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Prepared for:

Washington Department of Ecology

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FINAL REPORT

Task 2 Workplan Implementation of Selected Cleanup Actions at the Maralco Site Kent, Washington

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Table of Contents

1.0 INTRODUCTION

Enviros was contracted by the State of Washington Department of Ecology (Ecology) to perform interim remediation tasks at the Maralco Aluminum Company (Maralco) site in Kent, Washington. The subtasks described in this workplan include removal of a 35,000-gallon diesel underground storage tank (UST), removal and disposal of 286 drums containing retention pond sediments, and performance of a pilot study of black dross treatment.

Site History

From 1980 to 1986, Maralco operated an aluminum recycling/ refinery facility on a parcel of about 13.5 acres located at 7730 South 202nd Street in Kent, Washington. A 45,000 square foot building, of tilt-slab construction, was built on the site in (approx.) 1980. The facility produced aluminum alloy ingots from aluminum cans and aluminum metal scrap. Waste products from the operation included black dross, furnace slag, and baghouse dust. During the first year of operation, the wastes were transported off-site to the Cedar Hills landfill in Issaquah, Washington. After 1981, the wastes were stored on-site.

Maralco filed for bankruptcy in May 1983 and ceased operations in November 1986. The property is currently managed by a bankruptcy examiner. The site remediation activities are funded by the Ecology Toxics Cleanup Program. Ecology has entered into a court agreement with the secured creditors to perform site remediation.

2.0 SCOPE OF WORK

Enviros is pleased to submit this workplan to implement initial remediation tasks at the Maralco Aluminum site. This workplan preparation and the associated cleanup activities have been defined as Task 2 in a series of tasks directed to ultimate cleanup of the site. Cleanup activities to be conducted in Task 2 include removal of the existing underground storage tank (UST), disposal of waste-containing drums, and implementation of a pilot study for recycling of the black dross waste.

2.1 UST Removal (Subtask 2.1)

An underground storage tank (UST), reported to be of 35,000 gallon capacity, is located in the northwest corner of the parking lot. The UST was apparently installed at the time of construction of the Maralco facility and was used for storage of diesel fuel.

A health and safety trained, licensed UST site assessor will be provided by Enviros to oversee UST decommissioning activities, to collect soil samples, record sampling locations, review analytical results, and write a site assessment report. A licensed UST services contractor will be solicited to remove the UST.

Bid specifications for the UST removal have been prepared by Enviros and delivered to Ecology under separate cover. The specifications will be reproduced and distributed by Enviros, but the selected contractor will contract directly with Ecology. Enviros will act as the primary point of contact for the contractors during the bidding process and during implementation of the work.

Final closure of the UST excavation will require analyses of samples collected from each of the four sidewalls and the floor of the excavation, as well as one sample from beneath

the pump island, one sample from around the piping associated with the pump island, and three samples from stockpiled soil. If contamination exists, over-excavation or remediation of affected soils will not occur as part of this scope of work.

The attached cost estimate (see Appendix A) includes budget for one Enviros licensed site assessor to perform two days of oversight, and analysis of one soil sample by method WTPH-HCID and twelve soil samples by method WTPH-D.

2.2 Disposal of Drums (Subtask 2.2)

Two hundred eighty-six (286) 55-gallon drums are stored inside the Maralco building. The drums reportedly contain sediments removed during interim action excavation of the stormwater collection pond and storm drains near the northwest corner of the site, as well as soil cuttings from soil borings and purge water from monitoring wells.

According to earlier RI/FS documents, representatives of MK-Environmental and Wilder Construction visited the Maralco site on March 14, 1991 to excavate sediments from a stormwater retention pond located on the west border of the property. Based upon soil samples previously collected from the pond by MK during the Phase I Remedial Investigation (RI) and upon comparison with soils from uncontaminated areas of the site, contaminated material was visually defined by MK to be very fine-grained to clayey material ranging in color from very light to dark gray in relatively well-defined layers.

According to the MK report, the excavated material was placed in lined 55-gallon drums and stored on pallets in the parking lot. Two-hundred-forty-six drums were filled with sediments and water from the stormwater retention pond. Reportedly, the drums were dated and labeled "C.P." for collection pond. It was also noted whether the contents were sediments only or sediments and water.

After the excavation of sediments from the stormwater retention pond, the parking lot area on the north end of the property was swept clean and four catch basins were cleaned by hand shovel. The drain lines running from the catch basins were clogged and had to be pressure-cleaned using a fire hose. A 55-gallon drum was placed under the culvert pipe which discharges to the pond to collect any material from the parking lot. The parking lot was then completely washed down.

All water and sediments from the parking lot and catch basins were placed in lined drums and stored inside the building along the north wall. The drums were dated and labeled "C.B." for catch basin or "P.L." for parking lot. It was also noted whether the contents were sediments only or sediment and water.

On December 21, 1994, Robert Thomas of Enviros randomly surveyed several drums on-site for labels. Faint markings were observed under dust on the drum lids. Among labels noted were: "drill cuttings," "purge water," "PC soil," "CB sediments and water," and "CPS," presumably designating "collection pond sediments." The drums containing drill cuttings, and purge water from well drilling and sampling, are stored in the same area as the drums containing pond sediments.

During Phase I of the RI, two soil borings (HB-7 and MW-4) were completed in the stormwater retention pond. Laboratory analyses of these samples indicated contamination by black dross. Although the levels do not appear high enough to be considered dangerous or hazardous waste, operators of the Roosevelt Landfill in Klickitat County have indicated that prior to acceptance of this material, they will require analyses

by Toxicity Characteristic Leaching Procedure (TCLP) and bioassay to confirm the designation.

The attached cost estimate (see Appendix A) includes budget for two Enviros representatives to visit the site for one day to collect up to three composite samples, and submit them for analysis to qualified laboratories.

The analytical data obtained from the sampling event described above should provide sufficient information to characterize these wastes for disposal. Enviros will also clean the tops of all the drums, and re-label the drums. If all of the drum contents cannot be identified on the basis of existing labels, then drum contents will be visually inspected and categorized, if possible. Enviros will then prepare a brief memorandum summarizing new and existing data on drum contents.

With this additional information, Ecology should be able to contract for the disposal of the drums without additional characterization. Costs for contracting, oversight, additional sampling and analysis, and drum removal are not included in Enviros' scope of work.

2.3 Black Dross Pilot Study (Subtask 2.3)

A preliminary assessment performed by Ecology and Environment estimated that 25,000 tons of black dross are present at the site. Enviros recently reviewed disposal and recycling options, and identified a potentially feasible off-site recycling option.

Solar Aluminum Technology Services (SALTS), a subsidiary of Imsamet, is actively recycling dross and salt cake from the aluminum industry at their facilities in Wendover, Utah. The Imsamet process reportedly results in complete recycling of dross constituents, whereby any recovered elemental aluminum is returned to aluminum smelters, aluminum oxides are sold to the cement and construction industries, and sodium and potassium brines are concentrated by solar evaporation and returned to the aluminum industry for use as salt flux or sold to the potash industry for conversion to agricultural products. SALTS processes black dross in combination with the much higher grade white dross provided by primary aluminum smelters.

In order to properly evaluate the economics of recycling the lower grade black dross, Imsamet has offered to perform a 500- to 1000-ton pilot study on the Maralco black dross at a discounted price. After the pilot study, Imsamet will be better able to evaluate the value of the recovered products and adjust fees for the full-scale treatment accordingly. It is expected that the cost of the Imsamet process will be competitive with local landfill disposal options, and almost certainly result in substantial savings over on-site recycling options.

As part of this workplan preparation, Mr. Trenton G. Smith of Enviros visited the Maralco site on May 26, 1995 with Mr. Shane A. Spencer and Mr. Robert E. Bullard of Imsamet, and Mr. Charles H. Hinds of Ecology. Imsamet collected samples of the black dross for laboratory analysis, and discussed the feasibility of incorporating the Maralco dross into their recycling process. If laboratory analyses are favorable, Imsamet anticipates that dross for the pilot study could be shipped to the Utah SALTS facility by June 30, 1995.

Enviros will provide oversight of dross removal, and will be present on-site at all times during site work. It is assumed for the purpose of cost estimating that dross loading will require a maximum of three days. Contracting with Imsamet will be the responsibility of Ecology.

2.4 Assessment Report for Task 2 UST Removal (Subtask 2.4)

Upon completion of UST removal and receipt of analytical results, Enviros will prepare a report summarizing the site work and the results of the site assessment. A draft version of the final report will be provided for Ecology review within two weeks of completion of field activities.

3.0 KEY PERSONNEL

Key personnel are listed in Table 1, below.

Table 1: Key Personnel

Name	Title	Role in Project
Steve Hoedemaker	Environmental Scientist	Oversight of UST Removal; Preparation of Final Report
Kathleen Goodman	Principal Geoscientist	Enviros Quality Assurance
Trent Smith	Environmental Engineer	Enviros Project Manager; Oversight of Dross Loading: Primary Ecology Contact

4.0 PROJECT SCHEDULE

It is anticipated that all field work and much of the report preparation will be complete by June 30, 1995. Enviros will issue draft report no later than three weeks after completion of field work.

5.0 DELIVERABLES

Enviros will provide to Ecology one copy of the draft report and three copies of the final report. Copies of field notes or other documents can be provided to Ecology at any time during the project upon request. Due to the short duration of this project, monthly progress reports are not anticipated.

6.0 BUDGET

A summary of estimated costs is provided in Appendix A.

Please call us if you have any questions about this report. We appreciate this opportunity to be of service to the Washington Department of Ecology.

Respectfully submitted,

Enviros, Incorporated

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APPENDIX A

COST ESTIMATE

Task	Units	Rate	Total
ENVIROS SERVICES			
SUBTASK #2.1 UST REMOVAL			
Subtask 2.1 Construction Oversight			
M. Gilbrough	8	$14.42	$115
S. Hoedemaker	34	$11.00	$374
T. Smith	11	$19.23	$212
K. Goodman	3	$38.46	$115
Invoicing			
T. Smith	1	$19.23	$19
L. Peters	1	$14.42	$14
Expenses, Overhead and Fixed Fee			
Overhead (179.19%)			$1,523
Enviros Fixed Fee (27%)			$229
Mileage	150	$0.30	$45
Photographs	1	$50.00	$50
Copies	300	$0.13	$39
SEPA fee	1	$150.00	$150
Phone Calls			$20
Postage			$10
Faxes	50	$0.52	$26
Courier	2	$20.00	$40
Subcontracted Analytical	1	$1,085.00	$1,085
Total Labor Hours	***58***		
	SUBTASK TOTAL		**$4,067**

HOURS SUMMARY

Personnel	Total Hours	Rate	Total
L. Peters	1	$14.42	$14
M.B. Gilbrough	8	$14.42	$115
S. Hoedemaker	34	$11.00	$374
T. Smith	12	$19.23	$231
K. Goodman	3	$38.46	$115
LABOR TOTAL (Base)	**58**		**$850**
Multiplier (179.19% + 27%)			$1,752
Direct Costs			$1,465
SUBTASK TOTAL			**$4,067**

Task	Units	Rate	Total
SUBTASK #2.2 DRUM DISPOSAL			
Subtask 2.2 Sampling & Analysis			
M. Gilbrough	16	$14.42	$231
T. Smith	18	$19.23	$346
K. Goodman	2	$38.46	$77
Invoicing			
L. Peters	1	$14.42	$14
T. Smith	1	$19.23	$19
Expenses, Overhead and Fixed Fee			
Overhead (179.19%)			$1,232
Enviros Fixed Fee (27%)			$186
Mileage	150	$0.30	$45
Copies	300	$0.13	$39
Binding	0	$2.00	$0
Phone Calls			$20
Postage			$10
Faxes	50	$0.52	$26
Courier	1	$20.00	$20
Subcontracted Analytical	3	$485.00	$1,455
Total Labor Hours	***38***		
	SUBTASK TOTAL		**$3,720**

HOURS SUMMARY

Personnel	**Total Hours**	**Rate**	**Total**
M.B. Gilbrough	16	$14.42	$231
L. Peters	1	$14.42	$14
T. Smith	19	$19.23	$365
K. Goodman	2	$38.46	$77
LABOR TOTAL (Base)	**38**		**$687**
Multiplier (179.19% + 27%)			$1,417
Direct Costs			$1,615
SUBTASK TOTAL			**$3,720**

Task	Units	Rate	Total
SUBTASK #2.3 BLACK DROSS PILOT STUDY			
Subtask 2.3 Construction Oversight			
T. Smith	34	$19.23	$654
K. Goodman	2	$38.46	$77
Invoicing			
L. Peters	1	$14.42	$14
T. Smith	1	$19.23	$19
Expenses, Overhead and Fixed Fee			
Overhead (179.19%)			$1,370
Enviros Fixed Fee (27%)			$206
Mileage	150	$0.30	$45
Photographs	1	$50.00	$50
Copies	300	$0.13	$39
Binding	0	$2.00	$0
Phone Calls			$20
Postage			$10
Faxes	50	$0.52	$26
Courier	1	$20.00	$20
Total Labor Hours	***38***		
	SUBTASK TOTAL		**$2,550**

HOURS SUMMARY

Personnel	**Total Hours**	**Rate**	**Total**
L. Peters	1	$14.42	$14
T. Smith	35	$19.23	$673
K. Goodman	2	$38.46	$77
LABOR TOTAL (Base)	**38**		**$764**
Multiplier (179.19% + 27%)			$1,576
Direct Costs			$210
SUBTASK TOTAL			**$2,550**

Task	Units	Rate	Total
SUBTASK #2.4 FINAL REPORT FOR TASK 2 REMEDIATION ACTIVITIES			
Subtask 2.4 Report Preparation			
S. Hoedemaker	24	$11.00	$264
T. Smith	12	$19.23	$231
A. Speransky	10	$11.00	$110
K. Goodman	3	$38.46	$115
Invoicing			
L. Peters	1	$14.42	$14
T. Smith	1	$19.23	$19
Expenses, Overhead and Fixed Fee			
Overhead (179.19%)			$1,351
Enviros Fixed Fee (27%)			$204
Mileage	0	$0.30	$0
Copies	300	$0.13	$39
Binding	6	$2.00	$12
Phone Calls			$20
Postage			$10
Faxes	50	$0.52	$26
Courier	1	$20.00	$20
Total Labor Hours	***51***		
	SUBTASK TOTAL		**$2,435**

HOURS SUMMARY

Personnel	**Total Hours**	**Rate**	**Total**
L. Peters	1	$14.42	$14
S. Hoedemaker	24	$11.00	$264
T. Smith	13	$19.23	$250
A. Speransky	10	$11.00	$110
K. Goodman	3	$38.46	$115
LABOR TOTAL (Base)	**51**		**$754**
Multiplier (179.19% + 27%)			$1,554
Direct Costs			$127
SUBTASK TOTAL			**$2,435**

TOTAL PROJECT BUDGET	**$12,773**