STATE OF ALASKA
ALASKA OIL AND GAS CONSERVATION COMMISSION
333 West Seventh Avenue, Suite 100
Anchorage, Alaska 99501

Re: THE APPLICATION OF ConocoPhillips Alaska, Inc. for an amendment of Area Injection Order No. 18B to expand the enhanced oil recovery project in the Alpine Oil Pool, and for termination of Area Injection Order No. 27 for the Nanuq-Kuparuk Oil Pool, Colville River Unit, Arctic Slope, Alaska	) Area Injection Order No. 18C) Docket Number: AIO-08-58)) Colville River Field) Colville River Unit) Alpine Oil Pool) Nanuq-Kuparuk Oil Pool) March 26, 2009

IT APPEARING THAT:

1. ConocoPhillips Alaska, Inc. (CPAI), in its capacity as unit operator, by application dated October 10, 2008 and received December 17, 2008 by the Alaska Oil and Gas Conservation Commission (Commission), requests an order expanding the affected acreage and strata covered by Area Injection Order (AIO) No. 18B, which regulates enhanced recovery operations in the Alpine Oil Pool, and terminating AIO No. 27, which regulates enhanced recovery operations in the Nanuq-Kuparuk Oil Pool. CPAI also requests expansion of the affected acreage and strata of the Alpine Oil Pool and termination of the Nanuq-Kuparuk Oil Pool; these requests are addressed in Conservation Order No. 443B.

FINDINGS:

1. CPAI is the operator of the Colville River Unit and all non-unitized lands that are affected by this order.
2. CPAI and Anadarko Petroleum Corporation are the owners of the leases affected by this order. The State of Alaska and Arctic Slope Regional Corporation are the landowners of the affected lands.
3. Two wells recently completed in the Colville Delta No. 1 Drilling Pad (CD1) area encountered elevated pressures of 4,500 to 4,600 psi in the Kuparuk Formation (Kuparuk), which is stratigraphically above the Alpine sandstone (Alpine); the Alpine is an informal part of the Kingak Formation. Normal pressure for the Kuparuk in this area is about 3,200 psi.
4. The Char No. 1 exploratory well, which was drilled approximately 7 miles to the northwest of CD1 (*see* Figure 1, below) during the winter 2007/2008 drilling season, also encountered elevated pressures in the Kuparuk.
5. Subtle pressure changes in the CD4 Drilling Pad area, which lies about 4 miles south-southwest of CD1, have occurred over the past two years; these pressure changes occurred following commencement of production from the Nanuq-Kuparuk Oil Pool. These changes suggest pressure communication between the Alpine and Kuparuk in this portion of the Colville River Unit.
6. Significant lost circulation events occurred while drilling the CD1-06 and CD1-14 wells, which are east of CD1. These events are attributed to subseismic-scale fractures or faults (*i.e.*, fractures or faults that are too small to be visible on seismic lines) associated with a major fault that lies east of these wells. Water and gas injection into the Alpine reservoir open to CD1-06 and CD1-14 apparently pressurized the overlying Kuparuk through these fractures or faults.
7. Well CD2-02, located about 5-1/2 miles west of CD1, encountered sand-on-sand contact between the Kuparuk and the underlying Alpine. This contact is considered the mechanism responsible for the pressure communication between the Kuparuk and Alpine observed in the Char No. 1 exploratory

well. The Iapetus No. 2 exploratory well, drilled in 2005 about 1-1/4 miles northwest of Char No. 1, encountered normal pressures in the Kuparuk, but these normal pressures were encountered before injection began in the CD2-02 well.

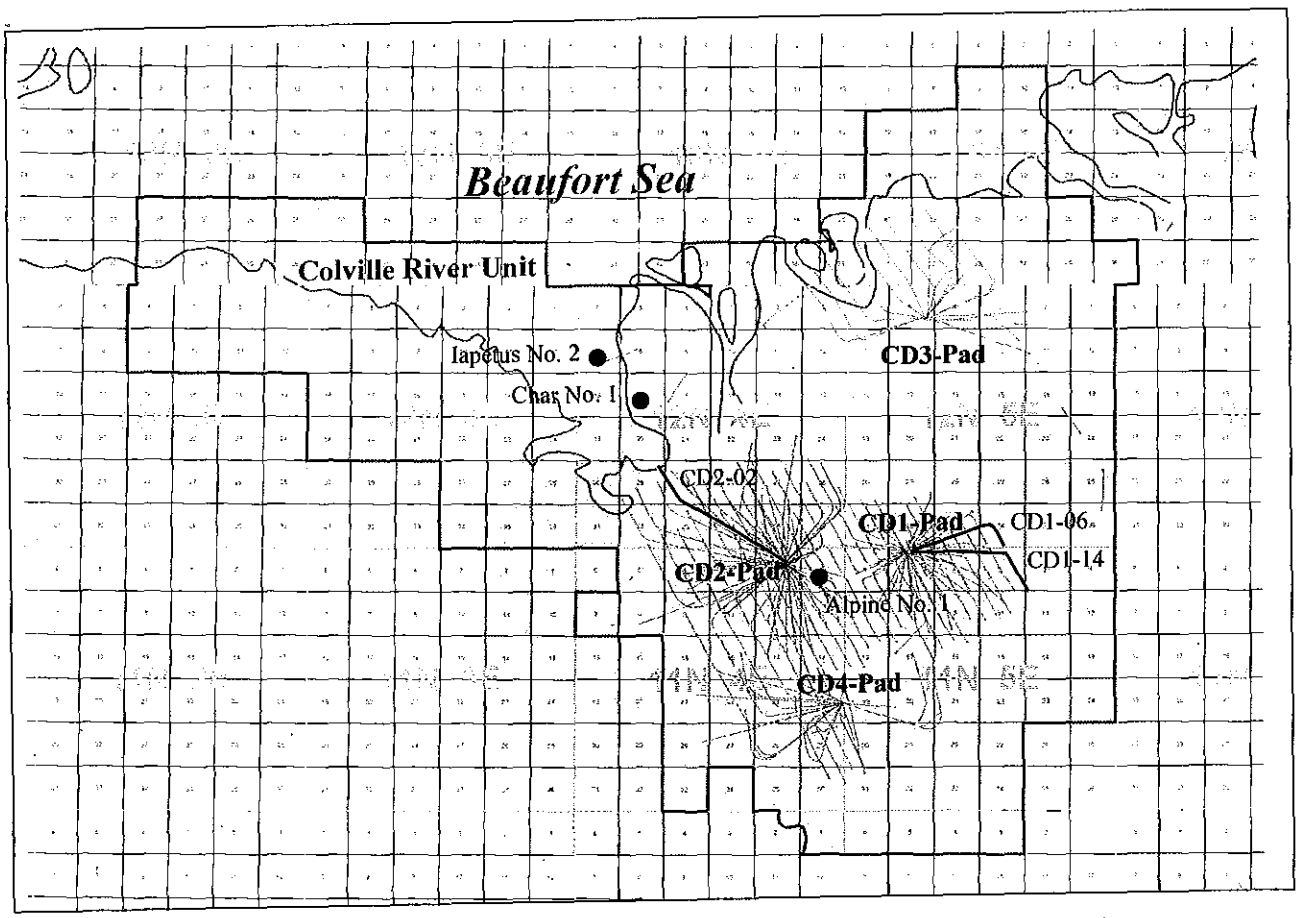

Figure 1. Index Map (proposed affected area is highlighted with yellow)

8. Pressure monitoring in wells open to the stratigraphically shallower Nanuq and Qannik Oil Pools shows no indication of pressure communication with the underlying Kuparuk and Alpine reservoirs.
9. Given the properties and thickness of the rocks underlying and overlying the proposed expanded pool, injected fluids will likely not move out of the expanded pool.
10. The Alpine Oil Pool's affected acreage overlies much, but not all, of the Nanuq-Kuparuk Oil Pool, and therefore, the affected acreage of the Alpine Oil Pool must be expanded to include all of the acreage of the Nanuq-Kuparuk Oil Pool.
11. CPAI plans to drill additional development wells into the proposed expanded Alpine Oil Pool; those wells would be outside the affected acreage of the current Alpine Oil Pool.
12. AIO 18B, which governs the Alpine Oil Pool injection operations, does not include a list of approved injection fluids; Rule 1 of AIO 18B states only that "fluids may be injected for purposes of pressure maintenance and enhanced recovery."
13. AIO 27, which governs the Nanuq-Kuparuk Oil Pool, includes a list of approved injection fluids. Compared to AIO 27, AIO 30 (including administrative approvals), which governs injection operations within the Kuparuk and Kingak Formations in the nearby Fiord Oil Pool, authorizes a greater variety of injection fluids. The Kuparuk in the area affected by this order and the Fiord Oil Pool are similar mineralogically. The injection of fluids authorized by AIO 30 have not damaged the Kuparuk.
14. Rule 11 of AIO 18B allows the Commission to administratively amend the order as long as the change does not promote waste, jeopardize correlative rights, or compromise ultimate recovery, is based on sound engineering and geoscience principles, and will not result in fluid movement outside the authorized injection zone.

CONCLUSIONS:

1. Pressure communication between the Alpine and Kuparuk in the CD1, CD2, and CD4 Pad development areas is demonstrated by drilling, production, and pressure measurement results. Fluid communication in these areas is also highly likely. Therefore, under AS 31.05.170(12), these two reservoirs must be considered part of the same pool to ensure proper resource development and should be treated as a single unit for enhanced recovery injection operations.
2. Drilling, production, and pressure measurement results also demonstrate that the productive area of the pool likely extends beyond currently defined boundaries, and therefore expansion of the affected acreage of the Alpine Oil Pool and AIO 18B is appropriate to include likely future development areas and ensure proper resource development.
3. Cancellation of AIO 27 is appropriate as the affected area of this AIO will be expanded to include the strata currently covered by AIO 27.
4. Based on injection operations conducted at the Fiord Oil Poll under AIO 30, the Kuparuk will not be damaged by the injection of any fluids the operator may decide to use for purposes of pressure maintenance in and enhanced recovery from the Alpine Oil Pool.

5. Amending AIO 18B to incorporate the reservoirs now assigned to the Nanuq-Kuparuk Oil Pool within the Alpine Oil Pool and to expand the affected area of this AIO will promote more effective resource development by allowing the resource to developed as a single accumulation instead of as two separate ones, will not promote waste, jeopardize correlative rights, or compromise ultimate recovery, is based on sound engineering and geoscience principles, and will not result in fluid movement outside the authorized injection zone.

NOW, THEREFORE, IT IS ORDERED:

This Area Injection Order supersedes AIO 18B, issued October 7, 2004, and AIO 27, issued February 16, 2006. The findings, conclusions, and administrative records for AIO 18B and AIO 27 are adopted by reference and incorporated in this decision, except where inconsistent with this order. The following rules, in addition to any other requirements (including the statewide requirements of 20 AAC 25) that are not superseded by these rules, apply to the Alpine Oil Pool within the following affected area:

Umiat Meridian

Township	Range	Sections
T10N	R3E	1
T10N	R4E	1, 2, 3, 4, 5, 6
T10N	R5E	3, 4, 5, 6
T11N	R3E	1, 2, 11, 12, 13, 14, 23, 24, 25, 26, 36
T11N	R4E	All
T11N	R5E	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 33, 34
T12N	R3E	25, 26, 35, 36
T12N	R4E	20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
T12N	R5E	13, 14, 15, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36

Rule 1 Authorized Injection Strata for Enhanced Recovery (Revised this Order)

Within the affected area, fluids may be injected for purposes of pressure maintenance and enhanced recovery into strata that are common to and correlate with the interval between the measured depths of 6,980 feet and 7,276 feet in the Alpine No. 1 well.

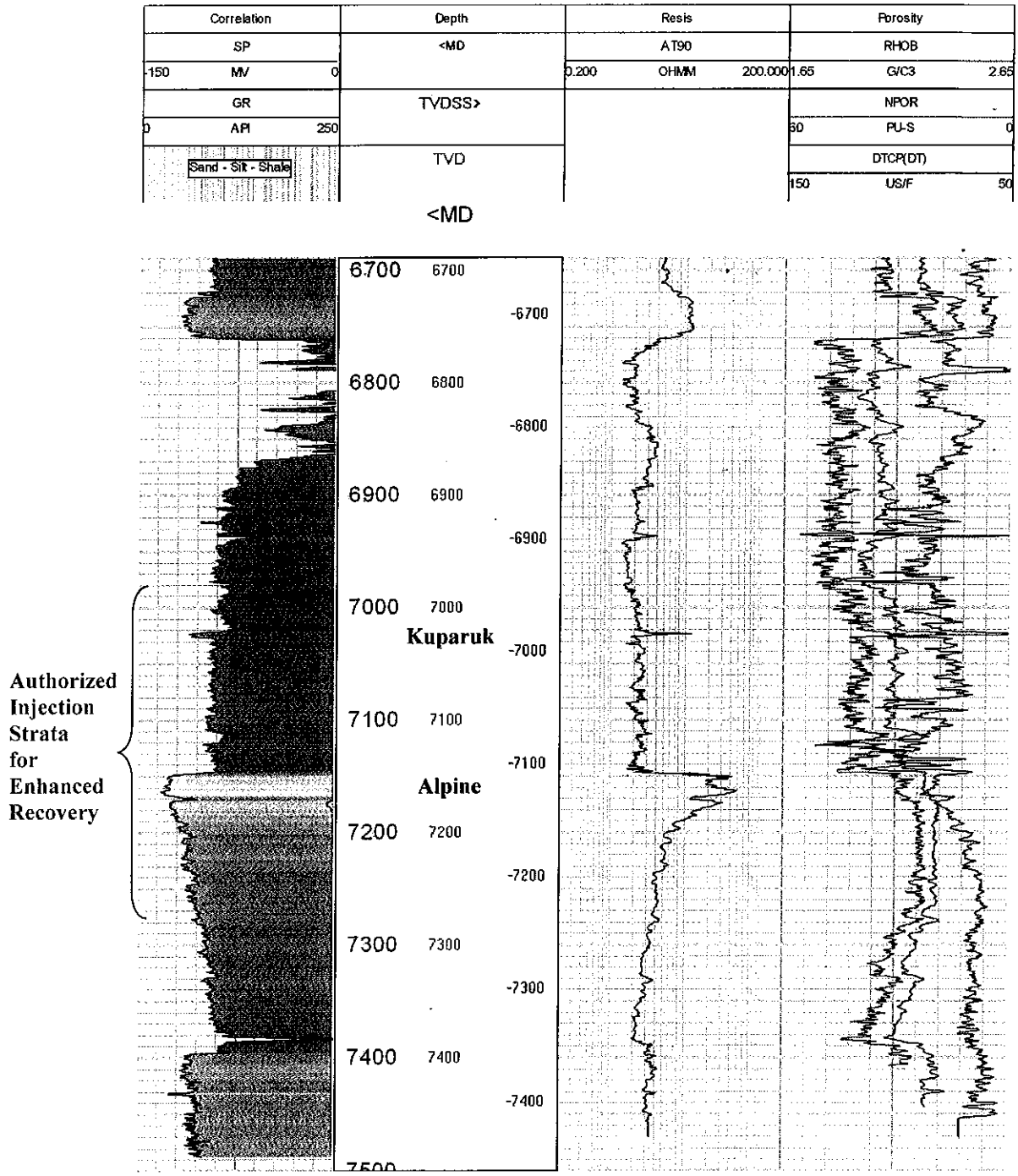

Figure 1. Alpine No. 1, Type Log for the Expanded Alpine Oil Pool

Rule 2 Authorized Injection Strata for Disposal (Restated from AIO 18B)

Within the affected area, Class II fluids may be injected for purposes of disposal into strata that are common to and correlate with the interval between the measured depths of 8,432 and 9,540 feet in the Sohio Alaska Petroleum Company Nechelik No. 1 well.

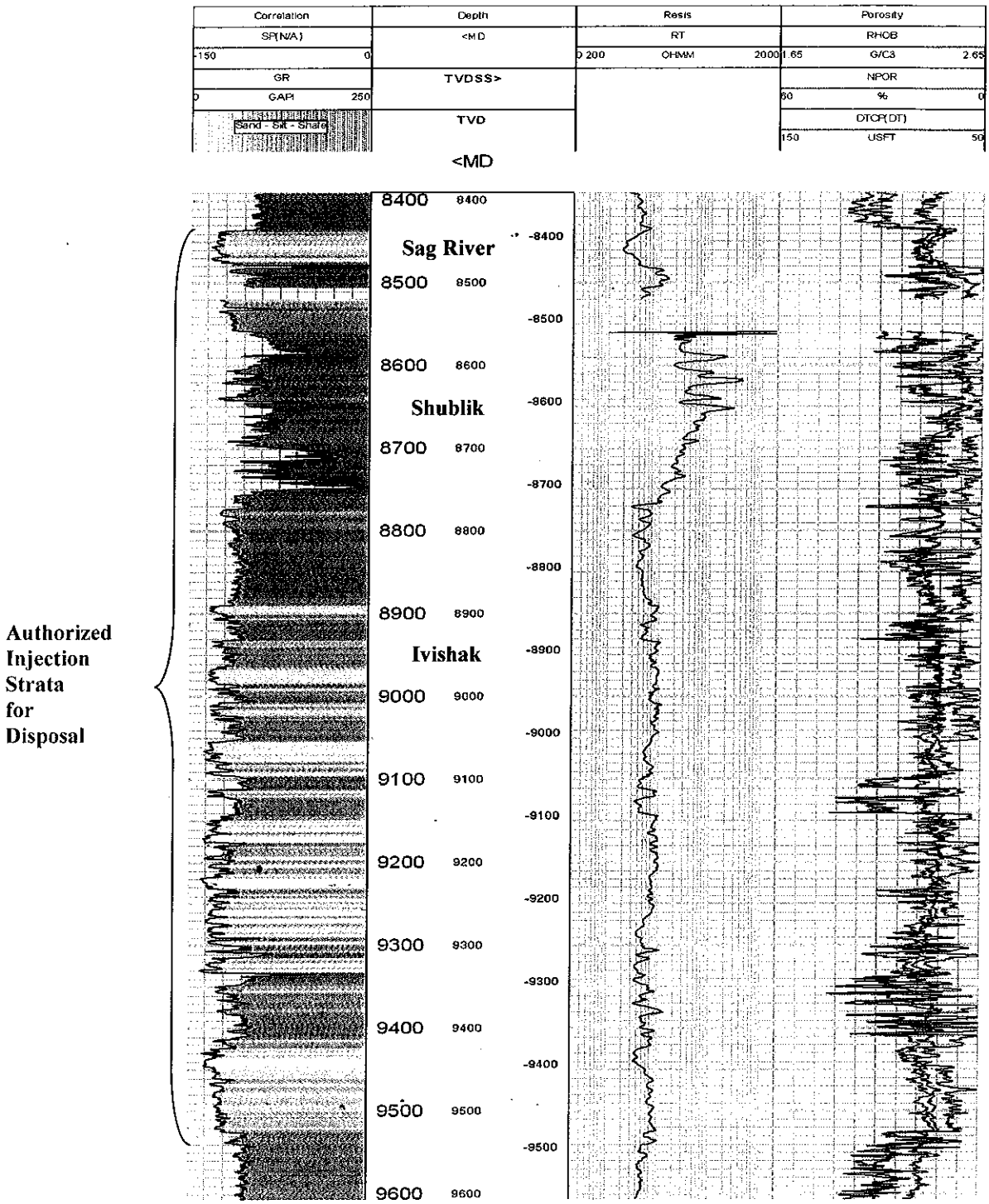

Figure 2. Nechelik No. 1, Authorized Injection Strata for Disposal

Rule 3 Fluid Injection Wells (Restated from AIO 18B)

The underground injection of fluids must be through a well permitted for drilling as a service well for injection in conformance with 20 AAC 25.005 or through a well approved for conversion to a service well for injection in conformance with 20 AAC 25.280.

Rule 4 Monitoring the Tubing-Casing Annulus Pressure Variations (Restated from AIO 18B)

The tubing-casing annulus pressure and injection rate of each injection well must be checked at least weekly to ensure there is no leakage and that it does not exceed a pressure that will subject the casing to a hoop stress greater than 70% of the casing's minimum yield strength.

Rule 5 Reporting the Tubing-Casing Annulus Pressure Variations (Restated from AIO 18B)

Tubing-casing annulus pressure variations between consecutive observations need not be reported to the Commission unless well integrity failure is indicated as in Rule 7 below.

Rule 6 Demonstration of Tubing/Casing Annulus Mechanical Integrity (Restated from AIO 18B)

The mechanical integrity of an injection well must be demonstrated before injection begins, after a workover affecting mechanical integrity, and at least once every 4 years while actively injecting. For slurry injection wells, the tubing/casing annulus must be tested for mechanical integrity every 2 years. The MIT surface pressure must be 1,500 psi or 0.25 psi/ft multiplied by the vertical depth, whichever is greater, must show stabilizing pressure and may not change more than 10% during a 30 minute period. Any alternate means of demonstrating mechanical integrity must be approved by the Commission. The Commission must be notified at least 24 hours in advance to enable a representative to witness pressure tests.

Rule 7 Well Integrity Failure and Confinement (Restated from AIO 18B)

Whenever any pressure communication, leakage or lack of injection zone isolation is indicated by injection rate, operating pressure observation, test, survey, log, or other evidence, the operator shall immediately notify the Commission and submit a plan of corrective action on a Form 10-403 for Commission approval. The operator shall immediately shut in the well if continued operation would be unsafe or would threaten contamination of freshwater, or if so directed by the Commission. A monthly report of daily tubing and casing annuli pressures and injection rates must be provided to the Commission for all injection wells indicating well integrity failure or lack of injection zone isolation.

Rule 8 Plugging and Abandonment of Injection Wells (Restated from AIO 18B)

An injection well located within the affected area must not be plugged or abandoned unless approved by the Commission in accordance with 20 AAC 25.105.

Rule 9 Surveillance (Restated from AIO 18B)

For grind and inject slurry injection wells, a baseline temperature survey from surface to total depth, initial step rate test to pressure equal or exceeding maximum injection pressure and pressure falloff are required prior to sustained disposal injection. Regular fill depth tags are required at least once annually or as warranted following consultation with the Commission. Operating parameters including disposal rate, pressure, annuli pressures and volume of slurry pumped must be monitored and reported according to the requirements of 20 AAC 25.432.

For slurry injection wells, an annual performance report will be required including rate and pressure performance, surveillance logging, fill depth, survey results, and volumetric analysis of the disposal

storage volume, estimate of fracture growth, if any, and updates of operational plans. Report submission must be on or before April 1, in conjunction with the Alpine Pool Annual Reservoir Report.

Rule 10 Notification (Restated from AIO 18B)

The operator must notify the Commission if it learns of any improper Class II injection. Additionally, notification requirements of any other State or Federal agency remain the operators' responsibility.

Rule 11 Administrative Actions (Restated from AIO 18B)

Unless notice and public hearing is otherwise required, the Commission may administratively waive or amend any rule stated above as long as the change does not promote waste or jeopardize correlative rights, is based on sound engineering and geoscience principles, and will not result in fluid movement outside of the authorized injection zone.

ENTERED at Anchorage, Alaska and dated March 26, 2009.

Daniel T. Seamount, Jr., Chair
Alaska Oil and Gas Conservation Commission

John K. Norman, Commissioner
Alaska Oil and Gas Conservation Commission

Cathy P. Foerster, Commissioner
Alaska Oil and Gas Conservation Commission

RECONSIDERATION AND APPEAL NOTICE

As provided in AS 31.05.080(a), within **20** days after written notice of the entry of this order or decision, or such further time as the Commission grants for good cause shown, a person affected by it may file with the Commission an application for reconsideration of the matter determined by it. If the notice was mailed, then the period of time shall be **23** days. An application for reconsideration must set out the respect in which the order or decision is believed to be erroneous.

The Commission shall grant or refuse the application for reconsideration in whole or in part within 10 days after it is filed. Failure to act on it within 10-days is a denial of reconsideration. If the Commission denies reconsideration, upon denial, this order or decision and the denial of reconsideration are **FINAL** and may be appealed to superior court. The appeal **MUST** be filed within **33** days after the date on which the Commission mails, **OR 30** days if the Commission otherwise distributes, the order or decision denying reconsideration, **UNLESS** the denial is by inaction, in which case the appeal **MUST** be filed within **40** days after the date on which the application for reconsideration was filed.

If the Commission grants an application for reconsideration, this order or decision does not become final. Rather, the order or decision on reconsideration will be the **FINAL** order or decision of the Commission, and it may be appealed to superior court. That appeal **MUST** be filed within **33** days after the date on which the Commission mails, **OR 30** days if the Commission otherwise distributes, the order or decision on reconsideration. As provided in AS 31.05.080(b), "[t]he questions reviewed on appeal are limited to the questions presented to the Commission by the application for reconsideration."

In computing a period of time above, the date of the event or default after which the designated period begins to run is not included in the period; the last day of the period is included, unless it falls on a weekend or state holiday, in which event the period runs until 5:00 p.m. on the next day that does not fall on a weekend or state holiday.