

July 15, 2022

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Subject: Contaminated Soil and Water Management Plan for 2022 F Pad Flowline & Piping Installations, Beluga River Unit, Alaska

Ms. Pelosa,

Susitna Environmental, LLC (Susitna) is pleased to submit the referenced soil and water management plan to Hilcorp Alaska LLC (Hilcorp) for 2022 F Pad Flowline & Piping Installations. This plan details the procedures by which Hilcorp will manage contaminated soil and water if encountered during 2022 excavation activities planned for F Pad, located within the Beluga River Unit (BRU).

If you have any questions or concerns, please contact me at (907) 350-7952 or m.mayer@susitna.com.

Thank you,



Melissa Mayer, Qualified Environmental Professional
Susitna Environmental, LLC

cc: Peter Campbell, ADEC
Lori Aldrich, ADEC



Hilcorp Alaska, LLC

**Contaminated Soil and Water Management Plan
for
2022 F Pad Flowline & Piping Installations**

Beluga River Unit

July 2022



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ACRONYMS AND ABBREVIATIONS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ARCO	ARCO Alaska, Inc.
AST	aboveground storage tank
bgs	below ground surface
BRU	Beluga River Unit
CS	(ADEC) Contaminated Sites
cy	cubic yards
DRO	diesel-range organics
E&P	exploration and production
ENSR	ENSR Consulting Engineers, Inc.
EPH	extractable petroleum hydrocarbon
ft	feet
ft ²	square feet
GRO	gasoline-range organics
GTI	Groundwater Technology, Inc
HOS	Heated Oil Storage
Hilcorp	Hilcorp Alaska, LLC
ID	identification
KGF	Kenai Gas Field
mg/kg	milligram/kilogram
PAH	polycyclic aromatic hydrocarbon
PID	photoionization detector
ppmV	parts per million by volume
PPR	(ADEC) Prevention Preparedness and Response
PW	produced water
QEP	qualified environmental professional
RRO	residual range organics
SWMP	Soil and Water Management Plan
TPH	total petroleum hydrocarbon
VPH	volatile petroleum hydrocarbon
Weston	Weston Solutions, Inc.



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1 INTRODUCTION

This soil and water management plan (SWMP) describes the procedure by which Hilcorp Alaska, LLC (Hilcorp) will manage contaminated soil and water if encountered during 2022 excavation activities planned for F Pad, located within the Beluga River Unit (BRU). The BRU is located on the western side of the Cook Inlet and is approximately 33 miles west of Anchorage, Alaska, and 5 miles northeast of Tyonek, Alaska (Figure A-1). F Pad is located near the center of the BRU (Figure A-2). Several trenches will be excavated to place gas flowlines, produced water pipelines, electrical conduit, and chemical piping to support two new gas production wells. Figure A-3 provides an overview of the proposed 2022 BRU F Pad project components, including proposed trenching locations. Trenches will be up to 5 feet wide and approximately 4 feet deep.

Excavations will occur within 1,500 ft of three Alaska Department of Environmental Conservation (ADEC) Contaminated Sites (CS) designated sites:

- Beluga River 241-34 (Hazard ID 1002 / File Number 2337.38.008)
- Beluga River Pump Area Assessment (Hazard ID 990 / File Number 2337.38.031)
- Beluga River Tank Farm (Hazard ID 991 / File Number 2337.38.029)

Section 2 of this SWMP details the three ADEC CSs. The work is also in the vicinity of a known reserve pit (see Figure A-3). The primary objective of this SWMP is to ensure contaminated soil and water, if encountered during project activities, are managed to achieve the following:

- Protection of human health and the environment,
- Minimization of waste generation where practicable and in compliance with regulations, and
- Prevention of delays to construction activities.

Activities to meet this objective include the following:

- Identifying areas with known contamination in the project vicinity.
- Monitoring for contamination.
- Segregation, investigation, and treatment and/or disposal or recycling of contaminated soil and water.
- Employing an ADEC qualified environmental professional (QEP) to handle sampling



- of suspected contamination unrelated to the closed reserve pit, if encountered. and
- Use of qualified laboratories to process required analytical samples.

2 CONTAMINATED SITES WITHIN 1,500 FEET OF FLOWLINE INSTALLATION ACTIVITIES

Three ADEC CSs are present within 1,500 ft of project activities as determined through a record search of the ADEC CS Database (ADEC 2022). One site, located on F Pad, has an ADEC status of *cleanup complete*, and the other two sites are *active* according to the ADEC CS database. Sites are shown on Figure A-4, with the cleanup complete site represented by a green triangle and the active sites represented as red triangles.

2.1 BELUGA RIVER 241-34

Site Name: Beluga River 241-34 / ADEC CS Hazard ID: 1002 / File Number: 2337.38.008 / CS Status: Cleanup Complete

The Beluga River 241-34 site is located on the BRU F Pad in the vicinity of the Contactor Building at the northeast corner of the pad. ADEC's CS database describes the site as being an area of diesel-contaminated soil associated with a release at the contactor sump. According to the database, the sump and contaminated soil were removed. Remaining soil to a depth of 11 feet was tested and confirmed to be below ADEC cleanup levels. ADEC approved closure of the site in a letter addressed to ARCO Alaska, Inc. (ARCO) dated April 3, 1992. The proposed project will not impact the site. Excavations are limited to the top five feet of soil. Excavation dewatering is not anticipated.

2.2 BELUGA RIVER PUMP AREA ASSESSMENT

Site Name: Beluga River Pump Area Assessment / ADEC CS Hazard ID: 990 / File Number: 2337.38.031 / CS Status: Active

The Beluga River Pump Area Assessment site (also known as the Former Beluga River Fuel Pump Area) is located north of the BRU P&S Yard and southeast of BRU F Pad. The Beluga River Pump Area Assessment Site is a set of former fuel (gasoline and diesel) dispenser pumps, along the eastern side of Beluga Highway, at the BRU Office Building Pad and entrance to E Pad (Drill Site 212-35), connected by pipelines to the former Fuel Tank Farm



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(currently the Heated Oil Storage [HOS] building) (Figure A-4) (Weston Solutions, Inc. [Weston] 2012).

In 1992, ARCO contracted Groundwater Technology, Inc (GTI) to evaluate the site for impacted soil and groundwater. The results indicated that a dissolved-phase diesel-range organics (DRO), gasoline-range organics (GRO), and benzene plume existed at the site. The plume extended approximately 300 ft east and 200 ft north and south of the former fuel pump area (GTI 1993).

In 1992 and 1993, an air sparging and vapor extraction system was installed, comprising of 66 sparge wells, 32 vapor extraction wells, and 24 groundwater monitoring wells (FG- 01 through FG-24). The system was operated until 1998. Routine groundwater monitoring was conducted from 1993 to 1999 (Weston 2013a).

The November 1998 analytical results indicated one monitoring well location with GRO and DRO levels above ADEC Title 18 of the Alaska Administrative Code, Chapter 75 (18 Alaska Administrative Code [AAC 75]) Table C groundwater cleanup levels (ADEC 2020). Dissolved-phase hydrocarbons at the sparge barrier were below 1998 ADEC cleanup levels. Dissolved-phase benzene and DRO downgradient of the sparge barrier remained above 1998 ADEC cleanup levels at two groundwater monitoring wells (Weston 2013c).

In August 1999, IT Group (Flour Daniel/GTI, Inc.) conducted routine groundwater monitoring and reported the following:

- Monitoring well FG03, located in the source areas, contained GRO, DRO, and benzene above the ADEC cleanup level. DRO was above ADEC Table C groundwater cleanup levels (ADEC 2020) in four other source area wells.
- Monitoring well FG23, located downgradient of the sparge barrier, contained benzene above the ADEC Table C groundwater cleanup levels (ADEC 2020).
- Monitoring well FG24, located downgradient of the sparge barrier, contained DRO above the ADEC Table C groundwater cleanup levels (ADEC 2020). IT Group stated that the DRO impact at FG24 was not hydraulically connected to FG03 (source area) (Weston 2013c).

In 2005, groundwater sampling was conducted at ten existing wells and one newly installed well. Analytical sampling discovered a DRO and benzene groundwater plume adjacent to the



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Beluga Highway, defined by exceedances of the cleanup level in monitoring wells FG03 and FG08A and a second, undelineated DRO plume exists approximately 1,150 ft southeast of the HOS, defined by groundwater monitoring wells FG24 and FG25 (Weston 2013a)

In 2018, the main BRU PW flowline was installed from BRU H Pad to BRU DW-1 Pad, running parallel to Beluga Highway along the east side of the road. Analytical soil samples were collected from potholes and trenching prior to flowline installation along the length of the planned installation route, adjacent this contaminated site (ADEC Hazard ID: 990). Sample results indicated GRO, DRO, ethylbenzene, and xylenes above ADEC 18 AAC 75 Tables B1 and B2, Method 2, Under 40 Inch Zone, Migration to Groundwater Cleanup Levels (ADEC 2020). Following the removal of contaminated soil for the PW flowline installation, analytical samples from the trench floor and sidewalls did not identify remaining contamination above the cleanup level. However, contaminated soil may exist onsite to at least 10 inches deep in the area where potholes were sampled over horizontal direction drill (HDD) sections of the PW flowline. Analytical samples from HDD cuttings from boring beneath the potholes, a minimum of 10 ft bgs, were below ADEC cleanup levels. Analytical water samples collected during excavation dewatering activities were also below ADEC cleanup levels (Weston 2019).

Planned excavation activities at BRU F Pad will occur over 900 ft upgradient and cross-gradient from the estimated extent of contaminated groundwater (Figure A-4). Historical gauging located depth to groundwater at approximately 7.5 ft bgs (Weston 2013c). Planned excavation activities are anticipated to reach approximately 5 ft bgs. No excavation dewatering activities are anticipated, but if required, will not affect the downgradient contaminated groundwater plume. Field crews will monitor for contamination and are prepared to respond as described in Sections 3 and 4 of this SWMP.

2.3 BELUGA RIVER TANK FARM

Site Name: Beluga River Tank Farm / ADEC CS Hazard ID: 991 / File Number: 2337.38.029 / CS Status: Active

The former Beluga River Tank Farm is located at the HOS building site, on the eastern side of Beluga Airstrip Runway 18-36, approximately 850 ft south of the BRU Office Building and the entrance to E Pad (Figure A-4) (Weston 2013a).



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Before 1987, a tank farm used to store petroleum products occupied the current HOS building site. The tank farm contained five above ground storage tanks (ASTs). Four of the ASTs, two 10,000-gallon and two 6,000-gallon tanks, were used to store diesel. The fifth AST, a 10,000-gallon tank, was used to store gasoline. The diesel ASTs were attached to underground fuel lines running to a diesel pump building immediately north of the tank farm. The gasoline AST was attached to an underground fuel line, which extended approximately 500 ft north to a dispenser pump. Previously, the ASTs may have also contained glycol and methanol. In 1988, during the construction of the 30 ft by 40 ft HOS building, the tank farm and diesel pump building were reportedly removed, and the impoundment dike was leveled (Weston 2013b).

In November 1991, ENSR Consulting Engineers, Inc. (ENSR), under contract from ARCO, installed 12 soil borings, 9.0 to 11.5 ft bgs, as part of an initial subsurface assessment. Soil samples were analyzed for extractable petroleum hydrocarbon (EPH), DRO, volatile petroleum hydrocarbons (VPH), GRO, benzene, toluene, ethylbenzene, xylenes, and methanol. Analytical results from this investigation identified the former diesel pump building as the primary source of EPH. Methanol was detected in only one of the soil samples collected, at 32 milligrams per kilogram (mg/kg). High EPH concentrations prevented the analysis of glycol. EPH and VPH concentrations peaked in soil samples collected at 2.5 to 4.0 ft bgs, corresponding with the uppermost layer of native soil beneath the pad fill material. This investigation identified DRO-contaminated soil to the east of the former tank farm facility that likely originated from the former diesel pump building. The data presented in this investigation indicated the contamination impacted an area of approximately 37,500 square feet (ft²) (Weston 2012).

In 1993, GTI installed 13 monitoring wells as part of a follow-up site investigation (Weston 2012). Analytical results indicated the extent of soil and groundwater contamination was greater than previously reported. The estimated volume of DRO-contaminated soil at the time of the investigation was approximately 9,500 cubic yards (cy), based on ADEC's 1991 total petroleum hydrocarbon (TPH) as diesel cleanup level of 100 mg/kg (ADEC 1991b). The estimated volume of GRO-contaminated soil was approximately 4,500 cy, based on the TPH as gasoline cleanup level of 50 mg/kg (Weston 2012).



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GTI estimated the plane area of three hydrocarbon plumes: a DRO groundwater plume of approximately 18,000 ft²; a GRO groundwater plume of approximately 24,000 ft²; and a benzene groundwater plume of approximately 32,000 ft². Areas near the former tank contained the highest DRO and GRO concentrations in soil and groundwater. The highest dissolved-phase benzene concentration was detected approximately 180 ft downgradient of the former tank farm location. The investigation delineated contamination in groundwater at this site (Weston 2012).

In 2003, Oil Risk Consultants installed three soil borings in areas where the highest DRO concentrations were measured previously in the soil to evaluate for free product. Soils did not contain free product. The only contaminants of concern identified in soil were GRO and DRO. Analysis of polycyclic aromatic hydrocarbons (PAH) was also conducted on soil samples and no PAHs were detected above soil cleanup levels (OilRisk 2003).

Groundwater samples were collected in all but four existing groundwater monitoring wells as part of the 2003 investigation. Benzene was the only contaminant detected above ADEC groundwater cleanup levels, and both benzene and DRO concentrations had declined significantly since 1993. (Weston 2012).

Planned excavation activities at BRU F Pad will occur over 1,000 ft upgradient and cross-gradient from the groundwater contamination plume's estimated edge. Historical gauging located groundwater between 4.5 and 8.0 ft bgs (Weston 2013d). Planned excavation activities are anticipated to reach approximately 5 ft bgs. No excavation dewatering activities are anticipated, but if required, will not affect the downgradient contaminated groundwater plume. Field crews will monitor for contamination and are prepared to respond as described in Sections 3 and 4 of this SWMP.

3 EXCAVATION MONITORING

As described in Section 2 of this SWMP, the F Pad project is within 1,500 feet of two active and one cleanup complete ADEC CSs, but known contaminated soil and/or groundwater is not expected to be encountered. It is possible that previously unknown contaminated soil and/or groundwater could be encountered. This SWMP will be implemented to assist project crews in monitoring and response efforts should contamination be encountered.



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The CCI Construction Manager is responsible for identifying and managing impacted soils prior to arrival of a QEP. Other personnel such as equipment operators and laborers will also monitor for evidence of contaminated soil and/or water during excavation. Monitoring will include visual and olfactory observations. Evidence of contamination may include a hydrocarbon/chemical odor, stained soil, free product, or hydrocarbon sheen on the water. Upon encountering contamination not related to the closed reserve pit, a QEP will be brought to the site to conduct screening and collect analytical characterization sampling, as needed. Reserve pit wastes can be disposed in the BRU Central Drilling Waste Facility.

If excavated soil displays no sign of contamination, it may be staged adjacent to the dig site or other nonsegregated and unlined staging area and reused as backfill at project completion. Upon observing soil and/or groundwater contamination, a QEP will be brought to site and soil will be segregated and stockpiled as described in Section 4.1 and then sampled as described in Section 3.1. Soils will be segregated into a lined and bermed containment based on odor and/or staining. Impacted soils will be characterized by analytical sampling as described in Section 3.1.

No dewatering is anticipated, but if needed, will be minimal and can be disposed in the BRU Class I or Class II injection wells.

3.1 SOIL SCREENING AND SAMPLING

Initial visual and olfactory monitoring will not require a QEP because the review of the historical CS documentation (Section 2) suggests contaminated soil or groundwater will not be encountered. If previously unknown contaminated soil or water is encountered and is not in the vicinity of the closed reserve pit, a QEP will be brought onsite to segregate material, characterize the soil and/or water, conduct field screening, and collect analytical samples following the methods described in this section.

To characterize soil, the QEP will perform field screening via headspace organic vapor analysis using a photoionization detector (PID). The ADEC *Field Sampling Guidance* (ADEC 2022) dictates the soil sample collection, frequency, and screening procedures. When available, field screening samples will consist of freshly uncovered soil to minimize the potential for volatilization. If freshly uncovered soil is unavailable, collected soil must be from a minimum of six inches below the soil surface.



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Field screening will be used to guide the excavation and determine if clean limits have likely been met. Once clean limits appear to have been met in the excavation, field screening will be conducted in accordance with Table 2B of the ADEC's *Field Sampling Guidance* (ADEC 2022). Field sketches will record the locations of field screening samples. Results of the PID headspace readings will be used to determine if additional excavation is required and/or the appropriate locations to collect analytical confirmation samples.

PID headspace reading swill also be collected at the frequencies specified in Table 2A of the ADEC's *Field Sampling Guidance* (ADEC 2022) from each stockpile created during excavation of the site. These PID readings will be used to determine the appropriate locations to collect analytical samples from each stockpile.

Impacted soil will be segregated into a lined and bermed containment and have at least one analytical sample collected. Analytical samples will also be collected if the QEP deems it necessary based upon field observations and professional judgment. Field logbooks will be used to record the PID results and evidence or observations to support decisions made upon professional judgement. Analytical samples will be sent to SGS North America Inc. for the following analyses:

- DRO/residual range organics (RRO) by Methods AK102/103
- GRO by Method AK101
- Petroleum-related volatile organic compounds by Method SW8260PAH-selective ion monitoring by Method SW8270-SIM

If contamination is not suspected to be associated with a known contaminated site, these additional analyses will be included:

- Resource Conservation and Recovery Act (RCRA) Metals by TCLP

If non-petroleum-related contamination is suspected, additional analytical methods may be required and will be determined in coordination with ADEC.



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Hilcorp maintains onsite spill response materials. The QEP will provide a PID for field screening as well as the necessary items to collect, package, and ship analytical soil and water samples.

3.2 NOTIFICATIONS

If contamination is identified and is not associated with a known ADEC contaminated site, Hilcorp will notify ADEC's Prevention, Preparedness, and Response (PPR) Program of the newly discovered contamination. In collaboration, ADEC PPR, CS programs, and Hilcorp will determine if the found contamination will be added to the PPR or CS program and Hilcorp will address the site under that program's management.

The onsite QEP will track the location and quantity of contaminated soil and groundwater generated, document the results of the field screening and analytical samples collected, and summarize them in a report of the 2021 excavation activities (see Section 5.0 for additional details).

If construction activities cause a new release, the standard reporting procedures will be followed and the necessary spill response activities will be employed. Excavations beyond the footprint needed to conduct the project will not occur unless an active release or gross contamination is observed, or if required by ADEC.

4 CONTAINMENT OF CONTAMINATION

Standard soil and wastewater management procedures for construction, utility excavation, and trenching will be implemented to prevent the spread of contaminated soil and water from stormwater runoff, erosion, spillage from loads, or tracking of soils by heavy equipment. Soil and water will be containerized and transported as described in Sections 4.1 and 4.2. If necessary, stockpiles will be covered, water will be removed from the stockpile containment area, and erosion control measures including silt fence, straw wattles, or similar will be installed to minimize runoff and erosion. Once excavation and backfill are complete, excess uncontaminated soil will be spread to match the existing grade or will be transported off-site for reuse or disposal.

4.1 CONTAMINATED SOIL SEGREGATION AND STORAGE

Soil that is known or suspected to be contaminated will be segregated and stockpiled in accordance with the ADEC *Field Sampling Guidance* (ADEC 2022) and 18 AAC 75.370 Soil Storage and Disposal (ADEC 2020). Soil believed to be contaminated will be staged adjacent to the trench or at a nearby staging area in lined and bermed soil stockpiles or other suitable waste storage containers. If soils are saturated, special precautions will be implemented, including storage in close proximity to the source, monitoring material transport in the excavator bucket and/or dump truck, and if necessary, the lined staging area will be retrofitted with a sump to collect water within the storage area and prevent potential spills of contaminated water to the ground surface.

Contaminated soil stockpiles will be constructed in accordance with 18 AAC 75.370 Soil Storage and Disposal (ADEC 2020). Stockpiles will be located 100 ft or more from surface water bodies and drinking water supply wells. The construction materials will meet the specifications listed in Table D of 18 AAC 75.370. The stockpile will be covered when soil is not being added or removed and will be constructed to minimize water accumulation on the top cover.

If contaminated soil is inadvertently placed directly onto the ground surface, the QEP will conduct field screening once the contaminated soil has been transferred to containment to verify that the native ground surface was not impacted. The sampling frequency will follow specifications provided in Table 2B of the ADEC *Field Sampling Guidance* (ADEC 2022). If field screening samples have PID readings less than 20 ppmV and there are no other indications of potential contamination (visual/olfactory), the native soil will be considered clean and no analytical samples will be collected.

If PID readings exceed 20 ppmV, analytical samples will be collected following the specifications provided in Table 2B of the *Field Sampling Guidance* (ADEC 2022). Additional removal will be conducted if the analytical samples from the native soil have concentrations exceeding the most stringent ADEC Tables B1 and B2 cleanup levels for the under 40-inch precipitation zone (ADEC 2020).

If soil is suspected to be contaminated with a chemical other than hydrocarbons, that soil will be segregated into a separate stockpile or other suitable waste storage container. Waste

characterization samples will be collected to determine what chemicals are present and the proper disposal/treatment method.

4.2 EXCAVATION DEWATERING

If needed, excavation dewatering will be conducted using a vacuum truck. The water will be disposed in the BRU Class I injection well, with approval from Hilcorp’s Waste Specialist.

4.3 WASTE TRANSPORT AND OFF SITE DISPOSAL

Contaminated soil associated with the closed reserve pit may be disposed in the BRU Central Drilling Waste Facility. Contaminated soil, unrelated to the reserve pit, may be transported offsite for disposal or treatment. Prior to offsite shipment of this contaminated material, an ADEC Transport, Treatment, & Disposal Approval Form for Contaminated Media will be completed and submitted to ADEC for review and approval. Soil and groundwater that is contaminated due to oil and gas exploration and production (E&P) may be considered E&P exempt from RCRA Subtitle C regulation, under the 1980 Solid Waste Disposal Act Amendments to RCRA, Section 3001(b)(2)(A) (EPA 2019).

Certain types of waste are not considered hazardous waste under RCRA, and are not subject to the same storage, transportation and disposal rules as hazardous waste. Exemptions are based on the source of the waste, not on its actual properties or composition. The E&P exemption is for drilling fluids, produced water, and other wastes uniquely associated with oil and gas exploration, development, and production. Associated wastes include fluids that come in contact with the oil and gas production stream during the removal of produced water or other contaminants from the crude oil. E&P exempt wastes are not regulated as hazardous waste regardless of their composition or properties. The QEP will work with the Hilcorp Waste Specialist to confirm whether waste is or is not E&P exempt prior to disposal.

Contaminated soil will be handled dependent on waste classification and contaminant concentrations:

- Contaminated soil that is E&P exempt will be properly containerized and may be transported off site to the Kenai Gas Field (KGF) Grind and Inject (G&I) facility.
- Contaminated soil that is non-hazardous but exhibits low levels of hydrocarbon contamination (GRO at <900 mg/kg, DRO at <200 mg/kg, RRO at <4,500 mg/kg) may be transported and disposed of at the Beluga River landfill upon approval.

- Contaminated soil that is non-hazardous and non-E&P exempt that does not meet the standard for disposal in a class III landfill will be containerized and may be disposed of off site.
- Contaminated soil that is considered hazardous under RCRA regulations will be containerized and transported off site for disposal or treatment at a permitted facility.
- Material excavated from the closed reserve pit must be transferred to the Beluga Central Drilling Waste Facility for disposal.
- If no visual or olfactory evidence of contamination is identified during the excavation activities, the soil can be used to backfill the excavation and/or reused on-site.

Contaminated water that is E&P exempt may be transported to the BRU Class I or Class II injection well for disposal. Contaminated water that is non-E&P exempt and non-hazardous may be eligible for disposal in the Class I injection well. Contaminated water that is non-E&P exempt and considered hazardous under RCRA regulations may be decharacterized and injected in the BRU Class I well, or containerized and transported off site for disposal or treatment at a permitted facility.

5 DOCUMENTS AND REPORTING

No documentation or reporting in association with this plan will occur unless a QEP is called to the site due to encountered contamination. When onsite, the QEP will maintain a field logbook to document daily project activities related to this plan. The QEP will take digital photographs to document site activities and conditions. When possible, the QEP will collect latitude and longitude coordinates and measurements around the perimeter of the excavation to document excavation dimensions of impacted areas. Approximate locations of analytical samples will be measured from the excavation perimeter and documented in the field logbook. Following the completion of applicable earthwork, sampling, and receipt of the analytical results, the QEP will prepare a summary report.

The report will include field screening and sampling results (including the laboratory reports), and figures with trenching and sampling locations. The report will also contain the field notes, waste tracking, and photograph log. An ADEC Laboratory Data Review Checklist and quality assurance report will be prepared for analytical data used for site characterization purposes following ADEC *Field Sampling Guidance* (ADEC 2022).

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Contract: 104985.0-SA-AKR OLA #4600039238. WESTON Opportunity Number: 117912.

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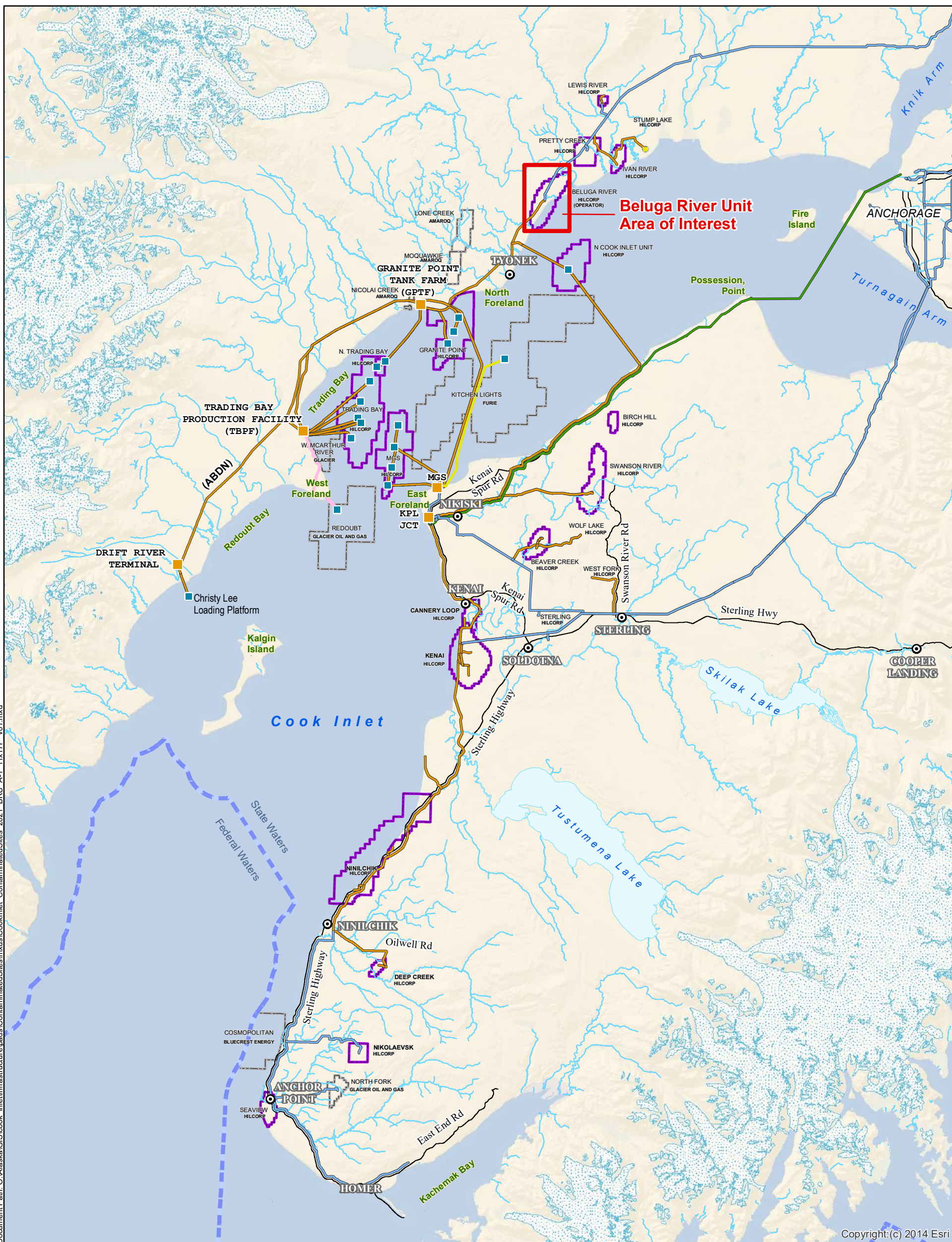
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ATTACHMENT

Figures

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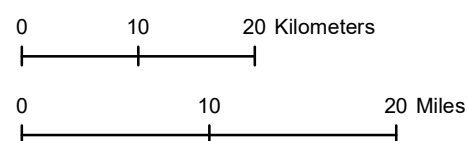
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Legend

- Onshore Facilities
 - Offshore Platforms
 - State/Federal Boundary (3 Mile Limit)
 - Oil and Gas Units Operated by HAK
 - Oil and Gas Units - Other
 - Major Roads
- Hilcorp/Harvest
 - Glacier Oil and Gas
 - ENSTAR
 - Furie
 - Tesoro

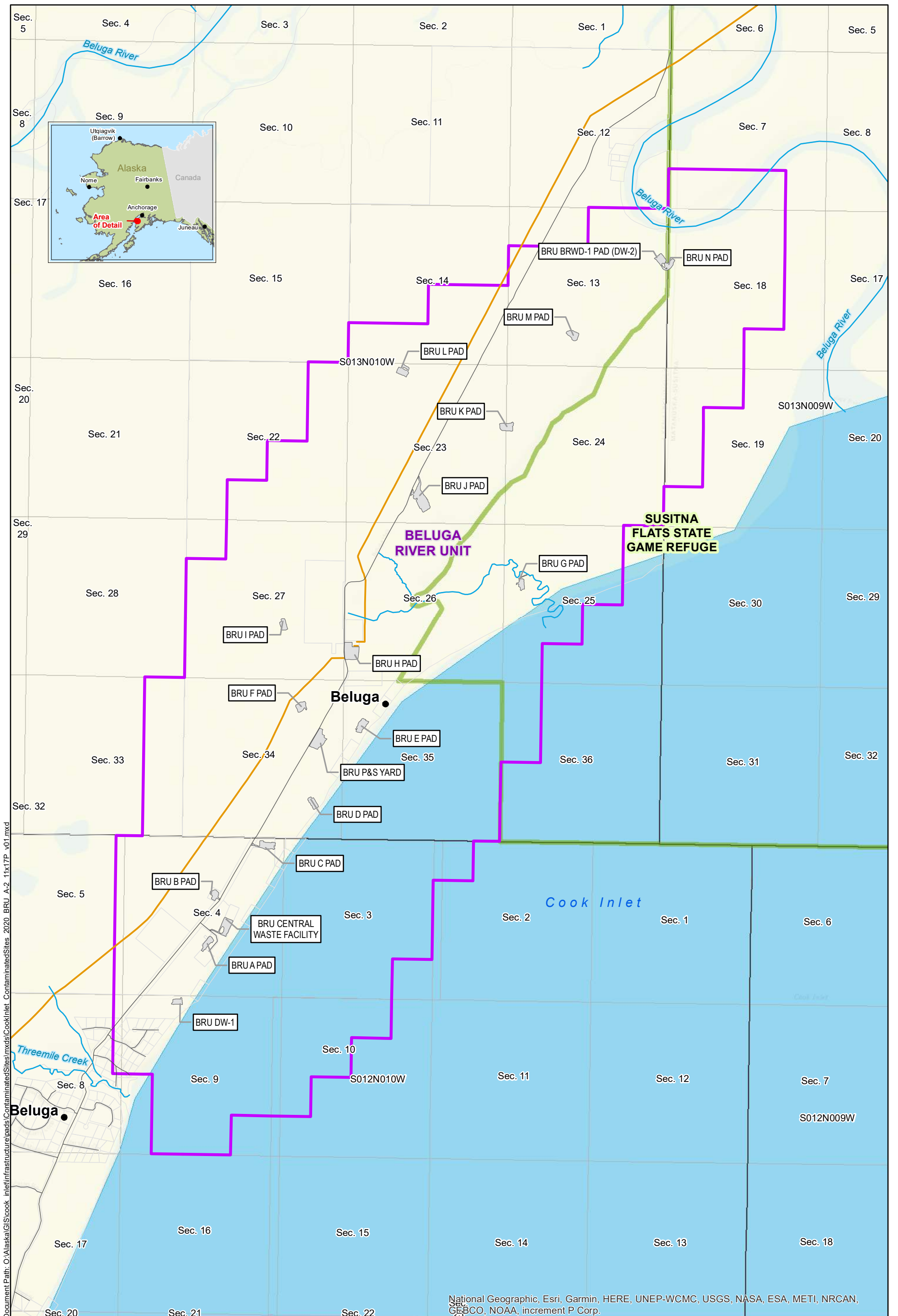
Alaska State Plane Zone 4 NAD 1983 (feet)



Date Prepared: 3/22/2021	Company Name: Hilcorp Alaska, LLC.	Drawn By: HAK - MRA
LOCATION AND VICINITY		
BELUGA RIVER UNIT, COOK INLET, ALASKA		
Scale: @ 11x17 map size 1 in = 10 miles	Figure No: A-1	



3800 Centerpoint Drive, Suite 1400
Anchorage, AK 99503



Document Path: O:\Alaska\GIS\cook_inlet\infrastructure\pads\ContaminatedSites\CookInlet_ContaminatedSites_2020_BRU_A-2_11x17P_v01.mxd

National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Hilcorp Alaska, LLC
 3800 Centerpoint Dr. Ste. 1400
 Anchorage, AK 99503
 Map Date: 3/22/2021

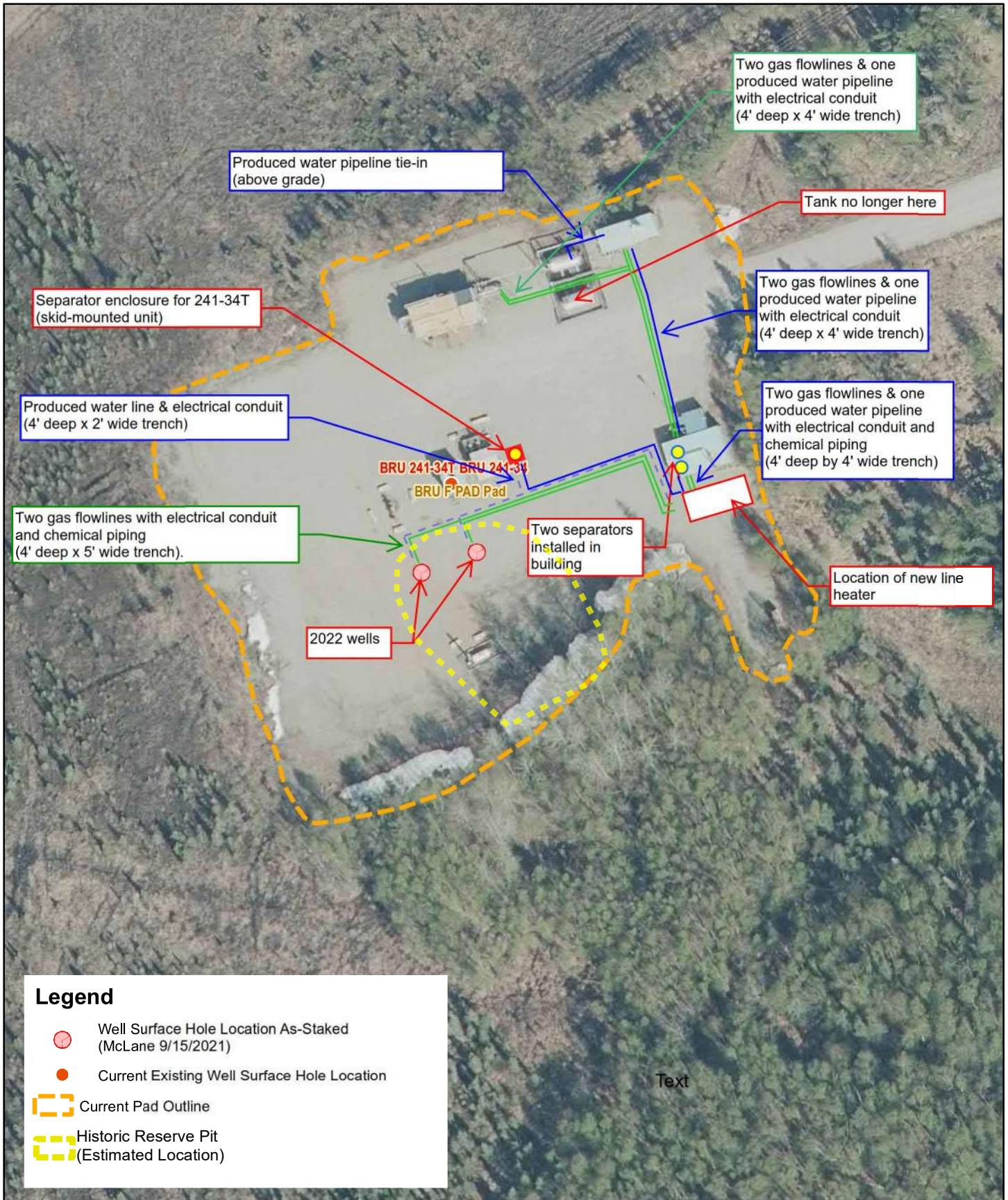
BELUGA RIVER UNIT
 Site Map

Legend

- Existing Pipelines
- Oil and Gas Unit Boundaries
- Gravel Pads
- KPB Parcels

0 0.25 0.5 Miles

FIGURE:
 A-2



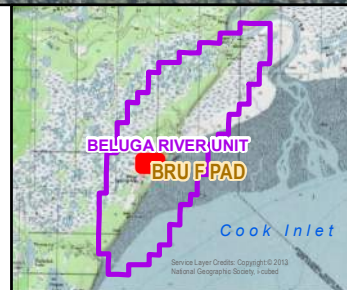
Document Path: O:\Alaska\GIS\cook_inlet\fields\BRU\mxd\BRU_Pad-F Contaminated Sites FigureA4 June2022 11x17L KNixon v01.mxd



Imagery Source: QSI 2021





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Legend

ADEC Contaminated Sites - Status

-  Active (Location Approx.)
-  Cleanup Complete

Alaska State Plane Zone 4 NAD 1983 (feet)

0 30 60 Meters

0 150 300 Feet



Date Prepared:
6/17/2022

Company Name:
Hilcorp Alaska, LLC.

Drawn By:
HAK - MRA

BRU F Pad
Known ADEC Contaminated Sites

BELUGA RIVER UNIT, COOK INLET, ALASKA

Scale: @ 11x17 map size
1 in = 150 feet

Figure No:
A-4