STATE OF ALASKA

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
WASTEWATER DISCHARGE AUTHORIZATION PROGRAM

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1200 Sixth Avenue
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RE: §401 Certification Antidegradation Analysis for NPDES Permit No. AKG-31-5000 (Cook Inlet Oil and Gas Exploration, Development and Production Facilities located in State and Federal Waters) Limit Reproposal

In accordance with Section 401 of the Clean Water Act and with Alaska Administrative Code 18 AAC 15 and 18 AAC 70 (Water Quality Standards) the Alaska Department of Environmental Conservation (ADEC) issues the enclosed Section 401 Certificate of Reasonable Assurance, including an Antidegradation Analysis.

National Pollutant Discharge Elimination System (NPDES) permit AKG31-5000 regulates discharges from oil and gas exploration, development and production facilities at on-shore and off-shore locations in Cook Inlet, Alaska.

A Section 401 Certificate of Reasonable Assurance for the reissuance of NPDES General Permit AKG31-5000 was released with the final permit on May 18, 2007. An antidegradation analysis under 18 AAC 70.015 was included in the certification. That permit was subject to a challenge in the U.S. 9th Circuit Court (the "Court") and the disposition was filed October 21, 2010 [See *Cook Inletkeeper et al, petitioners v. US Environmental Protection Agency (EPA),* No. 07-72420]. The Court granted EPA's motion for voluntary partial remand of the permit, subject to certain reporting requirements.

Among those requirements, the Court asked EPA to report on the State of Alaska's progress in developing interim methods for implementing its antidegradation policy under 18 AAC 70.015. The state had already developed these new methods and had finalized them on July 14, 2010. EPA has reviewed the interim methods and

has found them to be consistent with Alaska's state policy and the Clean Water Act. These guidelines and additional information on ADEC's antidegradation policy are available at:

http://www.dec.alaska.gov/water/wqsar/Antidegradation/index.html

EPA notified the State of its intent to repropose effluent limits for existing produced water discharges covered by the permit and to reissue a Fact Sheet to clarify those limits. On December 2, 2010, EPA provided the State with a preliminary draft Fact Sheet and permit for the reproposed effluent limits and requested draft 401 certification of the permit.

The department reviewed the existing and proposed wastewater discharges with respect to the reproposed limits and the antidegradation requirements of the Alaska Water Quality Standards and finds any reduction in natural water quality of Cook Inlet to be in accord with the requirements of 18 AAC 70.015, Antidegradation Policy.

Department regulations provide that any person who disagrees with this decision may request an informal review by the Division of Water Director in accordance with 18 AAC 15.185 or adjudicatory hearing in accordance with 18 AAC 15.195 - 18 AAC 15.340. An informal review request must be delivered to the Division of Water Director, 555 Cordova Street, Anchorage, AK 99501 within 15 days after receiving this permit decision. An adjudicatory hearing request must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Street, Suite 303, Juneau, AK 99811, within 30 days after the date of this permit decision. If a hearing is not requested within 30 days, the right to appeal is waived.

By copy of this letter, we are advising EPA of our actions and enclosing a copy of the Certificate for their use.

If you have any questions regarding this amended §401certification, please contact Michelle Bonnet at Michelle.Bonnet@Alaska.gov.

Sincerely,

Sharon Morgan

Sharon Morgan
Program Manager

cc: via e-mail

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STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CERTIFICATE OF REASONABLE ASSURANCE
REPROPOSED LIMITS FOR AKG31-5000

A Certificate of Reasonable Assurance, as required by Section 401 of the Clean Water Act, was requested by EPA Region 10 for NPDES General Permit No. AKG31-5000, COOK INLET OIL AND GAS EXPLORATION, DEVELOPMENT AND PRODUCTION FACILITIES on December 2, 2010. Water quality certification is required for the proposed activities because the activities will be authorized by an Environmental Protection Agency ("EPA") permit identified as No. AKG31-5000. Discharge(s) regulated by the reproposed effluent limits may result from the existing and proposed activities under the General Permit (the "permit").

Public notice of the application for a §401 certification was first made in accordance with 18 AAC 15.140 through an EPA notice dated March 1, 2006 for the permit. The final certification was released to the public by the Alaska Department of Environmental Conservation ("ADEC" or "department") when the permit was issued on May 18, 2007. The certification included an antidegradation determination. An on-line copy of that certification is available at:

http://yosemite.epa.gov/r10/water.nsf/NPDES+Permits/General+NPDES+Permits/$FILE/AKG315000-Final-Cert.pdf

The department issued the 2007 certification without providing adequate opportunity for public comment on the antidegradation determination under 18 AAC 70.015. The permit was subject to a challenge in the U.S. 9th Circuit Court (the "Court") and the disposition filed October 21, 2010 [See *Cook Inletkeeper et al, petitioners v. US Environmental Protection Agency (EPA),* No. 07-72420]. The Court granted EPA's motion for voluntary partial remand of the permit, subject to certain reporting requirements.

In response to the Court's partial remand, EPA plans on reproposing certain produced water effluent limits for the existing facilities covered by the permit. As such, EPA has provided the department with a draft permit and fact sheet for the reproposal and has requested that the department provide final §401 certification for the reproposal.

The department reviewed the EPA draft permit and fact sheet with reproposed limits and certifies that there is reasonable assurance that the limits are in compliance with the requirements of §401 of the Clean Water Act, which includes the Alaska Water Quality Standards (18 AAC 70).

ANTIDEGRADATION ANALYSIS UNDER 18 AAC 70.015
CERTIFICATE OF REASONABLE ASSURANCE
REPROPOSED LIMITS FOR AKG31-5000

The antidegradation policy of the Alaska Water Quality Standards ("AWQS") at 18 AAC 70.015 states that the existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected. This analysis provides rationale for the Alaska Department of Environmental Conservation ("ADEC" or "department") decisions required under §401 of the Clean Water Act ("CWA") with respect to the reproposed limits and antidegradation policy.

Background on Cook Inlet receiving waters and existing discharges:

The portion of Cook Inlet north of Kalgin Island is considered state waters subject to 18 AAC 70. All other waters covered by NPDES permit AKG31-5000 ("the permit") are considered waters under federal jurisdiction unless specifically excluded. The permit prohibits discharge in certain protected areas of Cook Inlet, which are clearly identified in the permit. Many areas of Cook Inlet are protected because of a prohibition for oil and gas exploration, development, and production in those areas. These areas include shallower, near-shore waters, and areas such as state game refuges or critical habitat areas (see section I.C. of the permit).

The permit covers discharges from oil and gas facilities for exploration, development, and production activities. For the existing oil and gas facilities, up to 19 identified discharges, including produced water, are possible from both shore-based facilities and platforms. Existing federal effluent guidelines allow for the discharge of produced water into Cook Inlet (40 CFR Part 435, Subparts A and D). The permit applies effluent limits to produced water discharges (Discharge 015) based on the potential of the discharge to exceed AWQS.

Antidegradation determination:

ADEC's approach to implementing the antidegradation policy, found in 18 AAC 70.015, is based on the requirements in 18 AAC 70 and the department's July 14, 2010, *Policy and Procedure Guidance for Interim Antidegradation Implementation Methods (Interim Methods).* Using these requirements and policies, the department determines whether a water body or portion of a water body is classified as Tier 1, Tier 2, or Tier 3.

The permit potentially covers discharges in all of Cook Inlet. Relevant information on the entire water body was reviewed for the determination. However, the permit covers existing facilities at known locations, so the main determination is made on Cook Inlet facilities for the specific reproposed limits for produced water discharges (Discharge 015 in the permit).

Tier 3 water bodies are those high quality waters that constitute Outstanding National Resources, and states must assure that the quality of such waters shall be maintained and protected (18 AAC 70.015(a)(3)). This is consistent with the *Interim Methods* recommendations. Alaska has not currently identified any Tier 3 water bodies. However, the permit excludes discharge into protected areas, such as Kachemak Bay and other geographic restrictions.

Tier 1 protection (18 AAC 70.015(a)(1)) applies to water bodies whose existing quality is no better than the Clean Water Act's "fishable/swimmable" uses, and existing water uses and the level of water quality necessary to protect such uses must be maintained and protected (see 18 AAC 70.020(a)(1)(C) and 18 AAC 70.020(a)(1)(B)(i). Cook Inlet as a whole and the specific locations of the existing oil and gas facilities are of higher quality than Tier 1.

ADEC has determined that Tier 2 applies to the receiving waters in Cook Inlet using the ADEC antidegradation *Interim Methods* and ADEC's knowledge of the water bodies covered by the permit. In the context of reissuing this permit, the department determined that the water bodies are Tier 2 and an antidegradation analysis under 18 AAC 70.015(a)(2) is applied to permit limits that were relaxed. The original Fact Sheet for the permit describes the derivation of those limits.

The Antidegradation Policy of the AWQS (18 AAC 70.015(a)(2)) states that, if the quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife in and on the water, that quality shall be maintained and protected, unless the department makes five specific findings:

- *18 AAC 70.015 (a)(2)(A). Allowing lower water quality is necessary to accommodate important economic or social development in the area where the water is located.*

Treatment methods for produced water include reinjection and additional treatment, as well as those required by the permit and described in the Effluent Limitation Guideline at 40 CFR Part 435 reinjection and additional treatment. The alternatives of reinjection and additional treatment are discussed in the section below that addresses 18 AAC 70.015(a)(2)(D). Due to the age of the platforms and oil field, these two alternatives are not feasible or economical, and the level of treatment as required by the permit is the appropriate treatment. Because a higher level of treatment carries with it the likelihood that facilities would no longer be economic to operate, the lowering of water quality is necessary in order for production from these facilities to continue.

The Alaska Department of Natural Resources (ADNR) tracks oil and gas activity in the State when it develops findings for lease sales. A 2009 lease sale finding included the following socio-economic information on the oil and gas industry:

Alaska's state-wide economy depends heavily on revenues related to petroleum development, which totaled $4.57 billion in fiscal year 2007. The petroleum industry is Alaska's largest industry, annually spending $2.1 billion, including $422 million on payroll and $1.7 billion on goods and services.

Overall, this spending generates 33,600 jobs, $1.4 billion in payroll, and value added to the Alaska economy of $1.8 billion for total output of $3.1 billion. Oil and gas accounts for 12 percent of private sector jobs and 20 percent of private sector payroll. The oil and gas industry has the highest monthly wage in Alaska, averaging $7,754, which is 2.8 times higher than the statewide average of $2,798.

In the Matanuska-Susitna Borough, it is estimated that over 350 residents are employed by the oil and gas industry with an average monthly wage of $8,382. The economic impact of the oil and gas industry in the Matanuska-Susitna Borough was an additional 2,105 jobs for Matanuska-Susitna residents, with a payroll of $84 million. The induced impacts were 1,558 jobs and $38 million in payroll. Total economic impact was estimated to be 4,016 jobs and $158 million for the Matanuska- Susitna Borough.

In Anchorage, it is estimated that about 2,400 workers are employed by the oil and gas industry. Estimated total payroll is over $239 million with an additional $845 million in goods and services in the Anchorage economy. Indirect impact of the oil and gas industry is estimated to be 11,600 jobs and $431 million in payroll, with an induced impact of 2,320 jobs and $69 million in payroll.

The oil and gas industry has been important to the economy of the Kenai Peninsula for over 40 years, and five of the top 10 employers are connected to the oil industry. Direct impact of the oil and gas industry has been estimated at 674 jobs with a payroll of $63 million. Indirect economic impacts are estimated to be an additional 2,822 jobs and $94 million in payroll. The induced impacts were 777 jobs and $20 million in payroll. Total economic impact on the Kenai Peninsula was 4,273 jobs and $177 million in payroll, which was 26 percent of the area's employment and 36 percent of the area's payroll. Taxable properties for the oil and gas industry were reported at $607 million, and eight of the top 10 property tax payers in the borough were oil and gas industry companies.

Demand for natural gas in the Cook Inlet area is projected to exceed supply by 2015 unless new reserves are discovered and developed. Decreasing supplies of Cook Inlet natural gas led to the closure of the Agrium fertilizer plant in 2007, resulting in the loss of 250 jobs in the Kenai Peninsula Borough. The liquefied natural gas (LNG) export license and supply contracts will expire in 2011, and continued operation of the LNG plant may be

jeopardized without long-term proven supplies of natural gas. (In February 2011, Conoco-Phillips announced that the LNG plant will be shut down due to gas supply uncertainties.)

Without increased Cook Inlet natural gas supplies, prices for residential and commercial natural gas and for electricity will continue to increase. Between 2000 and 2006, the price of natural gas increased 91 percent for Anchorage households and the cost of electricity increased 28 percent.

According to an industry group, the Alaska Oil and Gas Association, Alaska's oil and gas industry accounts for an average of 20 percent of US domestic production. The industry also makes significant investments in facilities and infrastructure throughout the state, with over $50 billion in North Slope and Cook Inlet.

Oil and gas is an important component of revenues to support government services to Alaskans. At the end of the State's 2007 fiscal year, oil and gas revenues represented 88 percent of the total revenue to the state. Oil and gas exploration, development, and production activities in Cook Inlet and in Alaska have important social and economic significance.

ADEC finds that authorization of these discharges in Cook Inlet requires the lowering of water quality and that this lowering of water quality is necessary to accommodate important economic development, and that this requirement is met.

- *18 AAC 70.015 (a)(2)(B). Except as allowed under this subsection, reducing water quality will not violate the applicable criteria of 18 AAC 70.020 or 18 AAC 70.235 or the whole effluent toxicity limit in 18 AAC 70.030.*

EPA is reproposing limits in the permit that were changed from those in the public notice version and the final May 2007 permit, and which, along with the State's Section 401 Certificate of Reasonable Assurance, were not available for public comment. EPA's Fact Sheet for the reproposed limits compares these limits with those from the previous permit limits (see permit # AKG28-5000).

The reproposed limits for Discharge 015 at the subject facilities (Granite Point Treatment Facility and Platform, East Foreland Facility, Platform Anna, Platform Bruce, Platform Baker, Platform Dillon, Trading Bay Production Facility, and Tyonek A) will ensure that water quality criteria will not be exceeded at or beyond the boundary of the mixing zones at these facilities. The mixings zones are specifically authorized in accordance with 18 AAC 70.240 and have been sized to ensure that all applicable water quality criteria are met at all points outside of the mixing zones.

ADEC finds that the reduced water quality will not violate applicable water quality criteria and that this requirement is met.

- *18 AAC 70.015 (a)(2)(C). The resulting water quality will be adequate to fully protect existing uses of the water.*

The waters in Cook Inlet are protected for the following uses, per 18 AAC 70.020(a)(2)(A) – (D) and 18 AAC 70.050: Water supply for aquaculture, seafood processing, and industrial activities; water recreation, both contact and secondary recreation; growth and propagation of fish, shellfish, other aquatic life, and wildlife; and harvesting for consumption of raw mollusks or other raw aquatic life. The reproposed limits for Discharge 015 at the subject facilities will ensure that water quality criteria will not be exceeded at or beyond the boundary of the mixing zones at these facilities.

As part of the requirements of the most recent reissuance of the permit, operators discharging more than 100,000 gallons of produced water a day were required to conduct a study addressing the fate and transport of pollutants in the water column and sediments. Existing dischargers, Chevron and XTO Energy, included this required study into a broader research effort on sediment and water quality in Cook Inlet called the Integrated Cook Inlet Environmental Monitoring and Assessment Program (ICIEMAP). This program has provided more site-specific information on water quality, sediment quality, and physical and biological parameters for Cook Inlet than was available for the 2007 antidegradation analysis.

The overall statistical design of the ICIEMAP study followed EPA's Environmental Monitoring and Assessment Program (EMAP) protocol. Partners in this study include the National Oceanic and Atmospheric Administration (NOAA), the Cook Inlet Regional Citizens Advisory Council (CIRCAC), and ADEC. ADEC administers the EPA EMAP program in Alaska and CIRCAC provides scientific support for data collection and reporting for Cook Inlet studies. The report incorporating all of the ICIEMAP project data and conclusions has not yet been finalized.

More information on the ICIEMAP projects can be found at:

http://ccma.nos.noaa.gov/stressors/pollution/nsandt/iciemap.html

In addition to sampling points in marine waters, samples were taken from 18 Cook Inlet region rivers to determine whether rivers are transporting hydrocarbons and metals into the inlet. Sampling was conducted in 2008 and a final report from Chevron and XTO Energy, fulfilling the permit requirement, was submitted to EPA in July, 2010.

This report and the ICIEMAP studies have provided a large database for water and sediment parameters in Cook Inlet. Some major conclusions of the study required by this permit were:

- Concentrations of barium, cadmium, chromium, copper, nickel, lead, and zinc for bottom sediments in Cook Inlet were at background values at all 55 sampling stations.

- Concentrations of arsenic, manganese, and selenium for bottom sediments in Cook Inlet were above background values at a few locations, but could be caused by natural changes of rock and sediments.

- Concentrations of many metals in bottom sediments were below sediment quality guidelines that evaluate effects to bottom dwelling test organisms. (Note: Although the AWQS do not include specific sediment quality standards, these types of tests help to evaluate whether metals in the water column are concentrating at levels in sediments that can impact aquatic organisms directly or through the food web.)

- Mercury concentrations for bottom sediments in Cook Inlet were above background at 10 of 55 locations, including 5 in Kachemak Bay. (Note: Global sources of mercury discharges, including aerial deposition from combustion sources, impact waterbodies world-wide. The permit prohibits any discharge into Kachemak Bay.)

- Increased metals concentrations in bottom sediments could not be correlated to discharges of produced water.

- The study found no evidence of hydrocarbon accumulation from produced water discharges from the Trading Bay or East Forelands facilities.

- Concentrations of dissolved metals in marine waters were comparable to background and no elevations of dissolved metals from produced water could be identified.

- Concentrations of dissolved metals in Cook Inlet rivers was variable and probably a function of both natural and man-induced sources, including mining.

Other findings of the report support the conclusion that discharges from the existing platforms and facilities have not adversely impacted Cook Inlet nor can increased metals or hydrocarbons in Cook Inlet be directly attributable to them.

It should be noted that the Cook Inlet water quality studies measured metals using dissolved methods. The AWQS adopt the dissolved form of metals with the rationale that dissolved metals are the bioavailable form of metals in receiving waters. EPA requires that the more conservative total recoverable metals methods are used in NPDES permits. The permit's effluent limits require total recoverable methods, which complicates direct comparisons of effluent concentrations to the

results from the ICIEMAP studies. However, the preliminary conclusions based on the Chevron/XTO Energy report is that metals concentrations are within baseline concentrations.

Based on the information from this study and review of monitoring reports and other data, the reproposed effluent limits protect existing uses of affected waters in Cook Inlet. The water quality will be adequate to protect existing uses when a facility operates under the terms and conditions of the permit.

ADEC notes that due to platform closures associated with the volcanic eruption of Mt. Redoubt, the monitoring data was limited. Several platforms closed during the emergency and some may stop discharging or be permanently shut in.

ADEC finds that the resulting water quality will be adequate to fully protect existing uses and that the requirement is met.

- *18 AAC 70.015(a)(2)(D). The methods of pollution prevention, control, and treatment found by the department to be most effective and reasonable will be applied to all wastes and other substances to be discharged.*

The permit contains requirements for all discharges for pollution control (Section II.A of the permit). These include:

- Discharge only of those pollutants identified in the Notice of Intent (NOI).
- The permittee shall not discharge diesel oil, halogenated phenol compounds, or other similar pollutants listed.
- If any discharge is commingled (mixed together), the most stringent effluent limits for an individual discharge apply to the resulting discharge.

The specific pollution prevention, control, and treatment (in Section II.G of the permit) required for Discharge 015 (Produced Water and Produced Sand) include:

- A new diffuser for the Trading Bay Production Facility to improve mixing of effluent into Cook Inlet, which has been installed since the reissuance of this permit.
- Provisions to minimize any rerouting of platform produced water to shore-based facilities.
- Notification if water collected from a spill clean-up is discharged with the produced water waste stream.
- Increased monitoring frequency for metals and hydrocarbons if limits or triggers are not in compliance with the permit.
- Visual sheen monitoring for oil and grease plus sample collection and monitoring if sheen is observed at platforms.
- Accelerated testing, identification and evaluation of any increases in chronic toxicity of the effluent as monitored with whole effluent toxicity testing.

The above management practices and safeguards will be applied to discharges of produced water from the shore-based facilities and platforms in Cook Inlet.

Alternative methods of treatment of produced water include reinjection via Class II Underground Injection Control (UIC) wells or additional treatment of the produced water prior to discharge. Such methods are problematic given both the older platforms in Cook Inlet and the mature oil fields the platforms are working. Older platforms are generally too small to allow space for additional treatment facilities. As oil reserves are depleted, more produced water is generated to access smaller amounts of oil. The increasing volume of this produced water makes the design of additional treatment difficult. Cook Inlet fields have been producing for over 40 years.

The limited life remaining in the Cook Inlet fields makes it impractical to require reinjection when considering the cost associated with drilling and maintaining the injection well site. Common problems, even with existing sites, include plugging of the wells by solids and piping corrosion from brine water. At some sites, the geology of the underlying formations cannot accept the large volumes of produced water (EPA, *Development Document for Final Effluent Limitations Guidelines and Standards for the Coastal Subcategory of the Oil and Gas Extraction Point Source Category*).

Additional treatment methods, such as cyclonic separation or package treatment plants, are too costly and difficult to implement given the limited space available on older, smaller platforms. Newer facilities can be designed with such consideration in place. However, for existing facilities, the mixing zone established ensures that produced water discharges will comply with applicable water quality standards at the edge of the mixing zones.

ADEC finds that the methods of pollution prevention, control, and treatment included in the permit are the most effective and reasonable and that the requirement is met.

- *18 AAC 70.015(a)(2)(E). All wastes and other substances discharged will be treated and controlled to achieve (i) for new and existing point sources, the highest statutory and regulatory requirements; and (ii) for nonpoint sources, all cost-effective and reasonable best management practices.*

Formation water occurs with hydrocarbons within Cook Inlet geologic strata and is released as produced water (Discharge 015 in the permit) during oil and gas extraction. Unlike a steady-state discharge from a treatment plant, the quality and quantity of produced water from an active production facility can vary.

The quality of the water in this permit cycle was determined from discharge monitoring reports and permit application information submitted to EPA and the

department. The quantity was estimated from previous production. The Fact Sheet and previous §401 certification describe how effluent limits and mixing zones were established using that information.

The highest statutory and regulatory requirements are defined in the 2003 version of the AWQS at 18 AAC 70.990(30) as:

- (A) any federal technology-based effluent limitation identified in 40 C.F.R. 125.3 and 40 C.F.R. 122.29, as amended through August 15, 1997, adopted by reference;
- (B) minimum treatment standards in 18 AAC 72.040; and
- (C) any treatment requirement imposed under another state law that is more stringent than a requirement of this chapter.

(A) Federal technology-based effluent limitations

EPA has issued Effluent Limitations Guidelines that establish technology-based limits for produced water (40 CFR Part 435) for the oil and gas extraction industry. These guidelines are divided into sub-categories to account for location and economic factors associated with the operation.

Re-injection has been established as best available technology economically achievable (BAT) for the Onshore and Coastal sub-categories with respect to produced water discharges in most cases. As a result, the discharge of produced water from Coastal and Onshore sub-category wells is prohibited, except in Cook Inlet, Alaska. Due to a lack of disposal capability and the adverse conditions in Cook Inlet, the Coastal sub-category with respect to produced water was determined to be appropriate for facilities in Cook Inlet.

(B) Minimum treatment standards in 18 AAC 72.040

18 AAC 70.990(30)(B) (2003 version) appears to be in error, as 18 AAC 72.040 describes discharge to sewers and not minimum treatment. The correct reference appears to be 18 AAC 72.050, Minimum treatment. This section of the regulations refers to domestic wastewater and not produced water, and it does not apply to this analysis.

(C) Any treatment requirement imposed under another state law that is more stringent than 18 AAC 70

Other regulations beyond 18 AAC 70 that apply to this permitting action include 18 AAC 15 and 72. Neither the regulations in 18 AAC 15 and 72 nor another state law that ADEC is aware of impose more stringent treatment requirements than those found in 18 AAC 70.

ADEC determined that for the subject facilities under antidegradation review and based on the high volumes of the discharges requiring treatment, the unsuitable conditions for re-injection, the physical conditions in Cook Inlet, and the existing federal effluent guideline satisfy that the highest statutory and regulatory requirements are applied to control these discharges.

ADEC finds that the treatment of the discharges conforms to the highest statutory and regulatory requirements and that the requirement is met.

10/20/11
Date

Sharon Morgan
Sharon Morgan, Manager
Wastewater Discharge Authorization Program

REFERENCES

Alaska Department of Environmental Conservation, July 14, 2010. *Policy and Procedure Number 05.03.103. Interim Antidegradation Implementation Methods.*

Alaska Department of Natural Resources, January 20, 2009. *COOK INLET AREAWIDE OIL AND GAS LEASE SALE Final Finding of the Director*

Alaska Oil and Gas Association, May 31, 2006. *Comments on U.S. Environmental Protection Agency Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES) for oil and gas extraction facilities in federal and state waters in Cook Inlet, AKG 31-2000 (formerly AKG-28-5000).*

http://www.aoga.org/facts-and-figures/

EPA AKG31-5000 Discharge Monitoring Reports (DMRs), 2007 – 2010. Submitted by permittees for Granite Point, East Forelands, Trading Bay, Anna, Bruce, Baker, Dillon and Tyonek facilities.

EPA AKG31-5000, May 2007. Authorization to Discharge under NPDES for Oil and Gas Extraction Facilities in Federal and State Waters in Cook Inlet Permit and Fact Sheet.

EPA, October, 1996. *Development Document for Final Effluent Limitations Guidelines and Standards for the Coastal Subcategory of the Oil and Gas Extraction Point Source Category,* EPA-821-R-96-023.

Kinnetic Laboratories Inc., July 2010. *Final Report: Produced Water Discharge Fate and Transport in Cook Inlet, 2008 – 2009 NPDES Permit No. AKG31-5000.*

http://www.touchoilandgas.com/usepa-produced-water-permitting-a7136-1.html