UNOCAL 76

RECEIVED

APR 5 - 2004

ANCHORAGE-AOO/A

Dale Haines
Operations Manager
909 West 9th Avenue
P.O. Box 196247
Anchorage, AK 99519
(907) 263-7951
(907) 263-7607 Fax

August 25, 2003

Ms. Kelly Huynh
Acting, NPDES Permits Unit Manager
United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101

RE: Cook Inlet NPDES General Permit- Application for Renewal AKG285000

Dear Ms. Huynh,

Union Oil Company of California (Unocal) hereby submits completed EPA Application Form 2C for twelve facilities that we operate under the Cook Inlet NPDES General Permit AKG285000. Permit AKG285000 expires April 1, 2004. We request an application completeness determination no later than September 30, 2003. We also request an administrative extension of the existing permit be issued at the point EPA determines it is unlikely to complete the renewal process before expiration of the existing permit, but no later than 60 days prior to its expiration, to provide continuity in operations while EPA completes work on renewal of the existing permit. Additionally, we request inclusion under the renewed permit. The current permit lists Unocal operated facilities under the following names and permit numbers:

Granite Point Production Facility (Tank Farm)	AKG285001
Trading Bay Treatment Facility	AKG285002
Platform Anna	AKG285004
Platform Baker	AKG285005
Platform Bruce	AKG285006
Platform Dillon	AKG285007
King Salmon Platform	AKG285008
Dolly Varden Platform	AKG285009
Granite Point Platform	AKG285015
Grayling Platform	AKG285016
Monopod Platform	AKG285017
Steelhead Platform	AKG285019

History and Importance of the Permit

December 16, 1996, EPA issued Effluent Limitations Guidelines and New Source Performance Standards for the Oil and Gas Extraction Point Source Category (40 CFR Part 435). The preamble to

these final regulations states that EPA "rejects zero discharge in Cook Inlet as not economically achievable" (Federal Register Vol. 61, No. 242, Page 66101). Additionally, EPA rejected zero discharge of drilling fluids, drill cuttings and dewatering effluent in Cook Inlet "due to uncertainty regarding the technical feasibility of reinjection...as well as the operational problems and non-water quality environmental impacts resulting from land disposal in the area" (Federal Register Vol. 61, No. 242, Page 66107). These final regulations are not being revisited in the renewal of the Cook Inlet General Permit. However, Unocal believes it is worth noting that the conclusions reached in this regulatory rulemaking continue to be valid.

Most Unocal-operated platforms are not equipped to inject the significant wastewater streams, including produced water and drilling wastes. Space limitations on old platforms and field economics make modifications to facilities prohibitively expensive. Two platforms have permitted Class II disposal wells, but those wells are not available for all waste streams, and may not be available due to operating conditions, legal restrictions, failure of wastewaters to meet specifications, equipment offline or insufficient well capacity. Thus, the ability to discharge is crucial to Unocal's continuing operations in Cook Inlet. Unocal operates two onshore facilities which treat and discharge wastewater accumulated from platforms where no alternative to discharge exists (Trading Bay Production Facility, Granite Point Production Facility-Tank Farm). Renewal of the Cook Inlet General permit to allow these wastewater management options is essential to continued operations. Since the General Permit was issued in 1999, Unocal has suspended operation at two platforms in Cook Inlet. These facilities were no longer economically viable at historically high product prices. Any further restrictions on wastewater discharge could adversely affect the economic viability of other platforms. Unocal encourages EPA to enable continued operation of Cook Inlet facilities by issuing a renewed permit which is consistent with existing Effluent Limitations Guidelines and New Source Performance Standards.

The current permit includes facility-specific effluent limits. These limits are based on a mixing zone analysis and were incorporated into the permit through Alaska's 401 Certification. The limits reflect variations in the qualities of the produced water generated during extraction of oil and gas from different producing formations and are designed to assure that the same State Water Quality Standards are met at the edge of the mixing zones set for each facility. Unocal wishes to reiterate to your office that amendments to NPDES program regulations, promulgated after the current permit, do not require identical water quality based effluent limitations for all dischargers covered under a general permit, only that the dischargers meet the same water quality standards and have limits that were developed in the same way.

Application Background and Clarification

EPA Application Form 2C instructions identify data necessary for permit renewal. To prepare the enclosed application, Unocal developed supporting documentation based on a review of our facility designs, operational practices and compliance history. Information included in this application may reflect changes or corrections to data submitted in previous applications for permit coverage under the Cook Inlet General Permit. For example, efforts have been made to standardize methods of calculating flow of sanitary and domestic wastewater by using an EPA recommended quantity of water per worker housed. In past submittals, individual facilities estimated their water usage. Additionally, a great deal of effort was expended to research and denote in flow diagrams all potential options for routing and commingling wastewater flows.

Unocal's application relies upon detailed flow diagrams showing the routing of wastewater flows estimated for a routine average day of operation. The engineering and flow data in these drawings has been assembled from facility engineering, historical operating practices and interviews with experienced personnel. The following are clarifications of the flow diagrams:

EPA_COOK_INKPR_000006

- To demonstrate a logical balance of flows (intake to discharge) the drawings show multiple routing options but provide flow quantities only for one routing option per wastestream- the route used routinely. Notations are made on the drawings to clarify which discharge codes are included in flow totals.

- The Granite Point Platform flow diagram identifies a direct discharge route for deck drainage only. As of this letter, efforts are underway to eliminate this direct discharge route.

- Deck drainage at King Salmon Platform is commingled with produced water and always shipped to shore. This commingled discharge cannot be discharged directly. The deck drainage tank safety overflow shown on the flow diagram for King Salmon Platform is not a normal discharge to Cook Inlet and, therefore, deck drainage is not listed as an outfall for the King Salmon Platform.

- Several platforms direct commingled discharges to the onshore facilities; Trading Bay Treatment Facility and Granite Point Production Facility Tank Farm. The flow diagrams for these platforms itemize the components of the commingled discharges directed to the onshore facilities. Flow diagrams for the onshore facilities denote only the predominant wastestream, produced water.

- Outfall design configurations will be provided in Unocal's upcoming mixing zone application to the Alaska Department of Environmental Conservation (ADEC).

The existing permit requires limited reporting of flow rates and many wastestreams are not metered. For this reason, historical data is rarely available to calculate the variety of flow rates requested in the application. Kristine Koch of your office was consulted March 27, 2003 and advised Unocal that flow diagrams being prepared for the application should show flow rates consistent with normal operation. The following summarizes the basis for calculations in the application that are based on flow rates:

- Unocal has provided estimated routine flow rates (reflected on the flow diagrams) wherever the Form 2C requests "average flows".

- Where "long term average flows" are requested, Unocal has, when available, averaged historical data from the last year of permit compliance Discharge Monitoring Reports or Unocal's 2002 Non-produced fluid reports (previously submitted to USEPA). If actuals are not available, flow diagram rates have been used.

- Maximum daily "mass" data provided in Section V of the form are based on maximum "pollutant" concentrations at routine flow rates. Note that in many cases, per Form 2C instructions, there is only one "pollutant" concentration data point available.

- Intake of fresh water is dictated by need and varies widely if drilling activities are underway. Some facilities were able to provide estimated routine average intakes which were used to calculate the mass of "pollutants" detected in fresh intake water for Form 2C Section V. For other facilities, intake pollutant mass calculations were based on intake flows excluding drilling. See flow diagrams which provide available flow details.

EPA_COOK_INKPR_000007

This summer, Unocal performed a special sampling and analysis effort to gather "pollutant" concentration data for this application. Samples were collected in accordance with USEPA's letter dated March 14, 2003 and Form 2C instructions. Where possible, 24-hour composite samples were collected. The sample plan, coded to show the basis for sampling each outfall, and a narrative explanation of the decision process for sampling is included in Appendix A of this letter. The following are several clarifications regarding the analytical sampling performed for the application:

- No drilling wastestreams (Drilling Mud & Cuttings, Blowout Preventer Fluid, Excess Cement Slurry, Mud, Cuttings and Cement at Seafloor, Completion Fluids, Workover Fluids, Test Fluids, and Well Treatment Fluids) were available for sampling this summer. Per conversations with Kristine Koch of your office on May 29, 2003 and throughout application preparation, this data will be collected and provided from the next available drilling event but will not prevent USEPA from declaring the enclosed application complete.

- Deck drainage, an intermittent discharge, is routinely discharged commingled with produced water. Results of the special permit renewal sampling of produced water is noted to include deck drainage.

- Data validation was conducted on sample results and some data was flagged. Flagged data which was included in the application is identified in a table included in Appendix B of this letter.

- Analytical laboratories contracted to perform specialty sampling for the application analyzed for more parameters than requested. Laboratories performed these additional tests because they were part of established laboratory analytical pricing packages. If parameters analyzed appeared on Form 2C and were performed to the appropriate methods, results are included in the application. Appendix C of this letter provides the remaining results, including xylene analysis, for your information.

- Two intake sources are utilized by the platforms: Cook Inlet (salt water) or onshore well water barged to the facilities (fresh). Flow diagrams and a footnote on each completed Table V identify the intake water source for each discharge. Note that rainwater contributes to deck drainage volumes.

- Analytical results for the Anna Platform produced water discharge includes "detections" below quantitation limits for various pesticides. These tests were run voluntarily since pesticides are believed absent from all facility discharges. All other Unocal produced water discharges were "non-detection" for pesticides. Unocal's Hazard Communication Chemical Approval Team has never approved and has no records of purchase, transportation or use of pesticides at any Unocal platform. We support the conclusions of the contract laboratory (Appendix D) that "detections are due to matrix interference".

- TAH and TAqH values for produced water discharges have been calculated based on results of the special sampling effort and provided per USEPA's request. Since the Form 2C does not provide a space for these results, they are provided in a table as Appendix E of this letter.

- All final analytical results for special sampling conducted for this application are included in Appendix F of this letter.

EPA_COOK_INKPR_000008

- Form 2C Section V-D instructions include a note describing possible exemptions from requirements of Section 311 of the Clean Water Act. These instructions advise applicants to attach additional sheets identifying substances listed on Table 2C-4 of the instructions which may be discharged. The instructions also ask for the source, origin, and discharge treatment provided. Unocal is providing, in Appendix G of this letter, a table identifying related chemicals from Tables 2C-3 and 2C-4 detected during special sampling and their discharge source to secure exemptions to applicable aspects of Section 311. Several of these detections have been flagged by the laboratory and may not actually be present in facility discharges (see Appendices B and D). On-site treatment provided for the discharges are shown on flow diagrams and in Section II of the application. Origin of the chemicals may be intake waters, process chemicals, naturally occurring down well, natural components of crude oil or natural gas, or in compounds which form during dewatering and processing of product. Additional research can be conducted, if requested, to determine with more specificity the origin of chemical compounds (and their synonyms) listed in Table 2C-4.

- Form 2C Section V requests information regarding the composition of intake water. The table does not provide a space to identify the location/type of intake water. A table provided in Appendix H of this letter identifies intake sources by facility and outfall.

- Form 2C Section VIII requires a list of contract laboratories used for data analysis. Per our discussion with Kristine Koch of your office on August 6, 2003, Unocal is providing information on those laboratories that analyzed samples collected specially for the application. Laboratories used for historical data previously submitted to USEPA have not been listed.

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Dale A. Haines

Dale A. Haines

Attachment: Appendices A-G and Application

cc: Kristine Koch, EPA Region 10
Mr. Robert R. Robichaud, EPA Region 10, w/o attachments
Anita Frankel, EPA Region 10, w/o attachments
Sharmon Stambaugh, ADEC, w/o/ attachments
Alan Kukla, ADEC, w/o attachments

EPA_COOK_INKPR_000010

bcc:

Svend Brant-Ericson, Heller Erhman
Dwight Johnson, Unocal w/o attachments
Sullivan, Faye, Unocal
Bielawski, Patty, w/o attachments
Belli, Julia, Unocal
Deforest, David, Parametrix

EPA_COOK_INKPR_000011

Appendix to August 25, 2003 Application Cover Letter Unocal to USEPA Region 10

Appendix	Content
A	Sampling Plan and Narrative
B	Data Validation – Flagging
C	Sampling Results not included in the Application Form
D	Laboratory Correspondence Regarding Pesticide Data
E	Produced Water Discharge-TAH and TAqH Data
F	Laboratory Data Reports (CD and hardcopy)
G	Table of Chemicals Detected related to those listed on Tables 2c-3 and 2c-4 of the application.
H	Table of Intake Sources Per Facility and Outfall

Appendix A

Sampling Plan and Narrative

Description of Research Performed to Support NPDES Application Sampling Plan

Background

USEPA Application Form 2C states that sampling is required for analytes specified by EPA's PASS system. Other sampling is required for analytes believed to be present in a discharge based on an applicant's evaluation. If an analyte is present in an outfall only because it is present in intake water it does not need to be sampled. EPA provides the following guidance on determining if an analyte is believed present:

"Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your raw materials, maintenance chemicals, intermediate and final products and byproducts, and any previous analyses know to you of your effluent or similar effluent."

Unocal Approach

The following steps were conducted to compile the sampling plan in accordance with EPA guidance.

1. Unocal consulted EPA by letter dated March 7, 2003 regarding representative sampling locations. EPA responded by letter dated March 14, 2003 identifying those sampling points that are "substantially identical" and can, therefore, be used as representative sample locations. The sampling plan identifies sampling locations, number of samples and outfalls to be sampled across the top horizontal margin of the table consistent with this guidance.

EPA also confirmed that the PASS system list of "pollutants" generated for SEC code 1311 (Crude, Petroleum & Natural Gas) is the complete list applicable to Unocal facilities. These "pollutants" are listed down the left margin of the sampling plan.

2. Where the EPA Pass system denoted that a sample was required, the sampling plan was populated with the code "Test/R" indicating Test Required.

3. If a "pollutant" was detected in data for Alaska discharges addressed by any of the following reports (and sampling was not already denoted as required) the sampling plan was populated with the code "Test/A" indicating that a parameter was detected in sampling in Alaska.

- Unocal Discharge Monitoring Reports for the April 1999-February 2003
- Data submitted with the Unocal's 1995 Mixing Zone application prepared by Parametrix, Inc.
- EPA Report "Water Quality Benefit Analysis for The Proposed Effluent Guideline For the Coastal Subcategory of The Oil and Gas Extraction Industry", EPA 821-R-95-011, February 1995
- Analytical data from a water sample collected at Trading Bay Production Facility in June of 2001.

4. If a "pollutant" was detected in the following report for discharges outside the state of Alaska (and sampling was not already identified as necessary) the sampling plan was populated with the code "Test/O" indicating that a parameter was detected in samples collected Outside Alaska.

- EPA Report "Water Quality Benefit Analysis for The Proposed Effluent Guideline For the Coastal Subcategory of The Oil and Gas Extraction Industry", EPA 821-R-95-011, February 1995

5. If a "pollutant" has been of interest to stakeholders in the renewal process (such as the presence of pesticides in Cook Inlet subsistence food sources) Unocal has elected to do some voluntary sampling. Also, to identify the constituents of intake water sources, Unocal has elected to do voluntary sampling of intake for all parameters. Sampling that is being performed voluntarily (not because a "pollutant" is believed present) is marked Test/V in the table.

6. If a "pollutant" is a common constituent of crude oil and a wastestream has the potential to contact crude oil (and testing is not already required) then Test/C has been entered in the table. The following wastestreams were determined to have the potential to contact crude oil:

- Drilling Muds and Cuttings
- Deck Drainage
- Produced Water
- Well Treatment
- Completion Fluids
- Workover Fluids
- Well Treatment

Note: If a constituent is already designated Test/O and it is a constituent of crude then " Test/ O and C" is noted. This exception was made to ensure that if a future decision not to test based on Test/O criteria is made the wastestream will still be tested based on the potential for crude oil contact.

7. If a "pollutant" may be present on the basis of drilling chemical additions (constituents of muds, additives, testing techniques, etc.) based on the advice of our primary drilling contractor (and testing is not already required) then Test/D is entered into the table.

8. The Unocal's 2002 Hazardous Chemical Inventory submitted to USEPA was reviewed and MSDS sheets evaluated. If a 'pollutant" may be present because it is a component of a product used by Unocal per these product MSDS sheet (and testing is not already required) then Test/MSD is entered into the table.

9. If analytical testing is needed for any reason listed above and current data exists that has been obtained by acceptable analytical practices (both sample technique and analytical technique) then the term "Available" is entered into the table.

10. If analytical testing would be useful for evaluating compliance to water quality standards for analytes not listed in the EPA Form 2C then the analyte was added to list and shaded in grey.

11. All fields left blank on the table indicate that the "pollutant" is not believed present based on the criteria established in the Form 2 C instructions, is not required to be sampled, and is not being sampled voluntarily.

END

Number of Samples	1	1	2	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	0	1	1
Sample	Drilling Mude & Cuttings	Deck Drainage	Sanitary Wastes	Domestic Wastes	Desalination Wastes	Blowout Preventer Fluid	Boiler Blowdown	Pile Control Test Water	Non Contact Cooling Water	Excess Cement Slurry	Excess Waterflood	Produced Water	Produced Water	Produced Water	Produced Water	Produced Water	Completion Fluid	Workover Fluids	Well Treatment	Cook Inlet Intake Water	Barge Delivered Intake Water
dichlorodifluoromethane																				Test/V	Test/V
1,1-dichloroethane																				Test/V	Test/V
1,2-dichloroethane																				Test/V	Test/V
1,1-dichloroethylene																				Test/V	Test/V
1,2-dichloropropane																				Test/V	Test/V
1,3-dichloropropylene																				Test/V	Test/V
ethylbenzene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/MSD	Test/V	Test/V
methyl bromide																				Test/V	Test/V
methyl chloride																				Test/V	Test/V
methylene chloride												Test/O	Test/O	Test/O	Test/O	Test/O				Test/V	Test/V
1,1,2,2-tetrachloroethane																				Test/V	Test/V
tetrachloroethylene																				Test/V	Test/V
toluene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
1,2-trans-dichloroethylene																				Test/V	Test/V
1,1,1-trichloroethane																				Test/V	Test/V
1,1,2-trichloroethane																				Test/V	Test/V
trichloroethylene																				Test/V	Test/V
trichlorofluoromethane												Test/O	Test/O	Test/O	Test/O	Test/O				Test/V	Test/V
vinyl chloride																				Test/V	Test/V
xylene	Test/V	Test/V								Test/MSD		Test/MSD	Test/MSD	Test/MSD	Test/MSD	Test/MSD	Test/MSD	Test/MSD	Test/MSD	Test/V	Test/V
Acid Compounds																				Test/V	Test/V
2-chlorophenol																				Test/V	Test/V
2,4-dichlorophenol																				Test/V	Test/V
2,4-dimethylphenol												Test/O	Test/O	Test/O	Test/O	Test/O				Test/V	Test/V
4,6-dintro-O-cresol																				Test/V	Test/V
2,4-dinitrophenol																				Test/V	Test/V
2-nitrophenol																				Test/V	Test/V
4-nitrophenol																				Test/V	Test/V
p-chloro-M-cresol												Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
pentachlorophenol																				Test/V	Test/V
phenol	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C		Test/V	Test/V
2,4,6-trichlorophenol																				Test/V	Test/V
Base/Neutral Compounds																				Test/V	Test/V
acenaphthene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
acenaphtylene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
anthracene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
benzidine	Test/C	Test/C										Test/C	Test/C	Test/C	Test/C	Test/C	Test/C	Test/C	Test/C	Test/V	Test/V
benzo (a) anthracene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
benzo (a) pyrene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
3,4-benzofluorathene	Test/C	Test/C										Test/C	Test/C	Test/C	Test/C	Test/C	Test/C	Test/C	Test/C	Test/V	Test/V
benzo (ghi)perylene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
benzo (k) fluorathene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
bis (2-chloroethoxy) emthane																				Test/V	Test/V
bis (2-chloroethyl) ether																				Test/V	Test/V
bis (2-chloroisopropyl) ether																				Test/V	Test/V
bis (2-ethyl-hexyl)phthalate	Test/D											Test/O	Test/O	Test/O	Test/O	Test/O				Test/V	Test/V
4-bromophenyl phenyl																				Test/V	Test/V
butyl benzyl phthalate																				Test/V	Test/V
2-chloronaphthalene																				Test/V	Test/V
4-chlorophenyl phenyl ether																				Test/V	Test/V
Chrysene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
Dibenzo (a,h) anthracene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
1,2-dichlorobenzene												Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
1,3-dichlorobenzene												Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
1,4-dichlorobenzene												Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
3,3'-dichlorobenzidine																				Test/V	Test/V
diethyl phthalate																				Test/V	Test/V
dimethyl phthallate																				Test/V	Test/V
di-N-butyl phthalate	Test/D											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
2,4-dinitrotoluene																				Test/V	Test/V
2,6-dinitrotoluene																				Test/V	Test/V
di-N-octyl phthalate	Test/D																			Test/V	Test/V
1,2-diphenyl hydrazine																				Test/V	Test/V
fluoranthene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
fluorene	Test/O and C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
hexachlorobenzene																				Test/V	Test/V
hexachlorobutadiene																				Test/V	Test/V
hexachlorocyclopentadiene																				Test/V	Test/V
hexachloroethane																				Test/V	Test/V
Indeno (1,2,3-cd) pyrene	Test/C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V

EPA_COOK_INKPR_000017

Location of Sampling	Active Drilling location to be Determined	GPP	GPP, Bruce	GPP	GPP	SH	SH	SH	SH	Active location to be determined	DV, AN, GPP, GY, KS, MF, SH	Anna	Baker	Bruce	GPTF	TBPF	Active Completion location to be determined	Active Workover location to be determined	No current discharge available for sample	Background from platforms & discharge	Off Barge
Number of Samples	1	1	2	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	0	1	1
Sample	Drilling Muds & Cuttings	Deck Drainage	Sanitary Wastes	Domestic Wastes	Desalination Wastes	Blowout Preventer Fluid	Boiler Blowdown	Fire Control Test Water	Non Contact Cooling Water	Excess Cement Slurry	Excess Waterflood	Produced Water	Produced Water	Produced Water	Produced Water	Produced Water	Completion Fluid	Workover Fluids	Well Treatment	Cook Inlet Intake Water	Barge Delivered Intake Water
Biochemical Oxygen Demand (BOD)	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/V	Test/V
Chemical Oxygen Demand (COD)	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/V	Test/V
Total Organic Carbon (TOC)	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/V	Test/V
Total Suspended Solids (TSS)	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/V	Test/V
Ammonia (as N)	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/V	Test/V
Flow	Available	Available	Available	Available	Available	Test/R	Available	Available	Available	Available	Available	Available	Available	Available	Available	Available	Available	Available	Test/R	Test/V	Test/V
Winter Temperature	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Available	Test/R	Test/R	Test/R	Test/V	Test/V
Summer Temperature	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Available	Test/R	Test/R	Test/R	Test/V	Test/V
pH	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Test/R	Available	Available	Available	Available	Available	Available	Test/R	Test/R	Test/V	Test/V
Bromide	Test/D																Test/D	Test/D		Test/V	Test/V
Color	Test/D																Test/D	Test/D		Test/V	Test/V
Fecal Coliform			Test/A	Test/V																Test/V	Test/V
Fluoride	Test/D																Test/D	Test/D		Test/V	Test/V
Nitrate-Nitrite (as N)	Test/D																Test/D	Test/D		Test/V	Test/V
Nitrogen, T.O. (as N)	Test/D																Test/D	Test/D		Test/V	Test/V
Oil and Grease	Test/D	Test C		Test/V								Available	Available	Available	Available	Available	Test/D	Test/D	Test/C	Test/V	Test/V
Phosphorus, Total (as P)	Test/D										Test/MSD	Test/MSD	Test/MSD	Test/MSD	Test/MSD	Test/MSD	Test/D	Test/D		Test/V	Test/V
Dissolved Oxygen			Test/V	Test/V								Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
Conductivity			Test/V	Test/V								Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
Alpha, Total												Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Beta, Total												Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Radium, Total												Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Radium 226, total	Test/D											Test/A	Test/A	Test/A	Test/A	Test/A	Test/D	Test/D		Test/V	Test/V
Sulfate (as SO4)	Test/D																Test/D	Test/D		Test/V	Test/V
Sulfide (as S)	Test/D																Test/D	Test/D		Test/V	Test/V
Sulfite (as SO3)	Test/D																Test/D	Test/D		Test/V	Test/V
Surfactants	Test/D																Test/D	Test/D		Test/V	Test/V
Aluminimum, total	Test/O											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Barium, total	Test/A											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Boron, total												Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Cobalt, total												Test/O	Test/O	Test/O	Test/O	Test/O				Test/V	Test/V
Iron, total	Test/O											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Magnesium, total	Test/D											Test/O	Test/O	Test/O	Test/O	Test/O	Test/D	Test/D		Test/V	Test/V
Molybdenum, total	Test/D											Test/O	Test/O	Test/O	Test/O	Test/O	Test/D	Test/D		Test/V	Test/V
Manganese, total												Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Tin, total	Test/O											Test/O	Test/O	Test/O	Test/O	Test/O				Test/V	Test/V
Titanium, total	Test/O											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Sb	Test/O											Test/O	Test/O	Test/O	Test/O	Test/O				Test/V	Test/V
As	Test/O											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Be	Test/O																			Test/V	Test/V
Cd	Test/A											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Cr	Test/A											Test/O	Test/O	Test/O	Test/O	Test/O				Test/V	Test/V
Cu	Test/A											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Pb	Test/A											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Hg	Test/A											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Ni	Test/O											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Se	Test/O											Test/O	Test/O	Test/O	Test/O	Test/O				Test/V	Test/V
Ag	Test/O											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Tl	Test/O											Test/O	Test/O	Test/O	Test/O	Test/O				Test/V	Test/V
Zn	Test/A											Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
Cyanide, total																				Test/V	Test/V
Phenols, total												Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
2,3,7,8-Tetrachlorodibenzo-P-Dioxin																				Test/V	Test/V
Volatile Compounds																				Test/V	Test/V
Acrolein																				Test/V	Test/V
Acrylonitrile	Test/D																Test/D	Test/D		Test/V	Test/V
Benzene	Test/O and C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
Bis(chloromethyl) Ether																				Test/V	Test/V
bromoformcarbon tetrachloride																				Test/V	Test/V
chlorobenzene												Test/A	Test/A	Test/A	Test/A	Test/A				Test/V	Test/V
chlorodibromomethane																				Test/V	Test/V
chloroethane																				Test/V	Test/V
2-chloroethylvinyl ether																				Test/V	Test/V
chloroform																				Test/V	Test/V
dichlorobromomethane																				Test/V	Test/V

EPA_COOK_INKPR_000018

Number of Samples	1	1	2	1	1	1	1	1	1	1	7	1	1	1	1	1	1	1	0	1	1
Sample	Drilling Fluids & Cuttings	Deck Drainage	Sanitary Wastes	Domestic Wastes	Desalination Wastes	Blowout Preventer Fluid	Boiler Blowdown	Fire Control Test Water	Non Contact Cooling Water	Excess Cement Slurry	Excess Waterflood	Produced Water	Produced Water	Produced Water	Produced Water	Produced Water	Completion Fluid	Workover Fluids	Well Treatment	Cook Inlet Intake Water	Barge Delivered Intake Water
isophorone	Test/C	Test/C										Test/C	Test/C	Test/C	Test/C	Test/C	Test/C	Test/C	Test/C	Test/V	Test/V
naphthalene	Test/O and C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
nitrobenzene																				Test/V	Test/V
N-nitrosodimethylamine																				Test/V	Test/V
N-nitrosodi-N-propylamine																				Test/V	Test/V
N-nitrosodiphenylamine												Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
phenanthrene	Test/O and C	Test/C										Test/A	Test/A	Test/A	Test/A	Test/A	Test/C	Test/C	Test/C	Test/V	Test/V
pyrene	Test/C	Test/C																		Test/V	Test/V
1,2,4-trichlorobenzene																				Test/V	Test/V
Pesticides												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
aldrin												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
α-BHC												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
β-BHC												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
γ-BHC												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
δ-BHC												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
chlordane												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
4,4'-DDT												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
4,4'-DDE												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
D4,4'-DDD												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
dieldrin												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
α-endosulfan												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
β-endosulfan												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
endosulfan sulfate												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
entrin												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
endrin aldehyde												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
heptachlor												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
heptachlor epoxide												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
PCB-1242												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
PCB-1221												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
PCB-1248												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
PCB-1260												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
PCB-1016												Test/V	Test/V	Test/V	Test/V	Test/V				Test/V	Test/V
toxaphene																					

Key:

Test/A	The analyte was detected in the wastestream in Alaska.
Test/O	The analyte was detected in the wastestream outside of Alaska (Texas or Louisiana).
Test/R	The analyte is required to be tested by EPA Form 2C instructions.
Test/V	The analyte will be tested as a voluntary measure to document its absence or presence.
Test/D	The analyte may be present due to drilling chemical constituents.
Test/MSD	The analyte may be present based on a review of the MSD for chemical additives
Test/C	The analyte may be present based on the composition of crude oil encountered.
Available	Analytical data is available and complies with sampling protocols.
Blank cell	The analyte is not believed to be present based on review of information per Form 2C instructions.
Analyte in grey background	This analyte is not listed on Form 2C but is being tested voluntarily for the reason listed

EPA_COOK_INKPR_000019

Appendix B

Data Validation Flagging

Flagged by Independent Review			
Sample Name	Analyte	Qualifier	Reason
Anna Produced Water	4,4'-DDT	J	High surrogate recovery
Anna Produced Water	b-BHC	J	High surrogate recovery
Anna Produced Water	Endosulfan Sulfate	J	High surrogate recovery
Anna Produced Water	g-BHC (Lindane)	J	High surrogate recovery
Anna Produced Water	Heptachlor Epoxide	J	High surrogate recovery
Bruce Produced Water	4,4'-DDD	UJ	Low surrogate recovery
Bruce Produced Water	4,4'-DDE	UJ	Low surrogate recovery
Bruce Produced Water	4,4'-DDT	UJ	Low surrogate recovery
Bruce Produced Water	Aldrin	UJ	Low surrogate recovery
Bruce Produced Water	a-Chlordane	UJ	Low surrogate recovery
Bruce Produced Water	b-BHC	UJ	Low surrogate recovery
Bruce Produced Water	d-BHC	UJ	Low surrogate recovery
Bruce Produced Water	Dieldrin	UJ	Low surrogate recovery
Bruce Produced Water	Endosulfan I	UJ	Low surrogate recovery
Bruce Produced Water	Endosulfan II	UJ	Low surrogate recovery
Bruce Produced Water	Endosulfan Sulfate	UJ	Low surrogate recovery
Bruce Produced Water	Endrin	UJ	Low surrogate recovery
Bruce Produced Water	Endrin Aldehyde	UJ	Low surrogate recovery
Bruce Produced Water	g-BHC (Lindane)	UJ	Low surrogate recovery
Bruce Produced Water	g-Chlordane	UJ	Low surrogate recovery
Bruce Produced Water	Heptachlor	UJ	Low surrogate recovery
Bruce Produced Water	Heptachlor Epoxide	UJ	Low surrogate recovery
Bruce Produced Water	Methoxychlor	UJ	Low surrogate recovery
Bruce Produced Water	Toxaphene	UJ	Low surrogate recovery
Bruce Produced Water	a-BHC	UJ	Low surrogate recovery
Bruce Produced Water	Aroclor 1016	UJ	Low surrogate recovery
Bruce Produced Water	Aroclor 1221	UJ	Low surrogate recovery
Bruce Produced Water	Aroclor 1232	UJ	Low surrogate recovery
Bruce Produced Water	Aroclor 1242	UJ	Low surrogate recovery
Bruce Produced Water	Aroclor 1248	UJ	Low surrogate recovery
Bruce Produced Water	Aroclor 1254	UJ	Low surrogate recovery
Bruce Produced Water	Aroclor 1260	UJ	Low surrogate recovery
Cook Inlet Background	Di-n-Butylphthalate	UB	Blank contamination
Cook Inlet Background	Benzidine	R	Extremely low LCS/LCSD recoveries
Cook Inlet Background	Sulfide	UJ	Low MS/MSD recoveries; potential matrix effect
Cook Inlet Background	2,3,7,8-TCDD	UJ	Low internal standard/labeled compound recovery
GPTF Produced Water	Methylene Chloride	B	Blank contamination
TBPF Produced Water	Methylene Chloride	B	Blank contamination

QUALIFIERS:

B = analyte concentration should be considered an estimate due to blank contamination

J = analyte concentration should be considered an estimate

UB = analyte was not detected at the reported estimated concentration due to blank contamination

UJ = analyte was not detected at the reported estimated concentration

R = sample result rejected due to serious quality control concerns; data are unusable

Flagged by Contracting Lab			
Sample Name	Analyte	Qualifier	Qualifier Definition
Anna Produced Water	Molybedenum	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
Baker Produced Water	Lead	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
Baker Produced Water	Chromium	B	Analyte was detected in the laboratory method blank
Bruce Produced Water	Antimony	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
Bruce Produced Water	Tin	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
Bruce Produced Water	BOD5	E	Reported concentration is above the instrument calibration upper range
Bruce Produced Water	Chloroform	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
Cook Inlet Background	Lead	B	Analyte was detected in the laboratory method blank
Cook Inlet Background	Cobalt	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
Cook Inlet Background	Mercury	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
Cook Inlet Background	Di-n-Butylphthalate	JB	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL) Analyte was detected in the laboratory method blank
GPTF Produced Water	Lead	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
GPTF Produced Water	Cobalt	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
GPTF Produced Water	Molybedenum	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
GPTF Produced Water	Methylene Chloride	JB	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL) Analyte was detected in the laboratory method blank
Fresh Water Source	Di-n-Butylphthalate	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
Fresh Water Source	Molybedenum	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
Fresh Water Source	Chromium	JB	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL) Analyte was detected in the laboratory method blank
Steelhead Fire Control	TOC	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
Steelhead Waterflood	TOC	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
TBPF Produced Water	Lead	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
TBPF Produced Water	Cobalt	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
TBPF Produced Water	Methylene Chloride	JB	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL) Analyte was detected in the laboratory method blank
TBPF Produced Water	Fluorene	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)
TBPF Produced Water	Phenanthrene	J	Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)

Appendix C

Sampling Results Not Included in Application Form 2 C

DATA ANALYZED, BUT NOT INCLUDED IN FORM 2C

SAMPLE	Gamma -Chlordane	Methoxychlor	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	CIS-1,3-Dichloropropene	Trans-1,3-Dichloropropene	Methylene Blue Active Substance	Chloride	Nitrogen, Total Kjeldahl
Anna Produced Water	ND	ND	ND	ND	ND	ND	ND			
Baker Produced Water	ND	ND	ND	ND	ND	ND	ND			
Bruce Produced Water	ND	ND	ND	ND	ND	ND	ND			
Cook Inlet Background	ND	ND	ND	ND	ND	ND	ND	1.38		1.20 mg/L
GPTF Produced Water			ND	ND	ND	ND	ND			
Fresh Water Intake Source	ND	ND	ND	ND	ND	ND	ND	0.130 mg/L	21 mg/L	ND
TBPF Produced Water	ND	ND	ND	ND	ND	ND	ND			

Xylene Voluntary Analysis (Parameter Not on Form 2-C)

Sample Location and Outfall	Results in ug/L	
	Xylene-O	Xylene-M&P
Trading Bay Production Facility- 015 Produced Water	130	370
Granite Point Treatment Facility- Tank Farm- 015 Produced Water	470	880
Anna Platform – 015 Produced Water	410	740
Bruce Platform- 015 Produced Water	410	790
Baker Platform- 015 Produced Water	430	700

Appendix D

Laboratory Correspondence Regarding Pesticide Data

ANALYTICA
ENVIRONMENTAL
LABORATORIES
an Analytica Group Company

12189 Pennsylvania Street
Thornton, CO 80241
(303) 469-8868
(800) 873-8707
FAX: (303) 469-5254

August 13, 2003

Julia Belli
Unocal Oil and Gas
PO Box 196247
Anchorage, AK 99519

RE: Pesticides in A0306156 – Anna Produced Water

Dear Ms. Belli:

Recently, we submitted a report under the workorder shown above. This report included a set of analyses for pesticides. These included some apparent low-level pesticide detections (below the quantitation limit but above the mdl, qualified with a "J" to indicate a lower degree of certainty and quantitation accuracy). These "detections" included beta-BHC at 0.023 ug/L, Endosulfan Sulfate at 0.04 ug/L, gamma-BHC at 0.054 ug/L, Heptachlor Epoxide at 0.0089 ug/L, and 4,4'-DDT at 0.013 ug/L.

This letter is intended as a technical clarification of those results. We would like to make the following points:

1. Our opinion is that all these apparent detections are due to matrix interference. This interference is very clear in the chromatograms.
2. We are forced to report them anyway because there are peaks at the correct retention time on both columns.
3. The RPD between the quantitated results on both columns is greater than 40% in all cases, consistent with interference. We have reported the lower of the two in each case due to the obvious interference present.
4. All results are below the quantitation limit (PQL). We do not believe that results below the PQL are very meaningful for this particular test due to the tendency of most samples to produce interference at that level.

Sincerely,

John G. Huntington, Ph.D.
Technical Director
JGH:gh

Northern Test Lab

CLIENT:	Unocal Oil & Gas - Baker Platform
SAMPLE MARKED:	Sewage Samples
SAMPLE POINT:	Sewage
SAMPLE DATE/TIME:	7/20/03 15:00
SAMPLED BY:	J.M.
SAMPLE RECEIVED:	7/21/03
SAMPLE ANALYZED:	7/26/03
SAMPLE NUMBER:	20031507-01

	PARAMETER	METHOD	RESULT	UNIT	ANALYST
BOD	BOD5	SM 5210B	7.4	mg/L	M. Ashwell
TSS	Solids: Total Suspended	SM 2540D	27.4	mg/L	M. Ashwell

Reviewed/Released By Paula Crowley

35186 SPUR HWY SOLDOTNA, AK 99669 (907) 262-4624 Fax (907) 262-8777
Analytical, Environmental, Geotechnical, Construction Materials Testing

Northern Test Lab
Analytical, Environmental, Geotechnical, Construction Materials Testing
35186 Spur Highway Soldotna, Alaska (907)262-4624 262-5777(fax)
engineeringalaska@gci.net

CHAIN OF CUSTODY

LAB NUMBER: 2003-1507
PWSID:

CLIENT INFORMATION

Name: UNOCAL
Contact: JACKIE ROSE
Address:
Phone:
Fax:
Bill/Paid:
Project #:
PO#:
COMMENTS:
CHLORINATED - Y N

Laboratory: SGS
Shipping Carrier: ERA
Air Bill #:
Invoice: NTL
Report: NTL

Sampled By: Jesse Mercurio / Greg Caille
Sample Site: BAKER PLATFORM

SAMPLE NO.	LOCATION DESCRIPTION (kitchen, spigot, monitor well, etc.)	DATE	TIME	# CONTAINERS	BOD TSS	TOC	COD NH3	Fecal				REMARKS
				PRESERVATIVE →	—	HCl	H_2SO_4					
				ANALYSIS →								
1	Sewage Samples	7-20-03	15:00	3	X	X	X					JM/GMC
2	Sewage Grab Sample	7-21-03	830	1				X				
3												
4												
5												
6												
7												
8												
9												
10												

Sample Condition: Good Rejected Temperature
Comments: BOD/TSS/Fecal done @ NTL – [illegible]

Relinquished by: Wayne R. [illegible] Date/Time: 7-21-03 09:00 Accepted by: [illegible] Date/Time: 7/21/03 1145

Relinquished by: Date/Time: Accepted by: Date/Time:

SGS

Laboratory Analysis Report

200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: http://www.sgsenvironmental.com

Paula Crowley
Northern Test Lab
35186 Kenai Spur Hwy.
Soldotna, AK 99669

Work Order:	1034514
	Unocal
Client:	Northern Test Lab
Report Date:	August 05, 2003

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Control Manual that outlines this program is available at your request. The laboratory ADEC certification numbers are AK08-03 (DW) and UST-005 (CS).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your SGS Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

PQL	Practical Quantitation Limit (reporting limit).
U	Indicates the analyte was analyzed for but not detected.
F	Indicates an estimated value that falls below PQL, but is greater than the MDL.
J	The quantitation is an estimation.
B	Indicates the analyte is found in a blank associated with the sample.
*	The analyte has exceeded allowable regulatory or control limits.
GT	Greater Than
D	The analyte concentration is the result of a dilution.
LT	Less Than
!	Surrogate out of control limits.
Q	QC parameter out of acceptance range.
M	A matrix effect was present.
JL	The analyte was positively identified, but the quantitation is a low estimation.

Note: Soil samples are reported on a dry weight basis unless otherwise specified.

SGS

GS Ref.#	1034514001	All Dates/Times are Alaska Standard Time	
lient Name	Northern Test Lab	Printed Date/Time	08/05/2003 10:25
roject Name/#	Unocal	Collected Date/Time	07/20/2003 15:00
ient Sample ID	Sewage Samples Baker	Received Date/Time	07/23/2003 8:50
atrix	Water (Surface, Eff., Ground)	Technical Director	Stephen C. Ede
		Released By	

ample Remarks:

rameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Chemical Oxygen Demand COD		47.1	20.0	mg/L	EPA 410.4	B			07/28/03	KC
ıters Department										
Ammonia-N		2.92	0.100	mg/L	4500-NH3 F	B		07/31/03	08/01/03	JYC
Total Organic Carbon		9.13	0.500	mg/L	EPA 415.1	A			07/25/03	JJB

Northern Test Lab

Analytical, Environmental, Geotechnical, Construction Materials Testing
35166 Spur Highway Soldotna, Alaska (907)262-4524 262-5777(fax)
engineeringalaska@gci.net

CHAIN OF CUSTODY

LAB NUMBER: _____

PWSID: _____

Laboratory:	SGS
Shipping Carrier:	ERA
Air Bill #:	
Invoice:	NTL
Report:	NTL

CLIENT INFORMATION

Name: UNOCAL Contact: JACKIE ROSE

Address: _____

Phone: _____ Fax: _____

Bill/Paid: _____ Project #: _____ PO#: _____

COMMENTS: _____ CHLORINATED - Y N

Sampled By: Jesse Mercurio / Greg Caille

Sample Site: BAKER PLATFORM

SAMPLE NO.	LOCATION DESCRIPTION (kitchen, spigot, monitor well, etc.)	DATE	TIME	# CONTAINERS	BOD TSS	TOC	COD NH3	Fecal				REMARKS
				PRESERVATIVE →	—	HCl	H_2SO_4					
				ANALYSIS →								
1	Sewage Samples	7-20-03	15:00	3	X	X	X					JM/GMC
2	Sewage Grab Sample	7-21-03	830	1				X				
3												
4												
5												
6												
7												
8												
9												
10												

Sample Condition: Good Rejected Temperature Comments: BOD/TSS/Fecal done @ NTL - [illegible]

Relinquished by: Wayne R. [illegible] Date/Time: 7-21-03 09:00 Accepted by: [illegible] Date/Time: 7/21/03 1145

Relinquished by: _____ Date/Time: _____ Accepted by: _____ Date/Time: _____

Northern Test Lab

Analytical, Environmental, Geotechnical, Construction Materials Testing
35136 Spur Highway, Soldotna, Alaska (907) 262-4624 262-5777(fax)

PLEASE READ INSTRUCTIONS ON BACK
PRINT ALL INFORMATION

FECAL COLIFORM BACTERIA DRINKING WATER ANALYSIS BY MEMBRANE FILTER

Name: Unocal

Address:

Lab Use Only
Lab Number: 2003-1507

Phone:

Fax ($1 charge):

Sample Information: ○ Residential Water System ○ Public Water System ID ____ ○ Other ____

Legal Description/Building: BAKER PLATFORM

Sample Location: (bathroom, kitchen, etc) Sewage Treatment Plant - Designated Sample Point

Sampled: Date: 7-21-03 Time: 0830 By: Greg Caille

Sample Type: ☒ Routine ○ Special Purpose ____

○ Check Sample (For previous unsatisfactory sample with lab number ____)

Disinfection: ○ Untreated ○ Treated (chlorine, UV, etc.)

Relinquished: Date: 7-21-03 Time: 0900 By: [signature]

Received: Date: 7/21/03 Time: 1145 By: [signature] Paid: Bill

Condition: ☒ Satisfactory ○ Rejected Comments: ____

This report is for the exclusive use of the party to whom it is addressed. Northern Test Lab accepts no responsibility or liability except for the due performance of analysis consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the local area under similar conditions, circumstances, and limitations.

↓ To be filled out by Lab ↓

Date Test Started: 7/21/03 Time Test Started: 1300 Analyst: [signature]

TEST RESULTS (SM 9222B)

	Date	Time	Analyst
Direct Count: 1 Colonies/100ml	7/22/03	1300	[illegible]

Verification: LTB ____ EC ____

○ Negative for Fecal Coliform - Satisfactory ○ Resample Required

☒ Positive for Fecal Coliform - # Colonies 1 Fecal Coliform ○ Repeat Samples Required

☒ Satisfactory ○ Unsatisfactory ○ Questionable-Recommend Resample

Date Analysis Completed: 7/22/03 Reported By: P. Crowley

Comments: Called result to Jackie 7/23/03 [illegible]

WP\JADE\FORMS\LAB\Testing\FECAL.MAS

Revised: September 10, 2001

Northern Test Lab

CLIENT:	Unocal Oil & Gas - Granite Point Platform
SAMPLE MARKED:	Sewage
SAMPLE POINT:	Downstair Sample Point
SAMPLE DATE/TIME:	7/24/03 19:27
SAMPLED BY:	J.M.
SAMPLE RECEIVED:	7/24/03
SAMPLE ANALYZED:	7/29/03
SAMPLE NUMBER:	20031527-01

	PARAMETER	METHOD	RESULT	UNIT	ANALYST
BOD	BOD5	SM 5210B	20.5	mg/L	M. Ashwell
TSS	Solids: Total Suspended	SM 2540D	48.4	mg/L	M. Ashwell

Reviewed/Released By: Pamela Crowthry

35186 SPUR HWY SOLDOTNA, AK 99669 (907) 262-4624 Fax (907) 262-5777
Analytical, Environmental, Geotechnical, Construction Materials Testing

Northern Test Lab
Analytical, Environmental, Geotechnical, Construction Materials Testing
35186 Spur Highway Soldotna, Alaska (907) 262-4624 262-5777(fax)

PLEASE READ INSTRUCTIONS ON BACK
PRINT ALL INFORMATION

FECAL COLIFORM BACTERIA ANALYSIS BY MEMBRANE FILTER

Lab Use Only
Lab Number 03-[illegible]

Name Unocal

Address Granite Point Platform

Phone 776-6650

Fax ($1 charge)

Sample Information: O Residential Water System O Public Water System ID_____ ⊗ Other Sewage Effluent

Legal Description:/Building: —

Sample Location: (bathroom, kitchen, etc) Downstairs sample point

Sampled: Date: 7-24-03 Time: ~~08:30~~ 1430 pm By: JM

Sample Type: O Routine O Special Purpose _____

O Check Sample (For previous unsatisfactory sample with lab number _____)

Disinfection: O Untreated O Treated (chlorine, UV, etc.) _____

Relinquished: Date: 7-24-03 Time: 08:45 By: JM

Received: Date: 7/24/03 Time: 1610 By: pbc Paid: _____

Condition: O Satisfactory O Rejected Comments: _____

This report is for the exclusive use of the party to whom it is addressed. Northern Test Lab accepts no responsibility or liability except for the due performance of analysis consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the local area under similar conditions, circumstances, and limitations.

↓ To be filled out by Lab ↓

Date Test Started: 7/24/03 Time Test Started: 1615 Analyst: pbc

TEST RESULTS (SM 9222B)

	Date	Time	Analyst
Direct Count: 3 Colonies/100ml	7/25/03	1615	pbc

Verification: LTB ____ EC ____

O Negative for Fecal Coliform - Satisfactory

⊗ Positive for Fecal Coliform - # Colonies 3 Fecal Coliform

⊗ Satisfactory O Unsatisfactory

O Resample Required

O Repeat Samples Required

O Questionable-Recommend Resample

Date Analysis Completed: 7/25/03 Reported By: P Conway

Comments: didn't receive bottles in 1st shipment - JM sampled later in the afternoon - pbc

Northern Test Lab
Analytical, Environmental, Geotechnical, Construction Materials Testing
35189 Spur Highway Soldotna, Alaska (907)262-4624 262-5777(fax)
engineeringalaska@gci.net

CHAIN OF CUSTODY

LAB NUMBER: 2003-1527
PWSID:

CLIENT INFORMATION
Name UNOCAL **Contact** Jimmy
Address Granite Point Platform
Phone 776-6650 **Fax** 776-6654
Bill/Paid **Project #** **PO#**
COMMENTS **CHLORINATED - Y N**

Laboratory: SGS
Shipping Carrier: ERA
Air Bill #:
Invoice: NTL
Report: NTL

Sampled By: Jm / TOC
Sample Site: GRANITE POINT PLATFORM

SAMPLE NO.	LOCATION DESCRIPTION (kitchen, spigot, monitor well, etc.)	DATE	TIME	# CONTAINERS	BOD TSS	~~TOC~~	COD NH3					REMARKS
PRESERVATIVE →					—	~~HCl~~	H2SO4					
1	Downstairs sample point	7-23/7-24	Composite by 1927	3	X	~~X~~	X					-TOC containers returned not ~~opened~~
2												
3												
4												
5												-BOD/TSS completed by NTL
6												
7												
8												
9												
10												

Sample Condition: Good Rejected **Temperature** 4°C **Comments** Please use both COD/NH3 bottles for analysis composite

Relinquished by: Jm **Date/Time:** 7-24-03 / 08:45 **Accepted by:** P Crawford **Date/Time:** 7/24/03 1100
Relinquished by: P Crawford **Date/Time:** 7/24/03 1200 **Accepted by:** **Date/Time:**

SGS

Laboratory Analysis Report

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 7

To Jackie Rose	From Paula Crowley
Co.	Co. NTL
Dept.	Phone # 262-4624
Fax #	Fax #

200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: http://www.sgsenvironmental.com

Paula Crowley
Northern Test Lab
35186 Kenai Spur Hwy.
Soldotna, AK 99669

Work Order:	1034590
	Unocal
Client:	Northern Test Lab
Report Date:	August 05, 2003

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Control Manual that outlines this program is available at your request. The laboratory ADEC certification numbers are AK08-03 (DW) and UST-005 (CS).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your SGS Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

PQL	Practical Quantitation Limit (reporting limit).
U	Indicates the analyte was analyzed for but not detected.
F	Indicates an estimated value that falls below PQL, but is greater than the MDL.
J	The quantitation is an estimation.
B	Indicates the analyte is found in a blank associated with the sample.
*	The analyte has exceeded allowable regulatory or control limits.
GT	Greater Than
D	The analyte concentration is the result of a dilution.
LT	Less Than
I	Surrogate out of control limits.
Q	QC parameter out of acceptance range.
M	A matrix effect was present.
JL	The analyte was positively identified, but the quantitation is a low estimation.

Note: Soil samples are reported on a dry weight basis unless otherwise specified.

SGS

SS Ref.#	1034590002	All Dates/Times are Alaska Standard Time	
lient Name	Northern Test Lab	Printed Date/Time	08/05/2003 10:25
roject Name/#	Unocal	Collected Date/Time	07/23/2003 0:00
lient Sample ID	Downstairs Sample Point GPP	Received Date/Time	07/25/2003 8:05
atrix	Water (Surface, Eff., Ground)	Technical Director	Stephen C. Ede
		Released By	

mple Remarks:

rameter	Qualifiers	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Chemical Oxygen Demand COD		1180	20.0	mg/L	EPA 410.4	A			07/30/03	KC
ater Department										
Ammonia-N		22.4	1.00	mg/L	4500-NH3 F	A		07/31/03	08/01/03	JVC

Northern Test Lab

Analytical, Environmental, Geotechnical, Construction Materials Testing
35186 Spur Highway Soldotna, Alaska (907)262-4624 262-5777(fax)
engineeringalaska@gci.net

CHAIN OF CUSTODY

LAB NUMBER: _____

PWSID: _____

CLIENT INFORMATION

Name: Unocal Granite Point Platform Contact: _____

Address: _____

Phone: 776-6650 Fax: 776-6654

Bill/Paid: _____ Project #: _____ PO#: _____

COMMENTS: _____ CHLORINATED - Y N

Laboratory: SGS

Shipping Carrier: ERA

Air Bill #: _____

Invoice: NTL

Report: NTL

Sampled By: J. Madrid

Sample Site: _____

SAMPLE NO.	LOCATION DESCRIPTION (kitchen, spigot, monitor well, etc.)	DATE	TIME	# CONTAINERS	TOC							REMARKS
				PRESERVATIVE →	HCl							
				ANALYSIS →								
1	Downstairs Sample Point	7-27-03	08:00	1	X							
2	Omni-Pure Sample Point	7-27-03	08:00	1	X							
3												
4												
5												
6												
7												
8												
9												
10												

Sample Condition: Good Rejected Temperature Comments

Relinquished by: J. Madrid Date/Time: 7-28-03 08:15 Accepted by: P Crocoty Date/Time: 7/28/03 1100

Relinquished by: _____ Date/Time: _____ Accepted by: _____ Date/Time: _____

F:\WP\JADE\FORMS\Lab\COCORIGZ.FRM

Appendix E

Produced Water Discharge- TAH and TAqH Data

Concentrations (µg/L) of TAH and TAqH in produced water samples.

Group	Chemical	Anna	Baker	Bruce	Granite Point Tank Farm	Trading Bay
TAH	Benzene	13000	7400	4200	4400	1500
	Ethyl benzene	200	240	200	200	170
	Toluene	3300	3100	2700	2800	740
	m/p-Xylenes	740	700	790	880	370
	o-Xylene	410	430	410	470	130
	Sum:	**17650**	**11870**	**8300**	**8750**	**2910**
TAqH	Benzene	13000	7400	4200	4400	1500
	Ethyl benzene	200	240	200	200	170
	Toluene	3300	3100	2700	2800	740
	m/p-Xylenes	740	700	790	880	370
	o-Xylene	410	430	410	470	130
	Acenaphthene	<25	<10	<25	<25	<5
	Acenaphthylene	<25	<10	<25	<25	<5
	Anthracene	<25	<10	<25	<25	<5
	Benzo(a)anthracene	<25	<10	<25	<25	<5
	Benzo(a)pyrene	<25	<10	<25	<25	<5
	Benzo(b)fluoranthene	<25	<10	<25	<25	<5
	Benzo(g,h,i)perylene	<25	<10	<25	<25	<5
	Benzo(k)fluoranthene	<25	<10	<25	<25	<5
	Chrysene	<25	<10	<25	<25	<5
	Dibenzo(a,h)anthracene	<25	<10	<25	<25	<5
	Fluoranthene	<25	<10	<25	<25	<5
	Fluorene	<25	<10	<25	<25	2.1
	Indeno(1,2,3-cd)pyrene	<25	<10	<25	<25	<5
	Naphthalene	150	56	69	64	53
	Phenanthrene	<25	<10	<25	<25	3.4
	Pyrene	<25	<10	<25	<25	<5
	Sum:	**17800**	**11926**	**8369**	**8814**	**2969**

Note: "<" values were not detected above the shown practical quantitation limit (PQL) and are not included in the calculation of TAqH.

Appendix F

Laboratory Data Reports (CD and hardcopy)

Appendix G

Table of Chemicals Detected related to those listed on Tables 2c-3 and 2c-4 of the Application

Summary of Detected Parameters in Unocal Effluents and Related Chemicals in the Form 2C Hazardous Substance Lists.

Detected Parameters	Facility (Effluent Type)		Related Chemicals in Tables 2C-3 and 2C-4 of Form 2C		
Metals/Inorganics					
Aluminum	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Aluminum sulfate		
Antimony	Bruce (PW) GPTF (PW)		Antimony pentachloride Antimony potassium tartrate Antimony tribromide	Antimony trichloride Antimony trifluoride Antimony trioxide	
Arsenic	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Arsenic disulfide Arsenic pentoxide Arsenic trichloride	Arsenic trioxide Arsenic trisulfide	
Barium	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Barium cyanide		
Chromium	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Chromic acetate Chromic acid Chromic sulfate	Chromous chloride	
Cobalt	Bruce (PW) GPTF (PW) Trading Bay (PW)		Cobaltous bromide Cobaltous formate Cobaltous sulfamate		
Copper	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Cupric acetate Cupric acetoarsenate Cupric chloride	Cupric nitrate Cuproc oxalate Cupric sulfate	Cupric sulfate ammoniated Cupric tartate
Iron	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Ferric ammonium citrate Ferric ammonium oxalate Ferric chloride	Ferric fluoride Ferric nitrate Ferric sulfate	Ferrous ammonium sulfate Ferrous chloride Ferrous sulfate
Lead	Anna (PW) Baker (PW) Bruce (PW) GPTF (PW)	Trading Bay (PW)	Lead acetate Lead arsenate Lead chloride Lead fluoborate	Lead fluorite Lead iodide Lead nitrate Lead stearate	Lead sulfate Lead sulfate Lead thiocyanate
Magnesium	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)			
Manganese	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)			
Molybdenum	Anna (PW)	Bruce (PW)			
Mercury	GPTF (PW)		Mercuric cyanide Mercuric nitrate Mercuric sulfate	Mercuric thiocyanate Mercuruous nitrate	
Nickel	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Nickel ammonium sulfate Nickel chloride Nickel hydroxide	Nickel nitrate Nickel sulfate	
Selenium	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Selenium oxide		

EPA_COOK_INKPR_000044

Summary of Detected Parameters in Unocal Effluents and Related Chemicals in the Form 2C Hazardous Substance Lists.

Detected Parameters	Facility (Effluent Type)		Related Chemicals in Tables 2C-3 and 2C-4 of Form 2C		
Silver	GPTF (PW)	Trading Bay (PW)	Silver nitrate		
Tin	Bruce (PW)				
Titanium	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)			
Zinc	Anna (PW) Baker (PW) Bruce (PW) GPTF (PW) Trading Bay (PW)		Zinc acetate Zinc ammonium chloride Zinc borate Zinc bromide Zinc carbonate	Zinc chloride Zinc cyanide Zinc fluoride Zinc formate Zinc hydrosulfite	Zinc nitrate Zinc phenolsulfonate Zinc phophide Zinc silicofluoride Zinc sulfate
Organics					
2,4-Dimethylphenol	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)			
4,4'-DDT	Anna (PW)		DDT		
Benzene	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Benzene		
beta-BHC	Anna (PW)				
Chloroform	Bruce (PW)		Chloroform		
Endosulfan sulfate	Anna (PW)		Endosulfan		
Ethyl benzene	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Ethylbenzene		
Fluorene	Trading Bay (PW)				
gamma-BHC (Lindane)	Anna (PW)	Baker (PW)	Lindane		
Heptachlor epoxide	Anna (PW)		Heptachlor		
m&p-Xylenes	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Xylene		
Methylene chloride	GPTF (PW)	Trading Bay (PW)			
Naphthalene	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW)	Naphthalene		
o-Xylene	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Xylene		
Phenanthrene	Trading Bay (PW)				
Phenol	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Phenol		
Phenols, total	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Phenol Cresol Dinitrophenol	Nitrophenol Pentachlorophenol Trichlorophenol	

EPA_COOK_INKPR_000045

Summary of Detected Parameters in Unocal Effluents and Related Chemicals in the Form 2C Hazardous Substance Lists.

Detected Parameters	Facility (Effluent Type)		Related Chemicals in Tables 2C-3 and 2C-4 of Form 2C
Toluene	Anna (PW) Baker (PW) Bruce (PW)	GPTF (PW) Trading Bay (PW)	Toluene
Trichloroethene	Anna (PW)		Trichloroethylene
Other			
Ammonia as N	Anna (PW) Baker (PW) Bruce (PW) GPTF (PW) Trading Bay (PW) GPP (S) GPP (D)	King (WF) Bruce (BB) Bruce (S) Grayling (WF) Steelhead (WF) Monopod (WF) GPP (WF)	Ammonia

PW = Produced water
S = Sanitary
D = Domestic
WF = Wateflood
BB = Boiler blowdown

EPA_COOK_INKPR_000046

Appendix H

Table of Intake Sources Per Facility and Outfall

Intake Sources Per Facility and Outfall

Facility/ Outfalls	Cook Inlet Intake	Fresh Water Intake (OSK Well)	Not Applicable
Anna Platform/ 001, 002, 003, 004, 006, 007, 008, 009, 012, 013, 014, 015, 016-019	008, 009, 014	001, 003, 004, 006, 007, 012, 013, 016-019	002, 015
Baker Platform/ 001, 002, 003, 004, 006, 007, 008, 009, 012, 013, 014, 015, 016-019	008, 009, 014	001, 003, 004, 006, 007, 012, 013, 016-019	002, 015
Bruce Platform/ 001, 002, 003, 004, 006, 007, 008, 009, 012, 013, 015, 016-019	008, 009	001, 003, 004, 006, 007, 012, 013, 016-019	002, 015
Dillon Platform/ 001, 002, 003, 004, 006, 007, 008, 009, 012, 013, 015, 016-019	008, 009	001, 003, 004, 006, 007, 012, 013, 016-019	002, 015
Dolly Varden Platform/ 001, 003, 004, 006, 007, 008, 009, 012, 013, 014, 016-019	008, 009, 014	001, 003, 004, 006, 007, 012, 013, 016-019	---
Granite Point Platform/ 001, 002, 003, 004, 005, 006, 008, 012, 013, 014, 015, 016-019	003, 004 (desalination performed), 005, 008, 014	001, 006, 012, 013, 016-019	002, 015
Grayling Platform/ 001, 002, 003, 004, 006, 007, 008, 009, 012, 013, 014, 015, 016-019	003, 008, 009, 014	001, 004, 006, 007, 012, 013, 016-019	002, 015
King Salmon Platform/ 001, 003, 004, 006, 007, 008, 009, 012, 013, 014, 016-19	008 , 009, 014	001, 003, 004, 006, 007, 012, 013, 016-019	---
Monopod Platform/ 001, 003, 004, 005, 006, 007, 008, 009, 012, 013, 014, 016-019	008, 005 (future), 009, 014	001, 003, 004, 006, 007, 012, 013, 016-019	---
Steelhead Platform/ 001, 003, 004, 006, 007, 008, 009, 012, 013, 014, 016-019	003, 008, 009, 014	001, 004, 006, 007, 012, 013, 016-019	---

Note: Firewater test water (Cook Inlet) may drain to deck drains. There are no intakes at Granite Point Treatment Facility (Tank Farm) or Trading Bay Production Facility.

EPA_COOK_INKPR_000048

(Print or type in areas are spaced for elite type, i.e., 12 characters/inch)

FORM 1 GENERAL

EPA

ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: 110007347291

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

CAREFULLY

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK "X" YES	MARK "X" NO	MARK "X" FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)	X		N/A

SPECIFIC QUESTIONS	MARK "X" YES	MARK "X" NO	MARK "X" FORM ATTACHED
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP Granite Point Production Facility (Tank Farm)

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title): Faye Sullivan

B. PHONE (area code & no.): 907 276 7600

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: P.O. Box 196247

B. CITY OR TOWN: Anchorage

C. STATE: AK

D. ZIP CODE: 99519-6247

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: N/A

B. COUNTY NAME: Kenai Peninsula Borough

C. CITY OR TOWN: Cook Inlet

D. STATE: AK

E. ZIP CODE:

F. COUNTY CODE:

CONTINUE ON REVERSE

EPA Form 3510-1 (8-90)

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST: 1311 (specify) Oil and Gas Production

B. SECOND: (specify)

C. THIRD: (specify)

D. FOURTH: (specify)

VIII. OPERATOR INFORMATION

A. NAME: Union Oil Company of California (dba UNOCAL)

B. Is the name listed in Item VIII-A also owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

P (specify) Oil/Gas Company

D. PHONE (area code & no.): A 907 276 7600

E. STREET OR P.O. BOX: P.O. Box 196247

F. CITY OR TOWN: Anchorage

G. STATE: AK

H. ZIP CODE: 99519

IX. INDIAN LAND: Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): N AKG285001

D. PSD (Air Emissions from Proposed Sources): P 326TVP01

B. UIC (Underground Injection of Fluids): U N/A

E. OTHER (specify): (specify)

C. RCRA (Hazardous Wastes): R AKD982656027

E. OTHER (specify): (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements. See Attached Application

XII. NATURE OF BUSINESS (provide a brief description)

Onshore Storage and Production Facility

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

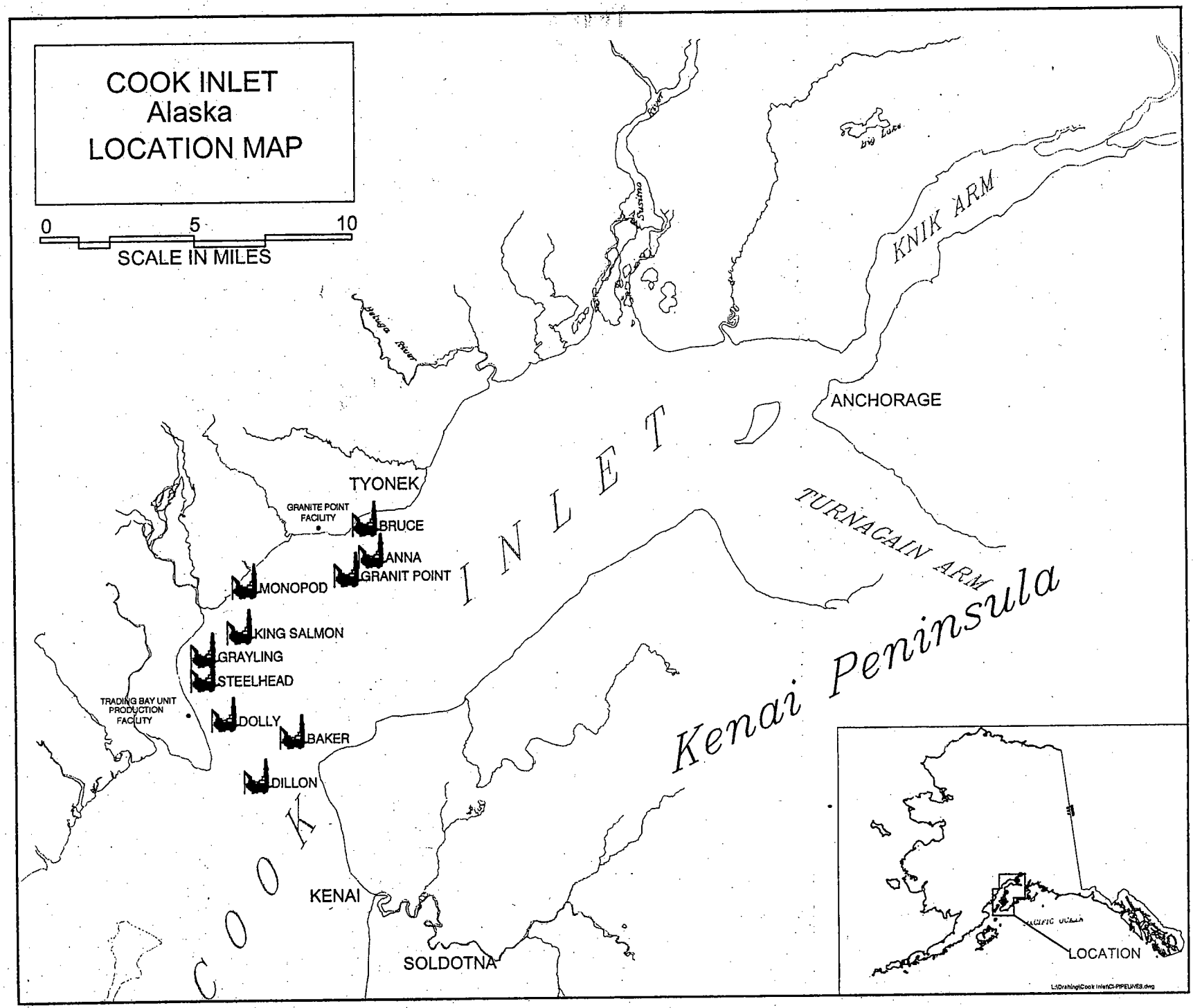
A. NAME & OFFICIAL TITLE (type or print): Dale Haines - Operations Manager

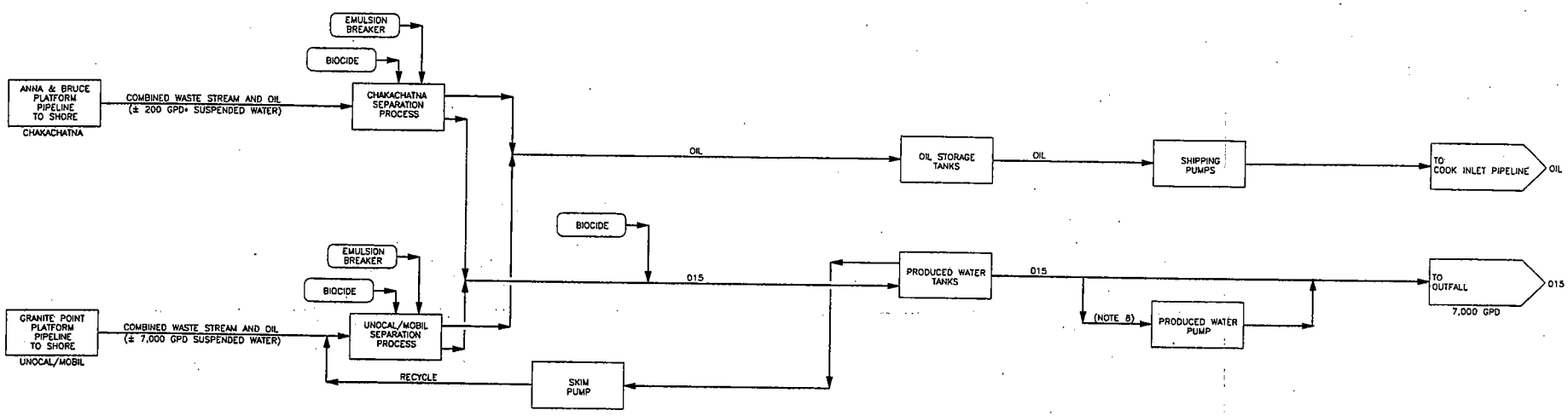
B. SIGNATURE: Dale A. Haines

C. DATE SIGNED: 08 25 03

COMMENTS FOR OFFICIAL USE ONLY

EPA Form 3510-1 (8-90)


COOK INLET
Alaska
LOCATION MAP
0
5
10
SCALE IN MILES
KNIK ARM
ANCHORAGE
TYONEK
GRANITE POINT FACILITY
BRUCE
ANNA
GRANIT POINT
MONOPOD
KING SALMON
GRAYLING
STEELHEAD
TRADING BAY UNIT PRODUCTION FACILITY
DOLLY
BAKER
DILLON
COOK INLET
TURNAGAIN ARM
Kenai Peninsula
KENAI
SOLDOTNA
LOCATION



DISCHARGE	DISCHARGE NUMBER				
DRILLING MUD & CUTTINGS	001	BLOWOUT PREVENTER FLUIDS	006	MUD, CUTTINGS, CEMENT AT SEAFLOOR	013
DECK DRAINAGE	002	BOILER BLOWDOWN	007	WATERFLOODING DISCHARGES	014
SANITARY WASTES	003	FIRE CONTROL SYSTEM TEST WATER	008	PRODUCED WATER	015
DOMESTIC WASTES	004	NON-CONTACT COOLING WATER	009	COMPLETION FLUIDS	016
DESALINATION UNIT WASTES	005	UNCONTAMINATED BALLAST WATER	010	WORKOVER FLUIDS	017
		BILGE WATER	011	WELL TREATMENT FLUIDS	018
		EXCESS CEMENT SLURRY	012	TEST FLUIDS	019

VOLUME VARIES AS OPERATIONS DICTATE, FLOWS BASED ON ROUTINE NORMAL OPERATING CONDITIONS.

ABREVIATIONS:
CIRW COOK INLET RAW WATER
GPD GALLONS PER DAY
OB OVERBOARD
• INDICATES METERED DISCHARGE

DWG. NUMBER	SHT	REFERENCE DRAWINGS

NOTES:
1) OVERBOARD VALVE, OPERATED MANUALLY AS NEEDED.
2) CALLED OUT AS CODE 009 IN PRESENT REPORTING PROCESS.
3) VENT, BUT IT IS A POSSIBLE OVERBOARD PATH FOR LIQUIDS.
4) SUBSURFACE DISCHARGE.
5) NOTE REMOVED
6) PRESSURE SAFETY DEVICE.
7) AUTOMATIC VALVE, OPERATES AS PROCESS REQUIRES.
8) VALVE, NORMALLY CLOSED.
9) UNCONTAMINATED.
10) ALL VOLUMES SHOWN ARE FOR "NORMAL OPERATIONS".
11) MATERIALS THAT MEET DISCHARGE REQUIREMNETS.
12) MATERIALS THAT DO NOT MEET DISCHARGE REQUIREMNETS.

REV	DATE	REVISED (DESTROY ALL PRINTS BEARING EARLIER DATE)	REV BY	CKD BY	APP'D BY
0	05/18/03	ISSUED FOR PERMIT RENEWAL APPLICATION	RRM	SJF	BSS

APPROVED FOR CONSTRUCTION: A. F. E. | DATE | SIGNED

DRAWN BY RRM
CHECKED BY
TRACED BY
TRAC'D. CKD.
APP'D.
APP'D.
SCALE NONE
DATE 04/25/03
JOB NUMBER 24000-03019

CONTRACTOR: Peak Oilfield Service Co., 2525 C Street, Suite 201, Anchorage, Alaska 99503, Phone: (907) 263-7000, Fax: (907) 263-7070

GRANITE POINT TANK FARM
COOK INLET, ALASKA

DISCHARGE FLOW DIAGRAM
NPDES PERMIT

UNOCAL

DRAWING NO. T-F-0005

Drawing: T-F-0005 / Date: 05-18-03 / Time: 1:39pm

EPA_COOK_INKPR_000052

Application Form 2C
I. Outfall Location

Facility	EPA ID #	Existing NPDES #	Outfall Number(s)	Latitude	Longitude	Receiving Water
Granite Point Production Facility (Tank Farm)	110007347291	AKG285001	015	61° 00' 41" N	151° 22' 31" W	Cook Inlet, Alaska

EPA_COOK_INKPR_000053

II. Flows, sources of Pollution and Treatment Technologies

A. Line Drawing

A line drawing (i.e. Discharge Flow Diagram) for this facility is attached to this application. Platform applications also include a Well Slot drawing.

B. Outfalls

1. Outfall No.	2. Operations Contributing Flow		3. Treatment	
	a. Operation	b. Average Flow	a. Description	b. List Codes from Table 2C-1
015	Produced Water	See Attached Discharge Flow Diagram (II A)	See Attached General Treatment Practices Table	

EPA_COOK_INKPR_000054

II. B. 3. b. General Treatment Practices

See Flow Diagrams for Facility-Specific Practices

Outfall	Description	1L	1U	2E	2F	2I	3A	3E	4A	4B	4D
		Grinding	Sedimentation (settling)	Dechlorination	Disinfection (chlorine)	Electro-chemical	Activated Sludge	Pre-Aeration	Discharge to surface water	ocean discharge through outfall	Undergro... injection
001	Drilling mud and cuttings	X								X	X
002	deck drainage		X							X	
003	sanitary wastes - MSD	X	X	X	X	X				X	X
	sanitary wastes - biological	X	X				X	X		X	X
004	domestic wastes									X	X
005	deslination unit wastes								X	X	
006	blowout preventer fluids									X	
007	boiler blowdown								X		
008	fire control system test water		X						X	X	
009	non-contact cooling water								X		X
012	excess cement slurry								X		
013	mud, cuttings, cement at seafloor									X	
014	waterflooding discharges								X	X	X
015	produced water									X	X
016	completion fluid									X	X
017	workover fluids									X	X
018	well treatment fluids									X	X
019	test fluids									X	X

EPA_COOK_INKPR_000055

II. Flows, sources of Pollution and Treatment Technologies
C. Intermittent or Seasonal Flows

1. Outfall No.	2. Operations Contributing to Flow	3. Frequency ***		4. Flow				
		a. days/week	b. months/year	a. Flow Rate (mgd)		b. Total Volume (gal)		c. Duration (days)
				1. Long Term Average *	2. Maximum Daily	1. Long Term Average * (gpd)	2. Maximum Daily (gal)	
015 is the only NPDES discharge, and it is continuous (not intermittent)								

EPA_COOK_INKPR_000056

III. Production

A. Does an effluent guideline limitation promulgated by EPA under Sec. 304 of the Clean Water Act apply to your facility?

Yes (Complete Item IIIB)

B. Are the limitations in the application effluent guideline expressed in terms of production (or other measure of operation)?

No (go to Section IV)

C. If yes to IIIB, complete production table.

Not applicable.

IV. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction,, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or load conditions.

No (go to Item IV-B)

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan, indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.

Optional - No Attached Sheets

EPA_COOK_INKPR_000057

V. Intake and Effluent Characteristics

A, B, C: Tables V-1 through V-9
D. List any of the pollutants in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. Pollutant	2. Source	Reason(s)
Xylene	Produced Water (015)	Potential exists because this parameter was detected in Produced Water sample(s) and can be a component of non-produced fluids. See Unocal's NPDES Application cover letter appendix for Analytical Data.

VI. Potential Discharges Not Covered by Analysis

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or by product?

Yes.

Metals, cyanides and total phenols, listed in table V-C may be present as naturally occuring, present in intake water, present in crude oil, or as a component of drilling mud and cuttings, well testing and well treatment chemicals. U.S. EPA Region 10, Water Compliance Section was notified by letter Dated July 10, 2003 of the use of a flocculant at Anna and Bruce platforms which contains zinc.

Volatile compounds, Acid Compounds and Base/Neutral Compounds listed in table V-C may be present in drilling and well treatment chemicals and are so designated in the sampling plan provided to EPA in the cover letter of this application. Volatile compounds that are present in the product crude oil are also so designated in the sampling plan. Note that xylene (not listed on EPA's Form 2C table V-C) has been included in our Table V-C submission voluntarily and is both potentially present in intermediates and product as well as used as a well treatment chemical.

No Dioxins or Pesticides are used or manufactured.

EPA_COOK_INKPR_000058

VII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

test(s) and describe their purposes below)

Date	Mysidopsis bahia	Menidia beryllina	Mytilus sp	Units	Purpose
Nov-99	128.2	16	256	TUc	Permit Required Annual Test
May-00	128	not available	not available	TUc	Additional sample required because of high result in November 1999
Jun-00	not available	not available	364	TUc	Additional sample required because of high result in November 1999
Aug-00	not available	not available	45.45	TUc	TIE Sample
Aug-00	not available	not available	45.45	TUc	TIE/EDTA
Aug-00	not available	not available	45.45	TUc	TIE/Aerated
Aug-00	not available	not available	22.7	TUc	TIE/Cation exchange SPE
Aug-00	not available	not available	45.45	TUc	TIE/EDTA & Aeration
Mar-01	16	32	90	TUc	Permit Required Annual Test
Dec-01	16	16	64.5	TUc	Permit Required Annual Test
Oct-02	32	16	32	TUc	Permit Required Annual Test
Jun-03	32	32	256	TUc	Permit Required Annual Test

EPA_COOK_INKPR_000059

VIII. Contract Analysis Information

Were any of the analyses reported in item V performed by a contract laboratory or consulting firm?

telephone number of and pollutants analyzed by, each such laboratory or firm below)

Laboratory Name	Address	Telephone	Pollutants Analyzed
Analytica Alaska, Inc.	5438 Shaune Drive Juneau, Alaska 99801	(908) 780-6668	Metals including mercury but excluding Magnesium & Iron; BOD; Phosphorous; TSS; Nitrite & Nitrate as N, Fluoride; Sulfate
Analytica Environmental Laboratories, Inc. (AEL)	12189 Pennsylvania Street Thornton, Colorado 80241	(303) 469-8868	Organochlorine Pesticides & PCB's, Volatile Organic Compounds, Semi-Volatile Organic Analysis (Base, Neutrals & Acids), Iron, Magnesium, Total Recoverable Phenols, Ammonia as Nitrogen, Chemical Oxygen Demand, Hexane-Extractable Material, Bromide, Cyanide
Northern Testing Laboratory, Inc.	5761 Silverado Way, Unit N Anchorage, AK 99518	(907) 349-1000	TOC, BOD, MBAS/Surfactants, Color, Fluoride, Bromide, and Sulfate, Total Kjeldahl Nitrogen
Triangle Laboratories	2445 S. Alston Ave. Durham, NC 27713	(919) 544-5729	Dioxins
State of Washington Lab	1610 N.E. 150th Street Shoreline, WA 98155	(206)361-2896	Gross Alpha/Beta and Radium/Radium 226
Laucks	940 South Harney St Seattle, WA 98108	(206)769-5060	Sulfide
Northern Test Lab	35186 Spur Highway, Soldotna, Alaska 99669	(907) 262-4624	Biological Oxygen Demand, Total Suspended Solids, Fecal Coliform
SGS (CT&E Environmental Services, Inc).	200 W. Potter Drive, Anchorage, AK 99518-1605	(907) 562-2343	Total Organic Carbon, Ammonia, and Chemical Oxygen Demand
Analytica Alaska, Inc.	811 W. 8th Ave. Anchorage, Alaska 99501	(907) 258-2155	Cental Coordination for lab analyses

EPA_COOK_INKPR_000060

IX. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

DALE C. HAINES OPERATIONS MANAGER
A. Name and Official Title (type or print)

(907) 276-7600
B Phone No. (area code & no.)

Dale C. Haines
C. Signature

08/25/03
D. Date Signed

EPA_COOK_INKPR_000061

V. INTAKE AND EFFLUENT CHARACTERISTICS

EPA ID. No	110007347291
Outfall No.	015

Part A. Provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall.

1. Pollutant	2. Effluent a. Maximum Daily Value (1) Conc. (mg/L)	2. Effluent a. Maximum Daily Value (2) mass (kg/day) ***	2. Effluent b. Max. 30-Day Value (if available) (1) Conc.	2. Effluent b. Max. 30-Day Value (if available) (2) mass	2. Effluent c. Long Term Avg. Value (if available) (1) Conc.	2. Effluent c. Long Term Avg. Value (if available) (2) mass	2. Effluent d. No of Analyses	3. Units (specify if blank) a. Conc.	3. Units (specify if blank) b. mass	4. Intake (optional) a. Long Term Average Value (1) Conc. (mg/L)	4. Intake (optional) a. Long Term Average Value (2) mass (kg/day)	4. Intake (optional) b. No of Analysis
a. Biochemical Oxygen Demand (BOD)	1,330	35.19	Not Compulsory		Not Compulsory		1	mg/L	kg/day	Not Applicable		0
b. Chemical Oxygen Demand (COD)	2,190	57.95					1	mg/L	kg/day			0
c. Total Organic Carbon (TOC)	700.0	18.52					1	mg/L	kg/day			0
d. Total Suspended Solids (TSS)	21.2	0.56					1	mg/L	kg/day			0
e. Ammonia (as N)	15	0.40					1	mg/L	kg/day			0
f. Flow	7,000						NA	GPD				0
g. Temperature (winter)	not available						0	not available				0
h. Temperature (summer)	37.5						8	°C				0
i. pH	Minimum 7.21	Maximum 7.33	6.7	7.2	5.6	8.7	101	Std Units				

*** Conversions used for mass (kg/day) are as follows: 3.78 L= 1 gal; 1 g = 1000 mg; 1000g = 1 kg
ND - non-detect
NA - not applicable
NTBA - not tested - believed absent

EPA_COOK_INKPR_000062

NPDES Permit AKG 285000 Renewal

EPA ID. No.	110007347291	Outfall No.	015

Part B. Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent.

If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant.

For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. Pollutant	2. Mark 'X'		3. Effluent							4. Units		5. Intake **		
	a. Believed Present	b. Believed Absent	a. Maximum Daily Value		b. Maximum 30-Day		c. Long Term		d. No of Analyses			a. Long Term		b. No of Analyses
			(1) Conc.	(2) mass	(1) Conc.	(2) mass	(1) Conc.	(2) mass		(1) Conc.	b. mass	(1) Conc.	(2) mass	
Bromide		X	NTBA		Not Compulsory		Not Compulsory		0	Not Applicable		Not Applicable		[illegible]
Chlorine, Total Residual		X							0					0
Color		X							0					0
Fecal Coliform		X							0					0
Fluoride (16984-48-8)		X							0					0
Nitrate-Nitrite (as N)		X							0					0
Nitrogen, Total Organic (as N)		X							0					0
Oil and Grease	X		12	0.32	16	0.42	27	0.71	52	mg/L	kg/day			0
Phosphorus (as P), Total (7723-14-0)	X		12.8	0.34	Not Compulsory		Not Compulsory		1	mg/L	kg/day			0
Alpha, Total	X		Analyses Pending						1	Analyses Pending				0
Beta, Total	X								1					0
Radium, Total	X								1					0
Radium 226, Total	X								1					0
Sulfate (as SO4) (14808-79-8)		X	NTBA						0	Not Applicable				0
Sulfide (as S)		X							0					0
Sulfite (as SO3) (14265-45-3)		X							0					0
Surfactants		X							0					0
Aluminum, Total (7429-90-5)	X		316	0.01					1	ug/L	kg/day			0
Barium, Total (7440-39-3)	X		3,830	0.10					1	ug/L	kg/day			[illegible]
Boron, Total (7440-42-8)	X		4,500	0.12					1	ug/L	kg/day			[illegible]
Cobalt, Total (7440-48-4)	X		3.32	0.0001					1	ug/L	kg/day			0
Iron, Total (7439-89-6)	X		4.6	0.12					1	mg/L	kg/day			0
Magnesium, Total (7439-95-4)	X		47	1.24					1	mg/L	kg/day			0
Molybdenum, Total (7439-98-7)	X		1.34	0.00004					1	ug/L	kg/day			0
Manganese, Total (7439-96-5)	X		195	0.01					1	ug/L	kg/day			0
Tin, Total (7440-31-5)	X		ND	ND					1	ug/L	kg/day			0
Titanium, Total (7440-32-6)	X		57.0	0.002					1	ug/L	kg/day			0

*** Conversions used for mass (kg/day) are as follows: 3.78 L= 1 gal; 1 g = 1000 mg; 1000g = 1 kg
ND - non-detect
NA - not applicable
NTBA - not tested - believed absent
Flowrate for 015/002: 7000 GPD

EPA_COOK_INKPR_000063

Part C.

EPA ID. No. 110007347291

Outfall No. 015

1. Pollutant	2. Mark 'X' a. Testing Required	b. Believed Present	c. Believed Absent	3. Effluent a. Maximum Daily Value (1) Conc.	(2) mass	b. Maximum 30-Day Value (1) Conc.	(2) mass	c. Long Term Average Value (1) Conc.	(2) mass	d. No of Analyses	4. Units a. Conc.	b. mass	5. Intake a. Long Term Average Value (1) Conc.	(2) mass	b. No of Analyses
Metals, Cyanide, and Total Phenols															
Antimony, Total (7440-36-0)		X		1.64	0.00004					1	ug/L	kg/day			0
Arsenic, Total (7440-38-2)		X		58.6	0.0016					1	ug/L	kg/day			0
Beryllium, Total (7440-41-7)			X	ND	ND					1	ug/L	kg/day			0
Cadmium, Total (7440-43-9)		X		ND	ND					1	ug/L	kg/day			0
Chromium, Total (7440-47-3)		X		12.1	0.0003					1	ug/L	kg/day			0
Copper, Total (7440-50-8)		X		9.21	0.0002					1	ug/L	kg/day			0
Lead, Total (7439-92-1)		X		1.23	0.00003					1	ug/L	kg/day			0
Mercury, Total (7439-97-6)		X		0.313	0.00001					1	ug/L	kg/day			0
Nickel, Total (7440-02-0)		X		13.3	0.0004					1	ug/L	kg/day			0
Selenium, Total (7782-49-2)		X		95.3	0.0025					1	ug/L	kg/day			0
Silver, Total (7440-22-4)		X		1.92	0.0001					1	ug/L	kg/day			0
Thallium, Total (7440-28-0)		X		ND	ND					1	ug/L	kg/day			0
Zinc, Total (7440-66-6)		X		233	0.0062					1	ug/L	kg/day			0
Cyanide, Total (57-12-5)			X	NTBA						0	Not Applicable				0
Phenols, Total		X		7.0	0.19					1	mg/L	kg/day			0
Dioxin															0
2,3,7,8 - Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			X	NTBA						0	Not Applicable				0
Volatile Compounds															0
Acrolein (107-02-8)			X	ND	ND					1	ug/L	kg/day			0
Acrylonitrile (107-13-1)			X	ND	ND					1	ug/L	kg/day			0
Benzene (71-43-2)		X		4,400	0.12					1	ug/L	kg/day			0
Bis(Chloromethyl) Ether (542-88-1)			X	NTBA						0	ug/L	kg/day			0
Bromoform (75-25-2)			X	ND	ND					1	ug/L	kg/day			0
Carbon Tetrachloride (56-23-5)			X	ND	ND					1	ug/L	kg/day			0
Chlorobenzene (108-90-7)		X		ND	ND					1	ug/L	kg/day			0
Chlorodibromomethane (124-48-1)			X	ND	ND					1	ug/L	kg/day			0
Chloroethane (75-00-3)			X	ND	ND					1	ug/L	kg/day			0
2-Chloroethylvinyl Ether (110-75-8)			X	ND	ND					1	ug/L	kg/day			0
Chloroform (67-66-3)			X	ND	ND					1	ug/L	kg/day			0
Dichlorobromomethane (75-27-4)			X	ND	ND					1	ug/L	kg/day			0
Dichlorodifluoromethane (75-71-8)			X	ND	ND					1	ug/L	kg/day			0

Not Compulsory

Not Compulsory

Not Applicable

Not Compulsory

Not Compulsory

Not Applicable

EPA_COOK_INKPR_000064

Part C.

EPA ID. No. 110007347291

Outfall No. 015

1. Pollutant	2. Mark 'X' a. Testing Required	b. Believed Present	c. Believed Absent	3. Effluent a. Maximum Daily Value (1) Conc.	(2) mass	b. Maximum 30-Day Value (1) Conc.	(2) mass	c. Long Term Average Value (1) Conc.	(2) mass	d. No of Analyses	4. Units a. Conc.	b. mass	5. Intake a. Long Term Average Value (1) Conc.	(2) mass	b. No of Analyses
1,1-Dichloroethane (75-34-3)			X	ND	ND					1	ug/L	kg/day			0
1,2-Dichloroethane (107-06-2)			X	ND	ND					1	ug/L	kg/day			0
1,1-Dichloroethylene (75-35-4)			X	ND	ND					1	ug/L	kg/day			0
1,2-Dichloropropane (78-87-5)			X	ND	ND					1	ug/L	kg/day			0
1,3-Dichloropropylene (542-75-6)			X	NTBA						0	ug/L	kg/day			0
Ethylbenzene (100-41-4)		X		200	0.01					1	ug/L	kg/day			0
Methyl Bromide (74-83-9)			X	ND	ND					1	ug/L	kg/day			0
Methyl Chloride (74-87-3)			X	ND	ND					1	ug/L	kg/day			0
Methylene Chloride (75-09-2)		X		1.2	0.00003					1	ug/L	kg/day			0
1,1,2,2-Tetrachloroethane (79-34-5)			X	ND	ND					1	ug/L	kg/day			0
Tetrachloroethylene (127-18-4)			X	ND	ND					1	ug/L	kg/day			0
Toluene (108-88-3)		X		2,800	0.07					1	ug/L	kg/day			0
1,2-Trans-Dichloroethylene (156-60-5)			X	ND	ND					1	ug/L	kg/day			0
1,1,1-Trichloroethane (71-55-6)			X	ND	ND					1	ug/L	kg/day			0
1,1,2-Trichloroethane (79-00-5)			X	ND	ND					1	ug/L	kg/day			0
Trichloroethylene (79-01-6)			X	ND	ND					1	ug/L	kg/day			0
Trichlorofluoromethane (75-69-4)		X		ND	ND					1	ug/L	kg/day			0
Vinyl Chloride (75-01-4)			X	ND	ND					1	ug/L	kg/day			0
Acid Compounds															0
2-Chlorophenol (95-57-8)			X	ND	ND					1	ug/L	kg/day			0
2,4-Dichlorophenol (120-83-2)			X	ND	ND					1	ug/L	kg/day			0
2,4-Dimethylephenol (105-67-9)		X		360	0.01					1	ug/L	kg/day			0

Not Compulsory

Not Compulsory

Not Applicable

Not Compulsory

Not Compulsory

Not Applicable

EPA_COOK_INKPR_000065

Part C.

EPA ID. No. 110007347291

Outfall No. 015

1. Pollutant	2. Mark 'X' a. Testing Required	b. Believed Present	c. Believed Absent	3. Effluent a. Maximum Daily Value (1) Conc.	(2) mass	b. Maximum 30-Day Value (1) Conc.	(2) mass	c. Long Term Average Value (1) Conc.	(2) mass	d. No of Analyses	4. Units a. Conc.	b. mass	5. Intake a. Long Term Average Value (1) Conc.	(2) mass	b. No of Analyses
4,6-Dinitro-O-Cresol (534-52-1)			X	ND	ND	Not Compulsory		Not Compulsory		1	ug/L	kg/day	Not Applicable		0
2,4-Dinitrophenol (51-28-5)			X	ND	ND					1	ug/L	kg/day			0
2-Nitrophenol (88-75-5)			X	ND	ND					1	ug/L	kg/day			0
4-Nitrophenol (100-02-7)			X	ND	ND					1	ug/L	kg/day			0
P-Chloro-M-Cresol (59-50-7)		X		ND	ND					1	ug/L	kg/day			0
Pentachlorophenol (87-86-5)			X	ND	ND					1	ug/L	kg/day			0
Phenol (108-95-2)		X		910	0.02					1	ug/L	kg/day			0
2,4,6-Trichlorophenol (88-06-2)			X	ND	ND					1	ug/L	kg/day			0
Base/Neutral Compounds															0
Acenaphthene (83-32-9)		X		ND	ND					1	ug/L	kg/day			0
Acenaphtylene (208-96-8)		X		ND	ND	Not Compulsory		Not Compulsory		1	ug/L	kg/day	Not Applicable		0
Anthracene (120-12-7)		X		ND	ND					1	ug/L	kg/day			0
Benzidine (92-87-5)		X		ND	ND					1	ug/L	kg/day			0
Benzo (a) Anthracene (56-55-3)		X		ND	ND					1	ug/L	kg/day			0
Benzo (a) Pyrene (50-32-8)		X		ND	ND					1	ug/L	kg/day			0
3,4-Benzo-fluoranthene (205-99-2)		X		ND	ND					1	ug/L	kg/day			0
Benzo (ghi) Perylene (191-24-2)		X		ND	ND					1	ug/L	kg/day			0
Benzo (k) Fluoranthene (207-08-9)		X		ND	ND					1	ug/L	kg/day			0
Bis (2-Chloroethoxy) Methane (111-91-1)			X	ND	ND					1	ug/L	kg/day			0
Bis (2-Chloroethyl) Ether (111-44-4)			X	ND	ND					1	ug/L	kg/day			0
Bis (2-Chloroisopropyl) Ether (108-60-1)			X	ND	ND					1	ug/L	kg/day			0
Bis (2-Ethyl-hexyl) Phthalate (117-81-7)		X		ND	ND					1	ug/L	kg/day			0

EPA_COOK_INKPR_000066

Part C.

EPA ID. No. 110007347291

Outfall No. 015

1. Pollutant	2. Mark "X" a. Testing Required	b. Believed Present	c. Believed Absent	3. Effluent a. Maximum Daily Value (1) Conc.	(2) mass	b. Maximum 30-Day Value (1) Conc.	(2) mass	c. Long Term Average Value (1) Conc.	(2) mass	d. No of Analyses	4. Units a. Conc.	b. mass	5. Intake a. Long Term Average Value (1) Conc.	(2) mass	b. No of Analyses
4-Bromophenyl Phenyl (101-55-3)			X	ND	ND					1	ug/L	kg/day			0
Butyl Benzyl Phthalate (85-68-7)			X	ND	ND					1	ug/L	kg/day			0
2-Chloro-naphthalene (91-58-7)			X	ND	ND					1	ug/L	kg/day			0
4-Chlorophenyl Phenyl Ether (7005-72-3)		X	X	ND	ND					1	ug/L	kg/day			0
Chrysene (218-01-9)		X		ND	ND					1	ug/L	kg/day			0
Dibenzo (a,h) Anthracene (53-70-3)		X		ND	ND					1	ug/L	kg/day			0
1,2-Dichlorobenzene (95-50-1)		X		ND	ND					1	ug/L	kg/day			0
1,3-Dichlorobenzene (541-73-1)		X		ND	ND					1	ug/L	kg/day			0
1,4-Dichlorobenzene (106-46-7)		X		ND	ND					1	ug/L	kg/day			0
3,3'-Dichlorobenzidine (91-94-1)			X	ND	ND					1	ug/L	kg/day			0
Diethyl Phthalate (84-66-2)			X	ND	ND					1	ug/L	kg/day			0
Dimethyl Phthalate (131-11-3)		X		ND	ND					1	ug/L	kg/day			0
Di-N-Butyl Phthalate (84-74-2)			X	ND	ND					1	ug/L	kg/day			0
2,4-Dinitrotoluene (121-14-2)			X	ND	ND					1	ug/L	kg/day			0
2,6-Dinitrotoluene (606-20-2)			X	ND	ND					1	ug/L	kg/day			0
Di-N-Octyl Phthalate (117-84-0)			X	ND	ND					1	ug/L	kg/day			0
1,2-Diphenyl-hydrazine (as Azo-benzene) (122-66-7)			X	ND	ND					1	ug/L	kg/day			0
Fluoranthene (206-44-0)		X		ND	ND					1	ug/L	kg/day			0
Fluorene (86-73-7)		X		ND	ND					1	ug/L	kg/day			0
Hexachlorobenzene (118-74-1)			X	ND	ND					1	ug/L	kg/day			0
Hexachlorobutadiene (87-68-3)			X	ND	ND					1	ug/L	kg/day			0
Hexachlorocyclopentadiene (77-47-4)			X	ND	ND					1	ug/L	kg/day			0
Hexachloroethane (67-72-1)			X	ND	ND					1	ug/L	kg/day			0

Not Compulsory

Not Compulsory

Not Applicable

Not Compulsory

Not Compulsory

Not Applicable

Part C.

EPA ID. No. 110007347291

Outfall No. 015

1. Pollutant	2. Mark 'X' a. Testing Required	b. Believed Present	c. Believed Absent	3. Effluent a. Maximum Daily Value (1) Conc.	(2) mass	b. Maximum 30-Day Value (1) Conc.	(2) mass	c. Long Term Average Value (1) Conc.	(2) mass	d. No of Analyses	4. Units a. Conc.	b. mass	5. Intake a. Long Term Average Value (1) Conc.	(2) mass	b. No of Analyses
Indeno (1,2,3-cd) Pyrene (193-39-5)		X		ND	ND					1	ug/L	kg/day			0
Isophorone (78-59-1)		X		ND	ND					1	ug/L	kg/day			0
Naphthalene (91-20-3)		X		64	0.0017					1	ug/L	kg/day			0
Nitrobenzene (98-95-3)			X	ND	ND					1	ug/L	kg/day			0
N-Nitro-sodimethylamine (62-75-9)			X	ND	ND					1	ug/L	kg/day			0
N-Nitrosodi-N-Propylamine (621-64-7)			X	ND	ND					1	ug/L	kg/day			0
N-Nitrosodiphenylamine (86-30-6)			X	ND	ND					1	ug/L	kg/day			0
Phenanthrene (85-01-8)		X		ND	ND					1	ug/L	kg/day			0
Pyrene (129-00-0)		X		ND	ND					1	ug/L	kg/day			0
1,2,4-Trichlorobenzene (120-82-1)			X	ND	ND					1	ug/L	kg/day			0
Pesticides															0
Aldrin (309-00-2)			X							0	ug/L	kg/day			0
α-BHC (319-84-6)			X							0	ug/L	kg/day			0
β-BHC (319-85-7)			X							0	ug/L	kg/day			0
γ-BHC (58-89-9)			X							0	ug/L	kg/day			0
δ-BHC (319-86-8)			X							0	ug/L	kg/day			0
Chlordane (57-74-9)			X							0	ug/L	kg/day			0
4,4'-DDT (50-29-3)			X							0	ug/L	kg/day			0
4,4'-DDE (72-55-9)			X							0	ug/L	kg/day			0
4,4'-DDD (72-54-8)			X							0	ug/L	kg/day			0
Dieldrin (60-57-1)			X							0	ug/L	kg/day			0
α-Endosulfan (115-29-7)			X							0	ug/L	kg/day			0
β-Endosulfan (115-29-7)			X							0	ug/L	kg/day			0
Endosulfan Sulfate (1031-07-8)			X							0	ug/L	kg/day			0

NTBA

Not Compulsory

Not Applicable

BA

Part C.

EPA ID. No. 110007347291 **Outfall No.** 015

1. Pollutant	2. Mark 'X' a. Testing Required	b. Believed Present	c. Believed Absent	3. Effluent a. Maximum Daily Value (1) Conc.	(2) mass	b. Maximum 30-Day Value (1) Conc.	(2) mass	c. Long Term Average Value (1) Conc.	(2) mass	d. No of Analyses	4. Units a. Conc.	b. mass	5. Intake a. Long Term Average Value (1) Conc.	(2) mass	b. No of Analyses
Endrin (72-20-8)			X	NTBA		Not Compulsory		Not Compulsory		0	ug/L	kg/day	Not Applicable		0
Endrin Aldehyde (7421-93-4)			X							0	ug/L	kg/day			0
Heptachlor (76-44-8)			X							0	ug/L	kg/day			0
Heptachlor Epoxide (1024-57-3)			X							0	ug/L	kg/day			0
PCB-1242 (53469-21-9)			X							0	ug/L	kg/day			0
PCB-1254 (11097-69-1)			X							0	ug/L	kg/day			0
PCB-1221 (11104-28-2)			X							0	ug/L	kg/day			0
PCB-1232 (11141-16-5)			X							0	ug/L	kg/day			0
PCB-1248 (12672-29-6)			X							0	ug/L	kg/day			0
PCB-1260 (11096-82-5)			X							0	ug/L	kg/day			0
PCB-1016 (12674-11-2)			X							0	ug/L	kg/day			0
Toxaphene (8001-35-2)			X							0	ug/L	kg/day			0

*** Conversions used for mass (kg/day) are as follows: 3.78 L= 1 gal; 1 g = 1000 mg; 1000g = 1 kg
ND - non-detect
NA - not applicable
NTBA - not tested - believed absent
Flowrate for 015/002: 7000 GPD

EPA_COOK_INKPR_000069