THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION & RESPONSE
Contaminated Sites Program

410 Willoughby Ave Suite 303
PO Box 111800
Juneau, Alaska 99811-1800
Main: 907-465-5210
Fax: 907-465-5218

RECEIVED
OCT 22 2014
CITY OF CRAIG
CRAIG, ALASKA

File No: 1504.38.001

October 16, 2014

Mr. Jon Bolling
Administrator, City of Craig
P.O. Box 725
Craig, AK 99921

RE: Decision Document; Craig Bulk Plant – Ward Cove Packing, Lot 1 Residence
Cleanup Complete Determination with Institutional Controls

Dear Mr. Bolling,

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has reviewed the environmental records for the referenced site. This decision letter explains the site history, cleanup activity and specific conditions required to effectively manage any remaining contamination. No additional remedial action is required as long as compliance with these conditions is maintained.

Site Name and Location
Craig Bulk Plant – Ward Cove Packing
302 Main Street
Craig, Alaska 99921
Craig Cannery Subdivision

Address of Contact Party
Jon Bolling
City of Craig
P.O. Box 725
Craig, AK 99921

DEC Site Identifiers
Hazard ID: 300
File: 1504.38.001

Regulatory Authority for Determination
Title 18 Alaska Administrative Code 75

Site Description and Background
The property is five acres in size and is located at the end of a peninsula that extends from the western shoreline of Prince of Wales Island in Southeast Alaska. The highest point on the property is at the corner of Third and Main Streets. From there, the site slopes moderately to the west and the north to the shore of Bucareli Bay. Surface soil on the property is an organic peat and subsurface soil consists of poorly graded sand and gravel over bedrock. Groundwater flow follows site topography to the west and to the north at depths of between two and eight feet below ground surface (BGS).

The municipal water source for the City of Craig is North Fork Lake, located approximately ten air miles from the referenced property. Furthermore, all water users in Craig are connected to the municipal water system, there are no groundwater users in the city limits, or in close proximity to the referenced property. Ordinance requires future users of the referenced property to connect to the municipal water system for their water needs and no on-site water systems are allowed.

Property Ownership History

The property was originally platted concurrent with the Craig Townsite in the early 1920s as part of U.S. Survey 1429 and U.S. Survey 1429-A in 1922. Land use began with a fish cannery in the early 1920s. Columbia Wards Fisheries, a joint venture of Castle and Cooke and Wards Cove Packing, purchased the property from Libby McNeil in 1959. Wards Cove Packing (WCP) acquired full ownership interest in 1988. In 2006, ownership of the property was transferred to the City of Craig. The City Plan to redevelop the property into a mixed-use area began by subdividing the tract and establishing a commercial property in the southeast corner (Lot 1).

Structures in the lower yard along the western and northern waterfronts are associated with the fishing industry, consisting of a fish processing plant, bunkhouse, and machine shop buildings, a marine vessel winch house and carriage assembly, and a vessel maintenance and storage yard. Structures in the upper yard on Main Street consisted of concrete containment areas surrounding bulk fuel above ground storage tanks (ASTs), and a pump house with above-ground piping that extended to a fuel truck loading rack located in the northeastern corner of the property in the lower yard and to a vessel fuel dispensing station positioned on a wharf extending into the harbor.

The bulk fuel AST farm facility was initially constructed by Standard Oil of California, a corporate predecessor of Chevron, in the 1930s. It was operated by Chevron until 1986 when it was purchased by Ingram Oil. White Pass Alaska purchased Ingram Oil's assets in 1987 and by 1992 had replaced the old tanks with three new 26,000-gallon ASTs and two 12,000-gallon ASTs. Harbor Enterprises (d.b.a. Petro Marine) purchased the facility from White Pass in 1995 and operated it until December 1999, by which time Petro Marine had dismantled and scrapped all the ASTs from the site.

By late 2005, institutional controls were placed on the property title requiring any future users of the property utilize City water to prevent the use of groundwater from the site. By September, 2007, all groundwater monitoring wells were reportedly decommissioned.

In 2006, ownership of the property was transferred from WCP to the City of Craig. In a re-development plan to subdivide the former WCP property, Lot 1, located in the southeastern corner of the site property, was surveyed and zoned for mixed land use development. First Bank of Ketchikan purchased the property and planned to construct a new commercial bank building.

In the summer of 2008, the building that had been the original cannery manager's residence was moved west beyond the boundaries of Lot 1. In September, 2008, environmental consultants for First Bank advanced test pits in the footprint of the former residence on Lot 1 to observe soil conditions. In one of the test pits, excavation revealed strong odors of petroleum and sheen on subsurface water. An analytical sample of the stained soil had concentrations of diesel range (DRO) and residual range (RRO) hydrocarbons of 930 milligrams per kilogram (mg/kg) and 22 mg/kg, respectively. Results indicated the source was a heating oil tank formerly located next to the cannery manager's residence. On a Plat map of the former WCP property in Figure 1 below, a bold blue arrow points to the location of the former

cannery manager's residence on Lot 1. The property is located on the corner of Main and Third Streets. The other two sides of the property slope moderately downward toward the shoreline of Klawock Inlet.

Figure 1. Former WCP Property Plat with new Lot 1 survey.

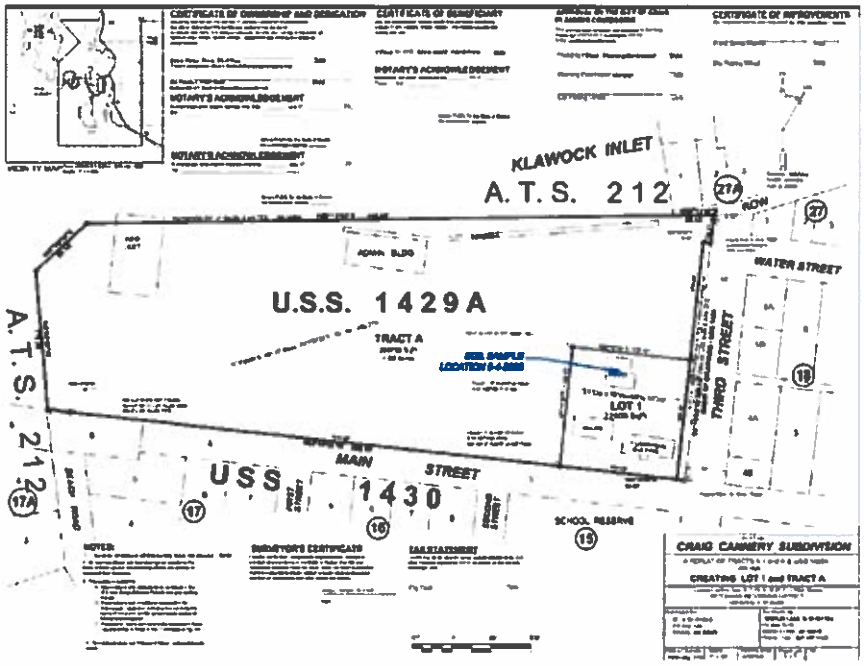
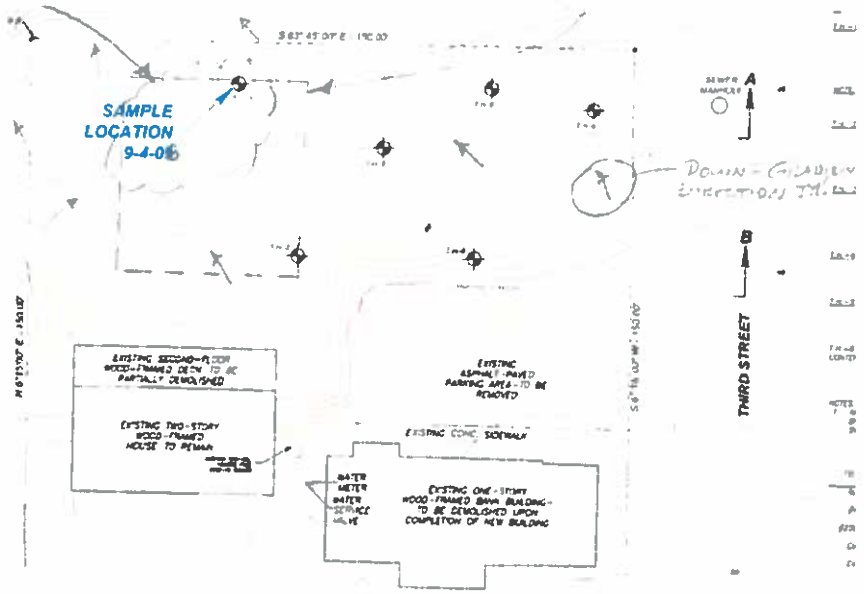


Figure 2 below is a slope contour map of Lot 1 displaying the initial analytical soil sample location, a broken line rectangle of the structure removed, two remaining structures, a parking lot and Third Street.

Figure 2. Lot 1 initial test pit sampling locations



Contaminants of Concern
The following petroleum contaminants of concern are those above cleanup levels that were identified during the course of the historical site investigation into the WCP property and the more recent investigation into Lot 1 as summarized in the Characterization and Cleanup Activities section of this decision letter.

- Gasoline Range Hydrocarbons (GRO)
- Diesel Range Hydrocarbons (DRO)
- Residual Range Hydrocarbons (RRO)
- Benzene
- Toluene
- Ethylbenzene
- Total Xylenes

Cleanup Levels
On August 4, 2000, DEC approved site-specific cleanup levels for the parameters listed in Table 1 below. The levels were calculated in accordance with 18 AAC 75.340 (e) (2) using sample data collected throughout the former WCP property, including Lot 1. All other soil contaminants of potential concern and all soil transported off-site for remediation are required to meet cleanup levels in in 18 AAC 75.341 Table B1 and B2, Method Two Migration to Groundwater (MT/MTG) for soil in the over 40-inch rainfall zone. Groundwater cleanup levels are those specified in 18 AAC 75.345 Table C. Surface water sample data are required to meet Alaska Water Quality Standards for total aqueous (TAqH) and total aromatic (TAH) hydrocarbons. In 2002, DEC established a surface water point of compliance at the high tide line along the Klawock Inlet shoreline north and west of the WCP property. These cleanup levels are displayed in Table 1.

Table 1. Cleanup levels in milligram per kilogram (mg/kg) or liter (mg/L) & microgram per liter (ug/L)

Contaminant	Soil Alternative	Soil MT/MTG	Surface water levels	Groundwater levels
GRO	1,400 mg/kg	260	N/A	2.2
DRO	3,560 mg/kg	230	N/A	1.5
RRO	8,300 mg/kg	8300	N/A	1.1
Benzene	0.0683 mg/kg	0.025	N/A	0.005
Toluene	36.8 mg/kg	6.5	N/A	1.0
Ethylbenzene	49.5 mg/kg	6.9	N/A	0.7
Total Xylenes	81 mg/kg	63	N/A	10
TAqH	N/A	N/A	15.0 ug/L	N/A
TAH	N/A	N/A	10.0 ug/L	N/A

Soil boring log samples used to determine the site-specific soil cleanup levels had coarse grained sands and gravels in the subsurface with organic soils at the surface. The same soil horizons appeared during investigations throughout the site. With no significant differences in undisturbed soil, the calculated site-specific cleanup levels are therefore applicable to the entire site, including Lot 1.

Site Characterization and Cleanup Activities

Site Investigation and Cleanup activities conducted under the regulatory authority of the Contaminated Sites Program began in 1987. These activities are described below beginning with historical site investigation and following with recent site investigation.

Historical Site Investigation

Numerous site investigations were performed by various consulting firms representing Chevron and Wards Cove that eventually resulted in a DEC site closure determination in 2005. Soil and groundwater contamination was first discovered in early 1987 when Chevron notified DEC that a small pocket of soil stained by gasoline was observed in the AST tank farm upper operations area.

Between 1988 and 1993, Chevron installed and operated a bioventing system to treat contaminated groundwater and wells to sample and test for cleanup effectiveness. Chevron installed enhancements to the system in the early 1990s and the trend in sample monitoring results indicated a minor reduction in contamination. White Pass reportedly suspended operation of the groundwater treatment system to reduce operational costs during their ownership of the facility.

Environmental sampling investigation sponsored by WCP in 1994 through 1998 concluded that petroleum impacts to soil, surface water and groundwater were ongoing and consisted of GRO, DRO, RRO and BTEX hydrocarbon compounds extending from the AST containment areas on grade with Main Street one hundred feet downhill into the lower operations area. In August 1998, DEC requested Chevron begin investigation into reports of off-site migration from the site to the Bucareli Bay shoreline. Although an evaluation of groundwater data over the entire site concluded declining concentrations of contamination, DRO was still above cleanup levels in several of the monitor wells

In 1999, Chevron dismantled all structures associated with the two bulk fuel AST containment areas, including all the monitoring wells. In 2000, Chevron consultants excavated several thousand tons of petroleum-contaminated soil from the bulk fuel tank containment in the upper operations area, 300 tons from the steam shack, and 110 tons from the truck rack in the lower operations area. A volume estimated at 3,133 cubic yards of contaminated material was transported off-site and remediated locally by asphalt recycling. Chevron determined that a small volume of soil remains in the southwest portion of the steam donkey shack excavation with petroleum concentrations above alternative cleanup levels. This residual soil contamination exists as scattered pockets or thin layers above the clay layer.

In response to DEC request in 2000, Chevron installed new monitor wells and initiated new site investigation that continued through 2004. Test pit sampling in accessible locations identified discontinuous soil contamination above cleanup levels in the upper and lower operations areas. Groundwater monitoring continued through 2007 when data indicated groundwater impacts were reduced below cleanup levels. When the entire facility became permanently connected to municipal water and sewer, DEC determined that cleanup was complete and placed institutional controls on the property in a letter dated November 4, 2005. DEC confirmed in September, 2007, that Chevron completed decommissioning all monitor wells at the site.

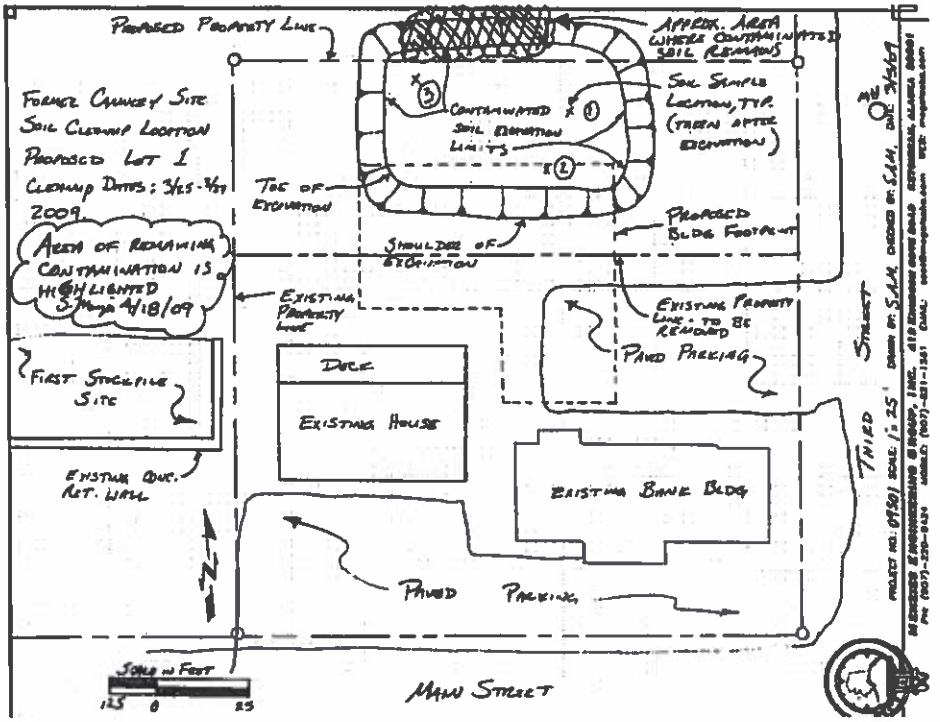
Recent Site Activity: Lot 1

In 2005, DEC issued a conditional closure determination for multiple contaminant sources on the Craig Bulk Plant/Wards Cove Packing contaminated site, but the existence of contamination under the former cannery manager's residence was unknown at the time. As part of the redevelopment of the property, the

residence building was moved which revealed petroleum contamination in soil under the building. DEC approved a site investigation and cleanup plan submitted by Menzies Engineering Inc (Menzies) on behalf of the City of Craig (City) for the DEC Streamlined Cleanup Program.

Excavation of the contaminated soil on Lot 1 was completed on February 25–27, 2009. All soil determined by field screening to be contaminated was removed for off-site transport except for a thin lens of contaminated soil at a depth of three feet BGS on the pit sidewall extended beyond the north property line of Lot 1. The remaining contamination is deemed a de minimis extent and will attenuate below cleanup levels. Menzies collected three confirmation soil samples plus two duplicate samples from the excavation floor and walls in locations displayed in Figure 3.

Figure 3. Lot 1 drawing of excavation & confirmation soil samples in 2009.



Photograph 1. Lot 1 Removal Excavation view east toward Third Street

Contaminated soil began at an average depth of three feet and extended downward, on average, from between three and four feet BGS to the vertical limit of nine feet BGS. The soil confirmation samples were collected at depths between seven and nine feet BGS. Contaminated soil was loaded directly into trucks for transport to off-site locations. The City of Craig removed an estimated volume of 450 cubic yards and, with DEC approval, transported and stockpiled the contaminated soil to City owned property. The stockpiles were securely covered at locations with level ground surfaces. DEC approved a management plan to till and rake the soil on a regular basis to encourage natural attenuation of the soil as a biocell.

Laboratory analysis on the excavation pit confirmation soil samples included the site COCs GRO, DRO and RRO hydrocarbon ranges and BTEX compounds and, in addition, eighteen polycyclic aromatic hydrocarbon (PAH) compounds. Each of the samples had concentrations of these analytes below the laboratory reporting limits or the most conservative soil cleanup levels except for benzene. The benzene concentration in Sample 1 was between the Method Two Migration to Groundwater cleanup level and the approved alternative cleanup levels for benzene in soil. The highest concentrations detected in confirmation samples collected at the limits of the removal excavation in the remaining soil are displayed in Table 2 below.

Table 2. Highest concentrations in milligrams per kilogram (mg/kg) for Lot 1 confirmation soil samples

Hydrocarbon range and compounds of concern	Highest sample results	Sample name and depth BGS in feet	Alternative soil cleanup levels	Method Two MTG cleanup levels	Direct Contact and Ingestion cleanup levels
GRO	6.8	Sample 1 at 9	1, 400	260	1400
DRO	23	Sample 1 at 9	3,560	230	8250
RRO	9.5	Sample 1 at 9	8,300	9700	8300
Benzene	0.029	Sample 1D at 9	0.0683	0.025	120
Toluene	0.070	Sample 1 at 9	36.8	6.5	6600
Ethylbenzene	0.016	Sample 1 at 9	49.5	6.9	8300
Total Xylenes	0.106	Sample 1 at 9	81	63	16,600

In April, 2009, DEC issued a letter approving the site investigation and cleanup report for Lot 1. The objective of the approval decision was to facilitate redevelopment of the property. Management of the off-site contaminated soil biocells and institutional controls on the former WCP property remained.

Contaminated Soil Biocells

The 450 cubic yards of contaminated soil transported off-site was divided between two locations on property owned by the City. One biocell was constructed adjacent to Lot 1 on the former WCP property and the other biocell was constructed on an equipment stockyard parcel on Port St. Nicholas Road. The City implemented the biocell management plan to till and rake the soil on a regular basis to encourage aeration and microbial degradation of hydrocarbons in the soil. Since the soil was transported off-site for remediation, the Method Two Migration to Groundwater cleanup levels for soil in the over 40-inch rainfall zone are used to evaluate the soil for unrestricted use. In May 2014, DEC approved the sampling report submitted by Carson Dorn Inc. for analytical sampling of the biocells. The soil had COC concentrations below the applicable cleanup levels and DEC approved landspreading the soil on the off-site City owned property.

Cumulative Health Risk Calculation
Pursuant to 18 AAC 75.325 (g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be calculated. Cumulative risk from petroleum contamination of environmental media at the site is addressed using the BTEX and PAH analyte concentration data. Based on a review of the environmental record, DEC has determined that residual contaminant concentrations do not pose a cumulative human health risk.

Exposure Pathway Evaluation
Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 3 as Attachment A to this letter.

DEC Decision
Remaining petroleum contamination on Lot 1 is below the most conservative cleanup level and soil on the property has unrestricted use. Restrictions on accessing groundwater on Lot 1, are also unnecessary.

Petroleum contamination remains on the rest of the former WCP property in soil and groundwater below approved alternative cleanup levels, but above the most conservative soil cleanup levels. DEC has determined there is no unacceptable risk to human health or the environment as long as the contamination is properly managed.

In order to insure proper management of the remaining soil contamination, DEC has determined that an institutional control (IC) agreement, signed by current and any future landowners and/or managers, is necessary for the remaining former Wards Cove Packing (WCP) property. This determination letter identifies the nature and extent of contamination remaining on these properties and establishes IC conditions that the owners and operators are subject to in accordance with this decision document. These conditions are as follows:

1. Any future change in land use may impact the exposure assumptions cited in this document. If land use and/or ownership changes, these management conditions may not be protective and DEC may require additional remediation and revised conditions. Therefore the City of Craig shall report to DEC every five years to document land use is unchanged, or report as soon as the City of Craig becomes aware of any change in land ownership and/or use, if earlier, with a written description and photographs of the condition of ground surfaces overlying the contamination with notation of any changes since the last report. The report can be sent to the local DEC office or electronically to DEC.ICUnit@alaska.gov.

2. Installation of groundwater wells on the former WCP property is restricted and requires coordination with DEC for approval, before any work begins.

3. Sub-surface soil contamination remains at the former AST site in the upper operations area and at the steam shack, drum pit, pipeline corridor and truck rack in the lower operation area of the former WCP property. When development and/or excavation requires disturbance in any of these areas, the soil must be evaluated and contamination addressed in accordance with n DEC approved work plan, before any work begins.

4. Any proposal to transport soil or groundwater off-site from the former WCP property requires DEC approval in accordance with 18 AAC 7.325(i). A "site" [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership

5. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

The DEC Contaminated Sites Database is updated to reflect site status as detailed above, and will include a description of the contamination remaining at the site. Institutional controls will be removed in the future if documentation associated with a DEC approved Sampling and Site Characterization work plan can be provided that shows cleanup levels have been met. Management conditions 4 and 5 remain in effect after ICs are removed. This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

Appeal
Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 -18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

Please sign and return *Attachment B* to DEC within 30 days of receipt of this letter. If you have questions about this closure decision, please contact the DEC project manager, Bruce Wanstall at (907) 465-5210 or at bruce.wanstall@alaska.gov.

Sincerely,

Bruce Wanstall

Bruce Wanstall
Remedial Project Manager
State & Private Contaminated Sites Program

Attachment A: Table 3 – Exposure Pathway Evaluation
Attachment B: Cleanup Complete-ICs Agreement and Signature Page*
Attachment C: Site Map

cc: Sally Schlichting, DEC Unit Manager, State & Private Program, via email
DEC IC Unit, via email
DEC SPAR Cost Recovery, via email at dec.spar.cr@alaska.gov

Attachment A: Exposure Pathway Evaluation

Table 3 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Surface soil contamination has been removed and remediated off-site. There is no soil contamination remaining at the surface on the site above the direct contact cleanup levels.
Sub-Surface Soil Contact	De-minimis exposure	Soil contamination remains not accessible in the subsurface at levels between Method Two Table B2 Migration to Groundwater and human health ingestion levels and future excavation is not planned.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination remains in the subsurface, but no volatile compounds are present at levels above outdoor inhalation screening levels
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Buildings are present and any remaining volatile petroleum compounds concentrations are below laboratory reporting limits and/or the inhalation and migration to groundwater screening levels.
Groundwater Ingestion	Pathway Incomplete	COC concentrations in groundwater are between Table C and approved alternative cleanup levels. City of Craig ordinance requires residents to connect to municipal water and sewer.
Surface Water Ingestion	Pathway Incomplete	Potable surface water is not present on the property or in the urban area.
Wild Foods Ingestion	Pathway Incomplete	The site and the urban area are not a wild foods harvest area and none of the remaining contaminants have potential to bioaccumulate in flora or fauna.
Exposure to Ecological Receptors	Pathway Incomplete	Ecological receptors are present in off-site water bodies but groundwater samples are below the cleanup levels and concentrations of BTEX indicator compounds in soil are below cleanup levels.

Notes to Table 1: "De-minimis exposure" means that in DEC's judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. "Pathway incomplete" means that in DEC's judgment contamination has no potential to contact receptors. "Exposure controlled" means there is an administrative mechanism in place limiting land or groundwater use, or a physical barrier in place that deters contact with residual contamination.

October 16, 2014

Attachment B: Cleanup Complete-ICs Agreement and Signature Page*

The City of Craig agrees to the terms and conditions of this Cleanup Complete Determination, as stated in this decision letter regarding the Craig Bulk Plant/Wards Cove Packing property, dated October 16, 2014. Failure to comply with the terms and conditions of the determination may result in DEC reopening this site and requiring further remedial action in accordance with18 AAC 75.380.

City Administrator
Signature of Authorized Representative, Title
City of Craig

Jan. 21, 2015
Date

Jon Bolling
Printed Name of Authorized Representative, Title
City of Craig

Note to Responsible Person (RP):

After making a copy for your records, please return a signed copy of this form to the ADEC project manager at the address on this correspondence within 30 days of receipt of this letter.

Attachment C: Site Map