HILCORP ALASKA, LLC

OIL DISCHARGE PREVENTION AND CONTINGENCY PLAN

COOK INLET PRODUCTION FACILITIES

Approved June 8, 2012
Revision 7

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RECORD OF REVISIONS

Section/Change	Revision Date	Instructions
Front Matter / Record of Revisions	Rev. 1 11/7/12	Update to Record of Revisions
Appendix E	Rev. 1 11/7/12	Replace with updated List of Regulated Storage Tanks,
Section 1/Figure 1-1	Rev. 2 1/15/13	Update to Spill Notification Chart
Section 1/Section 1.3.1	Rev. 2 1/15/13	A reference to CISPRI tech manual Appendix C has been added.
Section 1/Figure 1-9	Rev. 2 1/15/13	This figure has been updated with a new figure 1-9.
Section 1/1.6 Response Strategies, Section 3/Table 3-2	Rev. 2 1/15/13	In Section 3, Table 3-2 additional information was provided to describe pipeline access. A reference to this is included in Section 1, 1.6 Response Strategies.
Section 3/Table 3-2, Section 1/Table 1-23	Rev. 2 1/15/13	Information regard the pipeline ROW has been added to Table 3-2 with a reference to it in Table 1-23.
Section 1.6.3.4	Rev. 2 1/15/13	Addition of Scenario 4
Section 1/Table 1-24	Rev. 2 1/15/13	Update to Manta Ray Skimmer information.
Section 1/Table 1-26	Rev. 2 1/15/13	Update on team leader information.
Section 2.1.8	Rev. 2 1/15/13	Removal of duplicate verbiage.
Section 2.6	Rev. 2 1/15/13	Changed to reflect no current waivers.
Section 3.2	Rev. 2 1/15/13	Description of pipeline ROW added.
Section 3.2	Rev. 2 1/15/13	Table 3-2 Swanson River GRS sites added.
Section 3.12	Rev. 2 1/15/13	Bibliography move to this location, Section 6 deleted.
Appendix F	Rev. 2 1/15/13	Add Swanson River Pipeline figure.
Appendix E	Rev. 2 1/15/13	Replace with updated List of Regulated Storage Tanks.
Front Matter / Record of Revisions	Rev. 2 1/15/13	Update to Record of Revisions
Front Matter	Rev. 3 2/4/13	Update Distribution List
Section 1/Figure 1-1	Rev. 3 2/4/13	Update Spill Notification Chart
Section 1/Table 1.2	Rev. 3 2/4/13	Update ICS organization changes

Section/Change	Revision Date	Instructions
Section1/Figure 1-3	Rev. 3 2/4/13	Update spill report
Section 1/Table 1-4	Rev. 3 2/4/13	Update communications
Section 1/Table 1-5	Rev. 3 2/4/13	Update to include Beaver Creek
Section 1, Tables 1-15, 1-20	Rev. 3 2/4/13	Update to make response vessel by type instead of name.
Section 2.2	Rev. 3 2/4/13	Update to spill prevention verbiage
Section 2.1.5, 2.1.9, Page 2-16	Rev. 3 2/4/13	Update to include Beaver Creek
Section 2	Rev. 3 2/4/13	Delete Figures 2-1, 2-1, 2-3, 2-4, Table 2-2 and references to them, renumber subsequent figures.
Section 3.1.1	Rev. 3 2/4/13	Update Facility Ownership, update Fuel Transfer for Offshore
Section 3/Figure 3-1	Rev. 3 2/4/13	Replace Figure 3-1 with newer image
Section 3/Table 3-1	Rev. 3 2/4/13	Update to include onshore flowlines
Section 3/3.1.2 and Table 3-2	Rev. 3 2/4/13	Update to include information at Beaver Creek
Section 3.2.2	Rev. 3 2/4/13	Updated to include Beaver Creek
Section 3/Figure 3-3	Rev. 3 2/4/13	Update to include new Figure 3-3 to show Beaver Creek Drainage, renumber subsequent figures
Section 3/Table 3-4, 3-6	Rev. 3 2/4/13	Update response equipment to include Beaver Creek
Section 3/Table 3-7	Rev. 3 2/4/13	Update to include Beaver Creek Information
Section 3.6.1	Rev. 3 2/4/13	Correction to referenced table number
Section 4.2.1	Rev. 3 2/4/13	Update verbiage to include information on artificial lift.
Section 4/Tables 4-3, 4-4, 4-5, 4-6	Rev. 3 2/4/13	Update BAT Tables
Section 5	Rev. 3 2/4/13	Update RPS to include COTP
Appendix D	Rev. 3 2/4/13	Update to Discharge History
Appendix E	Rev. 3 2/4/13	Replace with updated List of Regulated Storage Tanks.
Appendix F	Rev. 3 2/4/13	Add drawing of active pads that show oil pipelines, oil storage and oil wells for Beaver Creek Oil and Gas Production Facility
Front Matter / Record of Revisions	Rev. 3 2/4/13	Update to Record of Revisions

Section/Change	Revision Date	Instructions
Front Cover	Rev. 3 2/4/13	Updated Front Cover
Table of Contents	Rev. 3 2/4/13	Update to reflect revisions and repagination
Appendix E	Rev. 4 5/24/13	Updated Tank Table
Section 2.6	Rev. 4 5/24/13	Add overfill spill containment waiver
Front Matter	Rev. 4 5/24/13	Update to Record of Revisions
Table of Contents	Rev. 4 5/24/13	Updated to reflect repagination of Front Matter
Appendix E	Rev. 5 7/17/2013	Updated Tank Table
Section 1.1 and 1.2	Rev 6 8/15/2014	Reorganize sections
Section 1/Figure 1-1	Rev 6 8/15/2014	Updated Spill Notification Flow Chart
Section 1/Table 1-2	Rev 6 8/15/2014	Updated ICS Organization
Section 1/Figure 1-3	Rev 6 8/15/2014	Replaced HAK Spill Report Form
Section 1/Table 1-3	Rev 6 8/15/2014	Updated Spill Matrix
Section 1.5	Rev 6 8/15/2014	Updated deployment strategies
Section 1.6	Rev 6 8/15/2014	Increased the RPS for a well blowout and updated the Well Blowout Scenarios 2 and 3 and Pipeline Rupture Scenario 4
Section 2.1	Rev 6 8/15/2014	Updated inspection and maintenance requirements
Section 2.3	Rev 6 8/15/2014	Added a potential discharge analysis table
Section 2.5	Rev 6 8/15/2014	Update discharge detection verbiage
Section 2.6	Rev 6 8/15/2014	Added waiver approval letter from ADEC
Section 3	Rev 6 8/15/2014	Updated figure numbers
Section 3.1	Rev 6 8/15/2014	Updated Table 3-1, HAK Flow Line Descriptions
Section 3.2	Rev 6 8/15/2014	Updated RPS
Section 3.3	Rev 6 8/15/2014	Updated Incident Command System verbiage
Section 3.4	Rev 6 8/15/2014	Updated Limiting Conditions verbiage
Section 3.9	Rev 6 8/15/2014	Updated Response Training Drills verbiage

Section 3.12	Rev 6 8/15/2014	Updated References
Section 5.2	Rev 6 8/15/2014	Increased RPS
Appendix B	Rev 6 8/15/2014	Updated U.S. DOT Office of Pipeline Safety FRP
Appendix E	Rev 6 8/15/2014	Updated Tank Table
Appendix F	Rev 6 8/15/2014	Added West Fork and Wolf Lake figures
Front Matter	Rev 7 9/10/2014	Removed distribution list and updated the acronyms
Introduction	Rev 7 9/10/2014	Removed Appendix A, BSEE Worst Case Discharge and renumbered appendices
Section 1/Figure 1-1	Rev 7 9/10/2014	Updated Spill Notification Flow Chart
Section 1/Table 1-2	Rev 7 9/10/2014	Updated ICS Organization
Section 1/Figure 1-3	Rev 7 9/10/2014	Updated HAK Spill Report Form
Section 1/Table 1-3	Rev 7 9/10/2014	Updated Spill Matrix
Section 1.4	Rev 7 9/10/2014	Updated Communications verbiage and replaced Table 1-4
Section 1.5	Rev 7 9/10/2014	Update Table 1-5
Section 1.5, 1.8, 2, and 3	Rev 7 9/10/2014	Update appendix numbers
Section 1.6.3	Rev 7 9/10/2014	Remove Scenario and Response Strategy Abbreviations
Section 1.6.3	Rev 7 9/10/2014	Update Scenarios 2 and 3 with current wind data and new trajectories
Section 2.1.10	Rev 7 9/10/2014	Update Shop-Fabricated Aboveground Oil Storage Tanks Inspection Requirements
Section 2.2	Rev 7 9/10/2014	Updated Discharge History verbiage
Section 3.4 and 5	Rev 7 9/10/2014	Updated wind speed data
Section 3.6	Rev 7 9/10/2014	Updated Table 3-4, On-site equipment and materials staged at HAK facilities
Section 3.9	Rev 7 9/10/2014	Removed cell phone numbers from Table 3-6
Appendix A	Rev 7 9/10/2014	Removed BSEE Worst Case Discharge and replaced with Spill History Table. Updated Spill History Table
Appendix B	Rev 7 9/10/2014	Replaced List of Regulated Storage Tanks
Appendix C	Rev 7 9/10/2014	Updated Facility Overviews and Diagrams

OIL DISCHARGE PREVENTION AND CONTINGENCY PLAN

COOK INLET PRODUCTION FACILITIES

Management Approval and Resource Commitment Statement

This plan is approved for implementation as herein described. Manpower, equipment, and materials will be provided as required in accordance with this plan.

Hilcorp's approach to oil spill response will be based on the following priorities:

1. Safety of personnel
2. Protection of the environment
3. Protection of facilities

I certify that Hilcorp Alaska, LLC shall commit and implement this Oil Discharge Prevention and Contingency Plan as described herein and as required by 18 AAC 75:

John A. Barnes, Senior Vice President Hilcorp Alaska, LLC	June 19, 2012 Date

Personnel authorized to commit Hilcorp Alaska, LLC in the capacity of Incident Commander or as Qualified Individual (in accordance with OPA 90) include the following individuals:

John A. Barnes (Primary)	Work: Cell:	907-777-8350 (b) (6) [redacted]
Chet Starkel (Alternate)	Work: Cell:	907-777-8344 (b) (6) [redacted]
Keith Elliott (Alternate)	Work: Cell:	907-777-8355 (b) (6) [redacted]

Hilcorp Alaska, LLC
3800 Centerpoint Drive, Suite 100
Anchorage, AK 99503
907-777-8300 - telephone

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ALASKA DEPARTMENT
of
Environmental Conservation
Certificate of Approval
for
Oil Discharge Prevention and Contingency Plan

Certificate Number: **12CER-021** Plan Number: **12-CP-2008**

Name of Plan: **Hilcorp Alaska, LLC Oil Discharge Prevention and Contingency Plan for Cook Inlet Production Facilities**

Covered Facilities: **Production and drilling activities at ten platforms, including the Anna, Bruce, Granite Point, Monopod, King Salmon, Grayling, Steelhead, Dolly Varden, Baker, and Dillon platforms, and three onshore facilities, including Trading Bay Production Facility and Granite Point Tank Farm on the west side of Cook Inlet and the Swanson River Field production facility on the east side of Cook Inlet.**

Address: **Hilcorp Alaska, LLC, 3800 Centerpoint Drive, Suite 100, Anchorage, AK 99503**

Telephone: **(907) 777-8300** Fax: **(907) 777-8301**

Region of Operation (18 AAC 75.495): **Cook Inlet**

Effective Date of Approval: **June 8, 2012** Expiration Date: **June 8, 2017**

This approval is subject to the terms and conditions of the applicable Alaska Department of Environmental Conservation contingency plan approval letter and continuing compliance with the requirements of AS 46.04 and 18 AAC 75.

Betty Schorr 6.8.2012

Betty Schorr, Approving Authority **Date**
Program Manager, Industry Preparedness Program

ALASKA DEPARTMENT of Environmental Conservation
Certificate of Approval for Oil Discharge Prevention and Contingency Plan

Certificate Number: **12CER-035.1** Plan Number: **12-CP-2008**

Name of Plan: **Hilcorp Alaska, LLC Cook Inlet Production Oil Discharge Prevention and Contingency Plan**

Facilities Covered: **This amendment approval covers addition of the Swanson River Pipeline.**

Address: **Hilcorp Alaska, LLC, 3800 Centerpoint Drive, Suite 100, Anchorage, Alaska 99503**

Telephone: **(907) 777-8300** Fax: **(907) 777-8560**

Region of Operation (18 AAC 75.495): **Cook Inlet, Southcentral Alaska**

Effective Date of Approval: **February 15, 2013** Expiration Date: **June 8, 2017**

This approval is subject to the terms and conditions of the applicable Alaska Department of Environmental Conservation contingency plan approval letter and continuing compliance with the requirements of AS 46.04 and 18 AAC 75.

Betty Schorr 02.15.2013

Betty Schorr, Approving Authority **Date**
Program Manager, Industry Preparedness Program

Alaska Department
of
Environmental Conservation

Certificate of Approval

Oil Discharge Prevention and Contingency Plan

Certificate Number: **12CER-021.2**

Plan Number: **12-CP-2008**

Name of Plan:	**Hilcorp Alaska, LLC Oil Discharge Prevention and Contingency Plan for Cook Inlet Production Facilities**
Covered Facilities:	**Production and drilling activities at ten platforms, including the Anna, Bruce, Granite Point, Monopod, King Salmon, Grayling, Steelhead, Dolly Varden, Baker, and Dillon platforms, and onshore facilities/locations, including Trading Bay Production Facility and Granite Point Tank Farm on the west side of Cook Inlet, the Swanson River Field and Beaver Creek production facilities, and Wolf Lake and West Fork pads, on the east side of Cook Inlet.**
Address:	**Hilcorp Alaska, LLC, 3800 Centerpoint Drive, Suite 100, Anchorage, AK 99503**
Telephone:	**(907) 777-8300** Fax: **(907) 777-8301**
Region of Operation (18 AAC 75.495):	**Cook Inlet**
Effective Date of Approval:	**August 18, 2014** Expiration Date: **June 8, 2017**

This approval is subject to the terms and conditions of the applicable Alaska Department of Environmental Conservation contingency plan approval letter and continuing compliance with the requirements of AS 46.04 and 18 AAC 75.

8/18/2014

Graham Wood, Approving Authority — **Date**
Acting Program Manager, Industry Preparedness Program

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE

OIL SPILL PRIMARY RESPONSE ACTION CONTRACTOR REGISTRATION

NAME: Cook Inlet Spill Prevention and Response, Inc.
ADDRESS: P.O. Box 7314
CITY, STATE, ZIP: Nikiski, Alaska 99635

APPLICATION OF
Cook Inlet Spill Prevention and Response, Inc.
FOR REGISTRATION AS AN OIL SPILL PRIMARY RESPONSE ACTION CONTRACTOR IN THE
Cook Inlet
REGION(S) OF THE STATE OF ALASKA IS:

(XX) APPROVED FOR THREE YEARS
EFFECTIVE FROM: **December 28, 2011**
REGISTRATION NUMBER: **03-01-11-362**
EXPIRATION DATE: **December 31, 2014**

OIL SPILL PRIMARY RESPONSE ACTION CONTRACTORS REGISTERED AND APPROVED BY THE DEPARTMENT MUST COMPLY WITH THE MINIMUM REGISTRATION STANDARDS OF **18 AAC 75.560**.

NO LATER THAN **JANUARY 31** OF EACH YEAR, AN OIL SPILL PRIMARY RESPONSE ACTION CONTRACTOR REGISTERED BY THE STATE OF ALASKA SHALL PROVIDE TO THE DEPARTMENT A COMPLETE LIST OF OIL DISCHARGE PREVENTION AND CONTINGENCY PLANS IN WHICH THE CONTRACTOR HAS AGREED IN WRITING TO BE LISTED AS A PRIMARY RESPONSE ACTION CONTRACTOR.

(18 AAC 75.510(b)): REGISTRATION OF AN OIL SPILL PRIMARY RESPONSE ACTION CONTRACTOR BY THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION DOES NOT CONSTITUTE AN ASSURANCE BY THE DEPARTMENT OF THE QUALIFICATIONS OR ABILITIES OF THAT CONTRACTOR OR THAT THE CONTRACTOR WILL ADEQUATELY RESPOND TO A RELEASE OR THREATENED RELEASE OF OIL, NOR DOES IT PROVIDE A DEFENSE TO LIABILITY UNDER STATE LAW.

SIGNED,
Christopher Pace

Christopher J. Pace
Contractor Registration Program

ACRONYMS AND ABBREVIATIONS

AAC	Alaska Administrative Code
ACP	Area Contingency Plan
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
AIMS	Alaska Incident Management System
AKDT	Alaska Daylight Time
ANSI	American National Standards Institute
AOGCC	Alaska Oil & Gas Conservation Commission
API	American Petroleum Institute
ARRT	Alaska Regional Response Team
ASNT	American Society for Non-Destructive Testing
BAT	Best Available Technology
bbl	barrel/barrels
BOP	Blowout Preventer
bpd	barrels of oil per day
bph	barrels of oil per hour
BSEE	Bureau of Safety and Environmental Enforcement
CBT	Computer-Based Training
cfm	cubic foot/feet per minute
CFR	Code of Federal Regulation
CIFO	Cook Inlet Field Office
CIPL	Cook Inlet Pipeline Company
CISPRI	Cook Inlet Spill Prevention and Response, Inc.
CO	Carbon Monoxide
CO2	Carbon Dioxide
cu yd	Cubic Yard(S)
DBD	Dikes, Berms, and Dams
DF-F	Deflection Boom, Fast Water
DOT	U.S. Department of Transportation
Dp	Personnel Decontamination
DT	Discharge Tracking on Water
DV-F	Diversion Boom, Fast Water
EHS	Environment, Health and Safety
EPA	U.S. Environmental Protection Agency
EPM	Emergency Procedures Manual
ESA	Environmentally Sensitive Area
ESD	Emergency Shut Down
ETA	Estimated Time of Arrival
FAA	Federal Aviation Administration
oF	degrees Fahrenheit
ft	foot/feet
FO-B	Free Oil Recovery, Broken Ice
FO-F	Free Oil Recovery, Fast Water
FO-O	Free Oil Recovery, Open Water
FOSC	Federal On-Scene Coordinator
FRP	Facility Response Plan
gal	gallon/gallons
GOR	Gas-Oil Ratio (mcf/bbl)
gpm	gallon(s) per minute
GPTF	Granite Point Tank Farm
GRS	Geographic Response Strategies

H_2S	Hydrogen Sulfide
HAK	Hilcorp Alaska, LLC
Hazmat	Hazardous materials
HAZWOPER	Hazardous Waste Operations and Emergency Response Training
HDPE	High-Density Polyethylene
hp	horsepower
hr	hour/hours
IC	Incident Commander
ICS	Incident Command System
ID	Inner Diameter
IRT	Immediate Response Team
ISv	In-situ Burning, Oily Vegetation
ISO	International Organization for Standardization
KPL	Kenai Pipeline
LACT	Lease Area Custody Transfer
LEL	Lower Explosive Limit
LST	Land-based Storage and Transfer
MAOP	Maximum Allowable Operating Pressure
MFE	Magnetic-Flux Exclusion
MH	Incident Management Handbook
MHz	Megahertz
mm	millimeter(s)
mmscf/d	million standard square feet per day
m/s	meter(s) per second
MSDS	Material Safety Data Sheet
MWRT	Marine Wildlife Rescue Team
M/V	Marine Vessel
N/A	Not Applicable
NACE	National Association of Corrosion Engineers
NCP	National Contingency Plan
NDT	Non-Destructive Testing
NIMS	National Interagency Incident Management System
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPREP	National Preparedness for Response Exercise Program
NRC	National Response Center
NRDA	Natural Resource Damage Assessment
O_2	Oxygen
ODPCP	Oil Discharge Prevention and Contingency Plan
OHA	Office of History and Archaeology
OPA 90	Oil Pollution Act of 1990
OPS	Office of Pipeline Safety
OR	On-land Recovery
OSHA	Occupational Safety and Health Administration
OSK	Offshore Systems Kenai
OSRO	Oil Spill Response Organization
OSRV	Oil Spill Response Vessel
PA	Public Announcement System
PD	Plume Delineation
PFD	Process Flow Diagram
PHMSA	Pipeline and Hazardous Material Safety Administration
PIC	Person-In-Charge
P&ID	Piping & Instrumentation Diagram
POB	Personnel Onboard
POL	Pumping Oily Liquids
PPE	Personal Protective Equipment

ppm	parts per million
PR-F	Passive Recovery, Fast Water
PRm/t	Passive Recovery, Marsh and Tundra
PRAC	Primary Response Action ContractorPSD Production Shut Down
psi	pounds per square inch
PTSt	Pits, Trenches, and Slots, Tundra and MarshQI Qualified Individual
RPS	Response Planning Standard
RRT	Regional Response Team
R/T	Rig Tender
RTP	Response Trained Personnel
SCADA	Supervisory Control and Data Acquisition
SCAT	Shoreline Cleanup Assessment Team
SCBA	Self-Contained Breathing Apparatus
SCL	Site Control and Layout
SEC	Site Entry Criteria
SHPO	State Historic Preservation Office
SNRT	Short-Notice Response Team
SOP	Standard Operating Procedure
SOSC	State On-Scene Coordinator
SPCC	Spill Prevention Control and Countermeasure
SPCO	State Pipeline Coordinator's Office
sq ft	square foot/feet
SR	Shoreside Recovery
SRF	Swanson River Field
STAR	Spill Tactics for Alaska Responders
TBPF	Trading Bay Production Facility
TF	Task Force
TTLA	Tank Truck Loading/Unloading Area
UHF	Ultra High Frequency
Unified Plan	Alaska Federal/State Preparedness Plan for Response to Oil & Hazardous Substance Release/Discharges
USCG	United States Coast Guard
USFWS	U.S. Fish and Wildlife Service
UT	Ultrasonic Transducer
VHF	Very High Frequency
WCD	Worst Case Discharge
WP	Working Pressure
WWCI	Wild Well Control, Inc.

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Appendix A Oil Discharge History January 1987 to August 2014

Appendix B List of Regulated Storage Tanks

Appendix C Facility Overview and Diagrams

Appendix D Additional Information and Cross-Reference Table for DOT PHMSA Office of Pipeline Safety Requirements

Appendix E U.S. EPA Response Plan Cross Reference Tables: Trading Bay Production Facility, Granite Point Tank Farm

Introduction

This Oil Discharge Prevention and Contingency Plan (ODPCP) is for oil production facilities in the Cook Inlet of Alaska, operated by Hilcorp Alaska, LLC (HAK). Figure I-1 shows the HAK facilities, as well as other Oil and Gas facilities in Cook Inlet.

This ODPCP addresses regulations of the State of Alaska Department of Environmental Conservation (ADEC), under 18 AAC 75 Article 4. This ODPCP also addresses the following federal oil spill planning requirements:

- U.S. Department of Transportation (DOT) Office of Pipeline Safety, Facility Response Plan (FRP). The FRP requirements included in Appendix D, in conjunction with this ODPCP, fulfill requirements under 49 CFR 194. DOT spill planning requirements under 49 CFR 194 encompass onshore DOT jurisdiction pipelines. These DOT jurisdiction pipelines are also covered by ADEC regulations as flow lines (18 AAC 75.047).
- U.S. Environmental Protection Agency (EPA) FRP for two facilities (Granite Point Tank Farm and Trading Bay Production Facility) is submitted as a separate document to the EPA, based on the requirements of 40 CFR 112.20. Planning and contingency components of this ODPCP are incorporated into the EPA FRP by reference.

ODPCP Organization

As per 18 AAC 75.425, this ODPCP is organized as follows:

- Front Matter – Prior to this Introduction: Record of Revisions, Management Approval and Resource Commitment Statement including Qualified Individuals and notification information, Agency Certificates of Approval (once granted), and the Statements of Contractual Terms with response action contractors Cook Inlet Spill Prevention and Response, Inc. (CISPRI).
- Section 1 – Response Action Plan
- Section 2 – Prevention Plan
- Section 3 – Supplemental Information
- Section 4 – Best Available Technology
- Section 5 – Response Planning Standard
- Appendix A – Spill History – Cook Inlet Operations
- Appendix B – List of Regulated Storage Tanks
- Appendix C – Facility Overview and Diagrams
- Appendix D – Additional Information and Cross-Reference Table for DOT PHMSA Office of Pipeline Safety Requirements
- Appendix E – Facility Response Plans

Citations included in section headers identify the state and federal regulations relevant to that section. Other documents referenced in this ODPCP include the following:

- Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges/Releases Unified Plan (Unified Plan), January 2012, or most recent update;
- Alaska Incident Management Systems (AIMS) Guide, April 2002;
- CISPRI Technical Manual (Revised 2010);

- Cook Inlet Subarea Contingency Plan for Oil and Hazardous Substance Spills and Releases, Change One (Cook Inlet Subarea Contingency Plan), December 2010; and
- Spill Tactics for Alaska Responders (STAR), April 2006.

Other references and full citations are provided in Section 3, References.

Updating Procedures

This ODPCP is revised and updated when major changes occur. The ODPCP is also reviewed on an annual basis. Below is a list of key factors that may cause revisions to the C-Plan:

- New developments
- New pipeline construction or purchase
- Different worst case discharge (WCD) volume
- Change in commodities transported
- Change in oil spill response organizations
- Change in Qualified Individual (QI)
- Changes in a National Contingency Plan (NCP) or Area Contingency Plan (ACP) that have a significant impact on the appropriateness of response equipment or response strategies

Figure I-1 Cook Inlet Oil and Gas Production Facilities

(b) (7)(F), (b) (3)

[redacted]

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1.0 Response Action Plan [18 AAC 75.425 (e)(1)]

1.1 Emergency Action Checklist [18 AAC 75.425(e)(1)(A)]

The Immediate Response Checklist (Table 1-1), identifies actions to be taken by initial response personnel until the response organization has been established and the Incident Commander (IC) has taken control of the situation. Figure 1-1 provides a flow chart for immediate spill notification and reporting.

Table 1-1 Immediate Response Checklist

First Person to Detect Spill	Immediately notify the Facility Supervisor
Facility Supervisor	1. Initiate control operations: • Determine the source of the spill, • Turn off electrical power and all other sources of ignition from a safe location, • Close all lines and piping leading to the problem area, • If the cause is determined to be a pipeline leak, initiate shut-in procedures, and • Close all drains, if necessary. 2. Account for all personnel and ensure their safety. 3. Assess the possibility of an explosion or fire. 4. Assess the spill situation to: • Judge the effectiveness of control operations, • Determine the type or classification of oil spilled, and • Estimate the spill volume or flow rate. 5. If the spill is onshore, determine the accessibility of the spill site. 6. If the spill is offshore, assess the meteorological and oceanographic conditions including: • Wind speed and direction • Air temperature • Visibility for aircraft • Stage of the tide (ebb, flood or slack) • Sea state • Ice conditions • Slick movement direction
Notifications	The following notifications are to be initiated by the Facility Supervisor or designee: 1. The facility supervisor contacts IC to report details of the spill, per Figure 1-3. 2. IC completes verbal reporting to agencies. 3. HAK completes written notification as required by agencies. 4. When appropriate, contact local police and fire department, 911.
Incident Commander	1. Notify CISPRI of additional requirements. 2. Activate the Incident Command System/Incident Management Team. 3. Assume control of spill response activities and implement necessary actions. 4. Notify primary response action contractor (PRAC) and The Response Group of additional requirements. 5. Coordinate with the SOSC and FOSC to set up a UC to manage the spill response.
HAK Environmental Health and Safety	1. Make agency notifications.

IC - Incident Commander
CISPRI – Cook Inlet Spill Prevention and Response, Inc.
SOSC – State On-Scene Coordinator
FOSC – Federal On-Scene Coordinator
UC – Unified Command

Figure 1-1 Spill Notification Flow Chart

First Person to Detect Spill → **Facility Supervisor**

CISPRI
Oil Spill Response Vessel:
Marine VHF Radio,
Channel 10 or 16

or

24 hour Response Center:
907-776-5129

Hilcorp Alaska Incident Commanders

Stan Golis 907-777-8356
[redacted] (cell)

Chad Helgeson: 907-777-8405
[redacted] (cell)

Paul Mazzolini 907-777-8369
[redacted] (cell)

Hilcorp Alaska Emergency Response Team

Diane Dunham 907-777-8315
[redacted] (cell)

Carl Jones 907-777-8327
[redacted] (cell)

Bill Britt 907-777-8310
[redacted] (cell)

Agencies

ADEC 907-269-3063
24-hour: 800-478-9300

USCG Sector Anchorage
24-hour: 907-428-4200

National Response Center (NRC)
24-hour: 800-424-8802
Or 202-267-2675

For Swanson River Field,
USFWS Days: 907-260-2818
24-hour: [redacted] (cell)

For further agency reporting requirement information, refer to Table 1-3.

1.2 Reporting and Notification [18 AAC 75.425(e)(1)(B) and 40 CFR 112.20(h)(1) and (3)]

1.2.1 Internal Notification Procedures

It is HAK's policy for employees and contractors to report spills of oil or hazardous substances regardless of size, on HAK leases to a HAK representative.

The organizational structure of the Incident Command System (ICS) is provided on Figure 1-2. The ICS will be used for significant spills. Names, titles, and telephone numbers for individuals assigned within the ICS are provided in Table 1-2. Figure 1-3 is the HAK Spill Report Form for employee and contractor use.

Additional information about the ICS organization is included in Section 3.3.

Figure 1-2 HAK Incident Command System Structure

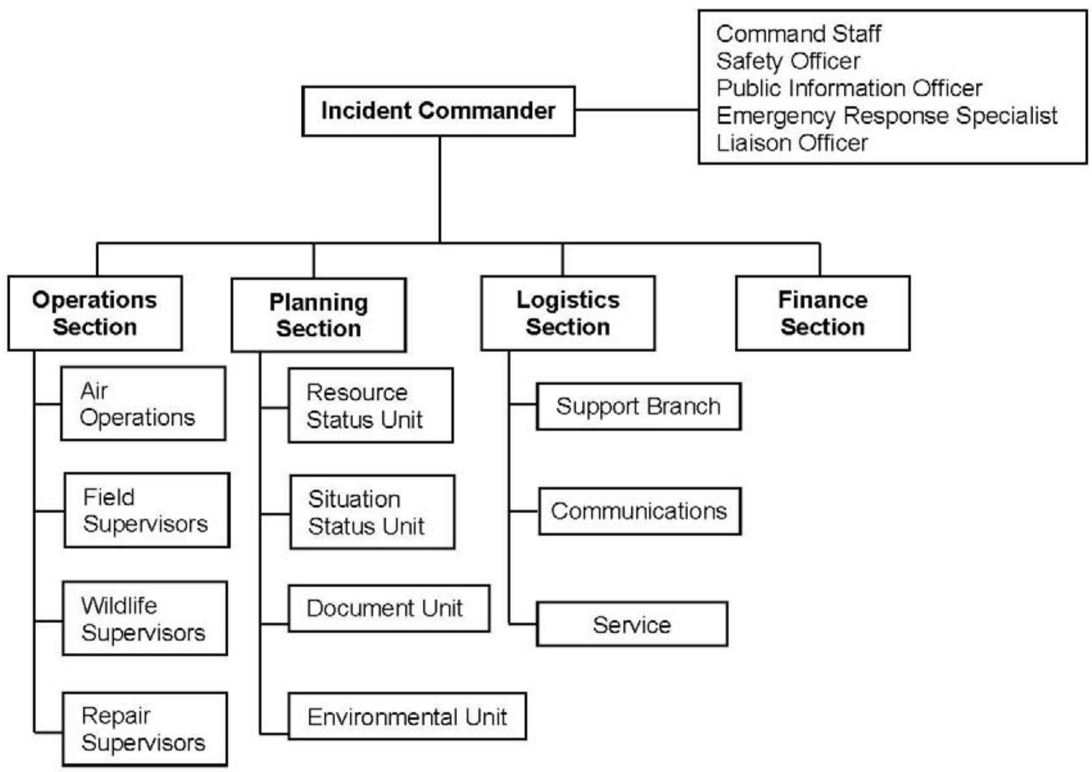

Table 1-2 Incident Command System (ICS) Personnel and Telephone Numbers

INCIDENT COMMANDERS, ALL INCIDENTS

Name	Title	Office	Cellular
Stan Golis	Operations Manager – Cook Inlet Offshore Asset Team	907-777-8356	(b) (6) [redacted]
Chad Helgeson	Operations Manager – North Kenai Asset Team	907-777-8405	
Paul Mazzolini	Drilling Manager	907-777-8369	

COMMAND STAFF			SECTION LEADERS		
Name	**Office**	**Cellular**	**Name**	**Office**	**Cellular**
Liaison Officer			**Operations Section Chief**		
Pete LaPella	907-777-8331	(b) (6) [redacted]	Wayne Johnson	907-776-6630	(b) (6) [redacted]
Betty Veldhuis	907-777-8370		J.C. Waski	907-776-6770	
Public Information Officer			Glen Payment	907-776-6620	
Lori Nelson	907-777-8392		John Lee	907-776-6840	
Safety Officer			**Logistics Section Chief**		
John Coston	907-776-6726		Ken Lucas	907-776-6725	
Thad Eby	907-777-8317		Tiffany Wilkes	907-776-6756	
Mark Tornai	907-283-1372		**Planning Section Chief**		
			Bill Britt	907-777-8310	
			Bo York	907-777-8345	
			Finance Section		
			Susan Ellenbecker	907-777-8318	
			Janet Dormady	907-777-8334	

Figure 1-3 HAK Spill Report Form

Spill or Release	
Facility Name	
Spill/Release type (Receiving Medium)	
Date of spill	
Time of spill	
Material Released / Product Spilled	
Estimated Volume Released	
On-scene supervisor in charge / reported to:	
Exact location on structure or site	
Detailed Description of Incident	
Impacted Area - Square footage and surface type	
Failure Description / Cause of Event	
Description of clean-up response	
Amount of Waste generated/disposed	
Method and location of Disposal	
Date of disposal	
Fill out the Simple Spill Cost calculator at right to estimate the spill clean-up cost.	
Remediation action / Steps taken to prevent recurrence	
Person to contact for further information	
AGENCY NOTIFICATIONS	
AK Department of Environmental Conservation	
Reported to	
Date reported	
Time reported	
Summary of Report	
Method of report	
Reported by	
Summary of report	
National Response Center (NRC) 800-424-8802 - Initial notification must not be delayed pending the notification of all information.	
Reported to	
Date reported	
Time reported	
Summary of report	
Method of report	
Reported by	
Agency reference number	

Figure 1-3 (Cont.) HAK Spill Report Form

AGENCY NOTIFICATIONS (cont'd)	
United States Coast Guard Sector Anchorage	
Reported to	
Date reported	
Time reported	
Summary of report	
Method of report	
Reported by	
Agency reference number	
PIQ Faxed to USCG & EHS	
Date faxed	
PIQ completed and signed by	

1.2.2 External Notification Procedures

In the event of a significant spill event, the IC activates the response organization and notifies CISPRI, ADEC, and the National Response Center (NRC). Other contract companies may also be contacted to fill ICS roles, depending on spill response needs. See Section 3.3, Incident Command System, for more information on the ICS.

Table 1-3 provides a summary of agency notification requirements.

1.2.3 Qualified Individuals [40 CFR 112.20(h)]

In the event of a spill requiring notification of the NRC, the Facility Supervisor or designee ensures the designated Qualified Individual is notified and is able to respond. The Incident Commanders listed in Table 1-2 are QIs. In the event the primary IC is unavailable, alternates will be contacted in the order listed.

Prerequisites for designation as a QI are:

- Available on a 24-hour basis,
- Speak English fluently,
- Located in the United States,
- Trained as a QI and Alternate QI under the response plan, and
- Familiar with, and able to implement, the emergency response plan.

The QI must be trained and authorized to conduct the following responsibilities:

- Activate and engage in contracting oil spill removal organization(s) and other response-related resources;
- Act as a liaison with the FOSC, and
- Acquire funds to carry out response activities.

1.2.4 Written Reporting Requirements

Written notifications and reporting may be required by government agencies depending on the type and amount of material released (Table 1-3).

Immediate notifications are verbally made to the NRC and other agencies. The verbal report must contain the information detailed on the NRC Online Report Form (www.nrc.uscg.mil/report.html) to the extent known at the time of initial notification.

Table 1-3 Spill Matrix

AGENCY	SPILL SIZE[1]	VERBAL REPORT[2]	TELEPHONE NUMBER	ALASKA CONTACT	WRITTEN REPORT
NRC Notifies all appropriate federal agencies	See specific federal agency below for guidance on reportable spill size	Immediately	(800)424-8802 (24-hour)	24 hour line	Form is completed during telephone
ADEC Central Alaska Response Team	Water: Any Spill Land: >55 gal outside impermeable area >55 gal within secondary containment 10 to 55 gal 1 to 10 gal	Immediately Immediately 48 hours 48 hours Within 30 days	(907)269-3063 (907)269-7648 (fax) Or (800)478-9300 (M-F after 5 PM and Saturday and Sunday) Or (907)262-5210 (907)262-2294 (fax)	ADEC fax number Or State Troopers Or Kenai Office	Required within 15 days after spill containment and cleanup are completed; or, if no cleanup occurs, within 15 days after discharge or release. Monthly written report must be submitted for oil spills of 1 to 10 gal to land.
USFWS Land spills at SRF	Any size that poses threat to fish and wildlife	Immediately (courtesy call)	(907)262-9863 (work) (907)262-7145 (fax)	Kenai Office	Required within 15 days for all spills except those <= 10 gallons of glycol, produced water, or hydrocarbons on disturbed land, which can be submitted by the 15th of the following month. All spills on federal land must be reported.
ADNR (only if spill is on state land)	10 to 55 gal 1 to 10 gal <1 gal to ice road or pad <1 gal to gravel	Within 48 hour None None None	(907)269-8400 main office (907)269-8503 Office of Mining, Land, Water (907)269-8913 (fax)		Within 15 days of end of cleanup, compile a written monthly report None. None.
EPA	Only for NPDES Any size to navigable waters of the U.S. or to land that may threaten navigable waters (includes tundra)	Immediately NRC will contact	(206)271-5083		For facility requiring SPCC Plan if spill is 1,000 gal or more or if it is second spill >42 gal in 12 months.
AOGCC	Any spill greater than 10bbl or resulting in facility shutdown	Immediately	(907)793-1236 business hours (907)659-3607 after business hours pager system	Jim Regg	Within 5 days of loss.

Table 1-3 (Cont.) Spill Matrix

Kenai Peninsula Borough	All significant spills	Immediately	(907)262-4910(work) (b) (6) [redacted](cell) (907)714-2395(fax)	Eric Mohrmann	Written report requested. Include contact information.
Mat-Su Borough	Oils, drilling fluids, glycols, hazardous materials, produced water, D.O.T. pipeline	Immediately	Emergency Services Dept. (907)373-8821 (907)373-8815	Rena Dotson (primary contact) Dennis Brodigan, Director (secondary contact)	15 days if verbal is required.
ADF&G	Any spill impacting Trading Bay State Game Refuge or that is immediate threat to fish and wildlife	Immediately	(907)465-4100 switchboard (b) (6) [redacted](cell) (907)465-2332(fax) after hours notifications		
CIRI (HV-A, HV-B, Star, NNA pads only)	All spills	Not required			Immediate
State Pipeline Coordinator's Office (SPCO/DOT)	Any size from a regulated pipeline	Immediately	(907)269-6403 (907)269-6880 (fax)		
BLM (SRF spills)	>10 bbl or 1 bbl within refuge or sensitive lands or Any volume into a water or wetlands and on a lease, or any well blowout	NRC will contact	(907)271-5683	Sharon Yarawosky	Required within 15 days for all spills except those <= 10 gallons of glycol, produced water, or hydrocarbons on disturbed land which can be submitted by the 15th of the following month. All spills on federal land must be reported.
DOT	For a DOT-regulated pipeline: <5 gal, no report required For release >5 barrels resulting from pipeline maintenance activity	NRC will contact	(800)424-8802		Required within 30 days on DOT Form 7000-I per 49 CFR 195.
USCG Sector Anchorage	Any size in or threatening navigable waters	NRC will contact but would like a courtesy call	(907)428-4200 (24 hour) (907)428-4218 (fax)	Anchorage	Not required but is requested.

Notes:
1. No report is required for a release of <5 bbl resulting from a pipeline maintenance activity if the release:
    - Is not otherwise reportable; did not result in pollution of any stream, river, lake, reservoir, or other similar body of water that violated applicable water quality standards, caused a discoloration of the surface of the water or adjoining shoreline, or deposited a sludge or emulsion beneath the surface of the water or upon adjoining shorelines;
    - Is confined to company property or pipeline right-of-way and promptly cleaned up.
2. The operator shall give verbal notice if the release:
    - Caused a death or personal injury requiring hospitalization;
    - Resulted in either a fire or explosion not intentionally set by the operator;
    - Caused estimated property damage, including cost of cleanup and recovery, value of lost product, and damage to the property of the operator and/or others exceeding $50,000;
    - Resulted in pollution of any stream, river, lake, reservoir, or other similar body of water that violated applicable water quality standards, caused discoloration of the surface of the water or adjoining shoreline, or deposited a sludge or emulsion beneath the surface of the water or upon adjoining shorelines;
    - If, in the operator's judgment, it was significant even though it did not meet the criteria.

ADEC – Alaska Department of Environmental Conservation
ADF&G- Alaska Department of Fish and Game
ADNR – Alaska Department of Natural Resources
AOGCC – Alaska Oil and Gas Conservation Commission
bbl – barrel(s)
BLM – Bureau of Land Management
CIRI – Cook Inlet Region, Inc.
DOT – U.S. Department of Transportation
EPA – U.S. Environmental Protection Agency
gal – gallons
NRC – National Response Center
SRF – Swanson River Field
SPCC – Spill Prevention, Control, and Countermeasure
SPCO – State Pipeline Coordinator's Office
USCG – U.S. Coast Guard
USFWS – U.S. Fish and Wildlife Service

1.3 Safety [18 AAC 75.425(e)(1)(C)]

1.3.1 General Procedures

In the event of a spill response requiring facility personnel or others, the HAK Safety Officer will develop a site specific safety plan, in accordance with 29 CFR 1910.120.

Crude oil and diesel are the primary constituents of potential concern. Copies of MSDSs are located on the HAK internal website.

The site Safety Officer is responsible for health and safety concerns in the event of a spill response. Site Safety Officer will perform site characterization to determine risks and implement appropriate controls to ensure site safety. Specific responsibilities of the Safety Officer include:

- Initiate Site Control (Security)
- Identify, Evaluate and Control All Hazards
- Conduct Exposure and Area Monitoring
- Identify Proper PPE
- Establish and Secure Site Work Zones
- Establish Emergency Evacuations Procedures

CISPRI *Technical Manual* tactics CI-S-1 and CI-S-2, and Appendix C contain more information on development of a site safety plan, site entry procedures, and site characterization.

1.3.2 Evacuation Routes and Plans [40 CFR 112.20(h)(3)]

(b) (7)(F), (b) (3)

[redacted]

1.4 Communications [18 AAC 75.425(e)(1)(D)]

All field facilities are equipped with either public announcement (PA) intercoms or handheld radios for on-site communication.

CISPRI provides an additional network of communications during response situations and these resources are summarized in CISPRI's *Technical Manual* (CI-LP-2). In the event of a spill incident that requires CISPRI involvement, HAK will interface with CISPRI's communication network. Radio communications equipment is presented in Table 1-4.

Table 1-4 Radio Communications Equipment

(b) (7)(F), (b) (3)

CHANNEL NUMBER	USE	LOCATION	PRIVATE LINE	EQUIPMENT TRANSMITS (MHZ)	EQUIPMENT RECEIVES (MHZ)
[redacted]	[redacted]	Middle Inlet Page Hill Communication Site	107.2	161.235	159.585
[redacted]	[redacted]	Lower Inlet Diamond Ridge Comm. Site		156.8	156.8
[redacted]	[redacted]	Upper Inlet Tyonek Platform	N/A	157.025	157.025

1.5 Deployment Strategies [18 AAC 75.425(e)(1)(E)]

1.5.1 General

In this ODPCP, "mobilization" means readying for travel; "deployment" means readying for use at the site; and "travel time" is the period between mobilization and deployment.

The HAK IC will assemble and activate necessary personnel and equipment, in conjunction with CISPRI. See Section 1.2 of this plan regarding notification of the primary response action contractor (PRAC). See Table 1-1 for interim actions HAK will perform while CISPRI is mobilizing and transporting personnel and equipment to the spill site.

1.5.2 Transport of Resources

Equipment for response activities on the west side of Cook Inlet may be mobilized by either marine vessel or aircraft (fixed-wing or helicopter). Equipment may be transported by road or aircraft for response activities on the east side of Cook Inlet. Additional information on response times from Nikiski to specific facilities is provided in Table 1-5.

Staging locations and capabilities in the Cook Inlet Region are summarized in Table 1-6.

CISPRI barges are available within one to two days from Nikiski to Cook Inlet for open water oil recovery, oil storage and lightering. The large barges, with 12,500-barrel (bbl) and 59,000-bbl capacities, can tie up at OSK Dock, KPL, and Christy Lee Platform at Drift River during a spill response. The smaller 249-bbl and 100-bbl capacity barges can be landed on any beach at high tide, allowed to go dry, and then refloated at high tide. During winter months, vessels and equipment are also staged at Seldovia and Kachemak Bay. Air and marine transit time from Seldovia are essentially the same as from Homer/Kachemak Bay. Barge response time is limited in winter months by ice. Barges follow USCG rules and can be used in up to 20% ice (brash and broken ice) conditions.

OSK Dock can load three vessels and one barge simultaneously and loading generally takes less than 1 hour per vessel. If the water is low, CISPRI's smaller vessels and mini/micro barges will be loaded.

GPTF and TBPF are on a road network on the west side of Cook Inlet. The main road network connects Beluga, Shirleyville, and Tyonek. There is limited road access to the beach areas between Shirleyville and Beluga. CISPRI barges are not suitable to transport large items of equipment to Granite Point or Trading Bay. Large equipment (such as super suckers) is transported to Granite Point Tank Farm and Trading Bay Production Facility via a commercial barge service. Heavy equipment and other response equipment, listed in Table 3-4, are also on-site at GPTF and TBPF. In addition to on-site equipment, GPTF can obtain heavy equipment in Beluga and TBPF can obtain heavy equipment from Cook Inlet Energy at Kustatan or Westmac. This equipment would arrive via the road system. Response personnel can arrive by barge, plane or helicopter.

Swanson River Pipeline is accessible via roads within the first mile of the pipeline and after mile 9 of the pipeline. Appendix C, Figures 13 through 21, show the roads along the pipeline. Where there is no road access, personnel and equipment will be transported via off-road vehicles and helicopter. HAK has one off-road vehicle on-site.

See CISPRI's *Technical Manual* CI-LP-1(B) and CI-LP-3 for information on how to access CISPRI and contract/non-contract personnel and response equipment. The mobilization and travel times of the personnel and response equipment is also listed in these tactics. The travel time varies based on number of personnel, location and weather conditions.

1.5.3 Transporting Equipment and Personnel in Adverse Weather

For the purpose of this ODPCP, "adverse weather" is defined as weather conditions that may act against or abnormally hinder response efforts. Adverse weather conditions in winter may include icy waters which would impact recovery operations because barges would need to be staged in ice free waters. A barge located at Seldovia in the winter could take 17 to 24 hours to arrive on scene due to the inability to move the barges out of Seldovia until flood tide. A barge located at Kachemak Bay will not have tidal restrictions and can arrive on scene in 17 hours.

Adverse weather conditions would also necessitate increased response time and rotations for response personnel. Oil recovery will be maximized by working in areas where response personnel can be most effective during adverse conditions.

All response equipment is employed year-round in Cook Inlet by CISPRI. Transporting personnel and equipment to staging areas and spill sites in adverse weather will be accomplished by the most appropriate means available for the conditions, including helicopter, fixed-wing aircraft, marine vessels, road vehicles, and/or off-road vehicles. For more information on transportation and recovery methods affected by adverse conditions, CISPRI's capabilities in adverse weather, and alternative response methods, see the limiting conditions described in Section 3.4.1 and CISPRI's *Technical Manual* CI-LP-1(A) and Appendix B, Realistic Maximum Response Operating Limits (RMROL).

Table 1-5 Summary of Mobilization, Transit, and Deployment Times from Nikiski

Facility	Aircraft (hours)[1]	Boat (hours)[1]	Road (hours)[1]
Offshore Facilities			
Anna Platform	.5 to 1.5	4 to 5	---
Baker Platform	.5 to 1.5	2 to 3	---
Bruce Platform	.5 to 1.5	4 to 5	---
Dillon Platform	.5 to 1.5	2 to 3	---
Granite Point Platform	.5 to 1.5	4 to 5	---
Grayling Platform	.5 to 1.5	3 to 4	---
King Salmon Platform	.5 to 1.5	3 to 4	---
Monopod Platform	.5 to 1.5	3 to 4	---
Dolly Varden Platform	.5 to 1.5	3 to 4	---
Steelhead Platform	.5 to 1.5	3 to 4	---
Westside Cook Inlet Onshore Facilities			
Granite Point Tank Farm	.5 to 1.5	6 to 7	---
Trading Bay Production Facility	.5 to 1.5	5 to 6	---
Eastside Cook Inlet Onshore Facilities			
Beaver Creek Oil and Gas Production	.5 to 1.5	---	2 to 3
Swanson River Field	---	---	3.5 to 4.5
Swanson River Pipeline	.5 to 1.5	---	1.25 to 4.5

[1] The timeframes include mobilization of equipment and response personnel, travel time and deployment time in normal conditions. Additional transit time will be required in heavy current, ice conditions and adverse weather conditions; see CISPRI *Technical Manual* Tactic CI-LP-1(A) Response & Deployment Assumptions (Equipment) for these additional times.

Table 1-6 Summary of Staging Capabilities in the Cook Inlet Region

Location	Available Resources*	Airport Facility	Port Facility	Comments
Anchorage	R, B, D, H, S	Merrill Field for light aircraft. Anchorage International for jet traffic, open 24 hours per day with 10,900-ft runway.	Small boat harbor and supplies. Deep-draft dock, fuel, supplies, and crane with 37-acre staging area. 52,000 square foot warehouse.	Large tide change can be experienced. Sea ice December through March.
Beluga	R, B, H, S	Private airport - 5,000-ft gravel runway	N/A	Housing available.
Drift River Terminal	R, B, H, S	4,300-ft gravel runway	60 ft deep offshore loading platform. Platform headings are 35° and 215°	Helicopter deck and living quarters are on platform. Breasting and mooring dolphins, privately maintained lights on mooring dolphins mark extremities of terminal. Two 30-inch oil lines lead from a crude oil tank farm onshore to platform.
English Bay	R	1,800-ft gravel runway	N/A	N/A
Granite Point (Shirleyville)	R, B, H, S	5,000-ft gravel runway, maintained year round. Heliport landing facilities at HAK Tank Farm.	No formal barge landing facility. Barges have run up on beach and released with tide cycles.	Ice conditions prohibit barge landings from November to March. Tide ranges 21.0 ft and currents range from 2.0 to 3.9 knots. Alternate port facility north at Tyonek. Housing available for 30 to 40 personnel at Shirleyville Lodge.
Homer	R, B, D, H, S	7,400-ft asphalt runway Scheduled air service is available to Anchorage, and air taxies run to Seldovia and Port Graham Storage Tanks	Deep-draft pier and small boat harbor. Pipelines extend from the wharf to storage tanks in rear, total capacity is 732,250 bbl; water is at pier. The small boat harbor is protected by the city pier. A light on the outer end of the breakwater marks the entrance. The controlling depth is about 12 ft in the entrance channel. 30-acre staging area. Cold and gear storage.	From January to March, ice floes interfere with operations of Homer City Pier. During heavy ice floes, cargo barges use a wharf in the small boat harbor. The harbor has moorage for 450 vessels with some transient spaces. Electricity on floats; diesel, gasoline, and water available on floating fuel pier at the southeast end. A 100-ft grid, 168-ft grid, and launching ramp are available. Owned by the state, operated by city. Water facilities are operated by City of Homer. Small boat harbor is administered by Harbormaster (907) 235-3160, fax (907) 235-3152. Harbormaster's office monitors VHF-FM Channel 16 (156.80 MHz), Channels 10 (156.50 MHz) and 68 (156.425 MHz) used as working frequencies.
Kenai	R, B, D, H, S	7,500-ft asphalt runway	City dock, 600-ft X 600-ft open storage 5 wharves for barges and fishing Depth of channel is 8 to10 ft	Wharf dry at low tide 8-ton crane Gasoline, diesel fuel, and water are available for small boats at Fisherman's Packing, Inc. piers

Table 1-6 (Cont.) Summary of Staging Capabilities in the Cook Inlet Region

Location	Available Resources*	Airport Facility	Port Facility	Comments
Nikiski	R, B, D, H, S	5,600-ft gravel runway 2,200-ft gravel runway Heliport facility	3 deep-draft piers	Owned and operated by Agrium, Phillips and Kenai Pipeline Company. Tidal range of 20.7 ft Tidal currents of about 4 knots
Nikiski (Rig Tenders)	D, S	N/A	600-ft dock face 10-ft updraft at 0.0 tide 150-ton crawler-type crane. Fuel/electricity supplies available year-round.	Owned and operated by Crowley Maritime Corp. Rig Tenders Dock monitor VHF-FM Channel 10 (156.50 MHz) continuously. Range of tide is 20.7 ft and tidal currents run from 3 to 4 knots. Ice floes in January and February pose a problem.
Nikiski/OSK/ Arness Dock	R, D	Heliport operated by Era above the dock	Primary dock used by CISPRI. Cranes, fuel, electricity, water, supplies available with prior arrangements.	Owned and operated by OSK. Dock monitors VHF Channel 10 and 16 continuously. The range of the tide is 20.7- ft and tidal currents run from 2 to 4 knots. Ice floes in January and February pose a problem, due to tidal limitations. Office at (907) 776-5551
Ninilchik	R, D	2,500-ft gravel runway	The small boat harbor is 400 X 125 ft. and is 400-ft above the mouth of the Ninilchik River. The boat basin has one floating pier that is removed in the winter. No supplies or repair services are available.	The jetted entrance channel has been reported to dry at a 9-ft tide but has controlling depth of 8.7 ft at mean high water; the small boat basin inside retains a least depth of about 7 ft and is dredged annually. Because of the height of the basin channel and the swift current, entrance should not be attempted until the tide is at least 16 ft above datum.
Seldovia	R, B, D, H, S	2,600-ft gravel runway, unlighted	City Dock Emergency fuel/electricity Ferry Dock	21-ft controlling depth. Anchorage for boats up to 300 ft long. Small boat harbor for 100 boats. Haul-out facility available.
Trading Bay Facility	R, B, H, S	4,500-ft gravel runway	Small (100 bbl and 249 bbl) Barge landing only	Ice conditions prohibit barge landings from December to March. Approximately 40-acre storage area Camp house (80 to 100 people)
Tyonek	R, B, D, H, S	3,300-ft gravel runway	Dock	Barge landing, housing, and storage

* R - runway/heliport; D – Dock; N/A – not applicable
B – Barge Landing; ft. - foot/feet; OSK - Offshore Systems Kenai
bbl - barrel/barrels; H – housing; S – Storage Area

1.6 Response Scenarios and Strategies [18 AAC 75.425(e)(1)(F) and 18 AAC 75.425(e)(1)(I)]

1.6.1 Qualifier Statement

The scenarios included in this ODPCP were developed in accordance with 18 AAC 75.425(e)(1)(F) and 18 AAC 75.445(d). The scenarios describe equipment, personnel, and strategies that could be used to respond to an oil spill. The scenarios are for illustration only and are not performance standards or guarantees of performance. The scenarios assume conditions of the spills and responses only for the purposes of describing general procedures, strategies, and selected operational capabilities. Specific tactics in the CISPRI *Technical Manual* are referenced in the scenarios; however, depending on spill size and conditions, HAK could implement any of the tactics described in CISPRI's *Technical Manual*.

Some details in the scenarios are examples, and response timelines are for illustration only. Although some equipment is named, it may be replaced by functionally similar equipment in the future. Response timelines do not limit the discretion of the people in charge of the spill response to select any sequence or take whatever time they deem necessary for an effective response without jeopardizing safety.

Actual response performance equal to the scenarios is not guaranteed. Weather, malfunctions, and human performance can compromise efficiency. As a result, effectiveness may be less than illustrated. Actual responses in an oil spill emergency depend on personnel safety considerations, weather and other environmental conditions, agency permits and priorities, and other factors. In the event of an accident, considerations to ensure the safety of personnel will be given highest priority. The scenarios assume the agency on-scene coordinators and other agency officials will immediately grant required permits.

1.6.2 Response Planning Standard (RPS)

Oil Terminal Facility [18 AAC 75.432(b)]
See Section 5, Response Planning Standard.

Exploration or Production Facility [18 AAC 75.434 (e)]
See Section 5, Response Planning Standard.

Crude Oil Pipeline [18 AAC 75.436(b)]
See Section 5, Response Planning Standard.

1.6.3 Scenarios

This section describes scenarios and response strategies that cover the spectrum of potential releases at HAK facilities described in this ODPCP. The scenarios include:

- Scenario 1 - Major Tank Failure and Onshore Spill at TBPF
- Scenario 2 - Offshore Production Well Blowout at King Salmon Platform in Summer
- Scenario 3 - Offshore Production Well Blowout at King Salmon Platform in Winter
- Scenario 4 – Swanson River Crude Oil Transmission Pipeline Rupture in Summer
- Response Strategy 1 - Major Tank Rupture and Onshore Spill at GPTF
- Response Strategy 2 - Onshore Production Well Blowout at SRF in Summer
- Response Strategy 3 - Onshore Production Well Blowout at SRF in Winter

The following abbreviations are used in the Scenarios and Response Strategies to describe tactics referenced from the Spill Tactics for Alaska Responders (STAR) Manual (Nuka Research and Planning Group, 2006). Not all abbreviations are used in this ODPCP.

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SCENARIO 1

MAJOR TANK FAILURE AND ONSHORE SPILL AT TBPF

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1.6.3.1 Scenario 1 - Major Tank Failure and Onshore Spill at TBPF

Table 1-7 Scenario 1 - Major Tank Failure and Onshore Spill at TBPF Scenario Conditions

Parameter	Parameter Conditions
Spill Location	Trading Bay Production Facility
Date and Time	June 6 at 0800 AKDT
Cause of Spill	Catastrophic failure
Quantity of Spill	(b) (7) [redacted]
Oil Type	Cook Inlet crude
Weather	Air Temp: 62°F; Water Temp: 44°F; Visibility: 20 miles
Wind Speed	5 to 10 knots
Wind Direction	From the south
Spill Trajectory	(b) (7)(F), (b) (3) [redacted]

AKDT - Alaska Daylight Time
°F - degrees Fahrenheit

Table 1-8 Scenario 1 - Major Tank Failure and Onshore Spill at TBPF - Response Strategy

ADEC Requirement	Response Strategy	CISPRI Technical Manual/STAR Manual Tactics
(i) Stopping Discharge at Source	The entire contents of the tank are lost. A crew stabilizes the secondary containment area with gravel within two hours to prevent further escape of fluids. Valves on piping leading to the failed tank are closed immediately to prevent further flow of oil to the tank. CISPRI is notified and an IMT is established for the spill response. The IMT is operational and fully staffed within four to six hours at the Nikiski CISPRI command center. The Anchorage initial command post will be operational within one hour.	Not applicable
(ii) Preventing or Controlling Fire Hazards	The facility is shut down by a TBPF operator. Ignition sources are extinguished, and the spilled fluids do not ignite. The HAK Response Team performs site characterization and the Site Safety Officer initiates an assessment of the area to determine additional fire or explosion hazard potential within one hour. The Site Safety Officer, in collaboration with the CISPRI safety officer, begin development of a site safety plan to outline hazard zones, spill site access requirements (security), and personal protective equipment (PPE) requirements. Site Safety Plan is completed within four hours. Five CISPRI Spill Technicians arrive via aircraft two hours after activation. CISPRI will mobilize up to nine response personnel to staff the spill continuously. In addition, HAK has ten response personnel available to respond within one hour. Response personnel conduct back-up site characterization, spill delineation, site safety zones, establish decontamination zones, and set up a decontamination area.	All Tactics within CI-S/ SEC, PPE, SCL, Dp

Table 1-8 (Cont.) Scenario 1 - Major Tank Failure and Onshore Spill at TBPF - Response Strategy

ADEC Requirement	Response Strategy	CISPRI Technical Manual/STAR Manual Tactics
(iv) **Surveillance and Tracking of Oil; Forecasting Shoreline Contact Points**	The spill is entirely on land and contained within the boundaries of the TBPF. Visual surveillance is used to track the spill. As a precaution, the Command Center mobilizes an overflight to monitor the surrounding area. The initial overflight will occur within two hours, followed by one every 24 hours thereafter. No migration beyond the facility boundaries is detected. The network of existing monitoring wells is used to evaluate infiltration to groundwater.	CI-TS-1, CI-TS-3/PD
(v) **Protection of Environmentally Sensitive Areas and Areas of Public Concern**	Areas of concern are identified and protection measures implemented as identified in the Cook Inlet Subarea Plan (Central Cook Inlet Region) and Geographic Response Strategies (GRS), specifically CCI-18 MacArthur River. The area is monitored starting on Day 2 to ensure birds and mammals do not enter the spill area. Bird capture and rehabilitation personnel from the International Bird Rescue (IBR) are notified and put on standby for potential activation. Additional information is provided in Section 3.10. If previously undiscovered artifacts or areas of historic, prehistoric, or archaeological importance are encountered, ADNR Division of Parks and Outdoor Recreation, Office of History and Archaeology (OHA) shall be notified.	CI-SA-1 CI-SA-2 CI-W-1 CI-SA-3
(vi) **Spill Containment and Control Actions**	Day 1: The response team constructs a dike at the top of the barge ramp to prevent product from escaping from the site (Figure 1-4). Dikes are constructed using the backhoe and pit liner material always available at Trading Bay. Dikes are placed along the perimeter of the spill migration area to deflect and contain oil. Dike construction is expected to require 3 to 4 hours. If indicated, product recovery pumps are installed in groundwater monitor wells to recover product and reduce migration.	CI-IL-1A / DBD
(vii) **Spill Recovery Procedures**	Days 1 through 7: The HAK Spill Response team uses a vacuum truck to recover oil that escaped from secondary containment and pooled in the northeast corner of facility (Figure 1-4). A vacuum truck located on site is used for the duration of the response. Commencing on Day 3, two additional super suckers arrive from Nikiski via the Red Dog barge from OSK. The three trucks operate using 2-inch x 3-inch diaphragm pumps until recovery is complete. Oil that escaped from secondary containment will be fully recovered by the end of Day 7 of the recovery effort (Table 1-9). Oil remaining in the secondary containment area is recovered by direct suction using, two 6-inch Goodwin pumps and hoses provided by CISPRI. Pumping capacity is listed in Table 1-9. Oil in the secondary containment area will be fully recovered by the end of Day 3 (Table 1-9). Recovered product is reprocessed. Contaminated gravel and surface soil are removed with a front-end loader and stockpiled for removal or treatment as part of a long-term cleanup plan that is developed as follow-up to initial response efforts.	CI-SL-5 / OR

Table 1-8 (Cont.) Scenario 1 - Major Tank Failure and Onshore Spill at TBPF - Response Strategy

ADEC Requirement	Response Strategy	CISPRI Technical Manual/STAR Manual Tactics
(viii) Lightering Procedures	Not applicable.	Not applicable
(ix) Transfer and Storage of Recovered Oil/Water; Volume Estimating Procedure	Oil recovered from the area of accumulation on the northeast corner of the facility, as well as oil recovered from the secondary containment area, is transferred to one of two 50,000 bbl retention pits at the facility. Recovered product is reprocessed. Volume of free product recovered from the accumulation area is measured as a function of vacuum truck capacity. Volume from the secondary containment area is estimated from pumping rates. The Operations Section personnel take measurements or estimate volumes, and the Planning Section maintains records of recovered volume. The waste management task force leader will be responsible for estimating and communicating with the planning section and environmental unit leader (EUL) the estimated recovered spill volume. The EUL will coordinate communication of these quantities with the UC and agency personnel.	CI-WM-2 / LST, POL, Appendices C and D
(x) Plans, Procedures, and Locations for Temporary Storage and Disposal	Oiled debris is stockpiled in lined dumpsters or other lined containment at the TBPF for further processing and disposal. TBPF also has an ADEC letter of approval for ongoing storage of oily solids in the winter waste cell. Oily solids collected are locally incinerated when allowed. As equipment is phased out of the response operation, it is decontaminated and returned to normal service. Depending on volume, oily soil is stockpiled at TBPF or shipped to Anchorage Sand and Gravel or other approved off-site treatment or disposal facility.	CI-WM-4 / Dp
(xi) Wildlife Protection Plan	Natural resource trustees (ADF&G and USFWS) are notified to request direction regarding wildlife activities. A wildlife interaction plan will be developed. Wildlife hazing equipment is mobilized to the spill site and is utilized as needed. As a precaution, bird capture and rehabilitation personnel from the CISPRI IBR are notified and put on standby for potential activation, if required. Bear guards are considered but are not believed to be needed, as no bears are observed in overflights of the general area. No oiled wildlife is encountered.	CI-W-1
(xii) Shoreline Cleanup Plan	Not applicable. However, the network of monitoring wells is used to evaluate infiltration to groundwater on a schedule determined with ADEC.	Not applicable

Table 1-9 Scenario 1 - Major Tank Failure and Onshore Spill at TBPF - Oil Recovery Capability

A Spill Recovery Tactic, CISPRI Technical Manual Tactics Description / STAR Manual Tactics Description	B Number of Recovery Systems	C Recovery System	D De-Rated Oil Recovery Unit (bph)	E Mobilization, Deployment and Transit Time to Site (hours)	F Operating Time (hours per 24-hour shift)	G Oil Recovery Capacity (bpd) [Number of Systems (B) X Recovery Rate (D) X Operating Time (F)] (B x D x F)
Direct suction from accumulation pool on NE corner of facility	1 Vacuum truck on Day 1 2 Super suckers on Day 3	Vacuum truck Super sucker	30 (capacity is 60) 45 (capacity is 90)	1.5 hours for on-site truck 2 days for Nikiski trucks	20	600 bopd on Days 1 and 2 2,400 bopd by Day 3 >13,200 bbl by end of Day 7
Direct suction from secondary containment around ruptured Tank 7	2	6-inch Godwin Pump 400 ft hose	500 (1,750 gallons per minute)	4	20	60,000
Recovery and stockpile of contaminated soil	1	Front-end loader, backhoe, and dump truck all located on site	N/A	N/A	N/A	The backhoe production rate estimate is based on 2 ft deep by 40 ft long trench per hour (width based on bucket)

Note: Amount of contaminated material will be determined as part of a long-term remediation program to be developed after recovery of free product.

bpd – barrels of oil per day
bph – barrels of oil per hour
NE - northeast

Figure 1-4 Scenario 1 - Major Tank Failure and Onshore Spill at TBPF – Layout and Spill Direction

(b) (7)(F), (b) (3)

[redacted]

Table 1-10 Scenario 1 - Major Equipment Equivalents to Meet Response Planning Standard

Recovery Tactic	Number of Tactical Units	Equipment Per Tactical Unit
Containment by earthen berms/dike	1	Loader/bulldozer
Direct suction from accumulation pool on NE corner of facility	1 (plus 2 on Days 3 through 7)	Vacuum truck/super sucker 2-inch x 3-inch diaphragm pumps PPE
Direct suction from secondary containment around ruptured Tank 7	2	6-inch Godwin pumps 400 ft hose PPE
Removal of contaminated soil/gravel	1	loader/bulldozer

ft – foot/feet
PPE – personal protective equipment

Table 1-11 Scenario 1 - Staff to Operate Oil Recovery and Transfer Equipment

Labor Category	Tactic	Number of Units	Number of Staff Per Unit	Days 1-2 Number of Staff Per Shift	Days 3-7 Number of Staff Per Shift	Days 8+ Number of Staff Per Shift
Equipment operator	Containment by earthen berms/ dike	1	1	1	0	0
Equipment operator	Direct suction from accumulation pool on NE corner of facility [1]	1, Days 1-2 3, Days 3-7	2	2	6	0
Equipment operator	Direct Suction from secondary containment around ruptured Tank 7. [2]	2	1	2	2	0
Equipment operator	Removal of contaminated soil/gravel. [3]	2	2	0	2	2
Total	N/A	N/A	N/A	5	10	2

[1] - Completed by end of Day 7 of recovery effort.
[2] - Completed by end of Day 3.
[3] - To begin after removal of all free product, sometime after Day 7.

SCENARIO 2

OFFSHORE PRODUCTION WELL BLOWOUT AT KING SALMON PLATORM IN SUMMER

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1.6.3.2 Scenario 2 - Offshore Production Well Blowout at the King Salmon Platform in Summer

Table 1-12 Scenario 2 - Offshore Production Well Blowout at King Salmon Platform in Summer Conditions

Parameter	Parameter Conditions
Spill Location	King Salmon Platform
Spill Time	June 19, 10:00 am (AKDT), 15 days
Cause of Spill	Uncontrolled well blowout from Well K-13
Quantity of Oil Spilled	(b) (7)(F), (b) (3) [redacted]
Oil Type	Cook Inlet crude
Weather	58°F; Visibility: 10 miles
Wind Speed	10 knots
Wind Direction	From the south
Trajectory	(b) (7)(F), (b) (3) [redacted]

Table 1-13 Scenario 2 - Offshore Production Well Blowout at King Salmon Platform in Summer – Response Strategy

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ STAR Field Guide
(i) **Stopping Discharge at Source**	Emergency response procedures, located in HAK's Well Control Emergency Response Plan, are initiated to stop further discharge by controlling the well. HAK's well control contractor, Wild Well Control, Inc., is contacted to begin mobilization of equipment needed for controlling the well. CISPRI is notified to begin spill response operations, and an IMT is initiated for the response. All notifications to proper personnel and agencies are made and open water response vessels and barges begin mobilization. Response personnel begin arriving at the command post within 1 hour. See Section 3.3 for more information on the ICS.	Not applicable to any tactics
(ii) **Preventing or Controlling Fire Hazards**	Production on the platform is shut down, ignition sources are eliminated, and the rig is evacuated. CISPRI vessels equipped with fire pumps can arrive within 3 hours to apply firewater in emergency situations. Wild Well Control can arrive on-scene in 24-48 hours with firefighters. See Section 1.9.3 for more information on firewater application.	All Tactics within CI-S/ SCL, PPE, Dp
(iv) **Surveillance and Tracking of Oil; Forecasting Shoreline Contact Points**	Within 1 hour, a flight is mobilized to estimate the location, spatial extent, rate of movement and trajectory of the oil spill. Ongoing aerial surveillance will be coordinated by Air Operations and scheduled by Logistics. Within 3 hours, CISPRI's electronic spill tracking system (Iridium Oil Spill Tracking System) is delivered to the oil slick by vessel and deployed within the slick to track daytime and nighttime movement of the oil spill utilizing a receiver and buoys equipped with transmitters. When and where to place the buoys will be determined by the Operations and Planning sections in coordination with Air Operations and Logistics. Ongoing monitoring of the buoys will be performed by vessels designated solely for this role or by vessels also performing other response roles, depending on availability. Aerial and marine observations are made by a team comprised of representatives of each organization in the Unified Command. Unified Command staff will use oil spill tracking data to establish a list of likely shoreline contact points. HAK environmental personnel, along with resource trustee and other regulatory agencies, will review the projected path of the spill and identify locations in need of prompt protection and/or cleanup.	CI-TS-1 CI-TS-2 CI-TS-4 DT

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ STAR Field Guide
(v) **Protection of Environmentally Sensitive Areas and Areas of Public Concern**	Based on the spill trajectory in Figure 1-6, sensitive areas within Trading Bay have the highest potential to be initially impacted by the blowout, but other environmentally sensitive areas could be impacted depending on the conditions. Therefore, aerial and vessel surveillance will be mobilized as soon as possible after the blowout and throughout the response to track the location and trajectory of the oil and help identify and prioritize environmentally sensitive areas and areas of public concern, including cultural resources. HAK response personnel also make agency notifications to help identify priority locations and coordinate a protection strategy. Section 3.10 provides additional resources that are used to identify and prioritize spill response activities in ESAs and Areas of Public Concern. International Wildlife Research and IBR are activated to be available for hazing, rescue, and/or rehabilitation of mammals and birds. Rescue/capture teams are directed by appropriate wildlife trustee agencies. Nearby fisheries will be monitored and fishing vessels will be notified to report oil sightings. Fishing vessel cleanup/recovery stations will be established as needed, and fish will be monitored for contamination. If necessary, fisheries will be closed until safe to reopen.	CI-SA-1 CI-SA-2 CI-SA-3 CI-W-1 CI-W-4 CI-W-5

Table 1-13 (Cont.) Scenario 2 - Offshore Production Well Blowout Response Strategy at King Salmon Platform in Summer

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ STAR Field Guide
(vi) **Spill Containment and Control Actions** **and** **(vii)** **Spill Recovery Procedures**	By hour 4, **TF-1** provides containment and control on the water using open water tactics. TF-1 will recover oil using a CISPRI Class 1 vessel and a barge with a Crucial 56-30 disc skimmer combined with a NOFI Current Buster oil collection system. The vessel and barge will operate 20 hours a day and the barge will offload to Christy Lee Platform every 2.5 days.	CI-OW-3
	By hour 6, **TF-1** will recover oil using a CISPRI Class 1 vessel towing a barge with a Crucial 56-30 disc skimmer and NOFI Current Buster oil collection system. The vessel and barge will operate 20 hours/day and the barge will offload to Christy Lee Platform once during the response.	CI-OW-6
	By hour 10, **TF-1** will recover oil using two OMSI vessels, O/W Separators, and two Crucial 13-30 disc skimmers. The vessels will operate 20 hours a day and offload to the Christy Lee Platform or King Salmon Platform about every 6 days.	CI-OW-1
	By hour 12, four contract vessels will arrive towing boom to increase the oil encounter rate for the OMSI vessels.	CI-OW-1, 3, 6
	TF-1 will remain on-site with crew changes, fuel, and other needs supplied by support vessels. The OMSI vessels will decant from the onboard storage and O/W separators into a boomed area in the Inlet before offloading. The barges will also decant to a boomed area prior to offloading. Secondary oil will be skimmed. Decanting permits will be obtained prior to decanting.	CI-WM-3
	By hour 10, **TF-2** is established near the shoreline to prevent oil not captured by open water containment efforts from impacting the shoreline. **TF-2** will deploy boom using a CISPRI Class 6 vessel and recover oil with a CISPRI vessel and a Lamor Front Collection Skimming System. The vessel will operate 16 hours/day, with recovered oil stored on mini barges. CIC and tow vessels will rotate the mini barges out for lightering.	CI-NS-1
	By hour 10, **TF-2** will deploy boom using a CISPRI Class 6 vessel and recover oil with a CISPRI vessel and a Crucial 13-30 disc skimmer. The vessel will operate 20 hours/day, with recovered oil stored on micro barges. CIC and tow vessels will rotate the micro barges out for lightering.	CI-NS-1
	By hour 12, **TF-2** will deploy boom using two CISPRI Class 6 vessels and recover oil with two contract vessels and two Crucial 13-30 disc skimmers. The vessels will operate 20 hours/day, with recovered oil stored on mini barges. CIC and tow vessels will rotate the mini barges out for lightering.	CI-NS-1
	By hour 12, **TF-2** will deploy boom using one contract vessel and recover oil using a contract vessel and Desmi Terminator skimmer. The vessel will operate 20 hours/day, with recovered oil stored on mini barges. Tow vessels will rotate the mini barges out for lightering.	CI-NS-1

Table 1-13 (Cont.) Scenario 2 - Offshore Production Well Blowout Response Strategy at King Salmon Platform in Summer

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ STAR Field Guide
	TF-2 will remain on-site with crew changes, fuel and other needs supplied by support vessels. The mini and micro barges used in TF-2 will decant prior to offloading at Christy Lee Platform or OSK Dock. By hour 24, **TF-3** is established near tidal rips to recover any oily debris in the rips. A backhoe will be deployed from a commercial barge with holes drilled in the bucket to release the water collected. Additional open water and nearshore task forces may be deployed based on surveillance and tracking information collected throughout the response. TF-1 through TF-3 are capable of recovering the entire RPS. However, **TF-4**, the GRS task forces, are standing by to contain and collect product that is not contained by the other task forces. The most likely GRS locations are GRS CCI-18, CCI-19 and CCI-21, but the locations may vary based on conditions. The equipment and personnel for TF-4 are described in GRS CCI-18, CCI-19 and CCI-21 and Table 1-15 and 1-16. Any oil collected by onshore/GRS activities will be stored in Fast Tanks provided by CISPRI.	CI-WM-3 Not Applicable
(viii) Lightering Procedures	Not applicable	Not applicable
(ix) Transfer and Storage of Recovered Oil/ Water; Volume Estimating Procedures	Oil/water is transferred to and stored in barges, vessels or O/W separators until it is transferred to Christy Lee Platform, KPL facilities or OSK Dock and stored in tanks. The recovered fluids can also be transferred from the vessels and O/W separators to a platform via a diesel line with a jumper hose to the pipeline. The fluids would be processed by either Trading Bay Production Facilities (TBPF) or Granite Point Tank Farm (GPTF). Volumes of fluid collected from recovery efforts are measured directly from capacity of recovery equipment, or are estimated based on amount of fluid transferred and hydrocarbon percentage. As an example, volumes of free product recovered by each vessel will be measured as it is delivered with an estimate of the percentage of water. This can be accomplished by gauging the tank's oil and water volumes before and after transfer. The Operations Section personnel will make actual field measurements, and the Waste Specialist will maintain records.	CI-WM-2
(x) Plans, Procedures, and Locations for Temporary Storage and Disposal	Oily solids will be stored in bags or lined totes/drums on the barges. They will be transferred to land and stored in a lined area until disposal. Temporary storage locations include OSK/ASRC Dock and KPL.	CI-WM-1 through CI-WM-7

Table 1-13 (Cont.) Scenario 2 - Offshore Production Well Blowout Response Strategy at King Salmon Platform in Summer

(xi) **Wildlife Protection Plan**	Natural resource trustee agencies are consulted regarding sensitive species and habitats. Wildlife species and habitats that could be impacted by a spill in Cook Inlet are identified in the Cook Inlet Subarea Contingency Plan and in NOAA Environmentally Sensitive Area maps. Bird hazing, capture and rehabilitation personnel and facilities are put on standby and eventual activation, if required. Vessels for the Wildlife Task Force will be mobilized and ready for hazing, capture and transport, should the need arise.	CI-W-1 through CI-W-5 CI-LP-6
(xii) **Shoreline Cleanup Plan**	Following immediate recovery actions, the projected shoreline impact will be determined by assessing what ESAs are present along the projected impact path and prioritizing locations for cleanup. HAK will use a third party contractor to provide SCAT services. Consultations with natural resource trustee agencies and the ESA maps created by NOAA are used to designate prioritized sensitive areas, applying criteria contained in the CISPRI *Technical Manual*. Active or passive shoreline cleanup techniques will be applied depending on site conditions and heavy equipment access.	All Tactics within CI-SL

Table 1-14 Scenario 2 - Offshore Production Well Blowout at King Salmon Platform in Summer – Oil Recovery Capability

A Spill Recovery Tactic, CISPRI Technical Manual Tactic Description	B Number of Recovery Systems	C Recovery System	D[1] Recovery Rate Per Unit (bph)	E Mobilization, Deployment and Transit Time to Site (hours)	F Recovery Time Day 1 (hours per day)	G[2] Average Recovery Time After Day 1 (hours per day)	H Daily De-Rated Oil Recovery Capacity Day 1 (bpd) (B x D x F)	I Daily De-Rated Oil Recovery Capacity After Day 1 (bpd) (B x D x G)	J Storage Capacity (bbl)	K[3] Comments
TF-1 CISPRI Vessel CI-OW-3	1	56-30 Crucial Skimmer combined with NOFI current buster	354	4	16	15	5,664	5,310	1,170 (vessel) 12,405 (barge)	Lighters every 2.5 days (~14 hours to offload)
TF-1 CISPRI Vessel CI-OW-6	1	56-30 Crucial Skimmer combined with NOFI current buster	354	6	14	17.5	4,956	6,195	2,500 (vessel) 59,421 (barge)	Lighters once during the response (-28 hours to offload)
TF-1 OMSI Vessel CI-OW-1	1	13-30 Crucial Skimmer	31	10	10	18.5	310	574	2,380 (vessel) 840 (O/W Separators)	Lighters every 6 days (~8 hours to offload)
TF-1 OMSI Vessel CI-OW-1	1	13-30 Crucial Skimmer	31	10	10	18.25	310	567	2,380 (vessel) 620 (O/W Separators)	Lighters every 5.5 days (~8 hours to offload)
TF-2 CISPRI Vessel CI-NS-1	1	Lamor Front Collection Skimming System	52	10	10	16	498	832	Two 249 bbl mini barges	Each barge lighters every 5 hours (~7 hours to offload)
TF-2 CISPRI Vessel CI-NS-1	1	13-30 Crucial Skimmer	31	10	10	20	310	620	Three 100 bbl micro barges	Each barge lighters every 3.2 hours (~7 hours to offload)
TF-2 Contract Vessel CI-NS-1	2	13-30 Crucial Skimmer	31	12	8	20	496	1,240	Four 249 bbl mini barges	Each barge lighters every 8 hours (~7 hours to offload)
TF-2 Contract Vessel CI-NS-1	1	Desmi Terminator	125	12	8	20	1,000	2,500	Four 249 bbl mini barges	Each barge lighters every 2 hours (~7 hours to offload)
Total daily de-rated oil recovery capacity per day:							**13,544**	**17,838**		

bph - barrels of oil per hour
[1]Recovery rate information is in the CISPRI *Technical Manual*, CI-LP-4. Crucial skimmers combined with NOFI current buster recovery rates were approved by ADEC in the 3/8/13 letter to CISPRI.
[2]Operating time is 20 hours/day (the remaining 4 hours/day is for vessel maintenance). Due to the time spent lightering, the average recovery time per day for TF-1 is less than 20 hours.
[3]Lightering time includes vessel cleaning, travel to/from the dock and lightering operations.

Table 1-15 Scenario 2 - Major Equipment Equivalents to Meet Response Planning Standard

Recovery Tactic	Number of Tactical Units	Total Quantity
TF-1: CI-OW-3	1	CISPRI Class 1 vessel (1) Barge (1) 56-30 Crucial Disc skimmer with NOFI Current Buster oil collection system (1) CISPRI Jet Skiff for current buster towing (1) Boom (2)
TF-1: CI-OW-6	1	CISPRI Class 1 vessel (1) Barge (1) 56-30 disc Crucial Skimmer with NOFI Current Buster oil collection system (1) CISPRI Jet Skiff for current buster towing (1) Boom (2)
TF-1: CI-OW-1	2	OMSI Class 1 vessels (2) 13-30 Crucial Disc skimmer (2) CVs for boom towing (4) Boom (2) 220 bbl O/W Separators (5) 180 bbl O/W Separators (2)
TF-2: CI-NS-1	1	CISPRI vessel (1) Lamor Front Collection Skimming System (1) 249-bbl barge (2) CISPRI Class 6 vessel for boom towing (1) CISPRI CIC vessel for barge towing (1) Tow vessel for barge towing (1) Boom (1)
TF-2: CI-NS-1	1	CISPRI vessel (1) 13-30 Crucial Skimmer (1) 100-bbl barge (3) CISPRI Class 6 vessel for boom towing (1) CISPRI CIC vessel for barge towing (1) Tow vessel for barge towing (2) Boom (1)
TF-2: CI-NS-1	2	CV vessel (2) 13-30 Crucial Skimmer (2) 249-bbl barge (4) CISPRI Class 6 vessel for boom towing (2) CISPRI CIC vessel for barge towing (1) Tow vessel for barge towing (3) Boom (2)
TF-2: CI-NS-1	1	CV vessel (1) Desmi Terminator Skimmers (1) 249-bbl barge (4) Contract vessel for boom towing (1) Tow vessel for barge towing (3) Boom (1)
TF-3	1	Commercial barge (1) Backhoe (1) Temporary storage

Recovery Tactic	Number of Tactical Units	Total Quantity
TF-4: GRS CCI-18	1	200 ft. river boom units (6) Protected water skimmer (1) 600 ft. 2" discharge hose (1) On-shore storage unit (2) 40 lb. anchor systems (18) Additional transfer pump (1) Wildlife hazing kit (1) 2000 ft. line (1) Class #5/6 vessels (3) Truck (1) Truck with trailer (1) Vacuum truck (1) Shelter (1) ATV trailers (2) ATVs (2) Fence posts (25) Light plants (1-2)
TF-4: GRS CCI-19	1	200 ft. river boom units (2) Protected water skimmer (2) 600 ft. 2" discharge hose (1) On-shore storage units (2) 40 lb. anchor systems (6) Additional transfer pump (1) Wildlife hazing kit (1) 800 ft. line (1) Class #4/5/6 vessel (2) Truck (1) Truck with trailer (1) Vacuum truck (1) Shelter (1) ATV trailers (2) ATVs (2) Fence posts (10) Light plants (1-2)
TF-4: GRS CCI-21	1	200 ft. river boom units (4) 40 lb. anchor systems (12) Wildlife hazing kit (1) 800 ft. line (2) Marine collection unit –protected water skimmer (1) Storage unit (1) Class #6 vessel (2) Shelter (1) Fence posts (10)
Onshore Task Force: CI-SL-1 (SCAT Team) and other CI-SL tactics as determined.	1	Landing craft Hand tools Viscous sweep Sorbent boom Anchoring systems

bbl – barrel(s)

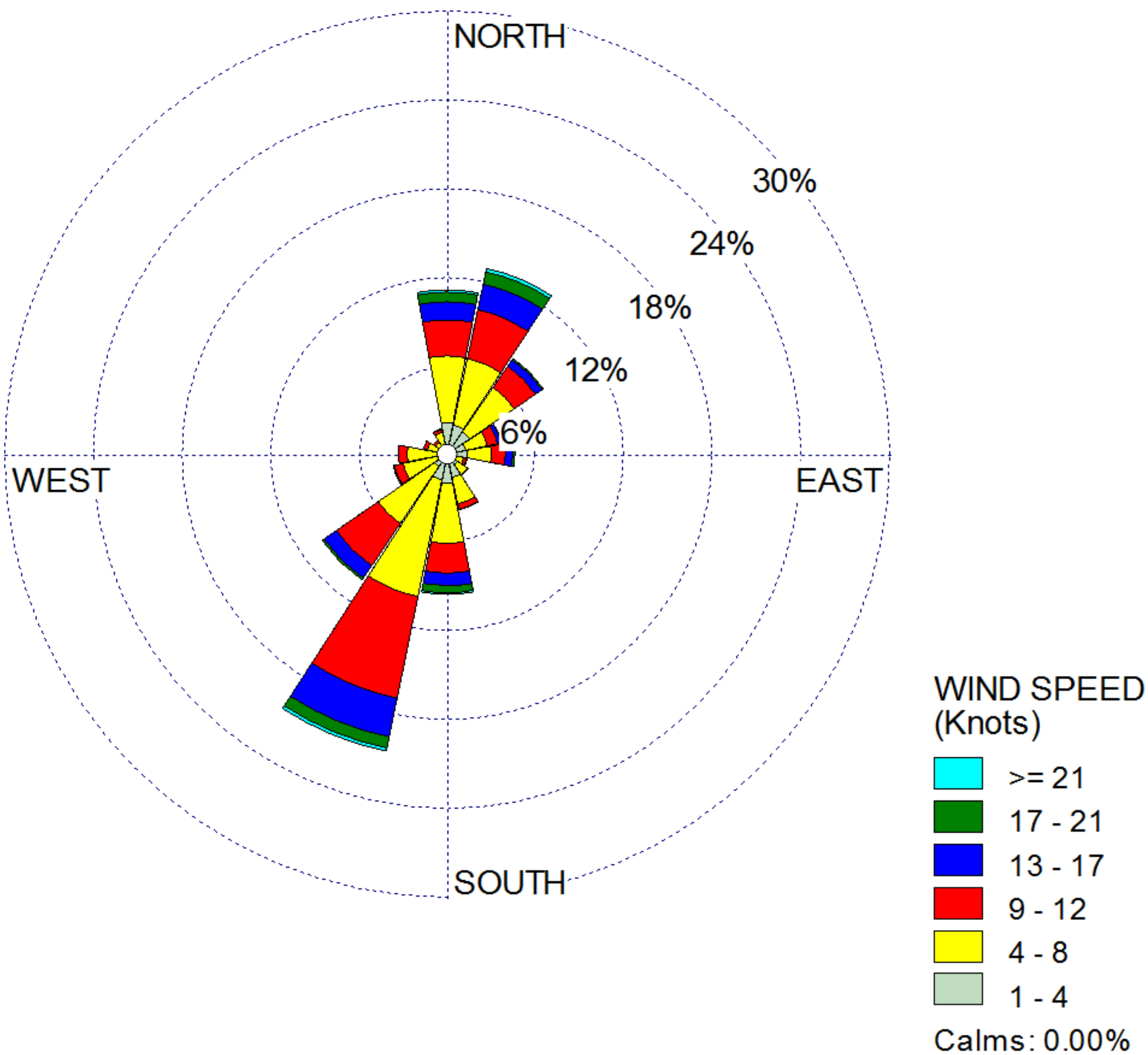
Table 1-16 Scenario 2 - Staff to Operate Oil Recovery and Transfer Equipment

Labor Category	Tactic	Number of Tactical Units	Number of Staff Per Unit[1]	Day 1 Number of Staff 1st Shift	Day 1 Number of Staff 2nd Shift	After Day 1 Number of Staff 1st Shift	After Day 1 Number of Staff 2nd Shift
Equipment Operators	TF-1 CI-OW-03	1	15	11	15	15	15
Equipment Operators	TF-1 CI-OW-06	1	18	14	18	18	18
Equipment Operators	TF-1 CI-OW-01	2	11	0	22	22	22
Equipment Operators	TF-2 CI-NS-01	5	7	0	35	35	35
Equipment Operators	TF-3	1	5	0	0	5	5
Equipment Operators	TF-4 GRS CCI-18	1	12 for set-up 8 to maintain	0	12	8	8
Equipment Operators	TF-4 GRS-CCI-19	1	10 for set-up 8 to maintain	0	10	8	8
Equipment Operators	TF-4 GRS-CCI-21	1	6 for set-up 3 to maintain	0	6	3	3
Equipment Operators	Onshore Task Force	1	15	0	15	15	15
Total Per Shift		**14**	**138**	**25**	**133**	**129**	**129**

[1] - Personnel totals are split between supervisors/workers, two shifts per 24-hour period

Figure 1-5 Wind Rose Typical Summer Conditions

Nikiski Wind Rose
May – October 2005 through 2013
Average Wind Direction, Frequency in Percent



Wind direction data was retrieved from NOAA National Ocean Services Meteorological Observations

Figure 1-6 Scenario 2 – Offshore Production Well Blowout at King Salmon Platform in Summer – Trajectory

(b) (7)(F), (b) (3)

[redacted]

SCENARIO 3

OFFSHORE PRODUCTION WELL BLOWOUT AT KING SALMON PLATFORM IN WINTER

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1.6.3.3 Scenario 3 - Offshore Production Well Blowout at King Salmon Platform in Winter

Table 1-17 Scenario 3 - Offshore Production Well Blowout at King Salmon Platform in Winter – Scenario Conditions

Parameter	Parameter Conditions
Spill Location	King Salmon Platform
Spill Time	December 17, 1000 AKDT, 15 days
Cause of Spill	Uncontrolled well blowout from Well K-13
Quantity of Oil Spilled	(b) (7)(F), (b) (3) [redacted]
Oil Type	Cook Inlet crude
Weather	15°F; visibility 10 miles with light snow; moderate ice conditions (3/10 to 5/10 ice coverage)
Wind Speed	10 to 20 knots
Wind Direction	From the east
Trajectory	(b) (7)(F), (b) (3) [redacted]

Table 1-18 Scenario 3 - Offshore Production Well Blowout at King Salmon Platform in Winter – Response Strategy

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Field Guide
(i) **Stopping Discharge at Source**	Emergency response procedures, located in HAK's Well Control Emergency Response Plan, are initiated to stop further discharge by controlling the well. HAK's well-control contractor, Wild Well Control, Inc., is contacted to begin mobilization of equipment needed for controlling the well. CISPRI is notified to begin spill response operations, and an IMT is initiated for the response. All notifications to proper personnel and agencies are made and open water response vessels and barges begin mobilization. Response personnel begin arriving at the command post within 1 hour. See Section 3.3 for more information on the ICS.	Not Applicable
(ii) **Preventing or Controlling Fire Hazards**	Production on the platform is shut down, ignition sources are eliminated, and the rig is evacuated. CISPRI vessels equipped with fire pumps can arrive within 5 hours to apply firewater in emergency situations only. Wild Well Control can arrive on-scene in 24-48 hours with firefighters. See Section 1.9.3 for more information on firewater application.	All Tactics within CI-S/ SCL, PPE, Dp
(iv) **Surveillance and Tracking of Oil; Forecasting Shoreline Contact Points**	Within 1 hour, a flight is mobilized to estimate the location, spatial extent, rate of movement and trajectory of the oil spill. Ongoing aerial surveillance will be coordinated by Air Operations and scheduled by Logistics. Within 8 hours, CISPRI's electronic spill tracking system (Iridium Oil Spill Tracking System) is delivered to the oil slick by vessel and deployed within the slick to track daytime and nighttime movement of the oil spill utilizing a receiver and buoys equipped with transmitters. When and where to place the buoys will be determined by the Operations and Planning sections in coordination with Air Operations and Logistics. Ongoing monitoring of the buoys will be performed by vessels designated solely for this role or by vessels also performing other response roles, depending on availability. CISPRI has two vessel-mounted and one hand-held infrared camera to provide continuous infrared surveillance during a spill event. CISPRI personnel are trained to operate infrared cameras to locate oil until Thermal Imaging personnel are on scene for long-term operations. Aerial and marine observations will be made by a team comprised of representatives of each organization in the Unified Command. Unified Command staff will use oil spill tracking data to establish a list of likely shoreline contact points. Environmental personnel, along with resource trustee and other regulatory agencies, will review the projected path of the spill and identify locations in need of prompt protection and/or cleanup.	CI-TS-1 CI-TS-2 CI-TS-4 DT

Table 1-18 (Cont.) Scenario 3 - Offshore Production Well Blowout at King Salmon Platform in Winter – Response Strategy

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Field Guide
(v) **Protection of Environmentally Sensitive Areas and Areas of Public Concern**	Based on the spill trajectory in Figure 1-8, sensitive areas within Trading Bay have the highest potential to be initially impacted by the blowout, but other environmentally sensitive areas could be impacted depending on the conditions. Therefore, aerial and vessel surveillance will be mobilized as soon as possible after the blowout and throughout the response to track the location and trajectory of the oil and help identify and prioritize environmentally sensitive areas and areas of public concern, including cultural resources. HAK response personnel also make agency notifications to help identify priority locations and coordinate a protection strategy. Section 3.10 provides additional resources that are used to identify and prioritize spill response activities in ESAs and Areas of Public Concern. CISPRI's Wildlife Rapid Response Team and IBR are activated to be available for hazing, rescue and/or rehabilitation of mammals and birds. Rescue/capture teams are directed by appropriate wildlife trustee agencies.	CI-SA-1 CI-SA-2 CI-SA-3 CI-W-1 CI-W-4 CI-W-5

Table 1-18 (Cont.) Scenario 3 - Offshore Production Well Blowout at King Salmon Platform in Winter – Response Strategy

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Field Guide
(vi) **Spill Containment and Control Actions** **and** **(vii)** **Spill Recovery Procedures**	**TF-1** will recover oil on the open water. By hour 8, a Class 1 vessel with a Crucial 56-30 disc skimmer and two 220 bbl O/W Separators begins recovery operations. Ice is continually flushed at low pressures to release ice buildup using a fire monitor. The vessel will operate 20 hours/day, lightering to a platform when storage capacity is reached. The vessel has a vessel-mounted infrared camera for nighttime operations. By hour 8, **TF-1** will recover oil using a Class 1 vessel with a Crucial 56-30 disc skimmer and two 180 bbl O/W Separators. Ice is continually flushed at low pressures to release ice buildup using a fire hose. The vessel will operate 20 hours/day, lightering to a platform when storage capacity is reached. The vessel has a vessel-mounted infrared camera for nighttime operations. By hour 8, **TF-1** will recover oil using a contracted Class 1 vessel with a Crucial 13-30 disc skimmer. Ice is continually flushed at low pressures to release ice buildup using a fire monitor. The vessel will operate 20 hours a day, lightering to a platform when storage capacity is reached. The vessel has a hand-held infrared camera for nighttime operations.	CI-OW-2/ FO-O and FO-B
	By hour 8, **TF-2** will recover oil using a contracted Class 1 vessel with a Crucial 13-30 disc skimmer. Ice can be continually flushed at low pressures to release ice buildup using a fire monitor. The vessel will recover oil during daylight hours, lightering to a platform when storage capacity is reached.	CI-OW-1 CI-OW-2
	TF-1 and **TF-2** will remain on-site with crew changes, fuel and other needs supplied by Class 3 support vessels. The vessel's onboard storage and O/W Separators will decant using ice as containment before offloading to a platform. Secondary oil will be skimmed. Decanting permits will be obtained prior to decanting. Lightering can occur at night using platform and vessel deck lighting.	CI-WM-3
	By hour 12, **TF-3** arrives and can recover oil in the open water or near ice free shorelines to prevent oil not captured by open water containment efforts from impacting the shoreline. **TF-3** will recover oil with three Class 3 fishing vessels, each with a Crucial 13-30 disc skimmer. The vessels will recover oil during daylight hours, with recovered oil stored in 220 bbl O/W Separators, which will decant prior to lightering to King Salmon Platform. Lightering can occur at night using platform and vessel deck lighting. **TF-3** will remain on-site with crew changes, fuel and other needs supplied by Class 3 support vessels.	CI-OW-1 CI-NS-1 CI-WM-3
	By day 2, TF-4 is set up with two CISPRI barges in ice-free waters south of the recovery area. Vessels may use the barges as an alternate lightering option if necessary. Additional open water and nearshore task forces may be deployed based on surveillance and tracking information collected throughout the response.	CI-OW-5

Table 1-18 (Cont.) Scenario 3 - Offshore Production Well Blowout at King Salmon Platform in Winter – Response Strategy

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Field Guide
(viii) Lightering Procedures	Not applicable	Not applicable
(ix) Transfer and Storage of Recovered Oil/Water; Volume Estimating Procedure	Oil/water is transferred from the vessels and O/W Separators to a platform via a diesel line with a jumper hose to the pipeline. The fluids are processed by either Trading Bay Production Facilities (TBPF) or Granite Point Tank Farm (GPTF). Volumes of fluid collected from recovery efforts are measured directly from capacity of recovery equipment, or are estimated based on amount of fluid transferred and hydrocarbon percentage. As an example, volumes of free product recovered by each vessel will be measured as it is delivered with an estimate of the percentage of water. This can be accomplished by gauging the tank's oil and water volumes before and after transfer. The Operations Section personnel will make actual field measurements, and the Waste Specialist will maintain records.	CI-WM-1
(x) Plans, Procedures, and Locations for Temporary Storage and Disposal	Oily solids will be stored in bags or lined totes/drums on the vessels. They will be transferred to land and stored in a lined area until disposal. Temporary storage locations include OSK/ASRC Dock and KPL.	CI-WM-1 through CI-WM-7
(xi) Wildlife Protection Plan	Natural resource trustee agencies are notified to request direction regarding wildlife hazing and deterrent activities. A mobile team is established to coordinate bird and marine mammal protection programs, as needed. Specific wildlife protection strategies and techniques are described in the CISPRI *Technical Manual* and incorporated here by reference. No wildlife are expected to be encountered during this spill response.	All Tactics within CI-W
(xii) Shoreline Cleanup Plan	Following immediate recovery actions, response personnel and HAK staff determine the projected shoreline impact by assessing what ESAs are present along the projected impact path and prioritize locations for cleanup. HAK will use a third party contractor to provide SCAT services. Consultations with natural resource trustee agencies and the ESA maps created by NOAA are used to designate prioritized sensitive areas applying criteria contained in the CISPRI *Technical Manual*. Active or passive shoreline cleanup techniques will be applied depending on site conditions and heavy equipment access.	All Tactics within CI-SL

Table 1-19 Scenario 3 - Offshore Well Blowout at King Salmon Platform in Winter – Oil Recovery Capability

A[1] Spill Recovery Tactic, CISPRI Technical Manual Tactic Description	B Number of Recovery Systems	C Recovery System	D[2] De-Rated Oil Recovery Rate Per Unit (bph)	E Mobilization, Deployment and Transit Time to Site (hours)	F Recovery Time Day 1 (hours per day)	G[3] Average Recovery Time After Day 1 (hours per day)	H Daily De-Rated Oil Recovery Capacity Day 1 (bpd) (B x D x F)	I Daily De-Rated Oil Recovery Capacity After Day 1 (bpd) (B x D x G)	J Storage Capacity (bbl)	K[4] Comments
TF-1 CISPRI Vessel CI-OW-2	1	56-30 Crucial Skimmer	141	8	12	14	1,692	1,974	2,500 (vessel) Two 220 bbl O/W Separators	Lighters after 21 hours of recovery time (9 hours to offload at platform)
TF-1 CISPRI Vessel CI-OW-2	1	56-30 Crucial Skimmer	141	8	10.85	14	1,530	1,974	1,170 (vessel) Two 180 bbl O/W Separators	Lighters after 11 hours of recovery time (5.5 hours to offload at platform)
TF-1 OMSI Vessel CI-OW-2	1	13-30 Crucial Skimmer	31	8	12	18	372	558	2,380 (vessel)	Lighters every 4 days (7.5 hours to offload at platform)
TF-2 OMSI Vessel CI-OW-1 CI-OW-2	1	13-30 Crucial Skimmer	31	8	0	7.5	0	233	2,380 (vessel)	Lighters once during response (7.5 hours to offload at platform)
TF-3 Contract Vessel CI-OW-1 CI-NS-1	3	13-30 Crucial Skimmer	31	12	0	7	0	651	Three 220 bbl O/W Separators	Lighters after 7 hours of recovery time (3 hours to offload at platform)
TF-4	2	Lightering Barges	-	24	24	-	-	-	71,826	Does not need to lighter during the response
Total daily de-rated oil recovery capacity per day							3,594	5,390		

bph – barrels of oil per hour

[1]Appendix B of the CISPRI *Technical Manual* indicates tactic CI-OW-2 may be used in ice concentrations up to 70 or 80%. Tactic CI-LP-5 indicates Class 3 vessels can operate in ice concentrations up to 70%.

[2]Recovery rate information is in the CISPRI *Technical Manual*, CI-LP-4.

[3]Operating time is 20 hours/day for Tactic CI-OW-02 (the remaining 4 hours/day is for vessel maintenance). Due to the time spent lightering, the average recovery time a day is less than 20 hours.

[4]Lightering time includes vessel cleaning, travel to/from the dock and lightering operations.

Table 1-20 Scenario 3 - Major Equipment Equivalents to Meet Response Planning Standard

Recovery Tactic	Number of Tactical Units	Total Quantity
TF-1: CI-OW-2	2	CISPRI Class 1 Vessel (2) 56-30 Crucial disc skimmer (2) Vessel-mounted infrared camera (2) Fire monitors/hoses (2) 220 bbl O/W Separators (2) 180 bbl O/W Separators (2)
TF-1: CI-OW-2	1	OMSI Class 1 Vessel (1) 13-30 Crucial disc skimmer (1) Hand-held infrared camera (1) Fire monitor (1)
TF-2: CI-OW-1 CI-OW-2	1	OMSI Class 1 Vessel (1) 13-30 Crucial disc skimmer (1) Fire monitor (1)
TF-3: CI-OW-1 CI-NS-1	3	Class 3 Contract Vessel (3) 13-30 Crucial disc skimmer (3) 220 bbl O/W Separators (3)
TF-4: CI-OW-5	2	Barges (2) CV Tug (2)

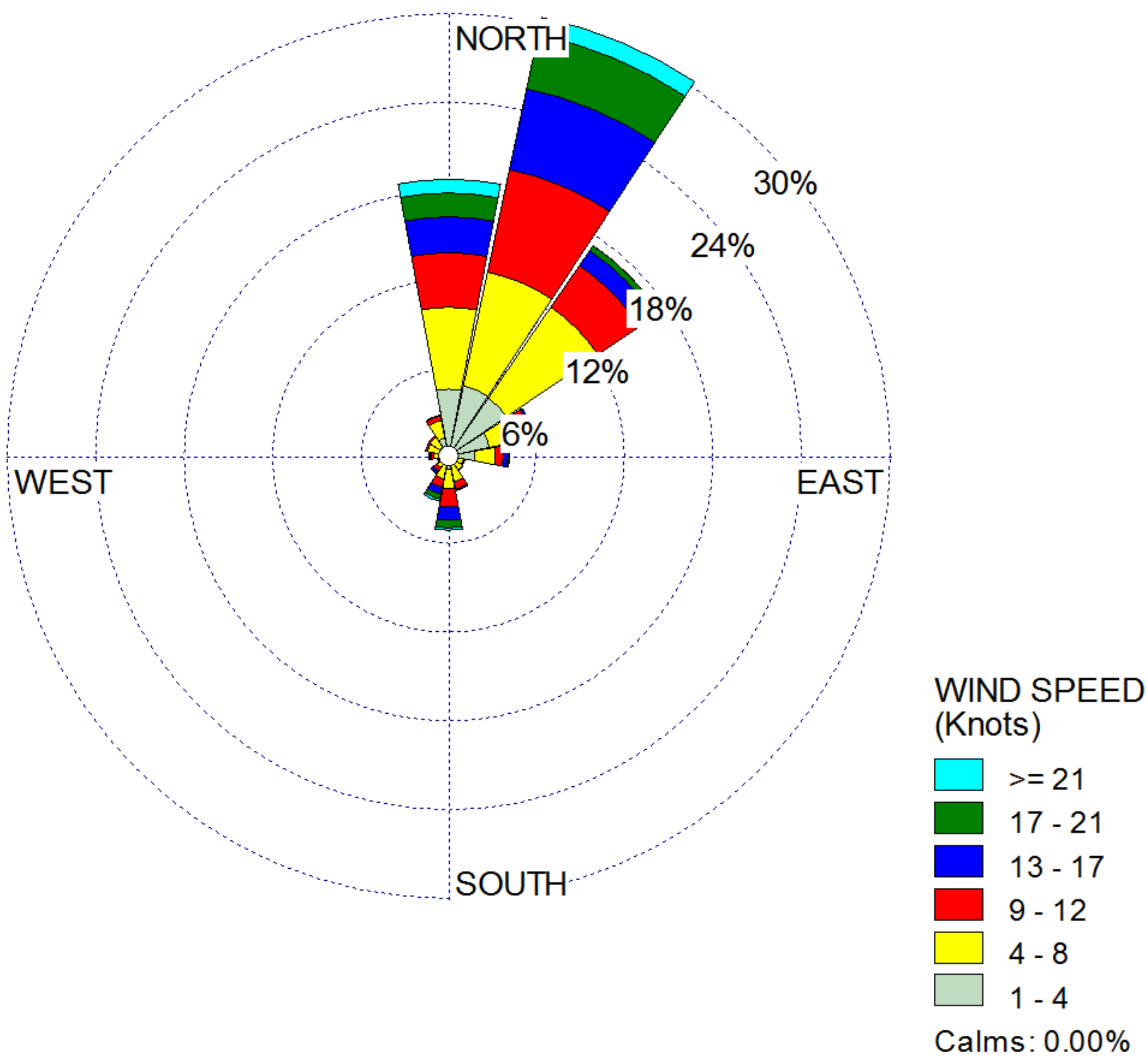
Table 1-21 Scenario 3 – Staff to Operate Oil Recovery and Transfer Equipment

Labor Category	Tactic	Number of Tactical Units	Number of Staff Per Unit[1]	Day 1 Number of Staff 1st Shift	Day 1 Number of Staff 2nd Shift	After Day 1 Number of Staff 1st Shift	After Day 1 Number of Staff 2nd Shift
Equipment Operators	TF-1	3	4	0	12	12	12
Equipment Operators	TF-2	1	7	0	0	7	0
Equipment Operators	TF-3	3	7	0	0	21	0
Equipment Operators	TF-4	2	9	0	0	18	0
Equipment Operators	Onshore Task Force	1	15	0	15	15	15
Total		**10**	**42**	**0**	**27**	**73**	**27**

[1] - Personnel totals are split between supervisors/workers, two shifts per 24-hour period

Figure 1-7 Wind Rose Typical Winter Conditions

Nikiski Wind Rose
November – April 2005 through 2013
Average Wind Direction, Frequency in Percent



Wind direction data was retrieved from NOAA National Ocean Services Meteorological Observations

Figure 1-8 Scenario 3 - Offshore Production Well Blowout at King Salmon Platform in Winter – Trajectory

(b) (7)(F), (b) (3)

[redacted]

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SCENARIO 4

SWANSON RIVER CRUDE OIL TRANSMISSION PIPELINE RUPTURE IN SUMMER

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1.6.3.4 Scenario 4 – Swanson River Crude Oil Transmission Pipeline Rupture

Table 1-22 Scenario 4 –Swanson River Crude Oil Transmission Pipeline Rupture in Summer - Scenario Conditions

Parameter	Parameter Conditions
Spill Location	Mile 4.5 of Swanson River Crude Oil Transmission Pipeline (See Figure 1-9)
Spill Time	Summer, 9:00 a.m.
Cause of Spill	Buried pipeline rupture
Quantity of Oil Spilled	(b) (7) [redacted]
Oil Type	Swanson River Field Crude Oil
Weather	62°F; visibility 10 miles
Wind Speed	5 knots
Wind Direction	From the southwest
Trajectory	(b) (7)(F), (b) (3) [redacted]

Table 1-23 Scenario 4 –Swanson River Crude Oil Transmission Pipeline Rupture in Summer - Response Strategy

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Field Guide
(i) **Stopping Discharge at Source**	Upon detection of the spill, the buried pipeline is immediately shut down from Swanson River Field to Tesoro KPL facility. The pumping units are isolated and the valves closed. CISPRI is contacted and an IMT initiated for the response. CISPRI is notified to begin spill response operations.	Not Applicable
(ii) **Preventing or Controlling Fire Hazards**	The Site Safety Officer verifies that no sources of ignition are introduced to the area. Response personnel are on the scene with fire extinguishers and/or pumps and hoses to pump water from a nearby pond to suppress the threat of a fire or explosion. The Site Safety Officer and CISPRI safety officer perform a visual inspection and complete a site safety assessment. Response personnel use intrinsically safe hand-held radios. After declaring the area clear, the Site Safety Officer and the CISPRI safety officer prepare a site safety plan including PPE requirements. Access to the spill site is carefully controlled. Access to the road parallel to the Swanson River COTP is described in Section 3.2. Monitoring protocol is established by the Site Safety Officer for all work areas to ensure personnel protection.	CI –S-1 through CI-S-6
(iii)	Repealed	
(iv) **Surveillance and Tracking of Oil; Forecasting Shoreline Contact Points**	Tracking of the spill at the pipeline rupture is accomplished by continuous direct visual means. On-site responders report any oil movement or potential movement off of the pipeline right-of-way. CISPRI's hand held infrared camera is used during night time operations. Aerial surveillance will be mobilized and deployed as needed.	CI-TS-1 CI-TS-4/ DT
(v) **Protection of Environmentally Sensitive Areas and Areas of Public Concern**	The release site is within the Kenai National Wildlife Refuge. The managers of the Kenai National Wildlife Refuge are notified immediately. Swanson River, an anadromous stream, is approximately 0.75 miles to the southwest. A GRS site associated with the Swanson River crossing (GRS CCI-28) is 1.25 miles to the west of the site. Protection of cultural resources are identified and managed by ADNR. Containment and recovery task forces are mobilized immediately. Crews work carefully and employ methods which minimize the disturbance and further contamination of vegetation. This includes being sensitive to travel restrictions and damage caused by vehicle or foot damage.	CI-SA-1 CI-SA-2 CI-SA-3

Table 1-23 (Cont.) Scenario 4 –Swanson River Crude Oil Transmission Pipeline Rupture in Summer - Response Strategy

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Field Guide
(vi) Spill Containment and Control Actions **and** **(vii) Spill Recovery Procedures**	The IC immediately requests an open burn permit and in situ burning crews and equipment are on standby. If the open burn permit is declined, mechanical recovery operations are conducted by CISPRI in coordination with the UC. By hour 2, a staging area and command post are set up at the Swanson River Field facility. CISPRI response personnel are mobilized from CISPRI headquarters in Nikiski. CISPRI Swanson River response equipment cache is mobilized. The responders and equipment are flown by helicopter to the spill site. **Task Force 1 – Containment** By hour 2, containment boom, sausage boom and viscous sweep are deployed in the small pond adjacent to the spill site. The containment is deployed from the perimeter of the pond and the oil is pooled near the shoreline for safe operation of the skimmers. **Task Force 2 – Liquid Recovery On Land** By hour 4, crews begin using one 3-inch diaphragm pump to recover released oil and transfer to fast tanks. **Task Force 3 – Liquid Recovery on Water** By hour 6, responders commence recovery in the pond adjacent to the pipeline using skimmers and fast tanks. **Task Force 4 – Oiled Soils Recovery** After the liquid oil is removed from land, response personnel remove contaminated soil with hand tools. The soil is transferred directly to temporary storage tanks for transport to KPL.	CI-NM-3 CI-LP-4 CI-IL-5 CI-IL-5 CI-SL-5 CI-SL-6
(viii) Lightering Procedures	Not Applicable.	Not Applicable
(ix) Transfer and Storage of Recovered Oil/Water; Volume Estimating Procedure	Oil is collected and stored on site in fast tanks. The recovered oily liquids are hot tapped back into the Swanson River Pipeline and pumped back to Swanson River Facility. Solid waste will be temporarily stored in portable tanks at the spill site and transported to the Refinery or KPL for accounting.	CI-WM-2 CI-WM-4
(x) Plans, Procedures, and Locations for Temporary Storage and Disposal	Oil debris is brought to the Refinery or KPL for processing and eventual disposal. Locations for temporary solid waste storage are set up at the Refinery or KPL. All waste is managed in accordance with RCRA guidelines and an approved waste management plan, which will be prepared by the Environmental Unit. Recovered oiled soils are transported to KPL and temporarily stored on lined containment for disposal. The waste management task force leader is responsible for estimating and communicating with the planning section and EUL the estimated recovered spill volume. The EUL coordinates communication of recovered oil/water quantities with the UC and agency personnel.	CI-WM-2

Table 1-23 (Cont.) Scenario 4 –Swanson River Crude Oil Transmission Pipeline Rupture in Summer - Response Strategy

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Field Guide
(xi) Wildlife Protection Plan	The managers of the Kenai National Wildlife Refuge are notified and approvals for equipment movement are passed through their Command Post representative via a "Refuge Special Use Permit." CISPRI, in consultation with Bird Rescue, are activated to be available for hazing, rescue and/or rehabilitation of mammals and birds. Rescue/capture teams are directed by appropriate wildlife trustee agencies. Appropriate Bird Capture/Hazing permits are completed as necessary. In the event a wildlife recovery and rehabilitation program becomes necessary, responders refer to the ARRT Wildlife Protection Guidelines for implementation. On site spill response personnel use bear guards. Specific wildlife protection strategies and techniques are described in the CISPRI *Technical Manual* and incorporated here by reference.	CI-W-1 through CI-W-4 CI-W-5
(xii) Shoreline Cleanup Plan	Passive and manual shoreline cleanup techniques will be used at the pond shoreline.	CI-SL-3 CI-SL-5 CI-SL-6

Table 1-24 Scenario 4 – Swanson River Crude Oil Transmission Pipeline Rupture in Summer – Oil Recovery Capability

A Task Force	B Number of Recovery Systems	C Recovery System	D De-Rated Oil Recovery Rate Per Unit (bph)	E Mobilization, Deployment and Transit Time to Site (hours)	F Operating Time (hours per day)	G Daily De-Rated Oil Recovery Capacity (bpd) OR[B] (B x D x F)
TF-2: Liquid Recovery On Land	1	3-inch Diaphragm Pump	90	2 - 4 hours	20	1,800
TF-3: Liquid Recovery on Water	1	Model 24 Skimmer	37	6 hours	20	740
TF-3: Liquid Recovery on Water	2	60-inch Manta Ray Skimmer (with 3-inch centrifugal pump)	76	6 hours	20	3,040
TF-4: Oiled Soil Recovery	2	Manual recovery	NA	24 hours[A]	20	340
					Total bbl of recovered liquids per day:	**5,580**

Abbreviations:
bph – barrels of oil per hour

Notes:
A. Recovery of oiled soil occurs on a non-emergency basis after the liquid oil has been recovered. Although the equipment would be ready earlier, oiled soil would begin to be recovered at the beginning of Day 2 (Hour 24).
B. The planned recovery capacity greatly exceeds the RPS of 6,225 bbl.

Table 1-25 Scenario 4 - Major Equipment Equivalents to Meet Response Planning Standard

Task Force	Total Quantity
TF-1: Containment	Containment Boom Sausage Boom Viscous Sweep (1)
TF-2: Liquid Recovery On Land	3-inch Diaphragm pump (1) 63 bbl Fast Tanks
TF-3: Liquid Recovery on Water	Model 24 Skimmer (1) 60-inch Manta Ray skimmers (2) 63 bbl Fast Tanks
TF-4: Oiled Soils Recovery	Hand tools

Table 1-26 Scenario 4 – Staff to Operate Oil Recovery and Transfer Equipment

Labor Category	Task Force	Day 1 Number of Staff Per Shift	Days 2-3 Number of Staff Per Shift	After Day 3 Number of Staff Per Shift
Team Lead	TF-1	1	1	0
	TF-2	1	1	0
	TF-3	1	1	0
	TF-4	0	1	1
Response Technician	TF-1	4	4	0
	TF-2	4	2	0
	TF-3	6	6	0
	TF-4	0	8	8

Figure 1-9 Pipeline Spill Location

(b) (7)(F), (b) (3)

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RESPONSE STRATEGY 1

MAJOR TANK RUPTURE AND ONSHORE SPILL AT GPTF

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1.6.3.5 Response Strategy 1 – Major Tank Rupture and Onshore Spill at GPTF

Table 1-22 illustrates the response strategies that may be used in response to a hypothetical tank rupture and onshore spill from an oil storage tank at the GPTF. The response strategies listed here are for planning purposes only. Strategies employed in response to an actual tank rupture may differ based on conditions present at the time of the spill.

Table 1-27 Response Strategy 1 – Major Tank Rupture and Onshore Spill at GPTF

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Manual
(i) **Stopping Discharge at Source**	The catastrophic failure of the entire tank precludes ability to stop or slow the release. All valves on piping leading to the failed tank are closed to prevent further flow of oil to the spill. An IMT is established for the response.	Not applicable
(ii) **Preventing or Controlling Fire Hazards**	The Tank Farm is shut down by a GPTF operator. Ignition sources are extinguished. The spill does not ignite. An initial site characterization at the spill site (to include LEL) is completed by the Site Safety Officer prior to commencing response effort. A secondary site characterization takes place immediately upon arrival of CISPRI response personnel on scene. The Site Safety Officer begins drafting a site-specific safety plan, including PPE requirements and site access control. Access to the spill area is limited for personal protection and to limit the potential for ignition.	CI-S-1 CI-S-2 CI-S-3 CI-S-4 SEC, PPE, SCL
(iv) **Surveillance and Tracking of Oil; Forecasting Shoreline Contact Points**	The spill is entirely on land and contained in the immediate vicinity of the GPTF (Figure 1-9). As such, immediate tracking of the spill is accomplished by direct visual observation by HAK and CISPRI response personnel on the ground. An existing network of groundwater monitor wells is used to evaluate migration to groundwater. Overflights will be performed, starting on Day 2, if necessary, to assist with spill tracking. The initial spill area is delineated and periodic inspections are made of the area to monitor migration of oil and specific areas of public concern.	CI-TS-1 CI-TS-3 / SCL, PD
(v) **Protection of Environmentally Sensitive Areas and Areas of Public Concern**	Oil flowing down the bluff or from seeps in the bluff is retained at the base of the bluff in the muskeg/wetlands areas. Sorbent booms available at Granite Point are used in the wetlands area to prevent movement of oil toward Trading Bay State Game Refuge, which includes Nikolai Creek, the Cook Inlet coastal zone, and the wetlands, which are the closest sensitive areas near the spill site. Additional information is provided in Section 3.10, Protection of Environmentally Sensitive Areas. If previously undiscovered artifacts or areas of historic, prehistoric, or archaeological importance are encountered, ADNR Division of Parks and Outdoor Recreation, OHA shall be notified. Agency notifications are made. The Planning/Development Coordinator, responsible for ICS Planning/Environmental activities, consults the Cook Inlet Subarea Plan (Central Cook Inlet Zone) to identify additional areas of concern. Specific GRS are implemented at appropriate locations.	All Tactics within CI-SA

Table 1-27 (Cont.) Response Strategy 1 – Major Tank Rupture and Onshore Spill at GPTF

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Manual
(vi) **Spill Containment and Control Actions**	Release from the tank secondary containment area is stopped by constructing a berm at the breach in the dike with a front-end loader located at the GPTF. Five CISPRI Spill Technicians arrive via aircraft two hours after activation. CISPRI will activate up to 9 response personnel to staff the spill continuously. In addition, HAK has 3 response personnel available to respond immediately, with 10 personnel available to respond within two hours. The oil is contained by the water-soaked peat and small pools of standing water and stays within 150 ft of the base of the bluff. There is no moving water in this area. The HAK and CISPRI Spill Technicians and IRTs establish a passive barrier of sorbent boom between the outer perimeter of the oil and the rest of the wetlands. Dual-pump product collection pumps are installed in groundwater monitor wells located between the tank farm and the bluff to recover oil and prevent it from migrating to the bluff. The shallow aquifer is underlain by an aquitard, so downward migration from about 15 ft below ground surface is not expected. Boom, pumps, hoses, and other spill equipment are staged at GPTF.	CI-IL-1A CI-SL-6/ DBD
(vii) **Spill Recovery Procedures**	CISPRI and HAK personnel activate double diaphragm air pumps from HAK inventory to pump free-standing product from the ditch below the containment dike back into the tank farm. Three 3-inch Yanmar pumps are activated to pump oil from the secondary containment area to the slack tank. Backhoe and Godwin pumps are activated from HAK/CISPRI equipment staged on site. A super sucker is activated via barge from Nikiski and arrives on Day 2. An excavator staged on site is used to dig a chevron trench at the base of the embankment to serve as the initial collection and recovery point for product that has soaked into the embankment or has pooled in the wetland area. Passive sheen recovery systems, absorbent boom, are used to collect oil in drainage areas in the wetlands. A double diaphragm pump is relocated from facility operations to pump the recovered liquids in the trenches into portable Fastanks for interim storage. When the Fastank is full, it is pumped off using a super sucker and then offloaded into empty slack tank storage at the facility.	CI-IL-2 CI-IL-9 CI-SL-5/ OR, LST, PR m/t, PTSt
(viii) **Lightering Procedures**	Not applicable.	Not applicable

Table 1-27 (Cont.) Response Strategy 1 – Major Tank Rupture and Onshore Spill at GPTF

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Manual
(ix) **Transfer and Storage of Recovered Oil/Water Volume Estimating Procedure**	Product is collected and stored in a slack tank within GPTF immediately following recovery actions. Recovered product is processed for injection into the CIPL pipeline. Volumes of fluid collected from both the secondary containment areas and wetland area recovery efforts are either measured directly from capacity of recovery equipment or are estimated based on amount of fluid transferred and hydrocarbon percentage. Operations Section personnel are responsible for oil recovery measurements, and the Planning Section maintains records or recovered materials, as needed.	CI-WM-1/ LST, POL, Appendix C
(x) **Plans, Procedures, and Locations for Temporary Storage and Disposal**	The Waste Management Officer develops a Waste Management Plan for the response activities. Oiled sorbents, contaminated PPE, and other contaminated solid wastes from the containment and recovery efforts are brought to GPTF for temporary storage in a lined pit or lined dumpsters. Upon approval from ADEC, oiled debris will be incinerated in the GPTF incinerator. Fluids from decontamination are handled in accordance with the NPDES discharge permit, allows for recovery and discharge of spill fluids that have undergone appropriate oil/water separation. Once equipment is properly decontaminated, it is returned to its original location. Contaminated gravel and soil are staged in a lined area at the GPTF for disposal as part of a long-term remediation program to be developed following free-oil recovery efforts.	CI-WM-2 CI-WM-4 CI-WM-7/ Dp
(xi) **Wildlife Protection Plan**	Natural resource trustee agencies are notified to request direction regarding wildlife hazing and deterrent activities. A mobile team is established to coordinate bird and marine mammal protection programs, as needed. CISPRI activates members of the IBR to commence hazing activities in areas surrounding GPTF and wetlands area below the bluff. Bear guards are posted near the wetlands crews to protect crews and prevent wildlife from entering contaminated areas. The Planning/Development Coordinator sets up a bird capture and rehabilitation area adjacent to the wetland to attend to wildlife soiled with oil.	All Tactics within CI-W
(xii) **Shoreline Cleanup Plan**	Not applicable. The product recovery pumps in groundwater monitor wells are operated at maximum capacity; product is transferred to portable tanks. The groundwater system at the site is perched and shallow (about 10 ft below ground surface) and flows toward the old flare pit.	Not applicable

Figure 1-10 Response Strategy 1 – Major Tank Rupture and Onshore Spill at GPTF – Layout and Spill Direction

(b) (7)(F), (b) (3)

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RESPONSE STRATEGY 2

ONSHORE PRODUCTION WELL BLOWOUT AT SRF IN SUMMER

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1.6.3.6 Response Strategy 2- Onshore Production Well Blowout at SRF in Summer

Table 1-23 illustrates the response strategies that may be used in response to a hypothetical well blowout at the SRF during typical summer conditions. The response strategies listed here are for planning purposes only. Well 41-33 was selected for the scenario to provide a specific location for planning. Strategies employed in response to an actual blowout may differ based on conditions present at the time of the spill.

Table 1-28 Response Strategy 2 – Onshore Production Well Blowout at SRF in Summer

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Manual
(i) Stopping Discharge at Source	Production at the facility is shut down. Procedures are initiated to stop the discharge by controlling the well. HAK's well control contractor, Wild Well Control Inc., is contacted to begin activation of equipment needed for controlling the well. CISPRI is contacted and an IMT initiated for the response. CISPRI is notified to begin spill response operations.	Not applicable
(ii) Preventing or Controlling Fire Hazards	The operator makes a call on the radio to the Production Foreman while traveling to shut down the well. The Production Foreman notifies the Field Superintendent and government agencies and then travels to the blowout site to further assess the situation. The operator conducts an initial site safety assessment, including fire or explosion hazard potential. Boundaries around the blowout area are defined and site entry criteria established. Security around the blowing well is initially maintained at a perimeter of 500 ft from the wellhead. Ignition sources are eliminated in the area. Under direction from the On-Scene Coordinator, the Safety Officer begins development of a site safety plan to further define site access requirements, fire watch schedule, and PPE requirements. Fire watch is maintained by on-site HAK staff until handover to WWCI personnel for controlling operations.	CI-S-1 CI-S-2 CI-S-3 CI-S-4/ SEC, PPE, SCL
(iv) Surveillance and Tracking of Oil; Forecasting Shoreline Contact Points	Tracking of the spill is accomplished by direct visual observation. Overflights are conducted over Swanson River using fixed-wing aircraft, and monitoring of Swanson River banks is conducted by CISPRI response personnel on foot. An existing network of groundwater monitor wells is used to evaluate migration to groundwater. Figure 1-10 shows a well blowout for the SRF during typical summer conditions. Details regarding Boom Areas #1 and #3 are not provided because neither location has been field tested. However, the general conditions at both sites are within the range of conditions present at the other three locations.	CI-TS-1 CI-TS-3/ DT

Table 1-28 (Cont.) Response Strategy 2 - Onshore Production Well Blowout at SRF in Summer

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Manual
(v) **Protection of Environmentally Sensitive Areas and Areas of Public Concern**	The entire Swanson River drainage is an ESA, and the field is located within the Kenai National Wildlife Refuge. HAK response personnel make agency notifications and consult Kenai Refuge Managers to identify priority locations and a coordinated protection strategy. The Planning/Development Coordinator consults the Cook Inlet Subarea Plan (Central Cook Inlet Zone) to identify areas of concern. Specific GRS are implemented at appropriate locations, as directed by GRS CCI-22 for Swanson River. Additional information is provided in Section 3.10, Protection of Environmentally Sensitive Areas. If previously undiscovered artifacts or areas of historic, prehistoric, or archaeological importance are encountered, ADNR Division of Parks and Outdoor Recreation, OHA and the USFWS shall be notified. The response teams deploy deflection boom at predetermined locations along the Swanson River drainage (see Boom Areas #2 and #4, Figure 1-10), and determine additional locations for boom deployment, as needed (see Boom Areas #1, #3, and #5, Figure 1-10).	All Tactics within CI-SA/ DF-F
(vi) **Spill Containment and Control Actions**	The Interception Task Force constructs a temporary access road down gradient from the well pad into the valley leading to Swanson River. Approval to build the temporary road must be obtained from the USFWS before construction starts. The access road is then used to construct a six-foot high interception berm for pooling and collecting liquids, preventing additional oil from reaching Swanson River. The River Protection Task Force places Sea Curtain boom on the well side of Swanson River and deploys containment boom at the north bridge.	CI-IL-1B CI-IL-5/ DBD, DV-F

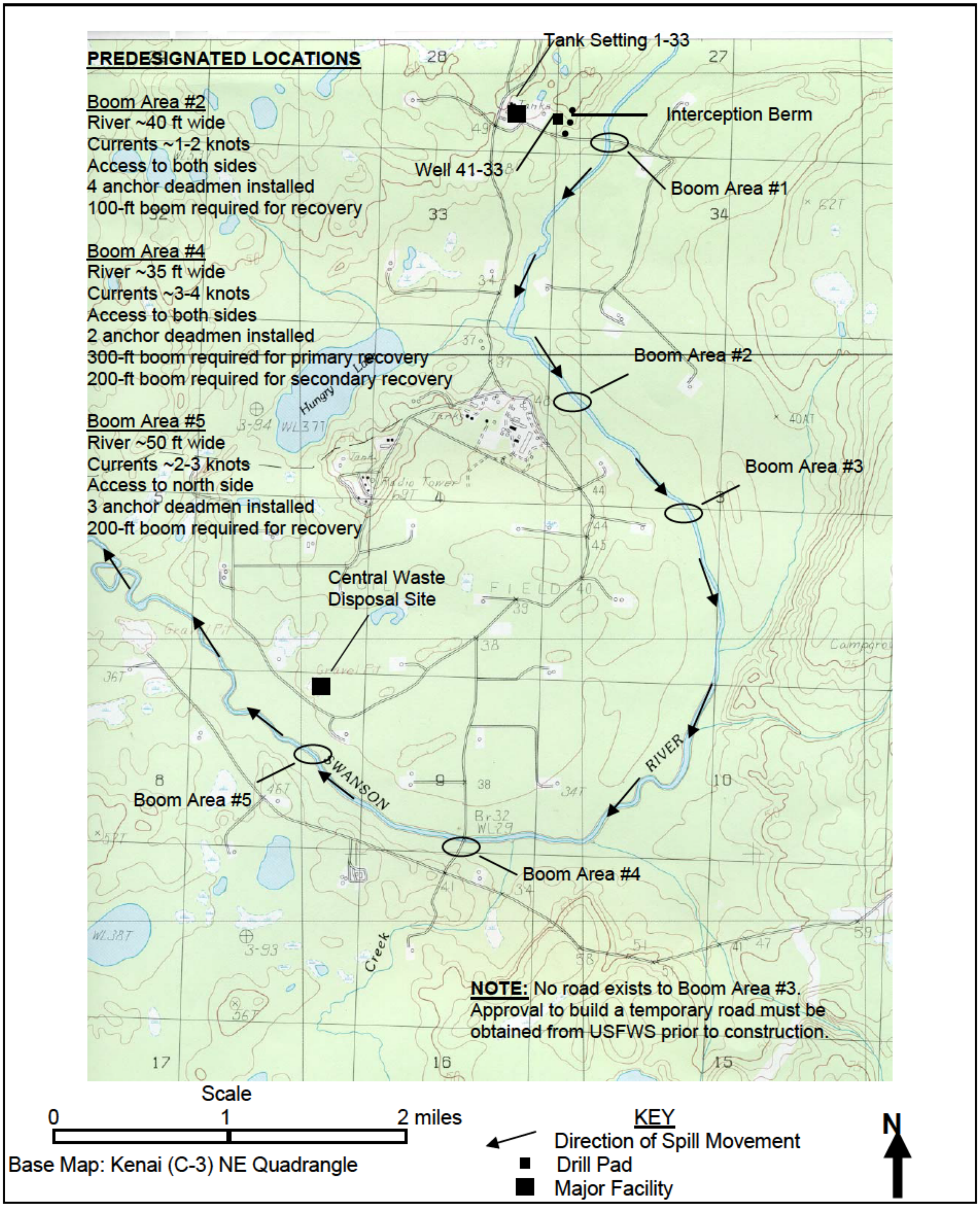
Table 1-28 (Cont.) Response Strategy 2 - Onshore Production Well Blowout at SRF in Summer

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Manual
(vii) Spill Recovery Procedures	Planning coordinates the access-permitting process for recovery of free oil not contained on the well pad. The onshore Interception Task Force recovers oil from the pad and other land areas using a vacuum truck at natural collection points on the pad, transferring recovered product to portable tanks. Dual-pump product collection pumps and/or belt skimmers are installed in groundwater monitor wells located between the blowout location and the river to recover oil and prevent it from reaching the river via transport by groundwater. A River Protection Task Force uses passive sheen recovery systems to collect accumulated oil at the boom locations on Swanson River where currents slow to calm water conditions (see Figure 1-10). Where passive recovery is not deemed effective due to river conditions, shoreline recovery is implemented using skimming systems and transferred into portable Fastanks (CISPRI). Secondary sheen recovery systems are deployed downstream of the north bridge to capture oil migrating downstream from boom deployment and primary recovery areas. After free product recovery is completed, HAK environmental staff coordinate with the Field Superintendent to develop and implement a long-term remediation program to address contaminated pad gravel and surrounding soil, as well as other environmental mitigation.	CI-IL-5 CI-SL-3 CI-SL-5/ OR, LST, PR-F, FO-F, SR
(viii) Lightering Procedures	Not applicable.	Not applicable
(ix) Transfer and Storage of Recovered Oil/Water Volume Estimating Procedure	Free product is collected and stored in portable Fastanks. During recovery operations, product is removed from portable storage and transported by vacuum truck for introduction back into the production process. Volumes of fluid collected from both onshore and river recovery efforts are measured directly from capacity of recovery equipment, or are estimated based on amount of fluid transferred and hydrocarbon percentage. Operations Section personnel are responsible for oil recovery measurements, and the Planning Section maintains records of recovered materials, as needed.	CI-WM-1/ LST, POL, Appendix C
(x) Plans, Procedures, and Locations for Temporary Storage and Disposal	A Waste Management Plan for the response activities will be developed. Vacuum truck and solid waste (sorbent and viscous material, contaminated PPE) are collected and transported to approved disposal locations either within or outside the Swanson River facility. A pickup truck with a lined bed is used to haul contaminated solids as required by the cleanup crews. Contaminated soils are staged for disposal as part of a long-term remediation program to be developed following free-oil recovery efforts. Oiled sorbents are burned at the incinerator located in the P&S Yard at the SRF.	CI-WM-4 CI-WM-2/ Dp

Table 1-28 (Cont.) Response Strategy 2 - Onshore Production Well Blowout at SRF in Summer

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Manual
(xi) Wildlife Protection Plan	Natural resource trustee agencies are notified to request direction regarding wildlife hazing and deterrent activities. A mobile team is established to coordinate bird and marine mammal protection programs, as needed. CISPRI activates members of the IBR to commence hazing activities along the Swanson River shoreline and surrounding area as necessary. Bear guards are posted near shoreline cleanup crews to protect crews and prevent wildlife from entering contaminated river areas. During overflights to track the spill, air crews monitor the area for wildlife encroachment and conduct hazing as needed. A wildlife capture and rehabilitation area is set up to attend to wildlife soiled with oil.	All tactics within CI-W
(xii) Shoreline Cleanup Plan	Shoreline Cleanup and Assessment Team (SCAT) assesses potentially affected areas. Where feasible, skimming systems are used to clean pooled oil on shoreline areas adjacent to boom deployment. Applicable burn permits are obtained, and response teams use in situ burning of vegetation as needed.	CI-NM-3 CI-NM-4/ SR, ISv

Figure 1-11 Response Strategy 2 – Onshore Production Well Blowout at SRF in Summer – Predesignated Boom Areas



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RESPONSE STRATEGY 3

ONSHORE PRODUCTION WELL BLOWOUT AT SRF IN WINTER

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1.6.3.7 Response Strategy 3 - Onshore Production Well Blowout at SRF in Winter

This section presents the response strategies that may be used in response to a hypothetical production well blowout from a well at the SRF during winter conditions. The response strategies listed in Table 1-24 are for planning purposes only. Strategies employed in response to an actual blowout may differ based on conditions present at the time of the spill. This strategy is also applicable to a pipeline spill to land or on water.

Table 1-29 Response Strategy 3 - Onshore Production Well Blowout at SRF in Winter

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Manual
(i) Stopping Discharge at Source	Production at the facility is shut down. Procedures are initiated to stop the discharge by controlling the well. HAK's well control contractor is contacted to begin mobilization of equipment needed for controlling the well. CISPRI is contacted and an IMT initiated for the response.	Not applicable
(ii) Preventing or Controlling Fire Hazards	The Operator makes a call on the radio to the Production Foreman while traveling to shut down the well. The Production Foreman notifies the Field Superintendent and government agencies, then travels to the blowout site to further assess the situation. The Operator conducts an initial site safety assessment, including fire or explosion hazard potential. Boundaries around the blowout area are defined and site entry criteria established. Security around the blowing well is initially maintained at a perimeter of 500 ft from the wellhead. Ignition sources are eliminated in the area. Under direction from the On-Scene Coordinator, the Safety Officer begins development of a site safety plan to further define site access requirements (security), fire watch schedule, and PPE requirements. Fire watch is maintained by onsite HAK personnel.	CI-S-1 CI-S-2 CI-S-3 CI-S-4 CI-S-5 SEC, PPE, SCL
(iv) Surveillance and Tracking of Oil; Forecasting Shoreline Contact Points	Tracking of the spill location is accomplished by direct visual observation of oil on snow and ice. Swanson River is frozen, and there is no migration of oil downstream. See Figure 1-11.	CI-TS-3/ PD

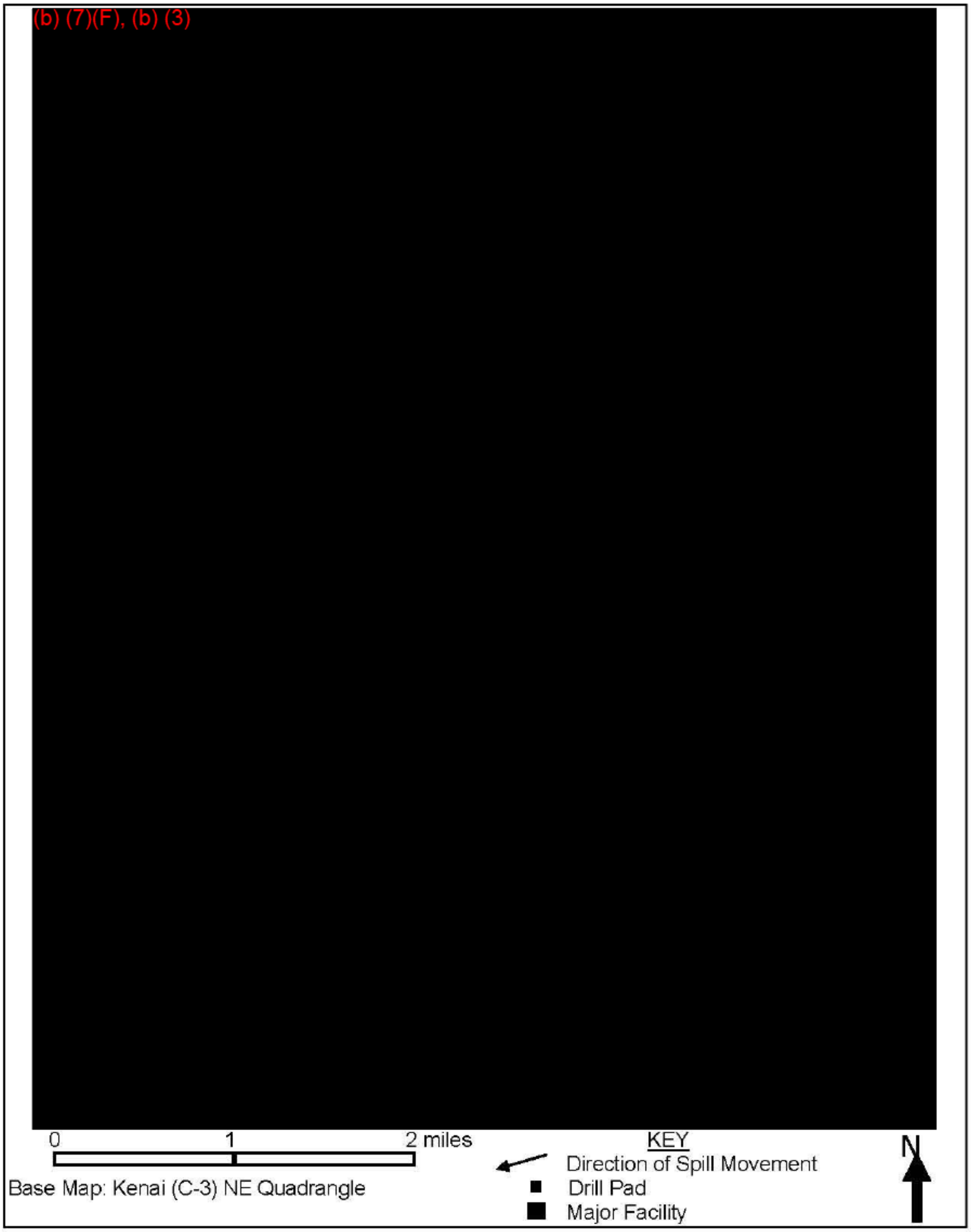
Table 1-29 (Cont.) Response Strategy 3 - Onshore Production Well Blowout at SRF in Winter

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Manual
(v) **Protection of Environmentally Sensitive Areas and Areas of Public Concern**	The entire Swanson River drainage is an ESA area, and the field is located within the Kenai National Wildlife Refuge. HAK response personnel make agency notifications and consult Kenai Refuge Managers to identify priority locations and a coordinated protection strategy. The Planning/Development Coordinator consults the Cook Inlet Subarea Plan (Central Cook Inlet Zone) to identify additional areas of concern. Specific GRS are implemented at appropriate locations, as directed by GRS CCI-22 for Swanson River. Additional information is provided in Section 3.10, Protection of Environmentally Sensitive Areas. If previously undiscovered artifacts or areas of historic, prehistoric, or archaeological importance are encountered, ADNR Division of Parks and Outdoor Recreation, OHA and the USFWS shall be notified. The SCAT conducts a survey of frozen shoreline areas to ensure oil does not penetrate the ice sheet and flow downstream. Swanson River is completely frozen over, and no oil reaches flowing water.	All Tactics within CI-SA
(vi) **Spill Containment and Control Actions**	After the plume fallout area has been delineated, the Interception Task Force constructs a snow berm down gradient from the well pad for pooling and collecting liquids and to prevent additional oil from reaching the Swanson River area. The River Protection Task Force places snow fences between the plume fallout area and Swanson River to prevent lightly oiled snow from blowing onto the frozen river if wind should shift.	CI-IL-1B/ DBD
(vii) **Spill Recovery Procedures**	Planning coordinates the access-permitting process for recovery of free oil not contained on the well pad footprint. The onshore Interception and Recovery Task Forces recover heavily oiled snow using front-end loaders, excavators, and hand tools, as needed. Skimming systems are used to recover liquid oil pools not absorbed by snow. Free product is temporarily stored in portable storage tanks. Oily snow is removed from the area and properly disposed.	CI-IL-9 CI-SL-5/ ORs, LST
(viii) **Lightering Procedures**	Not applicable.	Not applicable
(ix) **Transfer and Storage of Recovered Oil/Water Volume Estimating Procedure**	Contaminated snow is temporarily stored in a lined stockpile area on the pad. A snow-melting and oil/water separator system is used to remove oil from the snow. Recovered fluids are reinjected into the production facility for processing at the tank setting. Volumes of fluid collected from recovery efforts are measured directly from capacity of recovery equipment, or are estimated based on amount of fluid transferred and hydrocarbon percentage. Operations Section personnel are responsible for oil recovery measurements, and the Planning Section maintains records of recovered materials.	CI-WM-2/ LST, POL, Appendix C

Table 1-29 (Cont.) Response Strategy 3 - Onshore Production Well Blowout at SRF in Winter

ADEC Requirement	Response Strategy	CISPRI Technical Manual Tactic/ Star Manual
(x) Plans, Procedures, and Locations for Temporary Storage and Disposal	A Waste Management Plan for the response activities will be developed. Solid waste (e.g., sorbent and viscous material, contaminated PPE) are collected and transported to approved disposal locations at the Swanson River facility or an approved off-site location. Oiled sorbents are burned at the incinerator located in the P&S Yard at the SRF.	CI-WM-1 CI-WM-4/ Dp
(xi) Wildlife Protection Plan	Natural resource trustees (principally ADF&G and USFWS) are notified to request direction regarding wildlife activities. No oiled wildlife is encountered.	CI-W-0
(xii) Shoreline Cleanup Plan	Personnel using shovels may be used to recover lightly oiled snow. Generally, vegetation is completely snow covered and oil is absorbed in a fine layer only on the snow surface. No oil reaches shoreline vegetation.	CI-SL-5/ ORs, LST

Figure 1-12 Response Strategy 3 – Onshore Production Well Blowout at SRF in Winter – Berms, Snow Fence, and Snow Storage



1.7 Non-Mechanical Response Options [18 AAC 75.425(e)(1)(G)]

1.7.1 In Situ Burning

In situ burning may be used for offshore spills and requires approval from the Alaska Regional Response Team (ARRT).

If in situ burning is considered as a response option, the In Situ Burning Guidelines for Alaska (ARRT, 2008) will be used as a planning and evaluation tool and, if necessary, an application and burn plan would be developed and submitted to the agency On-Scene Coordinator.

In situ burning would be conducted in conjunction with either natural containment or containment using fire containment boom, which CISPRI maintains on hand. ESAs would be identified and protected as described in Section 3.10.

Additional details on in situ burning are discussed in the CISPRI *Technical Manual*, Tactic CI-NM-3, CI-NM-4 and CI-NM-5 and incorporated here by reference.

1.7.2 Dispersants

Dispersants would not be used for onshore spill response but may be considered if a spill reached Cook Inlet. The use of dispersants requires approvals from the ARRT. Additional details on dispersant use and approvals are located in the CISPRI *Technical Manual*, Tactics CI-NM-1, CI-NM-2, and included here by reference.

1.8 Facility Descriptions/Diagrams [18 AAC 75.425(e)(1)(H)]

Facility descriptions and diagrams are included in Section 3 and Appendix C of this ODPCP. Facility diagrams are updated, as needed, to reflect changes; the most recent revisions are maintained in HAK's Anchorage office.

1.9 Response Scenario for an Exploration or Production Facility [18 AAC 75.425(e)(1)(I)]

A summary of planned methods, equipment logistics, and time frames applicable to control a well blowout within 15 days, as required by 18 AAC 75.425(e)(1)(I), is provided below. Additional techniques that may extend beyond 15 days are included to demonstrate overall blowout response planning. HAK maintains a separate well blowout contingency plan that is available for inspection by ADEC upon request. Well control is discussed further in Section 4. Response to a blowout is a dynamic process. Both short- and long-term solutions would be implemented (i.e., immediate responses such as hydrostatic balancing would be employed while efforts to mobilize a drill rig to advance a relief well and equipment needed for capping would proceed. At some point during the response, one of the solutions would likely emerge as the best alternative.

1.9.1 Hydrostatic Balancing

The primary method to regain well control is the use of drilling fluids/muds. Hydrostatic pressure exerted by drilling fluid is used to overbalance formation pressures, counterbalance fluid flow, and stop a blowout.

The density of a drilling fluid is the primary element in maintaining well control. The drilling fluid column, acting through the vertical depth of the well, imposes hydrostatic pressure, which holds back the pressure of the fluid(s) within the pore spaces of the rock. Formation pressures normally increase with depth due to increased overburden thickness; mud hydrostatic pressure counterbalances this increase with depth unless an over-pressured zone is encountered. Kicks are caused by the pressure in the wellbore being less than that of the formation fluids, thus causing flow. A kick can quickly escalate into a blowout when the formation fluids reach the surface. Kicks are avoided through having sufficient hydrostatic pressure from the mud column to overbalance the pressure of the fluid(s) in the rock pore space.

1.9.2 Blowout Preventer

If a blowout occurs, further influx from the formation is prevented by closing the blowout preventer (BOP). Procedures are then followed to circulate the formation fluid out of the well and increase the drilling mud density to counterbalance the formation pressure.

The BOP would be used to "shut-in" the well immediately and confine the pressure within a closed system. The BOP equipment of each well is tested on a routine basis for working conditions and pressure sealing capabilities, as required by the AOGCC.

1.9.3 Techniques and Equipment for an Offshore Response

1.9.3.1 Firewater Application

In most instances, firewater cover will be required to allow safe re-boarding by the well control team. Initially, the firewater application should be instituted as quickly as possible (via standby vessels and/or crane barge) to prevent ignition or collateral damage from a fire.

In order to safely deal with an offshore blowout, the intervention team must have the capability to apply large volumes of water. This may be conducted to cool the area and allow wellhead access or to prevent ignition while working in proximity of the flow.

The methods for accomplishing this vary with the situation and the available equipment. Dedicated pumping equipment and specially designed marine manifolds will be used for this purpose. If the primary support vessel has no firefighting capabilities, these pumps can be used exclusively. If other firefighting capabilities are available, they can be used in conjunction with the onboard pumps.

At some point in the intervention project, usually following debris removal, attempts will be made to place firefighting monitors (outlets) on the structure. This will provide precise placement of water for cover and cooling purposes. This is best accomplished by installing temporary conduits such as large, low-pressure hoses from the support vessel to the monitors on the structure. If space and conditions allow, pumps can be placed on the structure and their suctions charged by the pumps on the support vessel. If possible, attempts may be made to utilize the existing deluge piping on the structure. This has been accomplished on platform fires and blowouts in the past and has proven very beneficial to those events.

Oil slicks can present a hazard to the vessels working near the blowout. Measures must be taken to prevent accumulations of flammable liquids around the work vessels. If significant slicks develop and become difficult to contain, additional firefighting equipment should be placed on the primary support vessel to combat fires that may ignite on the water. Foam injection will likely prove beneficial for these purposes.

1.9.3.2 Equipment and Debris Removal

The initial phase of the intervention will involve clearing damaged or unnecessary equipment from the structure. This initial clearing would provide room to work as well as protect equipment from danger. The intervention team will attempt to re-board the structure under the covering water spray from the primary support vessel. Once on board, the team will assess the situation and proceed accordingly. The crane on the support vessel can be used to remove all equipment that is accessible.

Clearing debris may be difficult if there is extensive structural damage. If the well is on fire, conventional cutting techniques (e.g., oxy/acetylene torches, magnesium cutting rods) can be used where possible. If the well is not on fire, or when debris must be cut out from around the burning well, ultra-high pressure abrasive jet cutters or explosives may be used.

1.9.3.3 Moving Onto the Structure

Once sufficient room is available, operations will be undertaken on the structure. Water monitors will be placed on the structure if possible for more precise water application. Operations near the wellhead will be conducted under a protective and/or cooling water spray cover whenever possible.

In other operations, it has been possible to place a large tracked crane onto the deck of a jack-up drill rig. The cranes used are usually those that accompany the derrick barge and are typically 150- to 200-ton capacity cranes. In other instances, it may be better to use a portable crane that can be temporarily mounted on the structure.

1.9.3.4 Gaining Wellhead Access

With operations established on the structure, final debris removal can begin which will allow wellhead access. This may require more cutting than can be accomplished by one of the methods previously mentioned. If the well is on fire, all heated metal debris must be removed before the fire can be extinguished. A Venturi tube may be placed over the well to raise the ignition point and consolidate the flow. This will allow better access to the wellhead and provide a means to cool the surrounding structural steel components.

Fires can cause major structural damage, sometimes requiring extensive fabrication projects to re-build a working platform around the wellhead.

1.9.3.5 Extinguishing the Fire (if needed)

Once clear access to the wellhead has been established, efforts will be made to configure the flow into a single vertical stream (if the flow is not already). Many fires can be extinguished using water alone (or water/dry-chemical mixtures). Unless obviously unsuitable, use of water alone will be first attempted. The Venturi tube may be used in conjunction with the water application to improve the chances of success. If these attempts fail, explosives may be used to extinguish the fire.

Unless major structural damage is imminent, the fire may be left burning until all preparations have been made for capping. Allowing the burn to continue is sometimes used as a pollution control measure.

1.9.3.6 Wellhead, Tree, and BOP Removal

With the fire either extinguished or directed through a Venturi tube, closer inspection of the wellhead equipment can be made. Wellhead inspection will determine whether the existing equipment can be used to attach capping devices, or if all or part of it will need to be removed. If nothing can be salvaged, the entire wellhead and all casing strings can be cut off, most easily accomplished with abrasive jet cutters.

Circumferential cuts will need to be made on the casing strings following cutoff. These cuts can be made with a portable lathe cutter. The casing strings will be cut at different lengths to expose an adequate amount of the innermost string for capping purposes. If necessary, and safe to do so, these cuts can be made with the well on fire.

Some wellhead or BOP components may need to be removed. This is often necessary when a fire is involved since the integrity of most elastomer seals is compromised. A typical technique for removing wellhead/BOP components is to install clamps on the flange to allow the removal of all bolts. A crane is attached to the component and snub lines are installed through the bolt holes. With the snub lines tight, the clamps are removed and the component can be taken off in a controlled manner.

1.9.3.7 Capping Operations

Capping operations can begin as soon as the wellhead preparation is complete. In most situations some means of controlling the movement of the capping assembly while over the flow is needed. This is typically accomplished by attaching snub lines. Large air hoists can often be mounted on the structure to control these lines.

Precise control of the movement of the capping assembly is imperative. Every attempt will be made to utilize a crane mounted on the deck of the structure. Capping with the crane mounted on the crane barge can be difficult because of the relative movement between the crane barge and the structure. Coordination of this type of operation is also more difficult and, if the barge mounted crane is used, it may involve considerable wait time for sufficiently calm seas.

In certain situations, a lift boat (Self-Elevating Workover Platform) may be used once the flow has been directed vertically. The lift boat will serve as the primary work platform for capping operations. This vessel is not common in Alaska and would require long lead mobilization.

HAK has a well control contractor to provide well capping services in the event of a blowout. Estimated mobilization times are listed below.

Mobilize, package, and stage equipment	1 to 2 Days
Secure equipment on aircraft from base (Houston, Texas)	1 Day
Transport equipment via air transit to Kenai or Homer, Alaska	1 Day
Transport equipment to blowout location	1 Day

Preparation of equipment at the blowout site would likely take three to four days. Barring significant weather delays, a well blowout in Cook Inlet would be capped in a maximum of 12 to 15 days.

1.9.4 Drilling a Relief Well

If well capping proves unsuccessful, HAK would proceed with drilling a relief well.

For onshore production wells, a relief well could probably be drilled using drill rigs that are available in Alaska (either in the Cook Inlet area or on the North Slope). Mobilization time for a relief well drill rig is estimated at two to three weeks. The time required to drill a relief well onshore is estimated at 50 days.

HAK and CISPRI maintain a list of available contractors capable of drilling a relief well. The time frame for drilling a relief well is comprised of the following actions, some of which occur simultaneously, assuming permitting is expedited.

On-shore Timeline

Emergency Pad Construction (onshore)	14 Days
Emergency rig contract secured; rig mobilized to site	28 Days
Drill to relief depth	27 Days
Entry and well kill operations	9 Days

Total time = 50 days for relief well

For offshore platforms, three relief well drilling options could be considered:

- Drilling from a different leg on the same platform,
- Directional drilling from an adjacent platform, and
- Mobilization of a mobile drilling unit such as a jack-up rig.

Relief well drilling from the same platform as the blowout would only be performed if it could be conducted safely. The primary advantage of drilling from an existing platform is that most platforms have drilling rigs onboard. The capability of existing drilling rigs varies by platform. As such, mobilization times for this option vary from one week to two or three months. If another drilling rig needs to be mobilized to an existing platform, it is likely that a suitable drilling unit could be obtained from within Alaska (either from another platform in Cook Inlet or from the North Slope).

If suitable drilling equipment is not available on the platform, or if conditions are not deemed safe for onboard drilling operations, a jack-up rig or drill ship would be mobilized to drill the relief well. Either a jack-up or drill ship is an appropriate option for open water conditions (May through November). During winter ice conditions (December through April), a drill ship would be used as ice cover and sea conditions allow.

Approximately 60 to 90 days would be required to mobilize a mobile drill rig or drill ship to the Cook Inlet area. Activities required for mobilization include:

- Review of the current availability of adequate drill units.
- Selection of a suitable location for placement of the drill unit.
- Transport of the drill unit to the Cook Inlet area.
- Arrange for and secure drilling supplies to drill the relief well.
- Acquire regulatory approvals for the operations.

Once mobilized and deployed to the site, drilling time for offshore relief wells, either from existing platforms or from mobile offshore drill units, is estimated at 40 to 50 days.

1.9.5 Generic Equipment List (Offshore Operations)

The type of equipment needed to respond to a blowout is highly dependent upon the situation. The following discussion addresses some of the major pieces of equipment that would likely be employed during response to an offshore blowout. Much of the specialty equipment needed for the response is located at the WWCI facilities in Houston, Texas. Many construction or support-related items can be procured locally either from CISPRI or local vendors. Some of the major equipment items and application in the response are described below.

Primary Support Vessel - the platform from which the intervention effort will be directed. If the platform has not been damaged and it is safe to work from, much of the response could be accomplished from the platform. Derrick/pipelay barges are generally the vessel of choice for primary support. This type of vessel possesses several features that are beneficial to the overall success of the response. The availability of a derrick barge is variable. If a barge of this type were operating in Alaska when the blowout occurred, then mobilization would only take a few days. A more likely scenario is that a barge would need to be mobilized from the West Coast of the lower 48 states, which would require two or more weeks. If needed smaller barges, available locally, would be used until the derrick barge arrives.

Firefighting Vessels – At least two dedicated firefighting vessels should be planned. These vessels should have, at minimum, 10,000 gallons per minute (gpm) firewater capabilities.

Secondary Vessels - In addition to the primary support vessel and pollution containment vessels, at least two crew boats and two utility (platform supply) boats should be dedicated exclusively to the intervention project.

Gas Monitoring - A gas monitoring system may be needed for the primary support vessel. This should include visual and audible alarms, a six-channel monitoring system and a battery backup. Adequate portable gas detectors will also be needed.

Materials - A considerable amount of fabrication material will be needed for various tasks. The material in the following list will generally provide an adequate amount for the initial requirements:

- 100 sheets – 2 ft x 8 ft galvanized corrugated tin
- 30 joints – 2 3/8-inch tubing (junk)
- 12 pieces (500 sq ft) – expanded metal grating
- 750 ft – 2 inch x 2 inch x 1/4 inch angle iron
- 500 ft – 3 inch x 3 inch x 1/4 inch angle iron
- 2 sheets – 4 ft x 8 ft x 1/4 inch steel plate
- 250 ft – 1/2-inch cold rolled bar

Additional material may be required if extensive fabrication projects are needed.

Air Compressor - Two 185 cubic feet per minute (cfm), 125 pounds per square inch (psi) air compressor, each with 150 ft of 2-inch 300 psi working pressure (WP) hose and spare end connections. These will be required to supply air for starting pumps and operating other pneumatic tools later in the project. Available through local specialty rental companies or may be available on the primary support vessel.

Light Towers - Self-contained diesel-powered light towers should be ordered to facilitate fabrication projects which may extend into the night. Available from specialty rental companies. Primary support vessel may have adequate lighting.

Abrasive Cutters - Ultra-high pressure cutters which use abrasive material such as quartz sand, slag or crushed garnet. Used for debris, wellhead and casing cutting in explosive atmospheres. Available from Hydro-Chem, Jet Edge, Inc., BJ Services and Halliburton Energy Services.

Lathe Cutters - Portable lathe-type dye cutters may be required for circumferential cuts on casing strings. Available through WWCI.

Explosives - Explosives may be necessary for debris removal and fire suppression. Available through WWCI.

Trash Pumps - Portable diaphragm-type pumps may be needed for various fluid transfer tasks on the structure. Small pumps (such as 3 inch x 3 inch) are preferred because they provide the necessary mobility. Available from specialty rental tool companies.

Pneumatic Winches - Large pneumatic winches, or "air tuggers," may be needed for capping and/or debris removal. Available through specialty rental companies.

Pneumatic Tools - Impact wrenches, drills, grinders and pneumatic hacksaws, along with hoses, sockets, bits and various other accessory pieces. These are available from most oilfield supply outlets.

Hydraulic Tools - Torque wrenches, nut splitters and portable power jacks. These are available from pressure testing companies and specialty rental companies.

Surface Equipment BOPs - Chokes/manifolds, closing units, chicksan lines, etc. Available from BTI, WellCAT (Weatherford\Enterra) or other oilfield rental tool companies.

Portable Platform Crane - Used for capping and/or final debris removal. Availability is variable; crane may be available in Cook Inlet or it may need to be mobilized from the West Coast of the lower 48 states. The crane present on platform may be used if operational after blowout and the platform is a safe working environment.

Communications - Efficient communication is essential to the success and safety of the project. A central dispatching system will need to be arranged to control the movement of equipment and personnel. This is best handled by a central base station operation where a radio operator continually monitors and dispatches necessary services. Portable radios should be provided with a dedicated frequency to be used by the personnel at the location.

An independent communication link should be established between the primary support vessel and the coordinating Blowout Intervention Room. Telephone, fax, telex and computer links will be necessary.

Machine Shop and Technical Services - There may be occasion to construct or repair precision components of various pieces of equipment used in the well control effort. It is recommended that a machine shop be available on a 24-hour basis during the response. In addition to the machine shop, various mechanical and electrical personnel should be available on a 24-hour basis.

Specialty Equipment - WWCI has a large inventory of specialized tools and equipment ready for immediate mobilization 24 hours per day. The following is a partial listing including a brief description:

- Firepumps - Driven by Detroit Diesel 8V92 TA, 500 horsepower (hp) turbo-charged engines. Worthington 8LR20 centrifugal pump delivering 4,000 gpm at 200 psi. Each pump is mounted on an oilfield skid with protective roll cage and single lift attachment point.
- Suction manifolds, suction and discharge hoses
- Marine manifold for installation on marine vessel deck. The main components of the marine manifold are:
  - One 8-inch x 20 ft steel fire monitor manifold with four 4-inch flanged outlets and one 8-inch flanged inlet
  - (b) (3), (b) (7)(F) [redacted] 4-inch Figure 100 hammer unions
  - Three 8-inch x 21-ft flanged supply line sections
  - One 8-inch x 16-ft flanged supply line section
  - One 8-inch x 6-ft 90-degree flanged elbow
  - Four 6-inch x 5-ft steel pipe extensions with 90 degree "Ls" for use with suction hoses
  - Four 1,000 gpm water cannons
- Fire monitors - 2,000 to 6,000 gpm
- Casing clamps - For use in various capping procedures

- Venturi tube - To consolidate and raise the flow and/or ignition point
- Portable toolhouse - Containing complete set of hand tools from 1/4-inch end wrench to 48-inch pipe wrench for maintenance and repair. Complete set of hammer wrenches and brass hammers
- Portable Lathe Type Cutters - Used for making circumferential cuts on casing strings
- Explosives - All necessary equipment for demolition. A fully-licensed explosives expert will be required.
- Nomex Protective Clothing - For use by personnel working in proximity to the combustible flow or fire
- Communications - Hand-held radios for use by personnel on location
- Foam/Dispersant Application - For fire extinguishment or protection

2.0 Prevention Plan [18 AAC 75.425(e)(2)]

2.1 Prevention, Inspection, and Maintenance Programs [18 AAC 75.425(e)(2)(A)]

2.1.1 Prevention Training Programs [18 AAC 75.020]

HAK personnel with training duties directly involving inspection, maintenance, or operation of oil storage and transfer equipment participate in a spill prevention training program. They are instructed in the operation and maintenance of equipment for which they are responsible in order to minimize the potential for spills. If an employee will be working offshore, the spill prevention orientation and training will include review of the spill prevention procedures for the platforms. Other designated HAK personnel receive NIMS-related training.

HAK is committed to maintaining high levels of prevention awareness. In general, operational personnel are trained by their supervisor concerning facility-specific preventive measures. Training records are maintained electronically along with required training for each HAK employee. The system is accessible from the internet or intranet connections and helps ensure timely completion of modules so that employee competencies remain current. Spill prevention training records will be maintained for five years, and training records are retrievable upon ADEC's request.

Prior to conducting oil transfers or handling oil, all oilfield-based employees and contract personnel responsible for performing the operations are briefed on facility-specific handling and transfer requirements. Personnel responsible for spill response attend Immediate Response Team training as described in Section 3.9.

2.1.2 Substance Abuse Programs [18 AAC 75.007(e)]

HAK has a drug-abuse policy and maintains related programs. Per this policy, upon entering the company premises, HAK employees and contract personnel must be free from the influence of drugs and/or alcohol. The company has jurisdiction to intervene, investigate and impose disciplinary measures when the drug abuse policy is suspected of being violated. The HAK drug policy was established to ensure the safety of all employees, contractors, and non-employees and to prevent spills or other incidents.

New hires, regardless of job responsibilities, are subject to a pre-employment urinalysis drug screen test. Throughout their term of employment, employees and contractors covered under DOT regulations and/or in safety-sensitive positions are subject to random drug and alcohol testing. The random program follows the requirements of DOT regulations, 49 CFR 40.

In addition to pre-employment and random testing based on job responsibilities, employees are subject to drug and alcohol tests if there is reasonable suspicion of substance abuse after reportable incidents to determine if drugs or alcohol were contributing factors, and following drug or alcohol rehabilitation.

HAK employees who test positive for drugs or alcohol will be informed immediately and removed from safety-sensitive work. Management will be advised of the test results. Disciplinary action will follow per company policies. Contract employees who test positive on a drug or alcohol test will not be allowed to return to work for HAK.

HAK employees who fail to cooperate in a drug and alcohol search, refuse to take a drug or alcohol test, or have a second positive drug or alcohol test may be terminated from their employment. Employees with a first positive drug or alcohol test result will normally be referred to the Employee

Assistance Program for counseling. Rehabilitation programs are available for substance abuse through the company medical plan.

2.1.3 Medical Monitoring [18 AAC 75.007(e)]

Field employees are enrolled in medical surveillance programs to assess their potential to be a first responder. HAK's program includes HAZWOPER, respiratory protection, and hearing conservation.

2.1.4 Security Programs [18 AAC 75.007(f) and 40 CFR 112.20(h)(10)]

(b) (7)(F), (b) (3)

[redacted]

2.1.5 Fluid Transfer Procedures [18 AAC 75.025]

Onshore Facilities

Diesel and gasoline are transferred from tanker trucks to bulk storage tanks at the TBPF and the GPTF. Tanker trucks are transported via barge to the TBPF then offloaded and driven to the fuel transfer site where fuel is unloaded to aboveground storage tanks. There is a permanent concrete secondary containment structure at the fuel transfer site. Crude oil, xylene and other refined petroleum products are transferred at Swanson River facilities. HAK Standard Operating Procedures (SOPs) are used during fluid transfers. Beaver Creek also conducts fuel transfers at the loading facility that is located on a concrete transfer site.

All fuel transfers are monitored in their entirety by an operator. The following steps are taken by personnel at all onshore facilities during fluid transfers to prevent discharges:

- Fuel transfers are conducted only in areas with secondary containment;
- Prior to starting the fluid transfer, the tank and container levels, valves and vents are checked to prevent overfilling or accidental releases;

- Drip trays or liners are placed under all hose connections or other sources of spillage;
- Line-of-sight is kept with the connections and hoses or other sources of spillage throughout the transfer process;
- Facility personnel maintain clear communications at all times and are able to immediately stop a transfer at any time;
- Loading rates are reduced at the beginning and end of the transfer;
- After the transfer, care is taken when breaking connections to avoid spillage, and all valves are securely closed; and
- Tank and container levels are checked after transfer for signs of spills.

Offshore Facilities

Each platform has an Oil Transfer Manual in place that meets the requirements of 18 AAC 75.025. While the content of each Oil Transfer Manual is platform-specific, the following information is included at a minimum:

- A list of appropriately trained Persons In Charge (PICs) for overseeing each transfer operation;
- A description of how communications are maintained between each person involved in the transfer;
- Secondary-containment precautions required for each transfer;
- Precautions to be taken at each connection point;
- Emergency shutdown procedures;
- List of available containment equipment;
- Procedures used during the transfer operation; and
- Checklists and forms.

2.1.6 Operating Requirements for Exploration and Production Facilities [18 AAC 75.045]

Produced oil from flow tests and other drilling operations is handled in such a manner to prevent spills according to 18 AAC 75.045(a). Oil produced from flow tests is directed either to the oil handling plant for that facility or stored in tanks. Facilities are staffed 24 hours per day. At each shift change, personnel inspect oil tank levels and tankage, sumps, drains, piping, valves, glands, wellheads, pumps, and other machinery for indications of oil leaks.

Platform integrity inspections required by 18 AAC 75.045(b) are not applicable; HAK platforms began production prior to the effective date of this requirement (May 14, 1992).

Closure valves for pipelines leaving production platforms are housed in a protected location that isolates the pipelines from each platform in the event of a discharge or other emergency. As required by 18 AAC 75.045(c), closure valves are capable of functioning both manually and automatically. Section 4.2.2 contains additional information regarding source control.

In accordance with 18 AAC 75.045(d) and (e), containment and collection devices such as drip pans and curbs are located on all offshore HAK production facilities in Cook Inlet. Offshore platforms are designed with impermeable decks and catch tanks to prevent oil from spilling to water. Onshore facilities are equipped with containment and collection mechanisms such as wellhead sumps.

Specifications for oil storage tanks and piping associated with HAK Cook Inlet production facilities are discussed in Sections 2.1.7, 2.1.9 and 2.1.10 of this ODPCP.

2.1.7 Requirements for Flow Lines at Production Facilities [18 AAC 75.047]

Per 18 AAC 75.047(b) the design and construction of flow lines placed in service after December 30, 2008 is consistent with one of the following standards:

- American Society of Mechanical Engineers, *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids*, 2002 Edition (ASME B31.4-2002); adopted by reference;
- ASME *Gas Transmission and Distribution Piping Systems*, 2003 Edition (ASME B31.8-2003);
- another equivalent and nationally recognized standard approved by the department.

HAK ensures that measures for controlling corrosion in flow lines are undertaken per 18 AAC 75.047(c), which includes a corrosion monitoring and control program, external corrosion control of buried or submerged flow lines consistent with NACE International's Standard Recommended Practice -- Control of External Corrosion on Underground or Submerged Metallic Piping Systems. A program designed to minimize internal corrosion, including, as appropriate, one or more of the following:

- removal of foreign material by scraping or pigging;
- treatment of residual water or dehydration;
- injection of inhibitors, biocides, or other chemical agents;
- removal of dissolved gases by chemical or mechanical means;
- gas blanketing; or
- continuous internal coating or lining;

HAK provides flow lines with a leak detection system and has in place a preventive maintenance program that ensures the continued operational reliability consistent with 18 AAC 75.047(d).

HAK installs line markers over each onshore flow line at each road crossing and at one-mile intervals along the remainder of the pipe to identify and, for buried pipe, properly locate each flow line, per 18 AAC 75.047(e).

HAK offshore submerged flow lines are included in the corrosion maintenance plan as well as the DOT-required Integrity Management Program. Other programs for maintenance and leak detection are described in the following paragraphs, and in Section 4.

Annually each flow line is inspected using sonar technology. The purpose of this survey is to identify unsupported pipeline spans of 50 feet or greater in length, identify the start, mid-span and stop of the spans with differential GPS coordinates, height of the span and depth of water adjusted to MLLW and to identify noteworthy subsea topographic anomalies located within 10 feet of all pipelines. Divers place cement bags on any unsupported pipeline spans over fifty feet in length.

Internal maintenance of offshore flow lines is accomplished by pigging and the use of corrosion inhibitor and biocides, if necessary. Pigging removes loose sediment and corrosion products that may have settled out of the fluid stream and that promote the formation of local corrosion cells. Pipelines are pigged frequently.

The flow lines are provided external corrosion protection by the use of external coating systems and impressed current cathodic protection. In addition, cathodic protection is measured from each platform and at onshore locations.

At SRF, several of the three- to six-inch flow lines were lined with high-density polyethylene (HDPE) slip liners in 1996 and 1997 to eliminate corrosion and protect the pipelines. Most of these flow lines are no longer in use and have been drained and isolated. Currently, Gathering Lines TS 3-9/TS 1-9 Jct and TS 1-9/20V-1 and Flow Lines 21A-34/TS 1-33 have slip liners.

Flow lines attached to platform risers are inspected with a “smart pig,” or equivalent technology, which records pipe wall thickness. A non-hazardous corrosion inhibitor is added to the J-tube annulus to further prevent external corrosion of the platform riser pipes.

In accordance with 18 AAC 75.047(d)(2)(A) and (B), preventative maintenance programs for submerged and buried flow lines at HAK Cook Inlet production facilities are consistent with Chapters VII through IX of *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids* (ASME B31.4-2002).

In accordance with 18 AAC 75.047(f), all flow lines removed from service for more than one year and not maintained in accordance with 18 AAC 75.047(c) and (d) must be free of accumulated oil and isolated from the system. HAK shall notify ADEC when flow lines are removed from service and when the actions required by this section are completed. A flow line removed from service will be considered free of accumulated oil if any of the following criteria are met:

(1) in the case of a piggable pipe, a cleaning pig is run through the pipe;

(2) in the case of a pipe that is not piggable, but that can be drained entirely of its contents by gravity, the pipe is completely drained of oil; or

(3) air is blown through the pipe or another method is used to flush or evacuate standing oil accumulated in low areas of the pipe.

Aboveground flow lines are designed and constructed consistent with the standards of *Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids* (ASME B31.4-2002) as per 18 AAC 75.047(b).

2.1.8 Leak Detection, Monitoring, and Operating Requirements for Crude Oil Transmission Pipelines [18 AAC 75.055]

During normal operations, crude oil is batched from Swanson River Field to the KPL Terminal. Normal operations are conducted during daylight hours. When the pipeline is not transmitting crude oil, there is a mass pack of about 1,600 bbl of crude in the pipeline that, along with back pressure controller(s), maintains the pipeline pressure.

HAK utilizes EFA leak detection software on the Swanson River Pipeline. Unfortunately due to the limited shipments of crude oil the line goes slack and vapors accumulate at the Halbouty Hill high point between pumping cycles. When a pumping cycle starts the line barely has time to stabilize after reaching line pack to effectively provide leak detection.

In the event of an incident or emergency the Tesoro control center operator would contact the Swanson River production facility to shut down their pump and isolate the line.

In accordance with 18 AAC 75.055(a)(3), the entire length of the pipeline is patrolled by aerial surveillance once a week, except during inclement weather. The goal of these aerial surveys is visual detection of a discharge.

Aerial or ground-based surveillance may be requested to verify a spill. Aircraft and helicopters for use are available 24 hours per day from Nikiski, Kenai, Anchorage, and Homer.

The crude oil transmission pipeline is also equipped with a LeakNet leak detection software package provided by Ed Farmer and Associates, Inc. (EFA). This software package uses MassPack Compensated Flow Comparison and Negative Pressure Wave Monitoring, or acoustic monitoring, which detects a wide range of potential leak situations.

2.1.9 Field-Constructed Aboveground Oil Storage Tank Requirements [18 AAC 75.065]

HAK operates field-constructed aboveground oil storage tanks at the SRF, TBPF, GPTF, and Beaver Creek. Appendix B contains information about tanks at HAK facilities.

Inspections for regulated tanks adhere to guidelines of American Petroleum Institute (API) 653, *Tank Inspection, Repair, Alteration, and Reconstruction*, Third Edition, December 2001, and Addendum 1, September 2003 or API 12R1, *Recommended Practice for Setting, Maintenance, Inspection, Operation and Repair of Tanks in Production Service*, 5th Edition, August 1997, as applicable and as required by 18 AAC 75.065(a).

Various inspections are performed in accordance with API 653 guidance. ADEC is notified when a tank undergoes major repair or alteration, as required by 18 AAC 75.065(e). General inspection guidelines are provided below. Specific guidance is provided in API 653 Section 6, and specific timelines are provided in Appendix B.

In accordance with API 653 Section 6.4.2, internal inspection intervals are determined by corrosion rates measured during previous inspections and the calculations for minimum required thickness of tank bottoms. Generally, field constructed tanks are internally inspected every ten years. An exception is the bolted tank, Tank 26 at SRF, which is voluntarily inspected internally every five years, per 18 AAC 75.065(b)(2) internal inspection intervals may NOT be based on similar service provisions provided in API 653 Section 6.4.2. Inspection intervals are set to ensure that the bottom plate minimum thicknesses at the next inspection are not less than 0.10 inches (per API 653, Section 6.4.3 Table 1). However, the internal inspection interval shall not exceed 20 years.

Internal inspections are performed using visual and non-destructive testing (NDT) technology. Ultrasonic inspections of shell and roof thicknesses and Magnetic Flux Exclusion (MFE) of the bottom is utilized during inspections. The MFE system measures the magnetic flux leakage of the tank bottom, revealing corroded and pitted areas. If problem areas are identified, an ultrasonic scan is performed to determine the thickness of the damaged area. These techniques provide complete inspection coverage of both sides of the tank floor plates. Visual inspections are also performed to identify obvious problem areas. Magnetic particle testing, dye penetration and vacuum box testing are performed as needed. During API inspections, inspectors assess tanks for brittle fracture if there is reason to suspect that this phenomenon may be a problem.

Inspection results and records for regulated tanks are maintained by HAK's Mechanical Integrity Group as required by 18 AAC 75.065(d). These records are available for agency inspection upon request.

As required by 18 AAC 75.065(f), oil storage tanks with internal heating systems are designed to control leakage from defective coils, and condensate lines are monitored.

Internal lining systems used to control corrosion have been installed in accordance with API Standard 652, First Edition, 1991 (or the most current revision), as required by 18 AAC 75.065(g). Section 4 presents additional information on tank corrosion protection and leak monitoring. Appendix B presents detailed tank information.

As per 18 AAC 75.065(h)(1), tanks installed prior to May 14, 1992 are equipped with one or more of the following:

- A leak detection system that an observer from outside the tank can use to detect leaks in the bottom of the tank. This may be a secondary catchment under the tank bottom with a leak detection sump, a sensitive gauging system, or other leak detection system approved by ADEC;
- Cathodic protection in accordance with API Standard 651, First Edition, 1991;
- A thick film liner in accordance with API Standard 652, First Edition, 1991; or
- If not described above, an ADEC-approved leak detection or spill prevention system.

As per 18 AAC 75.065(h)(2), the cathodic protection system on each field-constructed aboveground oil storage tank is operated and maintained as described below:

- Consistent with Section 11 of *Standard Recommended Practice: External Protection of On-Grade Carbon Steel Storage Tank Bottoms* (NACE RP0193-2001); and
- A corrosion expert or qualified cathodic protection tester will perform a cathodic protection survey specified in the above standard.

As per 18 AAC 75.065(i), new tank installations placed in service on or after May 14, 1992 and before December 30, 2008 shall comply with the following:

- Field-constructed aboveground oil storage tanks must be constructed and installed in compliance with API 650 *Welded Steel Tanks for Oil Storage*, Eighth Edition;
- Tanks will not be of riveted or bolted construction; and
- Tanks will have cathodic protection or another ADEC-approved corrosion control system installed; and
- Tanks will be equipped with one or more of the following leak detection systems: secondary catchments under the tank bottom with a leak detection sump; sensitive gauging system and/or; another leak detection system approved by ADEC.

In accordance with 18 AAC 75.065(j), tanks installed after December 30, 2008 meet the following construction standards:

- Tanks are constructed and installed in compliance with:
  - API Standard 650, *Welded Steel Tanks for Oil Storage*, 10th Edition, November 1998, Addendum 1, January 2000, Addendum 2, November 2001, and Addendum 3, September 2003
  - API Specification 12D, *Specifications for Field Welded Tanks for Storage of Production Liquids*, 10th Edition, November 1994 ,
  - or other equivalent standard approved by ADEC;
- Tanks are not of riveted or bolted construction;
- Cathodic protection or other ADEC-approved corrosion control system are in place to protect the tank bottom from external corrosion where local soil conditions warrant as per 18 AAC 75.065(m); and
- Tanks are equipped with a leak detection system that an observer from outside the tank can use to detect leaks in the bottom of the tank. This may be a secondary catchment under the tank bottom with a leak detection sump, a sensitive gauging system, or other leak detection system approved by ADEC.

In accordance with 18 AAC 75.065(k), overfill protection devices and alarms are installed on tanks. In general, alarms for major tanks include:

- Deck Drain (platforms) - high-level
- Skim Tank – high-level and low-level
- Storage Tanks – high-level and low-level
- Pressure Vessels – high-level and high-pressure

Testing of overfill protection devices is conducted in accordance with 18 AAC 75.065(l) and federal regulations. Testing includes semi-annual testing of automatic alarms and equipment shut-ins by simulating a malfunction or a high liquid level at the alarm sensor. High-level alarms in storage tanks are currently tested every 30 days by either a simulation of an alarm at the sensor or by other means.

For tanks used on a frequent basis, overfill alarms are tested before each transfer operation. Results of alarm tests are signed by the appropriate supervisor or inspector and immediate actions are taken to correct malfunctions and inoperative alarms. Testing and calibration reports are maintained at the facilities.

Cathodic protection systems at all HAK facilities comply with 18 AAC 75.065 (m) for field-constructed aboveground oil storage tanks.

Oil storage tanks, valves, and associated piping are visually inspected at least monthly (Table 2-1).

As required by 18 AAC 75.065(n), cathodic protection test lead wires on field-constructed aboveground storage tanks are maintained in a condition that enables electrical measurements to determine the effectiveness of the systems.

As required by 18 AAC 75.065(o), field-constructed tanks removed from service for more than one year without being maintained and inspected as an operating tank are managed as detailed below:

- Tanks are emptied of accumulated oil;
- Tanks are marked with the words “Out of Service” and the date the tanks were taken out of service;
- Tanks are secured by either blank flange or disconnected from facility piping to prevent unauthorized use; and
- ADEC will be notified within 30 days when a tank is taken out of service and when the above actions are completed.

2.1.10 Shop-Fabricated Aboveground Oil Storage Tanks [18 AAC 75.066]

HAK operates shop-fabricated aboveground oil storage tanks at the SRF, TBPF, GPTF, Beaver Creek and all offshore platforms. Appendix B contains information about tanks at HAK facilities.

As required by 18 AAC 75.066(a)(1) and (f), tanks placed in service on or before December 30, 2008, are maintained and inspected in accordance with API 653, *Tank Inspection, Repair, Alteration, and Reconstruction*, Third Edition, December 2001, and Addendum 1, September 2003.

Various inspections are performed in accordance with API 653 guidance. General inspection guidelines are provided below. Specific guidance is provided in API 653 Section 6, and specific timelines are provided in Appendix B.

In accordance with API 653 Section 6.4.2, internal inspection intervals are determined by corrosion rates measured during previous inspections or anticipated based on experience with tanks and the calculations for minimum required thickness of tank bottoms. Inspection intervals are set to ensure that the bottom plate minimum thicknesses at the next inspection are not less than 0.10 inches (per API 653, Section 6.4.3 Table 6-1). However, the internal inspection interval shall not exceed 20 years.

Internal inspections are performed using visual and non-destructive testing (NDT) technology. Ultrasonic inspections of shell and roof thicknesses and Magnetic Flux Exclusion (MFE) of the bottom is utilized during inspections. The MFE system measures the magnetic flux leakage of the tank bottom, revealing corroded and pitted areas. If problem areas are identified, an ultrasonic scan is performed to determine the thickness of the damaged area. These techniques provide complete inspection coverage of both sides of the tank floor plates. Visual inspections are also performed to identify obvious problem areas. Magnetic particle testing, dye penetration and vacuum box testing are performed as needed. During API inspections, inspectors assess tanks for brittle fracture if there is reason to suspect that this phenomenon may be a problem.

As per 18 AAC 75.066(g)(1), tanks installed on or before December 30, 2008 are equipped with one or more of the following means of preventing discharges:

- high liquid level alarms with signals that sound and display in a manner immediately recognizable by personnel conducting a transfer;
- high liquid level automatic pump shutoff devices set to stop flow at a predetermined tank content level;
- a means of immediately determining the liquid level of each bulk storage tank, if the liquid level is closely monitored during a transfer; and/or
- a system approved by the department that will immediately notify the operator of high liquid levels.

As required by 18 AAC 75.066(a)(2) and (b), tanks placed in service after December 30, 2008, are maintained and inspected in accordance with API 650, *Welded Steel Tanks for Oil Storage*, 10th Edition, November 1998, Addendum 1, January 2000, Addendum 2, November 2001, Addendum 3, September 2003; or API Specification 12F, *Specification for Shop Welded Tanks for Storage of Production Liquids*, 11th Edition, November 1994; or other applicable standards listed in 18 AAC 75.066(b)(1).

In accordance with 18 AAC 75.066(e), double-walled shop-fabricated aboveground oil storage tanks placed in service after December 30, 2008, are equipped with:

- an operating interstitial monitoring system that enables an observer from outside the tank to detect oil leaks and water accumulation;
- at each tank fill connection, a fixed overfill spill containment system designed to prevent a discharge when a transfer hose or pipe is detached from the tank fill pipe;
- a system for evacuating water or spilled fuel from the interstitial space and for regular maintenance in accordance with 18 AAC 75.075(c) and (d).

As required by 18 AAC 75.066(h), each tank discharge prevention device is tested before each transfer operation or monthly, whichever is less frequent. If monthly testing interrupts the operation of a continuous flow system, monthly inspection and annual testing may be substituted for the monthly testing of overfill protection devices.

Special considerations are made for shop-fabricated tanks that are structurally part of the offshore platforms in Cook Inlet. These tanks are inspected using best inspection practices developed in 2002 for Unocal by Hopper Elmore and Associates Engineers. These practices are in line with industry standards and based on API 653 with adjustments made to address the unique shapes and operating conditions of these tanks.

2.1.11 Secondary Containment Areas for Oil Storage Tanks and Loading/Unloading Areas [18 AAC 75.075]

In accordance with 18 AAC 75.075(a) and (c), unless a waiver has been obtained from ADEC, secondary containment systems for onshore oil storage tanks are of sufficient capacity to hold the volume of the largest tank within the containment area, plus enough additional capacity to allow for precipitation. These areas are constructed of materials that are sufficiently resistant to damage by product stored in the tanks and effects of weather. Secondary containment for onshore facilities is either constructed of concrete (sumps and foundations), steel, or earthen dikes with synthetic liners. Secondary containment areas are maintained free of debris, vegetation, or other materials or conditions, including excessive accumulated water that might interfere with the effectiveness of the system. Facility personnel visually check for the presence of oil leaks or spills within secondary containment during routine operations and conduct documented weekly inspections of secondary containment areas.

Portable tanks at onshore facilities use temporary secondary containment when not in permanent loading/unloading areas.

Per 18 AAC 75.075(b), secondary containment for offshore platform tanks is provided by the platforms themselves. Each platform has a secondary containment system for small tanks and machinery positioned within the parameters of the platform decking. These systems include drip pans, floor curbing, and skim tanks. Skim tanks serve as an ultimate collection area for releases within the confines of the platform decking. In the event of a spill, the platform decks are designed to prevent oil spills from entering the water.

HAK inspects accumulated water prior to discharging it from a secondary containment area to ensure that no oil will be discharged. A written record of each drainage operation is kept, and the presence or absence of a sheen is noted, as required by 18 AAC 75.075(d). Oily water found in accumulation areas is not discharged without a permit unless treated through an oil/water separator to reduce total hydrocarbons to below 15 parts per million (ppm).

Fuel transfers are discussed in Section 2.1.5.

As required by 18 AAC 75.075(g), tank truck loading and unloading areas are constructed and managed in accordance with the following requirements:

- Have a secondary containment system designed to contain the maximum capacity of any single compartment of the tank car or tank truck, including containment curbing and a trenching system or drains with drainage to a collection tank or device designed to handle a discharge;
- Be paved, surfaced, or lined with sufficiently impermeable materials;
- Be maintained free of debris, vegetation, or other materials or conditions, including excessive accumulated water, that might interfere with the effectiveness of the system;
- Have warning lights, warning signs, or a physical barrier system to prevent premature vehicular movement; and
- Be visually inspected prior to any transfer operation and as described in Table 2-1.

As per 18 AAC 75.075(h) shop-fabricated aboveground oil storage tanks that meet the requirements of 18 AAC 75.066(c), (d), or (e) are not placed within bermed, lined, secondary-containment areas if those tanks are equipped with catchments that positively hold any fuel overflow caused by tank overfill or divert overfill into an integral secondary containment area.

2.1.12 Requirements for Facility Oil Piping [18 AAC 75.080]

In accordance with 18 AAC 75.080(b), a corrosion control program is maintained for all metallic facility oil piping containing oil. Installation piping installed after December 30, 2008 is designed and constructed in accordance with one of the standards specified in 18 AAC 75.080(c) and (e).

As required by 18 AAC 75.080(d), existing buried piping is of all-welded construction and protected from corrosion by a protective wrapping or coating and cathodic protection such as a polyethylene plastic liner with joints either protected with shrink sleeves or tape, as appropriate for local soil conditions. No piping larger than a one-inch nominal pipe size is clamped or threaded. Some of the older piping at the SRF is wrapped with asphaltic materials. HAK maintains a corrosion inspection and maintenance plan applicable to buried and submerged steel piping containing or transporting oil. Section 4 contains additional information on pipeline and piping protection and maintenance. Other procedures used to manage existing piping are described below and in Section 4.

Table 2-1 Field Visual Surveillance Requirements

Inspection	Responsible Position	Regulating Agency	Inspection Description	Frequency	Regulatory Citation	Recordkeeping
Oil Storage tanks	Operations Lead	ADEC	Visual inspection of tanks, piping, drain valve.	Monthly	18 AAC 75.065 following API 653 Parts 6.3.1.1 and 6.3.1.2	ADEC-regulated Oil Storage Tank Monthly In-service Inspection Report
Secondary containment areas	Operations Lead	ADEC	Visual inspection for oil leaks or spills	Prior to transfers and weekly, contingent on weather and safe access	18 AAC 75.075(c) and 18 AAC 75.075(g)(5)	Visual field inspection form
Overfill protection device on oil storage tanks >10,000 gal	Operations Lead	ADEC	Test overfill protection device on non-continuous flow tanks	Monthly	18 AAC 75.065(l)	Monthly In-Service Inspection Report
Aboveground oil piping and facility piping and valves	Operations Lead	ADEC	Visual inspection of piping and valves for leaks or damage	Monthly or during routine operations, if more frequent	18 AAC 75.080(n)(1)	Visual field inspection form; Daily field shift log
Oil piping and valves at well houses and pads	Operations Lead	ADEC	Visual inspection of well houses, well cellars, process modules and well lines	Monthly or during routine operations, if more frequent	18 AAC 75.080(n)(1)	Visual field inspection form; Daily field shift log

All cathodic protection systems installed on facility oil piping is consistent with NACE International's *Standard Recommended Practice: Control of External Corrosion on Underground of Submerged Metallic Piping Systems* (NACE RP0169-2002), designed by a corrosion expert, and installed under the supervision of a corrosion expert in accordance with 18 AAC 75.080(f).

In compliance with 18 AAC 75.080(g), when any buried pipe section is opened or removed from a piping system, that pipe section and any adjacent pipe section is visually inspected in accordance with API 570 Section 9.2.6, *Piping Inspection Code, Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems,* for evidence of internal corrosion. If internal corrosion is visually noted, other NDT techniques are used to quantify the extent of corrosion damage and determine corrective actions. Sampling, as described in Section 4, is used to conduct an examination of buried piping on all newly acquired properties and new buried or submerged piping.

As per 18 AAC 75.080(j), HAK operates a maintenance and inspection program consistent with requirements of API 570. After initial inspection, HAK conducts routine in-service inspections for the life of the piping based on the remaining corrosion rate half-life of the piping or within the API 570 recommended inspection intervals for the service, whichever is less frequent. The frequency of inspection is dependent on the following considerations:

- Regulatory requirements, including those outlined in 18 AAC 75.080;
- Previous inspection results;
- Service/repair history;
- Whether the piping is cathodically protected; and
- Whether the pipe shows signs of internal or external corrosion.

HAK performs an evaluation of the pipe to determine the corrosion rate based on the length of service and remaining wall thickness. The maximum allowable operating pressure (MAOP) is calculated using the formula given in American National Standards Institute (ANSI) B31.4, Section 451.6.2, or the applicable code/standard. If the MAOP calculated is greater than normal operating pressure, the pipe may remain in service with the implementation of corrosion control procedures to mitigate further damage. If the MAOP as calculated is less than normal operating pressure, the line is repaired or replaced, or the normal operating pressure reduced. HAK uses personnel certified in accordance with American Society for Non-Destructive Testing (ASNT) TC-1A for all NDT performed in accordance with the requirements of API 650.

Cathodic protection checks (rectifier readings) are conducted every two months. Cathodic protection surveys using pipe-to-soil potentials are performed annually in accordance with NACE RPO 169.

In addition to buried or submerged sections, all points where the pipe enters or leaves soil is examined at the soil-air interface and for a minimum distance of 18 inches below grade. Thickness and interior condition is determined at all inspection locations using ultrasonic instruments or radiography. If external pitting is observed, pit depths may be measured with a pit depth gauge or ultrasonic instrumentation.

Piping removed from service for more than one year is to be physically removed or may be drained, identified by origin, stenciled with the words "Out of Service," and isolated using caps, blind flanges or spectacle blinds, as required in 18 AAC 75.080(o).

Aboveground piping and valves are to be visually inspected for leaks or damage at least every 30 days using the Operations Routine External Examination Checklist, which is part of the Monthly Inspection Report for land-based facilities, as required by 18 AAC 75.080(n)(1).

Onshore aboveground piping is to be situated in areas protected from damage by vehicles and by using other appropriate measures such as warning signs and barriers to reduce the likelihood of damage by vehicles.

2.2 Discharge History [18 AAC 75.425(e)(2)(B)]

Appendix A of this ODPCP provides a record of oil discharges greater than 55 gal from HAK Cook Inlet production facilities from 1987 to present.

Prior to HAK ownership of the Cook Inlet Production Facilities, Chevron/Union Oil experienced 175 spills between 1990 and 2011. More than half of the spills were caused by either equipment failure (72 spills) or human error (28 spills). In 2012/13 HAK acquired new assets in Cook Inlet and the discharge history has been integrated for Beaver Creek Oil and Gas Production Facility. There is no historical record of any spill reported at the Swanson River Pipeline.

HAK employs training in spill prevention, spill reporting and Standard Operating Procedures to prevent spills. In addition, spills are reviewed on a case-by-case basis and some are then vetted through a formal investigation process. Spill reporting is shared with management for every spill and periodically with all employees. When valuable lessons learned are identified through the investigation process, Spill Alerts are issued to HAK personnel. Locally in Alaska, managers of all departments meet to review and discuss incident trends in order to prevent them.

2.3 Potential Discharge Analysis [18 AAC 75.425(e)(2)(C) and 40 CFR 112.20(h)(4)]

The potential for spills from HAK assets is understood from historical spill data reflected in the discharge history. HAK's inspection programs and leak-detection equipment limit potential spill duration to a few minutes to a few hours. Even a blowout situation would be of very short duration, as all production wells require assisted lift (pumps) for liquid to reach the surface.

A complete summary of ADEC-regulated tanks is included in Appendix B. Measures to prevent spills include employee training and awareness, corrosion control, equipment maintenance, use of standard operating procedures, leak-detection equipment, inspection programs and secondary containment, as outlined in Section 2.1.11 and Section 4 of this ODPCP.

The following table summarizes potential discharges.

Type	Cause	Location	Size	Duration	Actions Taken To Prevent Potential Discharge
Oil Storage Tank	Rupture	TBPF	45,000 bbl	Instantaneous	Secondary Containment; Overflow Protection Devices; Tank Inspection Program
Crude Oil Transmission Pipeline	Rupture	Swanson River Pipeline	6,225 bbl	Instantaneous	Corrosion Control Program; Leak Detection System; Visual Surveillance
Flow Line	Rupture	TBPF	112,812 gal	Instantaneous	Corrosion Control Program; Leak Detection System
Diesel Transfer From Fuel Truck To Tanks	Hose Leak	Onshore Facilities	50 gal	Instantaneous	Transfer Procedures In Place; Secondary Containment
Well	Blowout	Well K-13	75,000 bbl	15 Days	Blowout Prevention Equipment

2.4 Conditions Increasing Risk of Discharge [18 AAC 75.425(e)(2)(D)]

Ice-Laden Waters and Vessel Traffic Patterns

Cook Inlet ice cover can be substantial between November and February. Ice cover can be difficult for a workboat to transfer fuel to the platform because of surface conditions. To mitigate these hazards, all platforms are sited away from established shipping lanes, and procedures are in place to guide safe fuel transfers and limit activity when conditions are deemed unsuitable for a safe transfer.

Earthquakes or Volcanic Activity

Earthquakes and volcanic activity are common events in Alaska. The large tanks at the GPTF, TBPF, Beaver Creek and SRF were designed with seismic activity tolerances to withstand limited amounts of stress. All offshore platforms were built in the mid to late 1960s, except the Steelhead, which was constructed in 1986.

Subsurface flow lines in Cook Inlet are also at risk from seismic events. These lines are used to transport produced oil and water from offshore platforms to onshore tank farms. For protection, flow lines are surrounded by concrete and weighted down with anchors to avoid shifting caused by current, tides, and seismic events. (b) (3), (b) (7)(F) [redacted]

HAK has an inspection and maintenance program to ensure that facilities are maintained in condition to resist damage during seismic events. Seismic stability tests are conducted in accordance with API 650, Appendix B to support tank design and inspection programs.

Structural evaluations of platforms are performed routinely to ensure that platform strength is adequate to withstand seismic and tidal stress. Subsea inspections are performed on structural members for flooded sections to evaluate structural integrity of the platforms.

GPTF, TBPF, and SRF piping installation began in the 1960s and was designed in accordance with applicable code requirements at time of construction. Existing piping supports are identified during routine piping inspections for seismic stability evaluations. New piping supports are designed to withstand seismic events in accordance with applicable codes and/or standards.

GPTF, TBPF, and SRF tanks and attached piping are inspected on a regular basis, in compliance with ADEC regulations, and completed in accordance with the applicable API, ASME, and ASTM codes, standards, and recommended practices. Subsequent evaluations are made for stability during seismic events. Fill height restriction may be imposed if necessary to ensure the tanks' earthquake resistance integrity.

Offshore platforms in Cook Inlet were evaluated for stability in the event of seismic activity in accordance with the requirements of the "Seismic Requalification of Offshore Platforms" document prepared for API in 1992. The platforms met or exceeded the requirements described therein. If the condition of a platform changes, then continuing earthquake integrity of the platform is re-evaluated in the same manner

Soil Stability

Tank containment areas are monitored regularly for any conditions that might suggest soil stability problems, such as stressed pipes, sinkholes, tilting equipment, etc. All tanks rest on gravel pads designed to support the weight of the tanks with product. Operators are trained to be aware of possible soil swelling and settling during the freeze-thaw cycle.

Other Factors

The age of facilities, icy road conditions, changed traffic patterns, high winds, flooding, and breakup conditions can all increase the risk of a discharge.

Measures are in place to reduce the risk of a discharge (Sections 2.1.9 and 2.1.10) associated with age-related risks. These measures are described in detailing tank inspections, secondary containment, and corrosion inspection and preventative maintenance procedures (Section 2.1.11).

The risk of release from environmental-related factors such as high winds, flooding, and breakup conditions are difficult to quantify. Several practices are in place to minimize these risks, including visual inspections and sonar monitoring of submerged lines to assess if pipelines have become suspended (as indicated in Section 2.1.12 and 2.1.13); facilities designed to withstand ice and wind; and operator awareness of weather conditions and readiness to respond as needed. The latter measure involves readiness to use on-site equipment to construct dikes, transfer fluids, secure structures, etc. Helicopter and vessel traffic between facilities and shore bases is controlled and restricted during times of inclement weather. Current weather reports are provided to facility operators to ensure they have current information and advance warning of adverse weather conditions.

2.5 Discharge Detection [18 AAC 75.425(e)(2)(E)] and 40 CFR 112.20(h)(6)]

Onshore Tanks [18AAC 75.065]

Tanks with capacities of 10,000 gal or more have discharge detection systems, in accordance with state and federal regulations. Tanks existing prior to October 2005 have a spill prevention system consisting of a thick film liner in accordance with API Standard 651, First Edition 1991, and installed in accordance with API Standard 652, First Edition 1991, or other applicable standards. All tanks larger than 10,000 gal capacity are cathodically protected except for three elevated tanks.

Daily balancing of stock and shipped oil versus metered oil from the platforms is conducted, where relevant, to detect lost volumes. A significant unexplained variance alerts facility personnel of a possible loss of product suggestive of a spill. Daily checks of refined product handling pumps and weekly checks of refined product inventories are performed.

Tank overfill prevention is discussed in Section 2.1.9 and 2.1.10 of this ODPCP.

Wells and Pump Stations

None of the oil wells flow without assisted lift. Operators check wellhead pressures on any flowing wells at least once daily to monitor for unexplained variation in pressure that would suggest leakage. Operators also check any pumping stations for leaks and irregularities during each round (two rounds per day) per standard checklists.

Drilling and Well Workover Operations

Discharge detection during drilling operations is performed by closely monitoring the volume of fluids in the mud pit by both visual and volumetric means. The mud pit is fitted with an alarm that sounds when the level of fluid changes by an amount calculated by the drilling engineer as indicative of a potential problem.

Offshore Tanks [18AAC 75.066]

All platform storage tanks that have volume capacities greater than 10,000 gal have both high- and low-level alarms installed, with the exception of some of the diesel beam tanks. The high-level alarm system prevents overfilling and, in the case of the diesel beam tanks that do not have alarms or shut-in devices, stringent transfer procedures are in place to prevent overfilling. Overfill indicators are monitored from the control room, and platform storage tanks are equipped with volume indicators. The Bruce, Anna, Dillon, King Salmon and Granite Point platforms have automatic shut-in devices associated with the high-level alarms. High-level alarms on the Grayling and Monopod platform storage tanks will result in shut-in of the producing wells and subsequent shut-in of tank inflow.

Flow Lines

Aboveground pipes and valves are visually checked for leaks or damage.

Flow lines transfer production fluids (oil, gas, water and sediment) to onshore facilities for treatment. These flow lines operate under pressure. A loss in pressure indicates that a leak may have occurred. A low pressure alarm sounds and the operator starts to investigate the cause. (b) (3), (b) (7)(F) [redacted] Pressure records are stored for a minimum of three years.

In addition to pressure indicators, flyover inspections of the gathering lines are conducted every two weeks.

Buried Pipeline

The SR pipeline has an EFA leak detection system installed and flow verification through an accounting method at least once every 24 hours.

Weekly aerial pipeline right-of-way surveillance is conducted.

(b) (3), (b) (7)(F) [redacted]

2.6 Waivers [18 AAC 75.425(e)(2)(F)]

Waiver for overfill spill containment, 18 AAC 75.066 (g)

A waiver is in place for three ADEC-regulated tanks (S-T-0450, S-T-0550, S-T-0650) at Swanson River Field. These tanks are listed as “portable” in, Appendix B, Regulated Storage Tank. While technically the tanks are portable, they are treated as stationary tanks. The waiver approval follows this page.

There are no additional waivers at this time.

THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION & RESPONSE
INDUSTRY PREPAREDNESS PROGRAM
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May 24, 2013

File No.: 305.35
(Hilcorp – Cook Inlet Prod)

Diane Dunham
Hilcorp Alaska, LLC
3800 Centerpoint Drive, Suite 100
Anchorage, AK 99503

Subject: **Hilcorp Alaska, LLC (Hilcorp) Oil Discharge Prevention and Contingency Plan for Cook Inlet Production Facilities. Plan Number 12-CP-2008; Approval for Waiver of Overfill Catchment Devices on Shop-Fabricated Tanks, No's. S-T-0450, S-T-0550, and S-T-0650 located at Swanson River Field.**

Dear Ms. Dunham:

The Alaska Department of Environmental Conservation (department) has reviewed your April 9, 2013 letter requesting a waiver of the requirement for overfill devices for three shop fabricated tanks, tank numbers S-T-0450, S-T-0550, and S-T-0650 to be placed at the Swanson River Facility. Alaska Administrative Code 18 AAC 75.066(g)(2) requires shop-fabricated tanks to have overfill protection devices at each tank fill connection, with a fixed overfill spill containment system designed to prevent a discharge when a transfer hose or pipe is detached from the tank fill pipe. Hilcorp has requested a waiver of this requirement. While the tanks are shop fabricated and placed in service after 2008, these tanks will be acting as stationary tanks and hard piped into the system at the Swanson River Facility.

In accordance with 18 AAC 75.015, the department may waive a requirement if the owner or operator demonstrates that an equivalent level of protection will be achieved by using a technology or procedure other than that required by 18 AAC 75.005 – 18 AAC 75.085. The intent of the requirement of 18 AAC 75.066(g)(2) is to ensure above ground shop fabricated tanks, have a permanent, fixed spill containment system installed directly below the fill connection for temporary transfer hoses or transfer pipes would be attached and detached intermittently. Hilcorp proposes maintaining equivalent protection by hard flanging the tanks into the system, making the tanks permanent in their location and part of the process facility. Since Hilcorp is hard piping the tanks with flanged connections, the risk of drips and spills is decreased, thereby Hilcorp's proposal will meet the equivalent protection requirement.

Your request to waive 18 AAC 75.066(g)(2) is approved for tanks S-T-0450, S-T-0550, and S-T-0650, as long as these tanks remain hard piped, are a permanent part of the Swanson River Field system, and are not moved within the system. The waiver of the requirement of 18 AAC 75.066(g)(2) does not eliminate Hilcorp's responsibility to maintain compliance for each of these

Diane Dunham
Hilcorp Alaska, LLC

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May 24, 2013

tanks with the rest of the applicable sections of 18 AAC 75.066. Approval is granted with the following conditions:

- Within 30 days after installation, Hilcorp shall submit to the department final drawings of where the tanks are installed.
- Hilcorp shall place the three tanks within a lined, impermeable secondary containment area that will contain 100 percent of the largest tank, plus room for precipitation, in accordance with 18 AAC 75.075.

This waiver does not exempt Hilcorp from any other state, federal or local requirements that may apply. The department reserves its rights to pursue administrative and judicial remedies for future violations in the event Hilcorp does not comply with the conditions of this waiver.

If you have any questions regarding this letter, please call Clynda Case at (907) 269-7604 or email at Clynda.Case@alaska.gov.

Sincerely,

Graham Wood
Section Manager

Electronic cc:

Steve Russell, ADEC
Laurie Silfven, ADEC

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3.0 Supplemental Information [18 AAC 75.425(e)(3)]

3.1 Facility Description and Operational Overview [18 AAC 75.425(e)(3)(A) and 40 CFR 112.20(h)(2)]

3.1.1 Facility Ownership and General Site Description [18 AAC 75.425(e)(3)(A)]

This ODPCP covers a number of onshore and offshore facilities whose primary purpose is to support drilling and production activities for oil and gas. Appendix C contains facility descriptions and diagrams.

Offshore platforms operated by HAK include:

- Anna Platform
- Granite Point Platform
- Baker Platform (lighthoused)
- Grayling Platform
- Bruce Platform
- King Salmon Platform
- Dillon Platform (lighthoused)
- Monopod Platform
- Dolly Varden Platform
- Steelhead Platform
- Spark Platform (lighthoused)
- Spurr Platform (lighthoused)

Onshore facilities used to support production operations from offshore platforms include:

- Granite Point Tank Farm
- Trading Bay Production Facility

Onshore oil and gas production facilities

- Swanson River Field
- Beaver Creek Oil and Gas Production Facility

Swanson River Pipeline is a crude oil transmission pipeline which extends from Swanson River Field to Kenai Pipe Line Company Nikiski Terminal.

3.1.2 Facility Storage Containers [18 AAC 75.425(e)(3)(A)(i) & (ii)]

Appendix B lists ADEC-regulated oil tanks, storage tanks, and drum storage areas for all offshore platforms and onshore facilities.

Tanks, vessels, piping, controls, and instrumentation are contained on Process Flow Diagrams (PFDs) and Piping and Instrumentation Diagrams (P&IDs) for each facility. PFDs and P&IDs for Cook Inlet facilities are maintained in HAK’s Anchorage office; these documents are continually updated. Copies of current facility-specific PFDs and P&IDs are also located at individual facilities.

3.1.3 Transfer Procedures [18 AAC 75.425(e)(3)(A)(vi)]

HAK's active offshore platforms maintain diesel fuel onboard to support both drilling operations and to provide emergency fuel for generators. Diesel contained in insulated ISO tanks is transferred from supply vessels to the platforms in one of two ways depending on configuration of the facility and tidal/weather conditions. The facility assesses which method can provide better spill prevention and utilizes that method.

USCG Fuel Transfer/Operations Manual method: While the HAK facilities are not required to maintain USCG Operations Manuals, some platforms use the USCG methodology by transferring fuel via hoses connected at the sub-deck or sub-sub-deck level. Care is taken during fueling to position the supply vessel in such a way that the tidal current puts no stress on the hose. Fuel transfers are conducted in accordance with practices contained in the USCG Fuel Transfer/Operations Manuals for both the supply vessel and platform.

Utilization of Crane to Transfer ISO Tanks: Experienced crane operators and riggers evaluate the ISO tank which contains the diesel to be transferred to the facility and a Job Safety Analysis is prepared. The load is then picked to the platform. The crane operator utilizes the Job Safety Analysis to determine potential hazards of lifting the tank to the facility deck. When the tank has securely landed on deck, the fuel transfer commences.

Onshore fuel transfers are conducted according to procedures discussed in Section 2.1.5.

3.1.4 General Description of Flow Lines and Process Facilities [18 AAC 75.425(e)(3)(A)(vii)]

Table 3-1 provides descriptions of individual flow lines. Figure 3-1 shows the locations of the flow lines used to transport crude oil to onshore facilities. Appendix C provides an overview of all facilities.

Table 3-1 HAK Flow Line Descriptions

Offshore Flowlines				
Location	**Pipeline Segment**	**Onshore Pipeline Length Miles**	**Offshore Pipeline Length Miles**	**OD Inches**
Offshore to Offshore	Anna to Bruce – A Line	0	1.6	8.625
Offshore to Onshore	Bruce to GPTF – GP1 Line	3.7	1.7	6.625
Offshore to Onshore	Dolly Varden to TBPF – A Line	0.2	5.6	8.625
Offshore to Onshore	Dolly Varden to TBPF – C Line (NIS)	0.2	5.6	4.5
Offshore to Onshore	Grayling to TBPF – A line	0.2	6.2	10.75
Offshore to Onshore	Granite Point to GPTF – B Line	2.3	3.8	8.625
Offshore to Onshore	King Salmon to TBPF – A line	0.2	7.0	8.625
Offshore to Onshore	Monopod to TBPF – A line	0.2	8.8	8.625
Offshore to Onshore	Steelhead to TBPF – C Line	0.2	6.3	8.625

Onshore Flowlines - Beaver Creek				
Location	**Line Name**	**Segment End Point**	**OD Inches**	**Length (ft)**
Beaver Creek	BC 12"	Dehy Bldg to Enstar Bldg	12"	3.4 miles
Beaver Creek	BC 4"-1	T5	4"	400'
Beaver Creek	BC 4"-2	Manifold Building	4"	350'
Beaver Creek	BC 4"-3	Heater Treater	4"	50'
Beaver Creek	BC 4"-4	T5	4"	400'
Beaver Creek	BC 6"	T1 - Shipping	6"	60'
Beaver Creek	BC 4"-5	Loading Dock	4"	50'

Onshore Flowlines - Swanson River Field					
Location	**Line Name**	**Segment Start Point**	**Segment End Point**	**OD Inches**	**Length (ft)**
SRF	O-2449-4-B1-S1-00	[redacted] (b) (3), (b) (7)(F)	[redacted]	4	840
SRF	O-0001-3-F1-S1-00	[redacted]	[redacted]	3	335
SRF	O-2450-4-G1-S1-00	[redacted]	[redacted]	4	8625
SRF	O-2450-6-G1-S1-00	[redacted]	[redacted]	4/6	5742
SRF	O-0026-4-B1-S1-00	[redacted]	[redacted]	4	83
SRF	O-0034-3-G1-S1-00	[redacted]	[redacted]	3	2847
SRF	O-0040-3-G1-S1-00	[redacted]	[redacted]	3	4455
SRF	O-0061-4-G1-S1-00	[redacted]	[redacted]	4	132
SRF	O-2100-3-G1-S1-00	[redacted]	[redacted]	3	1128
SRF	O-2103-3-G1-S1-00	[redacted]	[redacted]	3	2321
SRF	O-2109-3-F1-S1-00	[redacted]	[redacted]	3	1610
SRF	O-2150-3-G1-S1-00	[redacted]	[redacted]	3	3226
SRF	O-2151-3-G1-S1-00	[redacted]	[redacted]	3	952
SRF	O-2152-3-G1-S1-00	[redacted]	[redacted]	3	3754
SRF	O-2156-3-E1-S1-00	[redacted]	[redacted]	3	2359
SRF	O-2181-3-G1-S1-00	[redacted]	[redacted]	3	515
SRF	O-2201-3-G1-S1-00	[redacted]	[redacted]	3	2262
SRF	O-2201-3-G1-S2-00	[redacted]	[redacted]	3	3308

Onshore Flowlines - Swanson River Field					
Location	**Line Name**	**Segment Start Point**	**Segment End Point**	**OD Inches**	**Length (ft)**
		[redacted] (b) (3), (b) (7)(F)	[redacted]		
SRF	O-2202-3-G1-S1-00	[redacted]	[redacted]	3	2088
SRF	O-2251-3-G1-S1-00	[redacted]	[redacted]	3	653
SRF	O-2254-3-G1-S1-00	[redacted]	[redacted]	3	2007
SRF	O-2283-6-B1-S1-00	[redacted]	[redacted]	4/6/8	6566
SRF	O-2291-3-G1-S1-00	[redacted]	[redacted]	3	222
SRF	O-2292-3-G1-S1-00	[redacted]	[redacted]	3	4744
SRF	O-2301-3-G1-S1-00	[redacted]	[redacted]	3	2183
SRF	O-2447-6-G1-S1-00	[redacted]	[redacted]	4/6	6988
SRF	O-2449-3-B1-S1-00	[redacted]	[redacted]	3	443
SRF	O-3000-3-G1-S1-00	[redacted]	[redacted]	3	82
SRF	O-3087-3-G1-S1-00	[redacted]	[redacted]	3	98
SRF	O-6002-4-G1-S1-00	[redacted]	[redacted]	4	55
SRF	O-6003-3-G1-S2-00	[redacted]	[redacted]	3	1274
SRF	O-6003-3-G1-S4-00	[redacted]	[redacted]	3	1084
SRF	O-6003-4-G1-S1-00	[redacted]	[redacted]	4	117
SRF	O-6003-4-G1-S3-00	[redacted]	[redacted]	4	203
SRF	O-0035-3-G1-S1-00	[redacted]	[redacted]	3	2030
SRF	O-6022-3-G1-S1-00	[redacted]	[redacted]	3	142
SRF	O-6027-6-B1-S1-00	[redacted]	[redacted]	6	2356
SRF	O-6029-6-F1-S1-00	[redacted]	[redacted]	6	3637
SRF	O-6032-4-B1-S1-00	[redacted]	[redacted]	4	491
SRF	O-6032-6-B1-S1-00	[redacted]	[redacted]	6	4024

Onshore Flowlines - Swanson River Field					
Location	**Line Name**	**Segment Start Point**	**Segment End Point**	**OD Inches**	**Length (ft)**
SRF	O-6036-3-G1-S1-00	(b) (3), (b) (7)(F) [redacted]	[redacted]	3	1647
SRF	O-6036-4-G1-S1-00	[redacted]	[redacted]	4	2558
SRF	O-6037-3-G1-S1-00	[redacted]	[redacted]	3	1877
SRF	O-9093-3-E1-S1	[redacted]	[redacted]	3	865
SRF	O-9093-3-E1-S2	[redacted]	[redacted]	3	2120
SRF	W-0605-4-E1-S1-00	[redacted]	[redacted]	4	156
SRF	W-0606-4-E1-S1-00	[redacted]	[redacted]	4	1535
SRF	O-6017-6-F1-S1-00	[redacted]	[redacted]	6	2508
SRF	O-6021-3-G1-S1-00	[redacted]	[redacted]	3	182
SRF	W-Z137-4-B1-S1-00	[redacted]	[redacted]	4	1290
SRF	W-0654-6-HDPE-S1-00	[redacted]	[redacted]	6	350
SRF	W-0622-6-HDPE-S1-00	[redacted]	[redacted]	6	5800
SRF	O-Z152-3-G1-S1-00	[redacted]	[redacted]	3	1250
SRF	O-2357-6-B1-S1-00	[redacted]	[redacted]	6	615
SRF	O-9092-4-B1-S1-00	[redacted]	[redacted]	4	2613
SRF	O-6010-6-B1-S1-00	[redacted]	[redacted]	6	107
SRF	O-6026-4-B1-S1-00	[redacted]	[redacted]	4	83
SRF	O-2450-4-G1-S2-00	[redacted]	[redacted]	4	2138
SRF	O-2415-4-B1-S1-00	[redacted]	[redacted]	4/6	904
SRF	O-2322-4-B1-S1-00	[redacted]	[redacted]	4	103
SRF	O-0020-3-B1-S1-00	[redacted]	[redacted]	3	1174
SRF	O-2164-4-B1-S1-00	[redacted]	[redacted]	4	81
SRF	O-0091-4-B1-S1-00	[redacted]	[redacted]	4	297
SRF	O-2448-3-B1-S1-00	[redacted]	[redacted]	3	98

Onshore Flowlines - Swanson River Field					
Location	**Line Name**	**Segment Start Point**	**Segment End Point**	**OD Inches**	**Length (ft)**
SRF	O-9091-4-B1-S1-00	[redacted]	[redacted]	4	410
SRF	O-6041-3-E1-S1	[redacted]	[redacted]	3	786
SRF	O-6041-3-E1-S2	[redacted]	[redacted]	3	2293

*The Baker platform is no longer producing oil; however, the lines are still in place and the platforms are still in use for maintenance and line abandonment support on an as-needed basis.

Figure 3-1 General Diagram of Cook Inlet Production Facilities Including Piping and Flow Lines

(b) (7)(F), (b) (3)

[redacted]

Crude oil gathered from the Anna, Bruce, and Granite Point platforms is processed through the GPTF and delivered to the Cook Inlet Pipe Line for transportation to the Drift River Terminal.

Crude oil and produced water gathered from the Grayling, Monopod, Dolly Varden, King Salmon, and Steelhead platforms is transported to the TBPF. After the separation process at the TBPF, the crude is transported via the Cook Inlet Pipe Line.

The Baker and Dillon Platforms are no longer used for oil or gas production, and the pipelines are no longer used to transport fluids to shore-based processing facilities. These pipelines are in the process of being cleaned and abandoned. HAK is conducting these activities in coordination with ADEC.

3.1.5 General Description of the Crude Oil Transmission Pipeline

(b) (7)(F), (b) (3)

[redacted]

3.2 Receiving Environment [18 AAC 75.425(e)(3)(B)]

3.2.1 Potential Routes of Discharge [18 AAC 75.425 (e)(3)(B)(i)]

Table 3-2 presents a summary of potential spill impact areas for onshore facilities. Figures 3-2 through 3-8 illustrate potential pathways to open water for oil discharges from onshore drilling and production facilities. In the event of an oil overflow from an offshore platform, discharges would directly enter Cook Inlet.

Table 3-2 Summary of Potential Impact Areas for HAK Onshore Facilities

Onshore Facility	Likely Impact Area*
Beaver Creek Oil and Gas Production Facility	Most spills would remain within the facility boundaries, with the potential to impact down gradient woodland, wetlands or an unnamed lake. With a complete catastrophic failure of the largest tank along with its secondary containment, it is possible for a spill to drain downhill, but would likely remain in vegetation surrounding the pad.
Cook Inlet Field Office	There are no tanks or pipelines currently in service at CIFO, thus no impacts are likely.
Granite Point Tank Farm	Most spills would remain within the facility boundaries, with the potential to impact down gradient wetlands. Discharge from platform production lines could impact open water and/or shoreline where they are near water bodies. Potentially affected environmentally sensitive areas (ESA), see Figure 3-9, include a larger wetland area southwest of the site and at the bottom of the bluff, and Cook Inlet.

Trading Bay Production Facility	Most spills would remain within facility boundaries and accumulation inside unlined depressions. Equipment operating near water and platform production lines could impact open water and/or shoreline. Most onshore areas drain to disturbed areas. As such, it is generally unlikely that spills from existing facilities could impact ESA. (Figure 3-9).

(b) (7)(F), (b) (3)

[redacted]

*Estimate based on review of topographic maps.

(b) (7)(F), (b) (3)

[redacted]

Granite Point Tank Farm

A discharge at the GPTF would initially move south or east from the site. Spilled oil could enter shallow groundwater at Granite Point. Groundwater at the site is 5 to 10 ft below ground surface. An aquitard is at a depth of 10 to 12 ft and is believed to prevent deeper migration. Product entering the ground would be expected to migrate atop groundwater to daylight as seeps at the bluff. Upon reaching the bluff, oil would move toward a small unnamed stream that flows west toward the mouth of Nikolai Creek and Cook Inlet (Figure 3-3). Most oil would be retained in wetland areas below the bluff and is unlikely to reach the creek or Cook Inlet.

(b) (7)(F), (b) (3) [redacted]

Trading Bay Production Facility

The TBPF is located on a north-south trending ridge and has a maximum relief of 100 ft within the facility lease. Surface water runoff flows toward an unlined pit area adjacent to two 50,000-bbl retention pits. The retention pits would contain a release from any facility tank. General drainage from the retention pits flows northeast toward Cook Inlet (Figure 3-7). Spills from fixed facilities on site are not believed to have the potential to flow to Cook Inlet.

(b) (7)(F), (b) (3) [redacted]

Measures Planned to Prevent a Discharge from Reaching Water

In the event of a land-based spill, immediate action is necessary to prevent the spill from flowing into a water body. The primary prevention measure for tanks and fuel transfer operations is secondary containment. In the event secondary containment is breached, other measures will be implemented. Immediate deployment of containment and/or sorbent boom may be adequate to contain a small spill. For larger spills, a combination of constructed trenches/dikes and liner materials are the main planned strategies. Dikes and trenches can be quickly constructed with a backhoe or other equipment; other containment strategies would likely take longer to implement. Sandbags could also be used, but the time needed to fill and deploy sandbags would likely preclude their use during the initial stage of a spill. As a final action, tidal seal boom would be used at the point where the oil would presumably discharge into a water body.

Containment measures would be deployed based on the location and volume of the spill and the drainage patterns depicted in Figures 3-2 through 3-8.

3.2.2 Estimate of Response Planning Standard Volume to Reach Open Water [18 AAC 75.425(e)(3)(B)(ii)]

Response Planning Standard (RPS) volumes are described in Section 5. The estimated percent of RPS volumes for each facility are described below. Measures planned to prevent a discharge from reaching open water are described in Section 3.2.1.

Onshore Facilities: The onshore RPS volume is based on a rupture of the largest tank at a facility. As worst case, it is assumed that 40 percent of oil from storage tanks could overtop secondary containment. Specific facilities are addressed below.

- Beaver Creek Oil and Gas Production Facility operates near several small lakes in the area. Spill potentials based on the amount of product spilled would likely only impact vegetation near the pad with the slight possibility of impact to one of the lakes. Impact to open water is unlikely. The potential volume would be difficult to estimate due to the limited fill capacity of the tanks versus time between shipments.
- The SRF operates near, or adjacent to, water bodies, and spill impacts to open water are likely. The largest spill potentially impacting open water would be from a flow line. The potential volume

- of a spill from a flow line is difficult to estimate because of the multiphase nature of the fluids in many of the lines. Oil storage tanks are a sufficient distance from open water and would have limited potential impacts.
- TBPF has tertiary containment outside of the outfall put on the east side of the bluff, approximately 12-ft high. Spilled oil is unlikely to reach open water; the percentage of RPS volume expected to reach open water is zero.
- Spills from the GPTF could impact nearby wetlands, but are not expected to reach open water. Thus, the percentage of RPS volume expected to reach open water is zero.
- There are no tanks or pipelines currently in service at the CIFO. Thus, the percentage of RPS volume expected to reach open water is zero.

Offshore Platforms: The RPS volume for offshore platforms is described in Section 5, and was determined to be 75,000 bbl for a blowout at Well K-13 from the King Salmon Platform. Although a significant percentage of the blowout volume would be expected to fall to the platform deck, it is assumed for planning purposes that 100 percent of the volume would reach open water.

Flow Lines: A spill offshore could potentially be released from a flow line. In that case, 100 percent of the spill would be expected to reach open water.

Pipelines: The Swanson River Pipeline route crosses several small streams and wetlands as well as being directly adjacent to Swanson River, Daniels Creek and several small lakes. The RPS volume is described in Section 5 and was determined to be 6,225 bbl. It is assumed for planning purposes that 80% (4,980 bbl) would be expected to reach open water.

Figure 3-2 Drainage Map of Beaver Creek Oil and Gas Production Facility

(b) (7)(F), (b) (3)

[redacted]

Figure 3-3 Drainage Map of the Granite Point Tank Farm

(b) (7)(F), (b) (3)

[redacted]

Figure 3-4 Drainage Map of the Swanson River Field, North Part

(b) (7)(F), (b) (3)

[redacted]

Figure 3-5 Drainage Map of the Swanson River Field, South Part

(b) (7)(F), (b) (3)

[redacted]

Figure 3-6 Regional Drainage Map of the Swanson River Field

(b) (7)(F), (b) (3)

[redacted]

Figure 3-7 Drainage Map of the Trading Bay Production Facility

(b) (7)(F), (b) (3)

[redacted]

Scale

0 1 2 miles

Base Map: Kenai (D-5) Quadrangle

KEY

Direction of Flow

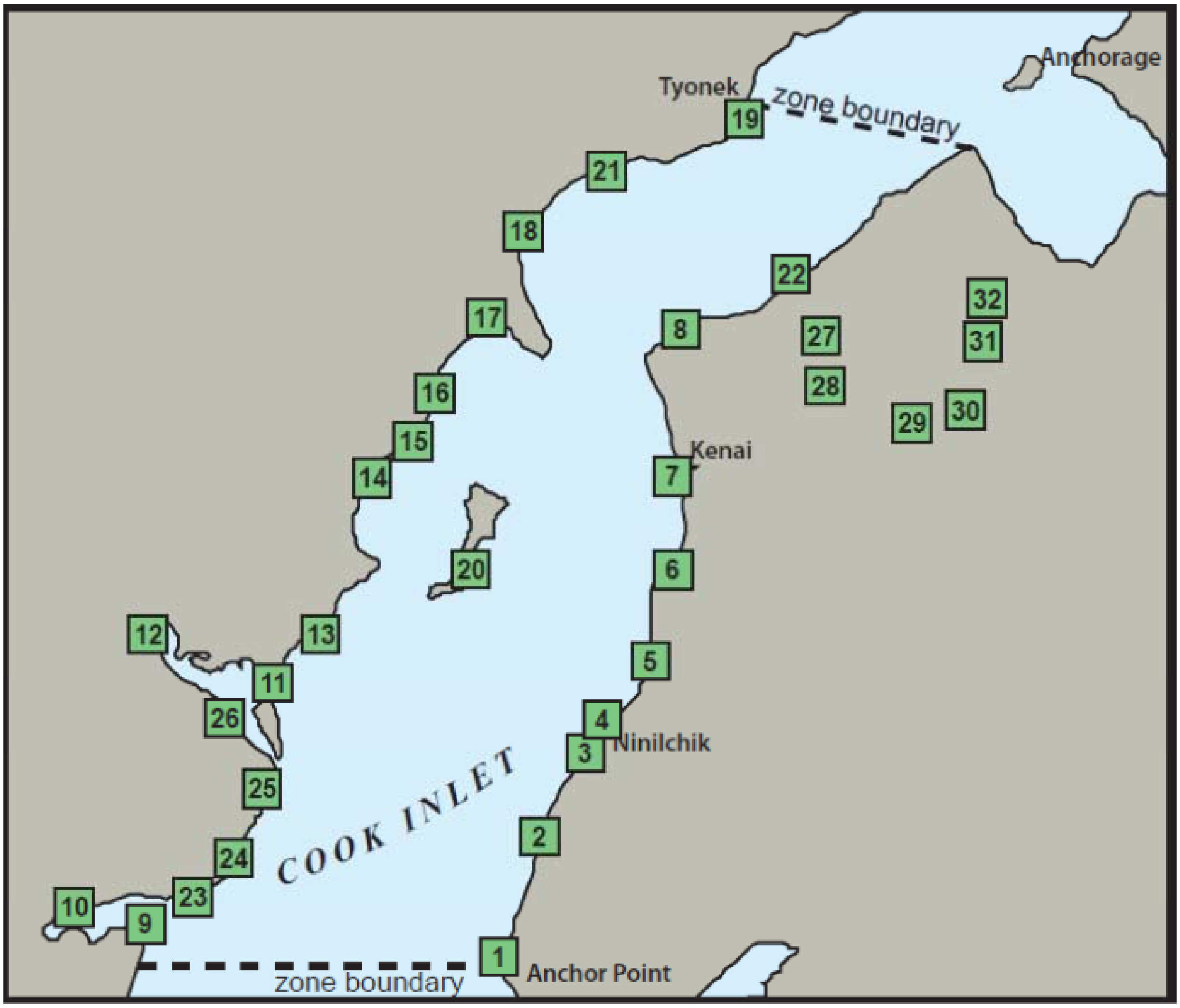
N

Figure 3-8 Drainage Map of the Swanson River Pipeline

(b) (7)(F), (b) (3)

[redacted]

Figure 3-9 Sensitive Areas with GRS in Central Cook Inlet



Central Cook Inlet, ALASKA *version: June 27, 2011*

SELECTED SITES for GEOGRAPHIC RESPONSE STRATEGIES

CCI-01 – Anchor River
CCI-02 – Stariski Creek
CCI-03 – Deep Creek
CCI-04 – Ninilchik River
CCI-05 – Clam Gulch
CCI-06 – Kasilof River
CCI-07 – Kenai River
CCI-08 – East Foreland
CCI-09 – Gull Island
CCI-10 – West Glacier Creek
CCI-11 – Crescent River
CCI-12 – Tuxedni River
CCI-13 – Polly Creek
CCI-14 – Little Jack Slough
CCI-15 – Drift River
CCI-16 – Big River
CCI-17 – Kustatan River
CCI-18 – McArthur River
CCI-19 – Chuitna River
CCI-20 – Swamp Creek
CCI-21 – Middle River
CCI-22 – Swanson River
CCI-23 – Shelter Creek
CCI-24 – Silver Salmon Creek
CCI-25 – Johnson River
CCI-26 – Tuxedni Bay
CCI-27 – Swanson R Mile 1.5
CCI-28 – Swanson R Mile 6.8
CCI-29 – Swanson R Mile 18.5
CCI-30 – Swanson R Mile 19.2
CCI-31 – Swanson R Mile 21.85
CCI-32 – Swanson R Mile 22.7

Map obtained from http://www.dec.state.ak.us/spar/perp/grs/ci/cic/home.htm on December 28, 2011.

3.3 Incident Command System [18 AAC 75.425(e)(3)(C) and 40 CFR 112.20(h)(7)]

3.3.1 Overview

HAK organizes under the ICS structure when conducting a response to an oil discharge. Section 1.2 of this ODPCP provides details of HAK's ICS structure. The ICS structure is detailed in the Alaska Incident Management System (AIMS) Guide, which is adopted under the Alaska Unified Command, and with which this ODPCP is compatible. The ICS structure detailed in the AIMS Guide is based on the National Interagency Incident Management System (NIMS) with modifications to address oil and hazardous substance spill response. HAK and CISPRI utilize the ICS and forms as defined in the USCG Incident Management Handbook (IMH), which is designed to assist USCG personnel in the use of NIMS.

The designated IC has primary operational control of spill response activities. The IC leads a team consisting of Operations, Planning, Finance, and Logistics Sections and command staff. The names and telephone numbers of key ICS members are provided in Section 1.2. Over 80 HAK personnel are trained in ICS and available to fill ICS roles. Depending on spill size, CISPRI and supporting contractors will be contacted to fill ICS roles. Response personnel begin arriving at the command post within 1 hour. Out of state responders can begin arriving within 24 hours of notification. The ICS will operate in two 12 hour shifts per day for major spills.

Drills are performed at least once per year in accordance with the National Preparedness for Response Exercise Program (NPREP) standards, and employees assigned to the ICS mobilize to the designated command center to practice spill response scenarios. HAK's ICS organizational structure is provided in Section 1.2 of this ODPCP. HAK's IRT members are identified in Figure 1-1 and Table 1-2. These individuals would be the first members activated immediately following notification of an incident of significant size.

3.3.2 Unified Command

The implementation of a Unified Command Structure involving appropriate federal and state leaders and an HAK IC occurs in compliance with all federal, state, and local laws in the event of a spill of appropriate size for the Unified Command to be mobilized.

3.3.3 Qualified Individual (QI) and Alternate QI

HAK follows the guidance of the USCG for qualifications of the Qualified Individual and Alternate QI as outlined in 33 CFR 154.1026 as well as defined in this plan, Section 1.2.3. Specific QIs for this facility are included in Table 1-2.

3.4 Realistic Maximum Response Operating Limitations [18 AAC 75.425(e)(3)(D)]

3.4.1 Limiting Conditions

Realistic maximum response operating limitations that might be encountered at HAK facilities are described in the CISPRI *Technical Manual*, Appendix B, which is incorporated into this ODPCP by reference. Appendix B analyzes frequency and duration, expressed as a percentage of time, of limitations that would render mechanical response methods ineffective, as required by 18 AAC 75.425 (e)(3)(D). The analysis considers weather, sea conditions, ice cover, daylight hours, and other environmental conditions that might influence efficiency of an oil-spill response.

Environmental and safety considerations that may potentially impact a spill response are primarily weather related and include:

- Low ceilings or reduced visibility: Visibilities less than 0.25 mile and ceilings of 500 to 1,000 ft or less will cause aviation operations to be terminated for safety and regulatory (i.e., Federal Aviation Administration [FAA]) reasons. Low ceilings or reduced visibility may delay marine and land operations for safety concerns, but would by themselves not cause these operations to be terminated.
- High winds: Appendix B of the CISPRI *Technical Manual* states that, “Wind negatively influences the effectiveness of a response when it approaches 30 to 40 knots or greater.” Higher wind speeds would normally cause offshore mechanical response operations to be terminated, usually because of associated waves. Aviation support may be restricted at higher wind speeds; the limiting wind speed would depend on the operation (e.g., landings and take-offs). NOAA wind speed data were evaluated to assess the percentage of time that wind speeds exceeded twenty-seven knots. Twenty-seven knots was selected as a conservative estimate of speed that could negatively influence the effectiveness of a response, based on CISPRI’s experience. These data are presented in Table 3-3. A total of 98,460 wind speed measurements were captured. Of these 255 measurements, or 0.26 percent exceeded 27 knots. Therefore, it is inferred that wind speeds would be expected to hinder response operations less than 1 percent of the time.

Table 3-3 Wind Speed Data

Year	Summer			Winter		
	Number of Measurements	Measurements >27 knots	Percent Measurements >27 knots	Number of Measurements	Measurements >27 knots	Percent Measurements >27 knots
2005	5,201	3	0.06%	5,361	5	0.09%
2006	5,186	1	0.02%	5,633	37	0.66%
2007	5,290	3	0.06%	5,428	16	0.29%
2008	5,393	0	0%	5,924	37	0.62%
2009	5,407	1	0.02%	5,746	7	0.12%
2010	5,494	1	0.02%	5,589	56	1.00%
2011	5,291	1	0.02%	5,601	64	1.14%
2012	5,165	8	0.15%	5,667	10	0.18%
2013	5,215	0	0%	5,869	5	0.09%
Totals	**47,642**	**18**		**50,818**	**237**	

Total Measurements All Year	98,460
Measurements Exceeding 27 knots	255
Percent Measurements >27 knots	0.26%

- Waves: Waves with a height of six feet and having short periods (sea rather than swells) would normally shut down mechanical response and smaller boat operations.
- Currents: Currents normally would not impact response operations, as most operations are designed to move with the currents rather than at fixed locations.
- Cold temperatures: Temperatures below -35ºF would cause aviation operations to be suspended. When accompanied by high winds, vessel operations may be suspended because of vessel icing, and personnel operations may be limited and more closely monitored. Details regarding cold weather operations are presented in the CISPRI *Technical Manual*, Appendix B. Recovery equipment, such as rope mops, would be de-iced if needed. Personnel would take frequent breaks as needed in warming rooms that would be provided as part of the response equipment. Vessels typically have heating systems onboard, except for the smallest vessels.
- Ice conditions: Offshore spill-response activities can be conducted at most ice concentrations using equipment available through CISPRI; however, ice will hinder vessel movement and diminish the effectiveness of recovery. Spill response in ice conditions in Cook Inlet is detailed in the CISPRI *Technical Manual*, Appendix B. Limiting conditions for response in ice conditions are also detailed in Appendix B. CISPRI practices at least monthly in Cook Inlet; at these practice sessions, CISPRI personnel experiment with improving techniques for maneuvering and responding in cold and icy conditions. Difficulty deicing foxtail skimmers during a practice session has spurred CISPRI to improve its deicing approach. Another field approach developed by CISPRI includes using the body of the ship itself to create an ice-free zone adjacent to it where oil could be recovered using foxtail skimmers or other equipment mounted on a boom on a response vessel.
- Based on an analysis of the U.S. National Ice Center Weekly/Bi-weekly Ice Analysis for Cook Inlet, there is 90-100% ice concentration in Trading Bay approximately 50% of the winter season. During partial ice coverage, mechanical response may be hindered and during complete coverage, mechanical response will be ineffective. In-situ burning may be used in these instances. See Section 1.7 of this ODPCP for more information on in-situ burning.
- Available daylight: Daylight may limit some aviation operations but would have limited effect on other spill-response operations, as long as proper site lighting is provided. Infrared sensors can be used to detect oil in low light conditions as well as vessel-mounted infrared systems that allow vessels to communicate oil locations and work during times of limited visibility as long as it is safe. (See CISPRI *Technical Manual* Appendix B).
- Snow depth: Deep snow may impede, but would not likely stop, response operations. Deep snow could make spill monitoring more difficult.

3.4.2 Measures Taken to Reduce the Environmental Consequences of a Discharge

HAK performs risk assessments prior to any drilling and workover operations in Cook Inlet. The increased risk associated with the realistic maximum response operating limitations conditions listed above are mitigated by the following measures:

- Fuel transfers to platforms are conducted following USCG-approved procedures. There are mooring locations available on several sides of each platform.
- The following conditions might limit the ability to perform workover operations and/or drilling:
  - Wave height (six feet would cause limitation of mobile drill ship activities; no restriction for platform work)
  - Temperature (less than -35°F, drilling and workovers would continue, but be more limited because of equipment difficulties and the need to more closely monitor personnel safety)
  - Light/dark (no limitations, as light is provided)
  - Wind (30 knots and greater would cause operation shutdown for safety reasons)

  - Ice (8/10 inch and greater coverage will hinder movement of vessels but would not terminate drilling/workover operations)
  - Tide/currents (not a limitation)
  - Snow (heavy snow/blizzard conditions – may slow but not stop drilling)

- HAK and CISPRI regularly conduct on-site drills to practice spill response in broken ice. CISPRI maintains ships capable of breaking ice as well as special skimming and booming equipment for response in winter conditions.
- CISPRI maintains equipment and expertise to perform non-mechanical response actions such as in situ burning, dispersant use, and dispersant monitoring as discussed in Section 1.7 and the CISPRI *Technical Manual* Tactics CI-NM-1, CI-NM-2, and CI-NM-3.
- Personnel are trained to be vigilant in extreme weather conditions to avoid conditions that could result in an environmental or safety emergency.

3.5 Logistical Support [18 AAC 75.425(e)(3)(E) and 40 CFR 112.20(h)(7)]

The CISPRI *Technical Manual* (All tactics within CI-LP) is the principal source of logistical support information during a spill.

3.6 Response Equipment [18 AAC 75.425(e)(3)(F)] and 40 CFR 112.20(h)(7) and (h)(8)]

3.6.1 Equipment Lists

HAK maintains a supply of on-site spill response equipment for small incidents at individual facilities (Table 3-5). Facility-specific response equipment varies but at a minimum include: sorbent pads, sorbent boom, hand-held air monitors, PPE (e.g., boots, goggles, gloves, Tyvek suits), overpack drums and air supply equipment (e.g., self-contained breathing apparatus [SCBA]). Onshore facilities have additional equipment available for spill response efforts (e.g., loaders, bulldozers, vehicles). Personnel are trained to use on-site response equipment.

If a spill cannot be contained and cleaned up using on-site resources, the Facility Supervisor may call the spill response contractor for assistance. CISPRI provides response equipment for on-water and major spill response efforts. A list of CISPRI spill response equipment is provided in the CISPRI *Technical Manual* (CI-LP-4) along with a deployment timeline. Mobilization strategies and timelines are described in the CISPRI *Technical Manual* (CI-LP-1).

Major spill response equipment (e.g., skimmers, large booms) is maintained by CISPRI and would be operated by trained CISPRI personnel. On-site personnel, with the exception of the IRT, may not be trained in use of this equipment.

3.6.2 Maintenance and Inspection of Response Equipment

Most HAK equipment consists of expendable supplies such as sorbents and PPE. These items are maintained in new condition in enclosed areas and require no other maintenance. If used in a spill-response effort, these items are appropriately discarded and replaced.

CISPRI's ongoing maintenance program is tracked using a Response TM database.

Inspections

CISPRI has a rigorous inspection and maintenance program for vessels and equipment. CISPRI vessels meet USCG requirements.

Table 3-4 On-Site Equipment and Materials Staged at HAK Facilities

Facility	Category	Quantity	Location
Anna Platform	**Boom and Sorbents**		Center Bay under the hatch
	sorbent pad (or roll)	6 rolls of 15-16- inch at 150-ft (6 bundles of 16-18- inch of 100 count)	
	sorbent boom	3- inch to 8- inch diameter at 50 ft	
	drum – standard steel 55 to 85 gal	2	
	drum – overpack	1	
	plug and patch kit	1	
	barrel or pneumatic diaphragm pump	1	
Beaver Creek Oil and Gas Production Facility	**Boom and Sorbents**		20' Conex, Pad 2
	Rolls 36" sorbent	3	
	Box 3" x 46" oil boom	1	
	Drip pan, 36" x 48" x 4" deep	1	
	E-810, large floating boom	6	
	Box, spaghetti strips, absorbs oil, repels waters	3	
	Box 203 pig 3"x20" absorbent sock	2	
	8" x 10" floating sorbent boom	3	
	Boom and Sorbents		Dehydration Building
	Roll glycol absorbing material, 36"	1	
	Waste		Dehydration Building
	Container clean rags	1	
	Boom and Sorbents		Spill Trailer
	"Spaghetti Strips" sorbent, box	5	
	Skimmer Pillow, box	2	
	Skimmer Boom, box	2	
	Double weight sorbent, box	2	
	Double weight pads, box	2	
	Sorbent socks, box	4	
	Tools/Equipment		Spill Trailer
	2" Wacker Model PT2H pump (Manufacturer's Capacity: 300 bbl./hr., 20% Efficiency:60 bbl./hr.)-diesel engine	1	
	80' of 2" suction hose	4 X 20'	
	200' of 2" discharge hose	4 X 50'	
	3" Homelight Modei120TP3-1C pump (Manufacturer's Capacity: 468 bbl./hr. gpm 20% Efficiency:93 bbl./hr.) - gasoline engine	1	
	40' of 3" suction hose	2 X 20'	
	300' of 3" discharge hose	6 X 50'	
	4' x 5' containment dike	1	
	Box of plugs - wood and rubber	1	
	Square point shovels	3	
	Round point shovels	3	
	Rakes	4	
	Portable flood light	1	
	Trailer mounted flood lights	4	
	Tank Repair Kit, GEN422	1	
	Fast Tank	1	
	Waste		Spill Trailer
	box of rags	1	
	Overpack drum, 95 gal	2	
	Salvage drum, 85 gal	2	

Facility	Category	Quantity	Location
Bruce Platform	**Boom and Sorbents**		Storage Area above Roustabout Locker (Room #2)
	sorbent pad (or roll)	6 rolls of 15-16-inch at 150 ft (6 bundles of 16-18-inch of 100 count)	
	sorbent boom	3-inch to 8-inch diameter at 50 ft	
	drums – standard steel 55 to 85 gal	2	Empty Drum Storage Area
	drum – overpack	1	
	plug and patch kit	1	Center Bay
	barrel or pneumatic diaphragm pump	1	
Baker Platform (not in production, currently lighthoused)	**Boom and Sorbents**		RPM building
	absorbent pad	3 bales	Necessary equipment will be brought on platform if production resumes or P&A activities commence
Dillon Platform (not in production currently lighthoused)			Necessary equipment will be brought on platform if production resumes or P&A activities commence
Grayling Platform	**Boom and Sorbents**		Closet outside of sub wastewater tank room
	sorbent pad (or roll)	11 bundles	
	sorbent boom	1 box 3-inch x 46-inch	
	Tyvek suit	1 box XL	Sub deck Locker
	nitrile gloves	1 box XL	
	drum	12	On landing above upper smoke room
	drum – overpack	2	Above booster
	plug and patch kit	1	Control Room LAB
	barrel or pneumatic diaphragm pump	1	Vac Pump room
Monopod Platform	**Boom and Sorbents**		Production Room above fire cabinet
	sorbent pad (or roll)	6 rolls of 15-16-inch at 150-ft (6 bundle of 16-18-inch of 100 count)	
	sorbent boom	3-inch to 8-inch diameter at 50-ft	South wall of Motor Room
	drum – standard steel 55 to 85 gal	2	Hazmat Deck outside of mechanic's office
	drum – overpack	1	Hazmat Deck outside of mechanic's office
	plug and patch kit	1	Production Room above fire cabinet
	barrel or pneumatic diaphragm pump	1	Production Room above fire cabinet
Granite Point Platform	**Boom and Sorbents**		Center bay locker
	sorbent pad (or roll)	6 rolls of 15-16-inch at 150 ft (6 bundles of 16-18-inch of 100 count)	
	sorbent boom	3-inch to 8-inch diameter at 50 ft	
	drum – standard steel 55 to 85 gal	2	South drill deck under fin fans
	drum – overpack	1	
	plug and patch kit	1	Center bay locker
	barrel or pneumatic diaphragm pump	1	

Facility	Category	Quantity	Location
Dolly Varden Platform	**Boom and Sorbents**		Boiler room level, outside B-2 subdeck on top of W.G.B.T.
	sorbent pads (or rolls)	6 rolls of 15-16 inch at 150 ft (6 bundles of 16-18 inch of 100 count)	
	sorbent boom	3 inch to 8 inch diameter at 50 ft	Upper west pipe rack in front of Sullair Building
	drums – standard steel 55 to 85 gal	2	Upper west pipe rack in front of Sullair Building
	drum – overpack	1	Upper west pipe rack in front of Sullair Building
	plug and patch kit	1	Control Room storage cabinet
	barrel or pneumatic diaphragm pump	1	Production Deck, hatch area squirrel cage
King Salmon Platform	**Boom and Sorbents**		Solar Room (All)
	sorbent pads (or rolls)	6 rolls of 15-16 inch at 150 ft (6 bundles of 16-18 inch of 100 count)	
	sorbent boom	3 inch to 8 inch diameter at 50 ft	
	drums – standard steel 55 to 85 gal	2	
	drum – overpack	1	
	plug and patch kit	1	
	barrel or pneumatic diaphragm pump	1	
Steelhead Platform	**Boom and Sorbents**		Southeast Well Room (88-ft level)
	sorbent pads (or rolls)	6 rolls of 15-16 inch at 150 ft (6 bundles of 16-18 inch of 100 count)	
	sorbent boom	3 inch to 8 inch diameter at 50 ft	Southeast Well Room
	drums - standard steel 55 to 85 gal	2	Top Deck, pipe rack level
	drum – overpack	1	Top Deck, pipe rack level
	plug and patch kit	1	Southeast Well Room
	barrel or pneumatic diaphragm pump	1	Southeast Well Room
Granite Point Tank Farm	**Boom and Sorbents**		Garage
	sorbent pad	10 bales	
	sorbent boom	200 feet	
	Pumps:		Shipping Pump Room
	hand pump: Tokheim 20 gal per 100 strokes	1	
	portable 1-inch centrifuge: Jabsco 26 gpm	1	
	portable 3-inch diaphragm: Wacker 85 gpm	1	
	portable diaphragm: Wilden (70 GPM)	1	
	portable diaphragm: Ingersoll Rand (90 gpm)	1	
	miscellaneous hose, 1-inch and 3-inch	1-inch – 200-ft 3-inch – 50-ft	Tank Room / Hose Shed
	Rhinohide visqueen (6 mm)	4 Rolls 20ft x 100ft	
	shovel	6 shovels	Side of shop
	cubic-yard totes	3 Totes	Flare Yard
	drums	6 salvage	Behind garage
	Heavy Equipment:		
	backhoe: Case 1 cu yd bucket	1	Next to Connex
	loader: Volvo 3.3 cu yd bucket	1	Next to Connex
	Four Wheel Drive Pickup	2	Garage

Facility	Category	Quantity	Location
Swanson River Field	**Boom and Sorbents**		Spill Connex 1
	Visqueen rolls	5 (4 ft rolls) + 1 (2 ft roll)	
	sorbent pad (various sizes)	44	
	sorbent roll (various sizes)	8	
	absorbent sock	20	
	sorbent boom	15 bags	
	pompons (various sizes)	15	
	sea curtain	6	
	peat sorbent	14 bags	
	Visqueen roll	4 and 2 rhino hide rolls	
Trading Bay Production Facility	**Boom and Sorbents**		Spill Equipment Trailer
	156 sorbent pad	3 bales	
	absorbent pad	1 roll	
	Sorb-Oil boom (10 ft each)	24 each	
	sea curtain boom	6 ft x 100 ft	
	pig puncture repair kit	1	
	drum Roll for leaks in 55-gal drum	1	
	Wilden Pump M15	2	
	portable Fastank	1	
	"duck pond"	1	
	1-inch air hose	2	
	gas engine pump (Yanmar)	1	
	150 psi truck hose (Dayco)	3	
	squeegee	3	
	4-inch fire hose	2, 75 ft each	
	4-inch fire hose	2, 150 ft	
	4-inch fire hose	1, 20 ft	
	100 ft type sorbent roll	7 rolls	Spill Response Room and Warehouse
	3-inch green discharge hose	600 ft	
	3-inch rigid suction hose	10ft	
	HDPE liner	1	
	tank plugs < 1-inch size	5 each	
	clamp - on pipe patch	Miscellaneous	
	overpack drum	2	
	XR-5 30 mm Geomembrane	250 sq ft	Pipe racks between mechanic shop and incinerator
	Non-Dedicated Heavy Equipment:		Various
	pickup trucks	10	
	EX-150 excavator	1 each	
	3-inch suction hose	100ft	
	portable welding machine	2 each	
	50 Ton Crane	1 each	
	966 C Front End :pader	1 each	
	966 G Front End Loader	1 each	
	140 H Motor Grader	1 each	
	Super Sucker Truck (60 bbbl's)	1 each	
	JD850J Bull Dozer	1 each	
	Case Skidster Forklift/Loader	1 each	
	12 Yard Dump Truck	1 each	
	Hepa Vac	1 each	
	25bbl Safe Guard Tanks	10 each	
	Polaris Side x Sides	2 each	
	Polaris 6 Wheeler	1 each	
	Honda 4 Wheeler	1 each	
	Snow Machine	1 each	
	16ft Aluminum Boat	1 each	

3.7 Non-Mechanical Response Information [18 AAC 75.425(e)(3)(G) and 40 CFR 112.20(h)(7)]

Non-mechanical response actions are discussed in Section 1.7.

The CISPRI *Technical Manual* (CI-NM-0) describes the steps to obtain permits and approvals required to initiate non-mechanical response options that may be used to complement mechanical response strategies. Non-mechanical response options include dispersant application and in situ burning. The CISPRI *Technical Manual* (all tactics within CI-NM) provides the basis for determining conditions or circumstances under which these options would be used, how non-mechanical techniques would be implemented, and a description of necessary equipment and personnel.

If non-mechanical response options were deployed, a sampling and analysis program would be implemented to monitor possible environmental consequences of the spill response. Background data are available regarding water quality and biological resources in the Cook Inlet basin, which would serve as a baseline. The Alaska Federal/State Preparedness Plan for Response to Oil & Hazardous Substance Discharges/Releases (Unified Plan), Annex F addresses the procedures for obtaining permitting and approval for non-mechanical response activities. This plan can be found at the URL http://www.dec.alaska.gov/spar/perp/plans/uc.htm.

3.8 Response Contractor Information [18 AAC 75.425(e)(3)(H) and 40 CFR 112.20(h)(3)]

HAK's oil spill response contractor is CISPRI. The address and telephone number for CISPRI is provided in Figure 1-1 of this ODPCP. CISPRI has a number of additional contracts in place with other companies to respond to a spill. The CISPRI *Technical Manual* (CI-LP-3) provides additional information on these contractors. Copies of these contracts are available upon request. HAK's statement of contractual terms with CISPRI is provided in the Introduction of this ODPCP.

3.9 Response Training and Drills [18 AAC 75.425(e)(3)(I) and 40 CFR 112.20(h)(8)]

3.9.1 Response Training Programs

Specialized spill response training is provided by CISPRI and Beacon OHSS. The CISPRI *Technical Manual* Appendix E provides a complete description of courses offered for spill-response training. CISPRI also maintains spill-response training records.

Records of all HAK spill-response training are maintained by HAK's Training Coordinator in computer-based files.

Spill responders are required to have initial emergency response training and annual refresher training which meets or exceeds the requirements in the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations, 29 CFR 1910.120(q). The Alaska Department of Occupational Safety and Health regulations are similar to federal regulations. Table 3-5 outlines OSHA training requirements for emergency response personnel.

HAK trains field personnel in CISPRI's immediate response team (IRT). The IRT receives supplemental training through CISPRI and participates in CISPRI drills within Cook Inlet. The IRT usually consists of 10 to 15 field personnel from different HAK facilities. Personnel are trained to 40 hour HAZWOPER regulations routinely participate in CISPRI drills and are trained in boom and skimmer operations. HAZMAT personnel are rapidly mobilized from their job sites via helicopter to participate in immediate spill-response actions. Drills are performed at least once per year, and employees assigned to the IRT mobilize to the designated command center to practice spill response scenarios. The drills are performed in accordance with the National Preparedness for Response Exercise Program (NPREP) standards. Table 3-6 presents Facility Supervisors and the number of response trained personnel (RTP) at each facility.

Table 3-5 OSHA Emergency Response Training Requirements

Population	Initial Training	Annual Refresher Training	Certification-by Whom
First Responder Awareness Level 1	Sufficient training or proven experience in specific competencies (generally 2 to 6 hours for new employees)	Annual refresher or demonstration of competency	Initial - not required Annual - employer
First Responder Operations Level 2	Level 1 competency and 8 hours initial or proven experience in specific competencies listed in 1910.120 (q)(6)(ii)[A]-[F]	same as above	Initial - employer Annual - employer
Hazardous Materials Technician 3	24 hours of Level 2 and proven experience in specific competencies listed in 1910.120(q)(6)(iii)[A]-[I]	same as above	Initial - employer Annual - employer
Hazardous Materials Specialist 4	24 hours of Level 3 and proven experience in specific competencies listed in 1910.120(q)(6)(iv)[A]-[I]	same as above	Initial - employer Annual - employer
On-Scene Incident Commander 5	24 hours of Level 2 and additional competencies listed in 1910.120(q)(v)[A]-[F]	same as above	Initial - employer Annual - employer

Table 3-6 List of Facility Supervisors and Number of Response-Trained HAK Personnel

Facility	RTP	Contacts	Work (area code 907)
Offshore Facilities			
Anna Platform	13	Lead Operator	776-6620
Baker Platform*	0	Lead Operator	776-6643
Beaver Creek	5	Lead Operator	283-1316
Bruce Platform	6	Lead Operator	776-6660
Dillon Platform*	0	Lead Operator	776-6602
Dolly Varden Platform	12	Lead Operator	776-6840
Granite Point Platform	14	Lead Operator	776-6656
Grayling Platform	16	Lead Operator	776-6632
King Salmon Platform	14	Lead Operator	776-6692
Monopod Platform	14	Lead Operator	776-6672
Steelhead Platform	17	Lead Operator	776-6836
Onshore Facilities			
CIFO	N/A		776-6868
SRF	16	Lead Operator	283-2541
TBPF	23	Lead Operator	776-6855
GPTF	4	Lead Operator	776-6610

RTP – Response Trained Personnel (8 hour minimum, Hazardous Materials Technician/Specialist)
*Baker/ Dillon / Spark / Spur Platforms are currently in Lighthouse status with no personnel stationed on them.

3.9.2 Spill Drill Training Programs

HAK provides annual classroom training and table top exercises for those employees participating on the Incident Command System (ICS) team. Table top drills are coordinated with ADEC, the USCG and other regulatory agencies and non-governmental organizations.

3.10 Protection of Environmentally Sensitive Areas and Areas of Public Concern [18 AAC 75.425(e)(3)(J)]

The Cook Inlet Subarea Contingency Plan provides a complete list and numerous maps of ESAs in the Cook Inlet region. NOAA Environmental Sensitivity Index (ESI) maps are one of many resources. The ESI maps list species present in the area and present detailed year-round and seasonal data. Year-round data portray sensitive resources present in a given location throughout the year (i.e., marshes, tidal flats, shellfish beds, anadromous streams, and managed lands). The maps also illustrate different marine habitats by resources according to life-stage activity and migration patterns (i.e., waterfowl molting areas, marine bird nesting areas, and Steller sea lion haulouts), Section 3.2, Receiving Environment, discusses ESAs that could be impacted by spills.

The Cook Inlet GRS outline specific response strategies for a number of high-priority sites. The GRS sites for Central Cook Inlet are illustrated in Figure 3-9.

HAK uses guidelines outlined in the CISPRI *Technical Manua*l (CI-SA-1) and the Cook Inlet Subarea Contingency Plan to identify and prioritize spill-response activities in ESAs. If prioritization of locations is required, the unified command will consult with current data on ESAs and areas of public concern for the area of response.

Many archaeological and historical sites have been reported in the Cook Inlet region. Federal and state law requires protection of cultural resources in a spill response. “Cultural Resources” is a broad term used to refer to ruins, structures, sites, graves, artifacts, deposits, and/or objects that pertain to history or prehistory. CISPRI maintains a contract with Chumis Cultural Resource Services for cultural resource activities. Mr. Chris Wooley has access to cultural resource information and is the industry facilitator between state and federal agency representatives.

The Cook Inlet Subarea Contingency Plan can be found at:
http://dec.alaska.gov/spar/perp/plans/scp_ci.htm.

3.11 Additional Information [18 AAC 75.425(e)(3)(K)]

This section contains information required for compliance with the Oil Pollution Act of 1990 (OPA 90). Additional information is provided in the following appendices:

- Appendix A – Additional information on Discharge History for onshore HAK Cook Inlet production facilities
- Appendix B – Additional information on regulated oil storage tanks
- Appendix C – Additional facility information to meet the requirements of OPA 90
- Appendix D – Additional information on DOT PHMSA OPS requirements
- Appendix E – EPA FRP Cross Reference Table

3.12 References [18 AAC 75.425(e)(3)(L)]

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4.0 Best Available Technology [18 AAC 75.425(e)(4)]

This section addresses best available technology (BAT) requirements in 18 AAC 75.425(e)(4)(A), (B) and (C). This section also addresses technologies not subject to response planning standards or performance standards in 18 AAC 75.445(k)(1) and (2). The discussion of each technology complies with the requirement to analyze applicable technologies and to provide justification that the technology is the best available.

4.1 Communications [18 AAC 75.425(e)(4)(A)(i)]

BAT for field communications systems is a combination of procedures and equipment (Section 1.4 – Table 1-4). Table 4-1 presents the BAT review for a number of off-the-shelf communication systems that could be deployed for a major spill response. For a major spill response offshore, CISPRI communication systems, outlined in the CISPRI *Technical Manual* (CI-LP-2), would be used. They are incorporated here by reference.

Table 4-1 Best Available Technology Analysis – Communications

BAT Evaluation Criteria	Microwave Systems	Satellite Systems	Fixed Cellular Systems
AVAILABILITY: Whether technology is best in use in similar situations or is available for use by applicant	Systems are readily available in Anchorage	Systems are readily available in Anchorage	Systems are readily available in South Central Alaska
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	System can be installed on site in a single day	System can be installed on site in a single day	System can be installed on site in a single day
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	Dependable and effective	Dependable and effective	Effective locally because area is covered by a cellular grid
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	System can be leased for $400 per day	System can be leased for $500 per day	System can be leased for $200 per day
AGE AND CONDITION: The age and condition of technology in use by the applicant	This technology is about 3 years old; lease equipment is available that is less than one year old	This technology is about 6 years old; lease equipment is available that is less than two years old	This technology is about 11 years old; lease equipment is available that is less than three years old
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	Can operate independently	Can operate independently	System is compatible with existing coverage

Table 4-1 (cont.) Best Available Technology Analysis – Communications

BAT Evaluation Criteria	Microwave Systems	Satellite Systems	Fixed Cellular Systems
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	Systems are readily available in Anchorage	Systems are readily available in Anchorage	Use of this system is feasible because there is cellular coverage in the area
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	No environmental impacts are likely	No environmental impacts are likely	No environmental impacts are likely

4.2 Source Control [18 AAC 75.425(e)(4)(A)(i)]

4.2.1 Well Blowout Source Control

Loss of well control (i.e., a blowout) is discussed in Section 1.9 of this ODPCP. HAK will use the services of a professional well control firm if well control is not regained by conventional mechanical means. HAK maintains an operating agreement with WWCI of Houston, Texas, to assist in the intervention and resolution of any well control emergency.

The two methods of regaining well control once a blowout incident has escalated to a worst-case magnitude are well capping and relief well drilling.

The oil production wells require artificial lift to achieve production flow to the surface. If a well control event occurred, the first source control action would be to shut down the gas lift compressor.

Well Capping

Well capping techniques have proven efficient and effective in regaining control of damaged wells and reducing environmental impacts. Significant improvements to well capping techniques and procedures have been developed by well control specialist companies around the world.

Well capping response operations are dependent upon the severity of the well control situation. HAK has the ability to mobilize specialized personnel and equipment (e.g., capping stack, cutting tools) to the Kenai Peninsula within 24 to 48 hours of notification. The materials required to execute typical mechanical control responses (e.g., junk shots, hot tapping, freezing, or crimping) are small enough that they can be quickly made available to remote locations. WWCI is experienced in performing well capping operations.

Equipment for well capping is available through WWCI. Other necessary equipment is available on the Kenai Peninsula (e.g., bulldozers, cranes, pumps, block and tackle, large diameter casing) and can be accessed within a few hours of an emergency.

Well capping technology is applied at the surface and is compatible with all drilling and production operations. There are no sensitivities to well types (e.g., extended reach drilling, horizontal) or location. Well capping techniques, applied both on land and at offshore locations, have proven successful in quickly regaining well control and are preferred over the more time-consuming alternative of drilling a relief well.

Well control events where well capping would not be the preferred response are those in which there is a low potential to release liquid hydrocarbons to the surface, including shallow gas, compromised surface casing or surface casing cement jobs, broaching or reasonable concern of broaching, and inaccessible wellhead and/or casing.

In a blowout event, well capping operations would commence with HAK activation of the well control contractor and mobilization of key personnel and equipment. Dynamic and surface well control methods would continue to be attempted if safe to do so. Prior to initiation of well capping activities, safe re-entry to the wellhead area would be established and rig equipment moved to allow safe access. If the rig moving system is unavailable or inactive, heavy bulldozers, block-and-tackle, and/or cranes would be used to remove the rig from the wellhead area. Once safe access is regained, capping operations could commence.

The BSEE and SINTEF Civil and Environmental Engineering (Norway) data indicate that well capping technologies provide the shortest duration and most effective option for regaining well control and minimizing environmental impacts. This is seen in the more consistent application of well capping in response to well control events and the correspondingly shorter durations to successfully regain well control as compared to the few relief wells that have been attempted.

An estimate of the blowout duration for a well when capping an unignited well is 15 days, not accounting for weather delays or monitoring a killed well. A similar estimate for a blowout that has involuntarily ignited would extend this well capping time estimate to 26 days. These estimates do not take into account the high probability that well flow would be significantly reduced or stopped by formation bridging, dynamic kill operations, or surface well control actions.

If involuntary ignition has not occurred, voluntary ignition of the blowout may be considered as a method to reduce the volume of oil that falls to water and/or the surrounding environment. The timing of voluntary ignition must be a carefully considered option, as it can impact safe access to the wellhead area and further delay response operations. The requirements of 18 AAC 75.434(g) would need to be met before voluntary ignition could be implemented. The regulation outlines data that must be submitted regarding analysis and supporting documentation associated with oil properties, ambient air quality impact, and protection of human health and the environment.

Relief Well Drilling

Relief well drilling has historically been accepted as the blowout mitigation method that would be applied on the Kenai Peninsula. Relief well drilling technology is compatible to Kenai Peninsula drilling operations.

Relief well drilling is similar to current methods used to drill and complete Kenai Peninsula wells today, and advances in directional drilling technology, allowing precise wellbore placement, increase the likelihood of success of a relief well.

Well control events in which relief well drilling would be the preferred response involve events with low potential to release liquid hydrocarbons to the surface, including: shallow gas, compromised surface casing or surface casing cement jobs, broaching or reasonable concern of broaching, and inaccessible wellhead and/or casing.

Government and industry data indicate that of the 117 total North Sea/Gulf of Mexico blowouts from 1980 to 1999 (approximately 28,000 total wells), only four relief wells were drilled to regain control. For the 26 “deep” blowouts (below surface casing) during the same time period, no relief wells were required or even attempted. In each of the “deep” blowouts, well control was regained through conventional dynamic kill procedures, surface control measures, well capping, or by natural means (formation bridging).

HAK believes well capping constitutes BAT for well source control. Table 4-2 summarizes well capping as BAT for a deep well blowout response scenario. Historical evidence clearly indicates well capping has greater reliability and application for well control compared to relief well drilling. Well capping response times account for an approximately 50 percent reduction in blowout durations when compared to relief well drilling.

Table 4-2 Best Available Technology Analysis – Well Blowout Source Control

BAT Evaluation Criteria	Existing Method: Well Capping	Alternate Method: Relief Well Drilling
AVAILABILITY: Whether technology is best in use in other similar situations or is available for use by applicant	Well capping is in use globally. Equipment for well-capping is available to HAK from other operation locations and could be mobilized using cargo aircraft	Relief well drilling equipment (e.g., rigs, downhole tools) is available
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	The technology is suitable for use at HAK wells	The technology is suitable for use at HAK wells
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	Numerous global companies provide successful applications of well capping. After natural bridging (54%) and conventional methods (e.g., BOP, mud, cementing, equipment repairs) (30%), well capping (14%) is most frequent blowout control measure. Application of well capping provides best opportunity for minimizing pollution impacts. Estimated durations for well capping are 10 to 15 days for an unignited event and 10 to 26 days for an ignited event	Relief well drilling is known to be effective
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	It is estimated that well capping would be less expensive than drilling a relief well. Depending on the specifics of the blowout, it is likely that well capping would be tried as a first strategy; if it were unable to control, the well then a relief well would likely be drilled	It is estimated that well capping would be less expensive than drilling a relief well. Depending on the specifics of the blowout, it is likely that well capping would be tried as a first strategy; and, if it were unable to control the well, a relief well would likely be drilled
AGE AND CONDITION: The age and condition of technology in use by the applicant	Well capping technology has improved since its frequent application during the Iraq-Kuwait conflict in the early 1990s	Relief well drilling technology is similar to current methods used to drill/complete wells. Extended reach and directional drilling enable precise well placement
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	Technology is compatible	Technology is compatible
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	Method is feasible with all drilling operations. Demonstrated success in historical well control efforts	Method is feasible with all drilling operations. Demonstrated success in historical well control efforts
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	Technology provides the best-proven opportunity to quickly reduce environmental impacts. Estimated duration of 10 to 26 days is significantly less than conventional alternative technologies	Technology provides additional exposure and environmental risks during application (i.e., additional well control problems). Relief wells may require additional gravel placement. Relief well could require construction of new location, additional air emission from equipment required to drill a new well and disposal of waste (i.e., mud and cuttings) from the drilling operations

4.2.2 Facility Oil Piping Source Control

The following technologies were evaluated for facility oil piping source control:

[redacted]

These technologies are discussed briefly below and summarized in Table 4-3.

[redacted]

Table 4-3 Best Available Technology Analysis – Facility Oil Piping Source Control

BAT Evaluation Criteria	(b) (3), (b) (7)(F) [redacted]	Alternate Method: Manual Shutdown of Wells
AVAILABILITY: Whether technology is best in use in other similar situations or is available for use by applicant	[redacted]	Manual shutdown systems are available to isolate well lines.
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	[redacted]	Method is transferable
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	[redacted]	A manual system may not be fast enough to support plant shutdown requirements
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	[redacted]	A manual system would cost several million dollars less than the base case
AGE AND CONDITION: The age and condition of technology in use by the applicant	[redacted]	Method is current but would not use advanced technology
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	[redacted]	Method is compatible.

Table 4-3 (cont.) Best Available Technology Analysis – Facility Oil Piping Source Control

BAT Evaluation Criteria	(b) (3), (b) (7)(F) [redacted]	(b) (3), (b) (7)(F) [redacted]	Alternate Method: Manual Shutdown of Wells
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	[redacted]	[redacted]	Method is feasible
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	[redacted]	[redacted]	There are no off-setting environmental impacts

4.2.3 Flow Line Source Control

HAK maintains flow lines from all offshore platforms and at most onshore facilities. Source control systems evaluated for pipelines include:

- emergency repair;

[redacted]

- augered stream crossings.

Review of these technologies is presented in Table 4-4

[redacted]

Table 4-4 Best Available Technology Analysis – Source Control Procedures for Flow Lines

BAT Evaluation Criteria	Existing Method: Emergency Repair of Pipeline Leaks	Existing Method: Automatic and Manual Isolation Valves	Existing Method: Friction Plugs and Leak Bands	Alternate Method: Augered River Crossings at the Swanson River
AVAILABILITY: Whether technology is best in use in similar situations or is available for use by applicant	The technology is available for use at all facilities	The technology is available and in use at all facilities	The system is available and in operation at the Beaver Creek facilities	This technology is considered to be generally available, as it has been used elsewhere in the Cook Inlet area
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	The technology is transferable to HAK operations	The technology is transferable to HAK operations	Transferable and currently available at the facility	The proposed approach is transferable for the flow lines beneath the Swanson River
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	This is an effective technology	The system is the most effective method of source control for pipelines	The system is generally effective at stopping flow from flowlines	The Swanson River is not generally prone to major flooding and pipeline scour, so there would be little added value
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	The cost is variable depending on the location of the application	There is a moderate cost associated with maintaining the valves	There is no significant cost associated with the use of this method	Pipelines at the river crossings would need to be completely replaced. This option would have a significant installation cost
AGE AND CONDITION: The age and condition of technology in use by the applicant	HAK maintains state-of-the-art repair technology	This technology is tested regularly and maintained as necessary	Materials would generally be in good condition	Pipe would be new if installed
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	It is compatible with existing operations	It is compatible with existing operations	The technology is compatible with operations	The installation would require some disruption of existing operations, including possibly well shutdown during installation
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	This is a feasible technology for HAK operations	This is a feasible technology for HAK operations	The method is feasible	This approach is not considered to be feasible

Table 4-4 (cont.) Best Available Technology Analysis – Source Control Procedures for Flow Lines

BAT Evaluation Criteria	Existing Method: Emergency Repair of Pipeline Leaks	Existing Method: Automatic and Manual Isolation Valves	Existing Method: Friction Plugs and Leak Bands	Alternate Method: Augered River Crossings at the Swanson River
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	Implementing the action should provide environmental benefits, as it might reduce potential size of a spill from a pipeline	Implementing the action should provide environmental benefits, as it might reduce potential size of a spill from a pipeline	There are no negative environmental impacts	Implementing the action would provide little additional protection and could cause serious adverse environmental impacts

4.2.4 Tank Source Control

Tank source control BAT review is provided in Table 4-5. Automatic valves are in place on process tanks and large storage tanks that may be subject to continuous filling or draining as part of the production process. For these tanks, automatic valves are considered BAT because they provide the most effective means to stop the flow of oil into tanks whose levels are constantly changing. The facility operator also has the ability to manually close tank valves if low or high level alarms indicate a potential source control problem.

Table 4-5 Best Available Technology Analysis – Tank Source Control

BAT Evaluation Criteria	Existing Method: Manual Valve Closure	Existing Method: Friction Plugs	Alternate Method: Automatic Valve Closure
AVAILABILITY: Whether technology is best in use in similar situations or is available for use by applicant	The fluid transfer line for filling tanks is manually operated with a check valve to prevent reverse flow	The system is available and in operation at the Beaver Creek facilities	Technology is available
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	Currently installed	Transferable and currently available at the facility	Method is transferable
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	The current method is an effective source control because an operator is at or near the tank during fluid transfer operations, and an audible alarm is provided should the tank reach a high level	The system is generally effective at stopping flow from tanks	Additional automation would be of little benefit given the existing filling procedures and requirements for continuous on-site presence of an operator during the filling operation
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	Manual valves are currently installed. There is no additional cost	There is no significant cost associated with the use of this method	Automation of a manual valve would cost approximately $15,000 to $20,000 over the base case of manual valves. An operator would still be required to be at the fill site to oversee the fill operation
AGE AND CONDITION: The age and condition of technology in use by the applicant	The system is simple, proven, and current	Materials would generally be in good condition	Method is more complex and current
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	Currently installed	The technology is compatible with operations	Method is compatible
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	Currently installed	The method is feasible	Method is feasible
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	Currently installed	There are no negative environmental impacts	There are no off-setting environmental impacts

Manual valves are used on infrequently filled oil storage tanks. These tanks are subject to HAK fluid transfer procedures, as described in Section 2.1.5. Analysis of spill potential and previous spill incidents indicates that source control for filling tanks is best achieved by the on-site presence of an operator who can immediately stop a tank filling operation if a source control problem occurs. For this reason, manual valves are considered BAT for infrequently filled oil storage tanks.

4.2.5 Crude Oil Transmission Pipeline Source Control

The Swanson River pipeline is approximately 18 miles of buried 8-inch crude oil transmission pipeline between the Swanson River Field and KPL Terminal in Nikiski, Alaska. Source control systems evaluated for the crude oil transmission pipeline included:

[redacted]

2. Emergency Repair;

[redacted]

5. Manual shutdown of wells.

Review of these technologies is presented in Table 4-6

[redacted]

Table 4-6 BAT Review for Source Control Procedures for Onshore Pipelines

Bat Evaluation Criteria	[redacted]	Existing Method: Emergency Repair of Pipeline Leaks	Alternate Method: Augered River Crossings at the Swanson River	Alternate Method: Manual Shutdown of Wells
AVAILABILITY: Whether technology is best in use in similar situations or is available for use by applicant	[redacted]	The technology is available for use at all facilities	This technology is considered to be generally available, as it has been used elsewhere in the Cook Inlet area	Manual shutdown systems are available to isolate well lines.
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	[redacted]	The technology is transferable to HAK operations	The proposed approach is transferable for the flow lines beneath the Swanson River	Method is transferable
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	[redacted]	This is an effective technology	The Swanson River is not generally prone to major flooding and pipeline scour, so there would be little added	A manual system may not be fast enough to support plant shutdown requirements

				value	
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	There is a moderate cost associated with maintaining the valves	The system described is installed and is a base case for comparison	The cost is variable depending on the location of the application	Pipelines at the river crossings would need to be completely replaced. This option would have a significant installation cost	A manual system would cost several million dollars less than the base case
AGE AND CONDITION: The age and condition of technology in use by the applicant	This technology is tested regularly and maintained as necessary	The system is current technology and maintained in good operating condition	HAK maintains state-of-the-art repair technology	Pipe would be new if installed	Method is current but would not use advanced technology
COMPATIBILITY: Whether each technology is compat ble with existing operations and technologies in use by the applicant	It is compatible with existing operations	The technology is compatible with operations.	It is compatible with existing operations	The installation would require some disruption of existing operations, including possibly well shutdown during installation	Method is compatible.
FEASIBILITY: The practical feas bility of each technology in terms of engineering and other operational aspects	This is a feasible technology for HAK operations	The method is feasible	This is a feasible technology for HAK operations	This approach is not considered to be feasible	Method is feasible
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	Implementing the action should provide environmental benefits, as it might reduce potential size of a spill from a pipeline	There are no negative environmental impacts	Implementing the action should provide environmental benefits, as it might reduce potential size of a spill from a pipeline	Implementing the action would provide little additional protection and could cause serious adverse environmental impacts	There are no off-setting environmental impacts

4.3 Cathodic Protection and Corrosion Control Systems for Tanks [18 AAC 75.425(e)(4)(A)(ii)]

This section describes HAK's BAT review for corrosion control and cathodic protection for tanks. The BAT analysis is summarized in Table 4-7. The technologies considered include:

- impressed current for external corrosion;
- sacrificial anodes for internal corrosion;
- protective internal bottom coatings; and
- double-walled tanks.

Under 18 AAC 75.065(i), oil storage tanks installed after May 14, 1992 and before September 30, 2008 are required to have cathodic protection in accordance with API Recommended Practice 650. HAK's policy is to provide corrosion protection for all tanks installed after May 14, 1992 to the extent practicable, regardless of whether they are required to adhere to API 650 protocols.

Impressed current cathodic protection systems are in place at all land-based facilities. These systems protect tanks and piping against external corrosion. Impressed current is also used to protect the platform jackets themselves against corrosion.

Tanks are protected from internal corrosion using a combination of sacrificial anodes placed inside the tanks and thick protective internal film coatings on the bottoms of tanks, which prevent contact with corrosive liquids.

Double-walled tank bottoms are not considered effective because they do not address the cause of corrosion. Additionally, there would be an extremely high cost to replace all existing tanks with double-walled tanks.

Table 4-7 Best Available Technology Analysis – Cathodic Protection and Corrosion Control Systems for Tanks

BAT Evaluation Criteria	Existing Method: Impressed Current For External Corrosion Protection	Existing Method: Sacrificial Anodes for Internal Corrosion Protection	Existing Method: Protective Internal Bottom Coatings	Alternate Method: Double Walled Tank Bottoms
AVAILABILITY: Whether technology is best in use in similar situations or is available for use by applicant	This technology is currently in use on all tanks where it is applicable (e.g., land-based tanks and tanks not raised off the ground). In addition, the platforms themselves are cathodically protected with impressed current	This technology is currently in use on major onshore tanks and some offshore tanks	This approach has been used extensively on past installations and is available for immediate use	This approach has been used on past installations and is available for immediate use
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	This technology is relevant only for land-based tanks and tanks that are not raised off the ground	This technology is transferable to all operations	The approach is directly transferable for the proposed operations.	The approach is directly transferable for the proposed operations
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	This is the most effective technology for providing external cathodic protection for tanks that are not raised off the ground	This technology is most effective used in conjunction with a protective internal bottom coating to prevent corrosion	This approach is believed to be the most effective in reducing corrosion in areas where corrosive fluids can accumulate at the tank bottom. It is most effective used in conjunction with sacrificial anodes	This approach is believed to be less effective than internal bottom coatings, as the potential source of corrosion has not been removed
COST: The applicant's cost of achieving BAT, including consideration of that cost relative to its remaining years of service when used by the applicant	Initial moderate cost to install this technology; maintenance costs may be reduced with this protection	Initial moderate cost to install this technology; maintenance costs may be reduced with this protection	Initial moderate cost to install this technology; maintenance costs may be reduced with this protection	Major initial installation costs plus some costs to maintain the systems
AGE AND CONDITION: The age and condition of technology in use by the applicant	This technology is tested regularly and maintained in good condition	This technology is tested regularly and maintained in good condition	This technology is well established and proven if properly installed	This technology is well established and proven but requires upkeep to maintain its usefulness
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	This technology is relevant only for land-based tanks and tanks that are not raised off the ground.	Compatible with all tanks. HAK is in the process of installing it on all tanks except where not possible due to tank configuration	The technology is compatible and was used on the crude oil tanks and most produced water tanks	The technology is compatible for new construction but a problem to install on existing tanks

Table 4-7 (cont.) Best Available Technology Analysis – Cathodic Protection and Corrosion Control Systems for Tanks

BAT Evaluation Criteria	Existing Method: Impressed Current For External Corrosion Protection	Existing Method: Sacrificial Anodes for Internal Corrosion Protection	Existing Method: Protective Internal Bottom Coatings	Alternate Method: Double Walled Tank Bottoms
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	This technology is feasible for land-based tanks and tanks that are not raised off the ground.	The technology is feasible and is used in most applications	The technology is feasible and is used in most applications	The technology is not feasible due to financial constraints
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	There are no known environmental impacts for this option.	There are no known environmental impacts for this option.	There are no known environmental impacts for this option.	There are no known environmental impacts for this option.

4.4 Leak Detection Systems for Tanks [18 AAC 75.425(e)(4)(A)(ii)]

Tanks constructed after 1992 must meet leak detection requirements outlined in 18 AAC 75.065(i). The tanks at Beaver Creek were installed prior to May 14, 1992, and as such a BAT analyses for their leak detection systems is not required.

Technologies evaluated to meet these leak detection requirements are compared in Table 4-8 and include:

- elevated tank with visual monitoring under and around the perimeter of the tank;
- precise electronic monitoring of fuel levels in the tank; and
- external monitoring tubes.

(b) (3), (b) (7)(F) [redacted]

Use of external monitoring tubes has limited effectiveness. The combination of impermeable liners beneath the tank and the precise tank level monitoring is considered BAT for tank leak detection.

Leak detection for elevated tanks occurs through visual observation of the tank bottom, combined with an impermeable liner and volume monitoring. HAK maintains three tanks in this category, Tank 4 at TBPF, and Tanks 24 and 27 at SRF.

Table 4-8 Best Available Technology Analysis – Leak Detection for Tanks

BAT Evaluation Criteria	Existing Method: Elevated Tank with Visual Monitoring	(b) (3), (b) (7)(F) [redacted]	Alternate Method: External Monitoring Tubes
AVAILABILITY: Whether technology is best in use in similar situations or is available for use by applicant	This approach has been used extensively on past installations and is available for immediate use	[redacted]	his approach has been sed extensively on past nstallations
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	This approach has been used extensively on past installations and is available for immediate use	[redacted]	he approach is directly ransferable for the roposed operations
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	This approach is believed to be the most effective, as someone can directly see leaks from beneath the tank	[redacted]	he proposed approach s believed to be effective nly if sensors are in the rea of a leak
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	This approach has already been incorporated into the existing facilities	[redacted]	here will be consider-ble initial installation osts to retrofit existing anks
AGE AND CONDITION: The age and condition of technology in use by the applicant	This technology is well established and proven	[redacted]	his technology is well stablished and proven ut requires monitoring

Table 4-8 (cont.) Best Available Technology Analysis – Leak Detection for Tanks

BAT Evaluation Criteria	Existing Method: Elevated Tank with Visual Monitoring	(b) (3), (b) (7)(F) [redacted]	Alternate Method: External Monitoring Tubes
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	The technology is compatible for new construction	[redacted]	The technology would require manpower to maintain and operate; these resources are limited at the site
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	The technology is feasible as it is already being used	[redacted]	The technology is less feasible but was not used
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	There are no known environmental impacts for this option	[redacted]	There are no known environmental impacts for this option

4.5 Liquid Level Determination [18 AAC 75.425(e)(4)(A)(ii)]

4.5.1 Tanks in Continuous Use

Liquid level systems for tanks in continuous use include:

- daily visual monitoring;
- use of sight gauges and level alarms; and
- use of continuous level monitoring devices.

The BAT for liquid level determination in continuous-use storage tanks is provided in Table 4-9. Typically, all tanks in continuous use have one or more means by which to readily determine the tank liquid level. Visual monitoring is conducted on all tanks. Generally, visual monitoring provides information only at the time it is observed, but it is an effective means for detecting small leaks that may not be detected even with the best monitoring systems. (b) (3), (b) (7)(F) [redacted]

[redacted] Visual monitoring includes examine the liner for any tears or holes, visually inspect for the presence of materials that could damage the liner, observe for leakage or other irregularities that could suggest compromised secondary containment or tankage.

Table 4-9 Best Available Technology Analysis – Liquid Level Determinations for Tanks in Continuous Use

BAT Evaluation Criteria	Existing Method: Daily Monitoring	(b) (3), (b) (7)(F) [redacted]	Existing Method: Continuous Monitoring Devices
AVAILABILITY: Whether technology is best in use in similar situations or is available for use by applicant	The proposed approach is most commonly used and would be directly applicable	[redacted]	Technology is readily available for use in tanks in continuous use
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	This approach is directly transferable for the proposed operations as it is currently used	[redacted]	This technology could be readily added to existing unequipped tanks
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	This system has proven effectiveness for detecting small leaks but does not provide a means of continuous monitoring	[redacted]	A continuous monitoring device could be useful in detecting a major failure, but otherwise it would likely be redundant
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	No additional costs would be required	[redacted]	Installation of this technology on a tank would cost $10,000 to $15,000
AGE AND CONDITION: The age and condition of technology in use by the applicant	This approach has been used for many decades and is still being used	[redacted]	This technology has been used for a number of decades, mostly on permanent tanks
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	The proposed approach is believed to be the most commonly used technology	[redacted]	The technology would likely be compatible, although redundant for the proposed operations
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	This approach is entirely feasible	[redacted]	Use of the technology is believed to be feasible
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	No change in impacts is likely	[redacted]	Little change in impacts is envisioned with use of this technology

4.5.2 Intermittently Filled or Used Tanks

A few large tanks throughout the field do not have high-level alarms or means to electronically monitor the level in the tank. These devices were not installed because the tanks are manually filled on an intermittent basis and serve as a bulk source to supply other operations. These tanks are closely monitored during loading/offloading activities, contained within impermeable secondary containment, and located in high-travel areas.

- These tanks include:
- SRF: Two 10,000-gal methanol tanks in the P&S Yard;
- SRF: One 10,000-gal xylene tank in the P&S Yard;
- SRF: One 10,000-gal (estimate) triethylene glycol tank at the PM Plant; and
- SRF: 3,000-bbl Skim Tank Overflow Tank (Tank 23) located at TS 1-33.

Drilling mud tanks are used only during drilling operations. Most of these tanks were installed on offshore platforms in the 1960s. Platform drilling mud tanks are open-top tanks located in areas containing platform drain systems. Leaks from the tanks would be readily visible to drilling crews who are continuously present in these areas during drilling activities. Tank levels are determined through a combination of direct visual observations and installation of pit level monitors during actual drilling operations. When not in use, the monitoring devices are removed and the tanks are emptied and cleaned.

Alternate technologies include permanent installation of level gauges and alarms, or use of other available onboard tanks such as girder tanks on platforms. These considerations are presented in Table 4-10. The current monitoring approaches used with these tanks appear to be effective, and additional costs to improve the monitoring systems are not warranted at this time.

Table 4-10 Best Available Technology Analysis – Liquid Level Determinations for Intermittently Used Tanks

BAT Evaluation Criteria	Existing Method: Visual Monitoring and Sight Glasses	(b) (3), (b) (7)(F) [redacted]	Alternate Method: Use of Permanent Tanks Level Gauges (O/B Drilling Fluids)
AVAILABILITY: Whether technology is best in use in similar situations or is available for use by applicant	The proposed approach is most commonly used and would be directly applicable	[redacted]	Permanent alarm systems are readily available for use
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	This approach is directly transferable for the proposed operations	[redacted]	This technology could be readily transferred. Some tank retrofitting may be required
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	This system has proven effectiveness based on past operations. A sight gauge would be difficult to read in winter conditions (dark, frost)	[redacted]	This is probably an effective solution but not necessarily any more effective than temporary gauges

Table 4-10 (cont.) Best Available Technology Analysis – Liquid Level Determinations for Intermittently U[redacted]

(b) (3), (b) (7)(F)

BAT Evaluation Criteria	Existing Method: Visual Monitoring and Sight Glasses	[redacted]	Alternate Method: Use of Permanent Tanks Level Gauges (O/B Drilling Fluids)
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	No additional costs would be required	[redacted]	Retrofitting a tank may cost $20,000 to $30,000
AGE AND CONDITION: The age and condition of technology in use by the applicant	This approach has been used for many decades and is still being used	[redacted]	Older tanks would likely be used, but they would be inspected and restored
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	The proposed approach is believed to be the most commonly used technology	[redacted]	The technology would likely be compatible for the proposed operations.
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	This approach is entirely feasible.	[redacted]	Use of the technology is believed to be feasible.
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	No change in impacts is likely.	[redacted]	No change in impacts is likely.

4.5.3 Temporary Tanks

When needed, HAK uses temporary tanks provided by Rain-for-Rent. These tanks are closely monitored during loading/offloading activities, contained within impermeable secondary containment, inspected daily, and located in high-travel areas.

The only alternative technology is the installation of level gauges and alarms, which would be difficult to implement because the use, size, and location of temporary tanks is not generally known. These considerations are presented in Table 4-11. The current monitoring approaches used with these tanks appear to be effective, and additional costs to improve the monitoring systems are not warranted at this time.

Table 4-11 Best Available Technology Analysis – Liquid Level Determinations for Temporary Tanks

BAT Evaluation Criteria	Existing Method: Visual Monitoring and Sight Glasses	Existing Method: Level Gauges and Alarms (Chemical/Oil Tanks)
AVAILABILITY: Whether technology is best in use in other similar situations or is available for use by applicant	The proposed approach is most commonly used and would be directly applicable	Technology is readily available
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	This approach is directly transferable for the proposed operations	This technology could be added to existing unequipped tanks with vendor cooperation
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	This system has proven effectiveness based on past operations. A sight gauge would be difficult to read in winter conditions (dark, frost)	A high level alarm may provide additional safeguards in preventing overfilling
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	No additional costs would be required	Installation of this technology on a tank would cost $5,000 to $8,000 on tanks not owned by Hilcorp.
AGE AND CONDITION: The age and condition of technology in use by the applicant	This approach has been used for many decades and is still being used	This technology has been used for a number of decades, mostly on permanent tanks.
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	The proposed approach is believed to be the most commonly used technology	The use of level alarms would likely be compatible
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	This approach is entirely feasible	Use of the technology is not believed to be feasible because tanks are rented on a short-term basis
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	No change in impacts is likely	Level alarms may slightly reduce the potential for spills

4.6 Corrosion Protection and Maintenance Practices for Piping 18 AAC 75.425(e)(4)(A)(ii)

4.6.1 All Piping

This section describes HAK's BAT review for corrosion control and other maintenance for all piping. Section 4.6.2 and Table 4-12 address protective coatings. Section 4.6.3 and Table 4-13 discuss corrosion surveys for buried steel piping. The technologies considered include:

- protective wrapping or coatings;
- corrosion surveys, including smart pigging;
- impressed current for external corrosion; and
- weight loss corrosion coupons.

Protective coatings are the primary tool for protecting piping against external corrosion and are supported by the use of cathodic protection and corrosion surveys. Impressed current cathodic protection systems are in place on all piping systems to protect against corrosion. All HAK pipelines and piping is included in a corrosion survey program in accordance with NACE RPO 169, which is considered to be BAT.

Cleaning pigs are used regularly on all piping, except where engineering constraints prevent their operation. These are not included in the BAT review.

Smart pigs are used to monitor internal and external corrosion of piping. All pipelines extending from offshore platforms to onshore processing facilities have been smart pigged (with the exception of the line from the Bruce Platform, due engineering constraints). HAK is currently undertaking the second complete round of smart corrosion-detection pigging of all offshore piping, except for the Bruce Platform. Most onshore piping is not currently included in a pigging program due to engineering constraints. HAK is currently assessing its program for addressing corrosion in onshore piping.

All pipelines are monitored with weight loss corrosion coupons. Corrosion is controlled through a combination of maintenance pigging and chemical application, which may include paraffin inhibitors, scale inhibitors, corrosion inhibitors, and micro-biocides.

Impressed current cathodic protection systems are in place at all land-based facilities. These systems protect tanks and piping against external corrosion. Impressed current is also used to protect the platform jackets themselves against corrosion.

4.6.2 Maintenance Practices for Buried Steel Piping – Protective Wrapping or Coatings [18 AAC 75.425(e)(4)(A)(ii)]

Use of above-ground piping is preferred except at locations where buried piping is required because of high-volume traffic or safety. The BAT analysis is presented in Table 4-12.

A new installation or repair of buried steel piping must be:

- protected by installing protective wrapping or coating, and cathodic protection appropriate for the local soil;
- all-welded construction; and
- in accordance with a corrosion control program.

Table 4-12 Best Available Technology Analysis External Coatings for Buried Sections of Piping

BAT Evaluation Criteria	Existing Method: Bonded Polyethylene Coatings	Existing Method: FBE Coatings	Existing Method: Bitumen Wrapping	Existing Method: Petrolatum Wrapping	Existing Method: Liquid Applied Epoxy	Alternate Method: Coal Tar Enamel Coatings
AVAILABILITY: Whether technology is best in use in similar situations or is available for use by applicant	This technology is generally available from commercial sources	This technology is generally available from commercial sources	This technology is readily available through commercial sources	This technology is readily available through commercial sources	This technology is readily available through commercial sources	This technology is generally available from commercial sources
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	This technology is generally considered to be directly transferable	This technology is generally considered to be directly transferable	This technology is considered to be directly transferable	This technology is considered to be directly transferable	This technology is considered to be directly transferable	This technology is generally considered to be directly transferable
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	The technology has been generally effective in use by HAK at most onshore facilities	This technology is especially effective in corrosion control in nearly all conditions but subject to some holidays in field applications	Reported to possibly degrade with time (20 years +/-)	Effective corrosion wrapping at all but high temperatures (140º F or greater)	Subject to possible holidays with field applications	This technology is generally effective but may degrade with time under some soil conditions
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	This alternate has slightly higher costs than coal tar enamel coatings	FBE coated pipe has a relatively higher cost than other coatings	About 25% less than petrolatum wrappings and half the cost of liquid applied epoxy	About 25% more than bitumen wrappings and about 50% less than liquid applied epoxy	About twice the cost of bitumen wrappings and about 50% more than petrolatum wrappings	This coating has a relatively lower costs than other alternatives considered

Table 4-12 (cont.) Best Available Technology Analysis External Coatings for Buried Sections of Piping

BAT Evaluation Criteria	Existing Method: Bonded Polyethylene Coatings	Existing Method: FBE Coatings	Existing Method: Bitumen Wrapping	Existing Method: Petrolatum Wrapping	Existing Method: Liquid Applied Epoxy	Alternate Method: Coal Tar Enamel Coatings
AGE AND CONDITION: The age and condition of technology in use by the applicant	This technology has been used for this type of application for many years	FBE has been used for 10 to 15 years	One of the oldest technologies around	Technology has been in use for a while and is in general use	Relatively new, but proven technology	This technology has been used for this type of application for many years
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	This technology is considered compatible for HAK operations	The technology is generally compatible, but application of liquid applied epoxy at the joints may be required	Technology is relatively compatible with current operations. Surface preparation using hand tools	Technology is relatively compatible with current operations. Surface preparation using hand tools and can be applied in wet conditions	Technology is less compatible with current operations. Surface preparation using sand blasting. Preheating required at temperatures <50 ºF. Personnel need training to install	This technology is considered compatible for HAK operations
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	This technology is considered feasible for HAK operations. Relatively easy to install joints of similar materials	The technology would be feasible for new installations. Some special considerations may be required for application of liquid applied epoxy at the joints	Technology is relatively compatible with current operations. Surface preparation using hand tools	Technology is relatively compatible with current operations. Surface preparation using hand tools and can be applied in wet conditions	Technology is less compatible with current operations. Surface preparation using sand blasting. Preheating required at temperatures <50 ºF	This technology is considered feasible for HAK operations. Relatively easy to install joints of similar materials

Table 4-12 (cont.) Best Available Technology Analysis External Coatings for Buried Sections of Piping

BAT Evaluation Criteria	Existing Method: Bonded Polyethylene Coatings	Existing Method: FBE Coatings	Existing Method: Bitumen Wrapping	Existing Method: Petrolatum Wrapping	Existing Method: Liquid Applied Epoxy	Alternate Method: Coal Tar Enamel Coatings
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	There are no known environmental considerations with use of this coating	There are no known environmental issues associated with FBE; there may be issues with the use of liquid epoxy applied at the joints.	No significant environmental issues are apparent	No significant environmental issues are apparent	Possible minor dust issues with use of sandblasting and. there may be some environmental issues with use of liquid applied epoxy at the joints	There are no known environmental considerations with use of this coating

4.6.3 Maintenance Practices for Buried Steel Piping - Corrosion Surveys [18 AAC 75.425(e)(4)(A)(ii)]

Buried steel piping is subject to corrosion surveys in accordance with 18 AAC 75.080(b)(2)(A). Technologies evaluated to meet these requirements include:

- external corrosion surveys (including annual monitoring and close interval surveys);
- external and internal interface sampling; and
- internal inspection (including use of smart pigs).

These technologies are discussed and compared in Table 4-13. The combined used of these techniques are considered BAT, as shown in Table 4-14.

Table 4-13 Best Available Technology Analysis Corrosion Surveys for Buried Steel Piping

BAT EVALUATION CRITERIA	EXISTING METHOD: ANNUAL/CLOSE INTERVAL SURVEYS	EXISTING METHOD: SOIL-AIR INTERFACE SURVEYS	EXISTING METHOD: INTERNAL INSPECTION GEOMETRY/CALIPER PIGS	EXISTING METHOD: INTERNAL INSPECTION - METAL LOSS INSPECTION TOOLS (MFL or UT pigs)
AVAILABILITY: Whether technology is best in use in similar situations or is available for use by applicant	This approach has been used extensively and is considered to be readily available	This approach has been used extensively and is considered to be readily available	This technology is currently in use for most in-service flow lines	This technology is currently in use for most in-service flow lines
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	This approach has been used extensively and is considered to be directly transferable	The approach is most transferable but would be slightly disruptive to plant operations	This technology is transferable to most operations. Engineering constraints exist in some areas with bends or diameter changes	This technology is transferable to most operations. Engineering constraints exist in some areas with bends or diameter changes
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	This technology is believed to be relatively effective	This technology is believed to be relatively effective	This is the most effective technology for removing internal sources of corrosion	This is the most effective technology for removing internal sources of corrosion
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	Estimated costs are $50,000 to $200,000 per facility	There is a moderate cost to this option, but long-term maintenance costs are reduced	There is an initial cost to purchase the equipment and install pig launchers/receivers. Operation and disposal costs for each pig run are moderate. Maintenance and response costs may be reduced with this protection	There is an initial cost to purchase the equipment and install pig launchers/receivers. Operation and disposal costs for each pig run are moderate. Maintenance and response costs may be reduced with this protection
AGE AND CONDITION: The age and condition of technology in use by the applicant	This technology is well established and proven	This technology is well established and proven	This technology is tested regularly and maintained in good condition	This technology is tested regularly and maintained in good condition
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	Generally compatible with facility operations.	Minor disruptions in facility operations may be possible while digging around piping (usually by hand).	This technology is compat ble with most operations. Engineering constraints exist in some areas with bends or diameter changes.	This technology is compatible with most operations. Engineering constraints exist in some areas with bends or diameter changes
FEASIBILITY: The practical feas bility of each technology in terms of engineering and other operational aspects	The technology is feasible, as it is already being used	The technology is feasible, as it is already being used	The technology is feasible and is used in most applications	The technology is feasible and is used in most applications
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	There are no known environmental impacts for this option	There is a potential for piping damage if heavy equipment is used to excavate piping	There are no known environmental impacts for this option	There are no known environmental impacts for this option

Table 4-14 Best Available Technology Analysis Cathodic Protection and Corrosion Control Systems for Buried Steel Piping

BAT EVALUATION CRITERIA	EXISTING METHOD: IMPRESSED CURRENT FOR EXTERNAL CORROSION PROTECTION	EXISTING METHOD: EXTERNAL COATINGS (See Table 4-11 for an evaluation of coatings)	EXISTING METHOD: CORROSION SURVEYS (See Table 4-12 for an evaluation of survey methods)
AVAILABILITY: Whether technology is best in use in similar situations or is available for use by applicant	This technology is currently in use for all pipelines, including flow lines	This approach has been used extensively on past installations and is available for immediate use	This approach has been used extensively on past installations and is available for immediate use
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	This technology is relevant for all piping	The approach is transferable to HAK operations	The approach is transferable to HAK operations
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	This is the most effective technology for providing external cathodic protection for piping	This approach is effective at protecting piping from corrosive fluids	This approach is effective at protecting piping from corrosive fluids
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	There was an initial moderate cost to install this technology; maintenance costs may be reduced with this protection	There is an initial moderate cost to install this technology; maintenance costs may be reduced with this protection	There is an initial moderate cost to install this technology; maintenance costs may be reduced with this protection
AGE AND CONDITION: The age and condition of technology in use by the applicant	This technology is tested regularly and maintained in good condition	This technology is well established and proven if properly installed	This technology is well established and proven if properly installed
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	This technology is relevant for all piping	The technology is compatible with all operations	The technology is compat ble with all operations
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	This technology is feasible for land-based tanks and tanks that are not raised off the ground	The technology is feasible and is used in most applications	The technology is feasible and is used in most applications
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	There are no known environmental impacts for this option	There are no known negative environmental impacts for this option	There are no known negative environmental impacts for this option

4.7 Leak Detection Systems for Crude Oil Transmission Pipeline [18 AAC 75.425(e)(4)(A)(iv)]

Leak detections systems BAT for crude oil transmission pipelines per 18 AAC 75.055(a) are compared in Table 4-15. In general, the system as presently installed, in combination with the EFA internal monitoring system, is believed to be BAT.

A mass balance system includes careful monitoring of inlet and outlet flow for the pipeline system combined with comparison of these values. Differences would indicate possible leaks. A computer modeling system would typically tie into a SCADA system that monitors the pipeline flow and generate predictable flow patterns over time. Disturbances such as those caused by temperature variations or varying flow or operating pressure are measured and masked out as “noise.”

[redacted] (b) (3), (b) (7)(F)

Analysis using “Smart” Pressure Transmitters on individual pipeline segments using flow rates and pressures to look for fluctuations that may be indicative of a leak such as a decrease in inlet pressure and increase in flow, or decrease in outlet flow and pressure, can be used to detect large, rapid leaks and determine leak location.

Table 4-15 Best Available Technology Analysis – Leak Detection for Transmission Pipelines

(b) (3), (b) (7)(F)

(b) (3), (b) (7)(F)

BAT Evaluation Criteria	
AVAILABILITY: Whether technology is best in use in other similar situations or is available for use by applicant	[redacted]
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	

AGE AND CONDITION: The age and condition of technology in use by the applicant	(b) (3), (b) (7)(F) [redacted]
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	[redacted]
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	(b) (3), (b) (7)(F) [redacted]
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	[redacted]

4.8 Trajectory Analyses and Forecasts [18 AAC 75.425(e)(4)(A)(i)]

The CISPRI tracking and surveillance tactics use a combination of visual observations, computer modeling, and electronic tracking of the oil on the water/land surface to produce data on the actual location of the oil and to project the direction that the oil will go. Trajectory analyses and forecasts are described in the CISPRI *Technical Manual* (CI-TS-All Tactics), which is incorporated here by reference.

A BAT review for spill trajectory analysis methods that could be used during a discharge are provided in Table 4-16.

Table 4-16 Best Available Technology Analysis – Trajectory Analyses and Forecasts

BAT Evaluation Criteria	NOAA GNOME	Hand Calculations	NOAA ADIOS2	CIOSM
AVAILABILITY: Whether technology is best in use in similar situations or is available for use by applicant	GNOME was developed by the Emergency Response Division (ERD) of NOAA's Office of Response and Restoration and is available on the NOAA website	Oil spill direction and speed are calculated from water current and wind vector data. Vector calculations on the scene may provide primary trajectory forecasting during the initial response. These calculations are likely to be used in conjunction with the results of computer modeling	Developed by NOAA	Model developed by Cook Inlet Regional Citizen's Advisory Council (CIRCAC) and is available from CIRCAC
TRANSFERABILITY: Whether each technology is transferable to applicant's operations	Transferable	Transferable	Transferable	Transferable
EFFECTIVENESS: Whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits	There are currently no location files or associated resources available for the Cook Inlet Region	Vector calculations on the scene may provide primary trajectory forecasting during the initial response. These calculations are likely to be used in conjunction with the results of computer modeling. As real-time data is gathered, it can be incorporated into the calculations to provide more accurate results	Model provides a mass balance calculation based on various hydrological factors and oil characteristics	Model limitations can provide trajectory estimation for a maximum of eight days. CIOSM is an experimental model that does not take into account 3D hydrography, dispersion, evaporation, spill response efforts or variable winds

Table 4-16 (cont,) Best Available Technology Analysis – Trajectory Analyses and Forecasts

BAT Evaluation Criteria	NOAA GNOME	Hand Calculations	NOAA ADIOS2	CIOSM
COST: The cost to the applicant of achieving BAT, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant	No cost to the applicant	No significant cost	No cost to the applicant	No cost to the applicant
AGE AND CONDITION: The age and condition of technology in use by the applicant	NOAA keeps the model and data up to date	N/A	NOAA keeps the model and data up to date	The model and the data are from 2000
COMPATIBILITY: Whether each technology is compatible with existing operations and technologies in use by the applicant	Compatible	Compatible	Compatible	Compatible
FEASIBILITY: The practical feasibility of each technology in terms of engineering and other operational aspects	Has been used by spill responders in the Lower 48 and in other areas of Alaska	Has been used successfully by spill responders throughout Alaska and the rest of the U.S	Successfully used to predict possible impact locations in combination with CIOSM, but not appropriate for performing trajectory analyses during a discharge	Has been successfully used to predict impact locations but not appropriate for performing trajectory analyses during a discharge because it only takes into account surface currents and winds. In spite of its limitation, this is considered the best available technology for Cook Inlet spill impact site planning
ENVIRONMENTAL IMPACTS: Whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits	None	None	None	None

4.9 Wildlife Capture, Treatment, and Release Programs [18 AAC 75.425(e)(4)(A)(i)]

Wildlife capture, treatment, and release programs are described in the CISPRI *Technical Manual* (CI-W-2, CI-W-4, CI-W-5), which is incorporated here by reference.

The wildlife protection plan is considered BAT because it is based on guidelines published by wildlife trustee agencies and involves the use of the CISPRI stabilization center. CISPRI designed this center in consultation with recognized experts in the field, including the International Bird Rescue and Research Center.

CISPRI worked with government agencies to develop the wildlife protection strategy. As a starting point, the task force used the Wildlife Protection Guidelines for Alaska in Annex G of the Unified Plan. These guidelines identify the three-tier strategy in the CISPRI plan for handling oiled animals. The CISPRI wildlife capture and stabilization center was designed for this purpose and considered the input of specialized experts in the area.

5.0 Response Planning Standard [18 AAC 75.425(e)(5)]

5.1 Oil Terminal Facility [18 AAC 75.432(b)]

(b) (7)(F), (b) (3)

[redacted]

5.2 Exploration or Production Facility [18 AAC 75.434(e)]

The RPS for a production facility is based on the maximum producing well. Well K-13 at the King Salmon Platform is currently the highest producing well. HAK is voluntarily using 5,000 bopd as the daily rate. Consequently, the RPS used is a conservative overestimate. Well K-13 requires assisted lift and is a no-flow well. The RPS used for the production well blowout scenario is 75,000 bbl, which is based on an RPS volume of 5,000 bopd for fifteen days. The well blowout scenario is provided in both summer and winter conditions, with the winter scenario including broken ice conditions and a response effort sustained for 30 days. This response scenario could be readily adapted to other facilities.

Wind rose models have been developed to determine the average wind speeds and predominant wind directions for both summer and winter conditions. Data for model development was obtained from NOAA National Ocean Services meteorological station observations. Wind roses for typical winter conditions are based on averaged data from November through April for a 9-year period from 2005 to 2013. Typical summer conditions are based on averaged data from May through October from 2005 to 2013.

To determine plume shape and distance from a blowout, the S.L. Ross oil deposition model for surface well blowouts was used.

HAK did not apply any prevention credits in calculation of the RPS. RPS values are also not provided for onshore natural gas drilling and production facilities, as natural gas drilling is not regulated under 18 AAC 75.

5.3 Crude Oil Pipeline [18 AAC 75.436(b)]

Current throughput of the Swanson River pipeline is 1,250 bopd. HAK is forecasting an increase in throughput beginning in 2014 to be approximately 3,000 bopd. In anticipation of the increase of flow, the RPS for the crude oil pipeline is based on the 2014 forecasted flow rate of 3,000 bopd.

The RPS for a crude oil pipeline facility is the volume of crude oil that equals the length of the pipeline between pumping or receiving stations or valves (L), minus the hydraulic characteristics of the pipeline due to terrain profile (H), times the capacity of the pipeline in barrels per lineal measure (C), plus the flow rate of the pipeline in barrels per time period (FR), multiplied by the estimated time to detect a spill (TD), plus the time to shut down the pipeline pump or system (TSD). Written as a formula, the RPS of a crude oil pipeline is:

$$RPS = (L - H)*C + FR*(TD + TSD)$$

(b) (7)(F), (b) (3)

[redacted]

APPENDIX A

OIL DISCHARGE HISTORY JANUARY 1987 TO AUGUST 2014

HAK Production Facilities Discharge History [18 AAC 75.425(e)(2)(B)]

Date	Facility	Spilled To	Vol (gals)	Product	Cause	Mitigation
1988	Beaver Creek	Land	6090	Crude Oil	--	--
1988	Beaver Creek	Land	210	Crude Oil	--	--
1991	Trading Bay Production Facility	N/A	630	Crude Oil	Not reported.	Not reported.
1/19/1987	Steelhead Platform	UNKN	151	Diesel	UNKN	UNKN
1/1/1989	Anna Platform	UNKN	110	Crude Oil	Valve malfunction on tank	UNKN
1/10/1990	Trading Bay Production Facility	N/A	63	Crude Oil	Battery No. 1 line rupture.	Repaired line.
1/11/1990	Trading Bay Production Facility	N/A	74.76	Crude Oil	Employee opened man way on vessel.	Gasket repaired, soil removed for storage.
1/16/1990	Swanson River Field, 243-8	N/A	420	Crude Oil	Not reported.	Not reported.
1/18/1990	Trading Bay Production Facility	N/A	420	Light Crude	Process line failure.	Removed oil and repaired line.
2/1/1990	Trading Bay Production Facility	N/A	84	Crude Oil	Retention pit line disconnected.	Cleaned up and put into storage pits.
2/21/1990	Swanson River Field, T.S. 1-33	N/A	84	water w/sheen	Wastewater House.	Not reported.
3/10/1990	Beaver Creek	Land	210	Crude Oil	Gate valve obstructed by ice	Replaced cracked flange. Vacuum spill and removed soil.
4/28/1990	Swanson River Field, T.S. 1-33	N/A	8400	Crude Oil/Produced Water	Foot valve in wastewater tank.	Not reported.
5/5/1990	Swanson River Field, T.S. 1-27	N/A	84	Crude Oil/Produced Water	Plunger on pump failed.	Pump repaired/alarm installed on sump.
5/7/1990	Lewis River Unit	N/A	117.6	Diesel	Tank settled spilling diesel.	Tank was removed from staging area.
5/10/1990	Lewis River 1-A	N/A	117	Diesel	Pump seal failed.	Containment wall resealed.
5/26/1990	Swanson River Field, PM Plant	N/A	210	Crude Oil/Produced Water	Sump backed up.	Blocked line cleared.
6/12/1990	Swanson River Field, T.S. 1-33	N/A	210	Crude Oil/Produced Water	Air regulator failed.	Repaired.
7/23/1990	Swanson River Field, T.S. 1-4	N/A	210	Crude Oil/Produced Water	Line Damaged by hole.	Repaired.
8/3/1990	Swanson River Field, T.S. 1-33	N/A	210	Crude Oil/Produced Water	Flow splitter valve plugged.	Repaired.
8/22/1990	Swanson River Field, 43-8	N/A	168	Crude Oil/Produced Water	Choke eroded by sand.	Repaired.
10/15/1990	Swanson River Field, T.S. 1-33	N/A	84	Crude Oil/Produced Water	Elbow washed out.	Repaired.
10/15/1990	Swanson River Field, 1-4 PW	N/A	1890	Produced water	Line incorrectly abandoned.	Drained line and abandoned.
10/25/1990	Swanson River Field, LACT Bldg.	N/A	168	Crude Oil	Seal failed.	Repaired.
12/1/1990	Swanson River Field, T.S. 1-33	N/A	84	Crude Oil	Sample port froze.	Repaired/insulated.
1/7/1991	Granite Point Tank Farm	N/A	1113	Crude Oil	Leaking pipes.	Investigated pipe integrity, remove soil.
2/15/1991	Granite Point Tank Farm, beach near	N/A	14,511	Crude Oil	Front-end Loader ruptured pipeline.	Repaired line, posted signs to indicate buried pipeline.

HAK Production Facilities Discharge History [18 AAC 75.425(e)(2)(B)]

Date	Facility	Spilled To	Vol (gals)	Product	Cause	Mitigation
3/19/1991	Granite Point Tank Farm	N/A	252	Diesel	Loose fitting on supply line.	Repaired fitting, liquids recycled.
3/21/1991	Swanson River Field, T.S. 1-33	N/A	336	Produced water	Flange nipple broke.	Added coupling to fitting.
4/26/1991	Granite Point Tank Farm	N/A	336	Gasoline	Leaking site glass.	Moved tank to bermed area, excavated soil.
5/7/1991	Granite Point Tank Farm	N/A	121.8	Crude/Lube Oil	Water displaced 9 drums.	Disposed of drums. Excavated and over packed.
5/22/1991	Swanson River Field, CCP (Comp. Plant)	N/A	84	Crude Oil	Compressor Plant shut down, went to flare.	Swept Flare Line.
7/19/1991	Granite Point Tank Farm	N/A	420	Crude Oil	Overflow of Skim Tank No. 3.	Installed alarms, excavated soils.
8/29/1991	Granite Point Tank Farm	N/A	840	Crude oil	Unknown problem with tank.	Inspected tank, excavated soil.
9/12/1991	Granite Point Tank Farm	N/A	159.6	Crude Oil	Broken sling stressed exchanger to leak.	Used stronger slings.
10/17/1991	Granite Point Tank Farm	N/A	1222.2	Crude Oil	Over pressure of vessel during start up of system.	Reviewed start up procedures, also staffed for 24hrs.
11/15/1991	Swanson River Field, T.S. 1-33	N/A	840	Crude Oil	PW backed into wash tank.	Alarms installed on PW and wash tank.
11/25/1991	Swanson River Field, 21-22 Flowline	N/A	8400	Crude Oil/Produced Water	Flowline leaked (corrosion).	Repaired line.
12/1/1991	Swanson River Field, 34-28 Flowline	N/A	84	Crude Oil/Produced Water	Flowline leaked (corrosion).	Replaced portion of line.
1/24/1992	Swanson River Field, 1-27 Flowline	N/A	630	Crude Oil/Produced Water	Flowline leaked (corrosion).	Replaced portion of line.
1/31/1992	Trading Bay Production Facility	N/A	82.74	Crude Oil	Leaking pipeline.	Equipped tank with auto alarm, excavate soils.
3/24/1992	Swanson River Field, 2-15 Flowline	N/A	798	Crude Oil/Produced Water	Flowline leaked (corrosion).	Shut in line, put in alternate line.
4/25/1992	King Salmon Platform	N/A	289.8 (crude oil volume)	Crude Oil (11.4%) and Water (88.6%)	During maintenance, a gas surge caused the sump tank to overflow.	A flow restricting orifice installed on skimmer tank. Sump piping modified.
5/15/1992	Swanson River Field, Suction pump	N/A	126	Produced water	Suction pump gasket failed.	Continue weekly inspection of gasket.
8/28/1992	Granite Point Tank Farm	N/A	599.76	Crude Oil	Pipe pulled out of sleeve.	Welded pipe at connection, excavated soil.
9/5/1992	Granite Point Tank Farm	N/A	99.96	Crude Oil	Stainless steel sample tube failed.	Installed flare pipe and valve. Vacuumed spill.
2/8/1993	Swanson River Field, Lease water (1-33)	N/A	1050	Lease water	Equipment failure.	Repaired equipment.
4/21/1993	Granite Point Platform	UNKN	2000	Diesel Fuel	valve inadvertently left open during fuel transfer	UNKN
5/17/1993	Granite Point Tank Farm	N/A	2100	Crude Oil	Release within a containment area from the flare tip valve, system over pressure.	Corrected system upset and closed down valve.
8/6/1993	Swanson River Field, 1-33 Tank Setting	N/A	2100	Lease water	Seal leakage.	Repaired seal.
8/20/1993	King Salmon Platform	N/A	1,250	Crude oil	Back flushing surge system oil discharged.	Increased operator awareness.

HAK Production Facilities Discharge History [18 AAC 75.425(e)(2)(B)]

Date	Facility	Spilled To	Vol (gals)	Product	Cause	Mitigation
10/30/1993	Swanson River Field, 1-33 Tank Setting	N/A	1050	Lease water (trace oil)	Equipment malfunction.	Repaired faulty equipment.
11/8/1993	Monopod Platform	N/A	147	Crude oil and Produced water	Not reported.	Not reported.
1/7/1994	Beaver Creek	Land	84	Crude Oil	Tank truck overfilled	Vacuumed spill and removed soil
2/23/1994	Swanson River Field, 3-9 TS Flowline	N/A	1024.8	Crude Oil	Flowline pinhole from corrosion.	Repaired flowline, replaced pipe section.
4/6/1994	Baker Platform	N/A	4032	Crude oil	Valve failure.	Replaced valve.
6/25/1994	Swanson River Field, Flowline area near 12-27 pad	N/A	289.8	Crude/water (8% crude)	Flowline pinhole from internal corrosion.	Repaired flowline, replaced pipe section.
7/19/1994	Swanson River Field, Tank 4-22	N/A	Unknown	Hydrocarbons	Not reported.	Remediation performed.
8/17/1994	Swanson River Field, 1-33 TS	N/A	961.8	Crude Oil	Tank overflow.	Corrected overfill device.
8/20/1994	Swanson River Field, Front Gate Shack	N/A	75.6	Diesel Fuel from AST	Line connection leaked.	Replaced line connection and placed entire system in liner.
10/9/1994	Anna Platform	N/A	126	Crude Oil	Not reported.	Not reported.
11/17/1994	Anna Platform	N/A	756	Crude Oil	Not reported.	Not reported.
2/23/1995	Swanson River Field, T.S. 2-15	N/A	63	Crude Oil	Pump failure; alarm failure.	Repaired.
3/3/1995	Granite Point Tank Farm	N/A	168	Crude Oil & water	Flow Splitter.	Not reported.
3/16/1995	Swanson River Field, T.S. 1-33	N/A	168	Crude Oil/Produced Water	Line washed out.	Replaced portion of line.
4/10/1995	Swanson River Field, T.S. 2-15	N/A	96.6	Crude Oil	Leak at flange.	Replaced gasket.
6/3/1995	Grayling Platform	N/A	63	Produced Water &Crude	Not reported.	Not reported.
7/24/1995	Swanson River Field, 12A-10 Well Pad	N/A	67.2	Crude Oil/Produced Water	Flow line spool washout.	Replaced.
7/28/1995	SWANSON RIVER FIELD I-33 WASTE WATER	UNKN	840	Crude Oil	Line Failure	UNKN
1/10/1996	Swanson River Field, TANK 24 -- 27	N/A	100	Crude oil/EC 6005, emulsion breaker	Chemical pump line back fed to vent because of failed check valve.	Replaced faulty check valve.
1/10/1996	Swanson River Field, Tank 24-27	N/A	74.6	Crude/emulsion breaker	Failed valve.	Replaced.
1/15/1996	Swanson River Field, 1-9 TS	N/A	1680-1890	80% crude/20% water	Ruptured flow line from 1-9 Tank Setting.	Repaired line with new section of pipe & pressure tested.
1/28/1996	SWANSON RIVER FIELD I-33 WW	UNKN	420	Produced Water	Valve Failure	UNKN
2/9/1996	Dolly Varden Platform	UNKN	800	Halon	Unknown	UNKN
4/20/1996	Swanson River Field	N/A	84	Oil produced water 97% water/2.5 gal. crude	Not reported.	Not reported.
8/9/1996	Steelhead Platform	UNKN	126	Crude Oil	Containment Overflow	UNKN
10/5/1996	Trading Bay Production Facility	UNKN	500	Crude Oil	Line Failure	UNKN

HAK Production Facilities Discharge History [18 AAC 75.425(e)(2)(B)]

Date	Facility	Spilled To	Vol (gals)	Product	Cause	Mitigation
12/12/1996	Trading Bay Production Facility	N/A	89	Produced water/crude oil mix	Unknown chemical from platform caused severe process upset. Operator inadvertently partially closed valve to WEMCO#1; PW backed up & spilled thru atmospheric equalizing line.	Engineering support surveyed system for possible corrections.
1/8/1997	Granite Point Tank Farm	N/A	11,340	Produced water, 3-4 mg/l oil & grease right after spill.	Frozen produced water outfall line ruptured underground.	Pump and line taken out of service.
3/6/1997	Steelhead Platform	N/A	8988	Diesel #2	Appears to be a leak into the wastewater discharge line that penetrates and makes a 90° bend through the diesel tank. The line failed, allowing diesel fuel to drain out of tank into Cook Inlet.	The level of diesel in the diesel tank was lowered below wastewater discharge line.
3/30/1997	Swanson River Field, TS 1-4	N/A	Approx. 1,134	61% crude, 39% produced water	Main oil out line from setting failed due to corrosion.	Line excavated. inspected and replaced
4/17/1997	Swanson River Field	UNKN	63	Crude Oil	Cargo Not Secured	UNKN
5/1/1997	Swanson River Field, 31-33	N/A	1260	Produced water	2" wash down pipe to skim tank washed out.	Cushion tee installed instead of elbow.
5/2/1997	Swanson River Facility, TS 1-33	N/A	420	Crude oil	Possibility of microbial corrosion in line.	Not reported.
8/3/1997	Swanson River Field	UNKN	1680	Produced Water	Corrosion	UNKN
2/6/1998	King Salmon Platform	N/A	84-126 gallons	Crude oil	During the start up of the waterflood package a subsurface overboard line discharged crude oil into Cook Inlet. The crude accumulated in the line prior to Union Oil becoming operator of the facility.	Discharge line was disconnected.
2/10/1998	SWANSON RIVER FIELD WELL PAD 213	UNKN	84	Crude Oil	Cargo Not Secured	
2/28/1998	Dillon Platform	N/A	126	Diesel	Diesel line fell over edge of drilling trip tank and siphoned diesel out of same tank.	Pulled line away from edge of platform, directed flow to a drain going to collection (skimmer) tank. Removed other end of hose from trip tank.
1/6/1999	Swanson River Field, 300 yards west of 1-27 TS	N/A	60 bbl.. Crude Oil and 1300 bbl.. of Produced Water	Crude Oil/Produced Water	The cause of the event appears to be a failure of the fluid line from 1-27 tank setting.	Wells at 1-27 tank setting were shut in and gas flowed through the line to evacuate the fluid.

HAK Production Facilities Discharge History [18 AAC 75.425(e)(2)(B)]

Date	Facility	Spilled To	Vol (gals)	Product	Cause	Mitigation
2/4/1999	Trading Bay Production Facility-Wemcos	N/A	126-258 gallons	Produced water 10-20 ppm	Control boot on Wemco froze and or plugged off. Out top of Wemco, hit ice, liner for skim tank - a lot went into liner. Into ground only at bypass area; went into manhole. Most out side of tank, went right down into containment area & froze immediately.	Not reported.
2/26/1999	Trading Bay Production Facility	UNKN	55	Produced Water	Seal Failure	UNKN
3/14/1999	Trading Bay Production Facility	N/A	168	34 Gravity, Crude Oil	Leaking isolation valve.	Opened valve in "Flare Trap" building connecting this vent to the flare scrubber. Pump automatically pumped these liquids to reject oil.
3/15/1999	SWANSON RIVER FIELD DISPOSAL WELL 31-33	UNKN	126	Produced Water	Corrosion	UNKN
6/18/1999	SWANSON RIVER FIELD TANK SETTING 3-4	UNKN	55	Crude Oil	Corrosion	UNKN
7/9/1999	Swanson River Field, 41-33 flowline, behind 1-33 Tank Setting valve house	N/A	84	(79.8 gal. produced water, 4.2 gal. crude oil	SRU 41-33 flowline washout.	SRU 41-33 shut in and flowline depressurized.
10/23/1999	Dillon Platform	N/A	462 gallons released; 219 gallons recovered	Crude oil, initial estimate 1 bbl.	Hole in pipeline.	Displaced crude oil line with water. Recovered 219 gallons oil.
11/21/1999	Swanson River Field	N/A	8600 gallons water and 1 gallon oil	Produced water with 100 ppm oil	Failure of fiberglass line. Need further investigation to determine the cause.	Within minutes the problem was identified. Within 10 minutes, the line was completely isolated and depressurized.
1/19/2000	Swanson River Field	N/A	420 gallons of lease water and 1 gallon of crude oil	Produced water and crude oil	A patch on the 4" fiberglass underground wastewater transfer line leaked.	The operator immediately shut in and depressurized the line.
6/21/2000	SWANSON RIVER FIELD TS 1-4	UNKN	200	Produced Water	Leak	UNKN
8/12/2000	Beaver Creek Gas Field Pad 1A	UNKN	88	Produced Water	Valve Failure	UNKN
9/1/2000	SWANSON RIVER FIELD 133 WASTE WATER FACILITY	UNKN	2541	Produced Water	Leak	UNKN
1/13/2001	Swanson River Field	Land	84	Produced Water / Crude Oil (0.25 gal)	A rock eroded the fiberglass line.	Abandoned the line.
1/27/2001	DILLON PLATFORM	UNKN	200	Crude Oil	Line Failure	UNKN
2/5/2001	Dolly Varden Platform	Water	200	oil & water	Not reported.	Not reported.
9/14/2001	Beaver Creek	Land	3360	Produced Fluid	Contractor excavating for pipeline hook-up hit produced water line. Hydrocarbon concentration estimated at 3 gallons	Free liquid and impacted soil removed. Pipeline repaired and tested.

HAK Production Facilities Discharge History [18 AAC 75.425(e)(2)(B)]

Date	Facility	Spilled To	Vol (gals)	Product	Cause	Mitigation
9/28/2001	Granite Point Tank Farm	UNKN	130	Diesel	Sabotage/Vandalism	UNKN
9/28/2001	Ivan River	Land	3130	diesel fuel & raw sewage water	Sewage truck was vandalized.	None.
11/27/2001	Dillon Platform	Water	200	crude oil	High pressure stainless steel fitting separated on Kobe Landing 2.	Line was isolated from system.
1/29/2002	Swanson River Field	Land	840	(67 gal) crude oil and (773 gal) produced water	Hole in pipe.	Pipe will be replaced.
2/1/2002	Trading Bay Production Facility	Land	100	treated produced water	Composite flanges on Mag Flow Meter failed.	Replaced the flow meter with a new spool.
5/31/2002	Swanson River Field	Land	100	crude oil (30 g) and water (70 g)	Maintenance crew was using an air compressor to confirm the route of an idle well gathering line. The 40 psi of air pushed the fluid from the open ended pipe.	The line was washed with hot water and a biodegradable soap and then pressure tested.
6/17/2002	Swanson River Field	Land	85	Crude Oil	Roustabouts were attempting to locate an idle flowline. They had depressurized one end of the line and pulled a 3/4" plug from the other end of the line. Before a gauge could be installed, the oil leaked from the open port.	The line was flushed and cleaned with hot water and biodegradable soap. SOP for line being reviewed & updated.
9/5/2002	Trading Bay Production Facility	Land	126	Crude Oil	Hole in supply line to charge pumps.	Replaced pipe.
10/1/2002	Trading Bay Production Facility	Land	840	Crude oil emulsion	Tube failure in the Uniflux Process Heater, oil blown out of vent stacks by fan.	Bypassed flow to the Uniflux, manually blocked inlet and outlet. Followed with LOTO. Incident Investigation Team identified prevention action items.
2/6/2003	Dolly Varden Platform	Water	338	Filtered Cook Inlet Water + 3% Potassium Chloride - With Crude Oil Skim	Failure to track of how much had been transferred to the tank. The high level alarm was set for the wrong number of barrels.	An independent High/High alarm was installed on the Trip Tank that is an absolute indicator of fill height that does not have variable settings.
2/25/2003	Swanson River Field	Land	126	Crude Oil	Depressurizing tubing from well to flare scrubber. Line had been filled with crude as a freeze protectant. Fluid flow rate overwhelmed the dump capacity of vessels at flare setting.	Procedures: Two operators required for this type of operation.
6/12/2003	Swanson River Field	Land	949	Produced water and lube oil	High level switch in the sump failed to close the isolation valve on the suction header inlet. Upon further investigation a defective solenoid valve was found which prevented the valve from closing.	Increasing the frequency of inspection of the high level shut down switch in the sump. Adding a High Level alarm to the sump.

HAK Production Facilities Discharge History [18 AAC 75.425(e)(2)(B)]

Date	Facility	Spilled To	Vol (gals)	Product	Cause	Mitigation
7/8/2003	Happy Valley	SCA	420	Oil based mud	While Peak operator was cleaning out cutting tank, he pulled safety back and activated hatch dogs opening dump hatch dumping approx. 10 bbl. onto herculite. All volume was contained in containment.	Not reported.
9/10/2003	Swanson River Field	Land	84	Produced Water	Operator opened valves to ship water to 243-3 to fill the water tank in preparation for the G&I pressure test. The operator received a call that there was water coming out of the ground at 1-4 tank setting.	As soon as the spill was discovered, pumps were shut down and valves closed at each end of the line.
9/19/2003	Swanson River Field	Land	400.1	(100 gal) Produced Water + (0.1 gal) Crude Oil	Failure of the fiberglass line due to freezing or damage.	The operators used a vacuum truck to suck as much fluid as possible from both ends of the line. The line is no longer in use.
5/2/2004	Beaver Creek	Land	378	Produced Fluid	Tank overflow when pump failed to transfer fluid. Fluid was released through the dehy vent stack	Spill was contained with absorbents and impacted area excavated. Lock pump switch in open position.
11/11/2004	Beaver Creek	Land	3696	Produced Fluid	Check valve on produced fluid line failed	Impacted soils were excavated and remediated. Check valve was replaced, insulated and heat trace reactivated. Heat trace was also inspected field wide
11/30/2004	Beaver Creek	Land	16002	Produced Fluid	Tank failure caused by fire	Process redesigned, retraining of personnel. Impacted soils were remediated
12/7/2004	Swanson River Field	Land	75	diesel and Baker DMO7037 emulsion breaker	Failure of sight glass on tank overfilled tank containment. Accumulation of ice from heavy rains compromised the tank containment.	Fabricated tank containments with a roof to cut down on fluid accumulation.
3/2/2005	Beaver Creek	Land	92.5	Produced Fluid	Wrong valve was actuated	Free liquid and impacted soil removed. Pipeline repaired and tested.
3/4/2005	Swanson River Field	Land	756.15	Lease water and crude oil	Corrosion and wrong material selected for this application.	Inspect the remaining sense lines and piping.
7/28/2005	Anna Platform	Water	84	Crude Oil	Defective Equipment (Valve).	Replaced valve.
11/28/2005	Swanson River Field	Land	84	Crude Oil	The rubber section of the hose appears to have come out of the connector to the camlock fitting on the end of the hose.	In the future, hoses will be pressure tested before proving.
1/10/2006	Swanson River Field	Land	168	Crude Oil 90% (151 g) / Produced Water (17 gal)	A nipple and valve were damaged while exposing flow lines.	This incident was discussed. Permits are required to dig around buried piping.

HAK Production Facilities Discharge History [18 AAC 75.425(e)(2)(B)]

Date	Facility	Spilled To	Vol (gals)	Product	Cause	Mitigation
2/8/2006	Swanson River Field	Land	63	40 wt. Engine Oil	Failed engine oil line.	The line is no longer in use.
8/27/2006	Swanson River Field	Land	84	Crude Oil	A relief valve lifted when bringing on the well.	UNKN
2/11/2008	Granite Point Tank Farm	UNKN	1680	Produced Water	Valve Failure	UNKN
5/29/2008	Bruce Platform	UNKN	100	Diesel	External Factors	UNKN
1/21/2009	Happy Valley	Land	79.8 / 20.16	Produced Water / Lube Oil	Startup procedures did not include sufficient time to close manual valve on separator allowing fluids to be vented.	Adjusted procedure to allow for sufficient time.
10/31/2009	Trading Bay Production Facility	SCA	840	Crude Oil	Communication failure between PLCs	Addressed communication issues.
12/17/2009	Grayling Platform	Secondary Containment	71.58 / 558.6	Scale Inhibitor / Saline Water	Communication human error	SOPs and best practices were reviewed with personnel.
7/20/2010	Swanson River Field	Land	630	Crude Oil	Corrosion due to coating damage on pipeline. Unsure when or how damage occurred due to pipeline being buried 6 feet underground.	Suspect pipeline was isolated, evacuated and depressurized.
5/18/2011	King Salmon Platform	Secondary Containment	220	Hydraulic Fluid	Rupture in hose due to vibration	Inspect hoses for any defects and reroute hoses.
8/2/2011	Steelhead Platform	UNKN	100	Therminol	Other	UNKN
4/7/2012	Trading Bay Production Facility	Land	420	Produced Water 1% Crude	Valve was closed that is normally in the open position, both High and HH level alarms did not work.	High and HH Level alarms were fixed and valve was added to monthly inspection list.
7/11/2012	Grayling Platform	SCA	140	Hydraulic Fluid	Human Error	Addressed housekeeping issues. Secured tools.
11/6/2012	Happy Valley Field	SCA	730	Drilling Mud	Inadequate containment / Equipment Difficulty (freezing conditions)	Increased containment size.
11/9/2012	Swanson River Unit	Land	1680	Produced Water	Line failure.	Produced water line was replaced.
11/19/2012	King Salmon Platform	SCA	330	Scale Inhibitor	Operator inadvertently left the valve open to the sight glass after checking rate.	Reviewed procedure.
12/16/2012	Happy Valley Field	Land	84	Drilling Mud Water Based	Breach in liner.	Repaired liner.
2/6/2013	Swanson River Unit	Land	252	Produced water	Valve failure	Control valve was removed from and spool built for unobstructed flow to Tank 22.
3/17/2013	Swanson River Unit	Land	210	Drilling Mud	Valve failure due to vibration.	Valves were elevated and put on an inspection schedule.
4/4/2013	Swanson River Unit	SCA	1764	Produced Water	Broken hammer union connection.	Replaced.
5/8/2013	Beaver Creek	Land	252	Produced water	Valve Failure - Internal Erosion	Upgraded valve systems. Weekly internal inspections implemented.
5/29/2013	Swanson River Unit	SCA/Land	84	Produced Water	Equipment Failure	Upgrades made at TS 1-27.
7/19/2013	Trading Bay Production Facility		126	Crude Oil	Human error	SOPs and best practices were reviewed with personnel.

HAK Production Facilities Discharge History [18 AAC 75.425(e)(2)(B)]

Date	Facility	Spilled To	Vol (gals)	Product	Cause	Mitigation
7/24/2013	Swanson River Unit	SCA	226.8	Drilling Mud	The use of the hopper loosened up the clamps on the king nipple.	Check lines on a daily bases, ordered new line.
7/30/2013	Susan Dionne Pad	SCA	110	Lube Oil	One 2 1/2" x 1/4" NPT gauge failed internally and then vented the oil onto the floor of the HPU room.	Replaced with a different brand of gauge and replace as necessary.
8/11/2013	Swanson River Unit	Land	110	Lube Oil	Human error.	SOPs and best practices were reviewed with personnel.
8/27/2013	Swanson River Unit	SCA	2310	Produced Water	Human Error	SOPs and best practices were reviewed with personnel.
10/4/2013	Granite Point Platform	SCA	126	Petroleum Condensate	Well kick.	Left well to flare for several hours to let gas migrate before continuing to trip production tubing.
1/23/2014	Kenai Gas Field	Land/Wetlands	84294	Produced Water	Equipment failure.	Valve replaced.
2/7/2014	King Salmon Platform	SCA	332	Scale inhibitor	Equipment failure due to weather.	Stabilized sight glass with more rigid brackets.
3/25/2014	Kenai Gas Field	Land	84	Produced Water	Discharge line block valve and knife valve were left in open position.	Repair discharge line valves on vacuum truck. Review off loading procedures for G&I.
5/30/2014	Swanson River Unit	Land	168	Produced Water	Equipment failure	Preventative maintenance was performed on packing glands.
6/1/2014	King Salmon Platform	SCA	630	Non Produced Water	Washed out valve on mud tank.	Isolated/replaced valve.
6/14/2014	Monopod Platform	SCA/Water	72	Turbine Oil	Ruptured oil line	Locked valves open to prevent human error.
6/20/2014	Swanson River Unit	Land/SCA	1764	Crude	Human Error	SOPs and best practices were reviewed with personnel.
7/15/2014	Grayling Platform	SCA	100	hydraulic Oil	Human error/Equipment failure	Ordered new control button shield and locked out pump.
8/6/2014	Kenai Gas Field	SCA/Land	168	Produced Water	Human Error.	SOPs and best practices were reviewed with personnel.

APPENDIX B

LIST OF REGULATED STORAGE TANKS

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of Tank Truck	Comments
Beaver Creek Oil and Gas Production Facility	T-5	Crude Oil Tank	(b) (7)(F), (b) (3) [redacted]	Stationary	Crude	1968*	(b) (7)(F), (b) (3) [redacted]	Lined Earthen Berm	HLA, LLA, HHLA	18 AAC 75.065	6/10/12, 6/10/22	6/10/12, 6/10/22	None	Internal Cathodic Protection	(b) (7)(F), (b) (3) [redacted]	Concrete containment, under metal roof.	(b) (7)(F), (b) (3) [redacted]	
	T-1	Crude Oil Tank	[redacted]	Stationary	Crude	1968*	[redacted]	Lined Earthen Berm	HLA, LLA, HHLA	18 AAC 75.065	Not in Use	Not in Use	None	Internal Cathodic Protection	[redacted]	Concrete containment, under metal roof.	[redacted]	
Anna Platform	A-T-0160	Oil Storage Tank #4	[redacted]	Stationary, elevated	Crude Oil	1966	[redacted]	None / Offshore Platform	HLA, LLA, HHL	18 AAC 75.066	7/6/2009, 7/1/2019	3/5/2013, 10/1/2014	Visual Surveillance	Anode, thick film lining.	[redacted]	Off Shore	[redacted]	
	A-T-0170	Oil Storage Tank #5	[redacted]	Stationary	Crude Oil	1966	[redacted]	None / Offshore Platform	HLA, LLA, HHL	18 AAC 75.066	8/1/2014, 8/1/20224	8/1/2014, 8/1/2019	Elevated - Visual	Anode, thick film lining.	[redacted]	Off Shore	[redacted]	
	A-T-0320	Produced Water Tank #7	[redacted]	Stationary	Produced Water	1966	[redacted]	None / Offshore Platform	HLA, LLA, HHL	18 AAC 75.066	06/22/12, 06/22/22	3/3/2013, 6/22/2017	Elevated - Visual	Anode, thick film lining.	[redacted]	Off Shore	[redacted]	
	A-T-0310	Produced Water Tank #8	[redacted]	Stationary	Produced Water	1966	[redacted]	None / Offshore Platform	HLA, LLA, HHL	18 AAC 75.066	08/30/12, 08/30/22	3/3/2013, 8/29/2017	Elevated - Visual	Anode, thick film lining.	[redacted]	Off Shore	[redacted]	
	A-T-0220	Power Oil Tank #3	[redacted]	Stationary	Crude Oil	1966	[redacted]	None / Offshore Platform	HLA, LLA, HHL	18 AAC 75.066	9/3/2009, 5/26/2014	3/5/2013, 5/26/2014	Elevated - Visual	Anode, thick film lining.	[redacted]	Off Shore	[redacted]	
	Mud Pits (6 tanks)	Drilling Mud Tanks	[redacted]	Stationary	Water Base/Oil Base Drilling Fluids	2007	[redacted]	None / Offshore Platform	Visual during fluid transfer	18 AAC 75.066	3/26/2007, 3/26/2017	7/1/2013, 7/1/2017	Tanks sit on steel floor. Visual	None	[redacted]	Off Shore	[redacted]	
	A-T-0850	Diesel Beam Tank #2	[redacted]	Stationary	Diesel	1966	[redacted]	None / Offshore Platform	Visual during fluid transfer	18 AAC 75.066	7/27/2004, 7/1/2019.	7/27/2014, 7/27/2019	Elevated - Visual	None	[redacted]	Off Shore	[redacted]	n accordance with 18 AAC 75.066 and API 653 6.4.1.2, an in-service ultrasonic thickness (UT) nspection shall be performed in lieu of an internal inspection. Per API Section 6.3.3, this inspection shall occur on a 15 year interval. This tank is in non-corrosive service with a 3/4 inch thick (+) shell/bottom
Baker Platform	B-T-0385	Empty	[redacted]	Stationary	Inactive - Empty	1965	[redacted]	None / Offshore Platform	HLA, LLA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	Inactive - Empty	[redacted]	Off Shore	[redacted]	Facility not in production, process of well abandonment through end of 2012. Inspection required prior o activation
	B-T-0380	Empty	[redacted]	Stationary	Inactive - Empty	1965	[redacted]	None / Offshore Platform	HLA, LLA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	Inactive - Empty	[redacted]	Off Shore	[redacted]	Facility not in production, process of well abandonment through end of 2012. Inspection required prior o activation
	B-T-0381	Empty	[redacted]	Stationary	Inactive - Empty	1965	[redacted]	None / Offshore Platform	HLA, LLA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	Inactive - Empty	[redacted]	Off Shore	[redacted]	Facility not in production. Inspection required prior to activation
	B-T-0382	Empty	[redacted]	Stationary	Inactive - Empty	1965	[redacted]	None / Offshore Platform	HLA, LLA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	Inactive - Empty	[redacted]	Off Shore	[redacted]	Facility not in production. Inspection required prior to activation
	Mud Pits (8 Tanks)	Empty	[redacted]	Stationary	Water Base/Oil Base Drilling Fluids	1965*	[redacted]	None / Offshore Platform	Visual during fluid transfer	18 AAC 75.066	Not in use	Not in use	Tanks sit on steel floor. Visual	Inactive - Empty	[redacted]	Off Shore	[redacted]	Facility not in production. Inspection required prior to activation
Bruce Platform	U-T-0180	Oil Storage Tank #4	[redacted]	Stationary	Crude Oil	1966	[redacted]	None / Offshore Platform	LLA, HLA, HHLA	18 AAC 75.066	7/1/2009, 12/1/2019	8/24/2013, 10/1/2015	Elevated - Visual	Internal coating	[redacted]	Off Shore	[redacted]	
	U-T-0190	Oil Storage Tank #5	[redacted]	Stationary	Crude Oil	1966	[redacted]	None / Offshore Platform	LLA, HLA, HHLA	18 AAC 75.066	10/18/2010, 10/1/2020	8/24/2013, 11/1/2015	Elevated - Visual	Internal Coating	[redacted]	Off Shore	[redacted]	
	U-T-0240	Produced Water Tank #7	[redacted]	Stationary	Produced Water	1966	[redacted]	None / Offshore Platform	LLA, HLA, HHLA	18 AAC 75.066	9/3/2006, 10/1/2015	8/24/2013, 10/1/2015	Elevated - Visual	Anode, thick film lining.	[redacted]	Off Shore	[redacted]	
	U-T-0250	Produced Water Tank #8	[redacted]	Stationary	Produced Water	1966	[redacted]	None / Offshore Platform	LLA, HLA, HHLA	18 AAC 75.066	9/3/2006, 11/1/2015	8/24/2013, 11/1/2015	Elevated - Visual	Anode, thick film lining.	[redacted]	Off Shore	[redacted]	
	U-T-0320	Power Oil Tank #3	[redacted]	Stationary	Crude Oil	1966	[redacted]	None / Offshore Platform	LLA, HLA, HHLA	18 AAC 75.066	9/22/2005, 8/1/2014	8/24/2013, 8/1/2014	Elevated - Visual	None	[redacted]	Off Shore	[redacted]	
	U-T-0890	Diesel Beam Tank #2	[redacted]	Stationary	Diesel	1966	[redacted]	None / Offshore Platform	Visual during fluid transfer	18 AAC 75.066	8/13/2004, 8/1/2014	8/24/2013, 7/31/2014	Elevated - Visual	None	[redacted]	Off Shore	[redacted]	
Dillon Platform	Mud Tanks	Empty	[redacted]	Stationary	Inactive - Drained/ Empty	1966*	[redacted]	None / Offshore Platform	Visual during fluid transfer	18 AAC 75.066	Not in use	Not in use	Tanks sit on steel floor. Visual	Not in use	[redacted]	Off Shore	[redacted]	Facility not in production. Inspection required prior to activation
	D-T-0240	Empty	[redacted]	Stationary	Inactive - Drained/ Empty	1966	[redacted]	None / Offshore Platform	HLA, LLA,HPA, LPA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	Not in use	[redacted]	Off Shore	[redacted]	Facility not in production. Inspection required prior to activation
	D-T-0250	Empty	[redacted]	Stationary	Inactive - Drained/ Empty	1966	[redacted]	None / Offshore Platform	HLA, LLA,HPA, LPA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	Not in use	[redacted]	Off Shore	[redacted]	Facility not in production. Inspection required prior to activation
	D-T-0600	Empty	[redacted]	Stationary	Inactive - Drained/ Empty	1966	[redacted]	None / Offshore Platform	HLA, LLA,HPA, LPA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	Not in use	[redacted]	Off Shore	[redacted]	Facility not in production. Inspection required prior to activation
	D-T-0620	Empty	[redacted]	Stationary	Inactive - Cleaned/ Empty	1966	[redacted]	None / Offshore Platform	HLA, LLA,HPA, LPA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	Not in use	[redacted]	Off Shore	[redacted]	Facility not in production. Inspection required prior to activation
	D-T-0160	Empty	[redacted]	Stationary	Inactive - Drained/ Empty	1966	[redacted]	None / Offshore Platform	HPA, HLA, LLA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	Not in use	[redacted]	Off Shore	[redacted]	Facility not in production. Inspection required prior to activation
	Fuel Tank	Empty	[redacted]	Stationary	Inactive - Drained/ Empty	1966	[redacted]	None / Offshore Platform	HLA, LLA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	Not in use	[redacted]	Off Shore	[redacted]	Facility not in production. Inspection required prior to activation

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of Tank Truck	Comments
Dolly Varden	V-T-0001	Empty - Former Diesel Tank	(b) (7)(F), (b) (3) [redacted]	Stationary	Inactive	1967	(b) (7)(F), (b) (3) [redacted]	None / Offshore Platform	HLA, LLA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	Anodes	(b) (7)(F), (b) (3) [redacted]	Off Shore	(b) (7)(F), (b) (3) [redacted]	Empty, inactive tank.
	V-T-0002	Waste Water Tank #51	[redacted]	Stationary	Drain Water	1967	[redacted]	None / Offshore Platform	HLA, LLA	18 AAC 75.066	1/15/2012, 1/15/2024	8/8/2013, 1/14/2017	Elevated - Visual	Anodes	[redacted]	Off Shore	[redacted]	
	V-T-0005	Diesel Tank #23	[redacted]	Stationary	Diesel	1967	[redacted]	None / Offshore Platform	HLA	18 AAC 75.066	11/17/2003, 10/22/2018	8/13/2013, 8/13/2018	Elevated - Visual	None	[redacted]	Off Shore	[redacted]	In accordance with 18 AAC 75.066 and API 653 6.4.1.2, an in-service ultrasonic thickness (UT) inspection shall be performed in lieu of an internal inspection. Per API Section 6.3.3, this inspection shall occur on a 15 year interval. This tank is in non-corrosive service with a 3/4 inch thick (+) shell/bottom
	V-T-6340	Produced Water Tank	[redacted]	Stationary			[redacted]				Out Of Service	Out Of Service	Out Of Service	Out Of Service	[redacted]	Off Shore	[redacted]	
Cook Inlet Field Office	T-1	Empty	[redacted]	Stationary	Out of Service	Out Of Service	[redacted]	Gravel Berm	Out Of Service	18 AAC 75.065	Out Of Service	Out Of Service	Out Of Service	Out Of Service	[redacted]	Out Of Service	[redacted]	Out Of Service
	T-2	Empty	[redacted]	Stationary	Out of Service	Out Of Service	[redacted]	Gravel Berm	Out Of Service	18 AAC 75.065	Out Of Service	Out Of Service	Out Of Service	Out Of Service	[redacted]	Out Of Service	[redacted]	Out Of Service
Granite Point Platform	P-T-3050	Produced Water Tank	[redacted]	Stationary	Crude Oil, Produced Water	1967	[redacted]	None / Offshore Platform	HLA, HHLA	18 AAC 75.066	9/20/2004, 9/30/2014	9/12/2013, 9/30/2014	Elevated - Visual	Anodes	[redacted]	Off Shore	[redacted]	Tank shell/bottom 3/4-inch thick steel
	P-T-3210	Diesel Tank	[redacted]	Stationary	Diesel	1967	[redacted]	None / Offshore Platform	Visual during fluid transfers	18 AAC 75.066	7/20/2004, 7/30/2019	9/12/2013, 7/20/2014	Elevated - Visual	None	[redacted]	Off Shore	[redacted]	In accordance with 18 AAC 75.066 and API 653 6.4.1.2, an in-service ultrasonic thickness (UT) inspection shall be performed in lieu of an internal inspection. Per API Section 6.3.3, this inspection shall occur on a 15 year interval. This tank is in non-corrosive service with a 3/4 inch thick (+) shell/bottom
	P-T-0180	Oil Storage Tank	[redacted]	Stationary	Crude Oil, Produced Water	1967	[redacted]	None / Offshore Platform	HLA, HHLA	18 AAC 75.066	9/4/07, 11/1/17	9/12/2013, 11/1/2017	Elevated - Visual	Anodes, thick film lining	[redacted]	Off Shore	[redacted]	Tank shell/bottom 3/4 inch thick steel
	P-T-0480	Drilling Mud Tank	[redacted]	Stationary	O/B or FW/B Drilling Fluids	1967	[redacted]	None / Offshore Platform	HLA	18 AAC 75.066	9/23/2000, 9/23/2014	9/12/2013, 9/23/2014	Elevated - Visual	None	[redacted]	Off Shore	[redacted]	In accordance with 18 AAC 75.066 and API 653 6.4.1.2, an in-service ultrasonic thickness (UT) inspection shall be performed in lieu of an internal inspection. Per API Section 6.3.3, this inspection shall occur on a 14 year interval. This tank is in non-corrosive service with a 3/4 inch thick (+) shell/bottom
Granite Point Tank Farm	T-T-0101	Oil Storage Tank	[redacted]	Stationary	Crude Oil	2007	[redacted]	Lined Dike	HLA, HHLA, LLA	18 AAC 75.065	6/17/2011, 6/17/2021	6/17/2011, 6/17/2016	Containment under tank with perforated pipes	Impressed current on tank bottom & internal sacrificial anodes	[redacted]	NA	[redacted]	New tank installed in 2007.
	T-T-0102	Oil Storage Tank	[redacted]	Stationary	Crude Oil	1960	[redacted]	Lined Dike	HLA, HHLA, LLA	18 AAC 75.065	9/1/2004, 9/1/2014	10/21/2009, 9/1/2014	Visual surveillance	Impressed current on tank bottom, thick film liner on internal bottom surface, internal sacrificial anodes	[redacted]	NA	[redacted]	Fill height limit (derated) of 23.8 feet in place based on 2010 inspection. Net capacity of tank is 394,800 gallons (9,400 bbls) at derated volume. Note: shell capacity of 420,000 gallons is used in SPCC plans.
	T-T-0103	Oil Storage Tank	[redacted]	Stationary	Crude Oil	1952	[redacted]	Lined Dike	HLA, HHLA, LLA	18 AAC 75.065	8/1/2014, 8/1/2024	8/1/2014, 8/1/2019	Visual surveillance	Impressed current on tank bottom, thick film liner on internal bottom surface, sacrificial anodes	[redacted]	NA	[redacted]	Note: shell capacity of 567,000 gallons is used in SPCC plans.
	T-T-0104	Oil Storage Tank	[redacted]	Stationary	Crude Oil	2010	[redacted]	Lined Dike	HLA, HHLA, LLA	18 AAC 75.065	10/15/2010, 10/25/2020	10/15/2010, 10/25/2015	Visual - Raised Above containment liner located under tank bottom	Impressed current on tank bottom, coating on internal bottom surface, internal sacrificial anodes	[redacted]	NA	[redacted]	Older bolted tank with same designation (Tank 104) was demolished in 2010. New tank constructed to API 650 - 2010
	T-T-0105	Oil Storage Tank	[redacted]	Stationary	Crude Oil	1997	[redacted]	Lined Dike	HLA, HHLA, LLA	18 AAC 75.065	8/25/2009, 8/1/2019	8/25/2009, 8/1/2014	Visual - Raised Above containment liner located under tank bottom	thick film liner on internal bottom surface; sacrificial anodes	[redacted]	NA	[redacted]	
	T-T-0106	Produced Water Tank	[redacted]	Stationary	Produced Water	1997	[redacted]	Lined Dike	HLA, HHLA, LLA	18 AAC 75.065	6/13/2007, 6/1/2017	07/19/12, 05/01/17	Visual - Raised Above containment liner located under tank bottom	thick film liner on internal bottom surface; sacrificial anodes	[redacted]	NA	[redacted]	
	T-T-0107	Produced Water Tank	[redacted]	Stationary	Produced Water	1997	[redacted]	Lined Dike	HLA, HHLA, LLA	18 AAC 75.065	5/15/2007, 5/1/2017	07/19/12, 05/01/17	Visual - Raised Above containment liner located under tank bottom	thick film liner on internal bottom surface; sacrificial anodes	[redacted]	NA	[redacted]	
	T-T-0900	Pit Overflow Tank	[redacted]	Portable	Flare overflow	1965*	[redacted]	Lined Dike	HLA	18 AAC 75.066	07/19/12, 07/19/22	10/2/2013, 7/19/2017	Visual - Raised Above containment liner located under tank bottom	thick film liner on internal bottom surface	[redacted]	NA	[redacted]	
	T-T-0220	Oil Storage Tank	[redacted]	Stationary	Crude Oil	1968	[redacted]	Lined Dike		18 AAC 75.066	6/1/2014, 6/1/2019	6/1/2014, 6/1/2024			[redacted]		[redacted]	
Grayling Platform	G-T-0380A	West Shipping Oil Tank	[redacted]	Stationary	Crude Oil, Produced Water	1965	[redacted]	None / Offshore Platform	LLA, HLA, HHA	18 AAC 75.066	6/19/2011, 6/19/2021	9/30/2013, 7/19/2016	Elevated - Visual	Coating on internal bottom surface, Anodes	[redacted]	Off Shore	[redacted]	
	G-T-0380B	East Oil Shipping Tank	[redacted]	Stationary	Crude Oil, Produced Water	1965	[redacted]	None / Offshore Platform	LLA, HLA, HHA	18 AAC 75.066	9/7/2011, TBD - currently not in use	9/30/2013, 9/7/2016	Elevated - Visual	Anodes	[redacted]	Off Shore	[redacted]	T-380B was internally inspected September 7, 2011 with no major findings. Although the tank could be placed back in operation, it is not currently in use because it is not necessary under current operating conditions. Another internal inspection will be performed prior to refilling the tank and the next internal inspection will be set based on that internal inspection date.
	G-T-3090	Diesel Beam Tank	[redacted]	Stationary	Diesel	1965	[redacted]	None / Offshore Platform	HLA, HHA	18 AAC 75.066	4/13/2009, 4/13/2024	4/10/2014, 4/13/2019	Elevated - Visual	thick film liner on internal bottom surface, sacrificial anodes	[redacted]	Off Shore	[redacted]	Final inspection report pending.
King Salmon Platform	L-T-0180A	West Oil Shipping Tank	[redacted]	Stationary	Crude Oil	1966	[redacted]	None / Offshore Platform	LLA, HLA, HHA	18 AAC 75.066	2/21/2011, 2/21/2021	4/24/2013, 2/21/2016	Elevated - Visual	Anodes	[redacted]	Off Shore	[redacted]	

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of Tank Truck	Comments
	L-T-0180B	East Oil Shipping Tank	(b) (7)(F), (b) (3) [redacted]	Stationary	Crude Oil	1966	(b) (7)(F), (b) (3) [redacted]	None / Offshore Platform	LLA, HLA, HHA	18 AAC 75.066	1/11/2011, 1/11/2021	4/24/2013, 1/11/2016	Elevated - Visual	Anodes	(b) (7)(F), (b) (3) [redacted]	Off Shore	(b) (7)(F), (b) (3) [redacted]	
	L-T-0190	Sump Tank	[redacted]	Stationary	Deck Drains	1966	[redacted]	None / Offshore Platform	LLA, HLA, HHA	18 AAC 75.066	11/30/2011, 11/30/2021	4/24/2013, 11/30/2016	Elevated - Visual	Anodes, internal coating	[redacted]	Off Shore	[redacted]	3/4 inch thick steel on shell/bottom,
	L-T-1750	Diesel Beam Tank	[redacted]	Stationary	Diesel	1966	[redacted]	None / Offshore Platform	Visual during fluid trnsfers	18 AAC 75.066	1/11/2002, 2/1/2017	4/24/2013, 10/5/2017	Elevated - Visual	None	[redacted]	Off Shore	[redacted]	In accordance with 18 AAC 75.066 and API 653 6.4.1.2, an in-service ultrasonic thickness (UT) inspection shall be performed in lieu of an internal inspection. Per API Section 6.3.3, this inspection shall occur on a 15 year interval. This tank is in non-corrosive service with a 3/4 inch thick (+) shell/bottom
	L-T-1760		[redacted]	Stationary	Out of Service 11/2004	1966	[redacted]	Platform	Inactive		Inspection required prior to activation	Inspection required prior to activation	Elevated - Visual	Thick film liner on internal bottom surface, sacrificial anodes	[redacted]	Off Shore	[redacted]	Out of service, disconnected, cleaned, signed per lead operators on 11/2004
Monopod Platform	Mud Tanks	Drilling Mud Tanks	[redacted]	Stationary	O/B or FW/B Drilling Fluids	2001	[redacted]	None / Offshore Platform	Visual during fluid transfers	18 AAC 75.065	41085, 44737	6/25/2012, 6/25/2017	Visual surveillance	None	[redacted]	Off Shore	[redacted]	Internal and external inspection completed 6/25/12. Submitted to ADEC 08/17/12.
	L-T-3000	Diesel Box Tank	[redacted]	Stationary	Diesel	1965	[redacted]	None / Offshore Platform	HLA, Sight Glass - Visual during fluid transfer	18 AAC 75.066	41821, 47331	7/1/2014, 8/1/2019	Visual surveillance	None	[redacted]	Off Shore	[redacted]	In accordance with 18 AAC 75.066 and API 653 6.4.1.2, an in-service ultrasonic thickness (UT) inspection shall be performed in lieu of an internal inspection. Per API Section 6.3.3, this inspection shall occur on a 15 year interval. This tank is in non-corrosive service with a 3/4 inch thick (+) shell/bottom. 2014 reports pending.
Steelhead Platform	Mud Tanks (8 Tanks)	Out of Service	[redacted]	Stationary	O/B or FW/B Drilling Fluids	1986*	[redacted]	None / Offshore Platform	Visual during fluid transfers		Inspection required prior to activation	Inspection required prior to activation	Tanks sit on steel floor. Visual	None	[redacted]	Off Shore	[redacted]	
	Mud Tanks (11 Tanks)	Drilling Mud Tanks	[redacted]	Stationary	O/B or FW/B Drilling Fluids	1985	[redacted]	Platform	Visual during fluid transfers	18 AAC 75.066	9/28/10, 9/28/2020	9/28/10, 9/28/2015	Tanks sit on steel floor. Visual	None	[redacted]	Off Shore	[redacted]	Tank bottom is visable, elevated on beams above the floor.
	H-T-0037	Waste Water Tank	[redacted]	Stationary	Water runoff from deck with some produced water	1985	[redacted]	None / Offshore Platform	HLA, LLA	18 AAC 75.066	5/27/2010, 5/27/2020	6/20/2013, 6/3/2015	Elevated - Visual	Anodes	[redacted]	Off Shore	[redacted]	
	H-T-0032A	Diesel Beam Tank	[redacted]	Stationary	Diesel	1985	[redacted]	None / Offshore Platform	HLA, LLA	18 AAC 75.066	3/28/2011, 3/28/2021	6/20/2013, 3/28/2016	Elevated - Visual	None	[redacted]	Off Shore	[redacted]	
	H-T-0032B	Diesel Beam Tank	[redacted]	Stationary	Diesel	1985	[redacted]	None / Offshore Platform	HLA, LLA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	None	[redacted]	Off Shore	[redacted]	Tank currently not in use. A full internal is needed prior to placing tank back into service.Non-Corrosive Fluid
	H-T-0032C	Diesel Beam Tank	[redacted]	Stationary	Diesel	1985	[redacted]	None / Offshore Platform	HLA, LLA	18 AAC 75.066	Not in use	Not in use	Elevated - Visual	None	[redacted]	Off Shore	[redacted]	Tank currently not in use. A full internal is needed prior to placing tank back into service.Non-Corrosive Fluid
Swanson River Field	S-T-0001	Johnson Tank A	[redacted]	Portable	Varies	NA	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	7/22/2011, 7/22/2021	10/7/2013, 7/22/2016	Elevated - Visual	None	[redacted]	Portable containment area	[redacted]	
	S-T-0002	Johnson Tank B	[redacted]	Portable	Varies	NA	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	10/07/2011, 10/07/2021	6/24/2013, 10/7/2016	Elevated - Visual	None	[redacted]	Portable containment area	[redacted]	
	S-T-0006	Xylene Tank #6	[redacted]	Portable	Xylene	Unknown	[redacted]	Lined Dike	Visual during fluid transfers	18 AAC 75.066	11/31/2006, 11/1/2021	6/4/2013, 10/31/2016	Elevated - Visual	None	[redacted]	Portable containment area	[redacted]	In accordance with 18 AAC 75.066 and API 653 6.4.1.2, an in-service ultrasonic thickness (UT) inspection shall be performed in lieu of an internal inspection. Per API Section 6.3.3, this inspection shall occur on a 15 year interval. This tank is in non-corrosive service.
	S-T-0022	Oil Storage Tank #22	[redacted]	Stationary	Crude Oil	2008	[redacted]	Lined Dike	HLA, HHLA	18 AAC 75.065	4/23/2009, 4/23/2019	5/20/2014, 4/23/2019	Double bottom interstcial monitoring	Coating on internal bottom surface, sacrificial anodes; deep anode bed	[redacted]	Concrete floor and bermed	[redacted]	Increased TTLA #1 secondary containment capacity in 2010 to 5,550 gallons by adding a 3,590 gallon sump and increasing containment lip by 4 inches. TTLA is 37.5 feet long, 12 feet wide, 4" lip at entrance, 6" drop/slope. TTLA formerly had a waiver due to insufficient capacity. That waiver is no longer required. Maximum tank truck conatainer volume is 3,000 gallons.
T.S. 2-15	S-T-0450	Gauge Tank	[redacted]	Portable	Produced Liquids, Crude oil	2006	[redacted]	Lined Dike	LAH, High Level Shut Down (SR P&ID legend)	18 AAC 75.066	10/2011, 10/2021	6/4/2013, 10/1/2016	Elevated -Visual	Internal Coating	[redacted]	NA	[redacted]	SN# 34-500, Annual 12R-1 inspection to be completed week of 4/8/2013 - 4/12/2013
T.S. 1-33	S-T-0550	Gauge Tank	[redacted]	Portable	Produced Liquids, Crude oil	2006	[redacted]	Lined Dike	LAH, High Level Shut Down (SR P&ID legend)	18 AAC 75.066	10/2011, 10/2021	10/2012, 10/2016	Elevated -Visual	Internal Coating	[redacted]	NA	[redacted]	SN# 34-501, Tank is not currently installed, an inspection/walkaround is required prior to start-up. Annual 12R-1 inspection to be completed Spring/Summer 2013
T.S. 1-27	S-T-0650	Gauge Tank	[redacted]	Portable	Produced Liquids, Crude oil	2006	[redacted]	Lined Dike	LAH, High Level Shut Down (SR P&ID legend)	18 AAC 75.066	10/2011, 10/2021	6/4/2013, 10/1/2016	Elevated -Visual	Internal coating	[redacted]	NA	[redacted]	SN# 34-493, Annual 12R-1 inspection to be completed week of 4/8/2013 - 4/12/2013
	S-T-7160	Produced Water Tank #26 (Skim Tank)	[redacted]	Stationary	Crude Oil, Produced Water	1978	[redacted]	Lined Berm	HLA, HHLA	18 AAC 75.065	6/28/2010, 6/1/2015	6/4/2013, 6/28/2015	None	Impressed current on tank bottom, thick film liner on internal bottom surface, internal anodes	[redacted]	NA	[redacted]	
	Truck Loading Facility	–	[redacted]	–	–	–	[redacted]	–	–	18 AAC 75.065	–	–	–	–	[redacted]	Concrete floor and bermed	[redacted]	TTLA #2 installed in 2011.
Trading Bay Production Facility	R-T-0004	Oil Storage Tank #4	[redacted]	Stationary	Oil, Water and Miscellaneous Fluids	2003	[redacted]	Lined Dike	HLA, LLA, HHlA	18 AAC 75.065	8/1/2014, 8/1/2024	8/1/2014, 8/1/2019	Containment under tank with perforated pipes	Impressed current on tank bottom, thick film liner on internal bottom surface, sacrificial anodes	[redacted]	NA	[redacted]	Final report pending.
	R-T-0007	Oil Storage Tank #7	[redacted]	Stationary	Crude Oil	1967*	[redacted]	Lined Dike	HLA, HHLA	18 AAC 75.065	07/01/12, 07/12/22	07/01/12, 07/12/17	None	Impressed current on tank bottom, thick film liner on internal bottom surface, internal anodes	[redacted]	NA	[redacted]	
	R-T-0008	Oil Storage Tank #8	[redacted]	Stationary	Crude Oil	1967*	[redacted]	Lined Dike	HLA, LLA, HHLA	18 AAC 75.065	8/25/2011, 8/25/2021	8/25/2011, 8/25/2016	None	Impressed current on tank bottom, coating on internal surface, internal sacrificial anodes	[redacted]	NA	[redacted]	
	R-T-0010	Oil Storage Tank #10	[redacted]	Stationary	Crude Oil, Produced Water	12/1/2010	[redacted]	Lined Dike	HLA, LLA, HHLA	18 AAC 75.065	12/20/2010, 12/20/2020	12/20/2010, 12/20/2015	Yes	Impressed current on tank bottom, thick film liner on internal bottom surface, sacrificial anodes	[redacted]	NA	[redacted]	New tank, installed in 2010.

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of Tank Truck	Comments
	R-T-0011	Skim Tank #1	(b) (7)(F), (b) (3) [redacted]	Stationary	Crude Oil, Produced Water	2008	(b) (7)(F), (b) (3) [redacted]	Lined Dike	HLA, LLA, HHLA	18 AAC 75.065	12/1/2008, 12/1/2018	8/30/2013, 12/1/2015	Containment under tank with perforated pipes	Impressed current on tank bottom, coating on internal bottom surface, internal sacrificial anodes	(b) (7)(F), (b) (3) [redacted]	NA	(b) (7) (F), (b) (3) [redacted]	New tank installed in 2008.
	R-T-0012	Skim Tank #2	[redacted]	Stationary	Crude Oil, Produced Water	2012	[redacted]	Lined Dike	HLA, LLA, HHLA	18 AAC 75.065	10/31/2012, 10/31/2022	10/31/2012, 10/31/2017	Containment under tank with perforated pipes	Impressed current on tank bottom, coating on internal bottom surface, internal sacrificial anodes	[redacted]	NA	[redacted]	New tank installed in 2012.
	R-T-0013	Skim Tank #3	[redacted]	Stationary	Crude Oil, Produced Water	10/1/2010	[redacted]	Lined Dike	HLA, LLA, HHLA	18 AAC 75.065	10/10/2010, 10/10/2020	10/10/2010, 10/15/2015	Yes	Impressed current on tank bottom, coating on internal bottom surface, internal sacrificial anodes	[redacted]	NA	[redacted]	New tank, installed in 2010.
	R-T-0640	Diesel Storage Tank #55	[redacted]	Stationary	Unleaded Gasoline	1970	[redacted]	Lined Dike	HLA	18 AAC 75.066	7/10/2006, 7/1/2021	8/17/2011, 7/1/2016	Elevated - Visual	None	[redacted]	Covered, concrete floor and bermed	[redacted]	Tank is refilled from TTLA. Starting in 2010, fuel deliveries will be by aircraft which are limited to 2,000 gallons in capacity per load. Refueling truck used for aircraft transfers to refueling area has capacity o 1,800 gallons. Brake/blocks are used to prevent vehicle movement during filling. In accordance with 18 AAC 75.066 and API 653 6.4.1.2, an in-service ultrasonic thickness (UT) inspection shall be performed in lieu of an internal inspection. Per API Section 6.3.3, this inspection shall occur on a 15 year interval. This tank is in non-corrosive service with a 3/4 inch thick (+) shell/bottom
	R-T-0650	Gasoline Storage Tank #56	[redacted]	Stationary	Diesel	1970	[redacted]	Lined Dike	HLA	18 AAC 75.066	8/3/2006, 8/1/2021	8/17/2011, 8/1/2016	Elevated - Visual	None	[redacted]	Covered, concrete floor and bermed	[redacted]	Tank is refilled from TTLA. Starting in 2010, fuel deliveries will be by aircraft which are limited to 2,000 gallons in capacity per load. Refueling truck used for aircraft transfers to refueling area has capacity o 1,800 gallons. Brake/blocks are used to prevent vehicle movement during filling. In accordance with 18 AAC 75.066 and API 653 6.4.1.2, an in-service ultrasonic thickness (UT) inspection shall be performed in lieu of an internal inspection. Per API Section 6.3.3, this inspection shall occur on a 15 year interval. This tank is in non-corrosive service with a 3/4 inch thick (+) shell/bottom
Portable Tank	UOCD 1714 (Coil Tubing Tank)	Skid Mounted Box Tank	[redacted]	Portable	Diesel Based Drilling Mud	2011*	[redacted]	Offshore Platform: None Onshore Use: Lined Berm	Visual during fluid transfers	18 AAC 75.066	1/7/2011, 1/7/2021	1/7/2011, 1/7/2016	Elevated, Visual	None	[redacted]	Portable containment area	[redacted]	This Hilcorp owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	CVXT-002 (Portable Mud Tank)	Skid Mounted Box Tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2010	[redacted]	None / Offshore Platform	Visual during fluid transfers	18 AAC 75.066	8/17/2010, 8/17/2020	8/17/2010, 8/17/2015	Elevated, Visual	None	[redacted]	Off Shore	[redacted]	This Hilcorp owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	CVXT-003 (Portable Mud Tank)	Skid Mounted Box Tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2010	[redacted]	None / Offshore Platform	Visual during fluid transfers	18 AAC 75.066	8/17/2010, 8/17/2020	8/17/2010, 8/17/2015	Elevated, Visual	None	[redacted]	Off Shore	[redacted]	This Hilcorp owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	HAL-3	Skid Mounted Box Tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable Containment	Visual during fluid transfers	18 AAC 75.066	1/3/2013, 1/3/2023	1/3/2013, 1/3/2018	Elevated - Visual	None	[redacted]	NA	[redacted]	This Haliburton owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	Saxon Rig #169 Premix Tank	Skid Mounted Box Tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable Containment	Visual during fluid transfers	18 AAC 75.066	Built in 2013, 6/1/2018	Built in 2013, 6/1/2018	Elevated, Visual	None	[redacted]	NA	[redacted]	This Saxon owned portable tank is used at different locations throughout the Swanson River Area for drilling purposes.
Portable Tank	Saxon Rig #169 Reserve Tank	Skid Mounted Box Tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable Containment	Visual during fluid transfers	18 AAC 75.066	Built in 2013, 6/1/2018	Built in 2013, 6/1/2018	Elevated, Visual	None	[redacted]	NA	[redacted]	This Saxon owned portable tank is used at different locations throughout the Swanson River Area for drilling purposes.
Portable Tank	Saxon Rig #169 Shaker Tank Asset #117531	Skid Mounted Box Tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable Containment	Visual during fluid transfers	18 AAC 75.066	3/7/2013, 3/7/2018	3/7/2013, 3/7/2018	Elevated, Visual	None	[redacted]	NA	[redacted]	This Saxon owned portable tank is used at different locations throughout the Swanson River Area for drilling purposes.
Portable Tank	Saxon Rig #147 Premix Tank	Skid Mounted Box Tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable Containment	Visual during fluid transfers	18 AAC 75.066	Built in 2013, 6/1/2018	Built in 2013, 6/1/2018	Elevated, Visual	None	[redacted]	NA	[redacted]	This Saxon owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	Saxon Rig #147 Reserve Tank	Skid Mounted Box Tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable Containment	Visual during fluid transfers	18 AAC 75.066	Built in 2013, 6/1/2018	Built in 2013, 6/1/2018	Elevated, Visual	None	[redacted]	NA	[redacted]	This Saxon owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	Saxon Rig #147 Shaker Tank	Skid Mounted Box Tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable Containment	Visual during fluid transfers	18 AAC 75.066	3/7/2013, 3/7/2018	3/7/2013, 3/7/2018	Elevated, Visual	None	[redacted]	NA	[redacted]	This Saxon owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	238863	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1992	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	238890	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1993	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239002	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1993	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239183	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1993	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	10/9/2012, 10/9/2022	10/19/2012, 10/9/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239304	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1994	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	8/20/2012, 8/20/2022	8/20/2012, 8/20/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239313	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1994	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066		NA	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239476	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1994	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239578	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1995	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	8/20/2012, 8/20/2022	8/20/2012, 8/20/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239643	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1995	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/19/2012, 4/19/2022	4/19/2012, 4/19/2017	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of	Comments
Portable Tank	239658	Shop-fabricated elevated tank	(b) (7)(F), (b) (3) [redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1995	(b) (7)(F), (b) (3) [redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	None	(b) (7)(F), (b) (3) [redacted]	NA	(b) (7)(F), (b) (3) [redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239672	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1995	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	6/13/2012, 6/13/2022	6/13/2012, 6/13/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239744	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1997	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239795	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1997	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239823	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1997	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239957	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1998	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	239973	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1998	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254067	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1998	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254110	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1998	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254252	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/21/2010, 4/21/2020	4/21/2010, 4/21/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254254	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254438	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254439	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254440	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254441	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254442	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254456	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/19/2012, 4/19/2022	4/19/2012, 4/19/2017	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254465	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254468	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066		NA	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254482	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254486	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	7/4/2007, 7/4/2017	7/4/2007, 7/4/2012	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254559	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254605	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2000	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	8/22/2009, 8/22/2019	8/22/2008, 8/22/2013	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254615	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2000	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254708	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2000	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/25/2009, 3/25/2019	3/25/2009, 3/25/2014	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254782	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254881	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2000	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254883	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2000	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254925	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2000	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254980	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2000	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	8/20/2012, 8/20/2022	8/20/2012, 8/20/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254993	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2000	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2007, 4/26/2012	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255023	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1999	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	11/14/2012, 11/14/2022	11/14/2012, 11/14/2017	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of Tank Truck	Comments
Portable Tank	255069	Shop-fabricated elevated tank	(b) (7)(F), (b) (3) [redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2002	(b) (7)(F), (b) (3) [redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/8/2009, 4/8/2019	4/8/2009, 4/8/2014	None	None	(b) (7)(F), (b) (3) [redacted]	NA	(b) (7)(F), (b) (3) [redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255098	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2003	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2009, 4/26/2014	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255129	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255132	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255134	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/19/2012, 4/19/2022	4/19/2012, 4/19/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255141	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255167	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255169	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255254	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/21/2010, 4/21/2020	4/21/2010, 4/21/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255286	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255317	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	8/20/2012, 8/20/2022	8/20/2012, 8/20/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255363	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/8/2009, 4/8/2019	4/8/2009, 4/8/2014	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255400	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255413	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255415	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255427	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255497	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	9/20/2009, 9/20/2019	9/20/2009, 9/20/2014	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255516	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255520	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255524	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/6/2007, 4/6/2017	4/6/2007, 4/6/2012	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255526	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255532	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255534	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/19/2012, 4/19/2022	4/19/2012, 4/19/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255536	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255548	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255550	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255552	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255554	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2001	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255558	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2002	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255562	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2002	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255564	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2002	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255568	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2002	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of Tank Truck	Comments
Portable Tank	255570	Shop-fabricated elevated tank	(b) (7)(F), (b) (3) [redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2002	(b) (7)(F), (b) (3) [redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/7/2007, 4/7/2017	4/7/2007, 4/7/2012	None	None	(b) (7)(F), (b) (3) [redacted]	NA	(b) (7)(F), (b) (3) [redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255572	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2002	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/23/2010, 3/23/2020	3/23/2010, 3/23/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255574	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2002	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2012, 4/26/2022	4/26/2012, 4/26/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255576	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2002	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	6/13/2012, 6/13/2022	6/13/2012, 6/13/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255711	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2002	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	5/28/2008, 5/28/2018	5/28/2008, 5/28/2013	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255717	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2003	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	5/21/2004, 5/21/2014	5/21/2009, 5/21/2014	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255723	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2003	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	5/28/2008, 5/28/2018	5/28/2008, 5/28/2013	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255732	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2003	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	1/11/2008, 1/11/2018	1/11/2008, 1/11/2013	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	255902	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/21/2010, 4/21/2020	4/21/2010, 4/21/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	256134	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/21/2010, 4/21/2020	4/21/2010, 4/21/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	256374	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/21/2010, 4/21/2020	4/21/2010, 4/21/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	258090	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2000	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	8/20/2012, 8/20/2022	8/22/2008, 8/22/2013	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	258111	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1995	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/20/2008, 3/20/2018	3/20/2008, 3/20/2013	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	258119	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2000	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/27/2008, 3/27/2018	3/27/2008, 3/27/2013	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	258664	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2002	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2/4/2010, 2/4/2020	2/4/2010, 2/4/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	258670	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2002	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2/4/2010, 2/4/2020	2/4/2010, 2/4/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	258854	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2003	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	6/13/2012, 6/13/2022	6/13/2012, 6/13/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	259172	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2004	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2/4/2010, 2/4/2020	2/4/2010, 2/4/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	259403	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2004	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	6/13/2012, 6/13/2022	6/13/2012, 6/13/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	259408	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2004	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/21/2010, 4/21/2020	4/21/2010, 4/21/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	259412	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2004	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2/4/2010, 2/4/2020	2/4/2010, 2/4/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	260788	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	6/13/2012, 6/13/2022	6/13/2012, 6/13/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	260799	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2008, 4/26/2018	4/26/2008, 4/26/2013	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	260800	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	5/1/2008, 5/1/2018	5/1/2008, 5/1/2013	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	265119	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	8/3/2010, 8/3/2020	8/3/2010, 8/3/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	265134	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/17/2010, 3/17/2020	3/17/2010, 3/17/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	265402	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2/4/2010, 2/4/2020	2/4/2010, 2/4/2015	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	265534	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	6/13/2012, 6/13/2022	6/13/2012, 6/13/2017	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	265662	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066		None	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	265939	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/21/2010, 4/21/2020	4/21/2010, 4/21/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	265942	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/21/2010, 4/21/2020	4/21/2010, 4/21/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	265996	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	8/24/2010, 8/24/2020	8/24/2010, 8/24/2015	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of Tank Truck	Comments
Portable Tank	265998	Shop-fabricated elevated tank	(b) (7)(F), (b) (3) [redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	(b) (7)(F), (b) (3) [redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	8/24/2010, 8/24/2020	8/24/2010, 8/24/2015	None	None	(b) (7)(F), (b) (3) [redacted]	NA	(b) (7)(F), (b) (3) [redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266010	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	3/27/2018, 3/27/2018	3/27/2008, 3/27/2013	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266014	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	5/28/2008, 5/28/2018	5/28/2008, 5/28/2013	None	None	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266029	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/17/2012, 4/17/2022	4/17/2009, 4/17/2014	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266032	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/17/2012, 4/17/2022	4/17/2009, 4/17/2014	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266115	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2009	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	12/10/2009, 12/10/2019	12/10/2009, 12/10/2014	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266116	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2009	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	12/10/2009, 12/10/2019	12/10/2009, 12/10/2014	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266600	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	8/22/2009, 8/22/2019	8/22/2008, 8/22/2013	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266700	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	4/26/2008, 4/26/2018	4/26/2008, 4/26/2013	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266701	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	5/1/2008, 5/1/2018	5/1/2008, 5/1/2013	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266801	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	12/10/2009, 12/10/2019	12/10/2009, 12/10/2014	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266802	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	12/10/2009, 12/10/2019	12/10/2009, 12/10/2014	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266639	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	6/1/2013, 6/1/2023	6/1/2013, 6/1/2018	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266640	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	6/1/2013, 6/1/2023	6/1/2013, 6/1/2018	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266641	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	6/1/2013, 6/1/2023	6/1/2013, 6/1/2018	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266642	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	6/1/2013, 6/1/2023	6/1/2013, 6/1/2018	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266643	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	6/1/2013, 6/1/2023	6/1/2013, 6/1/2018	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	266644	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	6/1/2013, 6/1/2023	6/1/2013, 6/1/2018	None	Internal Coating	[redacted]	NA	[redacted]	This Rain For Rent owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	59	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2009, 2019	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	120	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2006, 2011	2006, 2016	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	123 (34-363)	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2006, 2011	2006, 2016	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	124 (34-364)	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2006, 2011	2006, 2016	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	125	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2006, 2011	2006, 2016	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	126	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2006, 2011	2006, 2016	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	127	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2006, 2011	2006, 2016	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	128	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2006, 2011	2006, 2016	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	129	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2006, 2011	2006, 2016	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	130	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2006, 2011	2006, 2016	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	131 (34-371)	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2006, 2011	2006, 2016	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	250	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2007, 2012	2007, 2017	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	251	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2007, 2012	2007, 2017	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	252	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2009, 2019	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	254	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2007, 2012	2007, 2017	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of	Comments
Portable Tank	255	Shop-fabricated elevated tank	(b) (7)(F), (b) (3) [redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	(b) (7)(F), (b) (3) [redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2009, 2019	None	None	(b) (7)(F), (b) (3) [redacted]	NA	(b) (7)(F), (b) (3) [redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	288	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2008, 2018	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	289	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2008, 2018	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	290	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2009, 2019	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	292	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2009, 2019	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	293	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2009, 2019	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	304	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2008, 2018	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	305	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2008, 2018	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	307	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2008, 2018	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	308	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2008, 2018	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	309	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2008, 2018	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	310	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2008, 2018	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	311	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2008, 2013	2008, 2018	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-1	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2011, 2016	2011, 2021	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-2	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2011, 2016	2011, 2021	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-4	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2011, 2016	2011, 2021	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-5	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2011, 2016	2011, 2021	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-7	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2011, 2016	2011, 2021	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-13	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2011, 2016	2011, 2021	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-12	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2011, 2016	2011, 2021	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-10	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2009, 2019	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-11	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2009, 2019	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-9	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2009, 2019	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-360	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2010, 2020	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-364	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2008, 2013	2009, 2019	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-365	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2009, 2019	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-366	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2007, 2017	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-367	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2009, 2019	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-368	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2007, 2017	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-369	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2007, 2017	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-370	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2007, 2017	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-371	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2009, 2014	2008, 2018	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of Tank Truck	Comments
Portable Tank	34-492	Shop-fabricated elevated tank	(b) (7)(F), (b) (3) [redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	(b) (7)(F), (b) (3) [redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2006, 2016	None	None	(b) (7)(F), (b) (3) [redacted]	NA	(b) (7)(F), (b) (3) [redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-014-02	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2011, 2016	2011, 2021	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-494	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2011, 2015	2011, 2021	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-495	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2006, 2016	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-496	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2006, 2016	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-497	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2006, 2016	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-498	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2006, 2016	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-499	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2009, 2019	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	34-502	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2009, 2019	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	A-1804	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1991	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2010, 2020	None	Defused open top	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	A-1805	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	1991	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2010, 2015	2010, 2020	None	Defused open top	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100802	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100803	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100804	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100805	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100806	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100807	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100894	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100895	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100896	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100897	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100898	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100899	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100698R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100699R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100700R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100701R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100702R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100703R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100704R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100705R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100706R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of Tank Truck	Comments
Portable Tank	100707R	Shop-fabricated elevated tank	(b) (7)(F), (b) (3) [redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	(b) (7)(F), (b) (3) [redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	(b) (7)(F), (b) (3) [redacted]	NA	(b) (7)(F), (b) (3) [redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100708R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100709R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100710R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100711R	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100863	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100864	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100865	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100866	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100867	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100868	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100869	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100870	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100871	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100872	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100873	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100874	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100875	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100876	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100877	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100878	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100879	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100880	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100881	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	100882	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2012	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	WTM081388 (A-2099)	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2010	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	WTM081546 (A-2108)	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2010	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	1T9TF4212B 1867609	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2011	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	A-1255	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2005*	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	A-1256	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2005*	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	A-1088	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2005*	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	230	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2007	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of	Comments
Portable Tank	333	Shop-fabricated elevated tank	(b) (7)(F), (b) (3) [redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	(b) (7)(F), (b) (3) [redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	(b) (7)(F), (b) (3) [redacted]	NA	(b) (7)(F), (b) (3) [redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	334	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	335	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	336	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Internal Coating	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	329	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Agitated	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	344	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Agitated	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	346	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Agitated	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	360	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	Agitated	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	29428-1	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	29428-2	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	350	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	351	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	353	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	354	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	355	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2088	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	356	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	1238-7	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2006	[redacted]	Portable containment	Visual during fluid transfers	18 AAC 75.066	2012, 2017	2012, 2022	None	None	[redacted]	NA	[redacted]	This Atigun owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	T024333-02	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	T024333-03	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	T024333-04	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	T024333-05	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	T024841-04	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	T024841-07	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	T024841-08	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	T024841-03	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	T024841-05	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	T024333-03	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	343	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2010*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2010/2015	2010/2020	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	397	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2010*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2010/2015	2010/2020	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	018747-09	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2011*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2011/NA	2011/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	018747-10	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2011*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2011/NA	2011/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	019348-01	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2011*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2011/NA	2011/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of Tank Truck	Comments
Portable Tank	019679-01	Shop-fabricated elevated tank	(b) (7)(F), (b) (3) [redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2011*	(b) (7)(F), (b) (3) [redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2011/NA	2011/NA	None	None	(b) (7)(F), (b) (3) [redacted]	NA	(b) (7)(F), (b) (3) [redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	024333-10	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	026106-07	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-3	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2008/NA	2008/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	027291-10	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	027503-03	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	024333-07	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	027503-07	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	027291-06	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	027503-04	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	09-147003-1	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	026106-05	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	T024841-06	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	T024841-06	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	348	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2010*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2010/2015	2010/2020	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	361	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2010*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2010/2015	2010/2020	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	362	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2010*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2010/2015	2010/2020	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	391	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2010*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2010/2015	2010/2020	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	020424-01	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2010*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2010/NA	2010/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	020424-02	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2010*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2010/NA	2010/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	027503-08	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	026106-06	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	024841-14	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	026106-02	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	026106-01	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	024841-11	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	027503-09	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	027503-02	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	027503-10	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	027291-05	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	027291-09	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	026106-03	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.

Regulated Oil Storage Tanks Greater Than 10,000 Gallons

Location	Name or Tank #	Tank Description	Capacity in Gallons	Stationary/ Portable	Product Type	Construction Date	SCA Vol. (gal)	SCA Description	Liquid Level Mechanism/ Overfill Protection	Inspection Requirement (shop vs field const.)	Last/Next Internal Inspection	Last/Next External Inspection	Leak Detection Systems	Corrosion Protection	Loading area Lined Containment Vol.	Loading Area Lined Containment Description	Volume of Largest Compartment of Tank Truck	Comments
Portable Tank	0261106-04	Shop-fabricated elevated tank	(b) (7)(F), (b) (3) [redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	(b) (7)(F), (b) (3) [redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	(b) (7)(F), (b) (3) [redacted]	NA	(b) (7)(F), (b) (3) [redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	027503-01	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	024333-08	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2013*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2013/NA	2013/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	D-98-405-5	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	Unknown	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	NA	NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	09-147001-2	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2009*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2009/NA	2009/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-14	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2008/NA	2008/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-8	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2008/NA	2008/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-362-4	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2008/NA	2008/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	09-147002-1	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2009*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2009/NA	2009/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-014-1	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2008/NA	2008/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	08-014-4	Shop-fabricated elevated tank	[redacted]	Portable	Diesel Based Drilling Mud/ Hydrocarbons	2008*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2008/NA	2008/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	09-147001-1	Shop-fabricated elevated tank	[redacted]	Portable	Drilling Mud/ Waste Fluids/ Hydrocarbons	2009*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2009/NA	2009/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	019679-02	Shop-fabricated elevated tank	[redacted]	Portable	Drilling Mud/ Waste Fluids/ Hydrocarbons	2011*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2011/NA	2011/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.
Portable Tank	017152-02	Shop-fabricated elevated tank	[redacted]	Portable	Drilling Mud/ Waste Fluids/ Hydrocarbons	2011*	[redacted]	Portable containment if required	Visual Equipped with Mechanical Gauge Board	18 AAC 75.066	2011/NA	2011/NA	None	None	[redacted]	NA	[redacted]	This MagTec owned portable tank is used at different locations throughout the Cook Inlet for operation purposes.

*Construction date is estimated

APPENDIX C

FACILITY OVERVIEW AND DIAGRAMS

PRODUCTION FACILITY DESCRIPTIONS

Name	**Anna Platform**
Type of Facility	Offshore Oil/Gas Drilling/Production Facility
Location	Latitude: [redacted] Longitude [redacted]
Operations	• Installed in 1966 • Oil and gas drilling • Oil and gas production • Produced water injection
Inflow From	Onboard oil and gas wells with the following approximate production: • 1,220 bbl oil and produced water per day • 0.86 MMCF per day of natural gas
Outflow To	Production sent to Granite Point Tank Farm • 1,015 bopd • Produced water re-injected to formation
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations: 5-8 • Support : 1-3 • Other: Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (ODPCP) • EPA per 40 CFR 112 (SPCC and OPA 90)
Name	**Baker Platform**
Type of Facility	Offshore Oil/Gas Drilling/Production Facility
Location	Latitude [redacted] Longitude [redacted]
Operations	• Installed in 1965 • Oil and gas drilling and production discontinued in 2003, except for one gas well producing for on-site use
Inflow From	One gas well • 0.98 MMCF per day of natural gas.
Outflow To	No current oil or gas production outflows
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations: 1 • Other: Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (ODPCP) • EPA per 40 CFR 112 (SPCC)
Name	**Beaver Creek and Vicinity**
Type of Facility	Oil and Gas Production Facility
Location	Beaver Creek: Latitude: [redacted] Longitude [redacted] Sterling: Latitude: [redacted] Longitude [redacted]
Operations	• Installed in 1967 • Oil and gas drilling • Oil and gas production • Produced water injection
Inflow From	Onboard oil and gas wells with the following approximate production: • 150 barrels per day of crude oil • 20 MMCF per day of natural gas
Outflow To	Oil production sent by truck to the Tesoro Nikiski Refinery • 150 barrels of crude oil per day
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations: 3-5 • Support: 2-4 • Other-Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (ODPCP) • EPA per 40 CFR 112 (SPCC)

PRODUCTION FACILITY DESCRIPTIONS (CONTINUED)

Name	**Bruce Platform**
Type of Facility	Offshore Oil/Gas Drilling/Production Facility
Location	Latitude: [redacted] Longitude [redacted]
Operations	• Installed in 1966 • Oil and gas drilling and production • Oil and gas production • Produced water injection
Inflow From	Onboard oil and gas wells with the following approximate production: • 500 bbl oil and produced water per day • 0.50 MMCF per day of natural gas
Outflow To	Oil production sent by pipeline to Granite Point Tank Farm • 375 bopd Produced water re-injected to formation
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations: 5-7 • Support: 1-3 • Other: Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (C-Plan) • EPA per 40 CFR 112 (SPCC and OPA 90) Operates primary disposal/injection well for muds and cuttings for UOCC's Cook Inlet platforms.
Name	**Dillon Platform**
Type of Facility	Offshore Oil/Gas Drilling/Production Facility-Currently Inactive
Location	Latitude: [redacted] Longitude [redacted]
Operations	• Installed in 1967 • Oil and gas drilling and production shut in during January 2002
Inflow From	No current onboard production
Outflow To	No current outflows
Normal Staffing	The platform is unstaffed although workers do sometimes visit the platform to perform maintenance or operations
Comments	Regulated under the following: • ADEC per 18 AAC 75 (C-Plan) • EPA per 40 CFR 112 (SPCC)

PRODUCTION FACILITY DESCRIPTIONS (CONTINUED)

Name	**Dolly Varden Platform**
Type of Facility	Offshore Oil/Gas Drilling/Production Facility
Location	Latitude: [redacted] Longitude [redacted]
Operations	• Installed in 1967 • Oil and gas drilling • Oil and gas production
Inflow From	Onboard oil and gas wells with the following approximate production: • 38,000 bbl oil and produced water per day • .8 MMCF per day of natural gas
Outflow To	Production sent by pipeline to Trading Bay Production Facility • 38,000 bbl oil and produced water per day (1,700 bbl oil and 36,300 bbl water)
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations: 6-10 • Support : 7-10 • Other: Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (C-Plan) • EPA per 40 CFR 112 (SPCC and OPA 90)
Name	**Granite Point Platform**
Type of Facility	Offshore Oil/Gas Drilling/Production Facility
Location	Latitude: [redacted] Longitude [redacted]
Operations	• Installed in 1967 • Oil and gas drilling • Oil and gas production
Inflow From	Onboard oil and gas wells with the following approximate production: • 21,000 bbl oil and produced water per day • 1.0 MMCF of natural gas per day
Outflow To	Production sent by pipeline to Granite Point Tank Farm: • 21,000 bbl oil and produced water per day (1,450 bbl oil and 19,650 bbl water)
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations: 6-8 • Support : 2-4 • Other: Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (C-Plan) • EPA per 40 CFR 112 (SPCC and OPA 90)
Name	**Granite Point Tank Farm**
Type of Facility	Onshore Oil/Gas Production Facility
Location	Latitude: [redacted] Longitude [redacted]
Operations	• Started operations in 1967 • Oil and gas processing • Oil and gas transportation
Inflow From	Offshore pipelines from platforms: Approx. 22,390 bbl oil and produced water per day from the following platforms • Anna Platform • Bruce Platform • Granite Point Platform
Outflow To	Cook Inlet Pipe Line Company oil pipeline to Drift River: • Approx. 2,650 bbl per day of crude oil • Produced water to outfall
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations: 2 • Other: Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (C-Plan) • EPA per 40 CFR 112 (SPCC and OPA 90)

PRODUCTION FACILITY DESCRIPTIONS (CONTINUED)

Name	**Grayling Platform**
Type of Facility	Offshore Oil/Gas Drilling/Production Facility
Location	Latitude: [redacted] Longitude [redacted]
Operations	• Installed in 1965 • Oil and gas drilling • Oil and gas production
Inflow From	Onboard oil and gas wells with the following approximate production: • 31,000 bbl oil and produced water per day • 5 MMCF of natural gas per day
Outflow To	Production sent by pipeline to Trading Bay Production Facility • 31,000 bbl oil and produced water per day (1,400 bbl oil and 29,600 bbl. water)
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations: 5-7 • Support : 6-8 • Other: Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (C-Plan) • EPA per 40 CFR 112 (SPCC and OPA 90)
Name	**King Salmon Platform**
Type of Facility	Offshore Oil/Gas Drilling/Production Facility
Location	Latitude: [redacted] Longitude [redacted]
Operations	• Installed in 1966 • Oil and gas drilling • Oil and gas production • Water flood operations
Inflow From	Onboard oil and gas wells with the following approximate production: • 24,000 bbl oil and produced water per day • 2 MMCF natural gas per day
Outflow To	Production sent by pipeline to Trading Bay Production Facility • 24,000 bbl oil and produced water per day (1,000 bbl oil and 23,000 bbl. water)
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations: 6 -8 • Support; 5 -7 • Other: Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (C-Plan) • EPA per 40 CFR 112 (SPCC and OPA 90)

PRODUCTION FACILITY DESCRIPTIONS (CONTINUED)

Name	**Monopod Platform**
Type of Facility	Offshore Oil/Gas Drilling/Production Facility
Location	Latitude: [redacted] Longitude [redacted]
Operations	• Installed in 1965 • Oil and gas drilling • Oil and gas production with 2-phase separation (liquids and gas) • Water flood operations
Inflow From	Onboard oil and gas wells with the following approximate production: • 18,500 bbl oil and produced water per day • 2 MMCF of natural gas per day
Outflow To	Production sent by pipeline to Trading Bay Production Facility: • 18,500 bbl oil and produced water per day (3,000 bbl oil and 15,500 bbl water)
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations: 7-8 • Support: 5-7 • Other: Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (C-Plan) • EPA per 40 CFR 112 (SPCC and OPA 90)
Name	**Steelhead Platform**
Type of Facility	Offshore Oil/Gas Drilling/Production Facility
Location	Latitude: [redacted] Longitude [redacted]
Started Operations	• Installed in 1986 • Oil and gas drilling • Oil and gas production • Water flood operations
Inflow From	Onboard oil and gas wells with the following approximate production: • 31,800 bbl oil and produced water per day • 3 MMCF of natural gas
Outflow To	Production sent by pipeline to Trading Bay Production Facility: • 31,800 oil and produced water per day (1,800 bbl oil and 30,000 bbl water)
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations: 5-7 • Support: 5-7 • Other: Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (C-Plan) • EPA per 40 CFR 112 (SPCC and OPA 90)

PRODUCTION FACILITY DESCRIPTIONS (CONTINUED)

Name	**Swanson River Field**
Type of Facility	Onshore Oil Drilling and Production Facility
Location	Latitude: [redacted] Longitude [redacted]
Operations	• Initially constructed in 1957 • Oil and gas drilling • Production of oil and natural gas • Storage of natural gas in formation
Inflow From	Oil and gas wells in Swanson River Field, with the following approximate production: • 3,700 oil and produced water per day (2,500 bbl oil and 1,300 bbl water) • 6.5 MMCF of natural gas
Outflow To	Oil production sent by Swanson River COTP to the Tesoro N kiski Refinery: • Approx. 3,700 bbl per day of crude oil • Variable amount of gas depending on demand
On Field Pipelines	Flow lines (unprocessed gas); crude oil
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations/Support: 24 days, 4 nights • Other: Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (C-Plan) • EPA per 40 CFR 112 (SPCC)
Name	**Swanson River Crude Oil Transmission Pipeline**
Type of Facility	Onshore Crude Oil Transmission Pipeline
Location	Swanson River Area, Kenai Peninsula
Operations	• Line laid in 1960 • Transport of crude oil
Inflow From	Swanson River Field
Outflow To	Kenai Pipe Line Company Nikiski Terminal
Comments	Regulated under the following: • ADEC per 18 AAC 75 (C-Plan) • U.S. Department of Transportation
Name	**Trading Bay Production Facility**
Type of Facility	Onshore Oil Production Facility *Used to support production operations from the offshore platforms.
Location	Latitude: [redacted] Longitude [redacted]
Operations	• Production of oil and natural gas
Inflow From	Offshore pipelines from platforms: Approx. 145,000 bbl oil and produced water per day from the following platforms • Dolly Varden Platform • Grayling Platform • King Salmon Platform • Monopod Platform • Steelhead Platform
Outflow To	Cook Inlet Pipe Line Company oil pipeline to Drift River: • Approx. 8,500 bbl per day of crude oil, treated, produced water to outfall
Normal Staffing	Facilities are staffed 24 hours per day with the following personnel: • Operations: 8 • Support: 5-7 • Other: Temporary onsite personnel varies
Comments	Regulated under the following: • ADEC per 18 AAC 75 (C-Plan) • EPA per 40 CFR 112 (SPCC and OPA 90)

(b) (7)(F), (b) (3)

[redacted]

NUMBER	SH.	REFERENCE DRAWINGS

NOTES:

1. TBPF operations and activities occur mostly on the two HILCORP—owned land parcels that include approximately 192 acres of land. The Upper Staging Area, Barge Landing and access, and the northern 2/5 of the airstrip are on State—owned lands, and cover approximately 3.9 acres. The southern 1/5 of the airstrip includes approximately 0.24 acres and is on land owned by Salamatof Native Association.

REV. NO.	DATE	REVISED (DESTROY ALL PRINTS BEARING EARLIER DATE)	REV. BY	CKD. BY	APP'D
01	05/09/11	COMMENTS	SJ	KN	
02	08/11/11	COMMENTS	SJ	KN	
03	09/10/12	REVISED PER COMMENTS	SC	JH	
04	06/26/13	REVISED PER COMMENTS	SC	JH	
05	12/30/13	REVISED PER COMMENTS	SC	JH	
06	03/05/14	REVISED PER COMMENTS	SC	JH	

APPROVED FOR CONSTRUCTION		
A. F. E.	DATE	SIGNED

DRAWN BY S. JOHNSON
CHECKED BY
TRACED BY
TRACE'G CKD.
APPD.
APPD.
SCALE AS SHOWN
DATE 11/01/10
JOB NO.

TRADING BAY PRODUCTION FACILITY
COOK INLET ALASKA

Figure 1a: TBPF Layout

HILCORP ALASKA, LLC
DRAWING NO. 2012_TBPF_SPCC-01
SHEET 001
REV NO. 06

Feature # (HES-TBP-0###)[1]	Location	Feature Name	Capacity (gal)	Contents
006	**Steelhead Gas Bldg**	**Steelhead Gas Scrubber**	(b) (7)(F), (b)(3) [redacted]	**Gas condensate, produced water**
007	**Steelhead Gas Bldg**	**Forest Oil Gas Separator**	[redacted]	**Gas condensate, produced water**
008	**South Tank Area**	**Tank 4 (Oil Storage Tank)**	[redacted]	**Crude oil, produced water**
012	Battery 1 Bldg	Monopod Gas Scrubber 1	[redacted]	Permanently closed - 3/1/10
013	Battery 1 Bldg	Monopod Surge Scrubber 2	[redacted]	Permanently closed - 3/1/10
014	Battery 1 Bldg	Monopod Line Heater	[redacted]	Permanently closed - 5/12/10
015	Battery 1 Bldg	Recycle Heater Treater	[redacted]	Permanently closed - 4/25/10
016	Battery 1 Bldg	Monopod Heater Treater	[redacted]	Permanently closed - 5/16/10
017	Battery 1 Bldg	Heater Treater 1	[redacted]	Permanently closed - 5/7/10
018	Battery 1 Bldg	Heater Treater 2	[redacted]	Permanently closed - 5/2/10
019	Battery 1 Bldg	Heater Treater 3	[redacted]	Permanently closed - 4/28/10
020	Battery 1 Bldg	Heater Treater 4	[redacted]	Permanently closed - 4/18/10
021	**Battery 1 Bldg**	**Coalescer 3**	[redacted]	**Crude oil, produced water**
022	**Battery 1 Bldg**	**Coalescer 1**	[redacted]	**Crude oil, produced water**
023	**Battery 1 Bldg**	**Coalescer 2**	[redacted]	**Crude oil, produced water**
024	Battery 1 Bldg	Sump Tank 2	[redacted]	Floor drainage - sump auto pumps to Liquid Relief Vessel
027	**Pig Trap Bldg**	**High Pressure Flare Scrubber**	[redacted]	**Gas condensate**
029	**Battery 1 Bldg**	**Sump Tank 3**	[redacted]	**Floor drainage - sump auto pumps to Liquid Relief Vessel**
030	Battery 1 Bldg	Sump Tank 5	[redacted]	Floor drainage - sump auto pumps to Liquid Relief Vessel
032	Pig Cooker Bldg	Pig Cooker/Pig Trap Drain Basin	[redacted]	Water, paraffin, crude oil
033	**N of Preseparator Bldg**	**Slop Oil Heater**	[redacted]	**Crude oil, produced water, TEG**
034	**N of Skim Tank Area**	**Wemco 1 Flotation Cell**	[redacted]	**Produced water, crude oil**
035	**N of Skim Tank Area**	**Wemco 2 Flotation Cell**	[redacted]	**Produced water, crude oil**
036	**N of Skim Tank Area**	**Wemco 3 Flotation Cell**	[redacted]	**Produced water, crude oil**
037	**Center (Skim) Tank Area**	**Accumulator Tank**	[redacted]	**Crude oil, produced water**
038	**Center (Skim) Tank Area**	**Tank 11 (Skim Tank SK-1)**	[redacted]	**Crude oil, produced water**
039	**Center (Skim) Tank Area**	**Tank 12 (Skim Tank SK-2)**	[redacted]	**Crude oil, produced water**
040	Center (Skim) Tank Area	Sump Tank 6	[redacted]	Floor drainage - sump auto pumps to Sand Drain
041	**Slop Tank Area**	**Slop Oil Storage Tank**	[redacted]	**Crude oil, produced water**
042	**Gas Heater Bldg**	**Fuel Gas Heater**	[redacted]	**Gas condensate, produced water**
043	Chemical Storage Area	Chemical Tank 17	[redacted]	Scale inhibitor
044	Chemical Storage Area	Chemical Tank 18	[redacted]	Biocide (not in use)
045	Chemical Storage Area	Chemical Tank 36	[redacted]	Corrosion inhibitor
046	**Chemical Storage Area**	**Chemical Tank 15**	[redacted]	**Demulsifier (hydrocarbon-based)**
055	**Control Room (adjacent)**	**Drum Storage Area**	[redacted]	**Crude oil, diesel, produced water**
056, 057	**Control Room (adjacent)**	**Drum Storage Area**	[redacted]	**Turbine lube oil (replaced Tank TBTC 45)**
059	**Solar Bldg**	**Turbine Generator 1 - Lube Oil Tank**	[redacted]	**Lube oil**
060	**Solar Bldg**	**Turbine Generator 2 - Lube Oil Tank**	[redacted]	**Lube oil**
061	Solar Bldg	Turbine Generator 3 - Lube Oil Tank	[redacted]	Lube oil
062	Solar Bldg	Turbine Soap	[redacted]	Turbine surfactant (non-oil based)
063	**Fueling Bay**	**Fuel Bay Lube Oil**	[redacted]	**Lube oil**
064	**Fuel Storage Area**	**Diesel Storage Tank**	[redacted]	**Diesel**
065	**Fuel Storage Area**	**Gasoline Storage Tank**	[redacted]	**Gasoline**
066	NW Fuel Storage Area	Fire Water Storage Tank 17	[redacted]	Fresh water
067	**Northwest Tank Area**	**Tank 8**	[redacted]	**Crude oil**
068	**Northwest Tank Area**	**Tank 7**	[redacted]	**Crude oil**
069	N of Solar Bldg	Rectifier/Transformer	[redacted]	Permanently closed - 1/4/13
070	NW of Fuel Storage Area	Rectifier/Transformer	[redacted]	Permanently closed - 1/4/13
071	SW of Tank 11	Rectifier/Transformer	[redacted]	Dry unit, does not contain fluid
073	**Produced Water Ponds**	**Produced Water Retention Pond #1**	[redacted]	**Produced water**
074	**Produced Water Ponds**	**Produced Water Retention Pond #2**	[redacted]	**Produced water**
075	**W of Sand Drain**	**Liquid Relief Vessel**	[redacted]	**Crude oil, produced water**
076	Sand Drain	Sand Drain Sump Tank	[redacted]	Oil, grease, produced water
077	**Preseparator Bldg**	**Freewater Knockout 1**	[redacted]	**Crude oil, produced water**
078	**Preseparator Bldg**	**Freewater Knockout 2**	[redacted]	**Crude oil, produced water**
079	**Sand Drain**	**Sand Drain**	[redacted]	**Oil, grease, produced water**
080	**VRU Building**	**VRU Gas Scrubber**	[redacted]	**Gas condensate**
081	**Battery 2 Bldg**	**Freewater Knockout 3**	[redacted]	**Crude oil, produced water**
083	**Battery 2 Bldg**	**Heater Treater 5**	[redacted]	**Crude oil, produced water**
084	**Battery 2 Bldg**	**Heater Treater 6**	[redacted]	**Crude oil, produced water**
085	**Battery 2 Bldg**	**Heater Treater 7**	[redacted]	**Crude oil, produced water**
086	Battery 2 Bldg – Northeast exterior	Fire Tube Sump Tank	[redacted]	Crude oil, produced water
087	Battery 2 Bldg – North exterior	Chemical Tote	[redacted]	Biocide
088	W of Produced Water Pond	Fire Water Storage Tank 16	[redacted]	Fresh water
091	S of Battery 2 Bldg	Unifux Heater 2	[redacted]	Permanently closed - 3/7/10
092	N of Emergency Generator Bldg	Rectifier/Transformer	[redacted]	Permanently closed - 1/4/13
093	W of Utility Bldg	Rectifier/Transformer	[redacted]	Permanently closed - 1/4/13
094	SW of Battery 1 Bldg	LEX Heater	[redacted]	Permanently closed - 6/6/08 (never operational)
104	**Big Compressor Bldg**	**Drum Storage Area**	[redacted]	**Diesel, lubricants, other chemicals**
106	Battery 1 Bldg	Transformer - Monopod Heater Treater	[redacted]	Permanently closed - 3/10/11
107	Battery 1 Bldg	Transformer - Heater Treater 1	[redacted]	Permanently closed - 3/10/11
108	Battery 1 Bldg	Transformer - Heater Treater 2	[redacted]	Permanently closed - 3/10/11
109	Battery 1 Bldg	Transformer - Heater Treater 3	[redacted]	Permanently closed - 3/10/11
110	Battery 1 Bldg	Transformer - Heater Treater 4	[redacted]	Permanently closed - 3/10/11
111	**Flare Trap Bldg**	**Low Pressure Flare Scrubber**	[redacted]	**Gas condensate**
112	Battery 2 Bldg	Transformer - Heater Treater 5	[redacted]	Permanently closed - 1/4/13
113	Battery 2 Bldg	Transformer - Heater Treater 6	[redacted]	Permanently closed - 1/4/13
114	Battery 2 Bldg	Transformer - Heater Treater 7	[redacted]	Permanently closed - 1/4/13
115	Battery 1 Bldg	Transformer - Recycle Heater Treater	[redacted]	Permanently closed - 3/10/11
116	**Vehicle Storage Bldg**	**Various containers**	[redacted]	**Fuel, oils, grease, solvents**
117	**Chemical Storage Bldg**	**Chemical Drums**	[redacted]	**Fuel, kerosene, & other chemicals**
118	**Center (Skim) Tank Area**	**Tank 13**	[redacted]	**Crude oil, produced water**
120	**Vehicle Storage Bldg**	**Sump Tank 7**	[redacted]	**Floor drainage, produced fluids**
121	**Pigging Wax Staging Area**	**Pigging Wax Drums**	[redacted]	**Pigging wax, crude oil**
122	**Waste Storage Area**	**Waste Drums and Totes**	[redacted]	**Sludges, used glycol/oil, used sorbents**
123	**Satellite Waste Station**	**Waste Drums**	[redacted]	**Sludges, used glycol/oil, used sorbents**
124	**Chemical Storage Area**	**Various Totes**	[redacted]	**Chemicals, demulsifier**
126	Winter Waste Cell	Former Winter Waste Cell	[redacted]	Permanently closed - 6/6/08
127	**VRU Building**	**Compressor Oil Reservoir Drums**	[redacted]	**Compressor oil**
128	**Fueling Bay**	**Fueling Bay**	[redacted]	**Diesel, gasoline, lube oil**
129	**South Tank Area**	**Tank 10**	[redacted]	**Crude oil, produced water**
130	South of VRU Bldg	H2S Sweetener Tank	[redacted]	Hydrogen sulfide scavenger (HSW700)
131	South of VRU Bldg	H2S Sweetener Tank	[redacted]	Hydrogen sulfide scavenger (HSW700)
132	**N of Produced Water Ponds**	**Waste Staging Area**	[redacted]	**Oily sludges**
133	**Control Room (adjacent)**	**Drum Storage Area**	[redacted]	**Crude oil, diesel, produced water**
134	**Waste Storage Area (adjacent)**	**Tiger Totes**	[redacted]	**Hydrocarbon-based liquids/sludges**
135	**Emergency Generator Bldg**	**Emergency Generator Tank**	[redacted]	**Diesel**
136	Emergency Generator Bldg	Emergency Generator	[redacted]	Diesel, lube oil
137	**Fire Water Pump Building**	**Fire Water Diesel Tank**	[redacted]	**Diesel**
138	**Vehicle Storage Bldg (across from)**	**Fuel Transfer Tank**	[redacted]	**Diesel, gasoline**
146	Utility Building	Waukesha Emergency Generator	[redacted]	Lube oil
147	**Battery 1 Bldg**	**Demulsifier Storage Area**	[redacted]	**Demulsifier (hydrocarbon-based)**
148	**Battery 1 Bldg**	**Monopod Pig Receiver Catch Basin**	[redacted]	**Crude oil, produced water, oily paraffin**
149	**Battery 1 Bldg**	**Defoamer Drum Storage Area**	[redacted]	**Defoamer (hydrocarbon-based)**
151 - 159	**Waste Storage Area (adjacent)**	**Tiger Totes**	[redacted]	**Hydrocarbon-based liquids/sludges**
161	**Unit Pig Trap Building**	**Dolly Pig Receiver Catch Basin**	[redacted]	**Crude oil, produced water, oily paraffin**
162	**Unit Pig Trap Building**	**King Pig Receiver Catch Basin**	[redacted]	**Crude oil, produced water, oily paraffin**
163	**Unit Pig Trap Building**	**Grayling Pig Receiver Catch Basin**	[redacted]	**Crude oil, produced water, oily paraffin**
164	**Steelhead Gas Building**	**Steelhead Gas Line Pig Receiver Catch Basin**	[redacted]	**Gas condensate**
165	**Steelhead Gas Building**	**Steelhead Gas Line Pig Receiver Catch Basin**	[redacted]	**Gas condensate**
166	**Steelhead Gas Building**	**Steelhead Emulsion Line Pig Receiver Catch Basin**	[redacted]	**Crude oil, produced water, oily paraffin**
170	**Solar Building**	**Lube Oil Drum**	[redacted]	**Hydrocarbon-based liquids/sludges**
200	**N of Skim Tank Area**	**Wemco 4 Flotation Cell**	[redacted]	**Produced water, crude oil**
*****	**Little Compressor Bldg**	**See Table D-1**	[redacted]	**Crude oil**
*****	**Sand Drain Ramp**	**Drum/Tote Staging Area**	[redacted]	**Crude oil, produced fluids**

Bold features are SPCC regulated; other major features are shown for reference only.

[1] Feature # is a four-digit code, but only the last three digits are shown on the figure for ease of reference.

AST = aboveground storage tank   TEG = triethylene glycol

LEX = liquid extraction   VRU = vapor recovery unit   LACT = Lease Automatic Custody Transfer

REV. NO.	DATE	REVISED		
00	09/11/12	COMMENTS	SC	JH
01	09/28/13	REVISED PER COMMENTS	SC	JH
02	12/30/13	REVISED PER COMMENTS	SC	JH
03	03/05/14	REVISED PER COMMENTS	SC	JH

APPROVED FOR CONSTRUCTION — A. F. E. / DATE / SIGNED

SCALE: NONE   DATE: 09/11/12

NOTES:

NUMBER | SH. | REFERENCE DRAWINGS

TRADING BAY PRODUCTION FACILITY

COOK INLET   ALASKA

Figure 1b: TBPF Legend

HILCORP ALASKA, LLC   2012_TBPF_SPCC-01   002   03

Figure 1c – TBPF Evacuation Routes

(b) (7)(F), (b) (3)

[redacted]

[redacted]

(b) (7)(F), (b) (3)

NUMBER	SH.	REFERENCE DRAWINGS

NOTES:

1. Facility size is approximately 10 acres.

REV. NO.	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APP'D

APPROVED FOR CONSTRUCTION

A. F. E.	DATE	SIGNED

DRAWN BY S. JOHNSON
CHECKED BY
TRACED BY
TRAC'G. CKD.
APP'D.
APP'D.
SCALE AS SHOWN
DATE 10/8/2010
JOB NO.

GRANITE POINT TANK FARM

COOK INLET ALASKA

Figure 2a: GPPF Layout

Hilcorp Alaska, LLC

DRAWING NO. 2009_GPTF_SPCC-01.dwg

Figure 2

REV NO. 0

Figure 2b – GPTF Evacuation Routes

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
A-A-0002	002	PRODUCTION DECK
A-A-0003	003	SUB DECK PLAN
A-A-0004	004	SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	10/92	ADDED CHEMICAL TOTE	PJK		
02	11/30/07	AS-BUILT PER FCR A-07004 - ADDED MEDIC ROOM	JTF	SC	
03	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
04	06/24/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY JB/KM
CHD BY P.KING
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32"=1'
DATE 04/12/91

CONTRACTOR

JOB NUMBER

ANNA PLATFORM

COOK INLET ALASKA

Figure 3a: Anna Platform Drill Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
A-A-0001	001	04

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
A-A-0002	002	PRODUCTION DECK
A-A-0003	003	SUB DECK PLAN
A-A-0004	004	SUB-SUB DECK

NOTES: EMERGENCY EQUIPMENT LOCATIONS: 2/92

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	11/97	MECHANIC'S SHOP & H20 FLOOD PUMPS	MDD	PJK	
02	01/24/07	ADDED FIRE EQUIP PER FCR A-06002	SC		
03	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
04	06/24/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY EY/JB
CHD BY P.KING
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32"=1'
DATE 04/12/91

CONTRACTOR

JOB NUMBER

ANNA PLATFORM

COOK INLET ALASKA

Figure 3b: Anna Platform Production Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
A-A-0002	002	04

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
A-A-0001	001	DRILL DECK
A-A-0002	002	PRODUCTION DECK
A-A-0004	004	SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	11/92	ADDED P-840 & METHANOL TANK	PJK		
02	11/97	EDIT PUMP & TURBINE #'S	MDD	PJK	
03	02/26/01	AS-BUILT PER FCR A-99004 / ADDED NOTE 1 & TEXT	EKH	BDB	
04	11/02/01	AS-BUILT PER FCR A-01012 / UPDATED TEXTEKH	BDB		
05	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
06	06/24/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY KEM
CHD BY P.KING
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32"=1'
DATE 04/13/91

CONTRACTOR

JOB NUMBER

ANNA PLATFORM

COOK INLET ALASKA

Figure 3c: Anna Platform Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
A-A-0003	003	06

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
A-A-0001	001	DRILL DECK
A-A-0002	002	PRODUCTION DECK
A-A-0003	003	SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	12/93	CORRECTED TANK LABELS, ADDED DIESEL TRANSFER STATIONS	PJK		
02	02/20/01	AS-BUILT PER FCR A-99008 / ADDED P-0830 & V-0800	BDB	SJF	
03	11/02/01	AS-BUILT PER FCR A-01012, 95001, 96002, & 96009 / ADDED A-P-0230, 0240, 0250, & 3010	EKH	BDB	
04	04/26/12	AS-BUILT PER FCR A-04003 / REMOVED N. TK3 FROM SERVICE	SC	JAG	
05	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
06	06/24/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER

ANNA PLATFORM

COOK INLET ALASKA

Figure 3d: Anna Platform Sub-Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
A-A-0004	004	06

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
U-A-0001	001	DRILL DECK
U-A-0002	002	PRODUCTION DECK
U-A-0003	003	SUB DECK
U-A-0004	004	SUB-SUB DECK

NOTES:

1. DIESEL CONNECTIONS FOR RIG USE. SEE P&ID U-F-0161 FOR DETAILS.
2. FRAC/FLOWBACK TANKS AND DRUMS/TOTES MAY ALSO BE STORED ON THIS DECK. 4
3. TEMPORARY/SEASONAL TANKS AND EQUIPMENT MAY ALSO BE STORED ON THIS DECK.
4. SEETANK TABLE D-1 FOR DETAILS.

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	11/92	ADDED PROPANE TANK	PJK		
02	03/97	REMOVED PROPANE TANK	DEM		
03	04/10/00	AS-BUILT PER C&E / ADDED DIESEL CONN. & NOTE 1	EKH	BDB	
04	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES & NOTES: 2, 3, & 4	COS	DED	DED
05	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL	
DRAWN BY	RWB
CHD BY	BRAD
PROJECT	
STRUCTURAL	
MECHANICAL	
ELECTRICAL	
INSTRUMENT	
SCALE	3/32"=1'
DATE	5/22/91

CONTRACTOR

JOB NUMBER

BRUCE PLATFORM

COOK INLET ALASKA

Figure 4a: Bruce Platform Drill Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
U-A-0001	001	05

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
U-A-0001	001	DRILL DECK
U-A-0002	002	PRODUCTION DECK
U-A-0003	003	SUB DECK
U-A-0004	004	SUB-SUB DECK

NOTES:

1. FRAC/FLOWBACK TANKS AND DRUMS/TOTES MAY ALSO BE STORED ON THIS DECK.
2. TEMPORARY/SEASONAL TANKS AND EQUIPMENT MAY ALSO BE STORED ON THIS DECK.
3. SEETANK TABLE D-1 FOR DETAILS.

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	11/92	REMOVED CHEMICAL TANKS FROM LEG ROOMS, ADDED SCALE INHIBITOR TANK TO SAND FILTER SKID		PJK	
02	03/24/97	REMOVED SAND FILTERS, AIR VOLUME TANK, & SINK MOVED CHEMICAL TANKS & WATER HOSE REEL		DEM	
03	03/17/00	AS-BUILT PER FCR U-98002 / UPDATED EQUIP TEXT	EKH	BDB	
04	04/10/00	AS-BUILT PER C&E / UPDATED TEXT	EKH	BDB	
05	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES & NOTES; 1, 2, & 3	COS	DED	DED
06	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY RWB
CHD BY BRAD
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32"=1'
DATE 05/22/91

CONTRACTOR

JOB NUMBER

BRUCE PLATFORM

COOK INLET ALASKA

Figure 4b: Bruce Platform Production Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
U-A-0002	002	06

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
U-A-0001	001	DRILL DECK
U-A-0002	002	PRODUCTION DECK
U-A-0003	003	SUB DECK
U-A-0004	004	SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	10/09/91	REVISED ROOM & EQUIPMENT NAMES	PJK		
02	06/05/01	AS-BUILT PER FCR U-99004 / ADDED ANNA PIG RECEIVER	EKH	BDB	
03	10/30/02	AS-BUILT PER FCR U-02011 REPLACE GRATING WITH PLATE AT BREEZEWAY 1 & 2	MWL		
04	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
05	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY RWB
CHD BY BRAD
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32"=1'
DATE 05/22/91

CONTRACTOR

JOB NUMBER

BRUCE PLATFORM
COOK INLET ALASKA

Figure 4c: Bruce Platform Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
U-A-0003	003	05

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
U-A-0001	001	DRILL DECK
U-A-0002	002	PRODUCTION DECK
U-A-0003	003	SUB DECK
U-A-0004	004	SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	10/01/91	ADDED WALKWAYS AROUND WATERFLOOD SURGE TANK ROOM	PJK		
02	10/09/91	REVISED ROOM & EQUIPMENT NAMES	PJK		
03	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
04	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY RWB
CHD BY BRAD
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32"=1'
DATE 05/22/91

CONTRACTOR

JOB NUMBER

BRUCE PLATFORM
COOK INLET ALASKA

Figure 4d: Bruce Platform Sub-Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
U-A-0004	004	04

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
V-A-0201	001	DECK PLAN SUB DECK
V-A-0202	001	DECK PLAN PRODUCTION DECK
V-A-0203	001	DECK PLAN PRODUCTION DECK MEZZANINE
V-A-0204	001	DECK PLAN DRILLING DECK
V-A-0205	001	DECK PLAN UPPER DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	07/08/96	CHANGED TO UNOCAL TITLE BLOCK	PJK		
02	06/09/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
03	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 1/8"=1'
DATE 12/30/93

CONTRACTOR

JOB NUMBER

DOLLY VARDEN PLATFORM
COOK INLET ALASKA

Figure 5a: Dolly Varden Platform
Upper Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
V-A-0200	001	03

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
V-A-0200	001	DECK PLAN BELOW DECK
V-A-0202	001	DECK PLAN PRODUCTION DECK
V-A-0203	001	DECK PLAN PRODUCTION DECK MEZZANINE
V-A-0204	001	DECK PLAN DRILLING DECK
V-A-0205	001	DECK PLAN UPPER DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
04	03/18/98	AS-BUILT PER FCR 95003	GHR	BDB	
05	06/30/98	AS-BUILT PER AFE 131005	GHR	BDB	
06	08/18/98	AS-BUILT PER AFE 131005	BDB	BDB	
07	09/18/98	FCR V-95005 – ADDED JW TANK PUMP	GHR	BDB	
08	11/03/00	AS-BULT PER FCR V-99001 & 00001/ADDED CHARGE PUMP, WW INJECT. PUMP & REMOVED R-P FILTERS	BDB	SJF	
09	11/30/00	AS-BUILT PER FCR V-00001/ADDED PUMP P-6350 & UPDATED TEXT	EKH	BDB	
10	03/01/01	AS-BUILT PER FCR 00016	KBB	RWN	
11	06/09/14	REVISED PER SPCC EQUIPMENT LOCATION REDLINES	COS	DED	DED
12	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL	
DRAWN BY	COFFMAN
CHD BY	
PROJECT	
STRUCTURAL	
MECHANICAL	
ELECTRICAL	
INSTRUMENT	
SCALE	1/8"=1'
DATE	12/30/93

CONTRACTOR

JOB NUMBER

DOLLY VARDEN PLATFORM

COOK INLET ALASKA

Figure 5b: Dolly Varden Platform Drill Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
V-A-0201	001	12

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
V-A-0200	001	DECK PLAN BELOW DECK
V-A-0201	001	DECK PLAN SUB DECK
V-A-0203	001	DECK PLAN PRODUCTION DECK MEZZANINE
V-A-0204	001	DECK PLAN DRILLING DECK
V-A-0205	001	DECK PLAN UPPER DECK

NOTES:

12

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
05	06/30/98	AS-BUILT PER AFE 13005	GHR	BDB	
06	08/13/98	AS-BUILT PER FCR V-95005	GHR	BDB	
07	03/20/00	AS-BUILT PER FCR V-99009/ADDED ROOM EXTENSION	EKH	BDB	
08	01/08/02	AS-BUILT PER FCR V-98007 & V-01009/ADDED MAINTENANCE LANDINGS	RRM	BDB	
09	04/18/02	AS-BUILT PER FCR V-01071/REMOVED FILTER SKID/ADDED CONTROL ROOM PLC CONTROLS	RRM	BDB	
10	01/08/03	AS-BUILT PER FCR V-02025/REVISED PILL PIT GRATE	RRM	BDB	
11	02/10/03	AS-BUILT PER FCR V-01033/UPDATED TEXT	RRM	BDB	
12	06/09/14	REVISED PER SPCC EQUIPMENT LOCATION REDLINES	COS	DED	DED
13	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY COFFMAN
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 1/8"=1'
DATE 12/30/93

CONTRACTOR

JOB NUMBER

DOLLY VARDEN PLATFORM

COOK INLET ALASKA

Figure 5c: Dolly Varden Production Deck Mezzanine

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
V-A-0202	001	13

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
V-A-0200	001	DECK PLAN BELOW DECK
V-A-0201	001	DECK PLAN SUB DECK
V-A-0202	001	DECK PLAN PRODUCTION DECK
V-A-0204	001	DECK PLAN DRILLING DECK
V-A-0205	001	DECK PLAN UPPER DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
02	07/08/96	CHANGED UNOCAL TITLE BLOCK	PJK		
03	06/30/98	AS-BUILT PER AFE 131005	GHR	BDB	
04	08/13/98	AS-BUILT PER AFE 131005	GHR	BDB	
05	06/09/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
06	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL

DRAWN BY COFFMAN

CHD BY

PROJECT

STRUCTURAL

MECHANICAL

ELECTRICAL

INSTRUMENT

SCALE 1/8"=1'

DATE 12/30/93

CONTRACTOR

JOB NUMBER

DOLLY VARDEN PLATFORM

COOK INLET ALASKA

Figure 5d: Dolly Varden Production Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
V-A-0203	001	06

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
V-A-0200	001	DECK PLAN BELOW DECK
V-A-0201	001	DECK PLAN SUB DECK
V-A-0202	001	DECK PLAN PRODUCTION DECK
V-A-0203	001	DECK PLAN PRODUCTION DECK MEZZANINE
V-A-0205	001	DECK PLAN UPPER DECK

NOTES:

1. F/F LO COOLERS LOCATED ABOVE TANKS WHERE SHOWN.

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
02	07/08/96	CHANGED UNOCAL TITLE BLOCK	PJK		
03	08/14/98	AS-BUILT PER FCR V-95005	GHR	BDB	
04	03/20/00	AS-BUILT PER FCR V-99015/REPLACED PUMPS/UPDATED MISC. TEXT	EKH	BDB	
05	10/25/00	AS-BUILT PER FCR V-99008/UPDATED EQUIPMENT	BDB	SJF	
06	12/17/01	AS-BUILT PER FCR V-01021/ADDED TANK AND TEXT	RRM	BDB	
07	04/18/02	AS-BUILT PER FCR V-01071/ADDED CONTROL PANEL	RRM	BDB	
08	06/09/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
09	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY COFFMAN
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 1/8"=1'
DATE 12/30/93

CONTRACTOR

JOB NUMBER

DOLLY VARDEN PLATFORM
COOK INLET ALASKA

Figure 5e: Dolly Varden Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
V-A-0204	001	09

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
V-A-0200	001	DECK PLAN BELOW DECK
V-A-0201	001	DECK PLAN SUB DECK
V-A-0202	001	DECK PLAN PRODUCTION DECK
V-A-0203	001	DECK PLAN PRODUCTION DECK MEZZANINE
V-A-0204	001	DECK PLAN DRILLING DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
02	07/08/96	CHANGED UNOCAL TITLE BLOCK	PJK		
03	03/23/98	AS-BUILT PER FCR 95015	GHR	BDB	
04	08/18/98	AS-BUILT PER AFE 131005	BDB	BDB	
05	03/01/01	CHANGED PER FCR 00026	KBB	RWN	
06	02/28/02	AS-BUILT PER FCR V-01052/ADDED LUB OIL COOLER	RRM	BDB	
07	06/09/14	AS-BUILT PER VRU UPGRADES	NMB	CA	
08	06/09/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
09	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY COFFMAN
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 1/8"=1'
DATE 12/30/93

CONTRACTOR

JOB NUMBER

DOLLY VARDEN PLATFORM
COOK INLET ALASKA

Figure 5f: Dolly Varden Below Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
V-A-0205	001	09

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
P-A-0002	002	DRILL DECK
P-A-0003	003	PRODUCTION DECK
P-A-0004	004	SUB DECK
P-A-0005	005	SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
A1	06/02/93	FOR APPROVAL	WW	KS	
B1	07/31/93	ISSUE FOR BASIS OF BID	WW	KS	
00	08/31/93	APPROVED FOR CONSTRUCTION	WW	KS	
01	05/17/95	ISSUE AS-BUILT	JJ		
02	10/13/03	UPDATED NOISE LEVELS (dBa)	YT	TJJ	
03	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
04	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY WDW
CHD BY K.SENF
PROJECT K.SENF
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32"=1'-0"
DATE 06/02/93

CONTRACTOR

JOB NUMBER 28231

GRANITE POINT PLATFORM
COOK INLET ALASKA

Figure 6a: Granite Point Platform Drill Deck Mezzanine

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
P-A-0001	001	04

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
P-A-0001	001	DRILL DECK MEZZANINE
P-A-0003	003	PRODUCTION DECK
P-A-0004	004	SUB DECK
P-A-0005	005	SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
07	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED
B1	07/31/93	ISSUE FOR BASIS OF BID	WW	KS	
00	08/31/93	APPROVED FOR CONSTRUCTION	WW	KS	
01	05/17/95	ISSUE AS-BUILT	JJ		
02	10/13/03	AS-BUILT PER FCR P-95001 & P-96004	GR		PJK
03	10/19/00	AS-BUILT PER FCR P-99006 / ADDED BLOWER, COOLER	BDB		
04	10/02/01	AS-BUILT PER FCR P-99005 / ADDED CHEMICAL TANK & INJECTION PUMP	EKH		
05	10/03	UPDATED NOISE LEVELS (dBa)	YT	TJJ	
06	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED

ENGINEERING APPROVAL	
DRAWN BY	WDW
CHD BY	K.SENF
PROJECT	K.SENF
STRUCTURAL	
MECHANICAL	
ELECTRICAL	
INSTRUMENT	
SCALE	3/32"=1'-0"
DATE	06/02/93

CONTRACTOR

JOB NUMBER 28231

GRANITE POINT PLATFORM

COOK INLET ALASKA

Figure 6b: Granite Point Platform Drill Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
P-A-0002	002	07

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
P-A-0001	001	DRILL DECK MEZZANINE
P-A-0002	002	DRILL DECK
P-A-0004	004	SUB DECK
P-A-0005	005	SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
07	10/03	ADDED DECIBEL LEVELS	YT		
08	09/10/04	REMOVED X-3000 PER FCR P-04005	MA	ML	YB
09	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
10	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED
02	05/15/95	ISSUED AS-BUILT	JJ		
03	10/31/97	AS-BUILT PER FCR P-96007	GR		
04	03/13/98	PRODUCED WATER INJECTION SKID & 1" DBLR. PL.	EKH		
05	04/05/00	AS-BUILT PER FCR P-98002 / ADDED DETAIL "A"	EKH		
06	01/31/01	AS-BUILT PER FCR P-00006 / ADDED P-4550 & TEXT	EKH		

ENGINEERING APPROVAL	
DRAWN BY	WDW
CHD BY	K.SENF
PROJECT	K.SENF
STRUCTURAL	
MECHANICAL	
ELECTRICAL	
INSTRUMENT	
SCALE	3/32"=1'-0"
DATE	06/02/93

CONTRACTOR

JOB NUMBER 28231

GRANITE POINT PLATFORM

COOK INLET ALASKA

Figure 6c: Granite Point Production Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
P-A-0003	003	10

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
P-A-0001	001	DRILL DECK MEZZANINE
P-A-0002	002	DRILL DECK
P-A-0003	003	PRODUCTION DECK
P-A-0005	005	SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
A1	06/02/93	FOR APPROVAL	WW	KS	
B1	07/31/93	ISSUE FOR BASIS OF BID	WW	KS	
00	08/31/93	APPROVED FOR CONSTRUCTION	WW	KS	
01	12/14/93	ADDED PUMPS, DECK, & BEAM TANKS	WW	KS	
02	05/17/95	ISSUED AS-BUILT	JJ		
03	11/26/97	AS-BUILT PER FCR'S P-95006, 96007, & 97001	GR		
04	10/03	ADDED DECIBEL LEVELS	YT	TJJ	
05	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
06	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY WDW
CHD BY K.SENF
PROJECT K.SENF
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32"=1'-0"
DATE 06/02/93

CONTRACTOR

JOB NUMBER 28231

GRANITE POINT PLATFORM

COOK INLET ALASKA

Figure 6d: Granite Point Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
P-A-0004	004	06

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
P-A-0001	001	DRILL DECK MEZZANINE
P-A-0002	002	DRILL DECK
P-A-0003	003	PRODUCTION DECK
P-A-0004	004	SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
07	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED
B1	07/31/93	ISSUE FOR BASIS OF BID	WW	KS	
00	08/31/93	APPROVED FOR CONSTRUCTION	WW	KS	
01	05/17/95	ISSUED AS-BUILT	JJ		
02	02/29/00	AS-BUILT PER FCR P-99001 / REVISED PUMP CALLOUT	BDB		
03	01/31/01	AS-BUILT PER FCR P-00006 / ADDED P-4550 & TEXT	EKH		
04	01/06/03	AS-BUILT PER FCR P-02010 / ADDED WALKWAY	RRM		
05	10/03	ADDED DECIBEL LEVELS	YT	KS	
06	05/12/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED

ENGINEERING APPROVAL

DRAWN BY	WDW
CHD BY	K.SENF
PROJECT	K.SENF
STRUCTURAL	
MECHANICAL	
ELECTRICAL	
INSTRUMENT	
SCALE	3/32"=1'-0"
DATE	06/02/93

CONTRACTOR

JOB NUMBER 28231

GRANITE POINT PLATFORM

COOK INLET ALASKA

Figure 6e: Granite Point Sub-Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
P-A-0005	005	07

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
G-A-0001	001	DECK PLAN DRILL DECK MEZZANINE
G-A-0002	001	DECK PLAN DRILL DECK
G-A-0003	001	DECK PLAN PRODUCTION DECK MEZZANINE
G-A-0004	001	DECK PLAN PRODUCTION DECK
G-A-0005	001	DECK PLAN SUB DECK
G-A-0006	001	DECK PLAN SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	06/00	NEW OIL COOLERS GTM: FCR G-99010	JEC	JEC	PJK
02	02/01/05	REMOVED LIFT RAFT ADD 22' BOAT ABOVE SAND FILTERS	ML	JJH	JJH
03	08/21/12	ADD GTG PACKAGE, REMOVE RIGS	IMA	WV	
04	06/11/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
05	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL

DRAWN BY	BRAD
CHD BY	P.KING
PROJECT	
STRUCTURAL	
MECHANICAL	
ELECTRICAL	
INSTRUMENT	
SCALE	3/32"=1'
DATE	04/10/91

CONTRACTOR

JOB NUMBER 0101-001

GRAYLING PLATFORM

COOK INLET ALASKA

Figure 7a: Grayling Platform Drill Deck Mezzanine

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
G-A-0001	001	05

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
G–A–0001	001	DECK PLAN DRILL DECK MEZZANINE
G–A–0002	001	DECK PLAN DRILL DECK
G–A–0003	001	DECK PLAN PRODUCTION DECK MEZZANINE
G–A–0004	001	DECK PLAN PRODUCTION DECK
G–A–0005	001	DECK PLAN SUB DECK
G–A–0006	001	DECK PLAN SUB–SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	07/07/97	ADDED EQUIPMENT NUMBERS	DEM		
02	12/09/97	CORRECTED COLUMN/ROW NUMBERS	PJK		
03	09/04/12	ADD GTG PACKAGE, REMOVE RIGS	IMA	WV	
04	06/11/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
05	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY BRAD
CHD BY P.KING
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32"=1'
DATE 04/05/91

CONTRACTOR

JOB NUMBER 0101–001

GRAYLING PLATFORM

COOK INLET ALASKA

Figure 7b: Grayling Platform Drill Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
G–A–0002	001	05

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
G-A-0001	001	DECK PLAN DRILL DECK MEZZANINE
G-A-0002	001	DECK PLAN DRILL DECK
G-A-0003	001	DECK PLAN PRODUCTION DECK MEZZANINE
G-A-0004	001	DECK PLAN PRODUCTION DECK
G-A-0005	001	DECK PLAN SUB DECK
G-A-0006	001	DECK PLAN SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
05	12/97	CORRECTED COLUMN/ROW NUMBERS	PJK		
06	12/98	REVISED PER FCR G-98006	JAD		
07	06/00	+FILTER, +COOLER FCR G-99007 & -09	JEC	KEM	PJK
08	08/00	ADDED HEAT EXCHANGERS, CONTACTOR, SEPARATOR, OIL COOLERS: FCR G-99024	JEC	KEM	PJK
09	03/01	EDITS PER FCR G-00018	MGO		
10	09/25/01	AS-BUILT PER FCR G-00013/ADDED EQUIPMENT NUMBERS	EKH	BDB	
11	06/11/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
12	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY BRAD
CHD BY P.KING
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32"=1'
DATE 04/05/91

CONTRACTOR

JOB NUMBER 0101-001

GRAYLING PLATFORM

COOK INLET ALASKA

Figure 7c: Grayling Platform Production Deck Mezzanine

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
G-A-0003	001	12

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
G-A-0001	001	DECK PLAN DRILL DECK MEZZANINE
G-A-0002	001	DECK PLAN DRILL DECK
G-A-0003	001	DECK PLAN PRODUCTION DECK MEZZANINE
G-A-0004	001	DECK PLAN PRODUCTION DECK
G-A-0005	001	DECK PLAN SUB DECK
G-A-0006	001	DECK PLAN SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
06	08/00	REBOILER CONTACTOR/SEPARATOR ADDED. FUEL GAS FILTER/SEP/HTR: FCR G-99024	JEC	JEC	PJK
07	03/01	EDIT PER FCR G-00014	MGO		
08	03/01	EDIT PER FCR G-00018	MGO		
09	09/26/01	AS-BUILT PER FCR G-00013/REMOVED E-1740	EKH	BDB	
10	01/15/05	REVISED PER 2002 PHA 42.2.1B	HUB	CMR	ML
11	06/11/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
12	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY BRAD
CHD BY P.KING
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32"=1'
DATE 04/04/91

CONTRACTOR

JOB NUMBER 0101-001

GRAYLING PLATFORM
COOK INLET ALASKA

Figure 7d: Grayling Platform Production Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
G-A-0004	001	12

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
G-A-0001	001	DECK PLAN DRILL DECK MEZZANINE
G-A-0002	001	DECK PLAN DRILL DECK
G-A-0003	001	DECK PLAN PRODUCTION DECK MEZZANINE
G-A-0004	001	DECK PLAN PRODUCTION DECK
G-A-0005	001	DECK PLAN SUB DECK
G-A-0006	001	DECK PLAN SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	07/97	ADDED EQUIPMENT NUMBERS	DEM		
02	12/97	CORRECTED COLUMN/ROW NUMBERS	PJK		
03	06/11/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
04	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL

DRAWN BY	BRAD
CHD BY	P.KING
PROJECT	
STRUCTURAL	
MECHANICAL	
ELECTRICAL	
INSTRUMENT	
SCALE	3/32"=1'
DATE	04/11/91

CONTRACTOR

JOB NUMBER 0101-001

GRAYLING PLATFORM

COOK INLET ALASKA

Figure 7e: Grayling Platform Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
G-A-0005	001	04

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
G-A-0001	001	DECK PLAN DRILL DECK MEZZANINE
G-A-0002	001	DECK PLAN DRILL DECK
G-A-0003	001	DECK PLAN PRODUCTION DECK MEZZANINE
G-A-0004	001	DECK PLAN PRODUCTION DECK
G-A-0005	001	DECK PLAN SUB DECK
G-A-0006	001	DECK PLAN SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	07/97	ADD EQUIPMENT NUMBERS	DEM		
02	12/97	CORRECTED COLUMN/ROW NUMBERS	PJK		
03	03/98	REVISED PER FCR DATED 7/21/92	JAD		
04	01/15/05	REMOVED BRUCKER CAPSULE & 22' BOAT	HUB	CMR	ML
05	06/11/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
06	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY BRAD
CHD BY P.KING
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32"=1'
DATE 04/10/91

CONTRACTOR

JOB NUMBER 0101-001

GRAYLING PLATFORM
COOK INLET ALASKA

Figure 7f. Grayling Platform Sub-Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
G-A-0006	001	06

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
L-A-0002	001	DECK PLAN DRILL DECK MEZZANINE
L-A-0003	001	DECK PLAN DRILL DECK
L-A-0004	001	DECK PLAN PRODUCTION DECK
L-A-0005	001	DECK PLAN SUB DECK
L-A-0006	001	DECK PLAN SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	09/13/01	AS-BUILT PER FCR L-01026/UPDTD EQUIPMENT NUMBERS	EKH	BDB	
02	06/18/02	AS-BUILT PER FCR L-02026/ADDED SOLAR -AC MIST EXTRACTOR	RRM	BDB	
03	08/15/06	AS-BUILT PER OIL SPILL CONTINGENCY PLAN 06	CMR	ET	JB
04	08/31/09	AS-BUILT PER FCR L-080004-B	SC	AMF	
05	06/06/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
06	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER

KING SALMON PLATFORM
COOK INLET ALASKA

Figure 8a: King Salmon Platform
Heliport Level

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
L-A-0001	001	06

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
L-A-0001	001	DECK PLAN HELIPORT
L-A-0003	001	DECK PLAN DRILL DECK
L-A-0004	001	DECK PLAN PRODUCTION DECK
L-A-0005	001	DECK PLAN SUB DECK
L-A-0006	001	DECK PLAN SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	09/13/01	AS-BUILT PER FCR L-01026/UPDTD EQUIPMENT NUMBERS	EKH	BDB	
02	06/18/02	AS-BUILT PER FCR L-02026/ADDED SOLAR -AC MIST EXTRACTOR	RRM	BDB	
03	08/15/06	AS-BUILT PER OIL SPILL CONTINGENCY PLAN 06	CMR	ET	JB
04	05/27/08	AS-BUILT PER ESP MODULE INSTALLATION	SIC	-	-
05	08/31/09	AS-BUILT PER FCR L-080004-B	SC	AMF	
06	06/06/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
07	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER

KING SALMON PLATFORM
COOK INLET ALASKA

Figure 8b: King Salmon Platform Drill Deck Mezzanine

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
L-A-0002	001	07

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
L-A-0001	001	DECK PLAN HELIPORT
L-A-0002	001	DECK PLAN DRILL DECK MEZZANINE
L-A-0004	001	DECK PLAN PRODUCTION DECK
L-A-0005	001	DECK PLAN SUB DECK
L-A-0006	001	DECK PLAN SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	09/13/01	AS-BUILT PER FCR L-01026/UPDTD EQUIPMENT NUMBERS	EKH	BDB	
02	06/18/02	AS-BUILT PER FCR L-02026/ADDED SOLAR -AC MIST EXTRACTOR	RRM	BDB	
03	08/15/06	AS-BUILT PER OIL SPILL CONTINGENCY PLAN 06	CMR	ET	JB
04	01/06/09	AS-BUILT PER FCR L-05009	SC	AMF	RSR
05	09/01/09	AS-BUILT PER FCR L-08004-B	SC	AMF	
06	06/06/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
07	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER

KING SALMON PLATFORM

COOK INLET ALASKA

Figure 8c: King Salmon Platform Drill Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
L-A-0003	001	07

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
L-A-0001	001	DECK PLAN HELIPORT
L-A-0002	001	DECK PLAN DRILL DECK MEZZANINE
L-A-0003	001	DECK PLAN DRILL DECK
L-A-0005	001	DECK PLAN SUB DECK
L-A-0006	001	DECK PLAN SUB-SUB DECK

NOTES:

1. PIPING DISCONNECTED, CAPPED OR BLINDED. UNIT ABANDONED IN PLACE.

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
10	06/06/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
11	06/25/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED
03	09/06/01	AS-BUILT PER L-HAZOP/ADDED EQUIPMENT NUMBERS	EKH	BDB	
04	06/18/02	AS-BUILT PER FCR L-01026/UPDATED TEXT	RRM	BDB	
05	06/18/04	AS-BUILT PER FCR L-04001 & 04006/DEL E-680, AD L-E4080, DEL F-720/90, V-690/730	KBB	ML	JJH
06	03/10/05	AS-BUILT PER FCR L-04024/NIS = EE-0550, 0600, V-0450/610	ML	JJH	
07	08/15/06	AS-BUILT PER OIL SPILL CONTINGENCY PLAN 06	CMR	ET	
08	01/06/09	AS-BUILT PER FCR L-05018	SC	AMF	RSR
09	05/04/09	AS-BUILT PER FCR L-08026	SC	AMF	

ENGINEERING APPROVAL

DRAWN BY

CHD BY

PROJECT

STRUCTURAL

MECHANICAL

ELECTRICAL

INSTRUMENT

SCALE NONE

DATE

CONTRACTOR

JOB NUMBER

KING SALMON PLATFORM

COOK INLET ALASKA

Figure 8d: King Salmon Platform Production Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
L-A-0004	001	11

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
L-A-0001	001	DECK PLAN HELIPORT
L-A-0002	001	DECK PLAN DRILL DECK MEZZANINE
L-A-0003	001	DECK PLAN DRILL DECK
L-A-0004	001	DECK PLAN PRODUCTION DECK
L-A-0006	001	DECK PLAN SUB-SUB DECK

NOTES:

1. 3 BBL CONTAINMENT BOX LOCATED BELOW DIESEL FUEL TRANSFER HOSE PIPING TO HOSE CONNECTION.

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
10	08/08/07	AS-BUILT PER FCR L-04032	SC	PJK	
11	10/10/07	PER FCR L-06004	LRT	SF	
12	06/06/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
13	06/24/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED
05	09/06/01	AS-BUILT PER FCR L-HAZOP/ADDED PUMPS P-300, 1400 & 2300	EKH	BDB	
06	06/13/02	AS-BUILT PER FCR L-01026, 01027 & 02007/REMOVED T-160 & 170/ADD GRATING & PLC ROOM	RRM	BDB	
07	11/22/04	REMOVE NORTHEAST BRUCKER PER FCR L-04011, ADD PUMP L-P-3010 PER FCR L-2003-012	ML	JJH	JJH
08	03/08/05	REMOVED L-P-0260 PER FCR L-04026	ML	WJ	
09	06/15/06	AS-BUILT PER FIELD ENGINEER VERIFICATION	CMR	ET	

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER

KING SALMON PLATFORM

COOK INLET ALASKA

Figure 8e: King Salmon Platform Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
L-A-0005	001	13

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
L–A–0001	001	DECK PLAN HELIPORT LEVEL
L–A–0002	001	DECK PLAN DRILL DECK MEZZANINE
L–A–0003	001	DECK PLAN DRILL DECK
L–A–0004	001	DECK PLAN PRODUCTION DECK
L–A–0005	001	DECK PLAN SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	05/07/01	AS–BUILT PER FCR L–00014/ADDED PUMPS P–0180, 0181/TK ROOM/SUMP T–0190/GIRDER	EKH	BDB	
		T–0180A & 0180B			
02	06/06/13	ROTATE INNER SUB–SUB DECK WALKWAY AND ADD EXTERIOR WALKWAY	BH	SL	
03	06/05/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
04	06/24/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL

DRAWN BY DAN M.
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE 3/32" – 1"
DATE 07/27/94

CONTRACTOR

JOB NUMBER

KING SALMON PLATFORM

COOK INLET ALASKA

Figure 8f: King Salmon Platform Sub-Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
L–A–0006	001	04

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
M-A-0001	0001	DECK PLAN DRILL DECK MEZZANINE
M-A-0002	001	DECK PLAN DRILL DECK
M-A-0003	001	DECK PLAN PRODUCTION DECK
M-A-0004	001	DECK PLAN SUB DECK & SUB-SUB DECK

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	11/91	REPLACE RP FILTERS WITH SAND FILTERS/ REVISED TANK SIZE	PJK		
02	03/92	REVISED PER PLATFORM COMMENTS	PJK		
03	03/93	ADDED EQUIPMENT NUMBERS	PJK		
04	03/27/01	AS-BUILT PER FCR M-99007/ADDED FIRE MONITOR & UPDATED TEXT	EKH	BDB	
05	04/18/02	UPDATED TEXT ON DECIBEL READING	GJC		
06	06/17/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
07	07/14/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY RWB/KM
CHD BY BRAD
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE 04/29/91

CONTRACTOR

JOB NUMBER

MONOPOD PLATFORM
COOK INLET ALASKA

Figure 9a: Monopod Platform Drill Deck Mezzanine and Upper Mezzanines

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
M-A-0001	001	07

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
M-A-0001	0001	DECK PLAN DRILL DECK MEZZANINE
M-A-0002	001	DECK PLAN DRILL DECK
M-A-0003	001	DECK PLAN PRODUCTION DECK
M-A-0004	001	DECK PLAN SUB DECK & SUB-SUB DECK

NOTES:

1. SPCC EQUIPMENT ALSO PRESENT ON THIS LEVEL:
   - DRILL RIG – HYDRAULIC UNIT M-T-0119
   - DRILL RIG – DRAWWORKS UNIT M-T-0120
   - DRILL RIG – DRILLING MUD PITS M-T-1000

09

REV	DATE	REVISED	BY	BY	BY
02	03/92	REVISED PER PLATFORM COMMENTS	PJK		
03	05/01	REMOVED R-P FILTERS PER FCR M-99002, ADDED EQUIPMENT NUMBERS	PJK		
04	04/02	UPDATED TEXT	GJC		
05	11/19/03	MOVED EAST BRUCKER CAPSULE TO PROD DECK	ML		LD
06	06/23/04	ADD TANK M-T-0910 PER FCR M-04001	KBB	ML	JJH
07	02/08/13	REMOVE CEMENT TANK, ADD RSRV. MUD	BH	SL	TH
08	06/17/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
09	07/14/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

DRAWN BY RWB/KM
CHD BY BRAD
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE 04/29/91

JOB NUMBER

MONOPOD PLATFORM

COOK INLET ALASKA

Figure 9b: Monopod Drill Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
M-A-0002	001	09

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
M-A-0001	0001	DECK PLAN DRILL DECK MEZZANINE
M-A-0002	001	DECK PLAN DRILL DECK
M-A-0003	001	DECK PLAN PRODUCTION DECK
M-A-0004	001	DECK PLAN SUB DECK & SUB-SUB DECK

NOTES:

1. PUMP IS USED FOR MISCELLANEOUS PURPOSES (NOT A PRODUCTION PUMP).

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
09	07/14/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED
02	03/92	REVISED PER PLATFORM COMMENTS	PJK		
03	07/92	REVISED CONTROL ROOM	PJK		
04	03/27/01	AS-BUILT PER FCR M-96003 & 99002/ADDED QUARTERS FIRE WATER PUMP & NOTE 1/UPDATED	EKH	BDB	
		CAT PUMP & RP FILTER LOCATIONS, ADDED EQUIPMENT NUMBERS			
05	04/24/02	UPDATED TEXT ON DECIBEL READINGS	GJC		
06	07/17/02	AS-BUILT PER FCR M-02MISC02/UPDATED TEXT	RRM	BDB	
08	11/19/03	MOVED EAST BRUCKER FROM DRILL DECK	ML		LD
08	06/17/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED

ENGINEERING APPROVAL	
DRAWN BY	RWB/KM
CHD BY	BRAD
PROJECT	
STRUCTURAL	
MECHANICAL	
ELECTRICAL	
INSTRUMENT	
SCALE	NONE
DATE	04/29/91

CONTRACTOR

JOB NUMBER

MONOPOD PLATFORM

COOK INLET ALASKA

Figure 9c: Monopod Platform Production Deck and Mezzanine

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
M-A-0003	001	09

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
M-A-0001	0001	DECK PLAN DRILL DECK MEZZANINE
M-A-0002	001	DECK PLAN DRILL DECK
M-A-0003	001	DECK PLAN PRODUCTION DECK
M-A-0004	001	DECK PLAN SUB DECK & SUB-SUB DECK

NOTES:

1. DIESEL STORAGE BEAM TANK M-T-3000 COMPRISED OF ALL 4 STRUCTURAL BEAM TANKS (TOTAL CAPACITY: 100,548 GAL)

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
01	03/92	REVISED PER PLATFORM COMMENTS	PJK		
02	11/15/00	AS-BUILT PER FCR M-98004/UPDATED FILTER CHARGE PUMP, ADDED EQUIPMENT NUMBERS	EKH	BDB	
03	04/02	TEXT UPDATE ON DECIBEL READINGS	GJC		
04	06/17/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
05	07/14/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY KEM
CHD BY BRAD
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE 04/29/91

CONTRACTOR

JOB NUMBER

MONOPOD PLATFORM
COOK INLET ALASKA

Figure 9d: Monopod Platform Sub Deck and Sub-Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
M-A-0004	001	05

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
H-A-0201	001	DECK PLAN SUB DECK
H-A-0202	001	DECK PLAN PRODUCTION DECK - LOWER
H-A-0203	001	DECK PLAN PRODUCTION DECK - UPPER
H-A-0204	001	DECK PLAN PIPE RACK LEVEL - LOWER
H-A-0205	001	DECK PLAN PIPE RACK LEVEL - UPPER
H-A-0206	001	DECK PLAN QUARTERS MODULE
H-A-0207	001	DECK PLAN DRILL DECK
H-A-0208	001	DECK PLAN CATWALK BELOW DECKS

NOTES:

1. SPCC EQUIPMENT ALSO PRESENT ON THIS LEVEL:
   - DRILL RIG 51 – HYDRAULIC UNIT H-HU-0001
   - DRILL RIG 51 – DRAWWORKS UNIT H-DW-0001
   - DRILL RIG 51 – JET HEAT, OUTSIDE RIG CELLAR H-JH-0001
   - DRILL RIG 51 – SAND TRAP PIT H-SP-0001
   - DRILL RIG 51 – DEGASSER PIT #1 H-SP-0002
   - DRILL RIG 51 – DEGASSER PIT #2 H-SP-0003
   - DRILL RIG 51 – TRIP TANK #1 H-SP-0004
   - DRILL RIG 51 – TRIP TANK #2 H-SP-0005

03

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
00	12/30/93	ISSUED FOR PSM	MG		
01	04/02/97	CONVERTED TO UNOCAL TITLE BLOCK	DEM		
02	06/19/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
03	07/07/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER
CEI PROJECT NO. 93023

STEELHEAD PLATFORM
COOK INLET ALASKA

Figure 10a: Steelhead Platform Drill Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
H-A-0207	001	03

DRAWING LEGEND

U-V-XXXX	TANK OR VESSEL DESIGNATION
U-V-XXXX	SECONDARY CONTAINMENT
S	SPILL KIT
	ABANDONED IN PLACE
	NOT IN SERVICE
	PRIMARY EVACUATION ROUTE

1 N 75'-0"

A N 100'-0"

4 N 115'-0"

6 N 178'-0"

7 N 185'-0"

B N 200'-0"

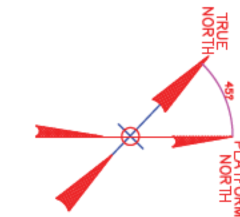
10 N 225'-0"

ANSUL PANEL

FIRE/GAS PANEL

(b) (7)(F), (b) (3)

[redacted]



DWG. NUMBER	SHT	REFERENCE DRAWINGS
H-A-0201	001	DECK PLAN SUB DECK
H-A-0202	001	DECK PLAN PRODUCTION DECK - LOWER
H-A-0203	001	DECK PLAN PRODUCTION DECK - UPPER
H-A-0204	001	DECK PLAN PIPE RACK LEVEL - LOWER
H-A-0205	001	DECK PLAN PIPE RACK LEVEL - UPPER
H-A-0206	001	DECK PLAN QUARTERS MODULE
H-A-0207	001	DECK PLAN DRILL DECK
H-A-0208	001	DECK PLAN CATWALK BELOW DECKS

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
00	12/30/93	ISSUED FOR PSM	MG		
01	04/02/97	CONVERTED TO UNOCAL TITLE BLOCK	DEM		
02	06/19/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
03	07/07/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER
CEI PROJECT NO. 93023

STEELHEAD PLATFORM

COOK INLET ALASKA

Figure 10b: Steelhead Platform Quarters

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
H-A-0206	001	03

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
H-A-0201	001	DECK PLAN SUB DECK
H-A-0202	001	DECK PLAN PRODUCTION DECK - LOWER
H-A-0203	001	DECK PLAN PRODUCTION DECK - UPPER
H-A-0204	001	DECK PLAN PIPE RACK LEVEL - LOWER
H-A-0205	001	DECK PLAN PIPE RACK LEVEL - UPPER
H-A-0206	001	DECK PLAN QUARTERS MODULE
H-A-0207	001	DECK PLAN DRILL DECK
H-A-0208	001	DECK PLAN CATWALK BELOW DECKS

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
00	12/30/93	ISSUED FOR PSM	MG		
01	04/13/94	C-13 AIR FILTER / GENERAL REVISIONS	JM		
02	11/20/96	CHANGED TO UNOCAL TITLE BLOCK	DEM		
03	06/09/97	ADDED CRANE NUMBERS & FIXED DWG TITLE	DEM		
04	03/17/01	REVISED FOR MARCH 2001 PHA	KBB	LJR	
05	04/19/11	ISSUED FOR CONSTRUCTION AFE# UWDAK-J9067-CAP	BH	SL	WV
06	07/19/12	ISSUED FOR CONSTRUCTION	BH	SL	WV
07	06/19/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
08	07/07/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER
CEI PROJECT NO. 93023

STEELHEAD PLATFORM
COOK INLET ALASKA

Figure 10c: Steelhead Platform Pipe Rack Level – Upper

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
H-A-0205	001	08

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
H-A-0201	001	DECK PLAN SUB DECK
H-A-0202	001	DECK PLAN PRODUCTION DECK – LOWER
H-A-0203	001	DECK PLAN PRODUCTION DECK – UPPER
H-A-0204	001	DECK PLAN PIPE RACK LEVEL – LOWER
H-A-0205	001	DECK PLAN PIPE RACK LEVEL – UPPER
H-A-0206	001	DECK PLAN QUARTERS MODULE
H-A-0207	001	DECK PLAN DRILL DECK
H-A-0208	001	DECK PLAN CATWALK BELOW DECKS

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
00	12/30/93	ISSUED FOR PSM	MG		
01	11/20/96	CHANGED TO UNOCAL TITLE BLOCK	DEM		
02	03/17/01	REVISED FOR MARCH 2001 PHA	KBB	LJR	
03	06/19/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
04	07/07/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER
CEI PROJECT NO. 93023

STEELHEAD PLATFORM
COOK INLET ALASKA

Figure 10d: Steelhead Platform Pipe Rack Level – Lower

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
H-A-0204	001	04

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
H-A-0201	001	DECK PLAN SUB DECK
H-A-0202	001	DECK PLAN PRODUCTION DECK – LOWER
H-A-0203	001	DECK PLAN PRODUCTION DECK – UPPER
H-A-0204	001	DECK PLAN PIPE RACK LEVEL – LOWER
H-A-0205	001	DECK PLAN PIPE RACK LEVEL – UPPER
H-A-0206	001	DECK PLAN QUARTERS MODULE
H-A-0207	001	DECK PLAN DRILL DECK
H-A-0208	001	DECK PLAN CATWALK BELOW DECKS

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
00	12/30/93	ISSUED FOR PSM	MG		
01	11/20/96	CHANGED TO UNOCAL TITLE BLOCK	DEM		
02	05/11/98	AS-BUILT PER FCR H-95001/H-96002/H-97009	SDL	BDB	
03	12/03/99	CHANGED PER P&ID UPDATES/ADDED WCP TO NE WELL ROOM/ADDED P53A, P43A	TKM	BDB	
04	10/31/08	ADD V-1210 & V-1220	HB	WV	
05	04/19/11	ISSUED FOR CONSTRUCTION AFE# UWDAK-J9067-CAP	BH	SL	WV
06	07/19/12	ISSUED FOR CONSTRUCTION	BH	SL	WV
07	06/19/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
08	07/07/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER
CEI PROJECT NO. 93023

STEELHEAD PLATFORM
COOK INLET ALASKA

Figure 10e: Steelhead Platform Production Deck – Upper

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
H-A-0203	001	08

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
H-A-0201	001	DECK PLAN SUB DECK
H-A-0202	001	DECK PLAN PRODUCTION DECK - LOWER
H-A-0203	001	DECK PLAN PRODUCTION DECK - UPPER
H-A-0204	001	DECK PLAN PIPE RACK LEVEL - LOWER
H-A-0205	001	DECK PLAN PIPE RACK LEVEL - UPPER
H-A-0206	001	DECK PLAN QUARTERS MODULE
H-A-0207	001	DECK PLAN DRILL DECK
H-A-0208	001	DECK PLAN CATWALK BELOW DECKS

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
00	12/30/93	ISSUED FOR PSM	MG		
01	11/20/96	CHANGED TO UNOCAL TITLE BLOCK	DEM		
02	04/27/98	AS-BUILT PER FCR H-94010 & MISC CHANGES	SDL	BDB	
03	04/19/11	ISSUED FOR CONSTRUCTION AFE# UWDAK-J9067-CAP	BH	SL	WV
04	07/19/12	ISSUED FOR CONSTRUCTION	BH	SL	WV
05	06/19/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
06	07/07/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER
CEI PROJECT NO. 93023

STEELHEAD PLATFORM
COOK INLET ALASKA

Figure 10f: Steelhead Platform Production Deck – Lower

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
H-A-0202	001	06

(b) (7)(F), (b) (3)

[redacted]

DWG. NUMBER	SHT	REFERENCE DRAWINGS
H-A-0201	001	DECK PLAN SUB DECK
H-A-0202	001	DECK PLAN PRODUCTION DECK - LOWER
H-A-0203	001	DECK PLAN PRODUCTION DECK - UPPER
H-A-0204	001	DECK PLAN PIPE RACK LEVEL - LOWER
H-A-0205	001	DECK PLAN PIPE RACK LEVEL - UPPER
H-A-0206	001	DECK PLAN QUARTERS MODULE
H-A-0207	001	DECK PLAN DRILL DECK
H-A-0208	001	DECK PLAN CATWALK BELOW DECKS

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
00	12/30/93	ISSUED FOR PSM	MG		
01	11/20/96	CHANGED TO UNOCAL TITLE BLOCK	DEM		
02	05/11/98	AS-BUILT PER FCR H-95002	GHR	BDB	
03	07/16/02	AS-BUILT PER FCR H-01008/ADDED PUMPS	RRM	BDB	
04	06/19/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
05	07/07/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER
CEI PROJECT NO. 93023

STEELHEAD PLATFORM
COOK INLET ALASKA

Figure 10g: Steelhead Platform Sub Deck

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
H-A-0201	001	05

DRAWING LEGEND

U-V-XXXX	TANK OR VESSEL DESIGNATION
U-V-XXXX	SECONDARY CONTAINMENT
S	SPILL KIT
	ABANDONED IN PLACE
	NOT IN SERVICE
	PRIMARY EVACUATION ROUTE

03

1

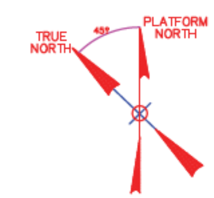
2

(b) (7)(F), (b) (3)

[redacted]

℄ 100'-0"

℄ 200'-0"



DWG. NUMBER	SHT	REFERENCE DRAWINGS
H-A-0201	001	DECK PLAN SUB DECK
H-A-0202	001	DECK PLAN PRODUCTION DECK – LOWER
H-A-0203	001	DECK PLAN PRODUCTION DECK – UPPER
H-A-0204	001	DECK PLAN PIPE RACK LEVEL – LOWER
H-A-0205	001	DECK PLAN PIPE RACK LEVEL – UPPER
H-A-0206	001	DECK PLAN QUARTERS MODULE
H-A-0207	001	DECK PLAN DRILL DECK
H-A-0208	001	DECK PLAN CATWALK BELOW DECKS

NOTES:

REV	DATE	REVISED	REV. BY	CKD. BY	APP'D BY
00	12/30/93	ISSUED FOR PSM	MG		
01	04/02/97	CONVERTED TO UNOCAL TITLE BLOCK	DEM		
02	06/19/14	REVISED PER SPCC EQUIPMENT VERIFICATION REDLINES	COS	DED	DED
03	07/07/14	SHOW PRIMARY EVACUATION ROUTE	COS	DED	DED

ENGINEERING APPROVAL
DRAWN BY
CHD BY
PROJECT
STRUCTURAL
MECHANICAL
ELECTRICAL
INSTRUMENT
SCALE NONE
DATE

CONTRACTOR

JOB NUMBER
CEI PROJECT NO. 93023

STEELHEAD PLATFORM
COOK INLET ALASKA

Figure 10h: Steelhead Platform Catwalk Below Decks

HILCORP ALASKA, LLC

DRAWING NO.	SHT NO.	REV NO.
H-A-0208	001	03

(b) (7)(F), (b) (3)

[redacted]

WEST FORK PAD SITE PLAN

Figure 11

(b) (7)(F), (b) (3)

[redacted]

ALASKA ASSET TEAM

WEST FORK PRODUCTION FACILITY

WEST FORK PAD SITE PLAN

WF01 D L 05 C 19 0001 01 00

HILCORP ALASKA, LLC

REVISIONS

00 09/11 COS RDB UPDATE MCLANE ORIGINAL AS-BUILT TO REFLECT RECENT FIELD CHANGES

(b) (7)(F), (b) (3)

[redacted]

WOLF LAKE PAD SITE PLAN

Figure 12

(b) (7)(F), (b) (3)

[redacted]

WOLF LAKE PRODUCTION FACILITY

ALASKA ASSET TEAM

WOLF LAKE PAD SITE PLAN

Marathon Oil Corporation

REVISIONS

(b) (7)(F), (b) (3)

[redacted]

SUMMARY

KEY	GRADE	SMYS	SIZE	OD	WT	KEY	DESCRIPTION	PRIMARYTYPE
1	Grade B	35000	8	8.625	0.277	A	Grade 1 Somastic	Somastic

SECTION LINE
RAILROAD
WATER CROSSING
FENCE
ELECTRIC LINE
BURIED CABLE
POWER LINE
TOP OF BANK
TELEPHONE LINE
OVERHEAD POWER LINE
PIPELINE CROSSING
PROPERTY LINE
BURIED WATER LINE
TILE
TIE-IN
RIVER WEIGHT
METER
VALVE
REGULATOR
CASING
TEST LEAD
RECTIFIER
REDUCER
AERIAL MARKER
RECEIVER
LAUNCHER
TAP/TEE
PIG SIGNAL
PIPE INFLECTION
SLEEVE
SEWER LINE
MILE MARKER

ILI Run	12/12/2007

Hilcorp Alaska, LLC

AS-BUILT ALIGNMENT SHEET
8" Swanson River
Kenai Peninsula,AK
FROM: 87869 TO: 99409

DATE:	MOP	SCALE	DRAWING NUMBER
2/8/2010	1460	1" = 400'	**Figure 13**

(b) (7)(F), (b) (3)

[redacted]

SUMMARY

PIPE SEGMENT						EXTERNAL COATING		
KEY	GRADE	SMYS	SIZE	OD	WT	KEY	DESCRIPTION	PRIMARYTYPE
1	Grade B	35000	8	8.625	0.277	A	Grade 1 Somastic	Somastic

LEGEND

SECTION LINE
RAILROAD
WATER CROSSING
FENCE
ELECTRIC LINE
BURIED CABLE
POWER LINE
TOP OF BANK
TELEPHONE LINE
OVERHEAD POWER LINE
PIPELINE CROSSING
PROPERTY LINE
BURIED WATER LINE
TILE
TIE-IN
RIVER WEIGHT
METER
VALVE
REGULATOR
CASING
TEST LEAD
RECTIFIER
REDUCER
AERIAL MARKER
RECEIVER
LAUNCHER
TAP/TEE
PIG SIGNAL
PIPE INFLECTION
SLEEVE
SEWER LINE
MILE MARKER

Summary	
ILI Run	12/12/2007

Hilcorp Alaska, LLC

Hilcorp Alaska, LLC

AS-BUILT ALIGNMENT SHEET

8" Swanson River

Kenai Peninsula,AK

FROM: 76128 TO: 87869

DATE:	MOP	SCALE	DRAWING NUMBER
2/8/2010	1460	1" = 400'	**Figure 14**

(b) (7)(F), (b) (3)

[redacted]

SUMMARY

KEY	GRADE	SMYS	SIZE	OD	WT	KEY	DESCRIPTION	PRIMARYTYPE
1	Grade B	35000	8	8.625	0.277	A	Grade 1 Somastic	Somastic

SECTION LINE
RAILROAD
WATER CROSSING
FENCE
ELECTRIC LINE
BURIED CABLE
POWER LINE
TOP OF BANK
TELEPHONE LINE
OVERHEAD POWER LINE
PIPELINE CROSSING
PROPERTY LINE
BURIED WATER LINE
TILE
TIE-IN
RIVER WEIGHT
METER
VALVE
REGULATOR
CASING
TEST LEAD
RECTIFIER
REDUCER
AERIAL MARKER
RECEIVER
LAUNCHER
TAP/TEE
PIG SIGNAL
PIPE INFLECTION
SLEEVE
SEWER LINE
MILE MARKER

ILI Run	12/12/2007

Hilcorp Alaska, LLC

AS-BUILT ALIGNMENT SHEET

8" Swanson River

Kenai Peninsula,AK

FROM: 65018 TO: 76128

DATE:	MOP	SCALE	DRAWING NUMBER
2/8/2010	1460	1" = 400'	**Figure 15**

(b) (7)(F), (b) (3)

[redacted]

SUMMARY

PIPE SEGMENT						EXTERNAL COATING		
KEY	GRADE	SMYS	SIZE	OD	WT	KEY	DESCRIPTION	PRIMARYTYPE
1	Grade B	35000	8	8.625	0.277	A	Grade 1 Somastic	Somastic

LEGEND

SECTION LINE	TELEPHONE LINE	METER	RECEIVER
RAILROAD	OVERHEAD POWER LINE	VALVE	LAUNCHER
WATER CROSSING	PIPELINE CROSSING	REGULATOR	TAP/TEE
FENCE	PROPERTY LINE	CASING	PIG SIGNAL
ELECTRIC LINE	BURIED WATER LINE	TEST LEAD	PIPE INFLECTION
BURIED CABLE	TILE	RECTIFIER	SLEEVE
POWER LINE	TIE-IN	REDUCER	SEWER LINE
TOP OF BANK	RIVER WEIGHT	AERIAL MARKER	MILE MARKER

Summary	
ILI Run	12/12/2007

Hilcorp Alaska, LLC

Hilcorp Alaska, LLC

AS-BUILT ALIGNMENT SHEET

8" Swanson River

Kenai Peninsula,AK

FROM: 53568 TO: 65018

DATE:	MOP	SCALE	DRAWING NUMBER
2/8/2010	1460	1" = 400'	**Figure 16**

(b) (7)(F), (b) (3)

[redacted]

SUMMARY

PIPE SEGMENT						EXTERNAL COATING		
KEY	GRADE	SMYS	SIZE	OD	WT	KEY	DESCRIPTION	PRIMARYTYPE
1	Grade B	35000	8	8.625	0.277	A	Grade 1 Somastic	Somastic

LEGEND

SECTION LINE
RAILROAD
WATER CROSSING
FENCE
ELECTRIC LINE
BURIED CABLE
POWER LINE
TOP OF BANK
TELEPHONE LINE
OVERHEAD POWER LINE
PIPELINE CROSSING
PROPERTY LINE
BURIED WATER LINE
TILE
TIE-IN
RIVER WEIGHT
METER
VALVE
REGULATOR
CASING
TEST LEAD
RECTIFIER
REDUCER
AERIAL MARKER
RECEIVER
LAUNCHER
TAP/TEE
PIG SIGNAL
PIPE INFLECTION
SLEEVE
SEWER LINE
MILE MARKER

Summary	
ILI Run	12/12/2007

Hilcorp Alaska, LLC

Hilcorp Alaska, LLC

AS-BUILT ALIGNMENT SHEET

8" Swanson River

Kenai Peninsula,AK

FROM: 42678 TO: 53568

DATE:	MOP	SCALE	DRAWING NUMBER
2/8/2010	1460	1" = 400'	**Figure 17**

(b) (7)(F), (b) (3)

[redacted]

SUMMARY

PIPE SEGMENT						EXTERNAL COATING		
KEY	GRADE	SMYS	SIZE	OD	WT	KEY	DESCRIPTION	PRIMARYTYPE
1	Grade B	35000	8	8.625	0.277	A	Grade 1 Somastic	Somastic

LEGEND

SECTION LINE	TELEPHONE LINE	METER	RECEIVER
RAILROAD	OVERHEAD POWER LINE	VALVE	LAUNCHER
WATER CROSSING	PIPELINE CROSSING	REGULATOR	TAP/TEE
FENCE	PROPERTY LINE	CASING	PIG SIGNAL
ELECTRIC LINE	BURIED WATER LINE	TEST LEAD	PIPE INFLECTION
BURIED CABLE	TILE	RECTIFIER	SLEEVE
POWER LINE	TIE-IN	REDUCER	SEWER LINE
TOP OF BANK	RIVER WEIGHT	AERIAL MARKER	MILE MARKER

Summary	
ILI Run	12/12/2007

Hilcorp Alaska, LLC

Hilcorp Alaska, LLC

AS-BUILT ALIGNMENT SHEET

8" Swanson River

Kenai Peninsula,AK

FROM: 32002 TO: 42678

DATE:	MOP	SCALE	DRAWING NUMBER
2/8/2010	1460	1" = 400'	**Figure 18**

(b) (7)(F), (b) (3)

[redacted]

SUMMARY

PIPE SEGMENT						EXTERNAL COATING		
KEY	GRADE	SMYS	SIZE	OD	WT	KEY	DESCRIPTION	PRIMARYTYPE
1	Grade B	35000	8	8.625	0.277	A	Grade 1 Somastic	Somastic

LEGEND

SECTION LINE	TELEPHONE LINE	METER	RECEIVER
RAILROAD	OVERHEAD POWER LINE	VALVE	LAUNCHER
WATER CROSSING	PIPELINE CROSSING	REGULATOR	TAP/TEE
FENCE	PROPERTY LINE	CASING	PIG SIGNAL
ELECTRIC LINE	BURIED WATER LINE	TEST LEAD	PIPE INFLECTION
BURIED CABLE	TILE	RECTIFIER	SLEEVE
POWER LINE	TIE-IN	REDUCER	SEWER LINE
TOP OF BANK	RIVER WEIGHT	AERIAL MARKER	MILE MARKER

Summary	
ILI Run	12/12/2007

Hilcorp Alaska, LLC

Hilcorp Alaska, LLC

AS-BUILT ALIGNMENT SHEET

8" Swanson River

Kenai Peninsula,AK

FROM: 21282 TO: 32002

DATE:	MOP	SCALE	DRAWING NUMBER
2/8/2010	1460	1" = 400'	**Figure 19**

(b) (7)(F), (b) (3)

[redacted]

SUMMARY

PIPE SEGMENT						EXTERNAL COATING		
KEY	GRADE	SMYS	SIZE	OD	WT	KEY	DESCRIPTION	PRIMARYTYPE
1	Grade B	35000	8	8.625	0.277	A	Grade 1 Somastic	Somastic

LEGEND

SECTION LINE
RAILROAD
WATER CROSSING
FENCE
ELECTRIC LINE
BURIED CABLE
POWER LINE
TOP OF BANK
TELEPHONE LINE
OVERHEAD POWER LINE
PIPELINE CROSSING
PROPERTY LINE
BURIED WATER LINE
TILE
TIE-IN
RIVER WEIGHT
METER
VALVE
REGULATOR
CASING
TEST LEAD
RECTIFIER
REDUCER
AERIAL MARKER
RECEIVER
LAUNCHER
TAP/TEE
PIG SIGNAL
PIPE INFLECTION
SLEEVE
SEWER LINE
MILE MARKER

Summary	
ILI Run	12/12/2007

Hilcorp Alaska, LLC

Hilcorp Alaska, LLC

AS-BUILT ALIGNMENT SHEET

8" Swanson River

Kenai Peninsula,AK

FROM: 10629 TO: 21282

DATE:	MOP	SCALE	DRAWING NUMBER
2/8/2010	1460	1" = 400'	**Figure 20**

(b) (7)(F), (b) (3)

[redacted]

SUMMARY

PIPE SEGMENT						EXTERNAL COATING		
KEY	GRADE	SMYS	SIZE	OD	WT	KEY	DESCRIPTION	PRIMARYTYPE
1	Grade B	35000	8	8.625	0.277	A	Grade 1 Somastic	Somastic

LEGEND

SECTION LINE	TELEPHONE LINE	METER	RECEIVER
RAILROAD	OVERHEAD POWER LINE	VALVE	LAUNCHER
WATER CROSSING	PIPELINE CROSSING	REGULATOR	TAP/TEE
FENCE	PROPERTY LINE	CASING	PIG SIGNAL
ELECTRIC LINE	BURIED WATER LINE	TEST LEAD	PIPE INFLECTION
BURIED CABLE	TILE	RECTIFIER	SLEEVE
POWER LINE	TIE-IN	REDUCER	SEWER LINE
TOP OF BANK	RIVER WEIGHT	AERIAL MARKER	MILE MARKER

Summary	
ILI Run	12/12/2007

Hilcorp Alaska, LLC

Hilcorp Alaska, LLC

AS-BUILT ALIGNMENT SHEET

8" Swanson River

Kenai Peninsula,AK

FROM: 0 TO: 10629

DATE:	MOP	SCALE	DRAWING NUMBER
2/8/2010	1460	1" = 400'	**Figure 21**

APPENDIX D

Additional Information and Cross-Reference Table for

DOT PHMSA Office of Pipeline Safety Requirements

U.S. DOT CERTIFICATION OF PREPAREDNESS

CERTIFICATE OF RESPONSE PREPAREDNESS

HILCORP ALASKA, LLC

Pipeline Response Plans Officer
U.S. Department of Transportation
Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration (PHMSA)
PHP 80
1200 New Jersey Avenue, S.E.
Washington, DC 20590-0001

Hilcorp Alaska, LLC (HAK) hereby certifies to the Pipeline and Hazardous Materials Safety Administration (PHMSA) of the Department of Transportation that it has identified, and ensured by contract, or other means to be approved by the PHMSA, the availability of private personnel and equipment to respond, to the maximum extent practicable, to a worst case discharge or a substantial threat of such a discharge.

J A Barnes — 3 Sept 2014

John A. Barnes
Senior Vice President
Hilcorp Alaska, LLC

Date

This Certification of Response Preparedness was acknowledged before me on Sept 3, 2014, by John A Barnes on behalf of said corporation.

Betty J Veldhuis

My commission expires June 13, 2017

STATE OF ALASKA
NOTARY PUBLIC
BETTY J. VELDHUIS
My Commission Expires June 13, 2017

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Area Contingency Plan(s) and National Contingency Plan Consistency Certification for HAK Cook Inlet Facilities

HILCORP ALASKA, LLC (HAK)
COOK INLET PRODUCTION FACILITIES

HAK hereby certifies to the Pipeline and Hazardous Materials Safety Administration (PHMSA) of the DOT that it has reviewed the National Contingency Plan (NCP) and applicable Area Contingency Plans (ACPs) and found the Cook Inlet Facilities ODPCP to be consistent with them. The NCP/ACPs reviewed include the NCP as set forth in the 40 CFR Part 300 as published in FR Vol. 59, No. 178, Final Rule, September 15, 1994 and the Alaska Federal and State Preparedness Plan for Response to Oil and Hazardous Substance Discharges and Releases, Volume I, dated January 2010, and Volume II (Subarea Contingency Plan, Cook Inlet), dated December 2010.

John A. Barnes
Senior Vice President
Hilcorp Alaska, LLC

3 Sept 2014
Date

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COOK INLET PRODUCTION FACILITIES
OIL DISCHARGE PREVENTION AND CONTINGENCY PLAN

U.S. DEPARTMENT OF TRANSPORTATION RESPONSE PLAN REQUIREMENTS
[49 CFR 194 SUBPART B]
CROSS REFERENCE

Regulation Section (49 CFR)	Section Title	HAK ODPCP Section
194.109	**Submission of State Response Plans**	
(b)(1)	Have an information summary in accordance with §194.113;	This Appendix.
(b)(2)	List the names or titles and 24-hour telephone numbers of the qualified individual(s); and	Section 1.2.3 and Table 1-2 in State of Alaska Oil Discharge Prevention and Contingency Plan (ODPCP)
(b)(3)	Ensure through contract or other approved means the necessary private personnel and equipment to respond to a worst case discharge or a substantial threat of such a discharge.	Section 3.8 in ODPCP and Statement of Contractual Terms with oil spill response organization in Introduction of ODPCP

U.S. DOT INFORMATION SUMMARY

The DOT requirement for submittal of a facility response plan is met by submittal of the ODPCP that complies with the planning requirements of the ADEC and by an information summary, as stipulated by 49 CFR 194.109 and 49 CFR 194.113, respectively. A cross reference table is included at the end of this summary.

Name and Address of Operator

Hilcorp Alaska, LLC (HAK)
3800 Centerpoint Drive
Suite 100
Anchorage, Alaska 99503

Telephone: 907-777-8300
Facsimile: 907-777-8301

Response Zone Description

The Response Zone for the facilities is located entirely within the Cook Inlet Area. Pipeline and Hazardous Materials Safety Administration (PHMSA)/OPA 90 regulated facilities are all located within the boundaries of the Kenai Peninsula Borough in the State of Alaska.

Name and Telephone Number of Qualified Individuals

Refer to Table 1-2 in this ODPCP for the names and telephone numbers of Qualified Individuals. Qualified Individuals are listed under the title Incident Commanders listed in Table 1-2 (See Section 1.2.3 of the HAK Production ODPCP). The terms Incident Commanders and Qualified Individual are interchangeable.

Significant and Substantial Harm

The 18.8 mile crude oil transmission pipeline that runs from Swanson River Field to the Kenai Pipe Line Company Terminal is a buried pipeline, but located within the Kenai Wildlife Refuge. In addition, the pipeline crosses several rivers that discharge to Cook Inlet.

HAK has evaluated the pipelines that run from the production platforms to the processing centers at GPTF and TBPF as listed in the table below and determined that the pipelines are regulated pursuant to 49 CFR 194.103 because of their potential to cause significant and substantial harm. Note that all of the pipelines are less than ten miles in length but are 6 5/8 inches or greater in outside nominal diameter, with the exception of the pipeline that runs from the Bruce platform to shore.

Pipelines Potentially Regulated Pursuant to 49 CFR 194.103

Line	Product	Length (ft)	Size (diameter in inches)	Onshore Segment (ft)
Lines to Granite Point Tank Farm				
Bruce to shore	oil/produced water	18,070	6	17,450
Anna to Bruce	oil/produced water	8,578	8	
Granite Point to shore	oil/produced water	32,000	8	12,200
Lines to Trading Bay Production Facility				
Monopod to shore	oil/produced water	47,414	8	300
King Salmon to shore	oil/produced water	39,653	8	300
Grayling to shore	oil/produced water	31,892	10	300
Dolly Varden to shore	oil/produced water	28,101	8 8	300
Steelhead to shore	oil/produced water	36,103	8	300

Type of Oil and Volume of Worst Case Discharge

In accordance with 49 CFR 194.105(b)(1), the WCD volume is defined as the pipeline's maximum release time in hours, plus the maximum shutdown response time in hours (based on historic discharge data or in the absence of such historic data, the operator's best estimate), multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum daily capacity of the pipeline), plus the largest line drainage volume after shutdown of the line section(s) in the response zone expressed in barrels (cubic meters).

(b) (3), (b) (7)(F)
[redacted]

Release time, $RT_{max,}$ is considered as the period from initial pipeline rupture, including development of alarms and decision to shut down. Shut down time, $ST_{max,}$ is considered the period from the operator's decision to shut down the valves until both of two valves are shut. In accordance with 49 CFR 194.105(b)(1), the worst case discharge is calculated as follows:

WCD Volume = $[(RT_{max} + ST_{max}) * F_{max}] + PV_{max}$, where

RT_{max} = pipeline's maximum release time in hours
ST_{max} = maximum shutdown response time in hours
F_{max} = maximum flow rate in barrels per hour (based on the maximum daily capacity of the pipeline)
PV_{max} = largest pipeline drainage volume after shutdown of the line section in the response zone, expressed in barrels

In this simulation,

(b) (7)(F), (b) (3)

[redacted]

Description of the Line Sections

The Swanson River crude oil transmission pipeline is an onshore pipeline approximately 18.8 miles long between Swanson River Field and Kenai Pipe Line Company Terminal. The 18.8 mile pipeline has valves located at Swanson River Field, and terminus at Kenai Pipe Line Company Terminal.

Crude oil is gathered from the Anna, Bruce, and Granite Point platforms, processed through the GPTF and then delivered to the Cook Inlet Pipeline for transportation to the Christy Lee Platform.

Crude oil is gathered from the Grayling, Monopod, Dolly Varden, King Salmon, and Steelhead platforms and transported to the TBPF. Once the separation process is completed at the TBPF, the crude is shipped via the Cook Inlet Pipeline to the Christy Lee Platform, where it is loaded into tankers for transportation to refineries.

Basis for Determination of Significant and Substantial Harm

The Swanson River crude oil transmission pipeline is expected to pose significant and substantial harm in the event of an oil spill. The pipeline lies within the Kenai wildlife refuge and seabird concentration areas.

All gathering lines (ADEC-regulated flow lines) from production platforms run across Cook Inlet waters. Therefore, these lines are determined to pose significant and substantial harm.

Certification of Response Personnel and Equipment

Sufficient response personnel and equipment are available to respond to a WCD or threat of such a discharge. This information is provided in Sections 1.6 – Response Scenarios and Strategy; 3.5 - Logistical Support; 3.6 - Response Equipment; and 3.8 - Response Contractor Information.

APPENDIX E

U.S. ENVIRONMENTAL PROTECTION AGENCY

Trading Bay Production Facility
Granite Point Production Facility

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

May 20, 2013

Diane Dunham, Emergency Response Coordinator
Hilcorp Alaska, LLC
P.O. Box 244027
Anchorage, AK 99524

RE: Review of Cook Inlet Production Facilities ODPCP/Facility Response Plan
FRPAKA0395, Granite Point Tank Farm and Trading Bay Production Facility, AK

Dear Ms. Dunham:

Pursuant to the Clean Water Act, 33 U.S.C. Section 1321(j)(5), as amended by the Oil Pollution Act of 1990, the United States Environmental Protection Agency (U.S. EPA) has reviewed your Facility Response Plan (FRP) and finds that it meets the requirements of Section 311(j)(5) of the Clean Water Act and 40 CFR 112.20(c)(4). Your FRP is reapproved for 5 years until May 20, 2018.

Note that, pursuant to 40 CFR 112.20(d)(1), the owner or operator of a facility for which a response plan is required shall revise and resubmit revised portions of the response plan to U.S. EPA within 60 days of each facility change that may materially affect the response to a worst case discharge. Changes which may require revisions to a response plan include:

- a change in the facility's configuration;
- a change in the type of oil handled, stored or transferred;
- a change in the capabilities of the oil spill response organization;
- a change in the facility's spill prevention and response equipment or emergency response procedures; and
- any other change that materially affects the implementation of the response plan.

In addition, 40 CFR Section 112.20(d)(2) provides that changes in personnel and telephone number lists included in an FRP do not require U.S. EPA approval, but should be supplied to U.S. EPA as the revisions occur.

If you have questions regarding this correspondence, please contact me at 907-271-3247 or Janet Wien at 206-553-8634.

Sincerely,

Robert S. Whittier, Jr.

Robert S. Whittier, Jr.
On Scene Coordinator (OSC)
Emergency Preparedness and Prevention Unit

REF: frp_5yearreview_approved

COOK INLET PRODUCTION FACILITIES
OIL DISCHARGE PREVENTION AND CONTINGENCY PLAN

U.S. ENVIRONMENTAL PROTECTION AGENCY RESPONSE PLAN REQUIREMENTS
[40 CFR 112.20]
CROSS REFERENCE
TRADING BAY PRODUCTION FACILITY (TBPF)

Regulation Section 112.20	Section Title	HAK ODPCP Section
§ 112.20	**Facility Response Plans**	
(h)	A response plan shall follow the format of the model facility-specific response plan included in appendix F to this part, unless you have prepared an equivalent response plan acceptable to the Regional Administrator to meet State or other Federal requirements. A response plan that does not follow the specified format in appendix F to this part shall have an emergency response action plan as specified in paragraphs (h)(1) of this section and be supplemented with a cross-reference section to identify the location of the elements listed in paragraphs (h)(2) through (h)(10) of this section. To meet the requirements of this part, a response plan shall address the following elements, as further described in appendix F to this part:	This appendix
(h)(1)	Emergency response action plan. The response plan shall include an emergency response action plan in the format specified in paragraphs (h)(1)(i) through (viii) of this section that is maintained in the front of the response plan, or as a separate document accompanying the response plan, and that includes the following information:	Part 1
(h)(1)(i)	The identity and telephone number of a qualified individual having full authority, including contracting authority, to implement removal actions;	Section 1.2.3, Table 1-2
(h)(1)(ii)	The identity of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal officials and the persons providing response personnel and equipment can be ensured;	Figure 1-1, Table 1-3
(h)(1)(iii)	A description of information to pass to response personnel in the event of a reportable discharge;	Figure 1-3
(h)(1)(iv)	A description of the facility's response equipment and its location;	Section 3.6

Regulation Section 112.20	Section Title	HAK ODPCP Section
(h)(1)(v)	A description of response personnel capabilities, including the duties of persons at the facility during a response action and their response times and qualifications;	Sections 1.5, 3.8, 3.9
(h)(1)(vi)	Plans for evacuation of the facility and a reference to community evacuation plans, as appropriate;	Evacuation plans are located in hard copy at the facility and at orientation.
(h)(1)(vii)	A description of immediate measures to secure the source of the discharge, and to provide adequate containment and drainage of discharged oil; and	Section 1.6
(h)(1)(viii)	A diagram of the facility.	Section 3.1, Appendix F
(h)(2)	Facility information. The response plan shall identify and discuss the location and type of the facility, the identity and tenure of the present owner and operator, and the identity of the qualified individual identified in paragraph (h)(1) of this section.	Sections 1.2.3, 3.1, Appendix F
(h)(3)	Information about emergency response. The response plan shall include:	
(h)(3)(i)	The identity of private personnel and equipment necessary to remove to the maximum extent practicable a worst case discharge and other discharges of oil described in paragraph (h)(5) of this section, and to mitigate or prevent a substantial threat of a worst case discharge (To identify response resources to meet the facility response plan requirements of this section, owners or operators shall follow appendix E to this part or, where not appropriate, shall clearly demonstrate in the response plan why use of appendix E of this part is not appropriate at the facility and make comparable arrangements for response resources);	Sections 1.6, 3.5, 3.6
(h)(3)(ii)	Evidence of contracts or other approved means for ensuring the availability of such personnel and equipment;	Front Matter, Section 3.8
(h)(3)(iii)	The identity and the telephone number of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal official and the persons providing response personnel and equipment can be ensured;	Figure 1-1, Table 1-3
(h)(3)(iv)	A description of information to pass to response personnel in the event of a reportable discharge;	Figure 1-3
(h)(3)(v)	A description of response personnel capabilities, including the duties of persons at the facility during a response action and their response times and qualifications;	Sections 1.2, 1.5, 3.8, 3.9
(h)(3)(vi)	A description of the facility's response equipment, the location of the equipment, and equipment testing;	Section 3.6

Regulation Section 112.20	Section Title	HAK ODPCP Section
(h)(3)(vii)	Plans for evacuation of the facility and a reference to community evacuation plans, as appropriate;	Evacuation plans are located in hard copy at the facility and at orientation.
(h)(3)(viii)	A diagram of evacuation routes; and	Evacuation plans are located in hard copy at the facility and at orientation.
(h)(3)(ix)	A description of the duties of the qualified individual identified in paragraph (h)(1) of this section, that include:	Section 1.2.3
(h)(3)(ix)(A)	Activate internal alarms and hazard communication systems to notify all facility personnel;	Table 1-1, Figure 1-1
(h)(3)(ix)(B)	Notify all response personnel, as needed;	Section 1.2
(h)(3)(ix)(C)	Identify the character, exact source, amount, and extent of the release, as well as the other items needed for notification;	Section 1.2, Figure 1-3
(h)(3)(ix)(D)	Notify and provide necessary information to the appropriate Federal, State, and local authorities with designated response roles, including the National Response Center, State Emergency Response Commission, and Local Emergency Planning Committee;	Section 1.2, Table 1-3
(h)(3)(ix)(E)	Assess the interaction of the discharged substance with water and/or other substances stored at the facility and notify response personnel at the scene of that assessment;	Section 1.6
(h)(3)(ix)(F)	Assess the possible hazards to human health and the environment due to the release. This assessment must consider both the direct and indirect effects of the release (i.e., the effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat-induced explosion);	Section 1.3, Section 1.6
(h)(3)(ix)(G)	Assess and implement prompt removal actions to contain and remove the substance released;	Section 1.6
(h)(3)(ix)(H)	Coordinate rescue and response actions as previously arranged with all response personnel;	Section 1.6
(h)(3)(ix)(I)	Use authority to immediately access company funding to initiate cleanup activities; and	Front Matter
(h)(3)(ix)(J)	Direct cleanup activities until properly relieved of this responsibility.	Section 1.6

Regulation Section 112.20	Section Title	HAK ODPCP Section
(h)(4)	Hazard evaluation. The response plan shall discuss the facility's known or reasonably identifiable history of discharges reportable under 40 CFR part 110 for the entire life of the facility and shall identify areas within the facility where discharges could occur and what the potential effects of the discharges would be on the affected environment. To assess the range of areas potentially affected, owners or operators shall, where appropriate, consider the distance calculated in paragraph (f)(1)(ii) of this section to determine whether a facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines.	Sections 2.2, 2.3, Appendix D
(h)(5)	Response planning levels. The response plan shall include discussion of specific planning scenarios for:	
(h)(5)(i)	A worst case discharge, as calculated using the appropriate worksheet in appendix D to this part. In cases where the Regional Administrator determines that the worst case discharge volume calculated by the facility is not appropriate, the Regional Administrator may specify the worst case discharge amount to be used for response planning at the facility. For complexes, the worst case planning quantity shall be the larger of the amounts calculated for each component of the facility;	Section 1.6, Scenario 1
(h)(5)(ii)	A discharge of 2,100 gallons or less, provided that this amount is less than the worst case discharge amount. For complexes, this planning quantity shall be the larger of the amounts calculated for each component of the facility; and	Tables this Section, Section1.6
(h)(5)(iii)	A discharge greater than 2,100 gallons and less than or equal to 36,000 gallons or 10 percent of the capacity of the largest tank at the facility, whichever is less, provided that this amount is less than the worst case discharge amount. For complexes, this planning quantity shall be the larger of the amounts calculated for each component of the facility.	Tables this Section, Section 1.6
(h)(6)	Discharge detection systems. The response plan shall describe the procedures and equipment used to detect discharges.	Section 2.5
(h)(7)	Plan implementation. The response plan shall describe:	Front Matter
(h)(7)(i)	Response actions to be carried out by facility personnel or contracted personnel under the response plan to ensure the safety of the facility and to mitigate or prevent discharges described in paragraph (h)(5) of this section or the substantial threat of such discharges;	Section 1.6
(h)(7)(ii)	A description of the equipment to be used for each scenario;	Sections 1.6, 3.6, CISPRI Technical Manual
(h)(7)(iii)	Plans to dispose of contaminated cleanup materials; and	Section 1.6, CISPRI Technical Manual

Regulation Section 112.20	Section Title	HAK ODPCP Section
(h)(7)(iv)	Measures to provide adequate containment and drainage of discharged oil.	Section 1.6
(h)(8)	Self-inspection, drills/exercises, and response training. The response plan shall include:	Section 3.9
(h)(8)(i)	A checklist and record of inspections for tanks, secondary containment, and response equipment;	Sections 2.1.9, 2.1.0, 2.1.11, 3.6, CISPRI Technical Manual
(h)(8)(ii)	A description of the drill/exercise program to be carried out under the response plan as described in §112.21;	Section 3.9
(h)(8)(iii)	A description of the training program to be carried out under the response plan as described in §112.21; and	Section 3.9
(h)(8)(iv)	Logs of discharge prevention meetings, training sessions, and drills/exercises. These logs may be maintained as an annex to the response plan.	Section 3.9
(h)(9)	Diagrams. The response plan shall include site plan and drainage plan diagrams.	Section 3.1, Appendix F
(h)(10)	Security systems. The response plan shall include a description of facility security systems.	Section 2.1.4
(h)(11)	Response plan cover sheet. The response plan shall include a completed response plan cover sheet provided in section 2.0 of appendix F to this part.	This appendix
(h)(11)(i)(1)	In the event the owner or operator of a facility does not agree with the Regional Administrator's determination that the facility could, because of its location, reasonably be expected to cause substantial harm or significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, or that amendments to the facility response plan are necessary prior to approval, such as changes to the worst case discharge planning volume, the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request. The request and accompanying information must be submitted to the Regional Administrator within 60 days of receipt of notice of the Regional Administrator's original decision. The Regional Administrator shall consider the request and render a decision as rapidly as practicable.	Not Applicable
(h)(11)(2)	In the event the owner or operator of a facility believes a change in the facility's classification status is warranted because of an unplanned event or change in the facility's characteristics (i.e., substantial harm or significant and substantial harm), the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request. The Regional Administrator shall consider the request and render a decision as rapidly as practicable.	Not Applicable

Regulation Section 112.20	Section Title	HAK ODPCP Section
(h)(11)(3)	After a request for reconsideration under paragraph (i)(1) or (i)(2) of this section has been denied by the Regional Administrator, an owner or operator may appeal a determination made by the Regional Administrator. The appeal shall be made to the EPA Administrator and shall be made in writing within 60 days of receipt of the decision from the Regional Administrator that the request for reconsideration was denied. A complete copy of the appeal must be sent to the Regional Administrator at the time the appeal is made. The appeal shall contain a clear and concise statement of the issues and points of fact in the case. It also may contain additional information from the owner or operator, or from any other person. The EPA Administrator may request additional information from the owner or operator, or from any other person. The EPA Administrator shall render a decision as rapidly as practicable and shall notify the owner or operator of the decision.	Not Applicable

U.S. ENVIRONMENTAL PROTECTION AGENCY

RESPONSE PLAN COVER SHEET

Page 1 of 3

GENERAL INFORMATION

Owner/Operator of Facility: Hilcorp Alaska, LLC

Facility Name: Trading Bay Production Facility

Facility Address (street address or route): 3800 Centerpoint Dr, Suite 300, (Mailing Address)

Trading Bay, West Side Cook Inlet, Tyonek Alaska, 99682

City, State, and U.S. Zip Code: Anchorage, AK 99503 (Mailing address)

Facility Phone No.: (907) 776-6850

Latitude (Degrees: North): [redacted] degrees, minutes, seconds)

Longitude (Degrees: West): [redacted] (degrees, minutes, seconds)

North American Industrial Classification System (NAICS) Code: 211111

Dun and Bradstreet Number: 00-823-7497

Largest Aboveground Oil Storage Tank Capacity (gallons): [redacted]

Maximum Oil Storage Capacity (gallons): [redacted]

Number of Aboveground Oil Storage Tanks: Fixed Tanks = 22; Mobile/Portable Containers = approximately 275; Sumps = 2 (with 55-gallon or greater capacity); Electrical Transformers = 7 (with 55-gallon or greater capacity).

Worst Case Oil Discharge Amount (gallons): [redacted]

Facility Distance to Navigable Water. Mark the appropriate line.

X 0-1/4 mile

1/4-1/2 mile

1/2-1 mile

>1 mile

U.S. ENVIRONMENTAL PROTECTION AGENCY
RESPONSE PLAN COVER SHEET
Page 2 of 3

APPLICABILITY OF SUBSTANTIAL HARM CRITERIA

Facility Name: Trading Bay Production Facility

Does the facility transfer oil over-water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes _________
No ___X_____

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes _________
No ____X____

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes ___X____
No _________

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?

Yes _________
No ___X____

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes _________
No ___X_____

U.S. ENVIRONMENTAL PROTECTION AGENCY

RESPONSE PLAN COVER SHEET

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based upon my inquiry of those individuals responsible for obtaining information, I believe the submitted information is true, accurate and complete.

John A. Barnes, Senior Vice President
Hilcorp Alaska, LLC

July 2, 2012
Date

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U.S. EPA INFORMATION SUMMARY

Name and Address of Operator:

Hilcorp Alaska, LLC.
Phone: (907)776-6850

Street Address:
3800 Centerpoint Dr., Suite 300
Anchorage, AK 99503

Name and Telephone Number of Qualified Individual and Alternate Qualified Individual

See Table 1-2 *Incident Commander System (ICS) Personnel and Telephone Numbers* in the Cook Inlet Production Facilities Oil Discharge Prevention and Contingency Plan for the names and telephone numbers of Qualified Individuals.

Worst-Case Discharge

The worst case discharge (WCD) volume was calculated using equations in 40 CFR 112, Appendix D, Part B.2 for multiple-tank facilities.

WCD is determined by calculating the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks permanently manifolded together, whichever is greater, plus the production volume of the well with the highest output, the total aboveground oil storage capacity of tanks without adequate secondary containment.

The largest single aboveground oil storage tank within adequate secondary containment:

= [redacted]

Calculate the total aboveground oil storage capacity of tanks without adequate secondary containment. If all aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility have adequate secondary containment, ENTER “0” (zero).

= 0 bbl

For facilities with production wells producing by pumping, if the rate of the well with the highest output is known and the number of days the facility is unattended can be predicted, then the production volume is equal to the pumping rate of the well multiplied by the greatest number of days the facility is unattended.

[redacted]

Basis for Determination of Significant and Substantial Harm

Trading Bay Production operations have the potential to spill hydrocarbon material into navigable waters of the United States. As such, these operations pose a threat of significant and substantial harm should a spill occur.

Wellhead Protection Area: The living quarters and the center portion of the airstrip are in an ADEC-designated wellhead protection area: Hilcorp Alaska Trading Bay. ADEC designated this area for protection of the groundwater that supplies the public water system (#248218) used for potable purposes throughout the facility. The protection area, however, is up gradient of the facility's industrial processes area and would not be impacted by activities occurring there.

The Cook Inlet Prevention and Response, Inc. (CISPRI) *Technical Manual* presents a summary of major spill response equipment contracted by Hilcorp Alaska, LLC. In addition to contracted equipment, other spill response equipment is available in Cook Inlet through CISPRI and Mutual Aid.

Certification of Response Personnel and Equipment:

CISPRI holds the following Oil Spill Removal Organization (OSRO) certifications for facility and vessel:

- River/Canal – Facility and Vessel - MM, WCD1, WCD2 and WCD3
- Inland – Facility and Vessel - MM, WCD1, WCD2 and WCD3
- Open Ocean – Facility - MM, WCD2 and WCD3; Vessel – MM, WCD1, WCD2 and WCD3
- Offshore – MM, WCD1, WCD2 and WCD3
- Nearshore – MM, WCD1, WCD2 and WCD 3.

EPA OPA 90 Response Resources Worksheet

Part I Background Information

Step (A): Calculate Worst Case Discharge in barrels (40 CFR 112 Appendix D) — (b) (3), (b) (7)(F) [redacted]

Step (B): Oil Group (Section 1.2 of 40 CFR 112 Appendix E) — 3

Step (C): Operating Area (choose one)

[X] Nearshore/Inland/Great Lakes [ ] or River and Canals

Step (D): Percentages of Oil (Table 2 of 40 CFR 112 Appendix E)

Percent Lost to Natural Dissipation — 30 (D1)

Percent Recovered Floating Oil — 50 (D2)

Percent Oil Onshore — 50 (D3)

Step (E): Recovery (in barrels)

On-Water Oil Recovery: $\frac{\text{Step (D2) x Step (A)}}{100}$

Onshore Recovery: Step (D3) x Step (A)

(b) (3), (b) (7)(F) [redacted]

[redacted]

100 — (E2)

Step (F): Emulsification Factor (Table 3 of 40 CFR 112 Appendix E) — 2.0 (F)

Step (G): On-Water Oil Recovery Resource Mobilization Factor
(Table 4 of 40 CFR 112 Appendix E)

Tier 1 (12-hr arrival)	.15	(G1)
Tier 2 (36-hr arrival)	.25	(G2)
Tier 3 (60-hr arrival)	.40	(G3)

Part II On-Water Recovery Capacity (barrels/day)
(Recovery capacity that must be planned for)

Tier 1 (12-hr arrival): Step (E1) x Step (F) x Step (G1)

Tier 2 (36-hr arrival): Step (E1) x Step (F) x Step (G2)

Tier 3 (60-hr arrival): Step (E1) x Step (F) x Step (G3)

Part III Onshore Cleanup Volume (barrels)
(Shoreline cleanup capacity that must be planned for)

Step (E2) x Step (F)

(b) (3), (b) (7)(F) [redacted]

Part IV On-Water Response Capacity By Operating Area
(Table 5 of Appendix E)(Amount needed to be contracted for in barrels/day)

Tier 1 (12-hr arrival)	12,500	(J1)
Tier 2 (36-hr arrival)	25,000	(J2)
Tier 3 (60-hr arrival)	50,000	(J3)

Part V On-Water Amount Needed to be Identified, but not contracted for in Advance
(barrels/day)

Tier 1 (12-hr arrival): (H1) - (J1)

Tier 2 (36-hr arrival): (H2) - (J2)

Tier 3 (60-hr arrival): (H3) - (J3)

(b) (3), (b) (7)(F) [redacted]

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TBPF SMALL AND MEDIUM DISCHARGES

Tables 1 through 3 present the scenario parameters, response equipment, and response strategy for the small discharge scenario, and Tables 4 through 6 present the same information for the medium discharge scenario.

Table 1. TBPF Small Discharge Scenario Parameters

Parameter	Small Discharge Parameter Condition
Spill Location	Fueling Bay
Date and Time	July 4, 12:00
Cause of Spill	The mobile fuel transfer tank has just been filled with 2,000 gallons of diesel fuel at the airport and arrives at the covered Fueling Bay to offload to the fill line at Fuel Dispenser Building. A weld at the bottom of one end of the tank fails before any of the fuel is offloaded.
Quantity of Spill	1,800 gal
Oil Type	Diesel
Weather	Sunny, clear, 21 degrees Celsius, light breeze (2 knots)
Spill Trajectory	Diesel spills into the bed of the dump truck in which the tank sits and then onto the Fueling Bay's concrete floor. About 100 gallons fills the sump that is in the middle of the bay. The rest heads east under the truck and toward the exit end of the bay.
Effective daily recovery capacity (R)	This is determined by multiplying the pump throughput rate in barrels per hour (T) by 24 hours and by a 20 percent efficiency factor (E), or R = T x 24 hours x E. For this scenario, R = 24,192 gallons.
Temporary storage capacity available onsite	Dedicated salvage drums (2) = 110 gallons Additional drums (5) = 275 gallons Portable fastank = 2,400 gallons Tiger totes (5 minimum) = 5,250 gallons Onsite crude oil storage tanks = > 3,500,000 gallons

Table 2. TBPF Small Discharge Response Equipment with Capacity

Equipment Type and Quantity	Gross Capacity/Storage	Effective Daily Recovery Capacity (R)/Storage Capacity

(b) (7)(F), (b) (3)

[redacted]

Table 3. TBPF Small Discharge Scenario Response Strategy

Spill Response	Response Strategy
Spill Detection and First Response (12:00 – 12:10)	1. The heavy equipment operator (HEO) witnesses the weld failure and calls the spill into the Lead Operator. 2. From a safe location, he shuts down all potential ignition sources near the area and closes valve to diesel storage tank.
Activation (12:10 – 12:30)	1. The Facility Supervisor or his designee acts as the Site Safety Officer. 2. Site Safety Officer initiates a spill site characterization to determine when and how to conduct a safe response effort, including a lower explosive limit (LEL) reading taken by one of the field personnel that is a qualified gas tester. 3. A safety tail-gate meeting is conducted with all onsite response personnel to discuss spill-specific safety issues, including PPE, and to finalize and communicate the response approach. Onsite spill response capabilities are determined to be sufficient to address the spill. 4. Response personnel don PPE. 5. Facility Supervisor reports the spill to the Qualified Individual (QI). 6. QI or designee makes agency and internal notifications
Containment and Recovery (12:30 – 18:30)	The following response activities take place within the first six hours after the spill: 1. Site access controls are put in place. 2. A loader is used to create a gravel/soil berm east (down gradient) of the Fueling Bay to convey and capture diesel that migrates out of the Bay. 3. The vacuum truck is used to remove the diesel from the containment area, as well as from the concrete floor, sump, and truck bed inside the Fueling Bay. 4. The vacuum truck is hooked up to a Tiger tote staged nearby and impacted gravel and soil is extracted and deposited into the tote. 5. Residual impacted gravel and soil is hand-shoveled into the same tote. 6. A pressure washer (using water and a biodegradable degreaser such as Citri-Solv) is used to clean diesel from the tank, truck bed, Fueling Bay floor, and sump. 7. The vacuum truck is used to remove the decontamination water. 8. To ensure that all the diesel is removed from the truck tires, personnel lay down sorbent rolls over plywood and then pull the truck out of the Bay. Additional absorbent pads are used to wipe down the tires. Used sorbents are removed when saturated and placed into a separate waste drum.
Waste	1. The vacuum truck is able to recover approximately 1,500 gallons of spilled diesel and 150 gallons of decontamination water. This is disposed in the onsite Sand Drain for entry into the facility's oil-water separation system. 2. Recovered impacted gravel fills less than one 1,050-gal Tiger tote. This includes gravel removed by the vacuum truck and placed directly into the Tiger tote, gravel/soil removed with hand shovels, and gravel/soil filtered out of the recovered diesel at the Sand Drain. The impacted gravel/soil is containerized and shipped offsite for disposal. 3. Less than two 55-gallon drums of used sorbents and PPE are generated during the response. These materials are incinerated onsite. 4. Any oily response materials that cannot be disposed of by burning onsite are containerized and shipped offsite for disposal.

Table 4. TBPF Medium Discharge Scenario Parameters

Parameter	Medium Discharge Parameter Condition
Spill Location	Tank 7 pipeline
Date and Time	August 15, 13:00
Cause of Spill	Corrosion in pipeline connecting Tank 7 and the charge pump.
Quantity of Spill	36,000 gallons
Oil Type	Crude oil
Weather	Clear, 18° C, Wind 2 knots east
Spill Trajectory	Oil follows the facility topography in a northeasterly direction.
Effective Daily Recovery Capacity (R)	This is determined by multiplying the pump throughput rate in barrels per hour (T) by 24 hours and by a 20 percent efficiency factor (E), or R= T x 24 hours x E. Pump R= 68,816 gallons. Vacuum truck R= 24,192 gallons.
Temporary storage capacity available onsite	Dedicated salvage drums (2) = 110 gallons Additional drums (5) = 275 gallons Dedicated portable fastank = 2,400 gallons Tiger totes (5 minimum) = 5,250 gallons Onsite crude oil storage tanks = > 3,500,000 gallons

Table 5. TBPF Medium Discharge Response Equipment with Capacity

Equipment Type and Count	Gross Capacity/Storage	Effective Daily Recovery Capacity (R)/Storage Capacity
Supersucker Vacuum Truck (1)	Vacuum rate is approximately 84 gallons per minute. Truck can hold 2,520 gallons.	R= 24,192 gallons
Excavator (1)	Not applicable	Not applicable
Loader (1)	Bucket capacity is 1 cubic yard	Not applicable
Shovels (2)	Not applicable	Not applicable
Sorbent pads (50)	Capacity would be approximately 15 gallons per 50 pads	R= 3 gallons
Sorbent boom (10)	Capacity is 20 gallons per boom	R= 40 gallons
Drums (2)	55 gallons each	110 gallons
Plastic Sheeting (1 roll)	Not applicable	Not applicable

Table 6. TBPF Medium Discharge Scenario Response Strategy

Requirement	Response Strategy
Spill Detection and First Response (13:00 – 13:10)	1. Production Operator detects the spill while making rounds and calls it into the Facility Supervisor (usually the Lead Operator). 2. From a safe distance, the Production Operator shuts down all ignition sources. 3. Tank 7 valve is closed from the Control Room human-machine interface (HMI) screen.
Activation (13:10 – 13:30)	1. Facility Supervisor activates alarm for onsite personnel to muster. 2. Head count is conducted at each muster area. 3. Facility Supervisor designates an onsite Emergency Trauma Technician to act as the Site Safety Officer and initiate a spill site characterization to determine when and how to conduct a safe response effort. The characterization includes a lower explosive limit (LEL) reading taken by an onsite operator that is a qualified gas tester. 4. The Site Safety Officer determines PPE requirement and works with Facility Supervisor to determine site access controls and response approach. 5. All spill response personnel meet in the cold zone of the spill site for a safety tailgate meeting to discuss spill-specific safety issues, including PPE requirements, and to finalize and communicate response approach. Onsite spill response capabilities are determined to be sufficient to address the spill. 6. Non-response personnel are notified to remain in the secondary muster area until given the "all clear." 7. Response personnel don PPE. 8. The Lead Operator reports the spill to the Qualified Individual (QI) 9. QI or his designee makes agency and internal notifications.
Containment and Recovery (13:30 – 16:00)	The following response activities take place within the first three hours after the spill is detected: 1. Site access controls are put in place. 2. An excavator and a loader are used to construct berms to contain the discharge, including preventing migration to the Stormwater Collection Pond. 3. Absorbent boom is placed along the west side of Battery 2 Building to prevent oil from seeping into the building. 4. The Supersucker vacuum truck is used to remove free-flowing oil inside and outside of the constructed containment area.
Containment and Recovery (post 3 hours)	1. Oil recovery continues until free-flowing oil is removed by vacuum truck or diaphragm pump. 2. Contaminated gravel/soil is excavated and placed on plastic sheeting, then covered with plastic sheeting. Some areas must be hand-dug because of underground piping. 3. As equipment is phased out of the response operation, it is decontaminated. Decontamination may occur at the Sand Drain Ramp, where decontamination water would drain into the Sand Drain for introduction to the facility oil-water separation system. 4. Equipment that cannot be moved from the spill site to the Sand Drain without causing further contamination, as well as fixed piping at the spill site, is sprayed with Citri-Solv and wiped down with rags and absorbs. 5. Used absorbents, boom, and PPE are placed in two salvage drums.
Waste	1. Approximately 28,000 gallons of spilled crude oil and 500 gallons of decontamination water is recovered and disposed in the onsite Sand Drain for entry into the facility's oil-water separation system. 2. Approximately 100 cubic yards of contaminated soil/gravel is containerized and shipped offsite for decontamination and disposal. 3. Two 55-gallon drums of used sorbents, boom, and PPE are generated during the response. These materials are incinerated onsite. 4. Any oily response materials that cannot be disposed of by burning onsite are containerized and shipped offsite for disposal.

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COOK INLET PRODUCTION FACILITIES
OIL DISCHARGE PREVENTION AND CONTINGENCY PLAN

U.S. ENVIRONMENTAL PROTECTION AGENCY RESPONSE PLAN REQUIREMENTS
[40 CFR 112.20]
CROSS REFERENCE
GRANITE POINT PRODUCTION FACILITY (GPPF)

Regulation Section 112.20	Section Title	HAK ODPCP Section
§ 112.20	**Facility Response Plans**	
(h)	A response plan shall follow the format of the model facility-specific response plan included in appendix F to this part, unless you have prepared an equivalent response plan acceptable to the Regional Administrator to meet State or other Federal requirements. A response plan that does not follow the specified format in appendix F to this part shall have an emergency response action plan as specified in paragraphs (h)(1) of this section and be supplemented with a cross-reference section to identify the location of the elements listed in paragraphs (h)(2) through (h)(10) of this section. To meet the requirements of this part, a response plan shall address the following elements, as further described in appendix F to this part:	This appendix
(h)(1)	Emergency response action plan. The response plan shall include an emergency response action plan in the format specified in paragraphs (h)(1)(i) through (viii) of this section that is maintained in the front of the response plan, or as a separate document accompanying the response plan, and that includes the following information:	Part 1
(h)(1)(i)	The identity and telephone number of a qualified individual having full authority, including contracting authority, to implement removal actions;	Section 1.2.3, Table 1-2
(h)(1)(ii)	The identity of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal officials and the persons providing response personnel and equipment can be ensured;	Figure 1-1, Table 1-3
(h)(1)(iii)	A description of information to pass to response personnel in the event of a reportable discharge;	Figure 1-3
(h)(1)(iv)	A description of the facility's response equipment and its location;	Section 3.6
(h)(1)(v)	A description of response personnel capabilities, including the duties of persons at the facility during a response action and their response times and qualifications;	Sections 1.5, 3.8, 3.9

Regulation Section 112.20	Section Title	HAK ODPCP Section
(h)(1)(vi)	Plans for evacuation of the facility and a reference to community evacuation plans, as appropriate;	Evacuation plans are located in hard copy at the facility and at orientation.
(h)(1)(vii)	A description of immediate measures to secure the source of the discharge, and to provide adequate containment and drainage of discharged oil; and	Section 1.6
(h)(1)(viii)	A diagram of the facility.	Section 3.1, Appendix F
(h)(2)	Facility information. The response plan shall identify and discuss the location and type of the facility, the identity and tenure of the present owner and operator, and the identity of the qualified individual identified in paragraph (h)(1) of this section.	Sections 1.2.3, 3.1, Appendix F
(h)(3)	Information about emergency response. The response plan shall include:	
(h)(3)(i)	The identity of private personnel and equipment necessary to remove to the maximum extent practicable a worst case discharge and other discharges of oil described in paragraph (h)(5) of this section, and to mitigate or prevent a substantial threat of a worst case discharge (To identify response resources to meet the facility response plan requirements of this section, owners or operators shall follow appendix E to this part or, where not appropriate, shall clearly demonstrate in the response plan why use of appendix E of this part is not appropriate at the facility and make comparable arrangements for response resources);	Sections 1.6, 3.5, 3.6
(h)(3)(ii)	Evidence of contracts or other approved means for ensuring the availability of such personnel and equipment;	Front Matter, Section 3.8
(h)(3)(iii)	The identity and the telephone number of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal official and the persons providing response personnel and equipment can be ensured;	Figure 1-1, Table 1-3
(h)(3)(iv)	A description of information to pass to response personnel in the event of a reportable discharge;	Figure 1-3
(h)(3)(v)	A description of response personnel capabilities, including the duties of persons at the facility during a response action and their response times and qualifications;	Sections 1.2, 1.5, 3.8, 3.9
(h)(3)(vi)	A description of the facility's response equipment, the location of the equipment, and equipment testing;	Section 3.6
(h)(3)(vii)	Plans for evacuation of the facility and a reference to community evacuation plans, as appropriate;	Evacuation plans are located in hard copy at the facility and at orientation.
(h)(3)(viii)	A diagram of evacuation routes; and	Evacuation plans are located in hard copy at the facility and at orientation.

Regulation Section 112.20	Section Title	HAK ODPCP Section
(h)(3)(ix)	A description of the duties of the qualified individual identified in paragraph (h)(1) of this section, that include:	Section 1.2.3
(h)(3)(ix)(A)	Activate internal alarms and hazard communication systems to notify all facility personnel;	Table 1-1, Figure 1-1
(h)(3)(ix)(B)	Notify all response personnel, as needed;	Section 1.2
(h)(3)(ix)(C)	Identify the character, exact source, amount, and extent of the release, as well as the other items needed for notification;	Section 1.2, Figure 1-3
(h)(3)(ix)(D)	Notify and provide necessary information to the appropriate Federal, State, and local authorities with designated response roles, including the National Response Center, State Emergency Response Commission, and Local Emergency Planning Committee;	Section 1.2, Table 1-3
(h)(3)(ix)(E)	Assess the interaction of the discharged substance with water and/or other substances stored at the facility and notify response personnel at the scene of that assessment;	Section 1.6
(h)(3)(ix)(F)	Assess the possible hazards to human health and the environment due to the release. This assessment must consider both the direct and indirect effects of the release (i.e., the effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat-induced explosion);	Section 1.3, Section 1.6
(h)(3)(ix)(G)	Assess and implement prompt removal actions to contain and remove the substance released;	Section 1.6
(h)(3)(ix)(H)	Coordinate rescue and response actions as previously arranged with all response personnel;	Section 1.6
(h)(3)(ix)(I)	Use authority to immediately access company funding to initiate cleanup activities; and	Front Matter
(h)(3)(ix)(J)	Direct cleanup activities until properly relieved of this responsibility.	Section 1.6
(h)(4)	Hazard evaluation. The response plan shall discuss the facility's known or reasonably identifiable history of discharges reportable under 40 CFR part 110 for the entire life of the facility and shall identify areas within the facility where discharges could occur and what the potential effects of the discharges would be on the affected environment. To assess the range of areas potentially affected, owners or operators shall, where appropriate, consider the distance calculated in paragraph (f)(1)(ii) of this section to determine whether a facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines.	Sections 2.2, 2.3, Appendix D

Regulation Section 112.20	Section Title	HAK ODPCP Section
(h)(5)	Response planning levels. The response plan shall include discussion of specific planning scenarios for:	
(h)(5)(i)	A worst case discharge, as calculated using the appropriate worksheet in appendix D to this part. In cases where the Regional Administrator determines that the worst case discharge volume calculated by the facility is not appropriate, the Regional Administrator may specify the worst case discharge amount to be used for response planning at the facility. For complexes, the worst case planning quantity shall be the larger of the amounts calculated for each component of the facility;	Section 1.6, Response Strategy 1
(h)(5)(ii)	A discharge of 2,100 gallons or less, provided that this amount is less than the worst case discharge amount. For complexes, this planning quantity shall be the larger of the amounts calculated for each component of the facility; and	Tables this Section, Section1.6
(h)(5)(iii)	A discharge greater than 2,100 gallons and less than or equal to 36,000 gallons or 10 percent of the capacity of the largest tank at the facility, whichever is less, provided that this amount is less than the worst case discharge amount. For complexes, this planning quantity shall be the larger of the amounts calculated for each component of the facility.	Tables this Section, Section 1.6
(h)(6)	Discharge detection systems. The response plan shall describe the procedures and equipment used to detect discharges.	Section 2.5
(h)(7)	Plan implementation. The response plan shall describe:	Front Matter
(h)(7)(i)	Response actions to be carried out by facility personnel or contracted personnel under the response plan to ensure the safety of the facility and to mitigate or prevent discharges described in paragraph (h)(5) of this section or the substantial threat of such discharges;	Section 1.6
(h)(7)(ii)	A description of the equipment to be used for each scenario;	Sections 1.6, 3.6, CISPRI Technical Manual
(h)(7)(iii)	Plans to dispose of contaminated cleanup materials; and	Section 1.6, CISPRI Technical Manual
(h)(7)(iv)	Measures to provide adequate containment and drainage of discharged oil.	Section 1.6
(h)(8)	Self-inspection, drills/exercises, and response training. The response plan shall include:	Section 3.9
(h)(8)(i)	A checklist and record of inspections for tanks, secondary containment, and response equipment;	Sections 2.1.9, 2.1.10, 2.1.11, 3.6, CISPRI Technical Manual
(h)(8)(ii)	A description of the drill/exercise program to be carried out under the response plan as described in §112.21;	Section 3.9
(h)(8)(iii)	A description of the training program to be carried out under the response plan as described in §112.21; and	Section 3.9

Regulation Section 112.20	Section Title	HAK ODPCP Section
(h)(8)(iv)	Logs of discharge prevention meetings, training sessions, and drills/exercises. These logs may be maintained as an annex to the response plan.	Section 3.9
(h)(9)	Diagrams. The response plan shall include site plan and drainage plan diagrams.	Section 3.1, Appendix F
(h)(10)	Security systems. The response plan shall include a description of facility security systems.	Section 2.1.4
(h)(11)	Response plan cover sheet. The response plan shall include a completed response plan cover sheet provided in section 2.0 of appendix F to this part.	This appendix
(h)(11)(i)(1)	In the event the owner or operator of a facility does not agree with the Regional Administrator's determination that the facility could, because of its location, reasonably be expected to cause substantial harm or significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, or that amendments to the facility response plan are necessary prior to approval, such as changes to the worst case discharge planning volume, the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request. The request and accompanying information must be submitted to the Regional Administrator within 60 days of receipt of notice of the Regional Administrator's original decision. The Regional Administrator shall consider the request and render a decision as rapidly as practicable.	Not Applicable
(h)(11)(2)	In the event the owner or operator of a facility believes a change in the facility's classification status is warranted because of an unplanned event or change in the facility's characteristics (i.e., substantial harm or significant and substantial harm), the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request. The Regional Administrator shall consider the request and render a decision as rapidly as practicable.	Not Applicable

Regulation Section 112.20	Section Title	HAK ODPCP Section
(h)(11)(3)	After a request for reconsideration under paragraph (i)(1) or (i)(2) of this section has been denied by the Regional Administrator, an owner or operator may appeal a determination made by the Regional Administrator. The appeal shall be made to the EPA Administrator and shall be made in writing within 60 days of receipt of the decision from the Regional Administrator that the request for reconsideration was denied. A complete copy of the appeal must be sent to the Regional Administrator at the time the appeal is made. The appeal shall contain a clear and concise statement of the issues and points of fact in the case. It also may contain additional information from the owner or operator, or from any other person. The EPA Administrator may request additional information from the owner or operator, or from any other person. The EPA Administrator shall render a decision as rapidly as practicable and shall notify the owner or operator of the decision.	Not Applicable

U.S. ENVIRONMENTAL PROTECTION AGENCY

RESPONSE PLAN COVER SHEET

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GENERAL INFORMATION

Owner/Operator of Facility: Hilcorp Alaska, LLC

Facility Name: Granite Point Production Facility

Facility Address (street address or route): 3800 Centerpoint Dr, Suite 300, (Mailing Address)

West Side Cook Inlet, Shirleyville, Alaska, 99682

City, State, and U.S. Zip Code: Anchorage, AK 99503 (Mailing address)

Facility Phone No.: (907) 776-6610

Latitude (Degrees: North): [redacted] (degrees, minutes, seconds)

Longitude (Degrees: West): [redacted] (degrees, minutes, seconds)

North American Industrial Classification System (NAICS) Code: 211111

Dun and Bradstreet Number: 00-823-7497

Largest Aboveground Oil Storage Tank Capacity (gallons): [redacted]

Maximum Oil Storage Capacity (gallons): [redacted]

Number of Aboveground Oil Storage Tanks: Fixed Tanks = 11; Mobile/Portable Containers = approximately 113; Sumps = 2; Electrical Transformer = 1

Worst Case Oil Discharge Amount (gallons): [redacted]

Facility Distance to Navigable Water. Mark the appropriate line.

X 0-1/4 mile

1/4-1/2 mile

1/2-1 mile

>1 mile

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RESPONSE PLAN COVER SHEET
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APPLICABILITY OF SUBSTANTIAL HARM CRITERIA

Facility Name: Granite Point Production Facility

Does the facility transfer oil over-water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes ________
No ____X____

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes _________
No ____X____

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes ____X____
No _________

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Appendix C or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?

Yes _________
No ____X____

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes _________
No ____X____

U.S. ENVIRONMENTAL PROTECTION AGENCY

RESPONSE PLAN COVER SHEET

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CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based upon my inquiry of those individuals responsible for obtaining information, I believe the submitted information is true, accurate and complete.

John A. Barnes, Senior Vice President
Hilcorp Alaska, LLC

July 2, 2012
Date

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U.S. EPA INFORMATION SUMMARY

Name and Address of Operator:

Hilcorp Alaska, LLC.
Phone: (907) 776-6850

Street Address:
3800 Centerpoint Dr., Suite 300
Anchorage, AK 99503

Name and Telephone Number of Qualified Individual and Alternate Qualified Individual

See Table 1-2 (Incident Commanders and Qualified Individual Telephone List) in the Cook Inlet Production Facilities Oil Discharge Prevention and Contingency Plan for the names and telephone numbers of Qualified Individuals.

Worst-Case Discharge

The worst case discharge (WCD) volume was calculated using equations in 40 CFR 112, Appendix D, Part B.2 for multiple-tank facilities.

(b) (7)(F), (b) (3)

[redacted]

Basis for Determination of Significant and Substantial Harm

Granite Point production operations have the potential to spill hydrocarbon material into navigable waters of the United States. As such, these operations pose a threat of significant and substantial harm should a spill occur.

The Cook Inlet Prevention and Response, Inc. (CISPRI) *Technical Manual* presents a summary of major spill response equipment contracted by Hilcorp Alaska, LLC. In addition to contracted equipment, other spill response equipment is available in Cook Inlet through CISPRI and Mutual Aid.

Certification of Response Personnel and Equipment:

CISPRI holds the following Oil Spill Removal Organization (OSRO) certifications:

- River/Canal – Facility and Vessel - MM, WCD1, WCD2 and WCD3
- Inland – Facility and Vessel - MM, WCD1, WCD2 and WCD3
- Open Ocean – Facility - MM, WCD2 and WCD3; Vessel – MM, WCD1, WCD2 and WCD3
- Offshore – MM, WCD1, WCD2 and WCD3
- Nearshore – MM, WCD1, WCD2 and WCD 3.

EPA OPA 90 Response Resources Worksheet

Part I Background Information

Step (A): Calculate Worst Case Discharge in barrels (40 CFR 112 Appendix D) — (b) (3), (b) (7)(F) [redacted]

Step (B): Oil Group (Section 1.2 of 40 CFR 112 Appendix E) — 3

Step (C): Operating Area (choose one)

[X] Nearshore/Inland/Great Lakes   [ ] or River and Canals

Step (D): Percentages of Oil (Table 2 of 40 CFR 112 Appendix E)

Percent Lost to Natural Dissipation — 30 (D1)

Percent Recovered Floating Oil — 50 (D2)

Percent Oil Onshore — 50 (D3)

Step (E): Recovery (in barrels)

On-Water Oil Recovery: $\frac{\text{Step (D2) x Step (A)}}{100}$

Onshore Recovery: Step $\frac{\text{(D3) x Step (A)}}{100}$

(b) (3), (b) (7)(F) [redacted]

Step (F): Emulsification Factor (Table 3 of 40 CFR 112 Appendix E) — 2.0 (F)

Step (G): On-Water Oil Recovery Resource Mobilization Factor

(Table 4 of 40 CFR 112 Appendix E)

Tier 1 (12-hr arrival) .15 (G1)

Tier 2 (36-hr arrival) .25 (G2)

Tier 3 (60-hr arrival) .40 (G3)

Part II On-Water Recovery Capacity (barrels/day)
(Recovery capacity that must be planned for)

(b) (3), (b) (7)(F) [redacted]

Tier 1 (12-hr arrival): Step (E1) x Step (F) x Step (G1)

Tier 2 (36-hr arrival): Step (E1) x Step (F) x Step (G2)

Tier 3 (60-hr arrival): Step (E1) x Step (F) x Step (G3)

Part III Onshore Cleanup Volume (barrels)
(Shoreline cleanup capacity that must be planned for)

Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Table 5 of Appendix E)(Amount needed to be contracted for in barrels/day)

Tier 1 (12-hr arrival) 12,500 (J1)

Tier 2 (36-hr arrival) 25,000 (J2)

Tier 3 (60-hr arrival) 50,000 (J3)

Part V On-Water Amount Needed to be Identified, but not contracted for in Advance (barrels/day)

(b) (3), (b) (7)(F) [redacted]

Tier 1 (12-hr arrival): (H1) - (J1)

Tier 2 (36-hr arrival): (H2) - (J2)

Tier 3 (60-hr arrival): (H3) - (J3)

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GPPF Small and Medium Discharges

Small discharges are defined as any spill volume less than or equal to 2,100 gal, provided that this amount is less than the worst case discharge volume. Medium discharges are defined as any spills greater than 2,100 gal and less than or equal to 36,000 gal or 10 percent of the capacity of the largest tank at the facility, whichever is less, provided that this amount is less than the worst case discharge volume (40 CFR Part 112). Tables 1 through 3 present the scenario parameters, response equipment, and response strategy for the small discharge scenario, and Tables 4 through 6 present the same information for the medium discharge scenario.

Table 1. GPPF Small Discharge Scenario Parameters

Parameter	Small Discharge Parameter Condition
Spill Location	Granite Point Shipping Pump Room
Date and Time	June 21, 12:00
Cause of Spill	A shipping pump seal leak
Quantity of Spill	200 gallons
Oil Type	Crude oil
Weather	Sunny, clear, 21 degrees Celsius, light breeze (2 knots)
Spill Trajectory	The spill travels along the concrete floor toward the building door at the south end of the building and then beneath the door to the surrounding ground.
Effective daily recovery capacity (R)	This is determined by multiplying the pump throughput rate in barrels per hour (T) by 24 hours and by a 20 percent efficiency factor (E), or R = T x 24 hours x E. For this scenario, R = 24,480 gallons.
Temporary storage capacity available on-scene	Dedicated onsite salvage drums (6 minimum) = 330 gallons Dedicated cubic-yard totes (3 minimum) = 9 cubic yards Onsite crude oil storage tanks = > 100,000 gallons Onsite lined containments = > 800,000 gallons

Table 2. GPPF Small Discharge Response Equipment with Capacity

Equipment Type and Quantity	Gross Capacity/Storage	Effective Daily Recovery Capacity (R)/Storage Capacity
Air-operated Wilden M4 diaphragm pump (1)	70 gallons per minute = 4,200 gallons per hour	R= 24,480 gallons
Sorbent Boom (four 8" x 10')	Capacity is 20 gallons per boom	R= 16 gallons
Sorbent Pads (50)	Capacity would be approximately 15 gallons per 50 pads	R= 3 gallons
Shovels (2)	Not applicable	Not applicable
Drums (6)	55 gallons each	330 gallons
Cubic yard totes (3)	1 cubic yard each	3 cubic yards

Table 3. GPPF Small Discharge Scenario Response Strategy

Spill Response	Response Strategy
Spill Detection and First Response (12:00 – 12:10)	1. The spill is detected by the Utility Operator while he is making rounds. 2. He contacts the Granite Point Tank Farm (GPTF) Lead Operator and describes spill. He is told to evacuate the building, and from a safe distance, close the valve to the leaking shipping pump turn and turn off all electrical power and all other sources of ignition (such as nearby glycol burners).
Activation (12:10 – 12:30)	1. The Lead Operator reports spill to the Qualified Individual (QI), and the QI delegates spill response and cleanup responsibility to the Lead Operator. 2. QI or designee makes agency and internal notifications. 3. The Lead Operator (acting as the Site Safety Officer) initiates a spill site characterization, including a lower explosive limit (LEL) reading, to determine when and how to conduct a safe response effort. 4. The Lead Operator/Site Safety Officer and Utility Operator hold a tailgate meeting to discuss spill-specific safety, including required personal protective equipment (PPE), and to finalize the response approach. It is determined that there is adequate response equipment staged at GPTF to complete the response. 5. The Lead Operator reports spill to the Qualified Individual (QI), and the QI delegates spill response and cleanup responsibility to the Lead Operator. 6. QI or designee makes agency and internal notifications. 7. Response personnel (Lead Operator and Utility Operator) don PPE.
Containment (12:30 – 1:00)	1. Boom is placed at the Pump Room building doorway to prevent additional spill migration from inside the building to outside. 2. Boom and a hand-dug containment dike are used to contain the oil that has migrated outside the building.
Recovery and Cleanup (1:00 – 8:00)	*1. Outdoor spilled material is addressed before indoor spill area.* 2. A diaphragm pump is used to transfer oil that has ponded within the outdoor containment area to two 55-gallon salvage drums. 3. With hand shovels, response personnel remove the contaminated soil and place it in another set of salvage drums. In these drums, the gravel and sediment are allowed to settle out from the oil. 4. Response personnel then address the indoor spill, again using the diaphragm pump to transfer recovered oil to salvage drums. 5. Sorbent pads are used to remove the rest of the oil from all impacted surfaces within the Pump Room. 6. Used sorbents and boom are removed when saturated and placed in a separate waste drum.
Waste Disposal	1. A maximum of two 55-gallon drums of oily absorbents, boom, and PPE are burned onsite in the facility's Smart Ash Burner. 2. Any oily response materials that cannot be disposed of by burning onsite are containerized and shipped offsite for disposal. 3. No more than 3 cubic yards of contaminated soil is recovered and packaged in salvage drums or mud boxes for offsite shipment and disposal. 4. Recovered oil, including oil skimmed off the top of the drums that held both soil and oil, is re-introduced into the facility's oil processing system via the Pig Trap Sump.

Table 4. GPPF Medium Discharge Scenario Parameters

Parameter	Medium Discharge Parameter Condition
Spill Location	Oil manifold at south end of the facility
Date and Time	December 25, 05:00
Cause of Spill	Corrosion in the Granite Point header pipe caused a slow leak at the oil manifold near the Granite Point Coalescer shortly after night rounds on December 24th were completed. Pressure alarms did not activate due to the slow pace of the leak, and the leak was not discovered until morning rounds on December 25th.
Quantity of Spill	4,000 gallons
Oil Type	Crude oil
Weather	Cloudy, -2 degrees Celsius, no wind, and approximately 1 foot of new snow on ground
Spill Trajectory	Spill initially ponds in low area just southwest of the manifold until volume increases such that additional spilled oil migrates east toward the Stormwater Collection Pond.
Effective Daily Recovery Capacity (R)	This is determined by multiplying the pump throughput rate in barrels per hour (T) by 24 hours and by a 20 percent efficiency factor (E), or R= T x 24 hours x E. For both pumps in this scenario, R= 50,400 gallons.
Temporary storage capacity available on-site	Dedicated onsite salvage drums (6 minimum) = 330 gallons Dedicated cubic-yard totes (3 minimum) = 9 cubic yards Onsite crude oil storage tanks = > 100,000 gallons Onsite lined containments = > 800,000 gallons

Table 5. GPPF Medium Discharge Response Equipment with Capacity

Equipment Type and Count	Gross Capacity/Storage	Effective Daily Recovery Capacity (R)/Storage Capacity
Wilden diaphragm pump (1)	70 gallons per minute = 4,200 gallons per hour	R= 24,480 gallons
Ingersoll Rand diaphragm pump(1)	90 gallons per minute = 5,400 gallons per hour	R= 25,920 gallons
Loader (1)	1 cubic-yard bucket	Not applicable
Drums (6)	55 gal	330 gallons
Cubic-yard totes (3)	1 cubic yard	3 cubic yards
Visqueen (3 rolls)	Not applicable	Not applicable

Table 6. GPPF Medium Discharge Scenario Response Strategy

Requirement	Response Strategy
Spill Detection (05:00 – 05:15)	1. Spill is detected by Lead Operator while making his 5AM rounds. 2. He closes pipe valve and turns off all electrical power and all other sources of ignition from a safe location.
Activation (05:15 – 05:45)	1. The Lead Operator reports the spill to the Qualified Individual (QI), who activates the response effort and requests 3 additional spill response personnel from Cook Inlet Spill Prevention and Response, Inc. (CISPRI.) 2. QI or his designee initiates process/production area evacuation for all onsite personnel and provides further instruction at muster area. 3. QI or his designee makes agency and internal notifications. 4. The Lead Operator (acting as the Site Safety Officer) initiates a spill site characterization, including a lower explosive limit (LEL) reading, to determine when and how to conduct a safe response effort. 5. Lead Operator/Site Safety Officer determines site-specific safety plan, including PPE requirements and site access control. 6. Lead Operator/Site Safety Officer conducts safety meeting with onsite response personnel. 7. Onsite personnel are instructed to contain spill using onsite materials until additional response personnel arrive.
Containment (05:45 – 06:15)	1. Response personnel determine that most of the discharged oil has ponded just southwest of the oil manifold and that the rest is slowly migrating toward the Stormwater Collection Pond. The gravel berm that runs parallel to the road at the southern end of the facility is preventing the oil from crossing the south road to the bluff and is directing the east-moving spill toward the Stormwater Collection Pond. 2. Sorbent boom is deployed around the spill area that is not contained by the southern berm, namely to the east.
Recovery and Cleanup (06:15 – 8:00)	1. Two diaphragm pumps are set up to recover ponded oil. The recovered oil is pumped directly into the nearby Granite Point Heater Treater via one outdoor tap near the southeast corner of the treater and one tap just inside the building between the treater and the Granite Point Coalescer. 2. A temporary containment area for contaminated snow storage is constructed near the Liquid Extraction (LEX) Building using wood for berms and visqueen to line the bermed area. 3. CISPRI personnel arrive onsite, receive a safety briefing, and begin assisting recovery and cleanup efforts.
Recovery and Cleanup (post 3 hours)	1. After pumps have recovered as much ponded oil as poss ble, the loader scoops out the contaminated snow from the spill area and places it on the visqueen in the temporary containment area. Another layer of visqueen is used to cover the stockpile. 2. Because the ground is frozen, there is very little seepage into the ground. The loader removes impacted soil and gravel and places it into cubic-yard totes from the Flare Yard. 3. Sorbent pads are used to remove oil from impacted piping at the oil manifold. Used sorbents, boom, and PPE are removed as needed and placed in waste drums staged near the spill area.
Waste	1. Approximately 3,500 gallons of crude oil and melted snow is recovered by the diaphragm pumps and introduced into the facility's oil processing system via the Granite Point Heater Treater. 2. Approximately 20 cubic yards of oily snow is moved by loader from the temporary containment dike to the Granite Point Pig Trap Building Sump. The melted snow and oil are introduced into the facility's crude oil system through this sump. Another option is to let the snow melt completely and then use a diaphragm pump and hose to transfer liquids to the sump. 3. Approximately 2 cubic yards of contaminated soil and gravel is containerized and shipped offsite for disposal/treatment.

	4. Approximately 4 cubic yards of oily absorbents, boom, and PPE are either burned onsite in the facility's Smart Ash Burner or containerized and shipped offsite for disposal. Approximately 200 gallons of water generated from cleaning the diaphragm pumps and loader bucket is disposed in the facility oil processing system via the Granite Point Pig Trap Building Sump.