CLEANUP REPORT OF
2012 CONTAMINATED SOIL EXCAVATIONS -
WRANGELL LUMBER MILL SITE

January 2013

APPENDIX C

Reference Documents

SOUTHEAST MANAGEMENT SERVICES

1061 Mendenhall Peninsula Road
Juneau, Alaska 99801
(907) 789-0637 Fax (907) 789-9487

April 9, 2012

Denise Elston
Project Manager
Contaminated Sites Remediation Program
Alaska Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801

Dear Ms. Elston:

On behalf of Silver Bay Logging Inc., attached for your review and approval is the document entitled, *Proposed Soil Cleanup - Wrangell Lumber Mill Site, April 2012.*

This proposed cleanup plan has been developed on behalf of Silver Bay Logging Inc., to address all environmental problem areas identified in the earlier Phase-I and Phase-II assessments by Nortech Environmental Engineering & Industrial Hygiene Consultants. The plan also includes the results and photographs from our 3/26/12 site visit and inspection of the mill property. Proposed time schedules for contaminated soil excavations, recycling and/or disposal of materials, and bioremediation of excavated soils are presented in the plan, and excavations are proposed to begin in May 2012.

By all means don't hesitate to call if you need further information. We are looking forward to your approval, and the completion of the Wrangell Lumber mill site cleanup.

Sincerely yours,

Thomas R. Hanna

Enclosure: Document entitled, *Proposed Soil Cleanup - Wrangell Lumber Mill Site, April 2012*

cc: Dick Bueller, Silver Bay Logging, Inc.

STATE OF ALASKA
DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM

SEAN PARNELL, GOVERNOR

410 Willoughby Avenue, Suite 303
Post Office Box 111800
Juneau, Alaska 99811-1800
Phone: 907-465-5207
Fax: 907-465-5218
www.dec.state.ak.us

File: 1529.38.022

April 30, 2012

Via Electronic and Regular Mail
Mr. Tom Hanna
Southeast Management Services
1061 Mendenhall Peninsula Road
Juneau, Alaska 99801

RE: Proposed Soil Cleanup Plan-Wrangell Lumber Sawmill Site

Dear Mr. Hanna:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has reviewed the work plan titled: *Proposed Soil Cleanup Plan-Wrangell Lumber Sawmill Site* received April 9, 2012 via hand delivery by Mr. Tom Hanna. Southeast Management Services completed the work plan that proposes the excavation of contaminated soil on the mill site property for biorernediation at the Wrangell Lumber rock quarry located on the uphill side of Zimovia Highway, the recycling and disposal of used oils, lubricants, and other materials and hazardous wastes, and the excavation of contaminated soils at Mt. Seley storage area.

The Workplan objectives include the following:

1. The objective of the current investigation is to remediate petroleum contaminated soil that resulted from the Wrangell Sawmill's operations and its use as a storage facility for various equipment and tanks originating from the multiple logging camps operated by Silver Bay Logging.
2. Contaminants at the site are currently assumed to be within the fill material and within the top 1-3 feet. Excavation, however, will reveal the actual extent of the contamination and the excavation will be expanded accordingly until all material is recovered. Cleanup Area #2, *the generator/transformer pad site,* is expected to be the most difficult excavation due to the necessary removal of the concrete pad.

Excavation will break up and remove as much of the pad as needed in order to access and remove the heavily stained oily soils.

3. Based on soil sampling and analysis for DRO, GRO, RRO, BTEX, and PAH's as reported by Nortech's Environmental Site Assessment Phase II, dated December 5, 2011, results indicated that the contamination consisted primarily of DRO and RRO; however, several semi-volatile organic compounds were present in the Evaporation Pond, located south of the maintenance shop.
4. Excavation remediation work will be conducted by Brett Woodbury and will be scheduled to begin in May 2012. Southeast Management Services will oversee all excavations, soil sampling collection services, and draft the final closure report.

The Work plan scope includes the following:

1. Contaminated soils will be excavated in areas with confirmed contamination. The excavated soils will be stockpiled at the bioremediation site until all of the May 2012 excavations are completed. The bioremediation cell will be prepared as follows: The soil will be spread in an 18" layer and soil samples will be taken to determine the necessary quantities of urea and fertilizer to add. Once the bioremediation cell has been properly prepared and thoroughly mixed; turn-over and tilling the soil will be proposed to occur every two weeks to promote the bioremediation process. Confirmation sampling across the bioremediation cell is anticipated to take place in late Fall 2012 for DRO and RRO. If cleanup criteria have not been met, a separate report on the subsequent bioremediation activity and additional sampling to confirm compliance will be submitted to DEC the following year.
2. The fuel depot is necessary for Silver Bay Logging's ongoing cleanup activities. The removal of the tank, fuel dispensers, wood bulkhead and associated piping are expected to take place between August-November 2012. A cleanup effort at this site will then proceed and contaminated soil will be removed for bioremediation treatment.
3. Mr. Steve Haavig of Carson Dorn Inc, will inspect and prepare the paperwork for properly disposing and/or recycling the mill's remaining excess petroleum, oils, containerized materials, and hazardous waste materials (i.e. batteries).

Based on the information provided in the work plan:

1. Method Two cleanup levels will be used for this site.

Tom Hanna
Re: Proposed Soil Cleanup Plan- Wrangell Lumber Sawmill Site

April 30, 2012

Contaminants of Concern

Soil samples at the site have been analyzed for volatile organic hydrocarbon compounds including benzene, ethylbenzene, toluene, total xylenes (BTEX), diesel (DRO), residual (RRO), and gasoline (GRO) range petroleum hydrocarbons and polynuclear aromatic hydrocarbons (PAH). Based on the results of the analyses, the following Contaminants of Concern are identified:

- Diesel Range Hydrocarbons
- Residual Range Hydrocarbons
- Polynuclear Aromatic Hydrocarbons

Cleanup Levels

The soil cleanup level for this site is established in 18 AAC 75.341, Method Two, Tables B1 and B2 over 40-inch Zone, Ingestion, and SVOC levels listed in Table B1 for the mill site and Mt. Seley.

Contaminant	Site Cleanup Level (mg/kg)
Diesel Range Hydrocarbons	8250
Residual Range Hydrocarbons	8300

Cleanup levels as proposed are approved; as always, surface criteria under 18 AAC 70 must be met in any surface water at the site or discharging from the site.

In accordance with 18 AAC 75.335 (b), the workplan is approved contingent upon the following:

1. Collect and properly dispose of all batteries across the site property; this includes Wrangell Lumber Mill Site and Mt. Seley. Inspect each location of battery storage and if there is any indication of a release collect a soil sample for RCRA metals analysis. If a release has occurred on an asphalt or concrete area, collect a soil sample from the leading edge of the drainage path.
2. A bioremediation workplan will need to be submitted and should include a detailed schematic of the bioremediation cell area (distance to surface water, potential receptors, and any drinking water wells within 200 yards of the biocell's edges), its design and catchment features, and the completed Landfarming Checklist (Attachment A). Due to the accessibility to the bioremediation cell, provisions for site security need to be considered, such as signage or fencing.

Tom Hanna April 30, 2012
Re: Proposed Soil Cleanup Plan- Wrangell Lumber Sawmill Site

If you have questions about the workplan approval or this letter please contact me at (907) 465-5207 or by electronic mail at denise.elston@alaska.gov.

Sincerely,

Denise Elston
Environmental Program Specialist

cc: Dick Bulher, Silver Bay Logging, Inc, via regular mail
Sally Schlichting, Program Manager, via electronic mail
Paul Hoffman, Hoffman & Blasco, LLC, via electronic mail

Attachment A-Landfarming Checklist

Project Name_____

_____ Workplan with detailed specifications for the landfarming project (18 AAC 78.250(e)(3));

_____ Adequate site characterization data that identifies contaminants of concern and target cleanup levels.

_____ Design plan that will provide prevention of contamination migration to previously unaffected areas unless otherwise approved by the department in a corrective action plan (18 AAC 78.250(e)(4));

_____ Workplan schedule for conducting field work, monitoring, corrective action performance, and submittal of interim and final corrective action reports (18 AAC 78.250(e)(1));

_____ Site control plan (18 AAC 78.250(e)(8));

_____ Wastewater discharge permit for any discharge of regulated wastewater (18 AAC 72);

_____ Project complies with air quality standards and requirements (18 AAC 78.250(e)(9) and 18 AAC 50);

_____ Nondomestic wastewater system plan approval for the construction, alteration, installation, modification, or operation of any nondomestic wastewater treatment works or disposal system under 18 AAC 72.600 (18 AAC 78.250(e)(11) and 18 AAC 72);

_____ Project maintains appropriate separation distance from surface water, water supply wells, and groundwater (18 AAC 78.271(a)(2));

_____ If applicable, description of cultured microbes, any additives, breakdown products, and oxygen source with their rate of application and biodegration (18 AAC 78.250(e)(12)(E));

_____ If landfarm is constructed off-site, department approval before moving contaminated soil to the treatment site (18 AAC 78.274(b));

_____ If applicable, compliance with the treatment facility requirements (18 AAC 78.273);

_____ Information submitted that addresses leachate (18 AAC 78.250(e)(12)(A));

_____ Post-treatment sampling to ensure cleanup standards have been met (18 AAC 78.605(b));

_____ Cleanup standards achieved (18 AAC 78.600 - 18 AAC 78.625);

_____ Treated soils returned to original site or disposed of properly in accordance with department approval (18 AAC 78.274(6));

I certify that I have personally reviewed the above checklist and that all information noted is contained in the attached report.

Name_____ Signature_____

Title_____ Date_____

Carson Dorn, Inc.

712 W 12th Street
Juneau, Alaska 99801
907-586-4447

June 11, 2012

Mr. Tom Hanna
Southeast Management Services
1061 Mendenhall Peninsula Road
Juneau, Alaska 99801

Dear Mr. Hanna,

On May18, 2012, Steven Haavig, Environmental Professional, Carson Dorn, Inc. conducted an investigation of various containers and drums that are currently stored at the Wrangell Sawmill in Wrangell, Alaska. The purpose of the investigation was to identify the contents and quantities of substances found in the containers and to develop a disposal plan for the containers and their contents.

Mr. Randy Ferdinand, a Wrangell Sawmill employee gave a tour of the sawmill area and showed Mr. Haavig the location of the drum and containers and described, to the best of his knowledge, what the drums contained or what the contents were used for in the sawmill process. After the brief tour, the drums were field screened to characterize the contents. The drum sizes, types, condition, volume and contents were noted. This information is summarized in the following table:

Drum	Size	Type	Condition	Volume	Contents
WS-1	55-gal	Poly TH	Good	15-20 gal	Battery acid, pH<1.5,
WS-2	55-gal	Poly TH	Good	15-20 gal	Battery acid, pH<1.5,
WS-3	55-gal	OH	Poor	full	Thick white wax, congealed, no free liquid
WS-4	55-gal	OH	Poor	full	Thick white wax, congealed, no free liquid
WS-5	55-gal	OH	Poor	10" paste, 25" liq.	Green paint, paste on bottom, water soluble
WS-6	55-gal	OH	Poor	20" paste, 10" liq.	Green paint, paste on bottom, water soluble
WS-7	55-gal	TH	Poor	6" paste, 6'liq.	Green paint, paste on bottom w/ lt. yellow lig.
WS-8	55-gal	OH	Very poor	20g paint, 15g liq.	Green paint, water, water soluble
WS-9	55-gal	OH	Poor	< half	Dried green paint and rags
WS-10	4,000	tank	Good	2,000-2,500 g	100-250 gallons water 1,750-2,000 used oil

In addition to the drums described above, 6-8 55-gallon drums, and 15-20 5-gallon plastic pails were inspected and determined to be empty. Four 15-gallon grease drums were inspected and all contained less than 1-gallon of residual grease. Also noted were 2½ gallons of phosphoric acid, 1 gallon of asphalt coating, 1 gallon of thinner and 6 gallons of paint, and a 55-gallon poly drum of used oil. No other drums or containers were discovered on the property.

A sample was collected from the 4,000 gallon used tank and analyzed for used oil burning specifications by Spectra Laboratories in Tacoma Washington. The results are summarized in the following table.

Wrangell Sawmill Tank Analysis

Oil Buring Specifications		Flashpoint	Arsenic	Cadmium	Chromium	Lead	PCB	Sulfur	Total Halogens
OBS Maximum Allowable Levels*		>100 deg F	<5 mg/kg	<2mg/kg	<10mg/kg	<100mg/kg	<2mg/kg	1 % wt	<1000ppm
WS-10	05/18/12	136	3	<1	1	12	<1	0.17	17

*40 CFR 279.11 allowable levels

Actions Taken

The Wrangell Borough Household Hazardous Waste Collection Event was held in Wrangell on May 19 and 20, 2012. It was determined that the Wrangell Sawmill qualified as a Conditionally Exempt Small Quantity Generator and was eligible to participate in the event.

The battery acid in drums WS-1 and WS 2, and the phosphoric acid in gallon containers were taken to the Wrangell Solid Waste Facility where they were combined into one drum marked as W-8 and shipped out as corrosive liquid

Drums WS-3 and WS-4 were over-packed into 85-gallon salvage drums and marked as W-9 and W-10 and shipped out as latex paint.

The contents of drums WS-5, WS-6, WS-7, and WS-8 were combined into one drum marked as W-11 and shipped out as latex paint.

It was determined that the small quantities of thinner, asphalt coating and paint could be used locally and were not shipped out.

The used oil contained in the 4,000 gallon used oil tank met the oil burning specification and can be used locally for energy recovery.

Attached is a copy of Non-Hazardous Waste Manifest 2014B prepared for the shipment of the Wrangell Borough household hazardous waste Line 13 describes the drums that were shipped out for disposal. Also attached are the laboratory results for the oil burning specifications analyzed by Spectra Laboratories. Finally, attached are two photographs of the transfer and over-packing of the Wrangell Sawmill drums conducted at the Wrangell Borough Solid Waste Facility on May 20, 2012.

Report Prepared by:
Steven Haavig
Environmental Professional
Carson Dorn, Inc.

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
AKD083076019	1	206-832-3000	20148

5. Generator's Name and Mailing Address

CDI FOR CITY OF WRANGELL
712 W 12TH ST
JUNEAU, AK 99801

Generator's Phone: 907-586-4447

Generator's Site Address (if different than mailing address)

WRANGELL LANDFILL CITY OF
571 EVERGREEN ST
WRANGELL, AK 99929

6. Transporter 1 Company Name: Alaska Marine Lines — U.S. EPA ID Number: WAD981281809

7. Transporter 2 Company Name: Emerald Services Inc — U.S. EPA ID Number: WAD068384647

8. Designated Facility Name and Site Address

US ECOLOGY IDAHO INC
20400 LEMLEY RD
GRAND VIEW, ID 83624 USA

U.S. EPA ID Number: IDD073111654

Facility's Phone: 800-274-1516

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. MATERIAL NOT REGULATED BY D. O. T. (LATEX PAINT)	4	DM	2100	P	
X	2. UN 2902 PESTICIDES, LIQUID, TOXIC, N.O.S. (PYRETHRIN, DIAZINON) 6.1, PG II ERG(153)	1	DM	200	P	
X	3. UN 3264, CORROSIVE LIQUID ACIDIC INORGANIC N.O.S. (sulfuric acid phosphoric acid) 8, PG II, ERG 154	1	DF	400	P	
X	4. UN 2809 MERCURY 8 PG III, ERG 172	1	DM	25	P	

13. Special Handling Instructions and Additional Information

1) 18268, 55g oT dm W-3, W-11; 850T dm w/55g oT W-9, W-10
2) 22941 15g oT dm W-6
3) 20288 55g poly dm W-8
4) 23319 5g metal pail W-7

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Steven Haavig for City of Wrangell — Signature: Steven Haavig — Month: 5 — Day: 21 — Year: 12

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name — Signature — Month — Day — Year

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month — Day — Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

DESIGNATED FACILITY TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST (Continuation Sheet)	19. Generator ID Number AKD983076010	20. Page 2/2	21. Waste Tracking Number 2014B

22. Generator's Name
CDI FOR CITY OF WRANGELL

23. Transporter 3 Company Name STEVE FORLER TRUCKING — U.S. EPA ID Number WAR000001263

24. Transporter _____ Company Name — U.S. EPA ID Number

GENERATOR

	25. Waste Shipping Name and Description	26. Containers No.	26. Containers Type	27. Total Quantity	28. Unit Wt./Vol.	

29. Special Handling Instructions and Additional Information

TRANSPORTER

30. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

31. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

32. Discrepancy

DESIGNATED FACILITY TO GENERATOR

SPECTRA Laboratories

2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

06/04/2012

Carson Dorn, Inc
712 West 12th Street
Juneau, AK 99801
Attn: Steve Haavig

Project: Wrangell Sawmill
Client ID: WS-10
Sample Matrix: Oil
Date Sampled: 05/18/2012
Date Received: 05/23/2012
Spectra Project: 2012050602
Spectra Number: 1

Analyte	Result	Units	Method
Arsenic	3	mg/Kg	AES 0029
Cadmium	<1	mg/Kg	AES 0029
Chromium	1	mg/Kg	AES 0029
Lead	12	mg/Kg	AES 0029
Total Sulfur	0.17	wt.%	ASTM D-3120
Flashpoint (PMCC)	136	°F	ASTM D-93
PCB	<1.0	mg/Kg	SW846 8082A
Total Halogens	17	ppm	SW846 9076

Surrogate	Recovery	Method
Decachlorobiphenyl	61	SW846 8082A

SPECTRA LABORATORIES

Steve Hibbs, Laboratory Manager
a6/mkw

CHAIN of CUSTODY

SPECTRA Laboratories 2012050602

PAGE 1 of 1

STANDARD [X] RUSH [ ]

2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

CLIENT: Carson Dorn Inc

ADDRESS: 712 W 12th St Juneau AK 99801

PROJECT: Wrangell Sawmill

CONTACT: Steve Haavig

PHONE: 907-586-4447

FAX:

EMAIL: shaavig@carsondorn.com

PURCHASE ORDER #:

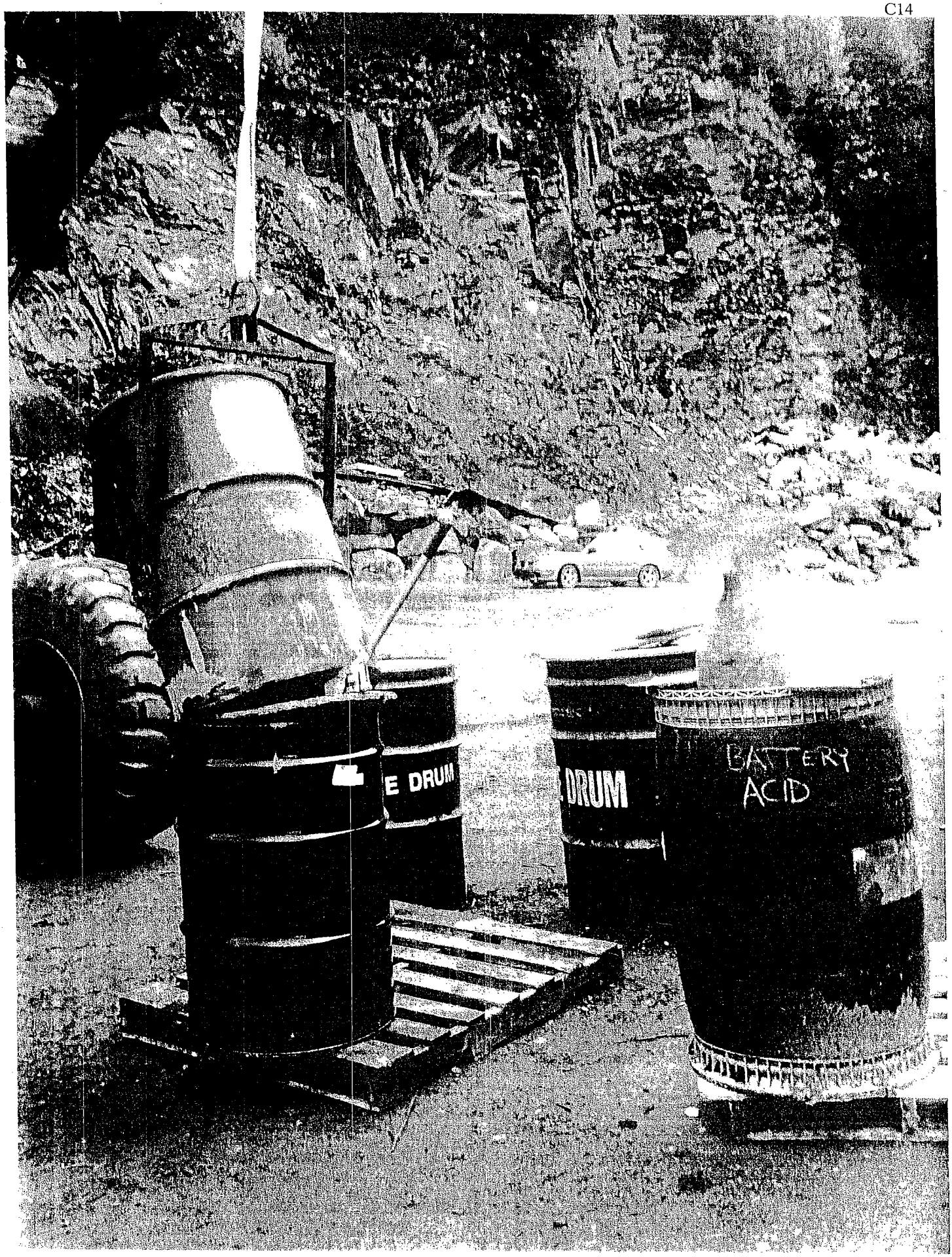
SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-D	1664 SGT HEM	1664 HEM	ORGANICS: 8260 VOA	8260 CHLOR SOLVENTS	8270 SEMI VOA	PAH/PNA-8270	8082 PCB	METALS: TOTAL METALS RCRA8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: pH 9040/9045	TX/TOX 9076	TURBIDITY	FLASH POINT	SOLIDS (SPECIFY)	BOD	Oil Burning Spec.	Total Sulfur
WS-10	5/18/12	1530	L	1																							✓	✓

SPECIAL INSTRUCTIONS/COMMENTS:
OBS - Arsenic, Cadmium, Chromium, lead, Flashpoint, PCB
Total Halogens

RETURN SAMPLES [ ] DISPOSE SAMPLES [X] (Fee Applies)

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY	[signature]	Steven Haavig	Carson Dorn Inc	5/18/12	1640
RECEIVED BY	[signature]	Morgan [illegible]	Spectra	5/25/12	1:15
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1½% per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other associated costs of collection regardless of whether suit is filed. Spectra Analytical, Inc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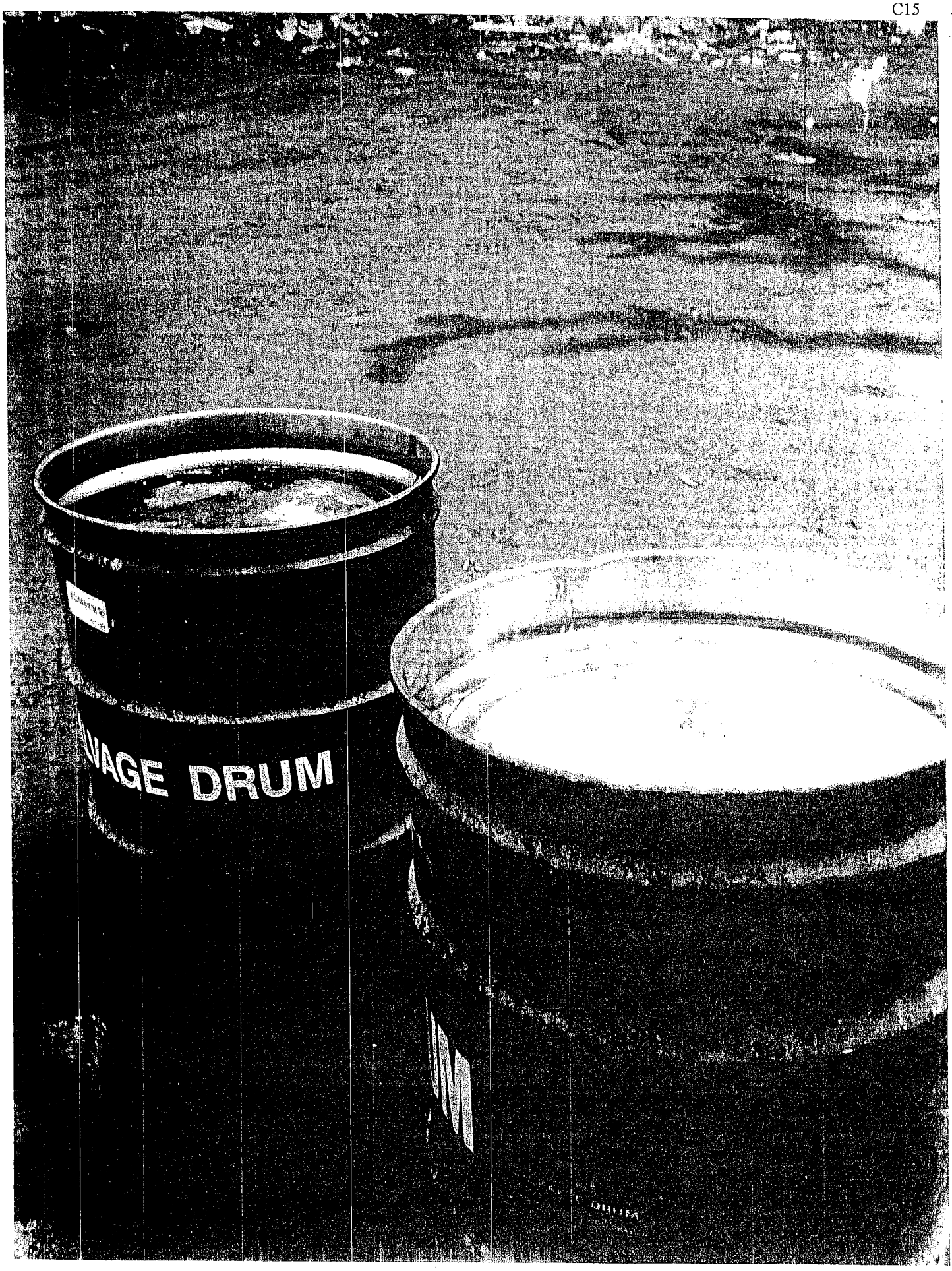
BATTERY
ACID


VAGE DRUM

STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM

SEAN PARNELL, GOVERNOR

410 Willoughby Avenue, Suite 303
Post Office Box 111800
Juneau, Alaska 99811-1800
Phone: 907-465-5207
Fax: 907-465-5218
www.dec.state.ak.us

File: 1529.38.022

June 26, 2012

Via Electronic and Regular Mail
Mr. Tom Hanna
Southeast Management Services
1061 Mendenhall Peninsula Road
Juneau, Alaska 99801

RE: Workplan Amendment Request for the May 2012 Wrangell Sawmill Cleanup Effort

Dear Mr. Hanna,

Cleanup activity under the April 9, 2012 workplan entitled: *Proposed Soil Cleanup Plan-Wrangell Lumber Sawmill Site*, and approved by ADEC on April 11, 2012 was conducted by your firm, Southeast Management Services throughout May 2012. The work included overseeing the excavation of contaminated soil on the mill site property, the recycling and disposal of used oils, lubricants, and other materials and hazardous wastes, and the excavation of contaminated soils at Mt Seley storage area. In addition, Mr. Steve Haavig of Carson Dorn, Inc., assisted with the proper disposal and/or recycling the mill's remaining excess petroleum, oils, and containerized materials.

As the cleanup proceeded, additional remedial action beyond the scope of the original workplan was carried out during the May field effort. As you provided in informal updates, some of the additional work included the following:

1. The Workplan objective was to remediate petroleum contaminated soil that resulted from the Wrangell Sawmill's operations and its use as a storage facility for various equipment and tanks originating from the multiple logging camps operated by Silver Bay Logging. It was expected that Cleanup Area #2, *the generator/transformer pad site* would be the most difficult excavation due to the necessary removal of the concrete pad. Excavation revealed contamination layers penetrating deeper than

expected. The excavated soil has been placed in the bioremediation cell and confirmation sampling has been completed. As you have informally communicated, the ditchline sump behind the shop has been cleaned and looks good, but the ditchline is more contaminated and will require the excavation of more material than originally expected. The fuel depot and its timbers, original scoped for removal in late July- early August, have been removed. The removal revealed oily soil at depth estimated at 8' bgs and is planned for removal and added to the bioremediation cell at the end of June 2012.

2. The original scope of work stated the bioremediation cell location will be at the Wrangell Lumber rock quarry on the uphill side of Zimovia Highway. Due to the unexpected volume of soil, the bioremediation cell will now be located on-site on a pre-existing concrete pad. The same methods as proposed will apply. Confirmation sampling across the bioremediation cell is anticipated to take place in late Fall 2012 for DRO, RRO, and PAHs. If cleanup criteria have not been met, a separate report on the subsequent bioremediation activity and additional sampling to confirm compliance will be submitted to DEC the following year.

Please provide a workplan amendment which documents the above and any other additional work, including additional sampling, and the measures taken to enlarge the treatment area to accommodate the additional soil excavated.

If you have questions about this letter please contact Denise Elston at (907) 465-5207 or by electronic mail at denise.elston@alaska.gov.

Sincerely,

Denise Elston
Project Manager

SOUTHEAST MANAGEMENT SERVICES

1061 Mendenhall Peninsula Road
Juneau, Alaska 99801
(907) 789-0637 Fax (907) 789-9487

July 13, 2012

Denise Elston
Project Manager
Contaminated Sites Remediation Program
Alaska Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801

Dear Ms. Elston:

On behalf of Silver Bay Logging Inc., attached for your review and approval is the document entitled, *7/12 Amendments to the Cleanup Plan - Wrangell Lumber Mill Site*.

This amended cleanup plan was requested in your 6/26/12 letter, to address the increased contaminated soil volumes found at several cleanup sites, and a changed location for stockpiling and bioremediating the excavated soil. It includes an abbreviated summary of cleanup progress thus far, describes an additional cleanup site, proposes gasoline cleanup criteria, and provides a revised soil bioremediation plan. A more complete description and summary of all cleanup sites, including photos and sampling results, will be included in the final cleanup report.

We are looking forward to your approval, and by all means don't hesitate to call if you need further information or wish to discuss any aspect of the cleanup status..

Sincerely yours,

Thomas R. Hanna

Enclosure: Document entitled, *7/12 Amendments to the Cleanup Plan - Wrangell Lumber Mill Site*

cc: Dick Bueller, Silver Bay Logging, Inc.
Paul Hoffman, Hoffman & Blasco, LLC

Urea & Fertilizer Estimated Quantities:
Wrangell Sawmill Contaminated Soil Bioremediation -
For 4,000 c.y.

7/14/12

	Totals
1. Quantity of soil (cy)	4,000
2. Estimated weight of oil-contaminated soil (lbs.)	9,600,000
3. Estimated DRO/RRO concentration (mg/kg)	15,000
4. Projected amount of oil to be bioremediated (lbs.)	144,000
5. Nitrogen needed (1 lb./10 lb-oil), lbs.	14,400
6. Phosphorus needed (0.1 lb./10 lb-oil), lbs.	1,440
7. Urea needed (@47% N), lbs.	30,638
8. Fertilizer needed (46% phosphorus), lbs.	3,130
9. Est.cost of urea (pricing from Skagit Farmer's Supply, @ $848/T)	$ 12,991
10. Est. cost of Trebosuperphosphorus, @ $19.90/50# sack	$ 1,246
11. Est. cost of shipping container	$ 2,345
12. Est. Total Cost:	$ 16,582

Tom Hanna

From: Tom Hanna [southeastmanagement@gci.net]
Sent: Thursday, July 26, 2012 5:19 AM
To: 'Laureen Curtner'
Subject: Order Placed for Urea/Fertilizer - Wrangell Lumber Mill
Attachments: WL12biotreatest3.xls

Good morning Laureen -

After discussing the amount of urea and fertilizer needed to bioremediate the contaminated soil at the Wrangell Lumber mill site and getting Dick Buhler's okay, yesterday I arranged with Skagit Farmers Supply to deliver 30,600 lbs of urea and 3,150 lbs of trebosuperphosphorus to Northland Marine in Seattle for shipment to Wrangell.

Attached are my calculations, which are based on treating 4,000 cubic yards of contaminated soil. Ron Hawkins of Skagit Farmer's Supply confirmed the prices of urea at the earlier quote of $848/ton for urea in 50# sacks, and $19.95/50-lb for trebosuperphosphorus. The price for the container and its delivery to Northland Marine turned out to be $2,345. The whole order should tally about as follows:

1.	Urea @ $848/T x 15.3 T	$ 12,974.40
2.	Trebosuperphosphorus @ $19.95/50-lb.	$ 1,256.85
3.	Shipping container + trans. to Northland	$ 2,345.00
4.	Total:	$ 16,575.25

I gave Ron Hawkins your address, with the billing to be sent to you and a copy to me. The material will make Northland Marine's sailing next Wednesday, so you might want to call him (360-757-6041) to confirm the order. Also, Amy at Northland Marine called me yesterday regarding the shipping, and you should call her as well at 206-892-2641.

Thanks - by all means call or email me if you need any additional information or want to discuss the order.

Tom

Tom Hanna

From: Elston, Denise E (DEC) [mailto:denise.elston@alaska.gov]
Sent: Wednesday, September 12, 2012 9:37 AM
To: Tom Hanna
Cc: Schlichting, Sally G (DEC)
Subject: Re: Wrangell Trip

Hello Tom,

Since we have been having some conversations about the need to evaluate additional areas of contamination areas on the Wrangell Sawmill property, I would like to formalize the state's position in writing with regard to our additional review and investigation of the site's operational history.

I apologize for the delayed correspondence, I have been on travel status for other site work in addition to some personal time.

Since we first spoke, some of the areas I am mentioning in this email have been or may have been investigated.

Per our discussion on Friday August 17, 2012 additional sampling was requested for areas previously identified, during the July 20, 2012 site visit with Sally Schlichting. These were:

1. Oil Water Separator – metals/PAH analysis;

2. Shop Ditch- surface water sample because it drains into the Bay; and

3. Fuel Depot- metals/PAH analysis (recommended).

At the time of the site visit, the Green Chain Line was still being characterized, the Mill Pond did not have remaining contamination, the Transformer Pad had intermittent areas of hydrocarbon contamination, and the recent stockpile needed to be sorted and added to the bioremediation cell.

Upon further investigation of schematic diagrams of historic Mill operations and complementary reports, DEC will request Southeast Management Services to perform additional soil characterization at the site. We appreciate the information provided in the 1996 report prepared for APC by your firm, titled **Wrangell Sawmill 9-11/96 Environmental Review,** which evaluated contamination from areas suspect of RCRA metals, PCB's, dioxin/furan's, VOCs, SVOCs, herbicides and pesticides, and asbestos abatement. This report also evaluated surface water parameters, wastewater discharge, and the submerged tidelands. Remediation of the impacted areas appears to have been completed at this time. DEC will not require re-sampling of these parameters in these areas. However, no samples were collected to evaluate the presence of contamination from oil, petroleum, and lubricants specific to these areas and the transformer operations.

Based on this information, known operational history, and past schematics of the facility, DEC requests that exploratory field sampling for petroleum hydrocarbons be carried out at the following additional areas that are suspected to have contamination based on past operations.

These include the following:

1. The Cherry Pickers- assumed operated with petroleum.
2. White Pass fuel storage area- area confirmed to have several large fuels spills.
3. The Barker-assumed operated with petroleum.
4. The Planer Mill- transformer operations. Test pits at the asphalt edge of the Planer Mill and along the ditch that runs down gradient from the Maintenance Shop ditch that was excavated early this summer.
5. The City Tie- transformer operations.

DEC cannot make the assumption that these areas are free of oil, petroleum, and lubricant contamination without further investigation. Soil characterization data should be completed at the areas where operation and use of machinery would result in GRO, DRO, RRO and BTEX contamination above the Method 2 Soil Ingestion Cleanup Levels, unless documentation can be submitted that states otherwise. DEC requests that Silver Bay Logging complete this additional characterization this fall if possible.

A letter will be sent to Mr. Buhler informing him of the current status of the investigation.

Please contact me with questions regarding this request,

Sincerely,

Denise E. Elston

Environmental Program Specialist

Contaminated Sites Program
Spill Prevention and Response Division
Alaska Department of Environmental Conservation
Regulatory Development and Implementation Section
410 Willoughby Avenue, Suite 303
Juneau, Alaska 99811
(907) 465-5207

CLEANUP REPORT OF
2012 CONTAMINATED SOIL EXCAVATIONS -
WRANGELL LUMBER MILL SITE

January 2013

APPENDIX D

Sampling & Analysis Quality Assurance Procedures

Soil Samples for Laboratory Analysis

Pages D2-D3

Screening Sampling & Analysis Procedures
For the PE-Photovac 2020 Photoionization Detector

Page D3

Sampling & Analysis Quality Assurance Procedures

Wrangell Lumber Mill Site Contaminated Soil Cleanup
Juneau, Alaska

A. Soil Samples for Laboratory Analysis

Sample taking for determining the oil contaminant levels in soils will follow the Underground Storage Tanks Procedures Manual (dated 11/7/02) to the extent it is applicable or practical, and sample analyses will follow the Alaska methods for petroleum hydrocarbons in Table 1 of that document as required by 18 AAC 75.355(d). Prior to sampling, a sketch of the site to be sampled including the sampling grid will be defined and each sampling point assigned its own identification number.

All samples taken for evaluation by a laboratory will be handled in the following manner to assure that no sample contamination occurs, all analyses are done in a proper manner and sample analyses are carried out by a qualified laboratory:

1. The laboratory for sample analyses is Analytical Resources, Inc. in Seattle, Washington.

2. Sample bottles will be obtained from Analytical Resources, Inc. in pre-made cooler sampling kits appropriate for the sampling to be accomplished and analyzed by Analytical Resources, Inc.

3. All field soil sampling will be carried out by Southeast Management Services, which will be responsible for custody and handling of the sample coolers and sample jars during the time they are away from the laboratory, including establishment of chain-of-custody paperwork and seals when the samples are sent back to the laboratory.

4. Sampling in the field will adhere to the following procedures, to assure that no contamination of samples occurs:

    a. Prior to sampling, sample jars will be identified and numbered according to the sampling grid established for the site.

    b. For each individual soil or water sample, a new set of disposable latex gloves will be put on by the sampler just prior to sampling.

    c. Blue-ice packs will be in the Analytical Resources, Inc. cooler when samples are inside, to maintain sample storage temperatures to as near freezing as possible throughout the time that samples are stored or in transit within the cooler.

    d. For each individual soil sample, a new and clean plastic spoon will be used to place soil samples into the sample jar. Care will be taken to assure that any soils that may

have been in direct contact with the apparatus used to dig the sampling hole are not placed into the sampling bottle. As soon as each sampling jar is filled with a representative sampling of soil, the lid will be tightly screwed onto the top and the jar then carefully placed into the cooler and the cooler closed.

e. At the end of sampling, all of the sample jars will be carefully arranged and padded with packing material to assure safe transport back to Juneau. Once the cooler and its sampling jars arrive in Juneau in the direct custody of Southeast Management Services, each sample jar will be checked to make certain that all sample characterization data and labeling are completed and correct. After that, the sample containers will be carefully repacked and freshly-chilled blue-ice packets placed in each cooler prior to final taping for shipment to Analytical Resources, Inc.

g. Once taped and the chain-of-custody attached, the sample coolers will be shipped via DHL to Analytical Resources, Inc. with the chain-of-custody paperwork signed over to DHL and placed in its own clear envelope along the top of the cooler so that it will not be missed.

B. Screening Sampling & Analysis Procedures For the PE-Photovac 2020 Photoionization Detector

A hand-held PE-Photovac Model 2020 photoionization detector ('PID') will be used during the excavation to assist in locating and guiding the excavation of oil-contaminated soils at the Wrangell Lumber Mill Site. The PE-Photovac Model 2020 PID is a hand-held portable instrument which measures the presence of photoionizable chemicals in air in part-per-million levels, and incorporates a pump that continuously draws in a small quantity of air across a 10.6-eV UV lamp that generates photons to ionize specific molecules in the gas stream. While the main gases in ambient air require a high energy level to be ionized, most hydrocarbon vapors are readily ionized and thereby detected by the instrument.

CLEANUP REPORT OF
2012 CONTAMINATED SOIL EXCAVATIONS -
WRANGELL LUMBER MILL SITE

January 2013

APPENDIX C

Reference Documents
