by ADEC under applicable law within six years after the merger is completed. In addition, BP and ARCO will work cooperatively with ADEC to develop a joint database of North Slope contaminated and solid waste "orphan sites" which includes the nature and location of the sites, the responsible parties and the relative priority for cleanup of each site based upon preliminary evaluation of the risk of harm to human health and the environment posed by the site. BP and ARCO will meet and confer with ADEC from time to time thereafter to arrange for priority re-ordering and substitutions and additions to Exhibit D1 as requested by ADEC, subject to the spending cap identified above and to the further requirements that there is no known viable responsible party for any substitute or additional site and the site has been wholly vacated.

2. Cleanup of Abandoned Empty Barrels. BP and ARCO will require contractors conducting seismic or exploration work for them to collect and deliver abandoned empty barrels to BP or ARCO operations for handling, to inventory and map locations of empty barrels and barrels containing product, and to report any visible signs of ground contamination associated with the barrels. BP and ARCO will periodically report to ADEC regarding this effort and provide ADEC with the inventory lists, maps and reports which are developed.

3. Cleanup of Existing BP and ARCO Sites. BP and ARCO will assess and clean to the standards approved by ADEC under applicable law the contaminated sites listed on Exhibit D2. BP and ARCO will work cooperatively with ADEC and the land manager to develop cleanup plans and schedules to complete required assessment and cleanup activities at these sites. Assessment and cleanup activities at sites which are currently accessible will be substantially completed by year-end 2005 for the sites listed as "high" priority sites in

Exhibit D2 and by year-end 2007 for the remainder. Sites which due to operational restrictions cannot be fully cleaned until facility or equipment abandonment will be identified by BP, ARCO and ADEC for completion according to a mutually agreed schedule. Nothing in this paragraph is intended to eliminate or supercede any other obligations BP or ARCO may have to assess, cleanup or restore these or any other sites.

4. Cleanup of Inactive Reserve Pits. BP and ARCO will comply with the requirements of 18 AAC 60.440 with respect to their inactive reserve pit sites and will close the inactive reserve pits subject to the Order dated May 3, 1993 in Natural Resources Defense Council Inc. v. ARCO Alaska, Inc., No. A88- 287 CIV (D. Alaska) as amended within the designated time period established by the court in that matter, and will close other ARCO and BP inactive reserve pits listed on Exhibit D.3.A. by the end of 2007 (except that in the event of currently unprojected operational delay affecting any BP site, that site may be completed on a separate mutually agreed schedule). BP and ARCO will close the ARCO and BP inactive reserve pits listed on Exhibit D.3.B. according to a mutually agreed schedule that ends a reasonable period after work on the D.3.A. sites has been completed.

5. Commitment to North Slope Spill Response. BP and ARCO will support, at their proportion- ate share, an independent professional North Slope spill response organization, such as Alaska Clean Seas or a substantially equivalent organization, and will encourage the fullest possible participation in this organization by all North Slope producers. BP and ARCO will support and vote in favor of funding to the North Slope oil spill response organization for an Arctic spill response research and development program (jointly agreed to by the spill response organization, BP, ARCO and ADEC) at an average annual level of not less than \$200,000 during the 10 year period following completion of the merger.

6. Commitment to Corrosion Monitoring. BP and ARCO will, in consultation with ADEC, develop a performance management program for the regular review of BP's and ARCO's corrosion monitoring and related practices for non-common carrier North Slope pipelines. This program will include meet and confer working sessions between BP, ARCO and ADEC, scheduled on average twice per year, reports by BP and ARCO of their current and projected monitoring, maintenance and inspection practices to assess and to remedy potential or actual corrosion in these lines, and ongoing consultation with ADEC regarding environmental control technologies and management practices.

7. Additional Expenditure Commitment. BP and ARCO will pay or spend up to an aggregate total of \$500,000 each year during the 10 year period following completion of the merger for any combination of the following as requested annually in writing by the ADEC Commissioner: additional orphan site assessment or cleanup in excess of cap established in subparagraph 1; additional Arctic spill response research and development in excess of amount established in subparagraph 5; and/or an expert or experts chosen by ADEC to provide expert advice to ADEC regarding pipeline corrosion issues.

B. Marine Environmental Commitments.

1. Renewed Commitment to OPA 90. BP and ARCO renew their commitment that neither of them will seek to be relieved of the vessel retirement or replacement requirements of the federal Oil Pollution Act of 1990 (OPA 90), nor will either of them lobby for a reduction in its current requirements, nor will they take any other action to extend the retirement dates of the non-double-hulled tankers in their combined fleet beyond the currently scheduled retirement dates .



Oil Tanker in Prince William Sound.

2. Replacement Vessels. In furtherance of their continuing commitment to meet or exceed the OPA 90 standards and timetable, BP and ARCO will complete the purchase and delivery of the three ARCO Millennium class tankers on current order to replace single hulled tankers now used in the combined fleet, and will order and purchase additional tankers to meet their combined fleet requirements on average one year earlier than required by OPA 90, with the expected result that the combined fleets will be entirely double-hulled by mid-year 2007. These additional purchased tankers will each have safety related attributes substantially equivalent to or better than Millennium or Cape class tankers, including new build double-hulls (wholly new construction), main power plant redundancy, twin propellers, twin rudders, twin independent sets of steering gear, and proven electronics (including navigation, course tracking, collision alarms, engine room monitoring, cargo and ballast monitoring, and fire and safety systems).

3. Marine Operations. After the merger is completed, BP and ARCO will continue to encourage and support the company operating ANS tankers for them in using a performance management program for the regular review of its practices related to its management and operations including a safe environment, training and qualifications, and vessel operation, maintenance and management procedures. The parties expect this program will include meet and confer working sessions between the operating company and ADEC, scheduled on average once per year, reports at those working sessions by the operating company of their current and anticipated management and operations practices, ongoing consultation between the operating company and ADEC regarding ANS trade tanker management and operations practices, and the involvement of BP and ARCO in those sessions and consultations on a monitoring basis. In addition, BP and ARCO will encourage the operating company to allow the opportunity for ADEC to observe management and vessel audits performed as part of a certification or re-certification process for the International Maritime Organization's International Safety Management Code or for the International Standards Organization.

C. Continued Commitment to Alaska Hire.

1. Alaska Hire Program. BP and ARCO agree that, after the merger is completed, they will continue with and extend their commitment to the people of Alaska to utilize a voluntary program to employ residents of Alaska and to use Alaska businesses. It is expected by the parties that this program will include the attributes that:

- a. BP and ARCO will comply with all valid federal, State and local hiring laws in hiring Alaska residents and contractors, and within the constraints of law will employ Alaska residents and contractors to the extent they are available and qualified;
- b. When recruiting for new hires, BP and ARCO will advertise for available

positions locally and use Alaska job service organizations to notify the Alaskan public;

c. BP and ARCO will use best efforts to contract with Alaska firms and fabricate modules in Alaska whenever feasible (in determining feasibility, BP and ARCO will consider commercial, health, safety, and environmental conditions and requirements to ensure maintenance of BP and ARCO's operational standards); and

d. BP and ARCO will, to the extent permitted by law, encourage its contractors to employ, and train when necessary, residents of Alaska.

2. Reporting. BP and ARCO agree to submit to the Director, Division of Oil and Gas, for transmission to the Department of Labor, an annual report that details the specific measures that they and their contractors and subcontractors have taken or are planning to take to recruit qualified Alaska residents for available jobs, describes on-the-job training opportunities, and describes their efforts to use Alaska businesses for work in connection with their leases and associated activities. BP and ARCO will also furnish the Department of Labor a quarterly report regarding their employment of Alaska residents. The report will include statistical data concerning the number of resident personnel hired within the previous year.

3. Construction. The program and reporting described in this paragraph are intended to be fully consistent with the 1996 amendments to paragraphs 41 (1980 leases) and 31 (1983 lease) of the Northstar Unit leases between the State and BP.

4. Alaska Native Recruitment, Training and Hire. BP and ARCO further acknowledge their continuing support for the recruiting, training and hiring of Alaska Natives and the parties' common understanding of the desirability of providing Alaska's first citizens opportunities to participate in the economic benefits of oil and gas development, most of which takes place in rural Alaska.

D. Community Charitable Commitment. Within three months after the merger is completed, BP and ARCO will establish a charitable entity dedicated to funding organizations and causes within Alaska. The entity will provide 30% of its giving to the University of Alaska Foundation and the remainder to general community needs. Funding decisions by the entity will be made by BP and ARCO, with the advice of a board of community advisors. BP and ARCO will provide ongoing funding to this entity in an amount that is equal to .2% of BP's and ARCO's combined aggregate net Alaska liquids production after royalty times the price for WTI. Specific entity funding levels will be calculated annually, on the same date each year, referencing the liquids production and the average NYMEX WTI prompt month settlement price for the 12 months immediately preceding the calculation.

III. Alaska's Commitments.

The State of Alaska finds that this Charter adequately addresses the concerns raised by the State during its merger review, that this Charter will provide for greater competition, diversity, corporate responsibility, renewal and growth in the exploration, development and production of Alaskan North Slope oil and gas and is by virtue of these significant benefits in the best interest of Alaska and its people. The State accordingly agrees that, in exchange for BP's and ARCO's fulfillment of their obligations under this Charter, it will not seek to enjoin the merger or seek additional orders or judgments under AS 45.50.580 related to a claim that the merger is unlawful under AS 45.50.568.

IV. BP Amoco, p.l.c.'s Commitments.

BP Amoco, p.l.c. acknowledges that, after the merger is completed, it will be the ultimate parent company of the BP and ARCO corporate entities owning the Alaska assets which are the subject of this

Charter and which accordingly are the primary parties with the State of Alaska herein. In order to provide further assurance to the State that the commitments made in this Charter by these primary parties are fulfilled in all respects, BP Amoco, p.l.c. guarantees that (1) these BP and ARCO corporate entities, or such other BP/ ARCO Group companies to which the obligations under this Charter are assigned or otherwise transferred, will remain fully capable during the term of this Charter to fulfill all commitments made by them herein and (2) if for any reason a commitment made by them in this Charter goes unfulfilled past the time performance is due, BP Amoco, p.l.c. will cause that performance to be otherwise fulfilled.

V. General Provisions.

A. Definitions. As used in this Charter: "State" and "state of Alaska" means the State of Alaska, through its Governor, Attorney General and Commissioners of Natural Resources and Revenue; "BP" means BP Exploration (Alaska) Inc.; "ARCO" means ARCO Alaska, Inc.; "merger" means the proposed merger between BP and ARCO's parent companies; the merger is "completed" on the earliest of the date of closing, the effective date of the merger, or the first day after ARCO parent stock is exchanged for BP parent stock; "sell" and "transfer" mean divest; "well data" includes, in digital and analog format, any mud log, lithology log, wireline well logs, conventional core and sidewall core descriptions, repeat formation tester, log curve, directional survey, velocity survey, vertical seismic profile, geologic markers, test result, test summary, porosity and permeability data, biostratigraphic data, palynology and paleontology data, geochemical data, vitrinite reflectance data, petrographic data, and completion reports, regarding onshore or offshore exploration acreage west of the Canning River onshore and west of and including the Kuvlum prospect offshore; "seismic data" includes all seismic and ancillary data required to interpret or reprocess a seismic survey including digital files in standard exchange formats containing survey and location data, original field records, final stack and migrated processed data, final stacking and migration velocities, and a report describing the acquisition and processing of the data, regarding onshore or offshore acreage west of the Canning River onshore and west of and including the Kuvlum prospect offshore.

B. Enforcement. This Charter is governed by Alaska law. The parties agree that, except as provided in Section V.C., it may be enforced as a contract by (a) the Attorney General (for Alaska) and (b) its authorized representatives (for BP and ARCO) in any state or federal court in Alaska, the commitments made in this Charter may be specifically enforced, a trustee may be appointed by the court in such an action to effectuate any property transfers not accomplished as committed, and the court may also order any other appropriate remedy consistent with law. If BP, ARCO and the Federal Trade Commission enter into a consent decree or other agreement related to the merger, the terms of that decree or agreement that relate directly to or affect Alaskan assets or activities within or touching Alaskan waters may be incorporated by the State into this Charter by reference, and are enforceable by the State as though fully set forth herein. BP and ARCO acknowledge that they are subject to the personal jurisdiction of any state or federal court within the State of Alaska for the purposes of enforcing the terms of this Charter. BP Amoco, p.l.c. consents to the jurisdiction of any state or federal court within the State of Alaska for the purposes of enforcing its commitments under section IV of this Charter.

C. Enforcement of Section II. Commitments. Section II of this Charter contains corporate citizenship commitments to the Alaskan community at large. The parties do not intend for them to be enforced by lawsuits but to be judged in the forum of public opinion, and no right of action is created with respect to them.

D. Construction. This Charter may be amended only in writing by the principals to this agreement or their successors. This Charter will be binding on the parties and their respective successors and assigns, and is not intended to confer any rights or remedies upon any other persons (as used herein, "assigns" includes a transferee of substantially all of the assets of BP or ARCO but does not otherwise include a transferee of property, under this Charter or otherwise). Except as otherwise provided in this

Charter, nothing herein shall be construed to impose a duty or obligation on BP or ARCO to make any additional agreements with or concessions to any other governmental or regulatory body. Where an act required of BP or ARCO under this Charter is subject to regulatory approval or action, the time limits stated in this Charter will be deemed extended as may be necessary to accommodate the time involved in securing those regulatory approvals if BP and ARCO have acted with reasonable diligence in obtaining those approvals.

D. Reporting, Notice and Access to Records.

1. BP and ARCO will submit an initial compliance report at the time they execute this Charter and will submit additional compliance reports beginning thirty (30) days from the date when this Charter is entered, and every thirty (30) days thereafter until the divestitures required under Section I have been completed or a trustee is appointed. Such reports will be in writing and each such report shall include, for each person who during the preceding thirty (30) days made an offer, expressed an interest or desire to acquire, entered into negotiations to acquire, or made an inquiry about acquiring any ownership interest in all or any portion of the divestiture assets, the name, address, and telephone number of that person and a detailed description of each contact with that person during that period. BP and ARCO will maintain full records of all efforts made to divest the assets under Section I.

2. BP and ARCO will notify the State of any proposed divestiture within two (2) business days following execution of a letter of intent or agreement for sale of the assets under Section I. The notice shall set forth the details of the proposed transaction and list the name, address, and telephone number of each person not previously identified who offered or expressed an interest in or desire to acquire any ownership interest in the divestiture assets. Within fifteen (10) days after receipt of the notice, the State may request additional information concerning the proposed divestiture, the proposed Purchaser, and any other potential Purchaser. BP Amoco and ARCO will furnish the additional information within fifteen (10) days of the receipt of the request. Within thirty (20) days after receipt of the notice or within fifteen (10) days after receipt of the additional information, whichever is later, the State will notify BP and ARCO in writing if it objects to the proposed divestiture. If the State fails to object within the period specified, or if the State provides notice that it does not object, then the divestiture may be consummated. If the State objects, the proposed divestiture may not be accomplished unless ordered by a court of competent jurisdiction.

3. For the purpose of determining or securing compliance with this Charter, and subject to any legally recognized privilege and reasonable notice, the State will be permitted access during office hours to inspect and copy all books, ledgers, accounts, correspondence, memoranda, and other records and documents in the possession or under the control of BP or ARCO relevant to BP or ARCO's compliance with this Charter. Subject to the reasonable convenience of BP and ARCO, and without restraint or interference from them, the State may interview their directors, officers, employees, and agents regarding any such matters. No information or documents obtained by the State under this paragraph shall be divulged by any representative of the State to any person other than a duly authorized representative of the Attorney General, except in the course of legal proceedings to which the State is a party, or for the purpose of securing compliance with this Charter, or as otherwise required by law.

F. Effectiveness. This Charter shall be effective as of the date it is entered as written above. This Charter shall remain fully effective thereafter, except in the event that the merger shall not be completed by June 30, 2000, then any party may terminate this Charter by written notice to all other parties, in which event this Charter shall become null and void and of no effect, as if it were never entered.

G. Term of Charter and Action Period. This Charter will remain in effect through January 15, 2008. No action alleging a failure of performance under this Charter may be commenced more than four years after the alleged failure, and no action alleging a failure of performance under this Charter may be commenced in any event after January 15, 2009.

H. Attorneys Fees. Within 30 days of the effective day of this Charter, BP and ARCO will pay the State \$_____ as reimbursement for its attorney's fees and costs reasonably incurred in connection with the merger.

I. Warranty of Authority. Each of the persons signing below represent and warrant that he has the authority to execute this Charter on behalf of the party for which he signs. BP and ARCO specifically warrant and represent that they are fully authorized and able to make, and to ensure the performance of, the commitments made herein and that, with respect to any Alaska assets currently owned by affiliates, they have taken or will take such steps as are necessary to ensure that the commitments they make herein are accomplished.

Signatures:

STATE OF ALASKA

by_____ Tony Knowles, Governor

by_____ Bruce Botelho, Attorney General

by_____ John Shively, Commissioner of Natural Resources

by_____ Wilson Condon, Commissioner of Revenue

BP EXPLORATION (ALASKA) INC.

by_____ Richard Campbell, President

ARCO ALASKA, INC.

by_____ Kevin Meyers, President

BP AMOCO, p.l.c.

by_____ John Browne, CEO



**CHARTER FOR DEVELOPMENT
of the Alaskan North Slope
EXHIBIT A**

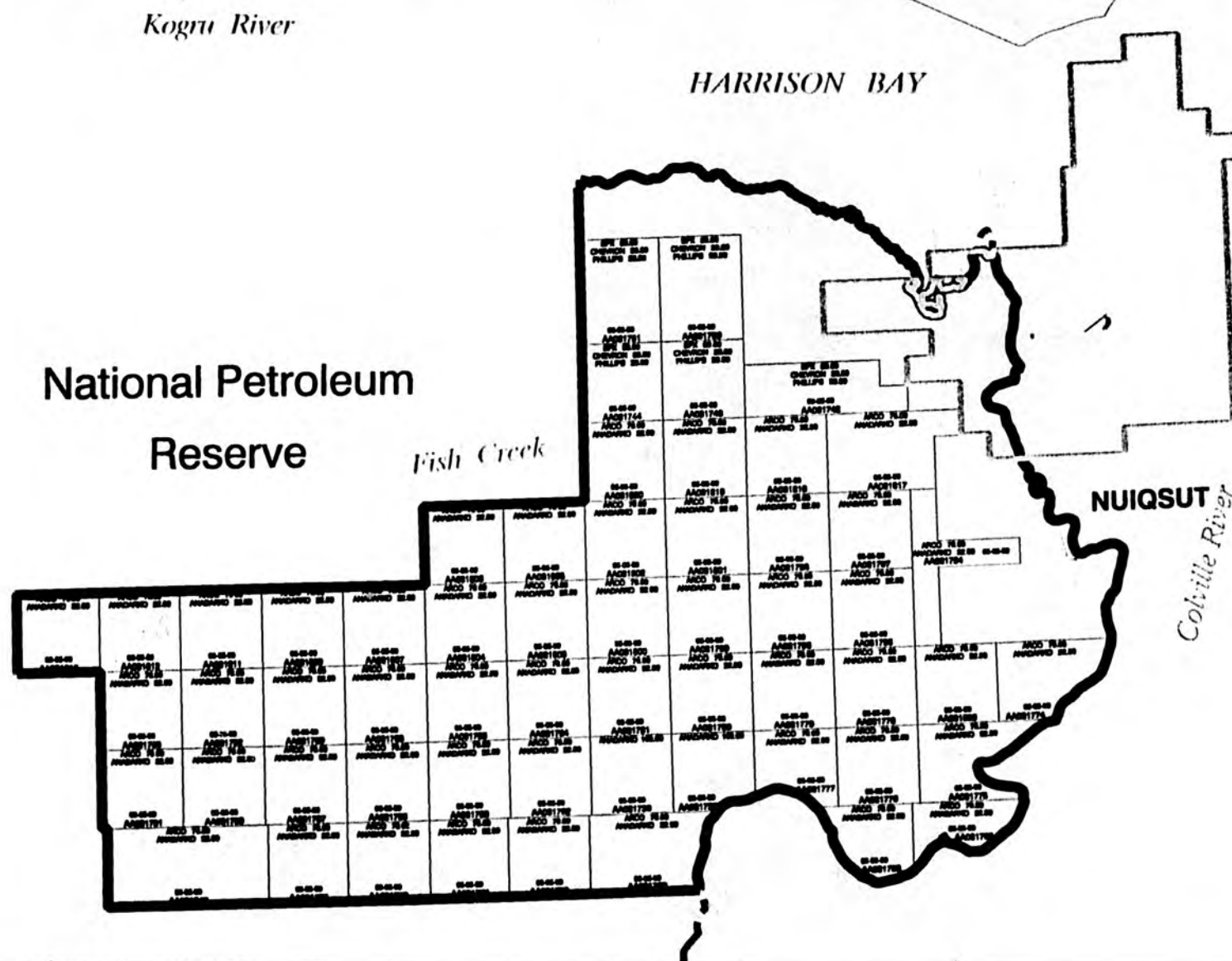
Potential New Northeast NPR-A Operating Areas

Project Area	BP & ARCO Lease Holdings				
NPR-A Northwest	991-L-259	991-L-265	991-L-270	991-L-273	
	991-L-263	991-L-266	991-L-271	991-L-274	
	991-L-264	991-L-269	991-L-272	991-L-275	
NPR-A Central	991-H-057	991-H-081	991-H-104	991-H-119	991-H-140
	991-H-058	991-H-082	991-H-105	991-H-120	991-H-141
	991-H-061	991-H-083	991-H-108	991-H-121	991-H-142
	991-H-062	991-H-084	991-H-109	991-H-122	991-H-143
	991-H-065	991-H-085	991-H-111	991-H-123	991-H-156
	991-H-074	991-H-086	991-H-112	991-H-132	991-L-225
	991-H-075	991-H-088	991-H-113	991-H-134	991-L-236
	991-H-076	991-H-089	991-H-114	991-H-135	991-L-237
	991-H-077	991-H-093	991-H-115	991-H-136	991-L-239
	991-H-078	991-H-096	991-H-116	991-H-137	
	991-H-079	991-H-100	991-H-117	991-H-138	
	991-H-080	991-H-101	991-H-118	991-H-139	
NPR-A Southeast	991-H-007	991-H-024	991-H-037	991-H-049	991-H-068
	991-H-008	991-H-025	991-H-038	991-H-050	991-H-069
	991-H-010	991-H-026	991-H-039	991-H-051	991-H-070
	991-H-013	991-H-028	991-H-040	991-H-052	991-H-071
	991-H-014	991-H-029	991-H-041	991-H-053	991-H-072
	991-H-017	991-H-030	991-H-042	991-H-054	991-H-073
	991-H-018	991-H-031	991-H-043	991-H-055	991-H-098
	991-H-019	991-H-032	991-H-044	991-H-056	991-H-099
	991-H-020	991-H-033	991-H-045	991-H-059	991-L-171
	991-H-021	991-H-034	991-H-046	991-H-060	
	991-H-022	991-H-035	991-H-047	991-H-063	
	991-H-023	991-H-036	991-H-048	991-H-067	



NPR-A SOUTHEAST

Exhibit A



se_npra



NPR-A CENTRAL

Exhibit A

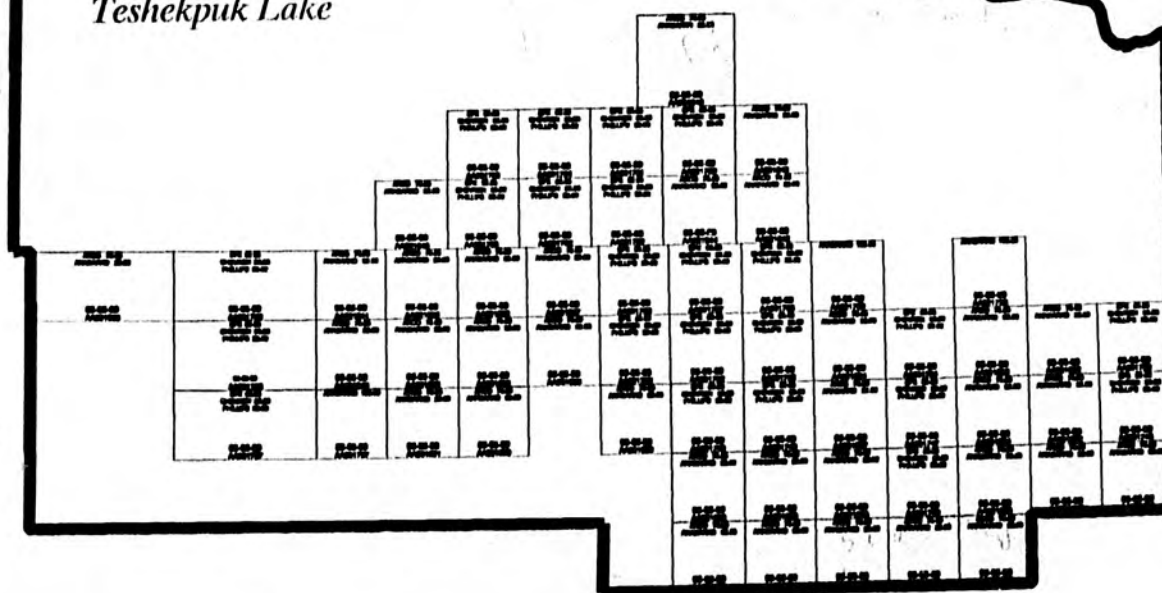
Smith Bay

LONGLY

Harrison Bay

Teshekpuk Lake

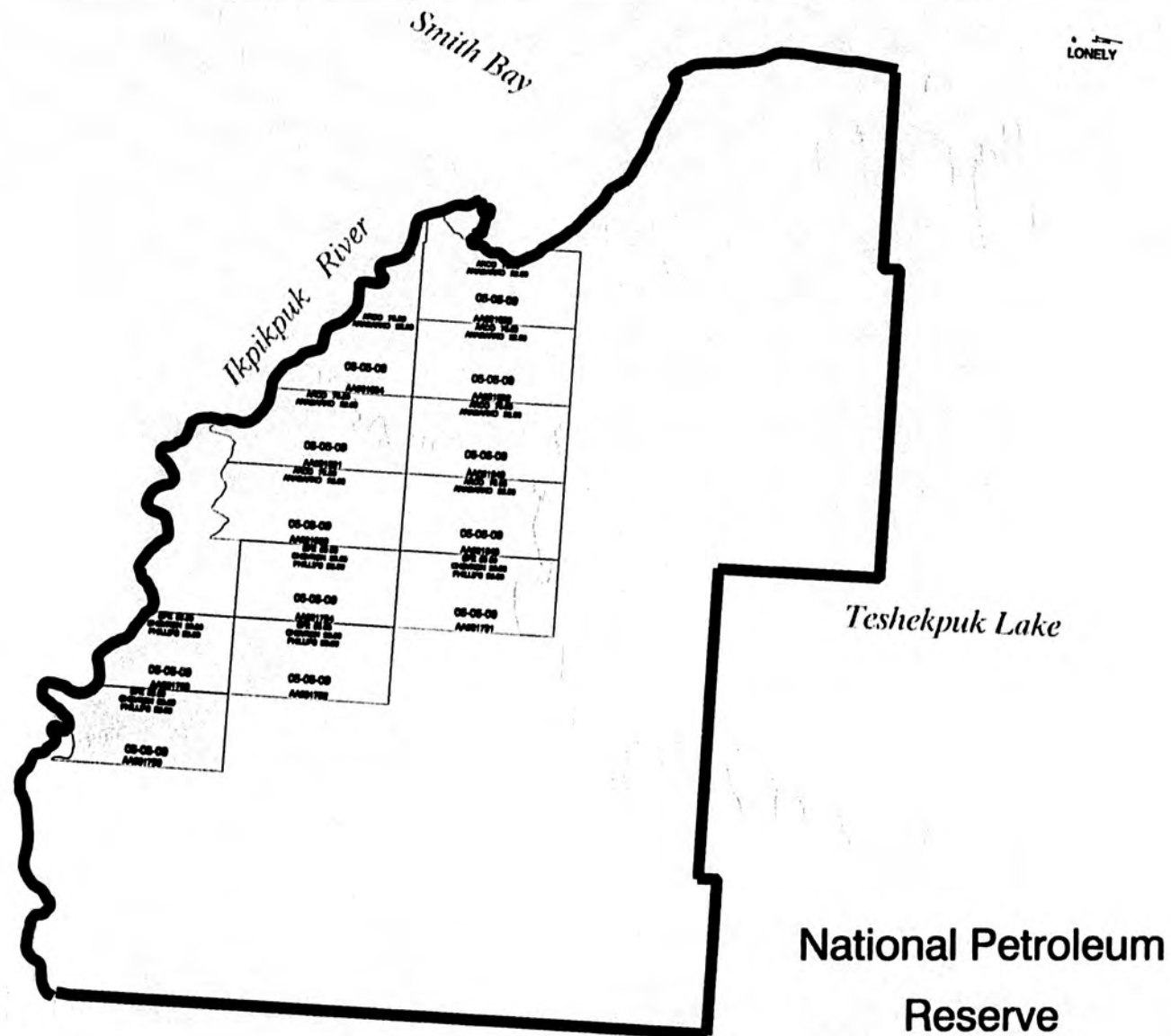
National Petroleum
Reserve



central_npra



Exhibit A



nw,npra

**CHARTER FOR DEVELOPMENT
of the Alaskan North Slope
EXHIBIT B**

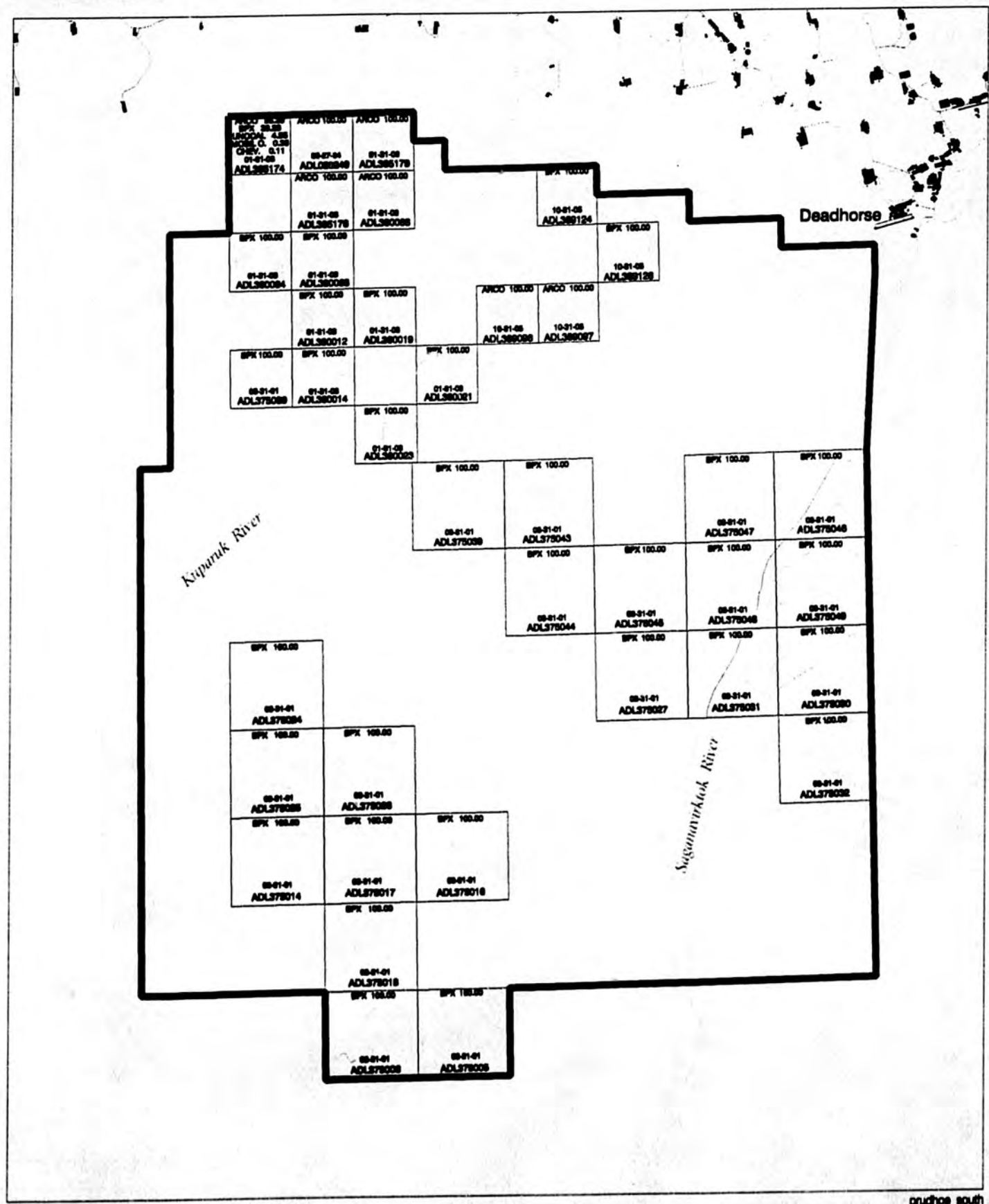
Potential New North Slope Operating Areas

Project Area	BP & ARCO Lease Holdings				
Genesee	AK ADL 377025	AK ADL 377048	AK ADL 388446	AK ADL 388479	AK ADL 388487
	AK ADL 377027	AK ADL 388434	AK ADL 388448	AK ADL 388480	AK ADL 388553
	AK ADL 377038	AK ADL 388437	AK ADL 388475	AK ADL 388482	OCS-Y-1649
	AK ADL 377039	AK ADL 388442	AK ADL 388476	AK ADL 388483	OCS-Y-1678
	AK ADL 377044	AK ADL 388443	AK ADL 388477	AK ADL 388485	OCS-Y-1679
	AK ADL 377045	AK ADL 388445	AK ADL 388478	AK ADL 388486	OCS-Y-1689
Greater M. Hwater	AK ADL 389001	AK ADL 389012	AK ADL 389023	AK ADL 389040	AK ADL 389149
	AK ADL 389002	AK ADL 389013	AK ADL 389024	AK ADL 389041	AK ADL 389150
	AK ADL 389003	AK ADL 389014	AK ADL 389025	AK ADL 389042	AK ADL 389151
	AK ADL 389004	AK ADL 389015	AK ADL 389026	AK ADL 389141	AK ADL 389152
	AK ADL 389005	AK ADL 389016	AK ADL 389027	AK ADL 389142	AK ADL 389153
	AK ADL 389006	AK ADL 389017	AK ADL 389028	AK ADL 389143	AK ADL 389154
	AK ADL 389007	AK ADL 389018	AK ADL 389029	AK ADL 389144	AK ADL 389155
	AK ADL 389008	AK ADL 389019	AK ADL 389030	AK ADL 389145	AK ADL 389156
	AK ADL 389009	AK ADL 389020	AK ADL 389031	AK ADL 389146	
	AK ADL 389010	AK ADL 389021	AK ADL 389032	AK ADL 389147	
	AK ADL 389011	AK ADL 389022	AK ADL 389039	AK ADL 389148	
Kukpak Area	AK ADL 355029	AK ADL 355038	AK ADL 364476	AK ADL 388566	AK ADL 388572
	AK ADL 355031	AK ADL 355039	AK ADL 364477	AK ADL 388567	AK ADL 388573
	AK ADL 355034	AK ADL 355040	AK ADL 364478	AK ADL 388568	AK ADL 388575
	AK ADL 355035	AK ADL 364473	AK ADL 388512	AK ADL 388569	OCS-Y-1641
	AK ADL 355036	AK ADL 364474	AK ADL 388515	AK ADL 388570	OCS-Y-1642
	AK ADL 355037	AK ADL 364475	AK ADL 388564	AK ADL 388571	
McCovey	AK ADL 377055	AK ADL 388470	AK ADL 388541	AK ADL 388549	OCS-Y-1578
	AK ADL 377056	AK ADL 388471	AK ADL 388542	AK ADL 388552	OCS-Y-1580
	AK ADL 377059	AK ADL 388530	AK ADL 388543	OCS-Y-1576	
	AK ADL 377066	AK ADL 388540	AK ADL 388544	OCS-Y-1577	
Prudhoe South	AK ADL 375024	AK ADL 375025	AK ADL 375044	AK ADL 380014	AK ADL 385176
	AK ADL 375005	AK ADL 375026	AK ADL 375045	AK ADL 380019	AK ADL 385179
	AK ADL 375006	AK ADL 375027	AK ADL 375046	AK ADL 380021	AK ADL 388921
	AK ADL 375014	AK ADL 375030	AK ADL 375047	AK ADL 380023	AK ADL 389096
	AK ADL 375016	AK ADL 375031	AK ADL 375048	AK ADL 380063	AK ADL 389097
	AK ADL 375017	AK ADL 375032	AK ADL 375049	AK ADL 380064	AK ADL 389124
	AK ADL 375018	AK ADL 375039	AK ADL 375089	AK ADL 380066	AK ADL 389126
	AK ADL 375024	AK ADL 375043	AK ADL 380012	AK ADL 385174	
Prudhoe Southeast	AK ADL 385112	AK ADL 385140	AK ADL 389066	AK ADL 389073	AK ADL 389101
	AK ADL 385113	AK ADL 385148	AK ADL 389067	AK ADL 389074	AK ADL 389102
	AK ADL 385115	AK ADL 385149	AK ADL 389068	AK ADL 389075	AK ADL 389105
	AK ADL 385116	AK ADL 385150	AK ADL 389069	AK ADL 389076	AK ADL 65406
	AK ADL 385135	AK ADL 385151	AK ADL 389070	AK ADL 389098	
	AK ADL 385136	AK ADL 385152	AK ADL 389071	AK ADL 389099	
	AK ADL 385137	AK ADL 389065	AK ADL 389072	AK ADL 389100	



PRUDHOE SOUTH

Exhibit B

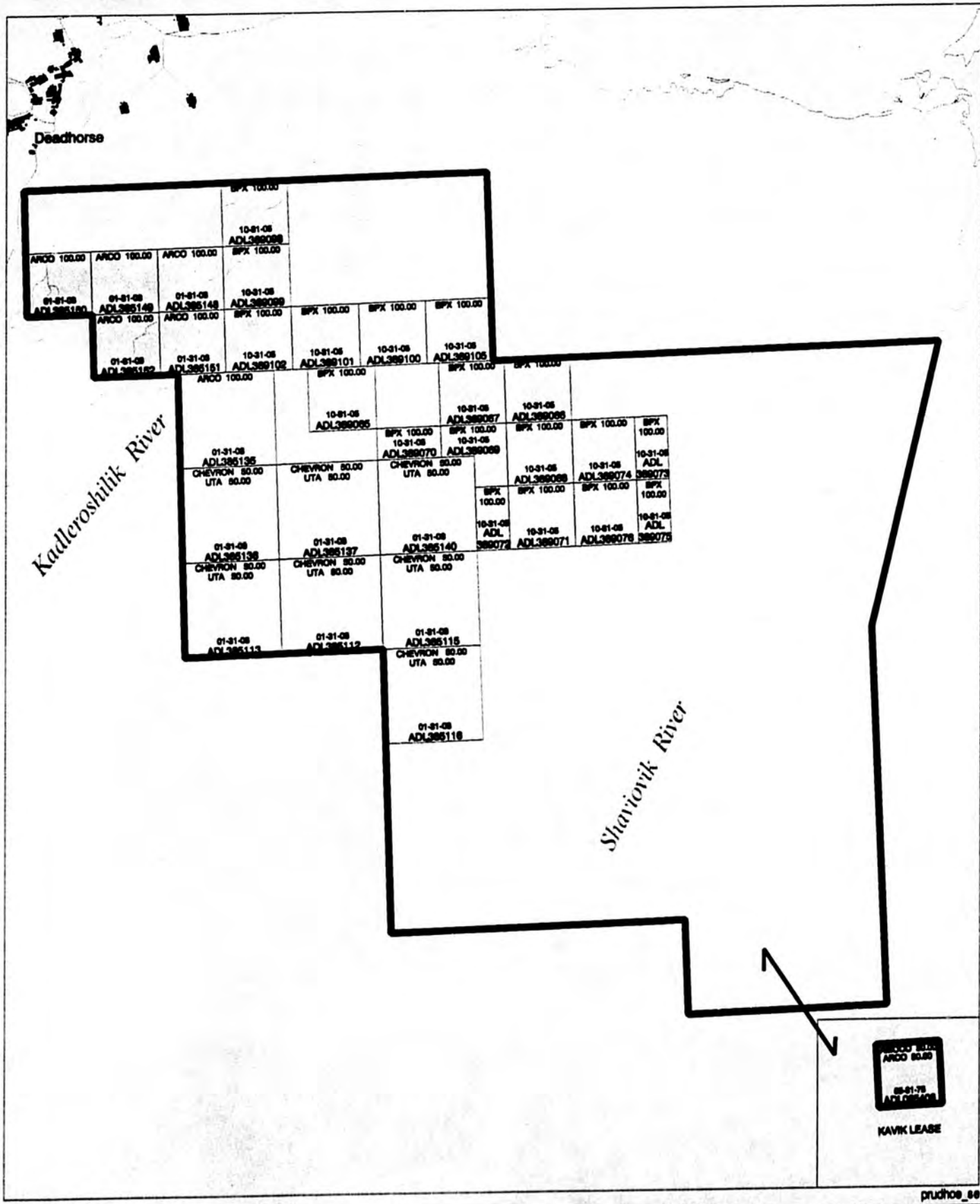


prudhoe_south



PRUDHOE SOUTHEAST

Exhibit B



prudhoe_08