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July 11, 2002

FILE

Ms. Alicia Voss
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, 4th Floor
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Alicia:

On behalf of Schnitzer Investment Corporation (SIC), Gradient Corporation is submitting this fourth Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter and actions taken to resolve those problems.

Summary of Project Activities

Between April 1 and June 30, 2002, SIC and its consultants, Gradient Corporation, Bridgewater Group, Inc., and URS, completed the following work at the PEO site:

- Submitted a letter report entitled *Results – Geoprobe Investigation, Time Oil – Bell Terminal facility, western area*, prepared by Bridgewater Group, Inc., dated April 18, 2002. The April 18 report also contained the analytical data from the second quarterly groundwater monitoring event conducted on October 9 and 10, 2001.
- Measured water levels from site wells on three occasions (April 23, May 22, and June 21, 2002)
- Compiled analytical results from the third quarterly groundwater monitoring event conducted on March 14 and 15, 2002. During this monitoring effort, groundwater samples were collected and analyzed from 14 monitoring wells (MW-2, MW-3, MW-5 through MW-10, and MW-12 through MW-17). The data from the third quarterly groundwater monitoring event will be submitted to DEQ in August.
- Conducted shoreline reconnaissance surveys on three occasions (April 18, May 17, and June 20, 2002). Memos documenting the surveys will be submitted to DEQ in August.

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Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between July 1 and September 30, 2002:

- Submit the data from the third quarterly groundwater monitoring event.
- Conduct the fourth quarterly groundwater monitoring event. DEQ will be notified prior to the sampling event.
- Continue to collect and evaluate water level and tidal monitoring data.
- Complete and submit report summarizing results of tidal monitoring evaluations.
- Review and provide comments on ODEQ's Environmental Cleanup Site Information Site Summary Report.
- Receive and evaluate Time Oil's investigative data for the Bell Terminal site.

Issues to be Resolved/Recommended Actions

None.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberly/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00380161

SCHNITZER INVESTMENT CORP.
P.O. Box 10047, Portland, Oregon 97296-0047
(503) 224-9900 FAX (503) 286-6948

FILE

September 17, 2002

DEQ – HWPPD-TU/WRAP
811 SW 6th Avenue
Portland, Oregon 97204

RE: Submission – Notice of Plan Completion (NPC) Form

Schnitzer Investment Corp. received a letter from the Department of Environmental Quality dated September 10, 2002 indicating SIC is required to submit a NPC form. The form submission is a requirement of Oregon's Toxic Use Reduction and Hazardous Waste Reduction Act. The form has been completed and is attached.

Based on our understanding of this requirement, SIC is not obligated to complete a Reduction Plan, because the waste removal activities were conducted as a one time event as part of a remedial action completed at the site. At this time, SIC believes designated hazardous waste has been removed from the site and the SIC/Premier Edible Oils site will once again be a "Conditionally-Exempt Generator" for the year 2002. You should also know the former edible oil refinery operator is no longer in business at this location.

If you have questions or comments, please call me at (503) 286-6976.

Sincerely,

Schnitzer Investment Corp.

Jim Jakubiak
Environmental Administrator

Cc: Tom Zelenka

Reason for Not Preparing Plan

This form is for reporting year 2001. Refer to the fact sheet "Oregon's Toxics Use Reduction and Hazardous Waste Reduction Act" and to the Act and regulations for clarification on when the following reasons for not preparing a Plan may apply.

Name of Company: Schnitzer Investment Corp. (Formerly) Premier Edible Oils Site SIC code(s): 2079

Physical Address: 10400 North Burgard Road · Portland, OR. 97203-6422

Mailing Address: P.O. Box 10047 · Portland, OR. 97296-0047

Contact Person: Jim Jakubiak Title: Environmental Administrator

Phone number: (503) 286-6976 E-mail address: jjakubiak@schn.com

TRI ID #: Not Applicable DEQ ID #: ORD987180189

DEQ

State of Oregon Department of Environmental Quality

Toxics Use/Waste Reduction Assistance Program
811 SW 6th Avenue
Portland, OR 97204
Phone: (503) 229-6015
Fax: (503) 229-6977
Contact: Elaine Glendening
www.deq.state.or.us/wmc/tuwrap.html

I have not prepared a Reduction Plan under the Toxics Use Reduction and Hazardous Waste Reduction Act for the following reason (check one box):

I am not subject to these requirements, because:

- ☐ I manufactured the toxic substance as a product.
- ☒ I generated the hazardous waste solely as a result of remedial activities.
- ☐ I was a Conditionally-Exempt Generator and not a Large User.

or

I am claiming or applying for an exemption from these requirements:

- ☒ I certify that I generated the hazardous waste as a result of a one-time cleanout event and that I was previously a Conditionally-Exempt Generator.
- ☐ I certify that I have an Environmental Management System that meets the conditions for this exemption.
- ☐ I am applying for an exemption from these requirements because I have a consumer education program that meets the conditions for this exemption.

or

One of these special situations applies to me:

- ☐ A prior owner of my facility prepared a Reduction Plan that is still valid and that is retained at the facility. (Please note that you may need to prepare a Pounds Report, depending on your status.)
- ☐ My facility has moved out of state or gone out of business.

My signature below certifies that the information above is correct.

Name of ~~Senior Manager or Business Owner~~ Property Owner Representative: James L. Jakubiak

Signature: James L. Jakubiak Date: September 15, 2002

Send this form by October 15, 2002 to: DEQ – HWPPD-TU/WRAP
811 SW Sixth Avenue
Portland, OR 97204

Last Updated: 6/19/02
By: Elaine Glendening

SCHN00380163

Notice of Plan Completion

NPCNew 77

This form is for reporting year 2001. Refer to the fact sheet "Oregon's Toxics Use Reduction and Hazardous Waste Reduction Act" and to the Act and regulations for information on planning requirements.

State of Oregon Department of Environmental Quality

Toxics Use/Waste Reduction Assistance Program
811 SW 6th Avenue
Portland, OR 97204
Phone: (503)229-5316
Fax: (503)229-6977
Contact: Mark Ralston
www.deq.state.or.us/wmc/tuwrap

Name of Company: SCHNITZER INV PREMIER EDIBLE OILS SITE

SIC Code(s): 2079: SHORTENING AND COOKING OILS

Physical Address: 10400 N BURGARD WAY, PORTLAND, OR 97203-6422

Mailing Address: PO BOX 10047, PORTLAND, OR 97296-0047

Contact Person: Unknown

Title: Unknown

Phone Number: Unknown

E-Mail Address: Unknown

TRI ID#: 97203PLMCN12005

DEQ ID#: ORD987180189

I certify that the business identified on this form has completed a Reduction Plan, as required under Oregon's Toxics Use Reduction and Hazardous Waste Reduction Act, and that this Plan is kept on site.

Name of Senior Manager or Business Owner: _____

Signature: _____ Date _____

Send this form by October 15, 2002 to: DEQ - HWPPD - TU/WRAP
811 SW Sixth Avenue
Portland, OR 97204

FILE

WASHINGTON
OREGON
CALIFORNIA
NEVADA
IDAHO

TIME OIL CO.

PHONE (206) 285-2400
FAX (206) 283 8036

2737 WEST COMMODORE WAY
P.O. BOX 24447

SEATTLE, WA 98199-1233
SEATTLE, WA 98124-0447

September 19, 2002

Mr. Jim Jakubiak
Schnitzer Metals
Portland OR 97203
Transmitted via Facsimilie 503 286 6948

Re: Demolition Scrap Metal, Time Oil Co., 10350 North Time Oil Road, Portland OR 97203

Dear Mr. Jakubiak:

As we discussed earlier this afternoon, Time is requesting authorization to recycle sheet metal siding removed from a demolished warehouse formerly located at the subject property. The sheet metal (aluminum) siding was used as siding and roofing material on a warehouse formerly used for the formulation of pentachlorophenol (PCP) containing products Prior to demolition, the warehouse was cleaned with a hot water pressure washer. Wipe samples were collected after the cleaning procedure was completed. Sample analysis for pentachlorophenol confirmed that the ceiling and building sides did not contain traces of PCP. Analytical results for samples numbered PCPWH-009 and PCPWH-010 showed no detectable concentrations of PCP. Analytical results are attached. Sample number PCPWH-008 did show detectable PCP at a concentration of 36 parts per billion. As a result the siding in this corner of the building, which appeared to be slightly stained, was disposed of at a permitted landfill and is not included in the siding to be sent to your facility.

Authorization is requested for recycling of the metal siding. We hope to be able to truck the material to your facility on the morning of September 20, 2002. Please let me know if you have any questions or need further information. I may be reached at (425) 681-6734 or on Friday at (206) 286-6443. Thank you for your assistance.

Sincerely,

Kevin M. Murphy
Time Oil Co.
Attachment: Specialty Analytical, 13-Sept-02

We accepted clean material and rejected material with detectable traces.

Jim Jakubiak
September 25, 2002

Specialty Analytical Date: *13-Sep-02*

CLIENT: Time Oil Co.
Lab Order: 0209057
Project: Warehouse RAP / 231001

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
PCPWH-008 0209057-01A metal Siding				Date Collected		9/10/02
SEMI-VOLATILE COMPOUNDS- ACID FRACTION		SW8270D				Analyst: bda
Pentachlorophenol	36.8	15.0		µg per wipe	1	9/11/02 6:59:00 PM
Surr: 2,4,6-Tribromophenol	117	63-108	S	%REC	1	9/11/02 6:59:00 PM
PCPWH-009 0209057-02A metal Siding				Date Collected		9/10/02
SEMI-VOLATILE COMPOUNDS- ACID FRACTION		SW8270D				Analyst: bda
Pentachlorophenol	ND	15.0		µg per wipe	1	9/11/02 6:26:00 PM
Surr: 2,4,6-Tribromophenol	109	63-108	S	%REC	1	9/11/02 6:26:00 PM
PCPWH-010 0209057-03A metal Siding				Date Collected		9/10/02
SEMI-VOLATILE COMPOUNDS- ACID FRACTION		SW8270D				Analyst: bda
Pentachlorophenol	ND	15.0		µg per wipe	1	9/11/02 6:53:00 PM
Surr: 2,4,6-Tribromophenol	118	63-108	S	%REC	1	9/11/02 6:53:00 PM
PCPW				Date Collected		9/10/02
SEMI		D				Analyst: bda
Penta		50		µg/Kg	10	9/12/02 8:49:00 PM
Sur		8	S,D	%REC	10	9/12/02 8:49:00 PM
PCPW				Date Collected		9/10/02
SEMI-		D				Analyst: bda
Penta		0		µg/Kg	10	9/12/02 9:15:00 PM
Sur		8	S,D	%REC	10	9/12/02 9:15:00 PM
PCPW				Date Collected		9/10/02
SEMI-		D				Analyst: bda
Penta		0		µg/Kg	2	9/12/02 6:11:00 PM
Sur		3	S,D	%REC	2	9/12/02 6:11:00 PM
PCPW				Date Collected		9/10/02
SEMI-		D				Analyst: bda
Penta		.0	Q	µg/Kg	2	9/12/02 6:38:00 PM
Sur		98	S,D	%REC	2	9/12/02 6:38:00 PM
PCPW				Date Collected		9/10/02
SEMI-		D				Analyst: bda
Penta		.0		µg/Kg	1	9/12/02 11:25:00 PM
Sur		98	S,MI	%REC	1	9/12/02 11:25:00 PM

Gradient
CORPORATION

October 14, 2002

FILE

Ms. Alicia Voss
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, 4th Floor
Portland, OR 97201

Re: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Ms. Voss:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this fifth Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter and actions taken to resolve those problems.

Summary of Project Activities

Between July 1 and September 30, 2002, SIC and its consultants, Gradient Corporation, and URS, completed the following work at the PEO site:

- Met with DEQ on July 10, 2002 to discuss the status of activities on the PEO site and the neighboring Time Oil Northwest Terminals site.
- Measured water levels from site wells on two occasions (July 26 and August 29, 2002).
- Conducted shoreline reconnaissance surveys on three occasions (July 5, August 15, and September 15, 2002).
- Continued compilation of documentation of site activities.

Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between October 1 and December 31, 2002:

- Review and provide comments on ODEQ's Environmental Cleanup Site Information Site Summary Report. This review accompanies this quarterly report.
- Submit the data from the third quarterly groundwater monitoring event. These data accompany this quarterly report.
- Submit documentation of the shoreline reconnaissance surveys. Memos documenting monthly surveys conducted between March and September 2002 accompany this quarterly report.

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- Conduct the fourth quarterly groundwater monitoring event. DEQ will be notified prior to the sampling event.
- Continue to collect and evaluate water level data.
- Complete and submit report summarizing results of tidal monitoring evaluations.
- Receive from DEQ and evaluate Time Oil's investigative data for the Bell Terminal site. Review implications of available data for potential impacts on PEO site from Time Oil site.

Issues to be Resolved/Recommended Actions

None.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberly/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00380168

Proposed Amendments to
ODEQ's Environmental Cleanup Site Information (ECSI)
Site Summary Report

Premier Edible Oils Site (Site ID: 2013)

Submitted by Schnitzer Investment Corp.
October 14, 2002

Environmental Cleanup Site Information Database
Site Summary Report - Details for Site ID 2013

This report shows data entered as of September 16, 2002 at 9:25:37 AM

See the bottom of this page for a key to certain acronyms and terms used in the report below

Site Information			
Site ID: 2013	Site Name: Premier Edible Oils		CERCLIS No:
	Address: 10400 N Burgard ~~WAY~~ Way Portland 97203		
	County: Multnomah		Region: Northwest
	Investigation Status: Listed on CRL or Inventory	NPL Site: N	Orphan Site: N / Study Area: N
Property:	Twnshp/Range/Sect: 2N , 1W , 35		Tax Lots: 57
	Latitude: 45 deg. 36 ' 51"	Longitude: -122 deg. 46 ' 58"	Site Size: 18.5 acres
Other Site Names:			
	Schnitzer Investment Corp.		
	Portland Harbor Sediment Study		
	C & T Quincy Foods (SEE ECSI 2355)		
Operations:			
	Name: C & T Quincy Foods of Portland		
	Comments: .		
	Years of Operation: ~~November 1996 - 1999~~January 1997-May 1998		
	SIC Code: 2079		Operating Status: Inactive
	Name: Premier Edible Oils Corporation		
	Comments: Also known as PALMCO, a subsidiary of Mitsubishi Corporation.		
	Years of Operation: ~~August 1994 - February 1997~~1973-January 1997		
	SIC Code: 2079		Operating Status: Inactive
	Name: American Metallic Chemicals		
	Comments: .		
	Years of Operation: 1950s		
	SIC Code:		Operating Status: Inactive
	Name: Oregon Shipbuilding		
	Comments:		
	Years of Operation: December 1943-1945		
	SIC Code:		Operating Status: Inactive
	Name: Northwest Oil Company		

SCHN00380170

Comments:

Years of Operation: February 1941-December 1943

SIC Code:

Operating Status: Inactive

Contamination Information	
Hazardous Substances/Waste Types:	Petroleum hydrocarbons, BTEX, PAHs, and VOCs, including chlorinated solvents, on-site. In adjacent river sediments: mercury, cobalt, antimony, barium, PAHs, copper, zinc, manganese, arsenic, carbazole, dibenzofuran, methylnaphthalene, and bis(2-ethylhexyl)phthalate

Manner and Time of Release:

Contamination Information:	Property owner submitted an 11/96 Phase II ESA to DEQ in February 1997, which documented groundwater contamination at this site. Primary contaminants included petroleum hydrocarbons, particularly BTEX and other petroleum-based VOCs. Several well points also contained low levels of chlorinated solvents. The property owner and operator concluded that the contamination originated from the adjacent Time Oil site (ECSI #170). (6/17/99 JMW/SAP) Weston sampling results from the Portland Harbor Sediment Study revealed mercury, cobalt, antimony, barium, PAHs, zinc, copper, manganese, arsenic, carbazole, dibenzofuran, methylnaphthalene, and bis(2-ethylhexyl)phthalate in river sediments adjacent to the site. DEQ has not determined the source(s) of these contaminants. (1/4/02 ACV/VCP) Results of investigation activities conducted through 2001 indicate groundwater impacts in several different locations on the site. Free-phase petroleum is present on groundwater at the southwest corner of the site and appears to be from historic site operations. Low-level chlorinated solvents, PAHs, and VOCs usually associated with gasoline were detected with the free-phase petroleum. This contaminated groundwater plume appears to be distinct from impacted groundwater toward the northeast part of the property. Activities on adjacent Time Oil property appear to have contributed to groundwater contamination in northeast part of property. Further groundwater investigation is planned in 2002 to more fully characterize groundwater conditions.

Pathways:

Environmental/Health Threats:	

Status of Investigative or Remedial Action: (6/17/99 JMW/SAP) Based on initial sampling results from a river sediment quality study, the C & T Quincy Foods/Premier Edible Oils (PEO) site has been identified as a potential source of contamination to the Portland Harbor. DEQ sent a Site Assessment review notice to C & T Quincy Foods 3/2/99, but has received no response. A site screening is scheduled (level II priority). (2/1/00 JMW/SAP) PEO information combined with the Schnitzer Investment Corporation (SIC) Strategy Recommendation - SEE ECSI #2355. (9/1/00 ACV/VCP) DEQ is reviewing site investigation information conducted by Schnitzer. (12/21/00 ACV/VCP) DEQ issued a file review memo summarizing additional information submitted by PEO, SIC, and Time Oil on December 21, 2000. DEQ proposed that SIC, as the property owner, take over the remedial investigation for PEO. (7/17/01 ACV/VCP) Negotiations for formal

SCHN00380171

agreement started in March 2001. Soil and groundwater investigation running concurrent with negotiations. Free-phase petroleum discovered at two locations on-site. (11/1/01 ACV/VCP) SIC conducted off-site groundwater investigation, on upgradient/adjacent Bell Terminal (Time Oil) property in September 2001. Preliminary results anticipated in December 2001. (1/4/02 ACV/VCP) New groundwater data confirms contamination from historic operations in the southwestern portion of the site. Premier Edible Oils should be added to the Confirmed Release List.

Data Sources:	~~1997-1996 Level~~ Phase I and Phase II ESAs documenting the presence of petroleum hydrocarbons and chlorinated solvents in groundwater and petroleum in soils; EPA, 1998, Portland Harbor Sediment Investigation Report; September 1998 Focused Site Characterization; September 2001 Preliminary RI; April 2002 Bell Terminal geoprobe investigation; quarterly groundwater monitoring data from on-site wells, with results through October 2001.

Substance Contamination Information

Substance	Media Contaminated	Concentration Level	Date Recorded	Lab Data	Agency Observation	Owner Operator Admission
BENZENE	Groundwater	6.8 ppb	11/23/1996	Y		
BUTYLBENZENE,n-	Groundwater	220 ppb	11/23/1996	Y		
BUTYLBENZENE,sec-	Groundwater	81 ppb	11/23/1996	Y		
CHLOROETHANE	Groundwater	11.6 ppb	11/23/1996	Y		
~~CUMENE~~	~~Groundwater~~	~~350 ppb~~	~~11/23/1996~~	~~Y~~		
DICHLOROETHANE,1,1-	Groundwater	3.5 ppb	11/23/1996	Y		
DIESEL - FUEL OIL	Groundwater	19 ppm	11/23/1996	Y		
DIESEL - FUEL OIL	Soil	3,900 ppm	11/23/1996	Y		
ETHYLBENZENE	Groundwater	2,600 ppb	11/23/1996	Y		
GASOLINE	Groundwater	7.1 ppm	11/23/1996	Y		
GASOLINE	Soil	1,500 ppm	11/23/1996	Y		
ISOPROPYLBENZENE	Groundwater	350 ppb	11/23/1996	Y		
ISOPROPYLTOLUENE,p-	Groundwater	58 ppb	11/23/1996	Y		
NAPHTHALENE	Groundwater	1,900 ppb	11/23/1996	Y		

PROPYLBENZENE,n-	Groundwater	1,000 ppb	11/23/1996	Y		
~~STYRENE~~	~~Groundwater~~	~~400 ppb~~	~~11/23/1996~~	~~Y~~		
TRICHLOROETHANE,1,1,1-	Groundwater	2.5 ppb	11/23/1996	Y		
TRIMETHYLBENZENE,1,2,4-	Groundwater	5,200 ppb	11/23/1996	Y		
TRIMETHYLBENZENE,1,3,5	Groundwater	1,200 ppb	11/23/1996	Y		
XYLENEs	Groundwater	3,953 ppb	11/23/1996	Y		

Investigative, Remedial and Administrative Actions

Action	Start Date	Compl Date	Resp Staff	Agency Code	Region	Lead Pgm
SITE EVALUATION	03/11/1997	03/11/1997	Gil Wistar	DEQ	NW	SAS
Site added to database	03/11/1997	03/11/1997	Gil Wistar	DEQ	NW	SAS
Site Screening recommended (EV)	06/17/1999	06/17/1999	Steve Fortuna	DEQ	NW	VCS
Letter Agreement	12/01/1999	07/01/2000	Alicia Voss	DEQ	NW	VCS
REMEDIAL INVESTIGATION	03/06/2001		Alicia Voss	DEQ	NW	VCS
NEGOTIATIONS	03/06/2001		Alicia Voss	DEQ	NW	VCS
Proposal for Confirmed Release List recommended	01/04/2002	01/04/2002	Alicia Voss	DEQ	NW	VCS
Facility proposed for Confirmed Release List	01/08/2002	01/08/2002	Kim Van Patten	DEQ	NW	VCS
Facility placed on Confirmed Release List	03/29/2002	03/29/2002	Kim Van Patten	DEQ	NW	VCS

Key to certain acronyms and terms in this report:

CERCLIS No.: The U.S. EPA's Hazardous Waste Site identification number, shown only if EPA has been involved at the site.

Region: DEQ divides the state into three regions (E, NW, and W); the regional office shown is responsible for site investigation/cleanup.

NPL Site: Is the site on EPA's Superfund List? (Y/N).

Orphan Site: Has DEQ's Orphan Program been active at this site? (Y/N). The Orphan Program cleans up high-priority sites where owners and operators responsible for the contamination are absent, or are unwilling or unable to use their own resources for cleanup.

Study Area: Is this site a Study Area? (Y/N). ECSI assigns unique Site ID numbers to both individual sites and to Study Areas, which are groupings of individual ECSI sites that may be contributing to a larger, area-wide problem.

SIC Code: The Standard Industrial Classification code assigned to the operation described in

SCHN00380173

this part of the report.
Pathways: A description of human or environmental resources that site contamination could affect.
Lead Pgm: This column refers to the Cleanup Program affiliation of the DEQ employee responsible for the action shown. SAS = Site Assessment; VCS = Voluntary Cleanup; SRS = Site Response (enforcement cleanup).

For more information about this page please contact Gil Wistar at (503) 229-5512 or via email at wistar.gil@deq.state.or.us.

DEQ Online is the official web site for the Oregon Department of Environmental Quality.

SCHN00380174

Initial Report of Data from Third Quarterly Groundwater Sampling Event and Proposed Modifications for Fourth Quarterly Groundwater Sampling Event

Premier Edible Oils Site

Memorandum

Gradient
CORPORATION

To: Alicia Voss/Oregon DEQ **Date:** October 14, 2002

From: Cathy Petito Boyce

Subject: Initial Report of Data from Third Quarterly Groundwater Sampling Event and Proposed Modifications for Fourth Quarterly Groundwater Sampling at PEO Site

On behalf of Schnitzer Investment Corp. (Schnitzer), Gradient Corporation (Gradient) has prepared this technical memorandum presenting data collected during the most recent round of quarterly groundwater sampling at the Premier Edible Oils (PEO) site. Groundwater elevation data and product observation data collected between June 2001 and September 2002 are also summarized. This memorandum provides the results of chemical analyses conducted on the samples collected during the third quarterly sampling event and discusses modifications to the sampling approach that are proposed for implementation in the fourth quarterly sampling event. After we have discussed your feedback on this memorandum, we will proceed with the fourth quarterly sampling event.

On March 14 and 15, 2002, URS conducted the third quarterly groundwater sampling event at the PEO site. Groundwater samples were collected from all monitoring wells, with the exception of well MW-01 (which has no prior detections), and wells MW-04 and MW-11 (where non-aqueous phase liquid [NAPL] was observed at the time of the sampling event). All groundwater samples were analyzed for volatile organic compounds (VOCs), polycyclic aromatic hydrocarbon (PAH) compounds, and selected metals (*i.e.*, arsenic, chromium, copper, iron, lead, manganese, nickel, silver, and zinc). Groundwater elevation data and product observations have also been collected on a monthly basis at the site, including during the March sampling event. The elevation and product data that have been collected to date (*i.e.*, from June 2001 to August 2002) are attached to this memorandum in Table A-1. The unvalidated third quarter analytical results (including both detected and non-detected sample results) are summarized in Table A-2. Figures illustrating the groundwater elevation data from March to August 2002 and the groundwater chemistry data from the third quarterly sampling event are included in Figures A-1 through A-10.

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www.gradientcorp.com

Consistent with previous discussions among staff of the Oregon Department of Environmental Quality (DEQ), Schnitzer, and Schnitzer's consultants, it is our understanding that DEQ is willing to consider modifications to the existing sampling parameters based on the results from the previous three sampling events. Based on a review of the data from the preceding three events, the following well locations and analytes are proposed for inclusion in the fourth quarterly sampling event.

Organic Compounds

Organic compounds associated with petroleum hydrocarbons (*i.e.*, VOCs and PAH compounds) were detected at all locations sampled in March 2002. Therefore, no modifications to the sampling locations or procedures for organic compounds are proposed for the fourth sampling event. Specifically, groundwater samples for chemical analysis will be collected from all monitoring wells at the PEO site, with the exception of those locations where NAPL is present. All groundwater samples collected during the fourth sampling event will be analyzed for VOCs and PAH compounds.

Metals

Detected metals concentrations were compared with ambient water quality criteria for freshwater chronic exposures. These values were chosen as benchmarks for this comparison because use of site groundwater or adjacent surface water as a drinking water supply is not a current or likely future use. Instead, criteria based on exposures associated with potential discharges to nearby surface water were selected as the most relevant basis for this screening level comparison. The results of this comparison are summarized in Table 1. With the exception of lead, no metals concentrations exceeding the ambient water quality criteria were observed in this sampling round. Lead concentrations exceeded the water quality criteria at two sampled locations (MW-05 and MW-06). Ambient water quality criteria are not available for iron and manganese; however, these two metals have been detected at all sampled wells at the site at concentrations ranging to 91 mg/L for iron and 10.4 mg/L for manganese.

SCHN00380177

Table 1.
Comparison of Detected Metals Concentrations in Groundwater and Ambient Water Quality Criteria

Constituent	Maximum Detected Concentration (Location)[a]	Second Highest Detected Concentration (Location)[a]	Ambient Water Quality Criteria (AWQC)[a]	Number of Detected Concentrations > AWQC
Arsenic	32.4 (MW-09)	31 (MW-09)[b]	150	0
Chromium	1.5 (MW-09)	1.4 (MW-12)	11[c]	0
Copper	3 (MW-05)	2.1 (MW-09)	9	0
Lead	40.2 (MW-05)[d]	15.3 (MW-06)[d]	2.5	2
Nickel	5.2 (MW-05)	4.6 (MW-03)	52	0
Silver	ND	ND	3.4	0
Zinc	5 (MW-15)	4.7 (MW-06)	120	0

Notes:

ND – Not detected in any sample.

[a] – Groundwater concentrations and AWQC in units of µg/L.

[b] – Two samples were collected at MW-09. The next highest concentration was 29 µg/L (MW-02).

[c] – This AWQC is based on hexavalent chromium.

[d] – These concentrations are greater than the AWQC concentration.

These results are consistent with observations based on the first two groundwater sampling events as presented in the January 2, 2002 technical memorandum from Bridgewater Group, Inc. to Oregon DEQ regarding *Proposed Locations and Analytes – Third Quarter Groundwater Sampling at PEO Site.* In those analyses, observed concentrations for 5 of the 7 metals with ambient water quality criteria exceeded the criteria at only 1 location (MW-11). A groundwater sample was not collected from well MW-11 for chemical analysis during the third groundwater sampling event because NAPL was observed at that location at the time of the sampling event. Concentrations exceeding the criteria were observed at two other locations for copper (MW-3 and MW-5) and one other location for lead (MW-5).

Based on these results, the following locations and metals analyses are proposed for the fourth groundwater sampling event:

- If a groundwater sample can be collected for analysis from well MW-11, this sample will be analyzed for all metals.
- If a groundwater sample can be collected for analysis from well MW-11, the groundwater samples collected from wells MW-3 and MW-5 will be analyzed for copper and lead only. If a groundwater sample cannot be collected for analysis from well MW-11, the groundwater samples collected from wells MW-3 and MW-5 will be analyzed for all metals.
- Lead analyses will also be conducted for groundwater samples collected from wells MW-14 and MW-15.
- Groundwater samples from all sampled locations will be analyzed for iron and manganese.

Please contact me (at 206-275-4774) or Jim Jakubiak of Schnitzer (at 503-286-6976) if you have any questions regarding these proposed modifications. As noted above, once DEQ has approved the proposed sampling locations and analytes, Schnitzer will conduct the fourth groundwater sampling event.

cc: J. Brown/James C. Brown & Associates
D. Coberly/URS
J. Jakubiak/Schnitzer

SCHN00380179

Attachment

Tables and Figures Summarizing Selected Groundwater Data For PEO Site

SCHN00380180

List of Tables and Figures

Table A-1. Summary of Groundwater Elevation and Product Observation Data (June 2001 – August 2002)

Table A-2. Summary of Analytical Chemistry Results for Groundwater (Unvalidated data – March 2002)

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Figure A-2. Groundwater Elevations – April 23, 2002

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Figure A-4. Groundwater Elevations – June 21, 2002

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Figure A-7. BTEX Concentrations in Groundwater – March 14/15, 2002

Figure A-8. PAH Concentrations in Groundwater – March 14/15, 2002

Figure A-9. CVOC Concentrations in Groundwater – March 14/15, 2002

Figure A-10. VOC Concentrations in Deep Groundwater – March 14/15, 2002

Table A-1
Summary of Groundwater Elevations and
Product Observation Data
June 2001 - August 2002
25694284

PERIOD: From 06/06/2001 thru 08/29/2002 - Inclusive

SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-01	6/6/2001	28.37	12:00	20.92	0.00	7.45	NA	7.45
MW-01	6/18/2001	28.37	12:00	21.48	0.00	6.89	-0.56	6.89
MW-01	7/2/2001	28.37	12:00	21.60	0.00	6.77	-0.12	6.77
MW-01	7/16/2001	28.37	12:00	22.22	0.00	6.15	-0.62	6.15
MW-01	7/30/2001	28.37	12:00	22.37	0.00	6.00	-0.15	6.00
MW-01	8/13/2001	28.37	12:40	22.43	0.00	5.94	-0.06	5.94
MW-01	8/27/2001	28.37	12:45	22.33	0.00	6.04	0.10	6.04
MW-01	10/10/2001	28.37	15:10	22.81	0.00	5.56	-0.48	5.56
MW-01	11/29/2001	28.37	10:08	21.17	0.00	7.20	1.64	7.20
MW-01	12/27/2001	28.37	11:12	17.76	0.00	10.61	3.41	10.61
MW-01	2/4/2002	28.37	10:35	17.31	0.00	11.06	0.45	11.06
MW-01	2/28/2002	28.37	13:53	18.45	0.00	9.92	-1.14	9.92
MW-01	3/14/2002	28.37	09:34	18.61	0.00	9.76	-0.16	9.76
MW-01	4/23/2002	28.37	13:53	15.85	0.00	12.52	2.76	12.52
MW-01	5/22/2002	28.37	14:29	18.36	0.00	10.01	-2.51	10.01
MW-01	6/21/2002	28.37	13:31	15.90	0.00	12.47	2.46	12.47
MW-01	7/26/2002	28.37	12:55	18.48	0.00	9.89	-2.58	9.89
MW-01	8/29/2002	28.37	12:51	20.73	0.00	7.64	-2.25	7.64
MW-02	6/6/2001	29.32	12:00	21.94	0.00	7.38	NA	7.38
MW-02	6/18/2001	29.32	12:00	25.37	1.95	3.95	-3.43	5.60
MW-02	7/2/2001	29.32	12:00	25.22	1.76	4.10	0.15	5.59
MW-02	7/16/2001	29.32	12:00	25.77	1.64	3.55	-0.55	4.94
MW-02	7/30/2001	29.32	12:00	25.82	1.86	3.50	-0.05	5.07
MW-02	8/13/2001	29.32	13:08	25.50	1.93	3.82	0.32	5.45
MW-02	8/27/2001	29.32	13:12	25.50	1.94	3.82	0.00	5.46
MW-02	10/10/2001	29.32	15:52	25.70	1.53	3.62	-0.20	4.91
MW-02	11/29/2001	29.32	10:30	21.13	0.00	8.19	4.57	8.19
MW-02	12/27/2001	29.32	11:36	20.72	0.35	8.60	0.41	8.90
MW-02	2/4/2002	29.32	10:55	20.30	0.96	9.02	0.42	9.83
MW-02	2/28/2002	29.32	14:26	24.15	4.01	5.17	-3.85	8.56
MW-02	3/14/2002	29.32	10:07	19.33	0.00	9.99	4.82	9.99
MW-02	4/23/2002	29.32	14:23	17.74	0.36	11.58	1.59	11.89
MW-02	5/22/2002	29.32	14:51	19.54	0.23	9.78	-1.80	9.98
MW-02	6/21/2002	29.32	13:53	16.70	0.00	12.62	2.84	12.62
MW-02	7/26/2002	29.32	13:27	21.86	1.80	7.46	-5.16	8.98
MW-02	8/29/2002	29.32	13:19	23.75	1.35	5.57	-1.89	6.71
MW-03	6/6/2001	29.79	12:00	21.38	0.00	8.41	NA	8.41

All elevations relative to City of Portland Datum

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Summary of Groundwater Elevations and
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June 2001 - August 2002
25694284

PERIOD: From 06/06/2001 thru 08/29/2002 - Inclusive

SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-03	6/18/2001	29.79	12:00	21.71	0.00	8.08	-0.33	8.08
MW-03	7/2/2001	29.79	12:00	21.71	0.00	8.08	0.00	8.08
MW-03	7/16/2001	29.79	12:00	22.40	0.00	7.39	-0.69	7.39
MW-03	7/30/2001	29.79	12:00	23.41	0.00	6.38	-1.01	6.38
MW-03	8/10/2001	29.79	12:28	23.80	0.00	5.99	-0.39	5.99
MW-03	8/13/2001	29.79	13:21	23.77	0.00	6.02	0.03	6.02
MW-03	8/27/2001	29.79	12:34	23.73	0.00	6.06	0.04	6.06
MW-03	10/10/2001	29.79	15:19	24.29	0.00	5.50	-0.56	5.50
MW-03	11/29/2001	29.79	10:15	21.67	0.00	8.12	2.62	8.12
MW-03	12/27/2001	29.79	11:16	18.13	0.00	11.66	3.54	11.66
MW-03	2/4/2002	29.79	10:38	17.53	0.00	12.26	0.60	12.26
MW-03	2/28/2002	29.79	13:42	18.65	0.00	11.14	-1.12	11.14
MW-03	3/14/2002	29.79	10:20	18.88	0.00	10.91	-0.23	10.91
MW-03	4/23/2002	29.79	13:42	17.06	0.00	12.73	1.82	12.73
MW-03	5/22/2002	29.79	14:20	18.98	0.00	10.81	-1.92	10.81
MW-03	6/21/2002	29.79	13:20	17.09	0.00	12.70	1.89	12.70
MW-03	7/26/2002	29.79	12:45	19.11	0.00	10.68	-2.02	10.68
MW-03	7/26/2002	29.79	13:33	19.12	0.00	10.67	-0.01	10.67
MW-03	8/29/2002	29.79	12:50	21.05	0.00	8.74	-1.93	8.74
MW-04	6/8/2001	29.46	12:00	21.10	3.20	8.36	NA	11.12
MW-04	6/18/2001	29.46	12:00	21.37	3.14	8.09	-0.27	10.80
MW-04	7/2/2001	29.46	12:00	21.30	2.98	8.16	0.07	10.73
MW-04	7/16/2001	29.46	12:00	22.51	3.91	6.95	-1.21	10.32
MW-04	7/30/2001	29.46	12:00	22.95	4.28	6.51	-0.44	10.20
MW-04	8/13/2001	29.46	13:16	23.40	4.71	6.06	-0.45	10.13
MW-04	8/27/2001	29.46	13:20	24.75	5.98	4.71	-1.35	9.87
MW-04	10/10/2001	29.46	16:12	24.10	4.75	5.36	0.65	9.46
MW-04	11/29/2001	29.46	10:41	20.62	2.94	8.84	3.48	11.38
MW-04	12/27/2001	29.46	11:40	16.80	1.04	12.66	3.82	13.56
MW-04	2/4/2002	29.46	11:00	16.17	0.85	13.29	0.63	14.02
MW-04	2/28/2002	29.46	14:35	16.98	1.08	12.48	-0.81	13.41
MW-04	3/14/2002	29.46	10:15	16.60	0.77	12.86	0.38	13.53
MW-04	4/23/2002	29.46	14:29	16.08	0.53	13.38	0.52	13.84
MW-04	5/22/2002	29.46	14:56	17.52	1.11	11.94	-1.44	12.90
MW-04	6/21/2002	29.46	13:58	16.13	0.31	13.33	1.39	13.60
MW-04	7/26/2002	29.46	13:34	17.73	0.82	11.73	-1.60	12.44
MW-04	8/29/2002	29.46	13:25	18.63	0.90	10.83	-0.90	11.61

All elevations relative to City of Portland Datum

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MW-05	6/6/2001	29.39	12:00	21.70	0.00	7.69	NA	7.69
MW-05	6/18/2001	29.39	12:00	22.48	0.00	6.91	-0.78	6.91
MW-05	7/2/2001	29.39	12:00	22.58	0.00	6.81	-0.10	6.81
MW-05	7/16/2001	29.39	12:00	23.33	0.00	6.06	-0.75	6.06
MW-05	7/30/2001	29.39	12:00	23.49	0.00	5.90	-0.16	5.90
MW-05	8/13/2001	29.39	12:44	23.52	0.00	5.87	-0.03	5.87
MW-05	8/27/2001	29.39	12:52	23.38	0.00	6.01	0.14	6.01
MW-05	10/10/2001	29.39	15:13	23.92	0.00	5.47	-0.54	5.47
MW-05	11/29/2001	29.39	10:13	21.92	0.00	7.47	2.00	7.47
MW-05	12/27/2001	29.39	11:14	18.69	0.00	10.70	3.23	10.70
MW-05	2/4/2002	29.39	10:37	18.14	0.00	11.25	0.55	11.25
MW-05	2/28/2002	29.39	13:58	19.33	0.00	10.06	-1.19	10.06
MW-05	3/14/2002	29.39	09:38	19.24	0.00	10.15	0.09	10.15
MW-05	4/23/2002	29.39	13:59	16.99	0.00	12.40	2.25	12.40
MW-05	5/22/2002	29.39	14:32	19.18	0.00	10.21	-2.19	10.21
MW-05	6/21/2002	29.39	13:34	16.89	0.00	12.50	2.29	12.50
MW-05	7/26/2002	29.39	13:03	19.43	0.00	9.96	-2.54	9.96
MW-05	8/29/2002	29.39	12:54	21.83	0.00	7.56	-2.40	7.56
MW-06	6/6/2001	29.36	12:00	21.74	0.00	7.62	NA	7.62
MW-06	6/18/2001	29.36	12:00	22.41	0.00	6.95	-0.67	6.95
MW-06	7/2/2001	29.36	12:00	22.51	0.00	6.85	-0.10	6.85
MW-06	7/16/2001	29.36	12:00	23.19	0.00	6.17	-0.68	6.17
MW-06	7/30/2001	29.36	12:00	23.37	0.00	5.99	-0.18	5.99
MW-06	8/13/2001	29.36	12:46	23.41	0.00	5.95	-0.04	5.95
MW-06	8/27/2001	29.36	12:54	23.37	0.00	5.99	0.04	5.99
MW-06	10/10/2001	29.36	15:21	23.78	0.00	5.58	-0.41	5.58
MW-06	11/29/2001	29.36	10:16	21.77	0.00	7.59	2.01	7.59
MW-06	12/27/2001	29.36	11:17	18.48	0.00	10.88	3.29	10.88
MW-06	2/4/2002	29.36	10:40	17.94	0.00	11.42	0.54	11.42
MW-06	2/28/2002	29.36	14:00	19.19	0.00	10.17	-1.25	10.17
MW-06	3/14/2002	29.36	09:40	19.33	0.00	10.03	-0.14	10.03
MW-06	4/23/2002	29.36	14:01	16.90	0.00	12.46	2.43	12.46
MW-06	5/22/2002	29.36	14:34	19.13	0.00	10.23	-2.23	10.23
MW-06	6/21/2002	29.36	13:36	16.90	0.00	12.46	2.23	12.46
MW-06	7/26/2002	29.36	13:05	19.27	0.00	10.09	-2.37	10.09
MW-06	8/29/2002	29.36	12:59	21.63	0.00	7.73	-2.36	7.73
MW-07	6/6/2001	28.46	12:00	21.01	0.00	7.45	NA	7.45

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MW-07	6/18/2001	28.46	12:00	22.17	0.00	6.29	-1.16	6.29
MW-07	7/2/2001	28.46	12:00	22.20	0.00	6.26	-0.03	6.26
MW-07	7/16/2001	28.46	12:00	22.84	0.00	5.62	-0.64	5.62
MW-07	7/30/2001	28.46	12:00	22.92	0.00	5.54	-0.08	5.54
MW-07	8/13/2001	28.46	12:49	22.80	0.00	5.66	0.12	5.66
MW-07	8/27/2001	28.46	12:57	22.68	0.00	5.78	0.12	5.78
MW-07	10/10/2001	28.46	15:24	23.17	0.00	5.29	-0.49	5.29
MW-07	11/29/2001	28.46	10:18	20.28	0.00	8.18	2.89	8.18
MW-07	12/27/2001	28.46	11:19	18.93	0.00	9.53	1.35	9.53
MW-07	2/4/2002	28.46	10:42	18.13	0.00	10.33	0.80	10.33
MW-07	2/28/2002	28.46	14:04	19.38	0.00	9.08	-1.25	9.08
MW-07	3/14/2002	28.46	09:45	18.69	0.00	9.77	0.69	9.77
MW-07	4/23/2002	28.46	14:05	16.30	0.00	12.16	2.39	12.16
MW-07	5/22/2002	28.46	14:35	18.66	0.00	9.80	-2.36	9.80
MW-07	6/21/2002	28.46	13:37	15.95	0.00	12.51	2.71	12.51
MW-07	7/26/2002	28.46	13:06	19.14	0.00	9.32	-3.19	9.32
MW-07	8/29/2002	28.46	13:01	21.38	0.00	7.08	-2.24	7.08
MW-08	6/6/2001	29.06	12:00	21.64	0.00	7.42	NA	7.42
MW-08	6/18/2001	29.06	12:00	22.68	0.00	6.38	-1.04	6.38
MW-08	7/2/2001	29.06	12:00	22.70	0.00	6.36	-0.02	6.36
MW-08	7/16/2001	29.06	12:00	23.40	0.00	5.66	-0.70	5.66
MW-08	7/30/2001	29.06	12:00	23.48	0.00	5.58	-0.08	5.58
MW-08	8/13/2001	29.06	12:53	23.37	0.00	5.69	0.11	5.69
MW-08	8/27/2001	29.06	12:59	23.25	0.00	5.81	0.12	5.81
MW-08	10/10/2001	29.06	15:28	23.73	0.00	5.33	-0.48	5.33
MW-08	11/29/2001	29.06	10:19	21.25	0.00	7.81	2.48	7.81
MW-08	12/27/2001	29.06	11:21	19.30	0.00	9.76	1.95	9.76
MW-08	2/4/2002	29.06	10:43	18.58	0.00	10.48	0.72	10.48
MW-08	2/28/2002	29.06	14:06	19.73	0.00	9.33	-1.15	9.33
MW-08	3/14/2002	29.06	09:47	19.30	0.00	9.76	0.43	9.76
MW-08	4/23/2002	29.06	14:07	16.90	0.00	12.16	2.40	12.16
MW-08	5/22/2002	29.06	14:37	19.14	0.00	9.92	-2.24	9.92
MW-08	6/21/2002	29.06	13:39	16.58	0.00	12.48	2.56	12.48
MW-08	7/26/2002	29.06	13:08	19.65	0.00	9.41	-3.07	9.41
MW-08	8/29/2002	29.06	13:03	21.86	0.00	7.20	-2.21	7.20
MW-09	6/6/2001	29.60	12:00	22.18	0.00	7.42	NA	7.42
MW-09	6/18/2001	29.60	12:00	24.39	0.00	5.21	-2.21	5.21

All elevations relative to City of Portland Datum

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25694284

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MW-09	7/2/2001	29.60	12:00	24.31	0.00	5.29	0.08	5.29
MW-09	7/16/2001	29.60	12:00	24.99	0.00	4.61	-0.68	4.61
MW-09	7/30/2001	29.60	12:00	24.74	0.00	4.86	0.25	4.86
MW-09	8/13/2001	29.60	12:59	24.31	0.00	5.29	0.43	5.29
MW-09	8/27/2001	29.60	13:06	24.38	0.00	5.22	-0.07	5.22
MW-09	10/10/2001	29.60	15:34	24.79	0.00	4.81	-0.41	4.81
MW-09	11/29/2001	29.60	10:23	20.59	0.00	9.01	4.20	9.01
MW-09	12/27/2001	29.60	11:28	22.67	0.34	6.93	-2.08	7.22
MW-09	2/4/2002	29.60	10:48	20.89	0.14	8.71	1.78	8.83
MW-09	2/28/2002	29.60	14:12	21.95	0.35	7.65	-1.06	7.95
MW-09	3/14/2002	29.60	09:58	19.10	0.00	10.50	2.85	10.50
MW-09	4/23/2002	29.60	14:15	19.15	0.78	10.45	-0.05	11.11
MW-09	5/22/2002	29.60	14:42	19.34	0.00	10.26	-0.19	10.26
MW-09	6/21/2002	29.60	13:47	16.54	0.00	13.06	2.80	13.06
MW-09	7/26/2002	29.60	13:15	21.55	0.00	8.05	-5.01	8.05
MW-09	8/29/2002	29.60	13:09	23.58	0.26	6.02	-2.03	6.24
MW-10	6/6/2001	29.06	12:00	21.57	0.00	7.49	NA	7.49
MW-10	6/18/2001	29.06	12:00	24.33	0.00	4.73	-2.76	4.73
MW-10	7/2/2001	29.06	12:00	24.23	0.00	4.83	0.10	4.83
MW-10	7/16/2001	29.06	12:00	25.12	0.00	3.94	-0.89	3.94
MW-10	7/30/2001	29.06	12:00	24.87	0.00	4.19	0.25	4.19
MW-10	8/13/2001	29.06	12:55	23.74	0.00	5.32	1.13	5.32
MW-10	8/27/2001	29.06	13:08	24.00	0.00	5.06	-0.26	5.06
MW-10	10/10/2001	29.06	15:31	24.30	0.00	4.76	-0.30	4.76
MW-10	11/29/2001	29.06	10:21	19.91	0.00	9.15	4.39	9.15
MW-10	12/27/2001	29.06	11:22	21.88	0.00	7.18	-1.97	7.18
MW-10	2/4/2002	29.06	10:45	20.20	0.00	8.86	1.68	8.86
MW-10	2/28/2002	29.06	14:08	21.08	0.00	7.98	-0.88	7.98
MW-10	3/14/2002	29.06	09:56	18.55	0.00	10.51	2.53	10.51
MW-10	4/23/2002	29.06	14:09	17.99	0.00	11.07	0.56	11.07
MW-10	5/22/2002	29.06	14:39	18.70	0.00	10.36	-0.71	10.36
MW-10	6/21/2002	29.06	13:45	15.95	0.00	13.11	2.75	13.11
MW-10	7/26/2002	29.06	13:10	21.07	0.00	7.99	-5.12	7.99
MW-10	8/29/2002	29.06	13:05	22.92	0.00	6.14	-1.85	6.14
MW-11	6/6/2001	29.20	12:00	21.81	0.00	7.39	NA	7.39
MW-11	6/18/2001	29.20	12:00	23.49	0.00	5.71	-1.68	5.71
MW-11	7/2/2001	29.20	12:00	23.37	0.00	5.83	0.12	5.83

All elevations relative to City of Portland Datum

Table A-1
Summary of Groundwater Elevations and
Product Observation Data
June 2001 - August 2002
25694284

PERIOD: From 06/06/2001 thru 08/29/2002 - Inclusive

SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV. (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-11	7/16/2001	29.20	12:00	24.16	0.00	5.04	-0.79	5.04
MW-11	7/30/2001	29.20	12:00	24.02	0.00	5.18	0.14	5.18
MW-11	8/13/2001	29.20	13:01	23.73	0.00	5.47	0.29	5.47
MW-11	8/27/2001	29.20	13:02	23.67	0.00	5.53	0.06	5.53
MW-11	10/10/2001	29.20	15:38	24.18	0.00	5.02	-0.51	5.02
MW-11	11/29/2001	29.20	10:24	21.05	0.26	8.15	3.13	8.37
MW-11	12/27/2001	29.20	11:32	22.53	2.07	6.67	-1.48	8.42
MW-11	2/4/2002	29.20	10:53	20.03	0.40	9.17	2.50	9.51
MW-11	2/28/2002	29.20	14:22	21.22	0.81	7.98	-1.19	8.67
MW-11	3/14/2002	29.20	10:02	19.22	0.48	9.98	2.00	10.39
MW-11	4/23/2002	29.20	14:20	17.90	0.60	11.30	1.32	11.81
MW-11	5/22/2002	29.20	14:48	21.26	2.62	7.94	-3.36	10.16
MW-11	6/21/2002	29.20	13:51	16.70	0.00	12.50	4.56	12.50
MW-11	7/26/2002	29.20	13:21	21.44	1.27	7.76	-4.74	8.83
MW-11	8/29/2002	29.20	13:15	22.95	0.51	6.25	-1.51	5.68
MW-12	6/6/2001	29.21	12:00	21.75	0.00	7.46	NA	7.46
MW-12	6/18/2001	29.21	12:00	23.92	0.00	5.29	-2.17	5.29
MW-12	7/2/2001	29.21	12:00	23.88	0.00	5.33	0.04	5.33
MW-12	7/16/2001	29.21	12:00	24.54	0.00	4.67	-0.66	4.67
MW-12	7/30/2001	29.21	12:00	24.35	0.00	4.86	0.19	4.86
MW-12	8/13/2001	29.21	12:56	23.85	0.00	5.36	0.50	5.36
MW-12	8/27/2001	29.21	13:07	23.91	0.00	5.30	-0.06	5.30
MW-12	10/10/2001	29.21	15:32	24.33	0.00	4.88	-0.42	4.88
MW-12	11/29/2001	29.21	10:22	20.33	0.00	8.88	4.00	8.88
MW-12	12/27/2001	29.21	11:23	21.66	0.00	7.55	-1.33	7.55
MW-12	2/4/2002	29.21	10:46	20.17	0.01	9.04	1.49	9.04
MW-12	2/28/2002	29.21	14:08	21.22	0.21	7.99	-1.05	8.17
MW-12	3/14/2002	29.21	09:55	18.75	0.00	10.46	2.47	10.46
MW-12	4/23/2002	29.21	14:10	17.87	0.00	11.34	0.88	11.34
MW-12	5/22/2002	29.21	14:40	19.06	0.10	10.15	-1.19	10.24
MW-12	6/21/2002	29.21	13:46	16.25	0.00	12.96	2.81	12.96
MW-12	7/26/2002	29.21	13:11	21.32	0.47	7.89	-5.07	8.29
MW-12	8/29/2002	29.21	13:07	22.85	0.00	6.36	-1.53	6.36
MW-13	6/6/2001	30.21	12:00	22.84	0.00	7.37	NA	7.37
MW-13	6/18/2001	30.21	12:00	24.80	0.00	5.41	-1.96	5.41
MW-13	7/2/2001	30.21	12:00	24.69	0.00	5.52	0.11	5.52
MW-13	7/16/2001	30.21	12:00	25.45	0.00	4.76	-0.76	4.76

All elevations relative to City of Portland Datum

Table A-1
Summary of Groundwater Elevations and
Product Observation Data
June 2001 - August 2002
25694284

PERIOD: From 06/06/2001 thru 08/29/2002 - Inclusive

SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV. (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-13	7/30/2001	30.21	12:00	25.25	0.00	4.96	0.20	4.96
MW-13	8/13/2001	30.21	13:04	24.82	0.00	5.39	0.43	5.39
MW-13	8/27/2001	30.21	13:04	24.80	0.00	5.41	0.02	5.41
MW-13	10/10/2001	30.21	15:45	25.65	0.44	4.56	-0.85	4.93
MW-13	11/29/2001	30.21	10:28	21.46	0.00	8.75	4.19	8.75
MW-13	12/27/2001	30.21	11:31	22.60	0.00	7.61	-1.14	7.61
MW-13	2/4/2002	30.21	10:51	21.09	0.02	9.12	1.51	9.14
MW-13	2/28/2002	30.21	14:20	21.89	0.03	8.32	-0.80	8.35
MW-13	3/14/2002	30.21	10:00	19.83	0.00	10.38	2.06	10.38
MW-13	4/23/2002	30.21	14:17	19.16	0.49	11.05	0.67	11.47
MW-13	5/22/2002	30.21	14:44	20.11	0.04	10.10	-0.95	10.13
MW-13	6/21/2002	30.21	13:49	17.35	0.00	12.86	2.76	12.86
MW-13	7/26/2002	30.21	13:17	22.25	0.60	7.96	-4.90	8.47
MW-13	8/29/2002	30.21	13:12	24.11	0.32	6.10	-1.86	6.37
MW-14	6/6/2001	30.72	12:00	17.28	0.00	13.44	NA	13.44
MW-14	6/18/2001	30.72	12:00	17.33	0.00	13.39	-0.05	13.39
MW-14	7/2/2001	30.72	12:00	17.40	0.00	13.32	-0.07	13.32
MW-14	7/16/2001	30.72	12:00	17.48	0.00	13.24	-0.08	13.24
MW-14	7/30/2001	30.72	12:00	17.55	0.00	13.17	-0.07	13.17
MW-14	8/13/2001	30.72	12:33	17.65	0.00	13.07	-0.10	13.07
MW-14	8/27/2001	30.72	12:41	17.74	0.00	12.98	-0.09	12.98
MW-14	10/10/2001	30.72	14:59	18.03	0.00	12.69	-0.29	12.69
MW-14	11/29/2001	30.72	10:05	17.49	0.00	13.23	0.54	13.23
MW-14	12/27/2001	30.72	11:08	15.27	0.00	15.45	2.22	15.45
MW-14	2/4/2002	30.72	10:27	15.01	0.00	15.71	0.26	15.71
MW-14	2/28/2002	30.72	13:49	15.39	0.00	15.33	-0.38	15.33
MW-14	3/14/2002	30.72	09:29	15.39	0.00	15.33	0.00	15.33
MW-14	4/23/2002	30.72	13:48	15.54	0.00	15.18	-0.15	15.18
MW-14	5/22/2002	30.72	14:26	16.06	0.00	14.66	-0.52	14.66
MW-14	6/21/2002	30.72	13:26	16.15	0.00	14.57	-0.09	14.57
MW-14	7/26/2002	30.72	12:51	16.57	0.00	14.15	-0.42	14.15
MW-14	8/29/2002	30.72	12:46	16.98	0.00	13.74	-0.41	13.74
MW-15	6/6/2001	30.48	12:00	22.81	0.00	7.67	NA	7.67
MW-15	6/18/2001	30.48	12:00	24.58	0.00	5.90	-1.77	5.90
MW-15	7/2/2001	30.48	12:00	24.45	0.00	6.03	0.13	6.03
MW-15	7/16/2001	30.48	12:00	25.43	0.00	5.05	-0.98	5.05
MW-15	7/30/2001	30.48	12:00	25.33	0.00	5.15	0.10	5.15

All elevations relative to City of Portland Datum

Table A-1
Summary of Groundwater Elevations and
Product Observation Data
June 2001 - August 2002
25694284

PERIOD: From 06/06/2001 thru 08/29/2002 - Inclusive

SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV. (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-15	8/13/2001	30.48	13:28	24.90	0.00	5.58	0.43	5.58
MW-15	8/27/2001	30.48	12:42	25.10	0.00	5.38	-0.20	5.38
MW-15	10/10/2001	30.48	14:55	25.30	0.00	5.18	-0.20	5.18
MW-15	11/29/2001	30.48	10:03	22.35	0.00	8.13	2.95	8.13
MW-15	12/27/2001	30.48	11:07	21.64	0.00	8.84	0.71	8.84
MW-15	2/4/2002	30.48	10:26	20.77	0.00	9.71	0.87	9.71
MW-15	2/28/2002	30.48	13:48	21.31	0.00	9.17	-0.54	9.17
MW-15	3/14/2002	30.48	09:28	0.00	0.00	30.48	21.31	30.48
MW-15	3/14/2002	30.48	09:28	20.30	0.00	10.18	-20.30	10.18
MW-15	4/23/2002	30.48	13:45	18.97	0.00	11.51	1.33	11.51
MW-15	5/22/2002	30.48	14:24	20.44	0.00	10.04	-1.47	10.04
MW-15	6/21/2002	30.48	13:25	17.85	0.00	12.63	2.59	12.63
MW-15	7/26/2002	30.48	12:50	21.34	0.00	9.14	-3.49	9.14
MW-15	8/29/2002	30.48	12:45	23.48	0.00	7.00	-2.14	7.00
MW-16	6/6/2001	30.03	12:00	22.44	0.00	7.59	NA	7.59
MW-16	6/18/2001	30.03	12:00	24.48	0.00	5.55	-2.04	5.55
MW-16	7/2/2001	30.03	12:00	24.39	0.00	5.64	0.09	5.64
MW-16	7/16/2001	30.03	12:00	25.46	0.00	4.57	-1.07	4.57
MW-16	7/30/2001	30.03	12:00	25.31	0.00	4.72	0.15	4.72
MW-16	8/13/2001	30.03	12:37	24.65	0.00	5.38	0.66	5.38
MW-16	8/27/2001	30.03	12:47	24.80	0.00	5.23	-0.15	5.23
MW-16	10/10/2001	30.03	15:03	24.95	0.00	5.08	-0.15	5.08
MW-16	11/29/2001	30.03	10:06	21.50	0.00	8.53	3.45	8.53
MW-16	12/27/2001	30.03	11:10	21.86	0.00	8.17	-0.36	8.17
MW-16	2/4/2002	30.03	10:30	20.71	0.00	9.32	1.15	9.32
MW-16	2/28/2002	30.03	13:52	21.33	0.00	8.70	-0.62	8.70
MW-16	3/14/2002	30.03	09:32	19.73	0.00	10.30	1.60	10.30
MW-16	4/23/2002	30.03	13:52	18.73	0.00	11.30	1.00	11.30
MW-16	5/22/2002	30.03	14:28	19.94	0.00	10.09	-1.21	10.09
MW-16	6/21/2002	30.03	13:29	17.28	0.00	12.75	2.66	12.75
MW-16	7/26/2002	30.03	12:54	21.35	0.00	8.68	-4.07	8.68
MW-16	8/29/2002	30.03	12:50	23.37	0.00	6.66	-2.02	6.66
MW-17	6/6/2001	29.91	12:00	22.51	0.00	7.40	NA	7.40
MW-17	6/18/2001	29.91	12:00	22.98	0.00	6.93	-0.47	6.93
MW-17	7/2/2001	29.91	12:00	23.11	0.00	6.80	-0.13	6.80
MW-17	7/16/2001	29.91	12:00	23.64	0.00	6.27	-0.53	6.27
MW-17	7/30/2001	29.91	12:00	23.86	0.00	6.05	-0.22	6.05

All elevations relative to City of Portland Datum

Table A-1
Summary of Groundwater Elevations and
Product Observation Data
June 2001 - August 2002
25694284

PERIOD: From 06/06/2001 thru 08/29/2002 - Inclusive

SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-17	8/13/2001	29.91	12:36	23.95	0.00	5.96	-0.09	5.96
MW-17	8/27/2001	29.91	12:48	23.86	0.00	6.05	0.09	6.05
MW-17	10/10/2001	29.91	15:03	24.31	0.00	5.60	-0.45	5.60
MW-17	11/29/2001	29.91	10:07	22.80	0.00	7.11	1.51	7.11
MW-17	12/27/2001	29.91	11:11	19.30	0.00	10.61	3.50	10.61
MW-17	2/4/2002	29.91	10:29	18.88	0.00	11.03	0.42	11.03
MW-17	2/28/2002	29.91	13:51	20.14	0.00	9.77	-1.26	9.77
MW-17	3/14/2002	29.91	09:31	20.38	0.00	9.53	-0.24	9.53
MW-17	4/23/2002	29.91	13:50	17.37	0.00	12.54	3.01	12.54
MW-17	5/22/2002	29.91	14:27	20.09	0.00	9.82	-2.72	9.82
MW-17	6/21/2002	29.91	13:28	17.51	0.00	12.40	2.58	12.40
MW-17	7/26/2002	29.91	12:53	20.11	0.00	9.80	-2.60	9.80
MW-17	8/29/2002	29.91	12:48	22.27	0.00	7.64	-2.16	7.64
STAFF-GAGE	6/6/2001	0.00	12:00	-7.67	0.00	7.67	NA	7.67
STAFF-GAGE	6/18/2001	0.00	12:00	-4.07	0.00	4.07	-3.60	4.07
STAFF-GAGE	7/2/2001	0.00	12:00	-3.97	0.00	3.97	-0.10	3.97
STAFF-GAGE	7/16/2001	0.00	12:00	-3.14	0.00	3.14	-0.83	3.14
STAFF-GAGE	7/30/2001	0.00	12:00	-3.50	0.00	3.50	0.36	3.50
STAFF-GAGE	8/13/2001	0.00	12:00	-5.19	0.00	5.19	1.69	5.19
STAFF-GAGE	8/27/2001	0.00	12:38	-4.68	0.00	4.68	-0.51	4.68
STAFF-GAGE	10/10/2001	0.00	15:00	-4.83	0.00	4.83	0.15	4.83
STAFF-GAGE	11/29/2001	0.00	10:10	-9.47	0.00	9.47	4.64	9.47
STAFF-GAGE	12/27/2001	0.00	11:30	-6.52	0.00	6.52	-2.95	6.52
STAFF-GAGE	2/4/2002	0.00	10:33	-8.60	0.00	8.60	2.08	8.60
STAFF-GAGE	2/28/2002	0.00	13:54	-6.25	0.00	6.25	-2.35	6.25
STAFF-GAGE	3/14/2002	0.00	10:40	-9.15	0.00	9.15	2.90	9.15
STAFF-GAGE	4/23/2002	0.00	13:55	-9.55	0.00	9.55	0.40	9.55
STAFF-GAGE	5/22/2002	0.00	14:12	-9.05	0.00	9.05	-0.50	9.05
STAFF-GAGE	6/21/2002	0.00	13:30	-10.43	0.00	10.43	1.38	10.43
STAFF-GAGE	7/26/2002	0.00	13:00	-4.75	0.00	4.75	-5.68	4.75
STAFF-GAGE	8/29/2002	0.00	14:00	-2.80	0.00	2.80	-1.95	2.80

All elevations relative to City of Portland Datum

Table A-2
Summary of Analytical Chemistry Results for Groundwater
Unvalidated Data - March 2002

25694284

PERIOD: From 03/14/2002 thru 03/15/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE DATE	MW-02 03/15/2002	MW-03 03/14/2002	MW-05 03/14/2002	MW-06 03/15/2002
1,1,1,2-Tetrachloroethane	(ug/l)	<1	<0.5	<13	<13
1,1,1-Trichloroethane	(ug/l)	<1	<0.5	<13	<13
1,1,2,2-Tetrachloroethane	(ug/l)	<1	<0.5	<13	<13
1,1,2-Trichloroethane	(ug/l)	<1	<0.5	<13	<13
1,1-Dichloroethane	(ug/l)	<1	<0.5	<13	<13
1,1-Dichloroethylene	(ug/l)	<1	<0.5	<13	<13
1,1-Dichloropropene	(ug/l)	<1	<0.5	<13	<13
1,2,3-Trichlorobenzene	(ug/l)	<4	<2	<50	<50
1,2,3-Trichloropropane	(ug/l)	<1	<0.5	<13	<13
1,2,4-Trichlorobenzene	(ug/l)	<4	<2	<50	<50
1,2-Dichloroethane	(ug/l)	<1	<0.5	<13	<13
1,2-Dichloropropane	(ug/l)	<1.8	<0.5	<13	<13
1,3-Dichloropropane	(ug/l)	<1	<0.5	<13	<13
2-Hexanone	(ug/l)	<40	<20	<500	<500
2-Methylnaphthalene	(ug/l)	0.58	0.032	190	280
Acenaphthene	(ug/l)	1.9	<0.02	0.59	1.2
Acenaphthylene	(ug/l)	<0.02	<0.02	0.18	0.36
Acetone	(ug/l)	<40	<20	<500	<500
Anthracene	(ug/l)	0.094	<0.02	0.09	0.13
Arsenic	(ug/l)	29	1.2	16.1	23.3
Benzene	(ug/l)	50	<0.5	<13	<13
Benzene, (1-methylethyl)-	(ug/l)	35	<2	98	190
Benzene, 1,2,4-trimethyl	(ug/l)	<4	<2	3200	1700
Benzene, 1,3,5-trimethyl-	(ug/l)	<4	<2	1000	690
Benzo(a)anthracene	(ug/l)	<0.02	<0.02	<0.02	0.035
Benzo(a)pyrene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Benzo(ghi)perylene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Benzo(k)fluoranthene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Benzo[b]fluoranthene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Bromobenzene	(ug/l)	<4	<2	<50	<50

Analyses by Columbia Analytical Services
(Kelso, WA)

- -=Not analyzed

Table A-2
Summary of Analytical Chemistry Results for Groundwater
Unvalidated Data - March 2002

25694284

PERIOD: From 03/14/2002 thru 03/15/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE DATE	MW-02 03/15/2002	MW-03 03/14/2002	MW-05 03/14/2002	MW-06 03/15/2002
Bromodichloromethane	(ug/l)	<1	<0.5	<13	<13
Bromoform	(ug/l)	<1	<0.5	<13	<13
Carbon disulfide	(ug/l)	<1	<0.5	<13	<13
Carbon tetrachloride	(ug/l)	<1	<0.5	<13	<13
Chlorobenzene	(ug/l)	<1	<0.5	<13	<13
Chlorobromomethane	(ug/l)	<1	<0.5	<13	<13
Chloroethane	(ug/l)	<1	<0.5	<13	<13
Chloroform	(ug/l)	<1	<0.5	<13	<13
Chromium	(ug/l)	1.1	0.2	1.1	0.7
Chrysene	(ug/l)	<0.02	<0.02	0.021	0.039
cis-1,2-Dichloroethylene	(ug/l)	4.7	<0.5	<13	19
cis-1,3-Dichloropropene	(ug/l)	<1	<0.5	<13	<13
Copper	(ug/l)	0.6	0.8	3	1.1
DBCP	(ug/l)	<4	<2	<50	<50
Dibenzo(a,h)anthracene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Dibenzofuran	(ug/l)	0.8	<0.02	0.056	0.04
Dibromochloromethane	(ug/l)	<1	<0.5	<13	<13
Dichlorodifluoromethane	(ug/l)	<1	<0.5	<13	<13
EDB	(ug/l)	<4	<2	<50	<50
Ethylbenzene	(ug/l)	18	<0.5	1400	150
Fluoranthene	(ug/l)	0.021	<0.02	0.14	0.09
Fluorene	(ug/l)	3.4	<0.02	0.43	2.3
Hexachlorobutadiene	(ug/l)	<4	<2	<50	<50
Indeno(1,2,3-cd)pyrene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Iron	(ug/l)	75500	678	19500	66100
Lead	(ug/l)	0.48	2.17	40.2	15.3
m/p-xylene	(ug/l)	20	<0.5	3500	490
Manganese	(ug/l)	3880	140	9260	2100
m-Dichlorobenzene	(ug/l)	<1	<0.5	<13	<13
Methyl bromide	(ug/l)	<1	<0.5	<13	<13

Analyses by Columbia Analytical Services
(Kelso, WA)

- -=Not analyzed

Table A-2
Summary of Analytical Chemistry Results for Groundwater
Unvalidated Data - March 2002

25694284

PERIOD: From 03/14/2002 thru 03/15/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE DATE	MW-02 03/15/2002	MW-03 03/14/2002	MW-05 03/14/2002	MW-06 03/15/2002
Methyl chloride	(ug/l)	<1	<0.5	<13	<13
Methyl ethyl ketone	(ug/l)	<40	<20	<500	<500
Methyl isobutyl ketone (MIBK)	(ug/l)	<40	<20	<500	<500
Methylene bromide	(ug/l)	<1	<0.5	<13	<13
Methylene chloride	(ug/l)	<4	<2	<50	<50
Naphthalene	(ug/l)	2.5	0.19	800	180
n-Butylbenzene	(ug/l)	7.3	5.9	80	130
Nickel	(ug/l)	2.4	4.6	5.2	3.3
n-Propylbenzene	(ug/l)	52	3.1	160	600
o-Chlorotoluene	(ug/l)	<4	<2	<50	<50
o-Dichlorobenzene	(ug/l)	<1	<0.5	<13	<13
o-Xylene	(ug/l)	6.5	<0.5	27	15
p-Chlorotoluene	(ug/l)	<4	<2	<50	<50
p-Cymene	(ug/l)	9	<2	<50	<50
p-Dichlorobenzene	(ug/l)	<1	<0.5	<13	<13
Phenanthrene	(ug/l)	2.1	<0.02	0.24	2.6
Pyrene	(ug/l)	0.027	<0.02	0.18	0.14
sec-Butylbenzene	(ug/l)	5.4	4.8	<50	<50
sec-Dichloropropane	(ug/l)	<1	<0.5	<13	<13
Silver	(ug/l)	<0.02	<0.02	<0.02	<0.02
Styrene	(ug/l)	<1	<0.5	<13	<13
tert-Butylbenzene	(ug/l)	<4	<2	<50	<50
Tetrachloroethylene	(ug/l)	<1	<0.5	<13	<13
Toluene	(ug/l)	12	<0.5	<13	<13
trans-1,2-dichloroethene	(ug/l)	<1	<0.5	<13	<13
trans-1,3-Dichloropropene	(ug/l)	<1	<0.5	<13	<13
Trichloroethylene	(ug/l)	<1	<0.5	<13	<13
Trichlorofluoromethane	(ug/l)	<1	<0.5	<13	<13
Vinyl chloride	(ug/l)	4.8	<0.5	<13	<13
Zinc	(ug/l)	0.8	1.2	23.9	4.7

Analyses by Columbia Analytical Services
(Kelso, WA)

- -=Not analyzed

Table A-2
Summary of Analytical Chemistry Results for Groundwater
Unvalidated Data - March 2002

25694284

PERIOD: From 03/14/2002 thru 03/15/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE DATE	MW-07 03/14/2002	MW-08 03/15/2002	MW-09 03/15/2002	MW-09 03/15/2002
1,1,1,2-Tetrachloroethane	(ug/l)	<0.5	<2.5	<1	<1
1,1,1-Trichloroethane	(ug/l)	<0.5	<2.5	<1	<1
1,1,2,2-Tetrachloroethane	(ug/l)	<0.5	<2.5	<1	<1
1,1,2-Trichloroethane	(ug/l)	<0.5	<2.5	<1	<1
1,1-Dichloroethane	(ug/l)	<0.5	<2.5	<1	<1
1,1-Dichloroethylene	(ug/l)	<0.5	<2.5	<1	<1
1,1-Dichloropropene	(ug/l)	<0.5	<2.5	<1	<1
1,2,3-Trichlorobenzene	(ug/l)	<2	<10	<4	<4
1,2,3-Trichloropropane	(ug/l)	<0.5	<2.5	<1	<1
1,2,4-Trichlorobenzene	(ug/l)	<2	<10	<4	<4
1,2-Dichloroethane	(ug/l)	<0.5	<2.5	<1	<1
1,2-Dichloropropane	(ug/l)	<0.5	<2.5	<2.5	<2.4
1,3-Dichloropropane	(ug/l)	<0.5	<2.5	<1	<1
2-Hexanone	(ug/l)	<20	<100	<40	<40
2-Methylnaphthalene	(ug/l)	<0.02	17	0.33	0.21
Acenaphthene	(ug/l)	0.032	0.64	1.5	1.4
Acenaphthylene	(ug/l)	<0.02	0.17	<0.02	0.085
Acetone	(ug/l)	<20	<100	<40	<40
Anthracene	(ug/l)	<0.02	0.12	0.11	0.11
Arsenic	(ug/l)	<0.5	18.8	32.4	31
Benzene	(ug/l)	2.3	<2.5	140	140
Benzene, (1-methylethyl)-	(ug/l)	15	75	24	24
Benzene, 1,2,4-trimethyl	(ug/l)	<2	220	<4	<4
Benzene, 1,3,5-trimethyl-	(ug/l)	<2	100	6.9	7
Benzo(a)anthracene	(ug/l)	<0.02	0.021	<0.02	<0.02
Benzo(a)pyrene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Benzo(ghi)perylene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Benzo(k)fluoranthene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Benzo[b]fluoranthene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Bromobenzene	(ug/l)	<2	<10	<4	<4

Analyses by Columbia Analytical Services
(Kelso, WA)

- -=Not analyzed

Table A-2
Summary of Analytical Chemistry Results for Groundwater
Unvalidated Data - March 2002

25694284

PERIOD: From 03/14/2002 thru 03/15/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE DATE	MW-07 03/14/2002	MW-08 03/15/2002	MW-09 03/15/2002	MW-09 03/15/2002
Bromodichloromethane	(ug/l)	<0.5	<2.5	<1	<1
Bromoform	(ug/l)	<0.5	<2.5	<1	<1
Carbon disulfide	(ug/l)	<0.5	<2.5	<1	<1
Carbon tetrachloride	(ug/l)	<0.5	<2.5	<1	<1
Chlorobenzene	(ug/l)	<0.5	<2.5	<1	<1
Chlorobromomethane	(ug/l)	<0.5	<2.5	<1	<1
Chloroethane	(ug/l)	<0.5	<2.5	<1	<1
Chloroform	(ug/l)	<0.5	<2.5	<1	<1
Chromium	(ug/l)	0.4	0.6	1.5	1.2
Chrysene	(ug/l)	<0.02	0.02	<0.02	<0.02
cis-1,2-Dichloroethylene	(ug/l)	<0.5	43	2	2.1
cis-1,3-Dichloropropene	(ug/l)	<0.5	<2.5	<1	<1
Copper	(ug/l)	0.8	0.4	2.1	2.1
DBCP	(ug/l)	<2	<10	<4	<4
Dibenzo(a,h)anthracene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Dibenzofuran	(ug/l)	<0.02	0.21	0.51	0.48
Dibromochloromethane	(ug/l)	<0.5	<2.5	<1	<1
Dichlorodifluoromethane	(ug/l)	<0.5	<2.5	<1	<1
EDB	(ug/l)	<2	<10	<4	<4
Ethylbenzene	(ug/l)	<0.5	360	33	33
Fluoranthene	(ug/l)	<0.02	0.41	0.095	0.096
Fluorene	(ug/l)	<0.02	0.65	2.1	2.4
Hexachlorobutadiene	(ug/l)	<2	<10	<4	<4
Indeno(1,2,3-cd)pyrene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Iron	(ug/l)	372	63600	74000	70600
Lead	(ug/l)	0.69	0.71	2.35	2.3
m/p-xylene	(ug/l)	1.5	550	53	52
Manganese	(ug/l)	<5	5900	4030	3830
m-Dichlorobenzene	(ug/l)	<0.5	<2.5	<1	<1
Methyl bromide	(ug/l)	<0.5	<2.5	<1	<1

Analyses by Columbia Analytical Services
(Kelso, WA)

- -=Not analyzed

Table A-2
Summary of Analytical Chemistry Results for Groundwater
Unvalidated Data - March 2002

25694284

PERIOD: From 03/14/2002 thru 03/15/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE	MW-07	MW-08	MW-09	MW-09
	DATE	03/14/2002	03/15/2002	03/15/2002	03/15/2002
Methyl chloride	(ug/l)	<0.5	<2.5	<1	<1
Methyl ethyl ketone	(ug/l)	<20	<100	<40	<40
Methyl isobutyl ketone (MIBK)	(ug/l)	<20	<100	<40	<40
Methylene bromide	(ug/l)	<0.5	<2.5	<1	<1
Methylene chloride	(ug/l)	<2	<10	<4	<4
Naphthalene	(ug/l)	0.022	63	0.81	0.7
n-Butylbenzene	(ug/l)	<2	23	5.9	5.8
Nickel	(ug/l)	2.5	2	3.7	3.6
n-Propylbenzene	(ug/l)	29	170	27	26
o-Chlorotoluene	(ug/l)	<2	<10	<4	<4
o-Dichlorobenzene	(ug/l)	<0.5	5	<1	<1
o-Xylene	(ug/l)	<0.5	<10	18	18
p-Chlorotoluene	(ug/l)	<2	<10	<4	<4
p-Cymene	(ug/l)	<2	<2.5	5.1	5.3
p-Dichlorobenzene	(ug/l)	<0.5	0.28	<1	<1
Phenanthrene	(ug/l)	<0.02	0.54	0.62	0.33
Pyrene	(ug/l)	<0.02	15	0.13	0.12
sec-Butylbenzene	(ug/l)	<2	<2.5	<4	<4
sec-Dichloropropane	(ug/l)	<0.5	<0.02	<1	<1
Silver	(ug/l)	<0.02	<2.5	<0.02	<0.02
Styrene	(ug/l)	<2	<10	<1	<1
tert-Butylbenzene	(ug/l)	<0.5	<2.5	<4	<4
Tetrachloroethylene	(ug/l)	<2	<2.5	<1	<1
Toluene	(ug/l)	1.1	<2.5	40	40
trans-1,2-dichloroethene	(ug/l)	<0.5	<2.5	<1	<1
trans-1,3-Dichloropropene	(ug/l)	<0.5	<2.5	<1	<1
Trichloroethylene	(ug/l)	<0.5	3.4	<1	<1
Trichlorofluoromethane	(ug/l)	<0.5	<2.5	<1	<1
Vinyl chloride	(ug/l)	<0.5	8.4	<1	<1
Zinc	(ug/l)	3.5	0.7	0.8	0.8

Analyses by Columbia Analytical Services
(Kelso, WA)

- -=Not analyzed

SCHN00380

Table A-2
Summary of Analytical Chemistry Results for Groundwater
Unvalidated Data - March 2002

25694284

PERIOD: From 03/14/2002 thru 03/15/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE DATE	MW-10 03/15/2002	MW-12 03/15/2002	MW-13 03/15/2002	MW-14 03/14/2002
1,1,1,2-Tetrachloroethane	(ug/l)	<1	<1	<1	<0.5
1,1,1-Trichloroethane	(ug/l)	<1	<1	<1	<0.5
1,1,2,2-Tetrachloroethane	(ug/l)	<1	<1	<1	<0.5
1,1,2-Trichloroethane	(ug/l)	<1	<1	<1	<0.5
1,1-Dichloroethane	(ug/l)	<1	<1	<1	<0.5
1,1-Dichloroethylene	(ug/l)	<1	<1	<1	<0.5
1,1-Dichloropropene	(ug/l)	<1	<1	<1	<0.5
1,2,3-Trichlorobenzene	(ug/l)	<4	<4	<4	<2
1,2,3-Trichloropropane	(ug/l)	<1	<1	<1	<0.5
1,2,4-Trichlorobenzene	(ug/l)	<4	<4	<4	<2
1,2-Dichloroethane	(ug/l)	<1	<1	<1	<0.5
1,2-Dichloropropane	(ug/l)	<2.9	<2	<3.3	<0.5
1,3-Dichloropropane	(ug/l)	<1	<1	<1	<0.5
2-Hexanone	(ug/l)	<40	<40	<40	<20
2-Methylnaphthalene	(ug/l)	0.036	0.39	0.88	<0.02
Acenaphthene	(ug/l)	0.27	1.7	1.5	<0.02
Acenaphthylene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Acetone	(ug/l)	<40	<40	<40	<20
Anthracene	(ug/l)	<0.02	0.089	0.068	<0.02
Arsenic	(ug/l)	16.5	23.4	28.2	1.4
Benzene	(ug/l)	5.2	82	43	<0.5
Benzene, (1-methylethyl)-	(ug/l)	78	26	46	<2
Benzene, 1,2,4-trimethyl	(ug/l)	<4	<4	<4	<2
Benzene, 1,3,5-trimethyl-	(ug/l)	<4	<4	16	<2
Benzo(a)anthracene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Benzo(a)pyrene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Benzo(ghi)perylene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Benzo(k)fluoranthene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Benzo[b]fluoranthene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Bromobenzene	(ug/l)	<4	<4	<4	<2

Analyses by Columbia Analytical Services
(Kelso, WA)

- -=Not analyzed

Table A-2
Summary of Analytical Chemistry Results for Groundwater
Unvalidated Data - March 2002

25694284

PERIOD: From 03/14/2002 thru 03/15/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE DATE	MW-10 03/15/2002	MW-12 03/15/2002	MW-13 03/15/2002	MW-14 03/14/2002
Bromodichloromethane	(ug/l)	<1	<1	<1	<0.5
Bromoform	(ug/l)	<1	<1	<1	<0.5
Carbon disulfide	(ug/l)	<1	<1	<1	<0.5
Carbon tetrachloride	(ug/l)	<1	<1	<1	<0.5
Chlorobenzene	(ug/l)	<1	<1	<1	<0.5
Chlorobromomethane	(ug/l)	<1	<1	<1	<0.5
Chloroethane	(ug/l)	1.1	<1	<1	<0.5
Chloroform	(ug/l)	<1	<1	<1	<0.5
Chromium	(ug/l)	<1	1.4	1.3	0.7
Chrysene	(ug/l)	<0.02	<0.02	<0.02	<0.02
cis-1,2-Dichloroethylene	(ug/l)	21	<1	<1	<0.5
cis-1,3-Dichloropropene	(ug/l)	<1	<1	<1	<0.5
Copper	(ug/l)	<0.5	0.5	0.7	0.8
DBCP	(ug/l)	<4	<4	<4	<2
Dibenzo(a,h)anthracene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Dibenzofuran	(ug/l)	0.055	0.63	0.65	<0.02
Dibromochloromethane	(ug/l)	<1	<1	<1	<0.5
Dichlorodifluoromethane	(ug/l)	<1	<1	<1	<0.5
EDB	(ug/l)	<4	<4	<4	<2
Ethylbenzene	(ug/l)	39	4.8	16	<0.5
Fluoranthene	(ug/l)	<0.02	0.036	0.029	<0.02
Fluorene	(ug/l)	0.29	2.9	2.7	<0.02
Hexachlorobutadiene	(ug/l)	<4	<4	<4	<2
Indeno(1,2,3-cd)pyrene	(ug/l)	<0.02	<0.02	<0.02	<0.02
Iron	(ug/l)	25400	90500	68300	2680
Lead	(ug/l)	0.19	0.82	0.55	0.05
m/p-xylene	(ug/l)	7.1	25	71	<0.5
Manganese	(ug/l)	2600	4570	2760	116
m-Dichlorobenzene	(ug/l)	<1	<1	<1	<0.5
Methyl bromide	(ug/l)	<1	<1	<1	<0.5

Analyses by Columbia Analytical Services
(Kelso, WA)

- -=Not analyzed

Table A-2
Summary of Analytical Chemistry Results for Groundwater
Unvalidated Data - March 2002

25694284

PERIOD: From 03/14/2002 thru 03/15/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE DATE	MW-10 03/15/2002	MW-12 03/15/2002	MW-13 03/15/2002	MW-14 03/14/2002
Methyl chloride	(ug/l)	<1	<1	<1	<0.5
Methyl ethyl ketone	(ug/l)	<40	<40	<40	<20
Methyl isobutyl ketone (MIBK)	(ug/l)	<40	<40	<40	<20
Methylene bromide	(ug/l)	<1	<1	<1	<0.5
Methylene chloride	(ug/l)	<4	<4	<4	<2
Naphthalene	(ug/l)	0.34	0.68	0.77	<2
n-Butylbenzene	(ug/l)	14	6.3	9.8	<2
Nickel	(ug/l)	2.6	3.3	3.9	1.8
n-Propylbenzene	(ug/l)	160	32	50	<2
o-Chlorotoluene	(ug/l)	<4	<4	<4	<2
o-Dichlorobenzene	(ug/l)	<1	<1	<1	<0.5
o-Xylene	(ug/l)	<1	6.1	12	<0.5
p-Chlorotoluene	(ug/l)	<4	<4	<4	<2
p-Cymene	(ug/l)	<4	<4	12	<2
p-Dichlorobenzene	(ug/l)	<1	<1	<1	<0.5
Phenanthrene	(ug/l)	0.023	1.7	1.6	<0.02
Pyrene	(ug/l)	<0.02	0.056	0.038	<0.02
sec-Butylbenzene	(ug/l)	13	4.8	6.9	<2
sec-Dichloropropane	(ug/l)	<1	<1	<1	<0.5
Silver	(ug/l)	<0.1	<0.02	<0.1	<0.02
Styrene	(ug/l)	<1	<1	<1	<0.5
tert-Butylbenzene	(ug/l)	<4	<4	<4	<2
Tetrachloroethylene	(ug/l)	<1	<1	<1	<0.5
Toluene	(ug/l)	1.5	16	26	<0.5
trans-1,2-dichloroethene	(ug/l)	<1	<1	<1	<0.5
trans-1,3-Dichloropropene	(ug/l)	<1	<1	<1	<0.5
Trichloroethylene	(ug/l)	<1	<1	<1	<0.5
Trichlorofluoromethane	(ug/l)	<1	<1	<1	2
Vinyl chloride	(ug/l)	20	<1	<1	<0.5
Zinc	(ug/l)	<2.5	1.4	<2.5	3.3

Analyses by Columbia Analytical Services
(Kelso, WA)

- -=Not analyzed

Table A-2
Summary of Analytical Chemistry Results for Groundwater
Unvalidated Data - March 2002

25694284

PERIOD: From 03/14/2002 thru 03/15/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE DATE	MW-15 03/14/2002	MW-16 03/14/2002	MW-17 03/14/2002
1,1,1,2-Tetrachloroethane	(ug/l)	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	(ug/l)	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	(ug/l)	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	(ug/l)	<0.5	<0.5	<0.5
1,1-Dichloroethane	(ug/l)	<0.5	<0.5	<0.5
1,1-Dichloroethylene	(ug/l)	<0.5	<0.5	<0.5
1,1-Dichloropropene	(ug/l)	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	(ug/l)	<2	<2	<2
1,2,3-Trichloropropane	(ug/l)	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	(ug/l)	<2	<2	<2
1,2-Dichloroethane	(ug/l)	<0.5	<0.5	<0.5
1,2-Dichloropropane	(ug/l)	<0.5	<0.5	<0.5
1,3-Dichloropropane	(ug/l)	<0.5	<0.5	<0.5
2-Hexanone	(ug/l)	<20	<20	<20
2-Methylnaphthalene	(ug/l)	<0.02	<0.02	<0.02
Acenaphthene	(ug/l)	<0.02	<0.02	<0.02
Acenaphthylene	(ug/l)	<0.02	<0.02	<0.02
Acetone	(ug/l)	<20	<20	<20
Anthracene	(ug/l)	<0.02	<0.02	<0.02
Arsenic	(ug/l)	1.9	11	2.2
Benzene	(ug/l)	<0.5	<0.5	<0.5
Benzene, (1-methylethyl)-	(ug/l)	<2	<2	<2
Benzene, 1,2,4-trimethyl	(ug/l)	<2	<2	<2
Benzene, 1,3,5-trimethyl-	(ug/l)	<2	<2	<2
Benzo(a)anthracene	(ug/l)	<0.02	<0.02	<0.02
Benzo(a)pyrene	(ug/l)	<0.02	<0.02	<0.02
Benzo(ghi)perylene	(ug/l)	<0.02	<0.02	<0.02
Benzo(k)fluoranthene	(ug/l)	<0.02	<0.02	<0.02
Benzo[b]fluoranthene	(ug/l)	<0.02	<0.02	<0.02
Bromobenzene	(ug/l)	<2	<2	<2

Analyses by Columbia Analytical Services
(Kelso, WA)

- -=Not analyzed

Table A-2
Summary of Analytical Chemistry Results for Groundwater
Unvalidated Data - March 2002

25694284

PERIOD: *From 03/14/2002 thru 03/15/2002 - inclusive*
SAMPLE TYPE: Water

CONSTITUENT	SITE DATE	MW-15 03/14/2002	MW-16 03/14/2002	MW-17 03/14/2002
Bromodichloromethane	(ug/l)	<0.5	<0.5	<0.5
Bromoform	(ug/l)	<0.5	<0.5	<0.5
Carbon disulfide	(ug/l)	<0.5	<0.5	<0.5
Carbon tetrachloride	(ug/l)	<0.5	<0.5	<0.5
Chlorobenzene	(ug/l)	<0.5	<0.5	<0.5
Chlorobromomethane	(ug/l)	<0.5	<0.5	<0.5
Chloroethane	(ug/l)	<0.5	<0.5	<0.5
Chloroform	(ug/l)	<0.5	<0.5	<0.5
Chromium	(ug/l)	0.4	0.8	0.2
Chrysene	(ug/l)	<0.02	<0.02	<0.02
cis-1,2-Dichloroethylene	(ug/l)	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	(ug/l)	<0.5	<0.5	<0.5
Copper	(ug/l)	1	0.4	0.6
DBCP	(ug/l)	<2	<2	<2
Dibenzo(a,h)anthracene	(ug/l)	<0.02	<0.02	<0.02
Dibenzofuran	(ug/l)	<0.02	<0.02	<0.02
Dibromochloromethane	(ug/l)	<0.5	<0.5	<0.5
Dichlorodifluoromethane	(ug/l)	<0.5	<0.5	<0.5
EDB	(ug/l)	<2	<2	<2
Ethylbenzene	(ug/l)	<0.5	<0.5	<0.5
Fluoranthene	(ug/l)	<0.02	<0.02	<0.02
Fluorene	(ug/l)	<0.02	<0.02	<0.02
Hexachlorobutadiene	(ug/l)	<2	<2	<2
Indeno(1,2,3-cd)pyrene	(ug/l)	<0.02	<0.02	<0.02
Iron	(ug/l)	1210	14700	1060
Lead	(ug/l)	0.5	0.15	0.6
m/p-xylene	(ug/l)	<0.5	<0.5	<0.5
Manganese	(ug/l)	1990	2040	540
m-Dichlorobenzene	(ug/l)	<0.5	<0.5	<0.5
Methyl bromide	(ug/l)	<0.5	<0.5	<0.5

Analyses by Columbia Analytical Services
(Kelso, WA)

- -=Not analyzed

Table A-2
Summary of Analytical Chemistry Results for Groundwater
Unvalidated Data - March 2002

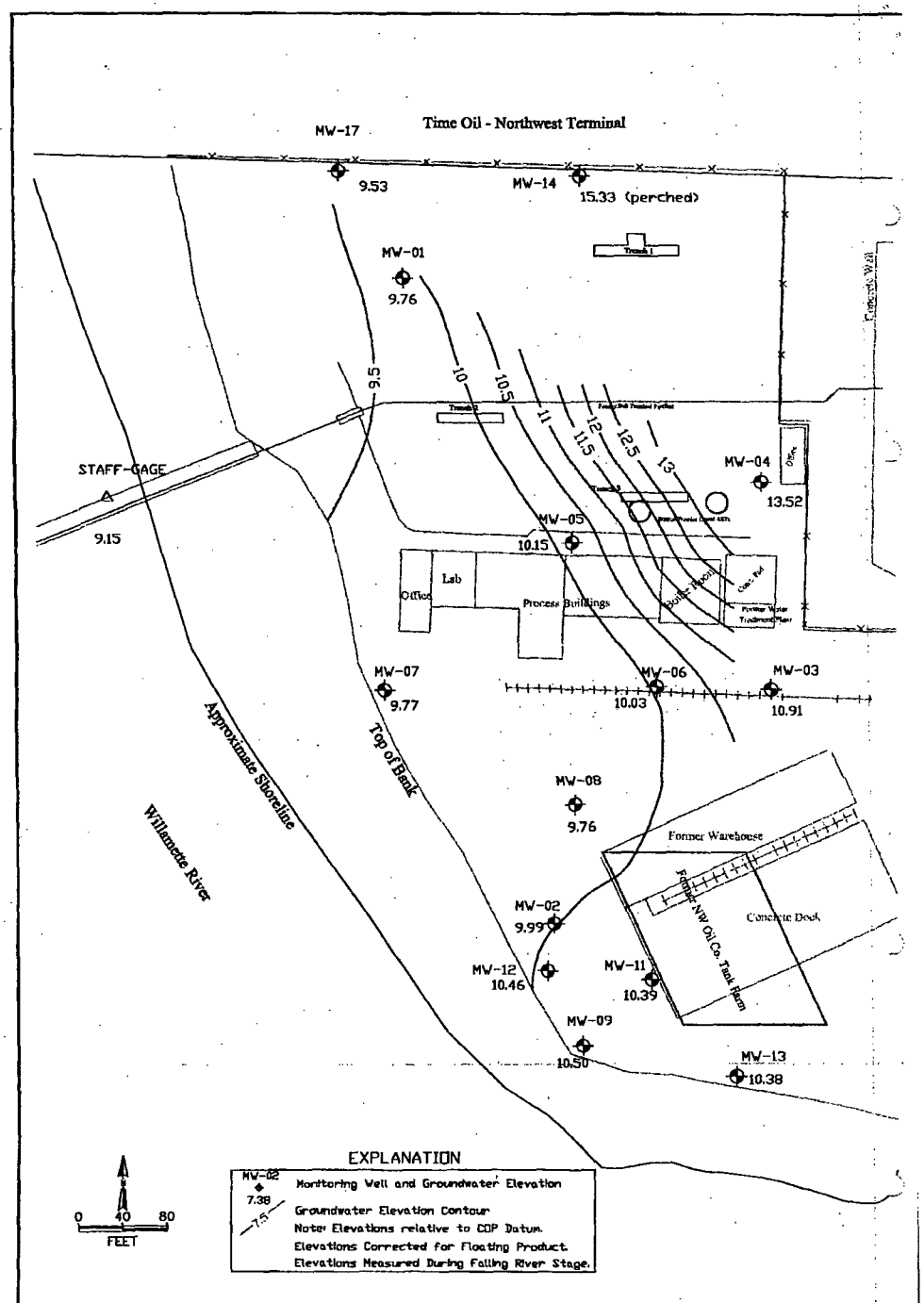
25694284

PERIOD: From 03/14/2002 thru 03/15/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE DATE	MW-15 03/14/2002	MW-16 03/14/2002	MW-17 03/14/2002
Methyl chloride	(ug/l)	<0.5	<0.5	<0.5
Methyl ethyl ketone	(ug/l)	<20	<20	<20
Methyl isobutyl ketone (MIBK)	(ug/l)	<20	<20	<20
Methylene bromide	(ug/l)	<0.5	<0.5	<0.5
Methylene chloride	(ug/l)	<2	<2	<2
Naphthalene	(ug/l)	<2	0.021	<2
n-Butylbenzene	(ug/l)	<2	<2	<2
Nickel	(ug/l)	2.7	1.9	2.4
n-Propylbenzene	(ug/l)	<2	<2	<2
o-Chlorotoluene	(ug/l)	<2	<2	<2
o-Dichlorobenzene	(ug/l)	<0.5	<0.5	<0.5
o-Xylene	(ug/l)	<0.5	<0.5	<0.5
p-Chlorotoluene	(ug/l)	<2	<2	<2
p-Cymene	(ug/l)	<2	<2	<2
p-Dichlorobenzene	(ug/l)	<0.5	<0.5	<0.5
Phenanthrene	(ug/l)	<0.02	<0.02	<0.02
Pyrene	(ug/l)	<0.02	0.033	<0.02
sec-Butylbenzene	(ug/l)	<2	<2	<2
sec-Dichloropropane	(ug/l)	<0.5	<0.5	<0.5
Silver	(ug/l)	<0.02	<0.02	<0.02
Styrene	(ug/l)	<0.5	<0.5	<0.5
tert-Butylbenzene	(ug/l)	<2	<2	<2
Tetrachloroethylene	(ug/l)	<0.5	<0.5	<0.5
Toluene	(ug/l)	<0.5	<0.5	<0.5
trans-1,2-dichloroethene	(ug/l)	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	(ug/l)	<0.5	<0.5	<0.5
Trichloroethylene	(ug/l)	<0.5	<0.5	<0.5
Trichlorofluoromethane	(ug/l)	<0.5	<0.5	<0.5
Vinyl chloride	(ug/l)	<0.5	<0.5	<0.5
Zinc	(ug/l)	5	2.2	4.2

Analyses by Columbia Analytical Services
(Kelso, WA)

- -=Not analyzed

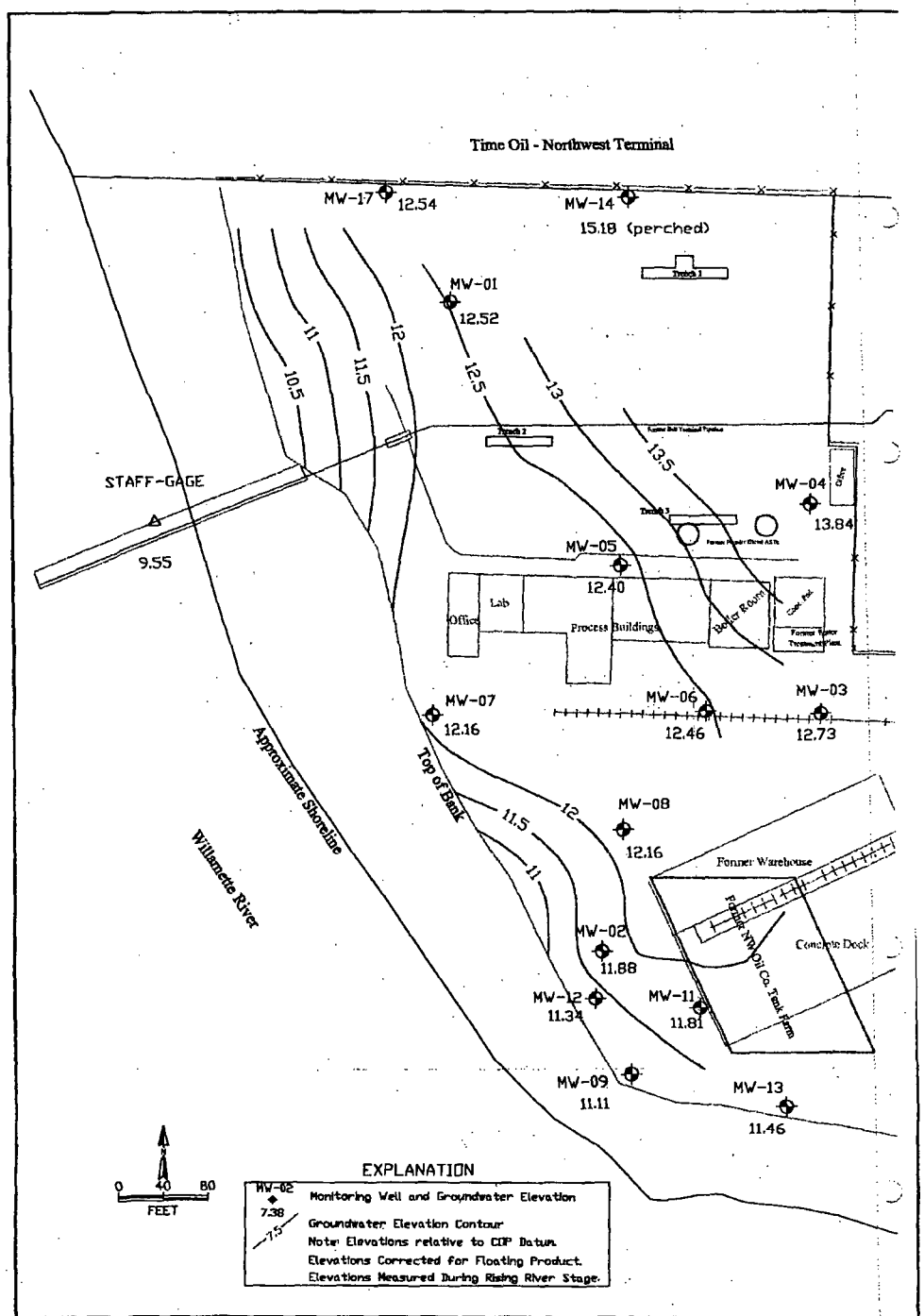


URS

TITLE:
Groundwater Elevations (ft-COP)
March 14, 2002
Schnitzer – PEO

DWN: jgdp	DES.:	PROJECT NO.: 52-00180063
CHKD:	APPD:	FIGURE NO.: A-1
DATE: 4/29/02	REV.: 0	

SCHN00380203

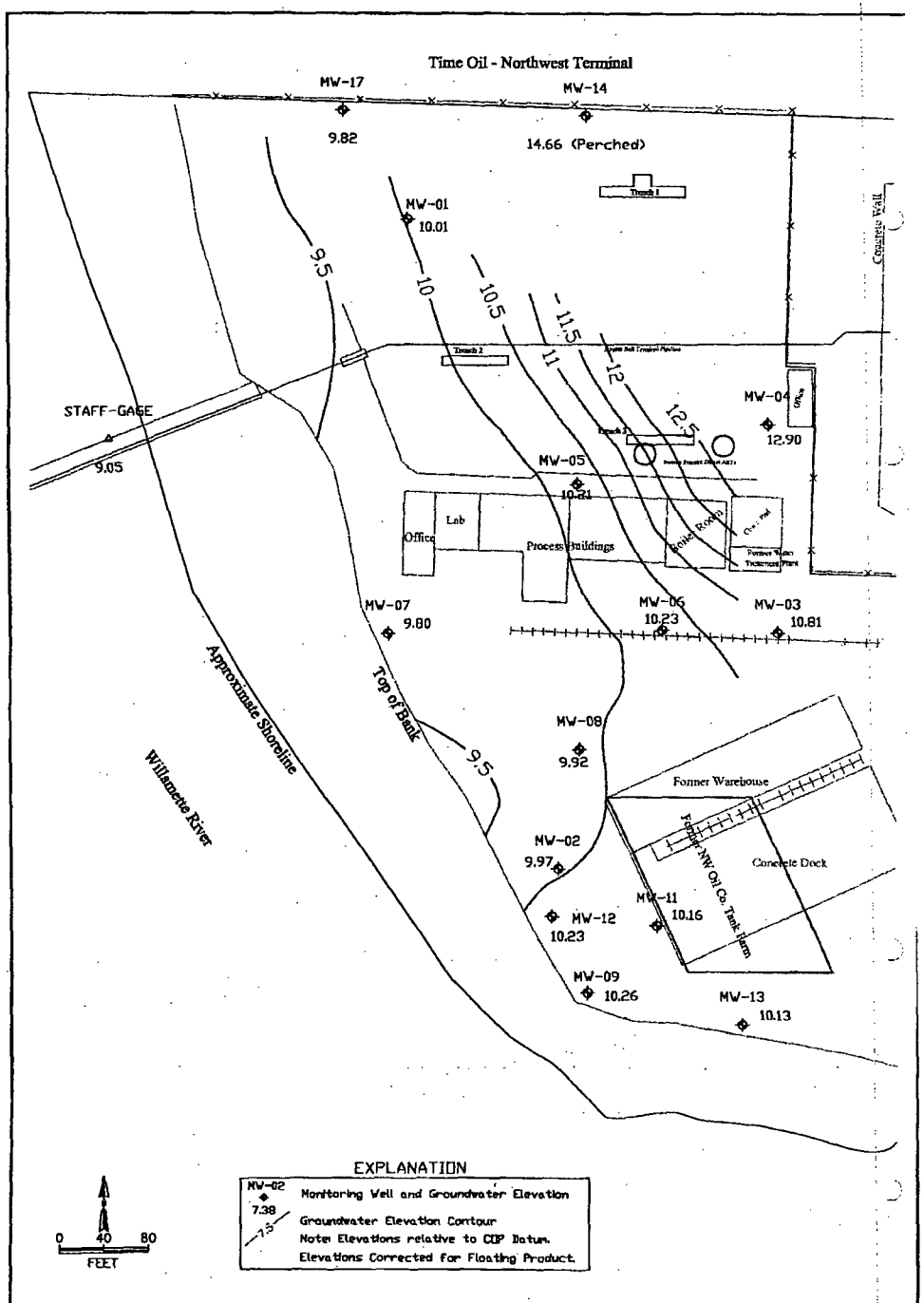


URS

TITLE:
Groundwater Elevations (ft-COP)
April 23, 2002
Schnitzer - PEO

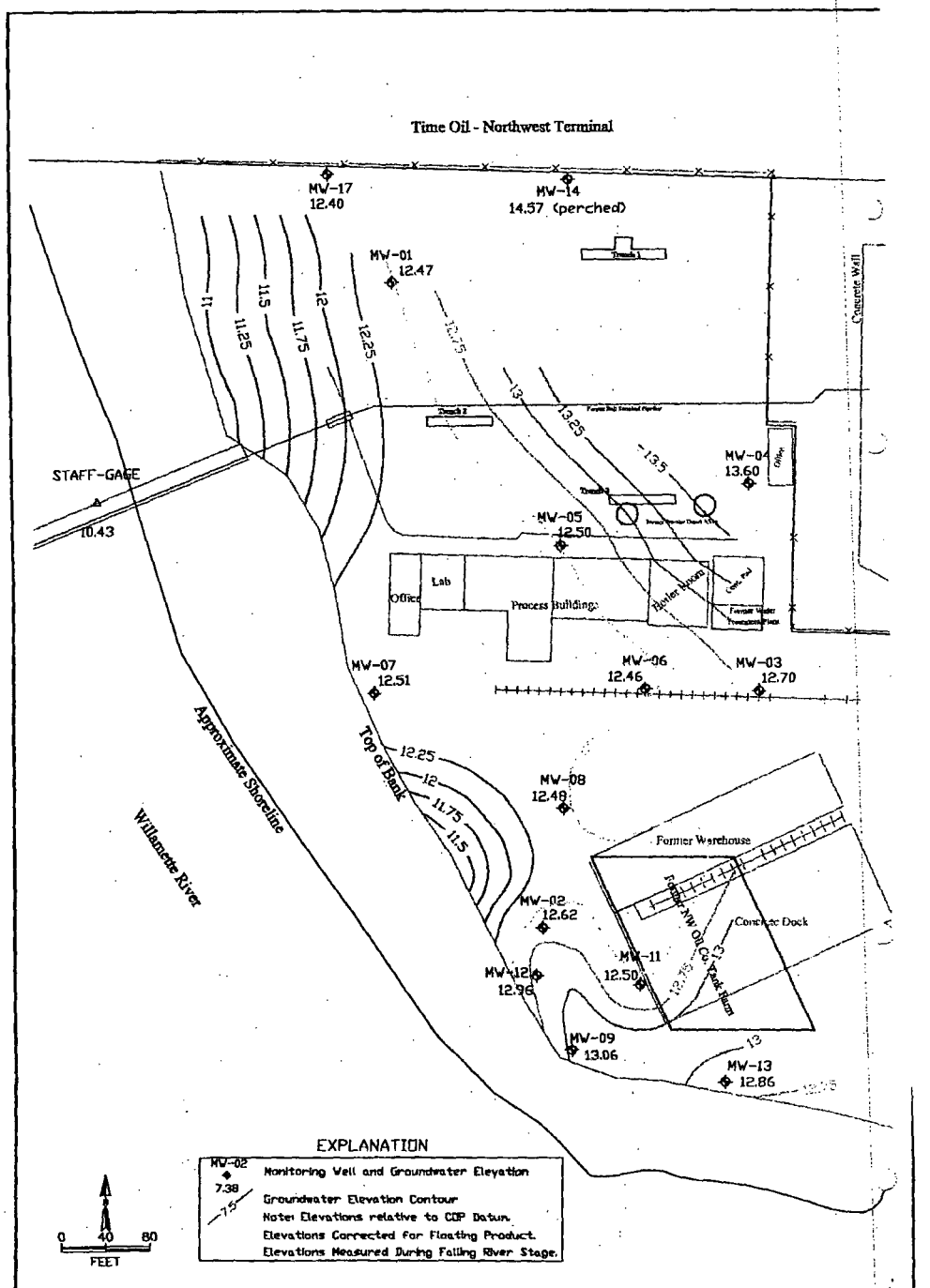
DWN: jgdp	DES.:	PROJECT NO.: 52-00180063
CHKD:	APPD:	FIGURE NO.: A-2
DATE: 4/29/02	REV.: 0	

SCHN00380204



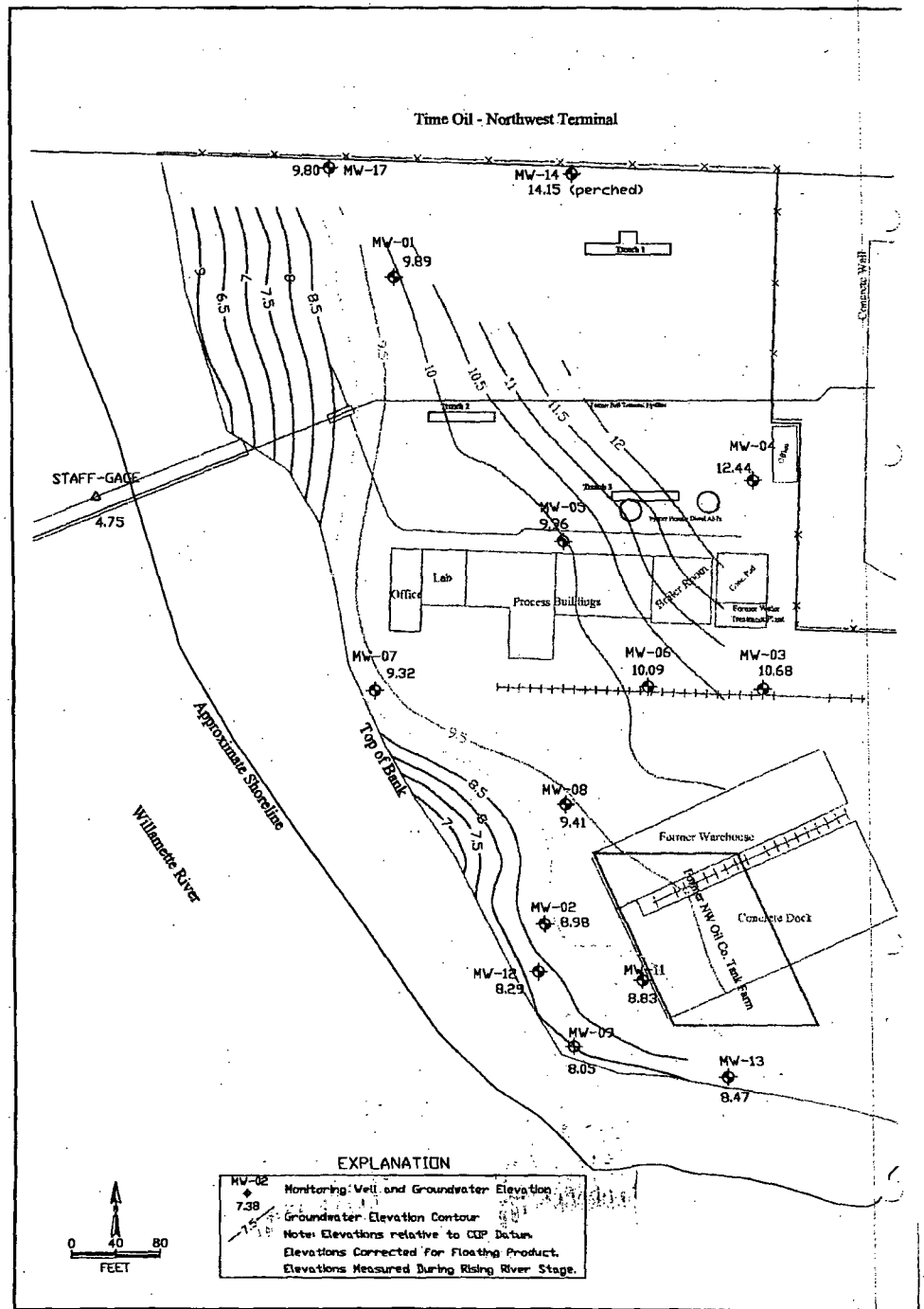
URS	TITLE: Groundwater Elevations (ft-COP) May 22, 2002 Schnitzer – PEO	DWN: jgdp	DES.:	PROJECT NO.: 52-00180063
		CHKD:	APPD:	FIGURE NO.: A-3
		DATE: 6/24/02	REV.: 0	

SCHN00380205



URS	TITLE: Groundwater Elevations (ft-COP) June 21, 2002 Schnitzer – PEO	DWN: jgdp	DES.:	PROJECT NO.: 25693679
		CHKD:	APPD:	
		DATE: 8/7/02	REV.: 0	FIGURE NO.: A-4

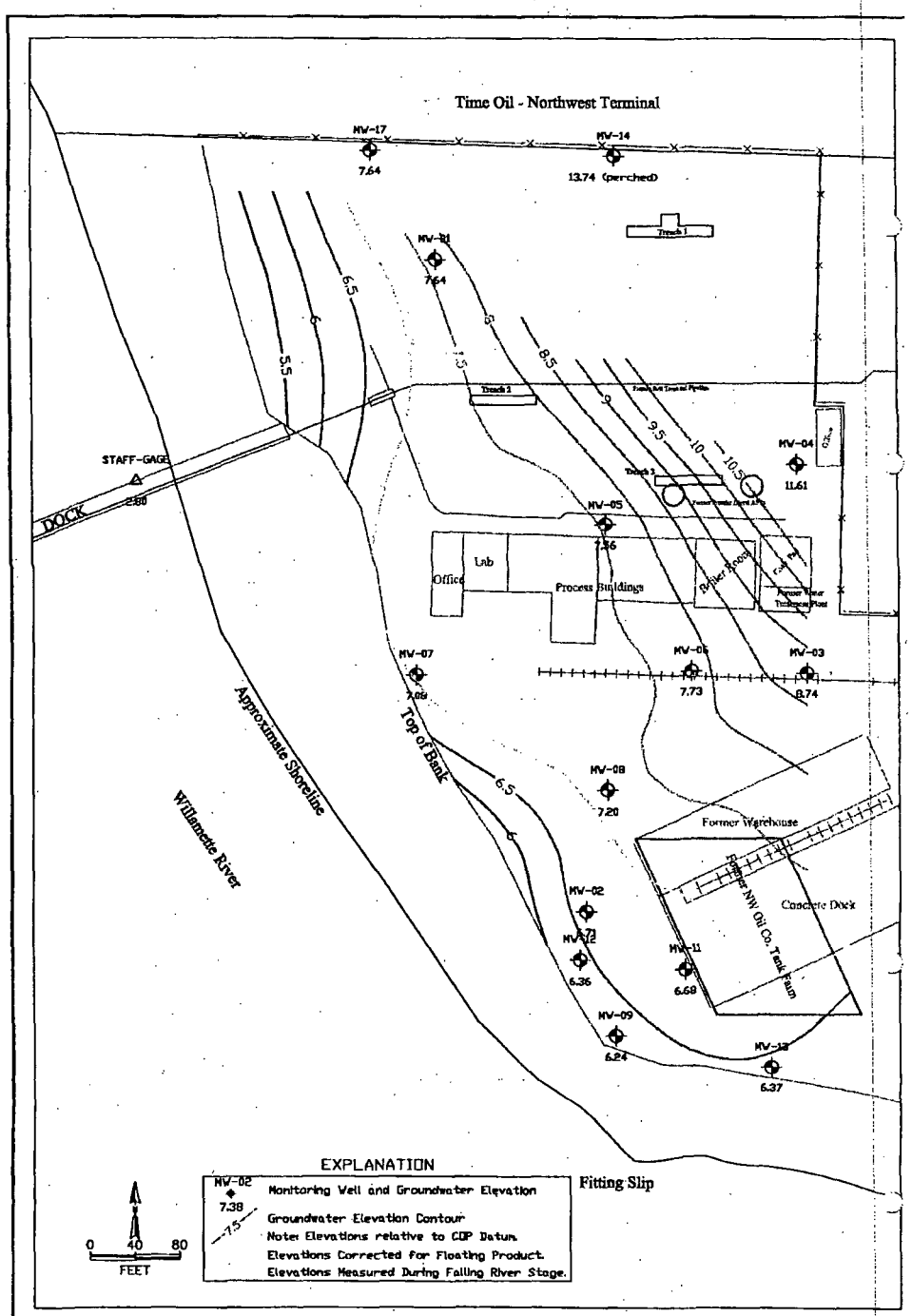
SCHN00380206



URS

TITLE:	DWN:	DES.:	PROJECT NO.:
Groundwater Elevations (ft–COP) July 26, 2002 Schnitzer – PEO	jgdp		25693679
	CHKD:	APPD:	FIGURE NO.:
	DATE: 8/7/02	REV.: 0	A-5

SCHN00380207

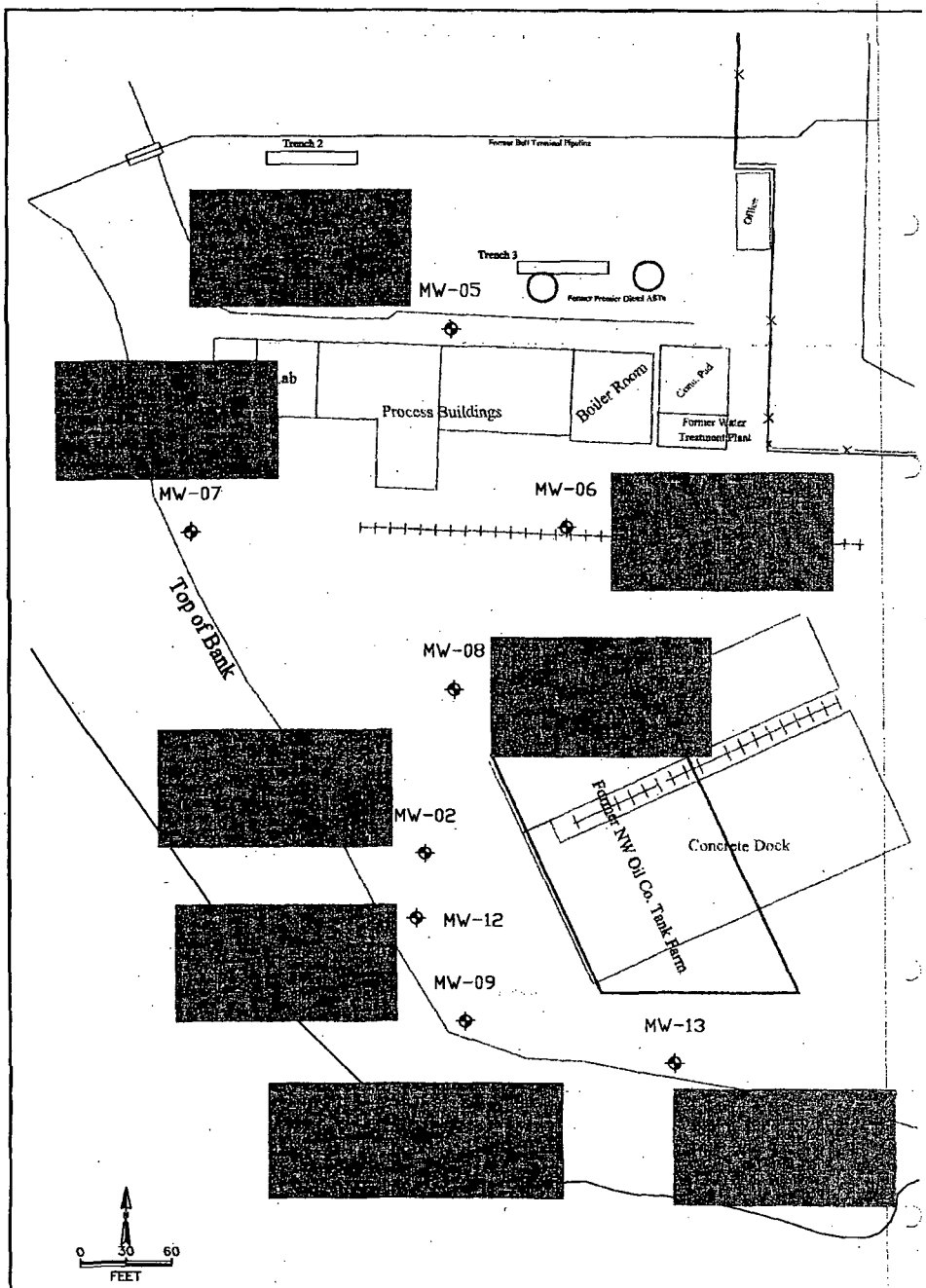


URS

TITLE:
Groundwater Elevations – 8/29/02
Schnitzer – Premier Edible Oils
Portland, OR

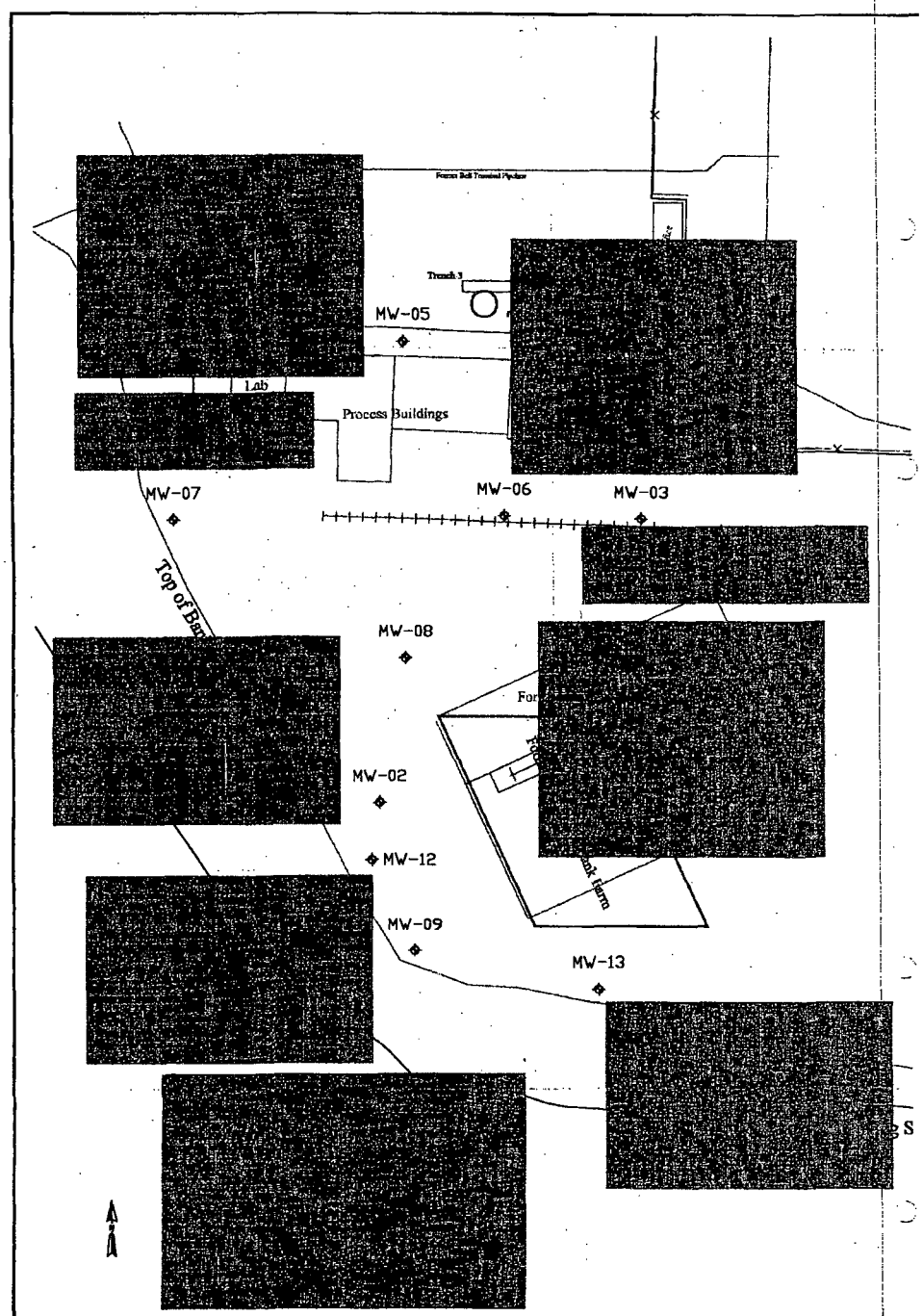
DWN: jgdp	DES.:	PROJECT NO.: 25693679
CHKD:	APPD:	FIGURE NO.: A-6
DATE: 10/3/02	REV.: 0	

SCHN00380208



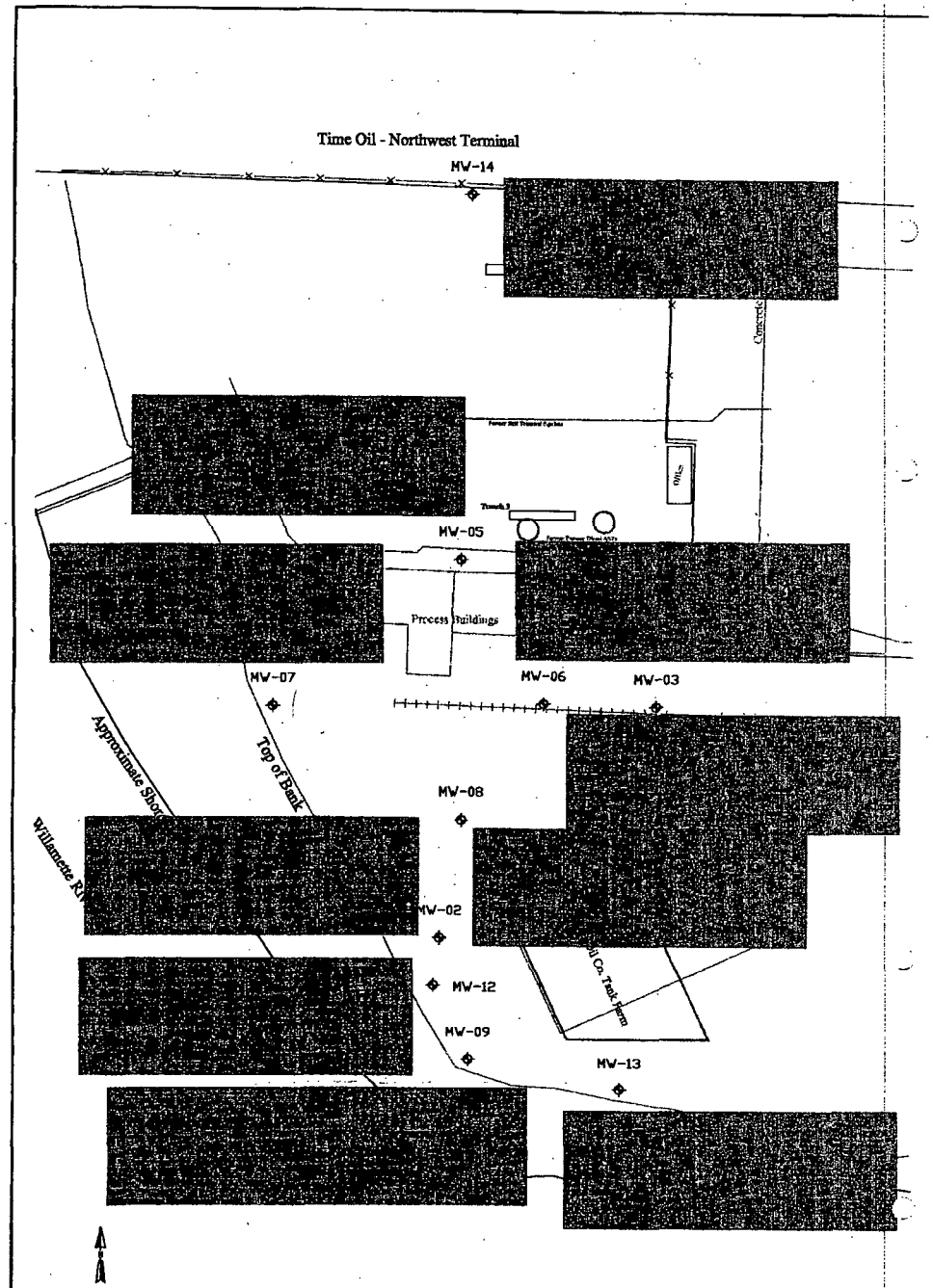
URS	TITLE: BTEX Concentrations in Groundwater March 14/15, 2002 Schnitzer – PEO	DWN: jgdp CHKD:	DES.: APPD:	PROJECT NO.: 52-0018006. FIGURE NO.: A-7
		DATE: 6/24/02	REV.: 0	

SCHN00380209



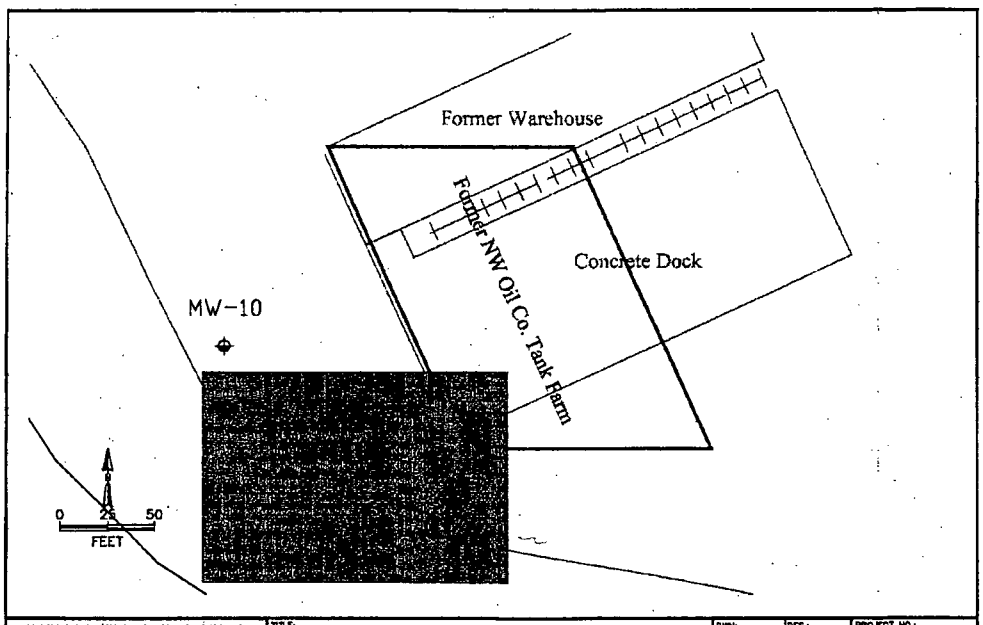
URS	TITLE: PAH Concentrations in Groundwater March 14/15, 2002 Schnitzer – PEO	DWN: jgdp CHKD:	DES.: APPD:	PROJECT NO.: 52-0018006. FIGURE NO.: A-8
		DATE: 6/24/02	REV.: 0	

SCHN00380210



URS	TITLE: CVOC Concentrations in Groundwater March 14/15, 2002 Schnitzer – PEO	DWN: jgdp CHKD:	DES.: APPD:	PROJECT NO.: 52-00180063
		DATE: 6/24/02	REV.: 0	FIGURE NO.: A-9

SCHN00380211



URS

TITLE:
VOC Concentrations In Deep Groundwater
March 15, 2002
Schnitzer – PEO

DWN: jgdp	DES.:	PROJECT NO.: 52-00180063
CHKD:	APPD:	FIGURE NO.: A-10
DATE: 6/24/02	REV.: 0	

SCHN00380212

Documentation of Shoreline Reconnaissance Surveys
March – September 2002

Premier Edible Oils Site

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 9/15/02

Re: Premier Edible Oils Site – River Bank Reconnaissance, 9/15/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from approximately MW-13 location (along Slip), to MW-7 location (along Willamette River).

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 9:20 am and 10:00 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 8/15/02

Re: Premier Edible Oils Site – River Bank Reconnaissance, 8/15/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 7:30 am and 9:00 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 7/5/2002

Re: Premier Edible Oils Site – River Bank Reconnaissance, 7/5/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from approximately MW-13 location (along Slip), to MW-7 location (along Willamette River).

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 11:00 am and 11:45 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 6/20/02

Re: Premier Edible Oils Site – River Bank Reconnaissance, 6/20/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from approximately MW-13 location (along Slip), to MW-7 location (along Willamette River).

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 10:45 am and 11:15 am.

Groundwater seeps, hydrocarbon product or hydrocarbon sheen were not observed during the reconnaissance event.

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 5/17/02

Re: Premier Edible Oils Site – River Bank Reconnaissance, 5/17/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from approximately MW-13 location (along Slip), to MW-7 location (along Willamette River).

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 9:20 am and 10:35 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 4/18/02

Re: Premier Edible Oils Site – River Bank Reconnaissance, 4/18/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from approximately MW-13 location (along Slip), to MW-7 location (along Willamette River).

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 9:35 am and 10:25 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

Memorandum

URS

To: Jim Jakubiak, Schnitzer

From: Donald M. Coberley

Date: April 1, 2002

Subject: River bank reconnaissance, March 15, 2002; Premier Edible Oils facility

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product during the recent groundwater sampling event. I observed the river bank from approximately the MW-13 location (on the boat slip), west to MW-9 (at the junction of the boat slip and the Willamette River), and then north along the river to approximately the MW-7 location.

I observed conditions from the top of the bank to the water line. I looked for hydrocarbon sheen or blooms, or evidence of free phase hydrocarbon. I paid particular attention to the water line and to the sharp break in slope at the base of the bank.

The majority of the bank was wet due to intermittent drizzle prior to my reconnaissance. The reconnaissance was conducted between about 12:00 and 1:00. According to provisional data provided by the US Geological Survey, the Willamette River elevation (as measured at a station located on the Morrison Bridge) was falling during the reconnaissance period.

I saw no evidence of hydrocarbon, as free phase, sheen, or blooms during the reconnaissance. I also did not observe any discrete seeps flowing out of the bank.

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 10/10/2002

Re: Premier Edible Oils Site – River Bank Reconnaissance, 6/20/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from approximately MW-13 location (along Slip), to MW-7 location (along Willamette River).

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 10:45 am and 11:15 am.

Groundwater seeps, hydrocarbon product or hydrocarbon sheen were not observed during the reconnaissance event.

SCHNITZER INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 10/10/2002

Re: Premier Edible Oils Site – River Bank Reconnaissance, 7/5/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from approximately MW-13 location (along Slip), to MW-7 location (along Willamette River).

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 11:00 am and 11:45 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 10/10/2002

Re: Premier Edible Oils Site – River Bank Reconnaissance, 8/15/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 7:30 am and 9:00 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 10/10/2002

Re: Premier Edible Oils Site – River Bank Reconnaissance, 9/15/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from approximately MW-13 location (along Slip), to MW-7 location (along Willamette River).

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 9:20 am and 10:00 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 10/10/2002

Re: Premier Edible Oils Site – River Bank Reconnaissance, 10/9/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 4:30 pm and 5:15 pm.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

Gradient
CORPORATION

January 15, 2003

Ms. Alicia Voss
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, 4th Floor
Portland, OR 97201

Re: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Ms. Voss:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this sixth Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter, describes activities planned for the next quarter, and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between October 1 and December 31, 2002, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- Reviewed and provided comments to DEQ on DEQ's Environmental Cleanup Site Information (ECSI) Site Summary Report. Many of the recommended modifications were incorporated by DEQ into the ECSI report.
- Submitted the data from the third quarterly groundwater monitoring event to DEQ.
- Submitted documentation of the monthly shoreline reconnaissance surveys conducted between March and September 2002 to DEQ.
- Spoke with DEQ on December 12, 2002 to discuss DEQ feedback on the October 14, 2002 submittals. Received DEQ approval to conduct fourth quarterly groundwater monitoring event in accordance with the approach presented in the October 14 submittal.
- Measured water levels from site wells on four occasions (October 17, October 30, November 22, and December 31, 2002).
- Conducted shoreline reconnaissance surveys on three occasions (October 9, November 19, and December 13, 2002). Memos documenting these surveys accompany this quarterly report.
- Continued compilation of documentation of site activities.

9725 SE 36th Street, Suite 404, Mercer Island, WA 98040 • (206) 275-4774 • fax: (206) 275-4775 •
www.gradientcorp.com

Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between January 1 and March 31, 2003:

- Conduct the fourth quarterly groundwater monitoring event. As previously discussed with DEQ, this sampling event is currently scheduled to occur during the week of January 20, 2003.
- Continue to collect and evaluate water level data.
- Complete and submit report summarizing results of tidal monitoring evaluations.
- Receive from DEQ and evaluate Time Oil's investigative data for the Bell Terminal site. Review implications of available data for potential impacts on PEO site from Time Oil site.

Issues to be Resolved/Recommended Actions

None.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

GRADIENT CORPORATION

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberly/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00380227

Documentation of Shoreline Reconnaissance Surveys
October – December 2002

Premier Edible Oils Site

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 10/9/02

Re: Premier Edible Oils Site – River Bank Reconnaissance, 10/9/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry due to dry weather conditions. The reconnaissance was conducted between 4:30 pm and 5:15 pm.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 11/19/02

Re: Premier Edible Oils Site – River Bank Reconnaissance, 11/19/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry due to dry weather conditions. The reconnaissance was conducted between 8:30 am and 9:15 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 12/13/02

Re: Premier Edible Oils Site – River Bank Reconnaissance, 12/13/02

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line.The reconnaissance was conducted between 11:30 am and 11:50 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

Gradient
CORPORATION

April 17, 2003

Ms. Alicia Voss
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, 4th Floor
Portland, OR 97201

Re: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Ms. Voss:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this seventh Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter, describes activities planned for the next quarter, and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between January 1 and March 31, 2003, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- Following receipt of DEQ approval, conducted fourth quarterly groundwater monitoring event on January 28 and 29 in accordance with the approach presented in the October 14, 2002 submittal to DEQ. Communicated with DEQ regarding the timing of the sampling event.
- Measured water levels from site wells on one occasion (January 28, 2003).
- Conducted shoreline reconnaissance surveys on three occasions (January 13, February 26, and March 18, 2003). Memos documenting these surveys accompany this quarterly report.
- Continued compilation of documentation of site activities.

Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between April 1 and June 30, 2003:

- Submit the data from the fourth quarterly groundwater monitoring event. Preliminary unvalidated data from this sampling event accompany this quarterly report.
- Validate data from four quarterly groundwater monitoring events and preliminary remedial investigation.
- Continue to synthesize and evaluate site data. Arrange for site status meeting with DEQ.

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9725 SE 36th Street, Suite 404, Mercer Island, WA 98040 • (206) 275-4774 • fax: (206) 275-4775 •
www.gradientcorp.com

- Complete and submit report summarizing results of tidal monitoring evaluations.
- Receive from DEQ and evaluate Time Oil's investigative data for the Bell Terminal site. Review implications of available data for potential impacts on PEO site from Time Oil site.

Issues to be Resolved/Recommended Actions

None.

As we previously noted, we appreciate the slight extension that you approved for our submittal of this report. Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

GRADIENT CORPORATION

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberly/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00380233

Documentation of Shoreline Reconnaissance Surveys
January – March 2003

Premier Edible Oils Site

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 1/13/03

Re: Premier Edible Oils Site – River Bank Reconnaissance, 1/13/03

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The reconnaissance was conducted between 1:15 pm and 2:00 pm.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 2/26/03

Re: Premier Edible Oils Site – River Bank Reconnaissance, 2/26/03

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The reconnaissance was conducted between 8:15 am and 9:00 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 3/18/03

Re: Premier Edible Oils Site – River Bank Reconnaissance, 3/18/03

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The reconnaissance was conducted between 11:30 am and 12:15 pm.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

Preliminary Unvalidated Data from
Fourth Quarterly Groundwater Sampling Event

Premier Edible Oils Site

Table A-1
Summary of Groundwater Elevations and
Product Observation Data
June 2001 - January 2003
25693679

PERIOD: From 06/06/2001 thru 01/28/2003 - Inclusive

SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-01	6/6/2001	28.37	12:00	20.92	0.00	7.45	NA	7.45
MW-01	6/18/2001	28.37	12:00	21.48	0.00	6.89	-0.56	6.89
MW-01	7/2/2001	28.37	12:00	21.60	0.00	6.77	-0.12	6.77
MW-01	7/16/2001	28.37	12:00	22.22	0.00	6.15	-0.62	6.15
MW-01	7/30/2001	28.37	12:00	22.37	0.00	6.00	-0.15	6.00
MW-01	8/13/2001	28.37	12:40	22.43	0.00	5.94	-0.06	5.94
MW-01	8/27/2001	28.37	12:45	22.33	0.00	6.04	0.10	6.04
MW-01	10/10/2001	28.37	15:10	22.81	0.00	5.56	-0.48	5.56
MW-01	11/29/2001	28.37	10:08	21.17	0.00	7.20	1.64	7.20
MW-01	12/27/2001	28.37	11:12	17.76	0.00	10.61	3.41	10.61
MW-01	2/4/2002	28.37	10:35	17.31	0.00	11.06	0.45	11.06
MW-01	2/28/2002	28.37	13:53	18.45	0.00	9.92	-1.14	9.92
MW-01	3/14/2002	28.37	09:34	18.61	0.00	9.76	-0.16	9.76
MW-01	4/23/2002	28.37	13:53	15.85	0.00	12.52	2.76	12.52
MW-01	5/22/2002	28.37	14:29	18.36	0.00	10.01	-2.51	10.01
MW-01	6/21/2002	28.37	13:31	15.90	0.00	12.47	2.46	12.47
MW-01	7/26/2002	28.37	12:55	18.48	0.00	9.89	-2.58	9.89
MW-01	8/29/2002	28.37	12:51	20.73	0.00	7.64	-2.25	7.64
MW-01	10/17/2002	28.37	11:59	22.03	0.00	6.34	-1.30	6.34
MW-01	10/30/2002	28.37	11:16	22.18	0.00	6.19	-0.15	6.19
MW-01	11/22/2002	28.37	10:55	21.45	0.00	6.92	0.73	6.92
MW-01	12/31/2002	28.37	10:53	20.20	0.00	8.17	1.25	8.17
MW-01	1/28/2003	28.37	12:00	19.35	0.00	9.02	0.85	9.02
MW-02	6/6/2001	29.32	12:00	21.94	0.00	7.38	NA	7.38
MW-02	6/18/2001	29.32	12:00	25.37	1.95	3.95	-3.43	5.60
MW-02	7/2/2001	29.32	12:00	25.22	1.76	4.10	0.15	5.59
MW-02	7/16/2001	29.32	12:00	25.77	1.64	3.55	-0.55	4.94
MW-02	7/30/2001	29.32	12:00	25.82	1.86	3.50	-0.05	5.07
MW-02	8/13/2001	29.32	13:08	25.50	1.93	3.82	0.32	5.45
MW-02	8/27/2001	29.32	13:12	25.50	1.94	3.82	0.00	5.46
MW-02	10/10/2001	29.32	15:52	25.70	1.53	3.62	-0.20	4.91
MW-02	11/29/2001	29.32	10:30	21.13	0.00	8.19	4.57	8.19
MW-02	12/27/2001	29.32	11:36	20.72	0.35	8.60	0.41	8.90
MW-02	2/4/2002	29.32	10:55	20.30	0.96	9.02	0.42	9.83
MW-02	2/28/2002	29.32	14:26	24.15	4.01	5.17	-3.85	8.56
MW-02	3/14/2002	29.32	10:07	19.33	0.00	9.99	4.82	9.99
MW-02	4/23/2002	29.32	14:23	17.74	0.36	11.58	1.59	11.89
MW-02	5/22/2002	29.32	14:51	19.54	0.23	9.78	-1.80	9.98

All elevations relative to City of Portland Datum

Table A-1
Summary of Groundwater Elevations and
Product Observation Data
June 2001 - January 2003
25693679

PERIOD: From 06/06/2001 thru 01/28/2003 - Inclusive

SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV. (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-02	6/21/2002	29.32	13:53	16.70	0.00	12.62	2.84	12.62
MW-02	7/26/2002	29.32	13:27	21.86	1.80	7.46	-5.16	8.98
MW-02	8/29/2002	29.32	13:19	23.75	1.35	5.57	-1.89	6.71
MW-02	10/17/2002	29.32	12:20	25.38	1.58	3.94	-1.63	5.28
MW-02	10/30/2002	29.32	11:31	25.19	0.46	4.13	0.19	4.52
MW-02	11/22/2002	29.32	11:25	22.62	0.00	6.70	2.57	6.70
MW-02	12/31/2002	29.32	11:25	20.78	0.00	8.54	1.84	8.54
MW-02	1/28/2003	29.32	12:03	21.00	0.55	8.32	-0.22	8.79
MW-03	6/6/2001	29.79	12:00	21.38	0.00	8.41	NA	8.41
MW-03	6/18/2001	29.79	12:00	21.71	0.00	8.08	-0.33	8.08
MW-03	7/2/2001	29.79	12:00	21.71	0.00	8.08	0.00	8.08
MW-03	7/16/2001	29.79	12:00	22.40	0.00	7.39	-0.69	7.39
MW-03	7/30/2001	29.79	12:00	23.41	0.00	6.38	-1.01	6.38
MW-03	8/13/2001	29.79	12:28	23.80	0.00	5.99	-0.39	5.99
MW-03	8/13/2001	29.79	13:21	23.77	0.00	6.02	0.03	6.02
MW-03	8/27/2001	29.79	12:34	23.73	0.00	6.06	0.04	6.06
MW-03	10/10/2001	29.79	15:19	24.29	0.00	5.50	-0.56	5.50
MW-03	11/29/2001	29.79	10:15	21.67	0.00	8.12	2.62	8.12
MW-03	12/27/2001	29.79	11:16	18.13	0.00	11.66	3.54	11.66
MW-03	2/4/2002	29.79	10:38	17.53	0.00	12.26	0.60	12.26
MW-03	2/28/2002	29.79	13:42	18.65	0.00	11.14	-1.12	11.14
MW-03	3/14/2002	29.79	10:20	18.88	0.00	10.91	-0.23	10.91
MW-03	4/23/2002	29.79	13:42	17.06	0.00	12.73	1.82	12.73
MW-03	5/22/2002	29.79	14:20	18.98	0.00	10.81	-1.92	10.81
MW-03	6/21/2002	29.79	13:20	17.09	0.00	12.70	1.89	12.70
MW-03	7/26/2002	29.79	12:45	19.11	0.00	10.68	-2.02	10.68
MW-03	7/26/2002	29.79	13:33	19.12	0.00	10.67	-0.01	10.67
MW-03	8/29/2002	29.79	12:50	21.05	0.00	8.74	-1.93	8.74
MW-03	10/17/2002	29.79	12:02	22.13	0.00	7.66	-1.08	7.66
MW-03	10/30/2002	29.79	11:34	22.51	0.00	7.28	-0.38	7.28
MW-03	11/22/2002	29.79	11:33	22.12	0.00	7.67	0.39	7.67
MW-03	12/31/2002	29.79	11:30	20.60	0.00	9.19	1.52	9.19
MW-03	1/28/2003	29.79	11:07	19.71	0.00	10.08	0.89	10.08
MW-04	6/8/2001	29.46	12:00	21.10	3.20	8.36	NA	11.12
MW-04	6/18/2001	29.46	12:00	21.37	3.14	8.09	-0.27	10.80
MW-04	7/2/2001	29.46	12:00	21.30	2.98	8.16	0.07	10.73
MW-04	7/16/2001	29.46	12:00	22.51	3.91	6.95	-1.21	10.32

All elevations relative to City of Portland Datum

Table A-1
Summary of Groundwater Elevations and
Product Observation Data
June 2001 - January 2003
25693679

PERIOD: From 06/06/2001 thru 01/28/2003 - Inclusive

SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-04	7/30/2001	29.46	12:00	22.95	4.28	6.51	-0.44	10.20
MW-04	8/13/2001	29.46	13:16	23.40	4.71	6.06	-0.45	10.13
MW-04	8/27/2001	29.46	13:20	24.75	5.98	4.71	-1.35	9.87
MW-04	10/10/2001	29.46	16:12	24.10	4.75	5.36	0.65	9.46
MW-04	11/29/2001	29.46	10:41	20.62	2.94	8.84	3.48	11.38
MW-04	12/27/2001	29.46	11:40	16.80	1.04	12.66	3.82	13.56
MW-04	2/4/2002	29.46	11:00	16.17	0.85	13.29	0.63	14.02
MW-04	2/28/2002	29.46	14:35	16.98	1.08	12.48	-0.81	13.41
MW-04	3/14/2002	29.46	10:15	16.60	0.77	12.86	0.38	13.53
MW-04	4/23/2002	29.46	14:29	16.08	0.53	13.38	0.52	13.84
MW-04	5/22/2002	29.46	14:56	17.52	1.11	11.94	-1.44	12.90
MW-04	6/21/2002	29.46	13:58	16.13	0.31	13.33	1.39	13.60
MW-04	7/26/2002	29.46	13:34	17.73	0.82	11.73	-1.60	12.44
MW-04	8/29/2002	29.46	13:25	18.63	0.90	10.83	-0.90	11.61
MW-04	10/17/2002	29.46	12:28	19.56	1.03	9.90	-0.93	10.79
MW-04	10/30/2002	29.46	11:35	19.83	1.15	9.63	-0.27	10.62
MW-04	11/22/2002	29.46	11:35	20.05	1.45	9.41	-0.22	10.66
MW-04	12/31/2002	29.46	11:33	18.26	0.93	11.20	1.79	12.00
MW-04	1/28/2003	29.46	12:13	17.52	0.96	11.94	0.74	12.77
MW-05	6/6/2001	29.39	12:00	21.70	0.00	7.69	NA	7.69
MW-05	6/18/2001	29.39	12:00	22.48	0.00	6.91	-0.78	6.91
MW-05	7/2/2001	29.39	12:00	22.58	0.00	6.81	-0.10	6.81
MW-05	7/16/2001	29.39	12:00	23.33	0.00	6.06	-0.75	6.06
MW-05	7/30/2001	29.39	12:00	23.49	0.00	5.90	-0.16	5.90
MW-05	8/13/2001	29.39	12:44	23.52	0.00	5.87	-0.03	5.87
MW-05	8/27/2001	29.39	12:52	23.38	0.00	6.01	0.14	6.01
MW-05	10/10/2001	29.39	15:13	23.92	0.00	5.47	-0.54	5.47
MW-05	11/29/2001	29.39	10:13	21.92	0.00	7.47	2.00	7.47
MW-05	12/27/2001	29.39	11:14	18.69	0.00	10.70	3.23	10.70
MW-05	2/4/2002	29.39	10:37	18.14	0.00	11.25	0.55	11.25
MW-05	2/28/2002	29.39	13:58	19.33	0.00	10.06	-1.19	10.06
MW-05	3/14/2002	29.39	09:38	19.24	0.00	10.15	0.09	10.15
MW-05	4/23/2002	29.39	13:59	16.99	0.00	12.40	2.25	12.40
MW-05	5/22/2002	29.39	14:32	19.18	0.00	10.21	-2.19	10.21
MW-05	6/21/2002	29.39	13:34	16.89	0.00	12.50	2.29	12.50
MW-05	7/26/2002	29.39	13:03	19.43	0.00	9.96	-2.54	9.96
MW-05	8/29/2002	29.39	12:54	21.83	0.00	7.56	-2.40	7.56
MW-05	10/17/2002	29.39	11:50	23.18	0.00	6.21	-1.35	6.21

All elevations relative to City of Portland Datum

Table A-1
Summary of Groundwater Elevations and
Product Observation Data
June 2001 - January 2003
25693679

PERIOD: From 06/06/2001 thru 01/28/2003 - Inclusive

SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-05	10/30/2002	29.39	11:09	23.33	0.00	6.06	-0.15	6.06
MW-05	11/22/2002	29.39	10:57	22.42	0.00	6.97	0.91	6.97
MW-05	12/31/2002	29.39	10:56	20.92	0.00	8.47	1.50	8.47
MW-05	1/28/2003	29.39	11:25	20.24	0.00	9.15	0.68	9.15
MW-06	6/6/2001	29.36	12:00	21.74	0.00	7.62	NA	7.62
MW-06	6/18/2001	29.36	12:00	22.41	0.00	6.95	-0.67	6.95
MW-06	7/2/2001	29.36	12:00	22.51	0.00	6.85	-0.10	6.85
MW-06	7/16/2001	29.36	12:00	23.19	0.00	6.17	-0.68	6.17
MW-06	7/30/2001	29.36	12:00	23.37	0.00	5.99	-0.18	5.99
MW-06	8/13/2001	29.36	12:46	23.41	0.00	5.95	-0.04	5.95
MW-06	8/27/2001	29.36	12:54	23.37	0.00	5.99	0.04	5.99
MW-06	10/10/2001	29.36	15:21	23.78	0.00	5.58	-0.41	5.58
MW-06	11/29/2001	29.36	10:16	21.77	0.00	7.59	2.01	7.59
MW-06	12/27/2001	29.36	11:17	18.48	0.00	10.88	3.29	10.88
MW-06	2/4/2002	29.36	10:40	17.94	0.00	11.42	0.54	11.42
MW-06	2/28/2002	29.36	14:00	19.19	0.00	10.17	-1.25	10.17
MW-06	3/14/2002	29.36	09:40	19.33	0.00	10.03	-0.14	10.03
MW-06	4/23/2002	29.36	14:01	16.90	0.00	12.46	2.43	12.46
MW-06	5/22/2002	29.36	14:34	19.13	0.00	10.23	-2.23	10.23
MW-06	6/21/2002	29.36	13:36	16.90	0.00	12.46	2.23	12.46
MW-06	7/26/2002	29.36	13:05	19.27	0.00	10.09	-2.37	10.09
MW-06	8/29/2002	29.36	12:59	21.63	0.00	7.73	-2.36	7.73
MW-06	10/17/2002	29.36	12:04	23.03	0.00	6.33	-1.40	6.33
MW-06	10/30/2002	29.36	11:12	23.19	0.00	6.17	-0.16	6.17
MW-06	11/22/2002	29.36	11:00	22.33	0.00	7.03	0.86	7.03
MW-06	12/31/2002	29.36	11:00	20.72	0.00	8.64	1.61	8.64
MW-06	1/28/2003	29.36	11:27	20.09	0.00	9.27	0.63	9.27
MW-07	6/6/2001	28.46	12:00	21.01	0.00	7.45	NA	7.45
MW-07	6/18/2001	28.46	12:00	22.17	0.00	6.29	-1.16	6.29
MW-07	7/2/2001	28.46	12:00	22.20	0.00	6.26	-0.03	6.26
MW-07	7/16/2001	28.46	12:00	22.84	0.00	5.62	-0.64	5.62
MW-07	7/30/2001	28.46	12:00	22.92	0.00	5.54	-0.08	5.54
MW-07	8/13/2001	28.46	12:49	22.80	0.00	5.66	0.12	5.66
MW-07	8/27/2001	28.46	12:57	22.68	0.00	5.78	0.12	5.78
MW-07	10/10/2001	28.46	15:24	23.17	0.00	5.29	-0.49	5.29
MW-07	11/29/2001	28.46	10:18	20.28	0.00	8.18	2.89	8.18
MW-07	12/27/2001	28.46	11:19	18.93	0.00	9.53	1.35	9.53

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Summary of Groundwater Elevations and
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25693679

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SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-07	2/4/2002	28.46	10:42	18.13	0.00	10.33	0.80	10.33
MW-07	2/28/2002	28.46	14:04	19.38	0.00	9.08	-1.25	9.08
MW-07	3/14/2002	28.46	09:45	18.69	0.00	9.77	0.69	9.77
MW-07	4/23/2002	28.46	14:05	16.30	0.00	12.16	2.39	12.16
MW-07	5/22/2002	28.46	14:35	18.66	0.00	9.80	-2.36	9.80
MW-07	6/21/2002	28.46	13:37	15.95	0.00	12.51	2.71	12.51
MW-07	7/26/2002	28.46	13:06	19.14	0.00	9.32	-3.19	9.32
MW-07	8/29/2002	28.46	13:01	21.38	0.00	7.08	-2.24	7.08
MW-07	10/17/2002	28.46	12:05	22.64	0.00	5.82	-1.26	5.82
MW-07	10/30/2002	28.46	11:14	22.74	0.00	5.72	-0.10	5.72
MW-07	11/22/2002	28.46	11:01	21.62	0.00	6.84	1.12	6.84
MW-07	12/31/2002	28.46	11:02	19.56	0.00	8.90	2.06	8.90
MW-07	1/28/2003	28.46	11:30	19.65	0.00	8.81	-0.09	8.81
MW-08	6/6/2001	29.06	12:00	21.64	0.00	7.42	NA	7.42
MW-08	6/18/2001	29.06	12:00	22.68	0.00	6.38	-1.04	6.38
MW-08	7/2/2001	29.06	12:00	22.70	0.00	6.36	-0.02	6.36
MW-08	7/16/2001	29.06	12:00	23.40	0.00	5.66	-0.70	5.66
MW-08	7/30/2001	29.06	12:00	23.48	0.00	5.58	-0.08	5.58
MW-08	8/13/2001	29.06	12:53	23.37	0.00	5.69	0.11	5.69
MW-08	8/27/2001	29.06	12:59	23.25	0.00	5.81	0.12	5.81
MW-08	10/10/2001	29.06	15:28	23.73	0.00	5.33	-0.48	5.33
MW-08	11/29/2001	29.06	10:19	21.25	0.00	7.81	2.48	7.81
MW-08	12/27/2001	29.06	11:21	19.30	0.00	9.76	1.95	9.76
MW-08	2/4/2002	29.06	10:43	18.58	0.00	10.48	0.72	10.48
MW-08	2/28/2002	29.06	14:06	19.73	0.00	9.33	-1.15	9.33
MW-08	3/14/2002	29.06	09:47	19.30	0.00	9.76	0.43	9.76
MW-08	4/23/2002	29.06	14:07	16.90	0.00	12.16	2.40	12.16
MW-08	5/22/2002	29.06	14:37	19.14	0.00	9.92	-2.24	9.92
MW-08	6/21/2002	29.06	13:39	16.58	0.00	12.48	2.56	12.48
MW-08	7/26/2002	29.06	13:08	19.65	0.00	9.41	-3.07	9.41
MW-08	8/29/2002	29.06	13:03	21.86	0.00	7.20	-2.21	7.20
MW-08	10/17/2002	29.06	12:07	23.20	0.00	5.86	-1.34	5.86
MW-08	10/30/2002	29.06	11:15	23.26	0.00	5.80	-0.06	5.80
MW-08	11/22/2002	29.06	11:08	22.20	0.00	6.86	1.06	6.86
MW-08	12/31/2002	29.06	11:05	20.55	0.00	8.51	1.65	8.51
MW-08	1/28/2003	29.06	11:32	20.23	0.00	8.83	0.32	8.83
MW-09	6/6/2001	29.60	12:00	22.18	0.00	7.42	NA	7.42

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SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-09	6/18/2001	29.60	12:00	24.39	0.00	5.21	-2.21	5.21
MW-09	7/2/2001	29.60	12:00	24.31	0.00	5.29	0.08	5.29
MW-09	7/16/2001	29.60	12:00	24.99	0.00	4.61	-0.68	4.61
MW-09	7/30/2001	29.60	12:00	24.74	0.00	4.86	0.25	4.86
MW-09	8/13/2001	29.60	12:59	24.31	0.00	5.29	0.43	5.29
MW-09	8/27/2001	29.60	13:06	24.38	0.00	5.22	-0.07	5.22
MW-09	10/10/2001	29.60	15:34	24.79	0.00	4.81	-0.41	4.81
MW-09	11/29/2001	29.60	10:23	20.59	0.00	9.01	4.20	9.01
MW-09	12/27/2001	29.60	11:28	22.67	0.34	6.93	-2.08	7.22
MW-09	2/4/2002	29.60	10:48	20.89	0.14	8.71	1.78	8.83
MW-09	2/28/2002	29.60	14:12	21.95	0.35	7.65	-1.06	7.95
MW-09	3/14/2002	29.60	09:58	19.10	0.00	10.50	2.85	10.50
MW-09	4/23/2002	29.60	14:15	19.15	0.78	10.45	-0.05	11.11
MW-09	5/22/2002	29.60	14:42	19.34	0.00	10.26	-0.19	10.26
MW-09	6/21/2002	29.60	13:47	16.54	0.00	13.06	2.80	13.06
MW-09	7/26/2002	29.60	13:15	21.55	0.00	8.05	-5.01	8.05
MW-09	8/29/2002	29.60	13:09	23.58	0.26	6.02	-2.03	6.24
MW-09	10/17/2002	29.60	12:13	24.53	0.00	5.07	-0.95	5.07
MW-09	10/30/2002	29.60	11:19	24.49	0.00	5.11	0.04	5.11
MW-09	11/22/2002	29.60	11:15	23.01	0.00	6.59	1.48	6.59
MW-09	12/31/2002	29.60	11:12	20.84	0.00	8.76	2.17	8.76
MW-09	1/28/2003	29.60	11:42	21.00	0.09	8.60	-0.16	8.68
MW-10	6/6/2001	29.06	12:00	21.57	0.00	7.49	NA	7.49
MW-10	6/18/2001	29.06	12:00	24.33	0.00	4.73	-2.76	4.73
MW-10	7/2/2001	29.06	12:00	24.23	0.00	4.83	0.10	4.83
MW-10	7/16/2001	29.06	12:00	25.12	0.00	3.94	-0.89	3.94
MW-10	7/30/2001	29.06	12:00	24.87	0.00	4.19	0.25	4.19
MW-10	8/13/2001	29.06	12:55	23.74	0.00	5.32	1.13	5.32
MW-10	8/27/2001	29.06	13:08	24.00	0.00	5.06	-0.26	5.06
MW-10	10/10/2001	29.06	15:31	24.30	0.00	4.76	-0.30	4.76
MW-10	11/29/2001	29.06	10:21	19.91	0.00	9.15	4.39	9.15
MW-10	12/27/2001	29.06	11:22	21.88	0.00	7.18	-1.97	7.18
MW-10	2/4/2002	29.06	10:45	20.20	0.00	8.86	1.68	8.86
MW-10	2/28/2002	29.06	14:08	21.08	0.00	7.98	-0.88	7.98
MW-10	3/14/2002	29.06	09:56	18.55	0.00	10.51	2.53	10.51
MW-10	4/23/2002	29.06	14:09	17.99	0.00	11.07	0.56	11.07
MW-10	5/22/2002	29.06	14:39	18.70	0.00	10.36	-0.71	10.36
MW-10	6/21/2002	29.06	13:45	15.95	0.00	13.11	2.75	13.11

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SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-10	7/26/2002	29.06	13:10	21.07	0.00	7.99	-5.12	7.99
MW-10	8/29/2002	29.06	13:05	22.92	0.00	6.14	-1.85	6.14
MW-10	10/17/2002	29.06	12:09	24.65	0.00	4.41	-1.73	4.41
MW-10	10/30/2002	29.06	11:16	23.98	0.00	5.08	0.67	5.08
MW-10	11/22/2002	29.06	11:11	22.48	0.00	6.58	1.50	6.58
MW-10	12/31/2002	29.06	11:08	20.45	0.00	8.61	2.03	8.61
MW-10	1/28/2003	29.06	11:37	20.29	0.00	8.77	0.16	8.77
MW-11	6/6/2001	29.20	12:00	21.81	0.00	7.39	NA	7.39
MW-11	6/18/2001	29.20	12:00	23.49	0.00	5.71	-1.68	5.71
MW-11	7/2/2001	29.20	12:00	23.37	0.00	5.83	0.12	5.83
MW-11	7/16/2001	29.20	12:00	24.16	0.00	5.04	-0.79	5.04
MW-11	7/30/2001	29.20	12:00	24.02	0.00	5.18	0.14	5.18
MW-11	8/13/2001	29.20	13:01	23.73	0.00	5.47	0.29	5.47
MW-11	8/27/2001	29.20	13:02	23.67	0.00	5.53	0.06	5.53
MW-11	10/10/2001	29.20	15:38	24.18	0.00	5.02	-0.51	5.02
MW-11	11/29/2001	29.20	10:24	21.05	0.26	8.15	3.13	8.37
MW-11	12/27/2001	29.20	11:32	22.53	2.07	6.67	-1.48	8.42
MW-11	2/4/2002	29.20	10:53	20.03	0.40	9.17	2.50	9.51
MW-11	2/28/2002	29.20	14:22	21.22	0.81	7.98	-1.19	8.67
MW-11	3/14/2002	29.20	10:02	19.22	0.48	9.98	2.00	10.39
MW-11	4/23/2002	29.20	14:20	17.90	0.60	11.30	1.32	11.81
MW-11	5/22/2002	29.20	14:48	21.26	2.62	7.94	-3.36	10.16
MW-11	6/21/2002	29.20	13:51	16.70	0.00	12.50	4.56	12.50
MW-11	7/26/2002	29.20	13:21	21.44	1.27	7.76	-4.74	8.83
MW-11	8/29/2002	29.20	13:15	22.95	0.51	6.25	-1.51	6.68
MW-11	10/17/2002	29.20	12:18	24.42	0.78	4.78	-1.47	5.44
MW-11	10/30/2002	29.20	11:30	24.43	0.76	4.77	-0.01	5.41
MW-11	11/22/2002	29.20	11:22	22.62	0.26	6.58	1.81	6.80
MW-11	12/31/2002	29.20	11:20	20.70	0.21	8.50	1.92	8.68
MW-11	1/28/2003	29.20	11:59	20.55	0.08	8.65	0.15	8.72
MW-12	6/6/2001	29.21	12:00	21.75	0.00	7.46	NA	7.46
MW-12	6/18/2001	29.21	12:00	23.92	0.00	5.29	-2.17	5.29
MW-12	7/2/2001	29.21	12:00	23.88	0.00	5.33	0.04	5.33
MW-12	7/16/2001	29.21	12:00	24.54	0.00	4.67	-0.66	4.67
MW-12	7/30/2001	29.21	12:00	24.35	0.00	4.86	0.19	4.86
MW-12	8/13/2001	29.21	12:56	23.85	0.00	5.36	0.50	5.36
MW-12	8/27/2001	29.21	13:07	23.91	0.00	5.30	-0.06	5.30

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MW-12	10/10/2001	29.21	15:32	24.33	0.00	4.88	-0.42	4.88
MW-12	11/29/2001	29.21	10:22	20.33	0.00	8.88	4.00	8.88
MW-12	12/27/2001	29.21	11:23	21.66	0.00	7.55	-1.33	7.55
MW-12	2/4/2002	29.21	10:46	20.17	0.01	9.04	1.49	9.04
MW-12	2/28/2002	29.21	14:08	21.22	0.21	7.99	-1.05	8.17
MW-12	3/14/2002	29.21	09:55	18.75	0.00	10.46	2.47	10.46
MW-12	4/23/2002	29.21	14:10	17.87	0.00	11.34	0.88	11.34
MW-12	5/22/2002	29.21	14:40	19.06	0.10	10.15	-1.19	10.24
MW-12	6/21/2002	29.21	13:46	16.25	0.00	12.96	2.81	12.96
MW-12	7/26/2002	29.21	13:11	21.32	0.47	7.89	-5.07	8.29
MW-12	8/29/2002	29.21	13:07	22.85	0.00	6.36	-1.53	6.36
MW-12	10/17/2002	29.21	12:11	24.12	0.00	5.09	-1.27	5.09
MW-12	10/30/2002	29.21	11:17	24.03	0.00	5.18	0.09	5.18
MW-12	11/22/2002	29.21	11:14	22.55	0.00	6.66	1.48	6.66
MW-12	12/31/2002	29.21	11:10	20.22	0.00	8.99	2.33	8.99
MW-12	1/28/2003	29.21	11:39	20.52	0.00	8.69	-0.30	8.69
MW-13	6/6/2001	30.21	12:00	22.84	0.00	7.37	NA	7.37
MW-13	6/18/2001	30.21	12:00	24.80	0.00	5.41	-1.96	5.41
MW-13	7/2/2001	30.21	12:00	24.69	0.00	5.52	0.11	5.52
MW-13	7/16/2001	30.21	12:00	25.45	0.00	4.76	-0.76	4.76
MW-13	7/30/2001	30.21	12:00	25.25	0.00	4.96	0.20	4.96
MW-13	8/13/2001	30.21	13:04	24.82	0.00	5.39	0.43	5.39
MW-13	8/27/2001	30.21	13:04	24.80	0.00	5.41	0.02	5.41
MW-13	10/10/2001	30.21	15:45	25.65	0.44	4.56	-0.85	4.93
MW-13	11/29/2001	30.21	10:28	21.46	0.00	8.75	4.19	8.75
MW-13	12/27/2001	30.21	11:31	22.60	0.00	7.61	-1.14	7.61
MW-13	2/4/2002	30.21	10:51	21.09	0.02	9.12	1.51	9.14
MW-13	2/28/2002	30.21	14:20	21.89	0.03	8.32	-0.80	8.35
MW-13	3/14/2002	30.21	10:00	19.83	0.00	10.38	2.06	10.38
MW-13	4/23/2002	30.21	14:17	19.16	0.49	11.05	0.67	11.47
MW-13	5/22/2002	30.21	14:44	20.11	0.04	10.10	-0.95	10.13
MW-13	6/21/2002	30.21	13:49	17.35	0.00	12.86	2.76	12.86
MW-13	7/26/2002	30.21	13:17	22.25	0.60	7.96	-4.90	8.47
MW-13	8/29/2002	30.21	13:12	24.11	0.32	6.10	-1.86	6.37
MW-13	10/17/2002	30.21	12:15	25.29	0.35	4.92	-1.18	5.22
MW-13	10/30/2002	30.21	11:24	25.20	0.31	5.01	0.09	5.27
MW-13	11/22/2002	30.21	11:18	23.53	0.00	6.68	1.67	6.68
MW-13	12/31/2002	30.21	11:15	21.48	0.00	8.73	2.05	8.73

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MW-13	1/28/2003	30.21	11:50	21.56	0.05	8.65	-0.08	8.69
MW-15	6/6/2001	30.48	12:00	22.81	0.00	7.67	NA	7.67
MW-15	6/18/2001	30.48	12:00	24.58	0.00	5.90	-1.77	5.90
MW-15	7/2/2001	30.48	12:00	24.45	0.00	6.03	0.13	6.03
MW-15	7/16/2001	30.48	12:00	25.43	0.00	5.05	-0.98	5.05
MW-15	7/30/2001	30.48	12:00	25.33	0.00	5.15	0.10	5.15
MW-15	8/13/2001	30.48	13:28	24.90	0.00	5.58	0.43	5.58
MW-15	8/27/2001	30.48	12:42	25.10	0.00	5.38	-0.20	5.38
MW-15	10/10/2001	30.48	14:55	25.30	0.00	5.18	-0.20	5.18
MW-15	11/29/2001	30.48	10:03	22.35	0.00	8.13	2.95	8.13
MW-15	12/27/2001	30.48	11:07	21.64	0.00	8.84	0.71	8.84
MW-15	2/4/2002	30.48	10:26	20.77	0.00	9.71	0.87	9.71
MW-15	2/28/2002	30.48	13:48	21.31	0.00	9.17	-0.54	9.17
MW-15	3/14/2002	30.48	09:28	0.00	0.00	30.48	21.31	30.48
MW-15	3/14/2002	30.48	09:28	20.30	0.00	10.18	-20.30	10.18
MW-15	4/23/2002	30.48	13:45	18.97	0.00	11.51	1.33	11.51
MW-15	5/22/2002	30.48	14:24	20.44	0.00	10.04	-1.47	10.04
MW-15	6/21/2002	30.48	13:25	17.85	0.00	12.63	2.59	12.63
MW-15	7/26/2002	30.48	12:50	21.34	0.00	9.14	-3.49	9.14
MW-15	8/29/2002	30.48	12:45	23.48	0.00	7.00	-2.14	7.00
MW-15	10/17/2002	30.48	11:53	24.85	0.00	5.63	-1.37	5.63
MW-15	10/30/2002	30.48	11:03	24.96	0.00	5.52	-0.11	5.52
MW-15	11/22/2002	30.48	10:48	23.60	0.00	6.88	1.36	6.88
MW-15	12/31/2002	30.48	10:42	22.07	0.00	8.41	1.53	8.41
MW-15	1/28/2003	30.48	12:00	21.82	0.00	8.66	0.25	8.66
MW-16	6/6/2001	30.03	12:00	22.44	0.00	7.59	NA	7.59
MW-16	6/18/2001	30.03	12:00	24.48	0.00	5.55	-2.04	5.55
MW-16	7/2/2001	30.03	12:00	24.39	0.00	5.64	0.09	5.64
MW-16	7/16/2001	30.03	12:00	25.46	0.00	4.57	-1.07	4.57
MW-16	7/30/2001	30.03	12:00	25.31	0.00	4.72	0.15	4.72
MW-16	8/13/2001	30.03	12:37	24.65	0.00	5.38	0.66	5.38
MW-16	8/27/2001	30.03	12:47	24.80	0.00	5.23	-0.15	5.23
MW-16	10/10/2001	30.03	15:03	24.95	0.00	5.08	-0.15	5.08
MW-16	11/29/2001	30.03	10:06	21.50	0.00	8.53	3.45	8.53
MW-16	12/27/2001	30.03	11:10	21.86	0.00	8.17	-0.36	8.17
MW-16	2/4/2002	30.03	10:30	20.71	0.00	9.32	1.15	9.32
MW-16	2/28/2002	30.03	13:52	21.33	0.00	8.70	-0.62	8.70

All elevations relative to City of Portland Datum

Table A-1
Summary of Groundwater Elevations and
Product Observation Data
June 2001 - January 2003
25693679

PERIOD: From 06/06/2001 thru 01/28/2003 - Inclusive

SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
MW-16	3/14/2002	30.03	09:32	19.73	0.00	10.30	1.60	10.30
MW-16	4/23/2002	30.03	13:52	18.73	0.00	11.30	1.00	11.30
MW-16	5/22/2002	30.03	14:28	19.94	0.00	10.09	-1.21	10.09
MW-16	6/21/2002	30.03	13:29	17.28	0.00	12.75	2.66	12.75
MW-16	7/26/2002	30.03	12:54	21.35	0.00	8.68	-4.07	8.68
MW-16	8/29/2002	30.03	12:50	23.37	0.00	6.66	-2.02	6.66
MW-16	10/17/2002	30.03	11:58	24.88	0.00	5.15	-1.51	5.15
MW-16	10/30/2002	30.03	11:07	24.78	0.00	5.25	0.10	5.25
MW-16	11/22/2002	30.03	10:52	23.20	0.00	6.83	1.58	6.83
MW-16	12/31/2002	30.03	10:50	21.45	0.00	8.58	1.75	8.58
MW-16	1/28/2003	30.03	11:19	21.45	0.00	8.58	0.00	8.58
MW-17	6/6/2001	29.91	12:00	22.51	0.00	7.40	NA	7.40
MW-17	6/18/2001	29.91	12:00	22.98	0.00	6.93	-0.47	6.93
MW-17	7/2/2001	29.91	12:00	23.11	0.00	6.80	-0.13	6.80
MW-17	7/16/2001	29.91	12:00	23.64	0.00	6.27	-0.53	6.27
MW-17	7/30/2001	29.91	12:00	23.86	0.00	6.05	-0.22	6.05
MW-17	8/13/2001	29.91	12:36	23.95	0.00	5.96	-0.09	5.96
MW-17	8/27/2001	29.91	12:48	23.86	0.00	6.05	0.09	6.05
MW-17	10/10/2001	29.91	15:03	24.31	0.00	5.60	-0.45	5.60
MW-17	11/29/2001	29.91	10:07	22.80	0.00	7.11	1.51	7.11
MW-17	12/27/2001	29.91	11:11	19.30	0.00	10.61	3.50	10.61
MW-17	2/4/2002	29.91	10:29	18.88	0.00	11.03	0.42	11.03
MW-17	2/28/2002	29.91	13:51	20.14	0.00	9.77	-1.26	9.77
MW-17	3/14/2002	29.91	09:31	20.38	0.00	9.53	-0.24	9.53
MW-17	4/23/2002	29.91	13:50	17.37	0.00	12.54	3.01	12.54
MW-17	5/22/2002	29.91	14:27	20.09	0.00	9.82	-2.72	9.82
MW-17	6/21/2002	29.91	13:28	17.51	0.00	12.40	2.58	12.40
MW-17	7/26/2002	29.91	12:53	20.11	0.00	9.80	-2.60	9.80
MW-17	8/29/2002	29.91	12:48	22.27	0.00	7.64	-2.16	7.64
MW-17	10/17/2002	29.91	11:57	23.52	0.00	6.39	-1.25	6.39
MW-17	10/30/2002	29.91	11:06	23.70	0.00	6.21	-0.18	6.21
MW-17	11/22/2002	29.91	10:51	23.03	0.00	6.88	0.67	6.88
MW-17	12/31/2002	29.91	10:48	21.79	0.00	8.12	1.24	8.12
MW-17	1/28/2003	29.91	11:18	20.98	0.00	8.93	0.81	8.93
STAFF-GAGE	6/6/2001	0.00	12:00	-7.67	0.00	7.67	NA	7.67
STAFF-GAGE	6/18/2001	0.00	12:00	-4.07	0.00	4.07	-3.60	4.07
STAFF-GAGE	7/2/2001	0.00	12:00	-3.97	0.00	3.97	-0.10	3.97

All elevations relative to City of Portland Datum

Table A-1
Summary of Groundwater Elevations and
Product Observation Data
June 2001 - January 2003
25693679

PERIOD: From 06/06/2001 thru 01/28/2003 - Inclusive

SITE	DATE	MP ELEVATION (feet)	TIME	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	WATER ELEV (feet)	DELTA WATER ELEV (feet)	EQUIV. FRESH WATER HEAD (feet)
STAFF-GAGE	7/16/2001	0.00	12:00	-3.14	0.00	3.14	-0.83	3.14
STAFF-GAGE	7/30/2001	0.00	12:00	-3.50	0.00	3.50	0.36	3.50
STAFF-GAGE	8/13/2001	0.00	12:00	-5.19	0.00	5.19	1.69	5.19
STAFF-GAGE	8/27/2001	0.00	12:38	-4.68	0.00	4.68	-0.51	4.68
STAFF-GAGE	10/10/2001	0.00	15:00	-4.83	0.00	4.83	0.15	4.83
STAFF-GAGE	11/29/2001	0.00	10:10	-9.47	0.00	9.47	4.64	9.47
STAFF-GAGE	12/27/2001	0.00	11:30	-6.52	0.00	6.52	-2.95	6.52
STAFF-GAGE	2/4/2002	0.00	10:33	-8.60	0.00	8.60	2.08	8.60
STAFF-GAGE	2/28/2002	0.00	13:54	-6.25	0.00	6.25	-2.35	6.25
STAFF-GAGE	3/14/2002	0.00	10:40	-9.15	0.00	9.15	2.90	9.15
STAFF-GAGE	4/23/2002	0.00	13:55	-9.55	0.00	9.55	0.40	9.55
STAFF-GAGE	5/22/2002	0.00	14:12	-9.05	0.00	9.05	-0.50	9.05
STAFF-GAGE	6/21/2002	0.00	13:30	-10.43	0.00	10.43	1.38	10.43
STAFF-GAGE	7/26/2002	0.00	13:00	-4.75	0.00	4.75	-5.68	4.75
STAFF-GAGE	8/29/2002	0.00	14:00	-5.20	0.00	5.20	0.45	5.20
STAFF-GAGE	10/17/2002	0.00	11:20	-2.45	0.00	2.45	-2.75	2.45
STAFF-GAGE	10/30/2002	0.00	10:30	-2.95	0.00	2.95	0.50	2.95
STAFF-GAGE	11/22/2002	0.00	10:30	-5.15	0.00	5.15	2.20	5.15
STAFF-GAGE	12/31/2002	0.00	10:06	-7.80	0.00	7.80	2.65	7.80
STAFF-GAGE	1/28/2003	0.00	11:21	-7.35	0.00	7.35	0.45	7.35

All elevations relative to City of Portland Datum

Organics In Groundwater - Monitoring Wells
Methods 8260 and 8270C
Schnitzer - Premier Edible Oils, Portland OR
Unvalidated Data - January 2003
25693679

PERIOD: From 01/28/2003 thru 01/29/2003 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE	MW-03 MW-3-012903 01/29/2003	MW-05 MW-5-012903 01/29/2003	MW-06 MW-6-012903 01/29/2003	MW-07 MW-7-012903 01/29/2003	MW-08 MW-8-012903 01/29/2003	MW-10 MW-8-012903 01/29/2003
1,1,1,2-Tetrachloroethane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
1,1,1-Trichloroethane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
1,1,2,2-Tetrachloroethane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
1,1,2-Trichloroethane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
1,1-Dichloroethane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
1,1-Dichloroethylene	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
1,1-Dichloropropene	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
1,2,3-Trichlorobenzene	(ug/l)	2.0U	20U	5.0U	2.0U	2.0U	4.0U
1,2,3-Trichloropropane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
1,2,4-Trichlorobenzene	(ug/l)	9.6U	20U	9.6U	9.6U	9.6U	9.6U
1,2-Dichloroethane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
1,2-Dichloropropane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
1,3-Dichloropropane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
2-Hexanone	(ug/l)	20U	200U	50U	20U	20U	40U
2-Methylnaphthalene	(ug/l)	9.6U	73	100	9.6U	9.6U	9.6U
Acenaphthene	(ug/l)	9.6U	0.63J	2.6J	9.6U	0.66J	0.31J
Acenaphthylene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U	9.6U
Acetone	(ug/l)	20U	200U	50U	20U	20U	40U
Anthracene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U	9.6U
Benzene	(ug/l)	0.50U	5.0U	1.3U	0.50U	2.6	6.1
Benzo(a)anthracene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U	9.6U

Analyses by Columbia Analytical Services (Kelso, WA)
U = Non-detect, with MRL; J = Estimate

Organics in Groundwater - Monitoring Wells
Methods 8260 and 8270C
Schnitzer - Premier Edible Oils, Portland OR
Unvalidated Data - January 2003
25693679

PERIOD: From 01/28/2003 thru 01/29/2003 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE	MW-03 MW-3-012903 01/29/2003	MW-05 MW-5-012903 01/29/2003	MW-06 MW-6-012903 01/29/2003	MW-07 MW-7-012903 01/29/2003	MW-08 MW-8-012903 01/29/2003	MW-10 MW-8-012903 01/29/2003
Bromobenzene	(ug/l)	2.0U	20U	5.0U	2.0U	2.0U	4.0U
Bromodichloromethane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Bromoform	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Carbon disulfide	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Carbon tetrachloride	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Chlorobenzene	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Chlorobromomethane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Chloroethane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Chloroform	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Chrysene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U	9.6U
cis-1,2-Dichloroethylene	(ug/l)	0.50U	5.0U	42	0.50U	49	1.0U
cis-1,3-Dichloropropene	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Dibenzofuran	(ug/l)	9.6U	9.6U	2.4J	9.6U	9.6U	9.6U
Dibromochloromethane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Dichlorodifluoromethane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Ethylbenzene	(ug/l)	0.50U	1500	110	0.50U	4.6	74
Fluoranthene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U	9.6U
Fluorene	(ug/l)	9.6U	0.51J	4.8J	9.6U	0.75J	9.6U
Methyl bromide	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Methyl chloride	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Methylene bromide	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U

Analyses by Columbia Analytical Services (Kelso, WA)
U = Non-detect, with MRL; J = Estimate

Organics in Groundwater - Monitoring Wells
Methods 8260 and 8270C
Schnitzer - Premier Edible Oils, Portland OR
Unvalidated Data - January 2003
25693679

PERIOD: From 01/28/2003 thru 01/29/2003 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE	MW-03	MW-05	MW-06	MW-07	MW-08	MW-10
	SAMPLE ID	MW-3-012903	MW-5-012903	MW-6-012903	MW-7-012903	MW-8-012903	MW-8-012903
	DATE	01/29/2003	01/29/2003	01/29/2003	01/29/2003	01/29/2003	01/29/2003
Methylene chloride	(ug/l)	2.0U	20U	5.0U	2.0U	2.0U	4.0U
Naphthalene	(ug/l)	9.6U	340	110	9.6U	9.6U	9.6U
n-Butylbenzene	(ug/l)	2.8	20U	59	2.0U	41	15
n-Propylbenzene	(ug/l)	2.0U	150	620	2.0U	180	310
o-Xylene	(ug/l)	0.50U	30	7.7	0.50U	0.50U	1.0U
p-Cymene	(ug/l)	2.0U	20U	11	2.0U	2.0U	4.0U
Phenanthrene	(ug/l)	9.6U	9.6U	1.9J	9.6U	9.6U	9.6U
Pyrene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U	9.6U
sec-Butylbenzene	(ug/l)	2.7	24	35	2.0U	16U	13
Styrene	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
tert-Butylbenzene	(ug/l)	2.0U	20U	5.0U	2.0U	2.0U	4.0U
Tetrachloroethylene	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Toluene	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.74	1.9
trans-1,2-dichloroethene	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
trans-1,3-Dichloropropene	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Trichloroethylene	(ug/l)	0.87	5.0U	1.8	0.50U	2.4	1.0U
Trichlorofluoromethane	(ug/l)	0.50U	5.0U	1.3U	0.50U	0.50U	1.0U
Vinyl chloride	(ug/l)	0.50U	5.0U	1.3U	0.50U	11	1.0U
Xylene (total)	(ug/l)	0.50U	3900	290	0.50U	1.9	9.1

Analyses by Columbia Analytical Services (Kelso, WA)
U = Non-detect, with MRL; J = Estimate

Organics in Groundwater - Monitoring Wells
Methods 8260 and 8270C
Schnitzer - Premier Edible Oils, Portland OR
Unvalidated Data - January 2003
25693679

PERIOD: *From 01/28/2003 thru 01/29/2003 - Inclusive*
SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE	MW-12 MW-8-012903 01/29/2003	MW-14 MW-14-012803 01/28/2003	MW-15 MW-15-012803 01/28/2003	MW-16 MW-16-012803 01/28/2003	MW-17 MW-17-012903 01/29/2003
1,1,1,2-Tetrachloroethane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
1,1,1-Trichloroethane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
1,1,2,2-Tetrachloroethane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
1,1,2-Trichloroethane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
1,1-Dichloroethane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
1,1-Dichloroethylene	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
1,1-Dichloropropene	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
1,2,3-Trichlorobenzene	(ug/l)	2.0U	2.0U	2.0U	2.0U	2.0U
1,2,3-Trichloropropane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
1,2,4-Trichlorobenzene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U
1,2-Dichloroethane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
1,2-Dichloropropane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
1,3-Dichloropropane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
2-Hexanone	(ug/l)	20U	20U	20U	20U	20U
2-Methylnaphthalene	(ug/l)	0.65J	9.6U	9.6U	9.6U	9.6U
Acenaphthene	(ug/l)	1.7J	9.6U	9.6U	9.6U	9.6U
Acenaphthylene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U
Acetone	(ug/l)	20U	20U	20U	20U	20U
Anthracene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U
Benzene	(ug/l)	61	0.50U	0.50U	0.50U	0.50U
Benzo(a)anthracene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U

Analyses by Columbia Analytical Services (Kelso, WA)
U = Non-detect, with MRL; J = Estimate

Organics in Groundwater - Monitoring Wells
Methods 8260 and 8270C
Schnitzer - Premier Edible Oils, Portland OR
Unvalidated Data - January 2003
25693679

PERIOD: From 01/28/2003 thru 01/29/2003 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE	MW-12 MW-8-012903 01/29/2003	MW-14 MW-14-012803 01/28/2003	MW-15 MW-15-012803 01/28/2003	MW-16 MW-16-012803 01/28/2003	MW-17 MW-17-012903 01/29/2003
Bromobenzene	(ug/l)	2.0U	2.0U	2.0U	2.0U	2.0U
Bromodichloromethane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Bromoform	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Carbon disulfide	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Carbon tetrachloride	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Chlorobenzene	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Chlorobromomethane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Chloroethane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Chloroform	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Chrysene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U
cis-1,2-Dichloroethylene	(ug/l)	0.90	0.50U	0.50U	0.50U	0.50U
cis-1,3-Dichloropropene	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Dibenzofuran	(ug/l)	0.77J	9.6U	9.6U	9.6U	9.6U
Dibromochloromethane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Dichlorodifluoromethane	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Ethylbenzene	(ug/l)	3.8	0.50U	0.50U	0.50U	0.50U
Fluoranthene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U
Fluorene	(ug/l)	3.4J	9.6U	9.6U	9.6U	9.6U
Methyl bromide	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Methyl chloride	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Methylene bromide	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U

Analyses by Columbia Analytical Services (Kelso, WA)
U = Non-detect, with MRL; J = Estimate

Organics in Groundwater - Monitoring Wells
Methods 8260 and 8270C
Schnitzer - Premier Edible Oils, Portland OR
Unvalidated Data - January 2003
25693679

PERIOD: From 01/28/2003 thru 01/29/2003 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE	MW-12 MW-8-012903 01/29/2003	MW-14 MW-14-012803 01/28/2003	MW-15 MW-15-012803 01/28/2003	MW-16 MW-16-012803 01/28/2003	MW-17 MW-17-012903 01/29/2003
Methylene chloride	(ug/l)	2.0U	2.0U	2.0U	2.0U	2.0U
Naphthalene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U
n-Butylbenzene	(ug/l)	4.2	2.0U	2.0U	2.0U	2.0U
n-Propylbenzene	(ug/l)	30	2.0U	2.0U	2.0U	2.0U
o-Xylene	(ug/l)	5.6	0.50U	0.50U	0.50U	0.50U
p-Cymene	(ug/l)	2.0U	2.0U	2.0U	2.0U	2.0U
Phenanthrene	(ug/l)	1.0J	9.6U	9.6U	9.6U	9.6U
Pyrene	(ug/l)	9.6U	9.6U	9.6U	9.6U	9.6U
sec-Butylbenzene	(ug/l)	3.1	2.0U	2.0U	2.0U	2.0U
Styrene	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
tert-Butylbenzene	(ug/l)	2.0U	2.0U	2.0U	2.0U	2.0U
Tetrachloroethylene	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Toluene	(ug/l)	14	0.50U	0.50U	0.50U	0.50U
trans-1,2-dichloroethene	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
trans-1,3-Dichloropropene	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Trichloroethylene	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Trichlorofluoromethane	(ug/l)	0.50U	0.88	0.50U	0.50U	0.50U
Vinyl chloride	(ug/l)	0.50U	0.50U	0.50U	0.50U	0.50U
Xylene (total)	(ug/l)	21	0.50U	0.50U	0.50U	0.50U

Analyses by Columbia Analytical Services (Kelso, WA)
U = Non-detect, with MRL; J = Estimate

Inorganics in Groundwater - Monitoring Wells
Schnitzer - Premier Edible Oils, Portland OR
Unvalidated Data - January 2003
25693679

PERIOD: From 01/28/2003 thru 01/29/2003 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE	MW-03	MW-05	MW-06	MW-07	MW-08	MW-10
	SAMPLE ID	MW-3-012903	MW-5-012903	MW-6-012903	MW-7-012903	MW-8-012903	MW-8-012903
	DATE	01/29/2003	01/29/2003	01/29/2003	01/29/2003	01/29/2003	01/29/2003
Arsenic	(ug/l)	16.8	16.2	--	--	--	--
Chromium	(ug/l)	5U	5U	--	--	--	--
Copper	(ug/l)	10U	10U	--	--	--	--
Iron	(ug/l)	228	18100	83900	114	46400	28400
Lead	(ug/l)	2U	56.5	16.3	2U	2U	2U
Manganese	(ug/l)	39.6	11900	2540	5U	4050	2910
Nickel	(ug/l)	20U	20U	--	--	--	--
Silver	(ug/l)	10U	10U	--	--	--	--
Zinc	(ug/l)	10U	10U	--	--	--	--

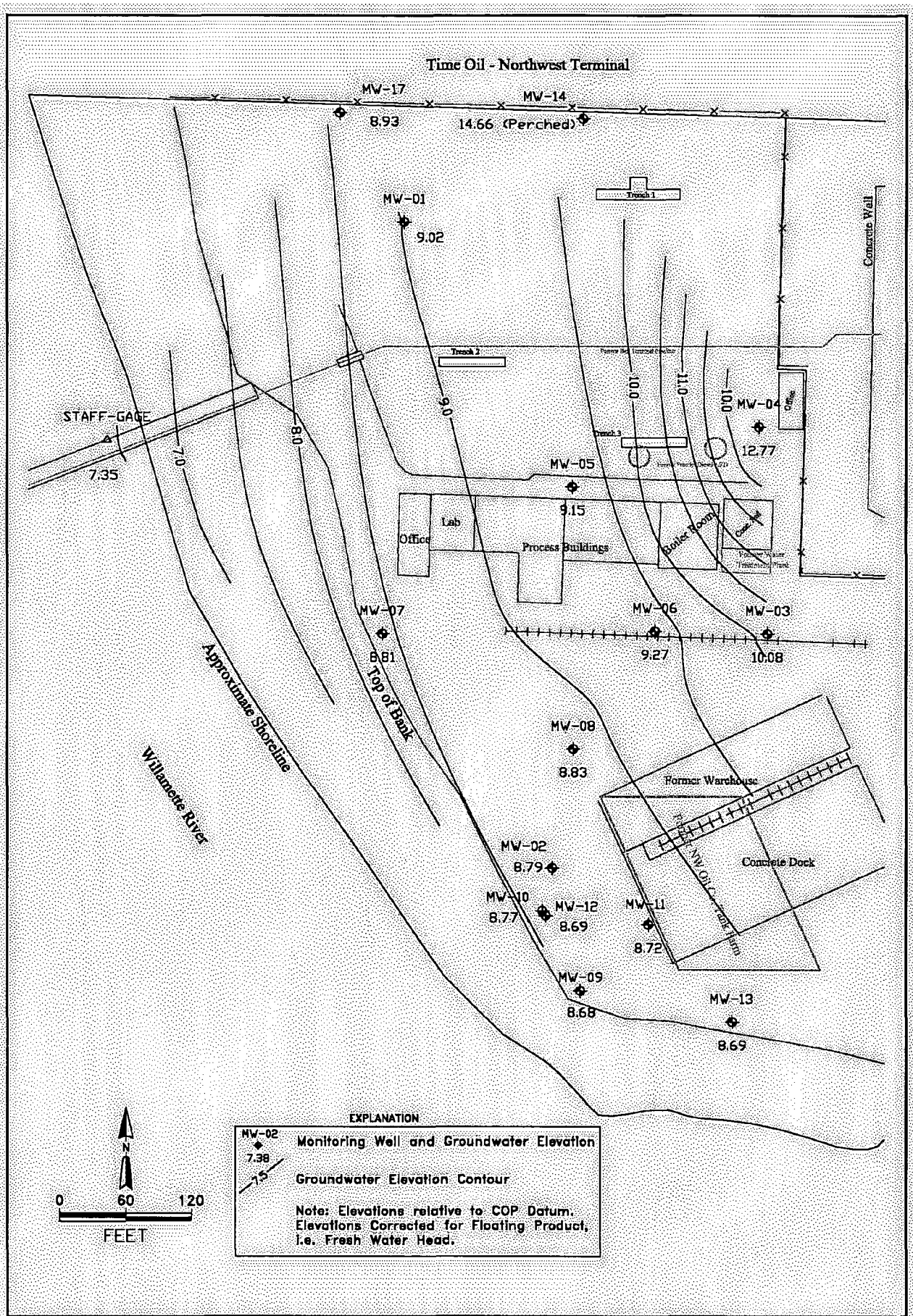
Analyses by Columbia Analytical Services (Kelso, WA)
U = Non-detect, with MRL; -- Not analyzed

Inorganics in Groundwater - Monitoring Wells
Schnitzer - Premier Edible Oils, Portland OR
Unvalidated Data - January 2003
25693679

PERIOD: From 01/28/2003 thru 01/29/2003 - Inclusive
SAMPLE TYPE: Water

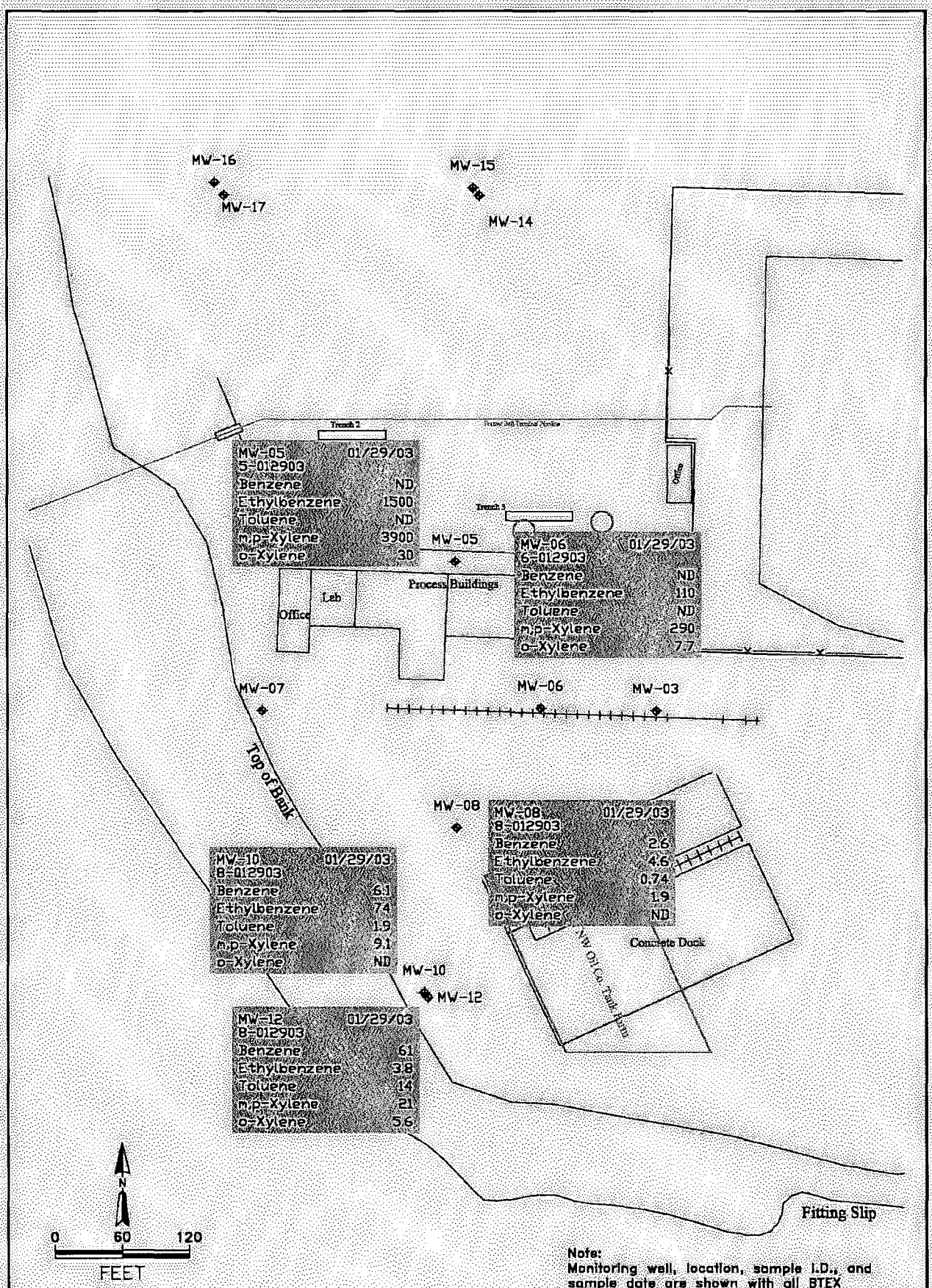
CONSTITUENT	SITE SAMPLE ID DATE	MW-12 MW-8-012903 01/29/2003	MW-14 MW-14-012803 01/28/2003	MW-15 MW-15-012803 01/28/2003	MW-16 MW-16-012803 01/28/2003	MW-17 MW-17-012903 01/29/2003
Arsenic	(ug/l)	--	--	--	--	--
Chromium	(ug/l)	--	--	--	--	--
Copper	(ug/l)	--	--	--	--	--
Iron	(ug/l)	78900	2680	705	12200	31
Lead	(ug/l)	2U	2U	2U	2U	2U
Manganese	(ug/l)	4060	95	2700	1610	25.3
Nickel	(ug/l)	--	--	--	--	--
Silver	(ug/l)	--	--	--	--	--
Zinc	(ug/l)	--	--	--	--	--

Analyses by Columbia Analytical Services (Kelso, WA)
U = Non-detect, with MRL; -- Not analyzed



URS	TITLE: Groundwater Elevations (ft–COP) January 28, 2003 Schnitzer – PEO	DWN: dk	DES.:	PROJECT NO.: 25693679
		CHKD:	APPD: dc	FIGURE NO.: A–1
		DATE: 04/11/03	REV.: 0	

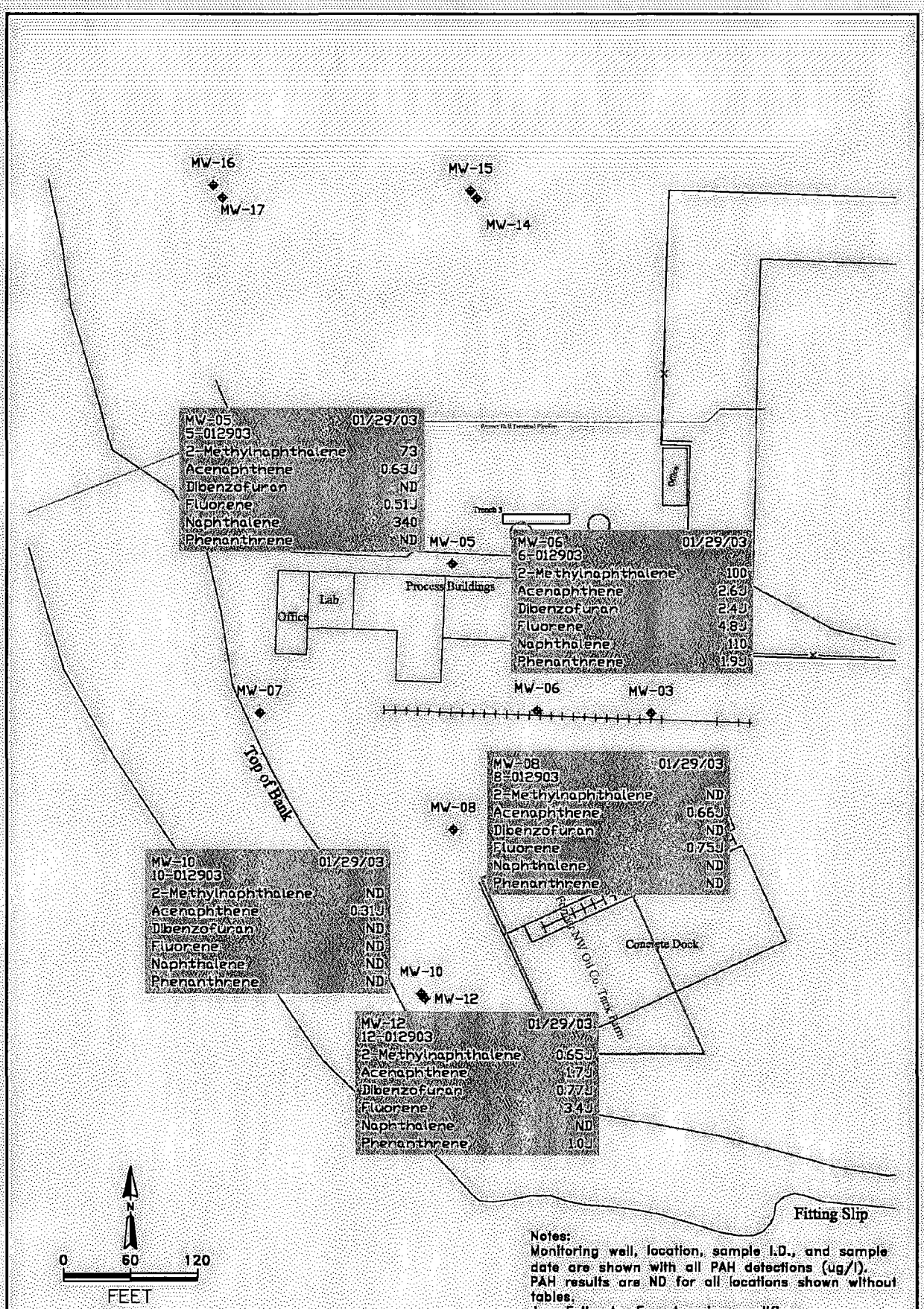
SCHN00380258



Note:
Monitoring well, location, sample I.D., and sample date are shown with all BTEX detections (ug/l). BTEX results are ND for all locations shown without tables.

URS	TITLE: BTEX Concentrations In Groundwater (ug/l) January 28-29, 2003 Schnitzer – PEO	DWN: dk	DES.:	PROJECT NO.: 25693679
		CHKD:	APPD: dc	FIGURE NO.: A-2
		DATE: 04/11/03	REV.: 0	

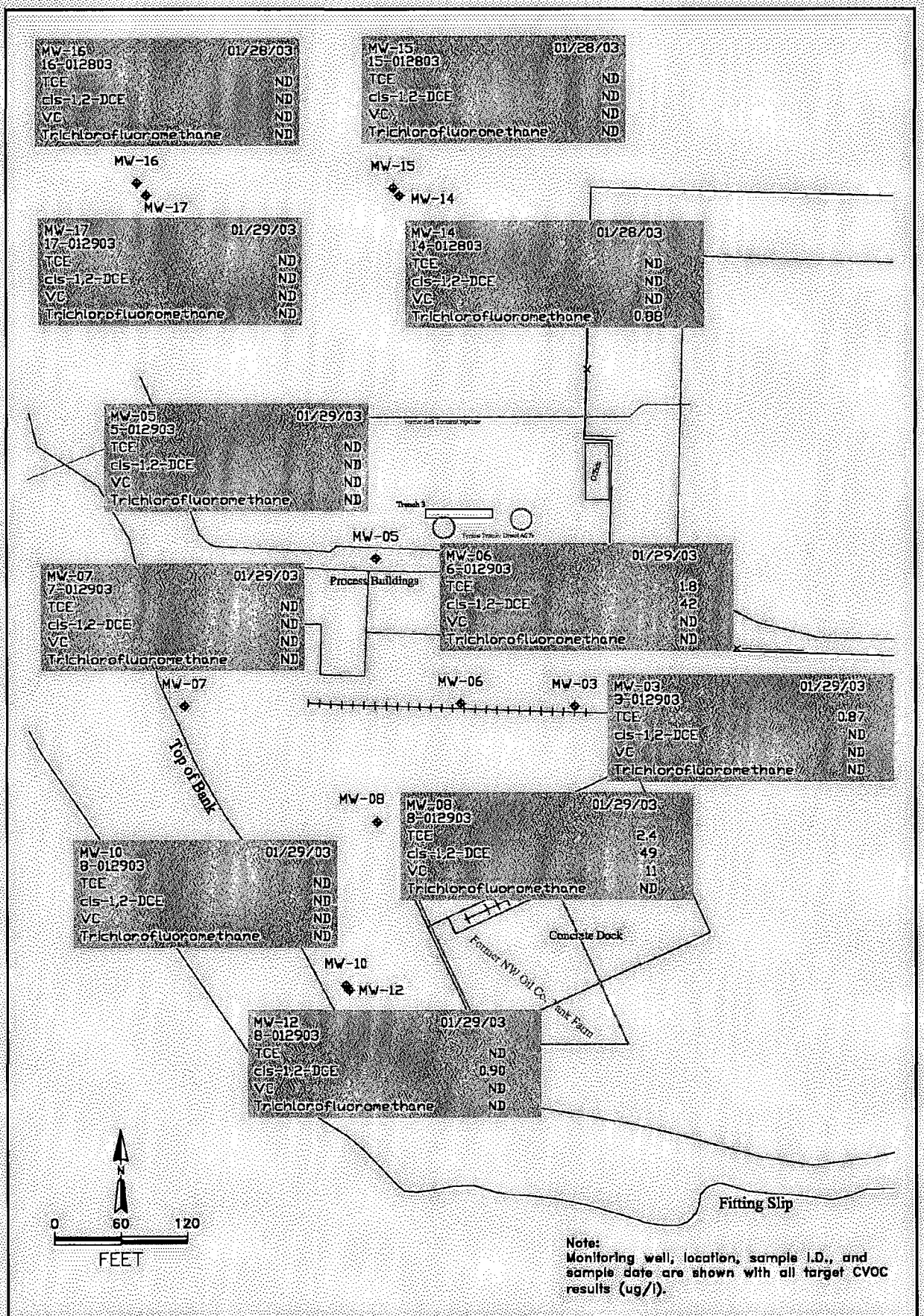
SCHN00380259



Notes:
Monitoring well, location, sample I.D., and sample date are shown with all PAH detections (ug/l).
PAH results are ND for all locations shown without tables.
J = Estimate, Expert review qualifier.

URS	TITLE: PAH Concentrations in Groundwater (ug/l) January 28–29, 2003 Schnitzer – PEO	DWN: dk	DES.:	PROJECT NO.: 25693679
		CHKD:	APPD: dc	FIGURE NO.: A–3
		DATE: 04/11/03	REV.: 0	

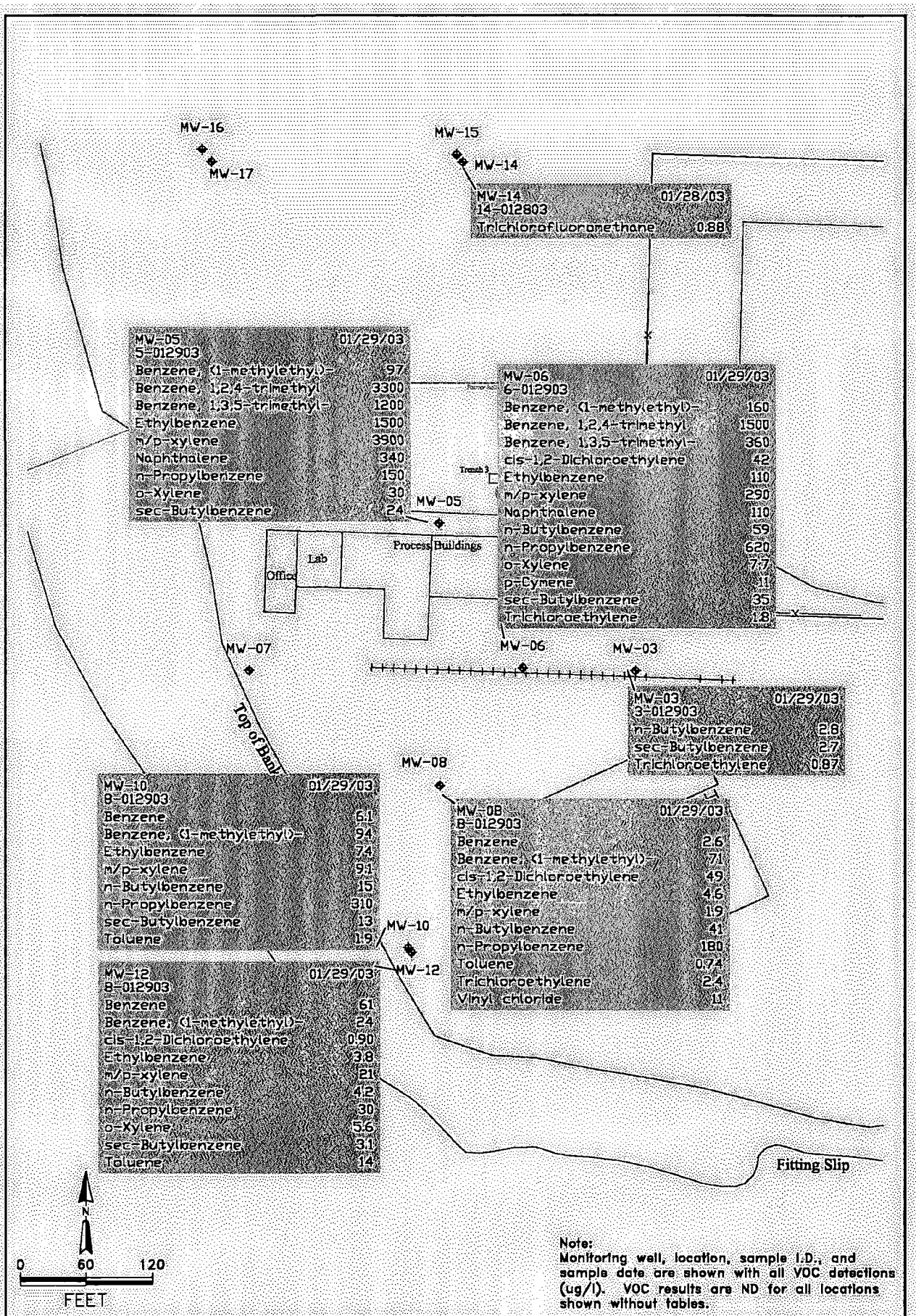
SCHN00380260



Note:
Monitoring well, location, sample I.D., and sample date are shown with all target CVOC results (ug/l).

URS	TITLE: CVOC Concentrations in Groundwater (ug/l) January 28–29, 2003 Schnitzer – PEO	DWN: dk	DES.:	PROJECT NO.: 25693679
		CHKD:	APPD: dc	FIGURE NO.: A-4
		DATE: 04/11/03	REV.: 0	

SCHN00380261



Note:
Monitoring well, location, sample I.D., and sample date are shown with all VOC detections (ug/l). VOC results are ND for all locations shown without tables.

URS	TITLE: VOC Concentrations in Groundwater (ug/l) January 28-29, 2003 Schnitzer - PEO	DWN: dk	DES.:	PROJECT NO.: 25693679
		CHKD:	APPD: dc	FIGURE NO.: A-5
		DATE: 04/11/03	REV.: 0	

SCHN00380262

Time Oil : Comm

LANDAU ASSOCIATES
ENVIRONMENTAL | GEOTECHNICAL | NATURAL RESOURCES

TRANSMITTAL

To: Time Oil Co.
2737 W. Commodore Way
Seattle, WA 98199

Date: May 23, 2003

Attn: Mr. Kevin Murphy

Project No.: 231009.032

RE: **TIME OIL NORTHWEST TERMINAL**

Copies	Description
1	Technical Memorandum re: *Phase III RI – Interim Subsurface Investigations* (5/23/03)

Enclosed is a copy of the above-noted technical memorandum for your file. A copy of the laboratory data packets and data validation will be mailed under separate cover.

LANDAU ASSOCIATES, INC.

Terry McDonald

Rebekah Brooks
Senior Hydrogeologist

RB/tam
5/23/03 S:\WPROC\231\TRANSMIT.FAX\murphy et al_tm.doc
Enclosure

RECEIVED
MAY 27 2003
DEPT OF ENVIRONMENTAL QUALITY
NORTHWEST REGION

cc: Tom Roick, Oregon Department of Environmental Quality
Patty Dost, Schwabe, Williamson & Wyatt

SCHN00380263

Time Oil Rpt.

LANDAU ASSOCIATES
ENVIRONMENTAL | GEOTECHNICAL | NATURAL RESOURCES

TECHNICAL MEMORANDUM

TO: Kevin Murphy, Time Oil Co.

FROM: Rebekah Brooks, Stacy Pischer, and Tim Syverson, RG

DATE: May 22, 2003

RECEIVED
MAY 27 2003
DEPT OF ENVIRONMENTAL QUALITY
NORTHWEST REGION

RE: PHASE III RI – INTERIM SUBSURFACE INVESTIGATIONS

This technical memorandum presents the results of three interim subsurface investigations that were conducted in July 2002 as part of the Phase III remedial investigation (RI) at the Time Oil Northwest Terminal (Time Oil NW Terminal) located in Portland, Oregon (Figures 1 and 2). The investigations included: 1) a subsurface geology investigation within the Phase III study area (Figure 3) using the cone penetrometer technique (CPT), 2) an investigation to better characterize soil and groundwater concentrations in the Bell Terminal area, and 3) a focused investigation to better define the extent of soil contamination identified in certain areas during the Phase III preliminary evaluation. The following sections provide a description of each of the investigations followed by a discussion of the results and recommendations for additional sampling needed to complete the Phase III RI.

CPT INVESTIGATION

The purpose of the CPT investigation was to collect data to further evaluate the subsurface geology and hydrogeology of the Phase III study area, specifically regarding the extent of the confining unit and the interconnection between the upper and lower water-bearing zones. During the investigation, 27 CPT explorations were completed (CPTIII-1 through CPTIII-27) at locations throughout the Phase III study area to evaluate the subsurface soil behavior type (SBT) and to estimate the static water level at various depths for use in refining the geological hydrogeologic conceptual model for the site. The CPT exploration locations are shown on Figure 3. The CPT explorations were performed by Geo-Tech Explorations, Inc. (Geo-Tech; Tualatin, Oregon). CPT borings at four locations (CPTIII-05, CPTIII-13, CPTIII-17, and CPTIII-25) were advanced to 100 ft below ground surface (BGS). At each of the other locations, the CPT explorations were advanced to about 60 ft BGS. Except for soil samples collected to calibrate the SBTs predicted by using the CPT (discussed below), no other soil or groundwater samples were collected in conjunction with the CPT explorations.

Soil Behavior Type (SBT) Determinations

SBTs were determined at each of the CPT explorations by advancing a cone-tipped cylindrical probe into the subsurface while simultaneously measuring the soil's resistance to the probe. The probe tip

measured the soil-bearing resistance acting on the cone tip and the frictional resistance sensed along the friction sleeve as the cone was advanced. Tip resistance (qt) and sleeve friction (fs) were measured and reported at 5-cm intervals. This information was processed to determine the friction ratio (fs/qt) and to predict the SBT at each 5 cm depth interval. Logs displaying this information were generated electronically as drilling progressed, providing instantaneous information on the subsurface conditions. These logs are provided in Attachment 1. At three of the CPT locations, soil samples were collected from a boring located adjacent to the CPT exploration. The soil samples were collected and submitted for grain size determination using a sieve analysis (ASTM D422). A hydrometer test was also performed for three of the samples that were predicted by the CPT to have a clay or clayey silt SBT. The sieve analyses and hydrometer tests were performed by Landau Associates, Inc.

Static Water Level Estimations

At 24 of the CPT explorations, static water levels were estimated at selected identifiable sand layers by recording the pore pressure during dissipation as it approached static equilibrium. The recorded pore pressures were then converted to equivalent height of water by dividing the pressure by the unit weight of water (ASTM D5778, Section 13.5). Graphs displaying the pore pressure dissipation as it approached equilibrium are provided along with the CPT logs in Attachment 1.

BELL TERMINAL INVESTIGATION

A soil and groundwater investigation was conducted in the Bell Terminal tank farm area to identify the source of contamination previously detected in soil and groundwater samples collected as part of an investigation performed by the Schnitzer Investment Corporation for the area just west of the Bell Terminal, but within the Time Oil Co. property boundary (Figure 2). As reported in the Phase III preliminary evaluation technical memorandum (Landau Associates 2002), gasoline-range and diesel-range petroleum hydrocarbons were detected in groundwater west of the Bell Terminal at concentrations up to 1.27 mg/L and 6.02 mg/L, respectively. Also, gasoline-range and diesel-range petroleum hydrocarbons were detected in the soil in this area at concentrations up to 8,750 mg/kg and 13,200 mg/kg, respectively. To identify the source of this contamination, soil samples were collected at several depth intervals from 10 locations (BT-01 through BT-10) within the Bell Terminal. Shallow groundwater samples were also collected from each of the 10 locations. Soil and groundwater sample locations are shown on Figure 3.

Soil Investigation

The soil investigation within the Bell Terminal tank farm area consisted of collecting soil samples from 10 direct-push borings (BT-01 through BT-10; Figure 3). The borings were advanced using a truck-

mounted direct-push rig operated by Geo-Tech. Each boring was advanced until the confining unit (silt layer) was encountered. The soil boring depths ranged between 19 and 28 ft BGS. At each direct-push boring location, soil samples were collected for chemical analysis at the following depth intervals:

- 0 to 0.5 ft BGS
- 1 to 2 ft BGS
- 5 to 6 ft BGS
- 9 to 10 ft BGS
- above the approximate water table within the capillary fringe (about 12.5 to 15 ft BGS).

The soil samples were collected using the methods described in Appendix B of the Phase III Remedial Investigation Work Plan (Work Plan; Landau Associates 2001a). Logs for each of the soil borings are provided in Attachment 2.

Each soil sample was submitted to Specialty Analytical laboratory (Specialty) in Tualatin, Oregon for a non-quantitative petroleum hydrocarbon analysis using Method NWTPH-HCID. For samples with a positive hydrocarbon identification, further analysis by Method NWTPH-Dx and/or Method NWTPH-Gx was performed to determine the concentration of petroleum hydrocarbons in the sample. In samples where a moderate to strong petroleum odor was observed in the field, no NWTPH-HCID analysis was performed. Instead, these samples were submitted directly to the laboratory for NWTPH-Dx and NWTPH-Gx analyses. All samples analyzed by NWTPH-Dx were also analyzed for polycyclic aromatic hydrocarbons (PAHs) using U.S. Environmental Protection Agency (EPA) Method 8270. All samples analyzed by NWTPH-Gx were also analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8021B.

Groundwater Investigation

The groundwater investigation within the Bell Terminal tank farm area consisted of collecting discrete groundwater samples at each of the direct-push borings (BT-01 through BT-10; Figure 3). The method used to collect the samples included pushing a pre-constructed sampling well point (approximate 4-ft screen) into the soil to the target depth, purging the well point, obtaining a groundwater sample, removing the probe, and filling the small-diameter boring with bentonite chips. The target depth for the top of the screened interval at each location corresponded to the approximate water table at the time of sampling. The groundwater samples were collected from the temporary well points using the procedures described in Appendix B of the Work Plan .

The groundwater samples were analyzed by Specialty for BTEX using EPA Method 8021B and total petroleum hydrocarbons (TPH) using Methods NWTPH-Dx and NWTPH-Gx.

ADDITIONAL GRID SAMPLING

To better define the extent of contamination detected in the capillary fringe soil where only composite samples were previously collected, five discrete soil samples (G2-4, G2-5, G12-3, G13-4, and G21-3) were collected within Phase III preliminary evaluation sampling grids 2, 12, 13, and 21 (Landau Associates 2001a) for chemical analysis. These soil samples were collected at locations adjacent to Phase III preliminary evaluation random sub-sample locations (G2-1, G2-2, G12-2, G13-1, and G21-2) to more specifically eliminate or identify areas where contamination exists within these grids. The soil samples were collected from borings advanced by a truck-mounted direct-push rig operated by Geo-Tech. Each soil sample was collected from a depth interval above the approximate water table and within the capillary fringe at each boring. The samples were collected using the procedures described in Appendix B of the Work Plan . Samples from shallower depth intervals were not collected because the Phase III preliminary evaluation results indicate that TPH concentrations in the shallower soil at these locations are low or nondetect.

The samples were submitted to Specialty for a non-quantitative petroleum hydrocarbon analysis using Method NWTPH-HCID. Samples with a positive petroleum hydrocarbon identification were further analyzed by NWTPH-Dx and/or NWTPH-Gx to determine the concentrations of petroleum hydrocarbons in the sample. One sample (G13-4) was also analyzed for PAHs using EPA Method 8270 and BETX using EPA Method 8021B.

RESULTS

Lithological and hydrogeological information for the Phase III study area were obtained during the CPT investigation and, to a lesser extent, during the Bell Terminal investigation. Chemical data and information regarding the extent of contamination in the Phase III study area were obtained during the Bell Terminal investigation and the additional grid sampling. This section presents and discusses these results.

Lithological/Hydrogeological

Logs displaying the lithological information obtained during the CPT investigation and the Bell Terminal investigation are provided in Attachments 1 and 2. As discussed above, sieve analyses and hydrometer tests were performed on selected soil samples to calibrate the information provided electronically using the CPT. Results of the grain size analyses and hydrometer tests are provided in Attachment 2. A comparison of these test results to the SBT predicted by the CPT at that same depth interval is provided in Table 1. The comparison indicates that the SBT predicted by the CPT generally identifies the material as having a higher proportion of fine-grained material than that determined by the laboratory testing. For example, a clayey silt to silty clay SBT predicted by the CPT was identified as a

silt with fine sand and clay based on the grain size and hydrometer tests. This is consistent with data obtained during the *Second Additional Groundwater Investigation, February – April, 1999, Time Oil, Northwest Terminal* technical memorandum (Landau Associates 1999).

The lithological information presented in this technical memorandum was combined with previously obtained lithological data to develop stratigraphic relationships across the Phase III study area. These stratigraphic relationships are presented in 12 cross-sections identified as A through L (see Figures 4 through 16). SBTs determined by the CPT were adjusted according to the sieve analysis and hydrometer test results during preparation of the cross-sections. The lithologic information obtained during the Phase III RI to date are consistent with data obtained during previous investigations and confirms the geological/hydrogeological conceptual model for the site, as described in the Phase II RI report (Landau Associates 2001b). The results of the Phase III CPT investigation support the presence of four principal near-surface hydrogeologic units throughout most of the Phase III study area. These units include an upper water-bearing zone (upper zone), a confining unit, a lower water-bearing zone (lower zone), and a deep sand unit. The SBT, predicted by the CPT and adjusted based on sieve analyses and hydrometer tests, indicates that the confining unit consists of silt with varying amounts of fine sand and clay. As identified during previous investigations, the depth and thickness of the confining unit varies across the Phase III study area. On average, the confining unit is encountered at approximately 20 ft BGS and is thickest in the eastern portion of the Main Terminal and the Bell Terminal. The confining unit thins as it extends westward in the Main Terminal and as it extends southward in the Bell Terminal, as illustrated on cross-sections A, B, C, D, E, F, and J (Figures 5 through 10, and Figure 14). In the western portion of the Main Terminal, as the confining unit becomes thinner, it eventually becomes discontinuous layers of silt and no longer acts as a confining unit between the upper and lower zones. The approximate boundary between the continuous and discontinuous confining unit is shown on Figure 4.

The information obtained during the CPT and Bell Terminal investigations show that the upper and lower zones consist of fine to medium sand with varying amounts of silt. The lower zone also contains many discontinuous discrete layers of silt; some of which can be substantially thick (e.g., 11 ft). Thinner, fewer, and less extensive silt lenses are present in the upper zone. Data obtained at the four CPT explorations that extended to a depth of at least 100 ft BGS indicate that sand with little to no silt extends from about 56 ft BGS to depths of 100 ft BGS throughout the Phase III study area, and comprises the deep sand unit.

The groundwater elevation in each of the water-bearing zones (including the deep sand unit) was estimated using pore dissipation tests during advancement of the CPT explorations. The results of the tests indicated:

- **Upper Zone.** Groundwater levels in the upper zone were estimated using pore dissipation tests at nine locations. At seven of these locations, the pore pressures were recorded as negative values or zero indicating that no water was present. In general, most of the CPT explorations where the pore pressure was negative or zero were at depths analogous to the upper zone (13 to 25 ft BGS). These explorations were located in the western portion of the Main Terminal where the confining unit is discontinuous and the upper and lower zones appear to act as one water-bearing unit, or the upper zone is absent. At CPT locations where the pore dissipation pressures were positive at this depth range, the depth to groundwater ranged between 14 to 16 ft BGS [or elevation 11.6 to 14.0 ft mean sea level (MSL)], and thus represent groundwater elevations in the upper zone.

- **Lower Zone.** Pore dissipation tests were performed in the sand units of the lower zone at 18 CPT explorations at depths ranging from 25 to 54 ft BGS. Groundwater levels calculated at these locations ranged in depth from 19 to 28 ft BGS. These groundwater levels are comparable to those measured in existing lower zone wells and indicate that the lower zone is likely under confined or semi-confined conditions where the overlying confining unit is continuous. At locations where the confining unit is discontinuous and the lower zone is connected with the upper zone or the upper zone is absent, the depth to groundwater ranged between approximately 22 to 28 ft BGS (or elevation 6 to 0 ft MSL).

- **Deep Sand Unit.** Pore dissipation tests performed in the deep sand unit at depths of 60 to 96.5 ft BGS indicate similar groundwater levels as those estimated for the lower zone (20 to 29 ft BGS or elevation 7.7 to -1.0 ft MSL), indicating that the lower zone and deep sand unit are likely hydraulically connected.

The calculated groundwater elevations at each CPTIII location, based on pore dissipation tests, are provided in Table 2. A comparison of these groundwater elevations to groundwater elevations measured at nearby monitoring wells in August 2002 is also provided in Table 2.

Analytical

Upon receipt of the analytical results for the Bell Terminal and the additional grid sampling, a data quality evaluation was performed. Data qualifiers were assigned to some of the data based on this evaluation. Data qualifier definitions and sample information are provided in Table 3. Analytical results (with qualifiers) for the Bell Terminal soil investigation are presented in Tables 4, 5, and 6. Analytical results for the Bell Terminal groundwater investigation are presented in Tables 7 and 8. Analytical results for the additional grid sampling are presented in Tables 9, 10, and 11.

Bell Terminal

Soil

The analytical results for the soil samples collected within the Bell Terminal during this interim investigation indicate the presence of some low to moderate level concentrations of diesel-range (93.4 to 244 mg/kg) and motor oil-range (67.2 to 699 mg/kg) petroleum hydrocarbons in the surface soil at three locations (BT-03, BT-04, and BT-08) but, no detectable concentrations of these petroleum hydrocarbons

in the 1 to 1.5 ft depth interval. Previously, during the Phase III preliminary evaluation, diesel-range and motor oil-range petroleum hydrocarbons were detected in the surface or shallow soil samples collected within the Bell Terminal tank farm area at a maximum concentration of 859 mg/kg. Based on the results from the Phase III investigations conducted to date, the extent of total petroleum hydrocarbon (TPH) contamination in the surface and shallow soil within the Bell Terminal tank farm area does not appear to be widespread nor present at elevated concentrations.

In the soil within the capillary fringe zone of the Bell Terminal tank farm area, moderate to high concentrations of diesel-range and motor oil-range petroleum hydrocarbons (ranging from 198 to 6,200 mg/kg, and 86.9 to 99 mg/kg, respectively) were detected at three locations (BT-01, BT-05, and BT-06). These concentrations are similar to those detected in the capillary fringe within the Bell Terminal tank farm area during the Phase III preliminary evaluation. The maximum diesel-range petroleum hydrocarbon concentrations (6,580 mg/kg and 6,200 mg/kg) detected to date in the capillary fringe were located in the northwestern portion of the Bell Terminal tank farm area. All other diesel-range petroleum hydrocarbon concentrations detected in the capillary fringe within the Bell Terminal tank farm area were 301 mg/kg or less. Likewise, gasoline-range petroleum hydrocarbons have only been detected in the capillary fringe at two locations (BT-06, near the eastern portion of the pipeline that trends east-west through the middle of the tank farm, shown on Figure 3, and BT-05, located along the western end of the pipeline) at concentrations of 1,160 and 715 mg/kg, respectively. This pipeline was demolished by Schnitzer during construction of the Premier Edible Oils facility in the mid-1970's while still in use and containing petroleum product. Analytical results for soil samples collected from the capillary fringe in the area just west of the Bell Terminal tank farm area during previous investigations (Landau Associates 2002) indicate that gasoline-range and diesel-range petroleum hydrocarbons are present in the capillary fringe in this area at concentrations ranging from 1,410 mg/kg to 8,750 mg/kg. Concentrations for diesel-range and gasoline-range petroleum hydrocarbons in soil at the 0 to 0.5 ft and 1 to 1.5 ft depth intervals and at the capillary fringe, as determined during the Bell Terminal investigation and previous Phase III investigations, are shown on Figures 3-1, 3-2, and 3-3 (Attachment 3). — Attach 4 Figs 4-x

Concentrations for selected PAHs in soil at the 0 to 0.5 ft and 1 to 1.5 ft depth intervals and at the capillary fringe, as determined during the Bell Terminal investigation and the Phase III preliminary evaluation, are shown on Figures 3-4, 3-5, and 3-6 (Attachment 3). These results indicate that for three PAH compounds [benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene], soil concentrations within the Bell Terminal tank farm area range from nondetect to 21 mg/kg in the 0 to 0.5 ft BGS depth interval and are generally nondetect at the 1 to 1.5 ft and capillary fringe depth intervals. The maximum PAH concentrations in the surface soil were observed within grid 27 as part of the preliminary evaluation, but these concentrations do not appear to be characteristic of most of the other locations (i.e., grids 21 and

25) where the maximum concentrations are 1.1 and 1.2 mg/kg for benzo(b)fluoranthene. One of the subsample locations at grid 27 was collected below a road and the results for this grid likely reflect the influence of asphalt-containing soil.

Groundwater

Analytical results for groundwater samples collected within the Bell Terminal tank farm area during the Phase III investigations conducted to date indicate that diesel-range petroleum hydrocarbons are present in the groundwater throughout the western and central portions of the Bell Terminal tank farm area at concentrations ranging from about 0.6 mg/L to 22.2 mg/L, and at concentrations ranging from about 1 to 796 mg/L in the area just west of the Bell Terminal tank farm area. Within the tank farm area, the maximum concentration (22.2 mg/L) for diesel-range hydrocarbons in groundwater was detected at BT-03 located adjacent to the western portion of the pipeline that trends east-west through the middle of the tank farm (Figures 2 and 3). Diesel-range concentrations decreased away from this location in the central portion of the Bell Terminal (4.66 to 7.45 mg/L) and to the west (0.625 to 2.47 mg/L), but at the western property boundary, concentrations increased significantly to 796 mg/L. Components of diesel (i.e., PAHs) were detected in the groundwater within the Bell Terminal tank farm area during the preliminary evaluation at concentrations ranging from 0.05 µg/L to 1.06 µg/L. PAHs were not analyzed for the groundwater samples collected during the most recent Bell Terminal investigation. Concentrations for diesel-range petroleum hydrocarbons and selected PAHs in groundwater, as determined during the Bell Terminal investigation and the Phase III preliminary evaluation, are shown on Figure 4-7 (Attachment 4).

Analytical results for groundwater samples collected in the Bell Terminal tank farm area indicate that gasoline-range petroleum hydrocarbons are present in the groundwater below the Bell Terminal tank farm area at concentrations ranging between 0.981 mg/L and 12.2 mg/L. All of the groundwater samples with detectable concentrations of gasoline-range petroleum hydrocarbons were collected at locations near or adjacent to the east-west trending pipeline (Figures 2 and 3). The maximum concentration (12.2 mg/L) was detected at location BT-06 located along the eastern portion of the pipeline. Analytical results for groundwater samples previously collected in the area just west of the Bell Terminal tank farm area indicate the presence of gasoline-range petroleum hydrocarbons in the groundwater at concentrations ranging from 1.21 mg/L to 6.02 mg/L. Components of gasoline (i.e., BTEX) were also detected in the groundwater samples during the Bell Terminal investigation and the Phase III preliminary evaluation at concentrations ranging from 0.923 µg/L to 68.2 µg/L. The most frequently detected component was toluene. This constituent was also detected in the groundwater samples that did not have detectable concentrations of gasoline. Concentrations for gasoline-range petroleum hydrocarbons and selected

volatile organic compounds (VOCs) in groundwater, as determined during the Bell Terminal investigation and the previous Phase III investigations, are shown on Figure 3-8 (Attachment 3).

Additional Grid Sampling

Results for the five additional grid soil samples collected during this interim subsurface investigation provide better definition of the extent of TPH contamination in the capillary fringe soil within random sampling grids 2, 12, 13, and 21 through discrete rather than composite sampling (shown on Figures 3-1 through 3-6, Attachment 3). The refined extent of contamination within these grids based on these results and previous grid sampling results, are discussed by grid below.

Grid 2

During the Phase III preliminary evaluation, diesel-range and gasoline-range petroleum hydrocarbons were detected in the capillary fringe at grid 2 at concentrations of 4,760 and 1,860 mg/kg, respectively. These concentrations were determined for one sample composited from three locations within grid 2 (sub-sample locations G2-1, G2-2, and G2-3, shown on Figure 3). Diesel-range hydrocarbons were also detected within the upper 1.5 ft from these locations, but at a much lower concentration (133mg/kg).

During this interim subsurface investigation, two additional soil samples (G2-4 and G2-5, shown on Figures 3 and 3-3) were collected from the capillary fringe near preliminary evaluation sub-sample locations G2-1 and G2-2, and analyzed for TPH by Methods NWTPH-HCID, NWTPH-Dx, and NWTPH-Gx. Diesel-range and motor oil-range petroleum hydrocarbons were detected in sample G2-5 at a concentration of 1,550 mg/kg and 225 mg/kg, respectively. Neither diesel-range nor motor oil-range petroleum hydrocarbons were detected in sample G2-4. Gasoline-range petroleum hydrocarbons were not detected in either sample. The results for sample G2-4 indicate that petroleum hydrocarbon contamination in the soil at the capillary fringe is likely not present along the northern perimeter of grid 2. Results for sample G2-5 and the biased and composite samples collected during the Phase III preliminary evaluation indicate that TPH-impacted soil may be present in the remainder of grid 2 within the capillary fringe at concentrations exceeding 4,000 mg/kg, but TPH concentrations decrease to about 1,500 mg/kg for the diesel-range hydrocarbons and to nondetect for the gasoline-range hydrocarbons to the west toward sample G2-5.

Grid 12

During the Phase III preliminary evaluation, diesel-range petroleum hydrocarbons were detected in the composite soil sample collected in grid 12 from the capillary fringe at a concentration of 2,420 mg/kg. This concentration was determined for one sample composited from two locations (sub-sample

locations G12-1 and G12-2, shown on Figures 3 and 3-3). Gasoline-range hydrocarbons were not detected for the composite sample. During this interim subsurface investigation, an additional soil sample (G12-3) was collected from the capillary fringe near the preliminary evaluation sub-sample location G12-2 and analyzed for TPH by Method NWTPH-HCID. No TPH was detected in the sample. These results, therefore, indicate that the diesel-range petroleum hydrocarbons detected in the preliminary evaluation composite sample are present in soil collected from the capillary fringe at sub-sample location G12-1, located in the northern portion of the grid and nearer former operations within the tank farm.

Grid 13

During the Phase III preliminary evaluation, diesel-range and gasoline-range petroleum hydrocarbons were detected in the capillary fringe soil sample composited from three locations in grid 13 (sub-sample locations G13-1, G13-2, and G13-3, shown on Figures 3 and 3-3) at concentrations of 2,720 and 2,940 mg/kg, respectively. During this interim subsurface investigation, an additional soil sample (G13-4) was collected from the capillary fringe at a location near the preliminary evaluation sub-sample location G13-1. This sample was analyzed for TPH (by Methods NWTPH-Dx and NWTPH-Gx), BTEX (by EPA Method 8021), and PAHs (by EPA Method 8270). Diesel-range and gasoline-range petroleum hydrocarbons were detected, but at concentrations significantly less than the concentrations detected in the preliminary evaluation composite sample (i.e., 304 and 119 mg/kg, respectively). As shown in Tables 9 and 10, no BTEX was detected and only three PAHs were detected at low concentrations (less than about 1.40 μg/kg). These results indicate that the soil at the capillary fringe in grid 13 that is most significantly impacted by TPH is likely located in the eastern portion of the grid near the preliminary evaluation sub-sample locations G13-2 and G13-3.

Grid 21

During the Phase III preliminary evaluation, diesel-range and gasoline-range petroleum hydrocarbons were detected in the capillary fringe soil sample composited from two locations in grid 21 in the Bell Terminal (sub-sample locations G21-1 and G21-2, shown on Figures 3 and 3-3) at concentrations of 1,120 mg/kg and 162 mg/kg, respectively. During this interim subsurface investigation, an additional soil sample (G21-3) was collected from the capillary fringe at a location near the preliminary evaluation sub-sample location G21-2. This sample was analyzed for TPH by Method NWTPH-HCID. No TPH was detected in the sample indicating that the TPH detected in the preliminary evaluation composite sample is representative of soil collected at the preliminary evaluation sub-sample location G21-1 located in the southwest portion of the Bell Terminal (Figures 3 and 3-3).

SUMMARY AND CONCLUSIONS

The results of this interim subsurface investigation combined with previous investigations confirm the previous site conceptual model where two water-bearing zones (upper and lower) are present below the central and eastern portion of the Main Terminal and below the Bell Terminal, and are separated by a silt confining unit. Depth to groundwater in the upper zone in these areas during the interim subsurface investigation was approximately 14 to 16 ft BGS. Depth to groundwater in the lower zone was approximately 19 ft to 28 ft BGS. In the western portion of the Main Terminal and along the southern portion of the Bell Terminal, the confining unit is discontinuous or not present. In these areas, the two-water bearing zones are connected (or the upper zone is absent) and depth to groundwater was approximately 22 to 28 ft BGS. Based on the interim subsurface evaluation data, the appropriate extent of the confining unit to the west was better defined, as shown on Figure 4. The data also provide more substantial support of the variability and heterogenicity of the confining unit across the site and support the reason for contaminant migration between the upper and lower zones on this basis.

Analytical results for the Bell Terminal investigation and the additional grid sampling combined with the analytical results for the Phase III preliminary evaluation indicate that TPH-impacted soil and groundwater are present below the Main Terminal tank farm area and the Bell Terminal tank farm area. Soil TPH concentrations in the Main terminal tank farm area generally decrease toward the west (toward the river) in the southeast portion of the area where former tank farm operations (e.g., product pipelines and tanks) are not located. In the Bell Terminal, groundwater TPH concentrations in the central portion of the terminal decrease toward the western property boundary and then increase significantly at the boundary, which strongly supports a different source to the west of the Bell Terminal on the Schnitzer property. The most significantly TPH-impacted soil is within the capillary fringe in each area. Recommendations for additional sampling and monitoring to complete the Phase III RI are discussed in the following sections.

RECOMMENDATIONS

This section provides recommendations for further soil and groundwater sampling within the Phase III study area to complete the Phase III RI. Recommendations include: collecting additional discrete soil samples to define the extent of soil contamination in certain areas, installing 18 monitoring wells to monitor groundwater concentrations in downgradient locations and supplement information for the hydrogeological conceptual model, and collecting quarterly groundwater level measurements and groundwater samples at each monitoring well in conjunction with routine quarterly monitoring events. As presented in the Phase III preliminary evaluation technical memorandum, the Phase III study area was divided into five sub-areas: the Main Terminal tank farm area, the loading rack/entrance area of the Main

Terminal, the eastern portion of the Phase III study area, the asphalt-paved road located north of the Bell Terminal, and the Bell Terminal tank farm area, as shown on Figure 16. Recommendations for additional sampling in each of the sub-areas are discussed below. General monitoring well designs and construction are discussed; however, the final design and construction at each monitoring well location will be based on field conditions encountered during drilling of the borehole.

Main Terminal Tank Farm Area

As reported in the Phase III preliminary evaluation technical memorandum, diesel-range and gasoline-range petroleum hydrocarbons were detected in the soil at the capillary fringe and groundwater at most sampling locations within the Main Terminal tank farm area. Based on these results, additional soil samples and installation of additional monitoring wells within the Main Terminal tank farm area are recommended as described below:

- **Soil Samples.** Additional soil samples are recommended within grid 8 and along a set of conveyance/manifold pipelines located within the center portion of the Main Terminal tank farm area (grids 3 and 9).
  - **Conveyance Pipelines (Grids 3 and 9):** The three sets of parallel conveyance/manifold pipes that trend northeast-southwest through the Main Terminal tank farm area (shown on Figure 17), are flanged together with a series of valves. During operation of the tank farm, petroleum products were conveyed through these pipelines and the valves and/or gaskets may have leaked, which potentially released petroleum product to the ground surface. Therefore, it is recommended that soil samples be collected adjacent to selected valve locations along this pipeline. Approximate locations are shown on Figure 17; however, these locations will be adjusted along each pipeline as necessary to collect samples adjacent to the valve locations. Soil samples will be collected from the ground surface to the capillary fringe using a direct-push method. Due to the limited access to this pipeline, a hand-held direct-push sampling device will be used to collect the soil samples. Soil samples from the 0 to 0.5 ft, 1 to 1.5 ft depth intervals and from within the capillary fringe will be analyzed for diesel-range and motor oil-range petroleum hydrocarbons. (Samples from the 0.5 to 1 ft depth interval will be collected and archived; analysis will be conducted if needed to define the vertical extent of contamination.)
  - **Grid 8:** Because diesel-range petroleum hydrocarbons were detected in the composite sample representing the soil at the capillary fringe at grid 8 at a concentration of 5,850 mg/kg and because the composite sub-sample locations (G8-1, G8-2, and G8-3) were all located along the western perimeter of the Main Terminal tank farm, additional soil samples collected from within this grid are recommended. Discrete soil samples collected at the capillary fringe will be analyzed for diesel-range and motor oil-range petroleum hydrocarbons to determine if TPH-impacted soil is present outside and along the perimeter of the Main Terminal tank farm. The soil samples will be collected in conjunction with monitoring well drilling in this area (see next bullet).
- **Monitoring Wells/Groundwater Samples.** Installation of one monitoring well along the northern edge of the Main Terminal tank farm area, five monitoring wells along the western

edge of the Main Terminal tank farm area, and three or four monitoring wells in the center of the Main Terminal tank farm area. Proposed monitoring well locations are shown on Figure 17.

- The well along the northern edge would be installed in the upper zone and sampled to monitor concentrations of TPH and TPH components (i.e., PAHs and VOCs) in groundwater at a location where these constituents were previously detected in the upper zone groundwater (i.e., at sample location GW2-1, shown on Figures 3, 3-7, and 3-8).
- The five monitoring wells on the western edge would be installed into the lower zone near where the confining unit is absent. These wells would be used to monitor contaminants at downgradient locations adjacent to the Willamette River.
- Nested wells (adjacent upper zone and lower zone wells) would be installed in the center of the Main Terminal tank farm area where the confining unit is present. These wells would be installed to monitor contaminant concentrations within the upper and lower zones beneath potential source areas.
- Groundwater level measurements at all of the wells would be collected to provide additional hydrogeologic information necessary to complete the conceptual model. Proposed locations for the monitoring wells are shown on Figure 17.

Loading Rack/Entrance Area of Main Terminal

Except at biased area BA2, shown on Figure 16, contaminants generally were not detected in the soil in the loading rack/entrance area of the Phase III study area at elevated concentrations. Therefore, collection of additional soil samples in this area is not considered necessary. Existing monitoring well LW-7S is downgradient of biased area BA2 and can be used to monitor the potential for any migration of contaminants in groundwater from this area.

Eastern Portion of the Phase III Study Area

Elevated concentrations of contaminants were limited primarily to the surface soil within the eastern portion of the Phase III study area. To better define the lateral extent of contaminants in the shallow soil within this area, discrete soil samples will be collected as described below. Samples are not proposed in locations within current or historical roads because of the potential to sample asphalt-containing soil that would not represent overall soil concentrations. Proposed soil sample locations are shown on Figure 17.

- **Grid 7:** Discrete soil samples will be collected adjacent to the Phase III preliminary evaluation sub-sample location G7-2 and at two other locations within the northern half of the grid to provide spatial distribution of samples in this grid. Samples will be collected from the 0 to 0.5 ft depth interval and submitted for PAH, lead, and zinc analyses. Additional samples will be collected at the 0-5 to 1.0 ft and 1.0 to 1.5 ft depth intervals and archived for potential analysis based on the results for the surface sample at each location.

- **Grid 10**: Discrete soil samples will be collected at two locations, one in the gravel surface area south of the Phase III preliminary evaluation subsample location G10-1 and west of subsample location BA11-01, and one within the vegetated portion of the grid to provide spatial distribution of samples in this grid. Samples will be collected from directly below the gravel surface layer and at the 1.0 to 1.5 ft depth interval and submitted for PAH analyses. Lead and zinc will also be analyzed for in the sample collected from the uppermost depth interval; however, samples from the 1.0 to 1.5 ft depth interval will be archived for potential lead and zinc analyses.

- **Grid 11**: Discrete soil samples will be collected from one location within grid 11 (northeast of Phase III preliminary sub-sample location BA11-02). Samples will be collected from the 0 to 0.5 ft and the 1.0 to 1.5 ft depth interval and submitted for PAH, lead, and zinc analyses. Soil samples will also be collected from the 0.5 to 1.0 ft depth interval and archived for potential analysis based on the results for the other depth intervals.

- **Grid 15**: Discrete soil samples will be collected in vegetated areas adjacent to each of the Phase III preliminary evaluation sub-sample locations (G15-1, G15-2, and G15-3) and submitted for PAH, lead, and zinc analyses. Additional samples will be collected at the 0.5 to 1.0 and the 1.0 to 1.5 ft depth intervals and archived for potential analysis based on the results for the surface sample at each location.

- **Grid 17**: Discrete soil samples will be collected at one location near Phase III preliminary evaluation sub-sample location G17-1 and at two locations in the vegetated areas adjacent to and south of the Phase III preliminary evaluation sub-sample location G17-2 to provide spatial distribution of samples in this grid. Samples will be collected from the 0 to 0.5 ft depth interval and submitted for PAH, lead, and zinc analyses. Additional samples will be collected at the 0.5 to 1.0 ft and the 1.0 to 1.5 ft depth intervals and archived for potential analysis based on the results for the surface sample at each location.

- **Grid 19**: Discrete soil samples will be collected at three locations within grid 19. These locations were selected to spatially distribute samples throughout the grid. Samples will be collected from the 0 to 0.5 ft depth interval and submitted for PAH, lead, and zinc analyses. Additional samples will be collected at the 0.5 to 1.0 ft and the 1.0 to 1.5 ft depth intervals and archived for potential analysis based on the results for the surface sample at each location.

Asphalt-Paved Road (North of the Bell Terminal)

Based on data validated during the Phase III preliminary evaluation, contaminants (primarily metals and motor oil-range petroleum hydrocarbons) were only detected in the one discrete surface soil sample in this area. Because the majority of this area is covered by asphalt, no additional soil or groundwater sampling is considered necessary in this area.

Bell Terminal Tank Farm

Data collected during the three investigations conducted to date in the Bell Terminal area [i.e., Phase III preliminary evaluation (Landau Associates 2002), Schnitzer Corporation split sampling, and this

interim subsurface investigation], indicate the presence of petroleum hydrocarbons in the soil and groundwater at some locations within the Bell Terminal tank farm area (see Attachment 3).

Based on these data, it is recommended that ten monitoring wells (including seven upper zone wells and three lower zone wells) be installed within the Bell Terminal area as follows:

- One of the recommended upper zone well locations (i.e., along the northern perimeter of the Bell Terminal tank farm area) is upgradient of any contamination detected during previous investigations. Groundwater level measurements at this well would be used to provide hydrogeologic information necessary to estimate groundwater flow patterns in this area.

- One pair of nested wells (one upper zone well and one lower zone well) would be located where diesel-range hydrocarbons were detected at 7.45 and 5.61 mg/L and gasoline-range petroleum hydrocarbons were detected at 5.29 and 12.2 mg/L (i.e., adjacent to direct-push sampling locations BT-04 and BT-06).

- Four wells (two sets of nested upper/lower zone wells would be located along the western property boundary of the NW Terminal (i.e., west of the Bell Terminal tank farm). Data from these wells would provide information regarding the migration of contaminants, if any, either from the property or onto the property in this direction. Groundwater level measurements at these wells would also provide information necessary to estimate groundwater flow patterns in this area.

- Two shallow wells, one in the southwest portion of the Bell Terminal tank farm and one along the south-central portion of the Bell Terminal tank farm would be installed to provide hydrogeologic information necessary to estimate groundwater flow patterns in this area and to monitor the migration of contaminants, if any, between the Bell Terminal tank farm and the adjacent property.

MONITORING WELL DESIGN AND CONSTRUCTION

New monitoring wells at the terminal will be drilled and installed in accordance with the Oregon Administrative Rules (OAR) 690-240 and applicable DEQ guidance. Upper zone monitoring wells and lower zone monitoring wells will be constructed of flush-threaded 2-inch Schedule 40 PVC casing with 10-ft PVC machine-slotted screen (0.020-inch). At locations where the confining unit is continuous, the upper zone monitoring wells will be screened across the water table to a level above or approximately equal to the expected seasonal high water level (approximately 5 to 17 ft BGS). The bottom of the screen for the upper zone monitoring wells will not extend more than 0.5 ft into the confining unit. Lower zone monitoring wells will be screened over a 10-ft interval below the confining unit at the top of the lower zone. At locations where the confining unit is not present, the monitoring well will be screened at the first saturated zone encountered. Except as noted above, monitoring well installation and construction and well development will be performed as described in Section 2.2.2.1 of the sampling and analysis plan provided in Appendix B of the Phase III RI work plan. Boring logs for new wells and monitoring well construction details will be provided in the Phase III RI report.

GROUNDWATER MONITORING

Groundwater monitoring will include measuring depth to groundwater, measuring product thicknesses, if present, and collecting groundwater samples at each proposed new well using the procedures described in the Section 2.2.2 of the sampling and analysis plan provided in Appendix B of the Phase III RI work plan. Groundwater samples collected from the new monitoring wells will be analyzed for the full suite of chemical analyses that are routinely used for the Phase II RI quarterly groundwater sampling events. The analyses include: SVOCs (EPA Method 8270); VOCs (EPA Method 8260); six priority pollutant metals (EPA Methods 6010/7000 series); chloride (EPA Method 325.2), total dissolved solids (EPA Method 160.1), and field parameters (pH, conductivity, dissolved oxygen, turbidity, and temperature). The list of analytes may be modified after evaluation of 2 quarters of monitoring. Groundwater monitoring at each proposed well will be performed in conjunction with the routine Phase II quarterly groundwater monitoring. Groundwater monitoring at the Phase III RI monitoring wells will be conducted for 1 year (or 4 quarters), or as necessary, to adequately assess environmental conditions in the Phase III study area and to complete the hydrogeologic conceptual model for the Terminal.

PHASE III RI SCHEDULE

The additional soil sampling and monitoring well installation described herein will be performed following DEQ review and approval of the recommendations provided in this technical memorandum. Currently, field activities are anticipated to occur early in summer 2003.

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Landau Associates. 2001b. *Phase II Remedial Investigation, Time Oil Northwest Terminal, Portland, Oregon.* Prepared for Time Oil Co. February 9.

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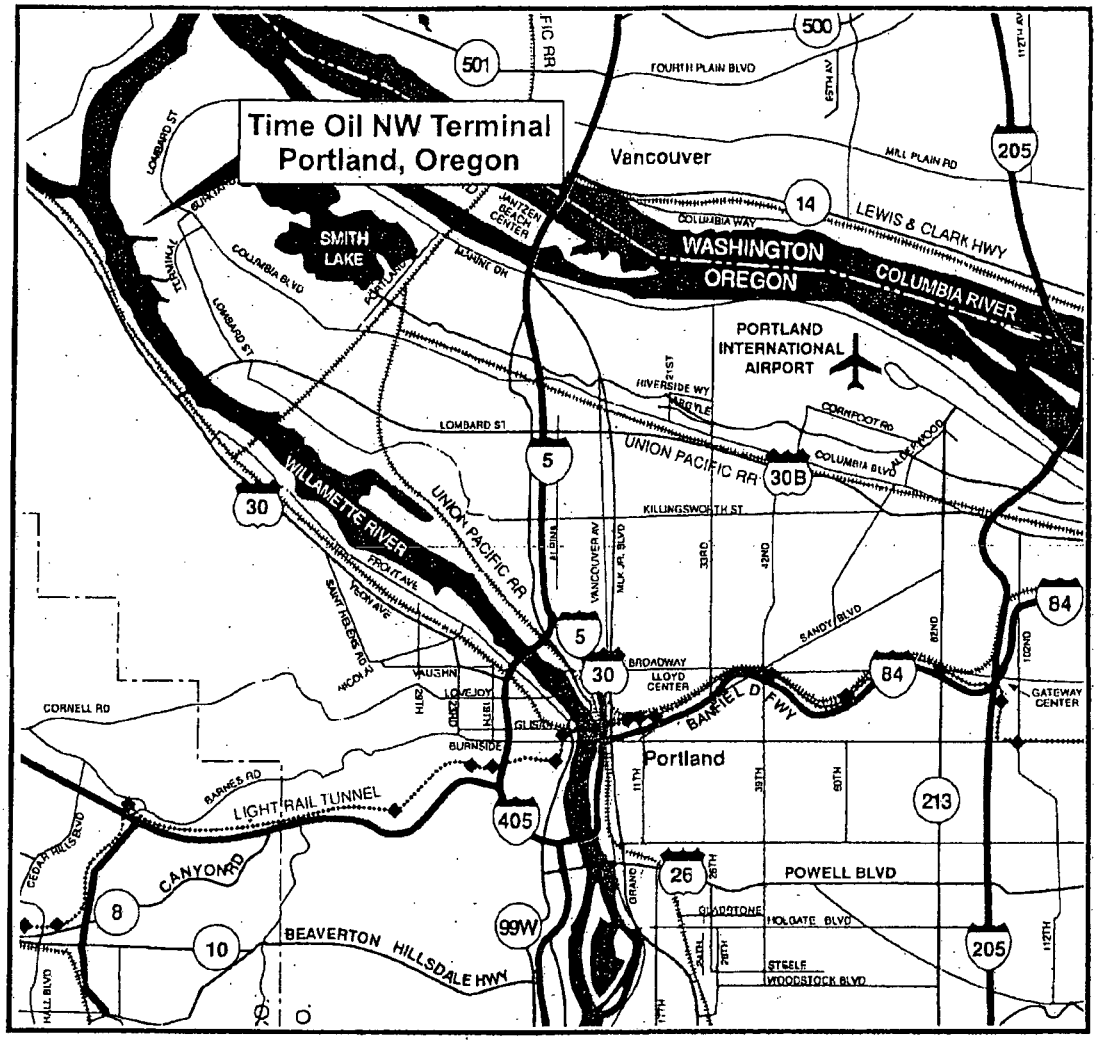

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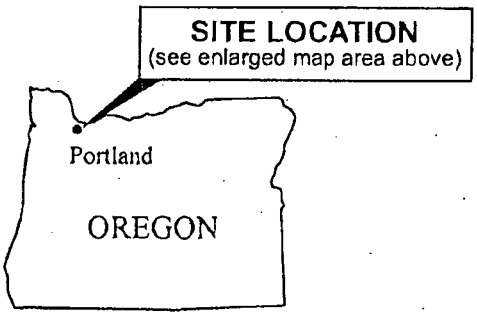

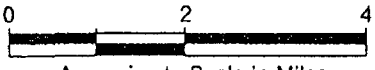

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Time Oil NW Terminal Portland, Oregon	Vicinity Map	Figure 1

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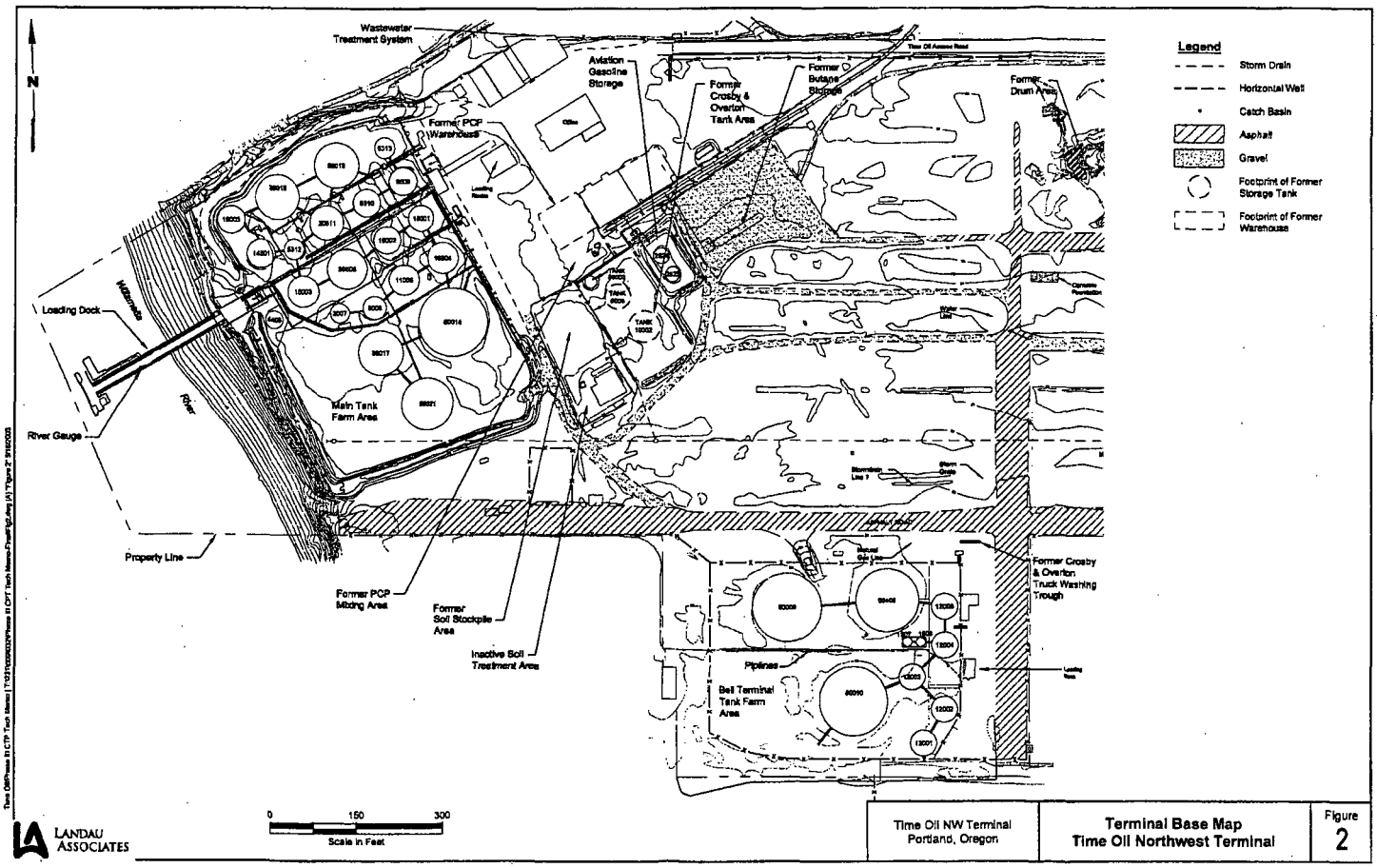

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Time Oil NW Terminal Portland, Oregon	Terminal Base Map Time Oil Northwest Terminal	Figure 2

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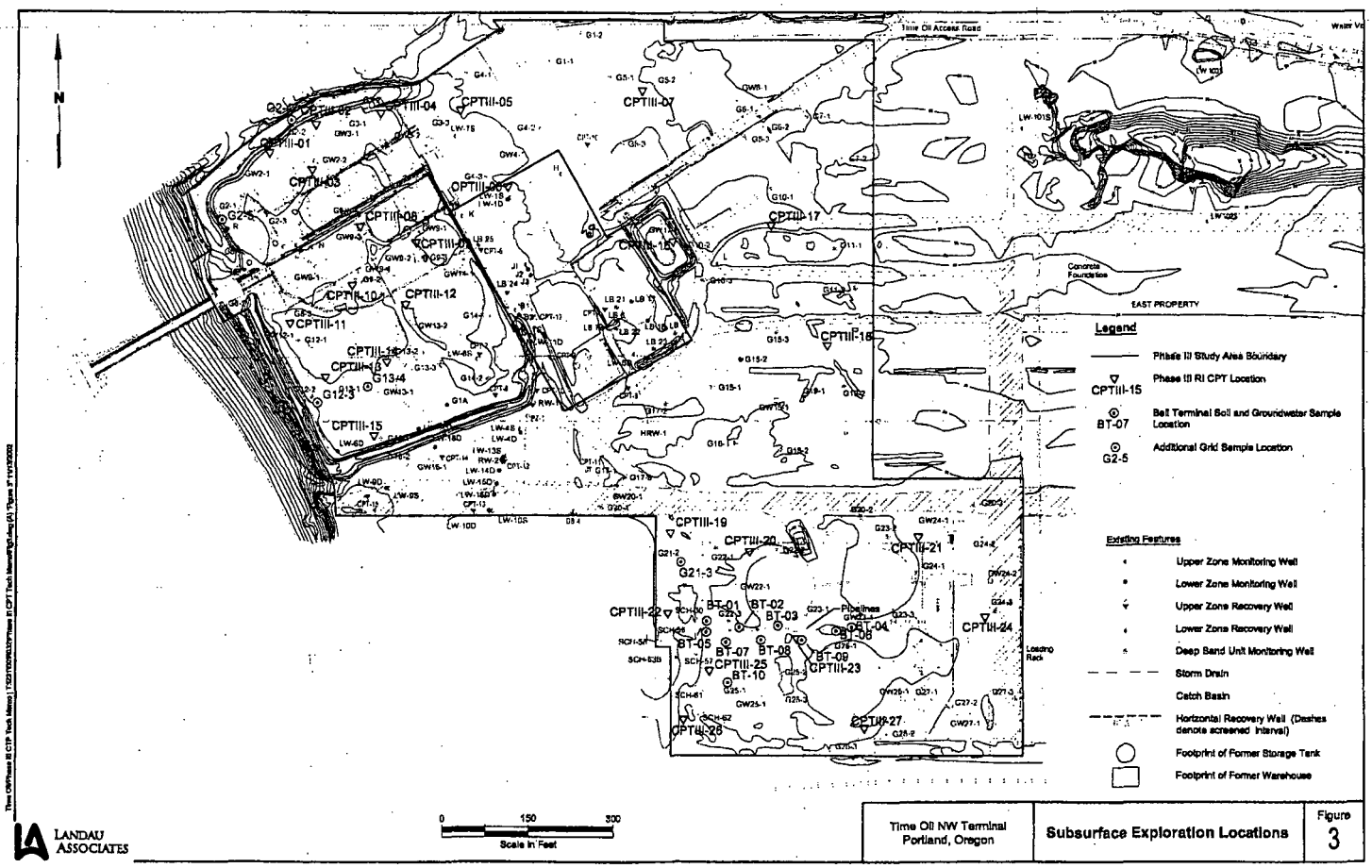

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Time Oil NW Terminal Portland, Oregon	Subsurface Exploration Locations	Figure 3

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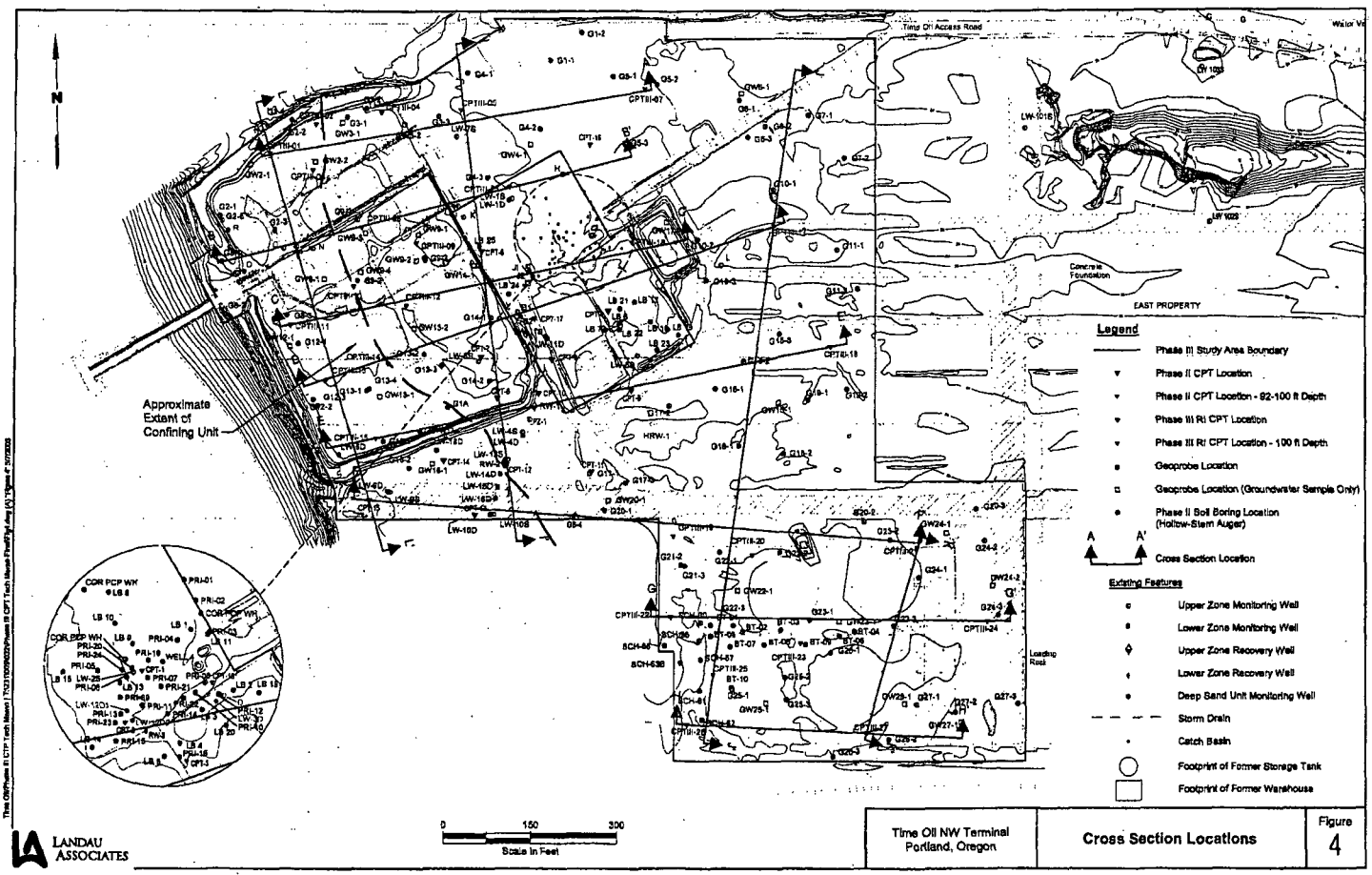

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Time Oil NW Terminal Portland, Oregon	Cross Section Locations	Figure 4

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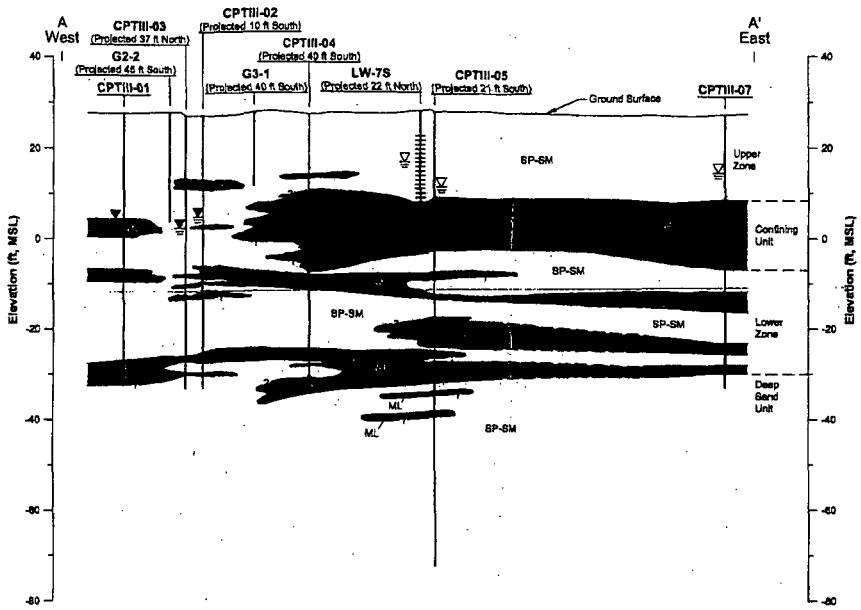

Notes:

1. Contacts of lithologic units are dashed where inferred.
2. This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
4. Groundwater levels at the CPT III explorations are estimates based on pore dissipation tests. Groundwater levels at the CPT III and ST-01 through ST-10 explorations were measured between July 8 and July 16, 2002. Groundwater levels at all existing wells were measured on August 26, 2002

Legend:

- SP-SM — Predominantly gray and brown fine to medium SAND with silt
- Predominantly gray SILT with fine sand
- Monitoring well screen interval
- Groundwater level within the upper zone (See Note 4)
- Groundwater level within the lower zone (See Note 4)

0 100 200
Scale in Feet
Vertical Exaggeration 5X

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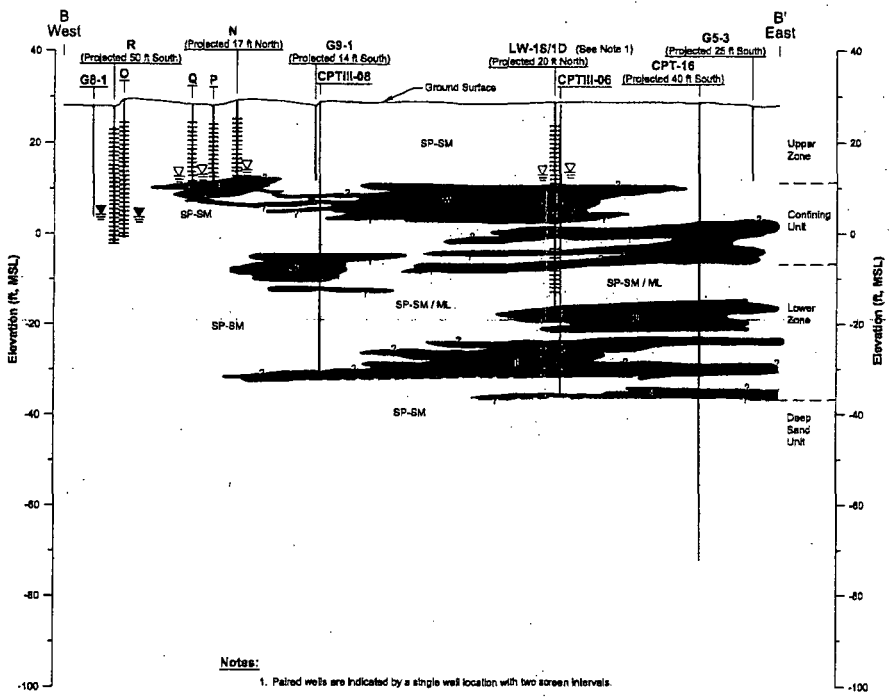
Time Oil NW Terminal Portland, Oregon	Cross Section A-A'	Figure 5

SCHN00380284



Notes:

1. Paired wells are indicated by a single well location with two screen intervals.
2. Contacts of lithologic units are dashed where inferred.
3. This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
5. Groundwater levels at the CPT III explorations are estimates based on pore dissipation tests. Groundwater levels at the CPT III and BT-01 through BT-10 explorations were measured between July 8 and July 18, 2002. Groundwater levels at all existing wells were measured on August 26, 2002

Legend:

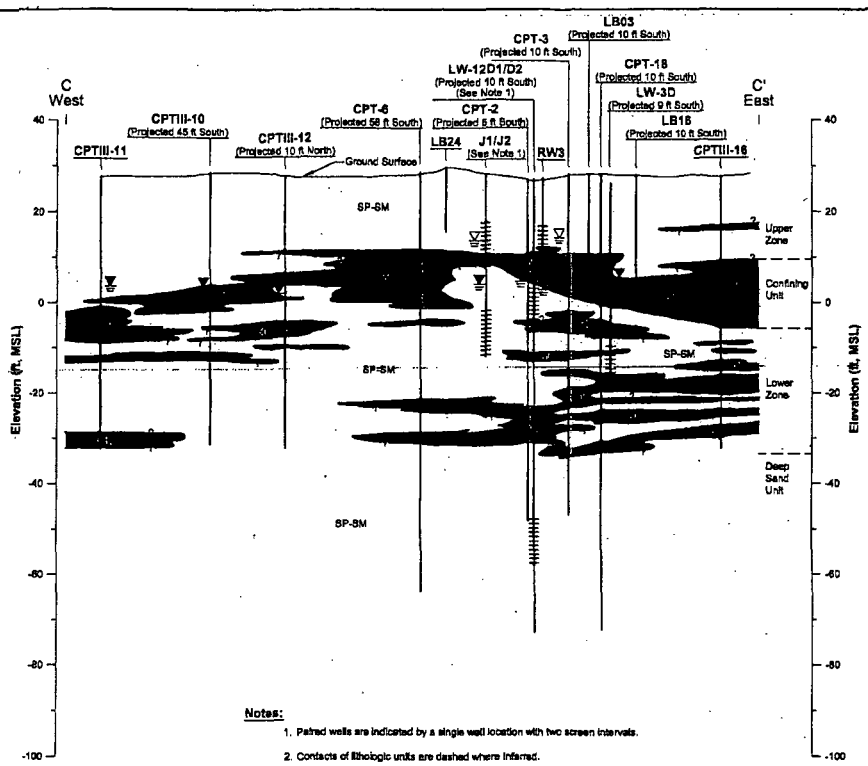
- SP-SM — Predominantly gray and brown fine to medium SAND with silt
- Predominantly gray SILT with fine sand
- Monitoring well screen interval
- Groundwater level within the upper zone (See Note 5)
- Groundwater level within the lower zone (See Note 5)

0 100 200
Scale in Feet
Vertical Exaggeration 5X

LANDAU ASSOCIATES

Time Oil NW Terminal Portland, Oregon	Cross Section B-B'	Figure 6

SCHN00380285



Notes:

1. Paired wells are indicated by a single well location with two screen intervals.
2. Contacts of lithologic units are dashed where inferred.
3. This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
5. Groundwater levels at the CPT III explorations are estimates based on pore dissipation tests. Groundwater levels at the CPT III and BT-01 through BT-10 explorations were measured between July 8 and July 16, 2002. Groundwater levels at all existing wells were measured on August 28, 2002

0 100 200
Scale In Feet
Vertical Exaggeration 5X

Legend:

- SP-SM — Predominantly grey and brown fine to medium SAND with silt
- Predominantly gray SILT with fine sand
- Monitoring well screen interval
- Groundwater level within the upper zone (See Note 5)
- Groundwater level within the lower zone (See Note 5)

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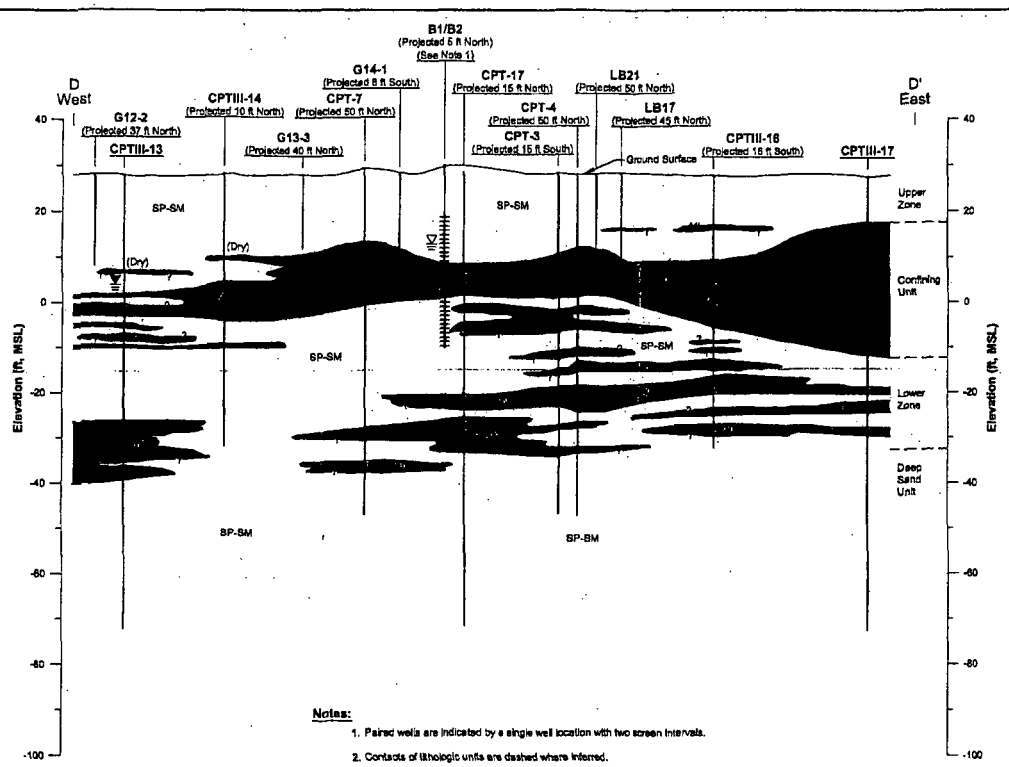
Time Oil NW Terminal Portland, Oregon	Cross Section C-C'	Figure 7

SCHN00380286



Notes:

1. Paired wells are indicated by a single well location with two screen intervals.
2. Contacts of lithologic units are dashed where inferred.
3. This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
5. Groundwater levels at the CPT III explorations are estimates based on pore dissipation tests. Groundwater levels at the CPT III and BT-01 through BT-10 explorations were measured between July 8 and July 18, 2002. Groundwater levels at all existing wells were measured on August 25, 2002

0 100 200
Scale in Feet
Vertical Exaggeration 5X

Legend:

- SP-SM — Predominantly gray and brown fine to medium SAND with silt
- Predominantly gray SILT with fine sand
- Monitoring well screen interval
- Groundwater level within the upper zone (See Note 5)
- Groundwater level within the lower zone (See Note 5)

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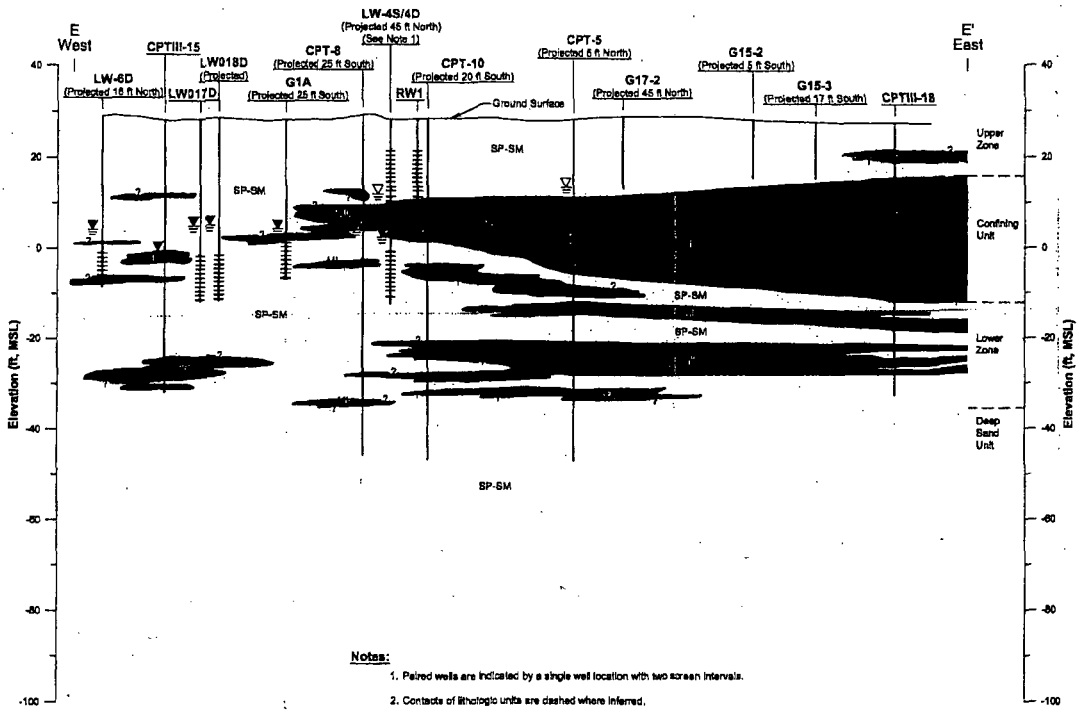
Time Oil NW Terminal Portland, Oregon	Cross Section D-D'	Figure 8

SCHN00380287



Legend:

- SP-SM — Predominantly gray and brown fine to medium SAND with silt
- Predominantly gray SILT with fine sand
- Monitoring well screen interval
- Groundwater level within the upper zone (See Note 5)
- Groundwater level within the lower zone (See Note 5)

Notes:

1. Paired wells are indicated by a single well location with two screen intervals.
2. Contacts of lithologic units are dashed where inferred.
3. This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
5. Groundwater levels at the CPT III explorations are estimates based on pore dissipation tests. Groundwater levels at the CPT III and BT-01 through BT-10 explorations were measured between July 8 and July 16, 2002. Groundwater levels at all existing wells were measured on August 26, 2002

0 100 200
Scale in Feet
Vertical Exaggeration 5X

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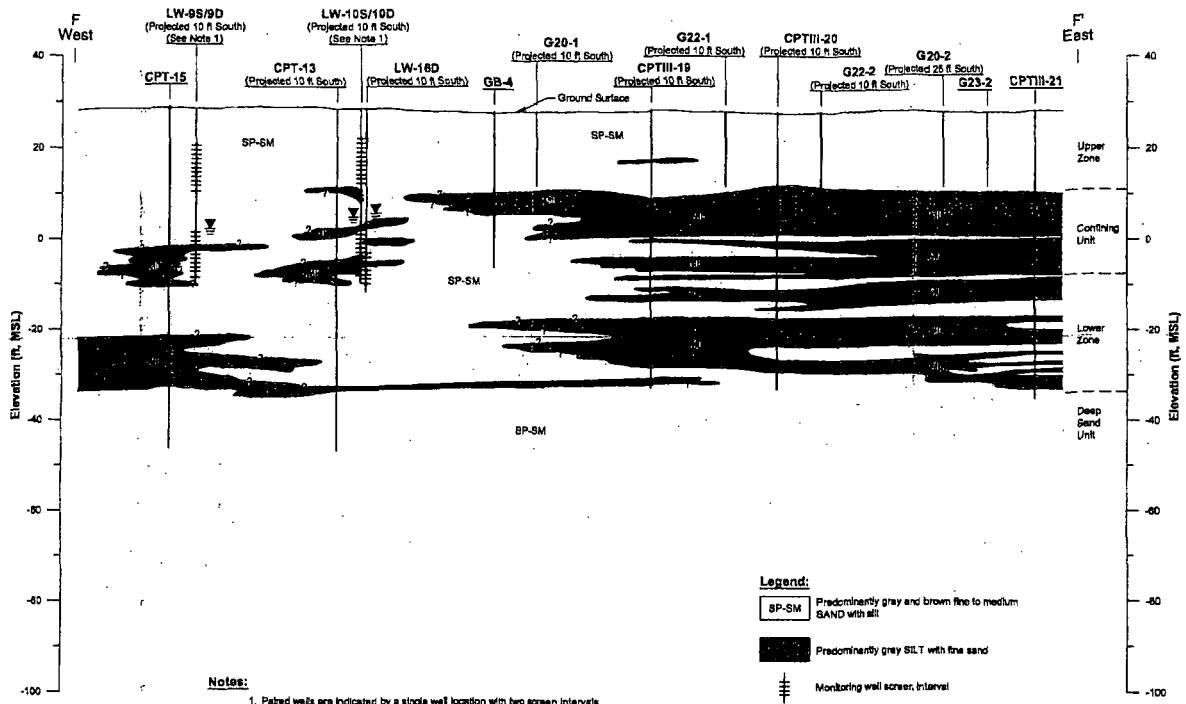
Time Oil NW Terminal Portland, Oregon	Cross SectionE-E'	Figure 9

SCHN00380288



Legend:

SP-SM	Predominantly gray and brown fine to medium SAND with silt
	Predominantly gray SILT with fine sand
	Monitoring well screen interval
	Groundwater level within the lower zone (See Note 5)

Notes:

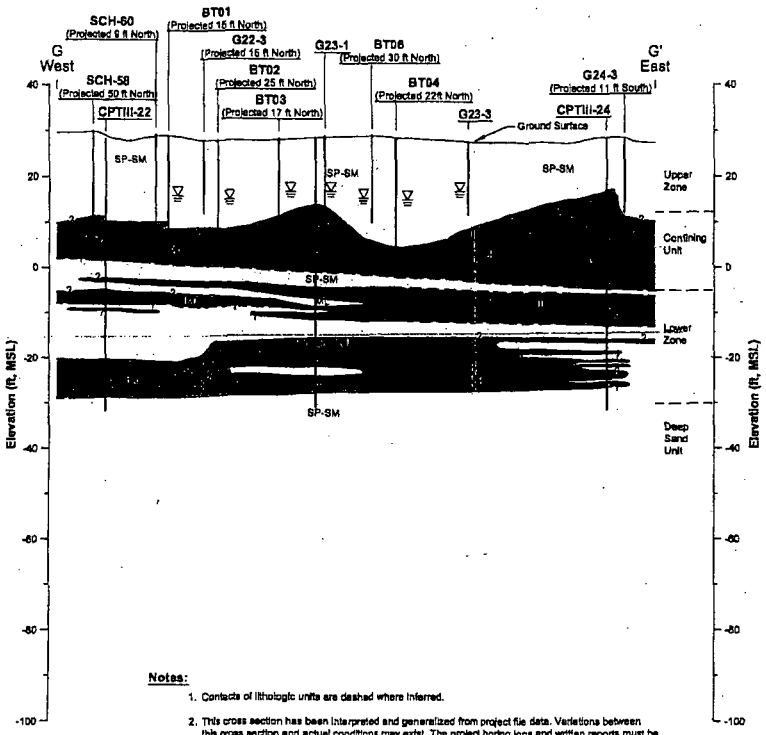
1. Paired wells are indicated by a single well location with two screen intervals.
2. Contacts of lithologic units are dashed where inferred.
3. This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
5. Groundwater levels at the CPT III explorations are estimates based on pore dissipation tests. Groundwater levels at the CPT III and BT-01 through BT-10 explorations were measured between July 8 and July 16, 2002. Groundwater levels at all existing wells were measured on August 26, 2002

0 100 200
Scale in Feet
Vertical Exaggeration 5X

LANDAU ASSOCIATES

Time Oil NW Terminal Portland, Oregon	Cross Section F-F'	Figure 10

SCHN00380289



Notes:

1. Contacts of lithologic units are dashed where inferred.
2. This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
4. Groundwater levels at the CPT III explorations are estimates based on pore dissipation tests. Groundwater levels at the CPT III and BT-01 through BT-10 explorations were measured between July 8 and July 18, 2002. Groundwater levels at all existing wells were measured on August 26, 2002

Legend:

- SP-SM — Predominantly grey and brown fine to medium SAND with silt
- Predominantly grey SILT with fine sand
- Groundwater level within the upper zone (See Note 4)
- Groundwater level within the lower zone (See Note 4)

0 100 200
Scale in Feet
Vertical Exaggeration 5X

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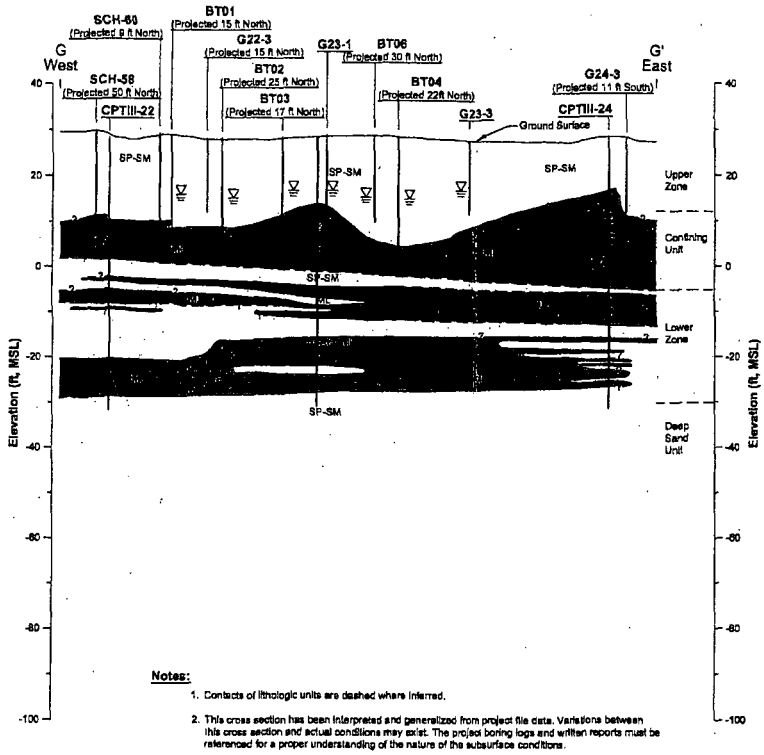
Time Oil NW Terminal Portland, Oregon	Cross Section G-G'	Figure 11

SCHN00380290



Notes:

1. Contacts of lithologic units are dashed where inferred.
2. This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
4. Groundwater levels at the CPT III explorations are estimates based on pore dissipation tests. Groundwater levels at the CPT III and BT-01 through BT-10 explorations were measured between July 8 and July 18, 2002. Groundwater levels at all existing wells were measured on August 28, 2002

Legend:

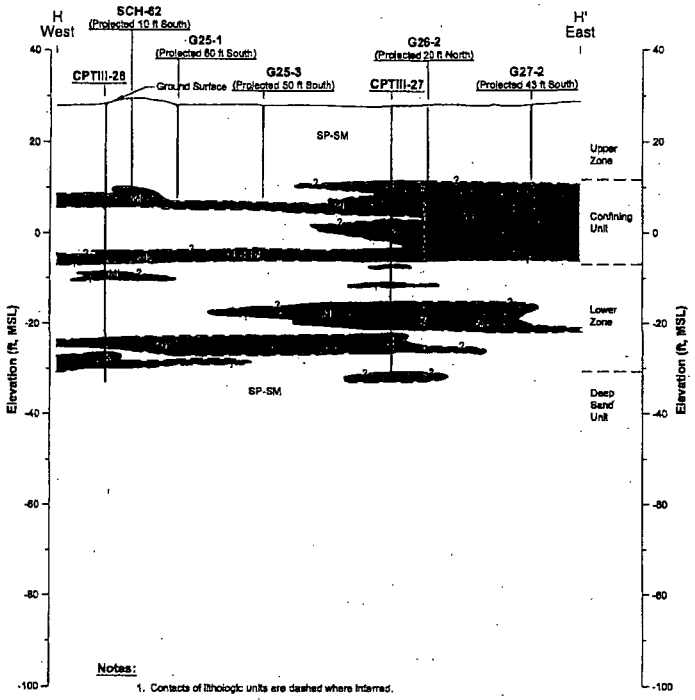
- SP-SM — Predominantly grey and brown fine to medium SAND with silt
- Predominantly grey SILT with fine sand
- Groundwater level within the upper zone (See Note 4)
- Groundwater level within the lower zone (See Note 4)

0 100 200
Scale in Feet
Vertical Exaggeration 5X

LANDAU ASSOCIATES

Time Oil NW Terminal Portland, Oregon	Cross Section G-G'	Figure 11

SCHN00380291



Notes:

1. Contacts of lithologic units are dashed where inferred.
2. This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend:

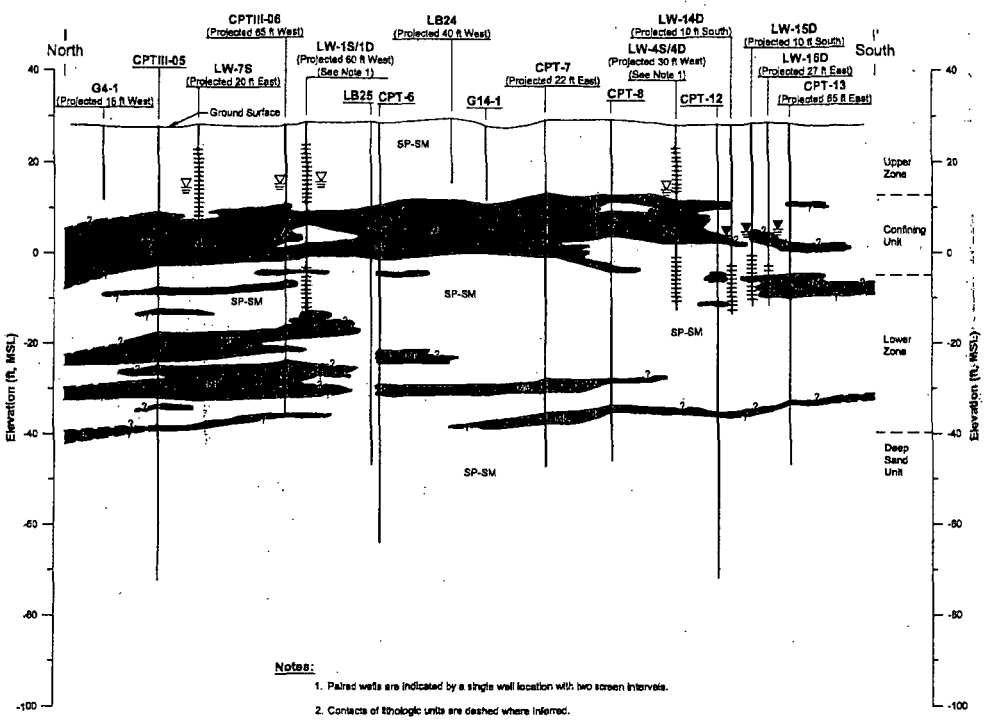
SP-SM	Predominantly grey and brown fine to medium SAND with silt
	Predominantly grey SILT with fine sand

0 100 200
Scale in Feet
Vertical Exaggeration 5X

LANDAU ASSOCIATES

Time Oil NW Terminal Portland, Oregon	Cross Section H-H'	Figure 12

SCHN00380292



Notes:

1. Paired wells are indicated by a single well location with two screen intervals.
2. Contacts of lithologic units are dashed where inferred.
3. This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
5. Groundwater levels at the CPT III explorations are estimates based on pore dissipation tests. Groundwater levels at the CPT III and BT-01 through BT-10 explorations were measured between July 8 and July 16, 2002. Groundwater levels at all existing wells were measured on August 26, 2002

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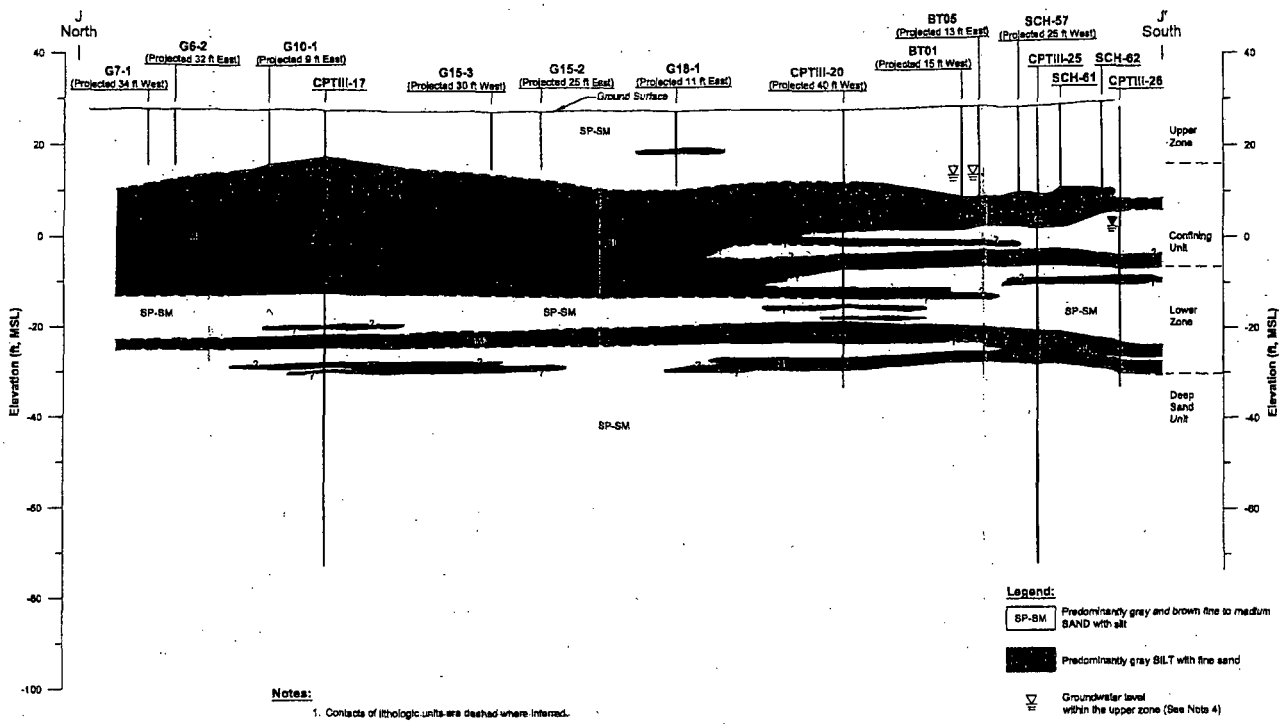
Time Oil NW Terminal Portland, Oregon	Cross Section I-I'	Figure 13

SCHN00380293



Legend:

SP-SM — Predominantly gray and brown fine to medium SAND with silt

Predominantly gray SILT with fine sand

Groundwater level within the upper zone (See Note 4)

Groundwater level within the lower zone (See Note 4)

Notes:

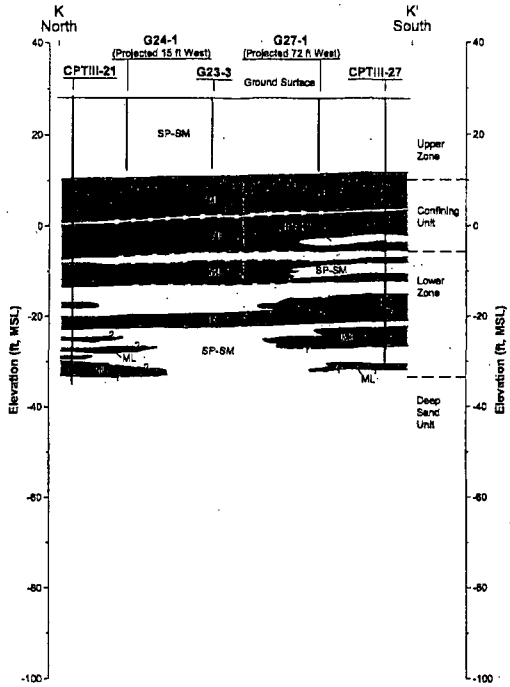
1. Contacts of lithologic units are dashed where inferred.
2. *This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.*
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
4. *Groundwater levels at the CPT III explorations are estimates based on pore dissipation tests.* Groundwater levels at the CPT III and BT-01 through BT-10 explorations were measured between July 8 and July 16, 2002. Groundwater levels at all existing wells were measured on August 26, 2002

0 100 200
Scale In Feet
Vertical Exaggeration 5X

LANDAU ASSOCIATES

Time Oil NW Terminal Portland, Oregon	Cross Section J-J'	Figure 14

SCHN00380294



Legend:

SP-SM — Predominantly gray and brown fine to medium SAND with silt

Predominantly gray SILT with fine sand

Notes:

1. Contacts of lithologic units are dashed where inferred.
2. This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

0 100 200
Scale in Feet
Vertical Exaggeration 5X

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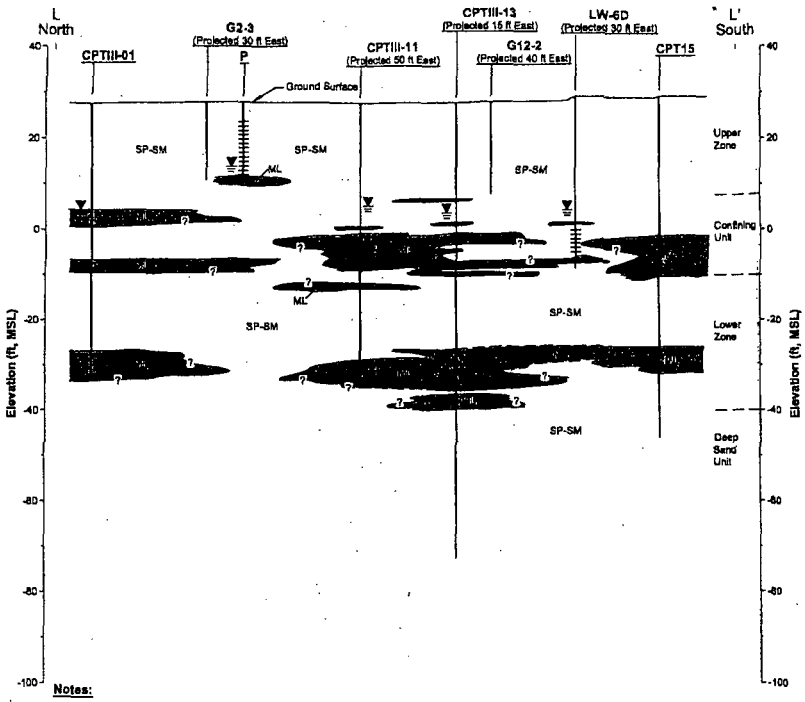
Time Oil NW Terminal Portland, Oregon	Cross Section K-K'	Figure 15

SCHN00380295



Notes:

1. Paired wells are indicated by a single well location with two screen intervals.
2. Contacts of lithologic units are dashed where inferred.
3. This cross section has been interpreted and generalized from project file data. Variations between this cross section and actual conditions may exist. The project boring logs and written reports must be referenced for a proper understanding of the nature of the subsurface conditions.
4. *Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.*
5. Groundwater levels at the CPT III explorations are estimates based on pore dissipation trials. Groundwater levels at the CPT III and BT-01 through BT-10 explorations were measured between July 8 and July 16, 2002. Groundwater levels at all existing wells were measured on August 26, 2002

Legend:

- SP-SM — Predominantly gray and brown fine to medium SAND with silt
- Predominantly gray SILT with fine sand
- *Monitoring Well Screen Interval*
- Groundwater level within the lower zone (See Note 5)

0 100 200
Scale in Feet
Vertical Exaggeration 5X

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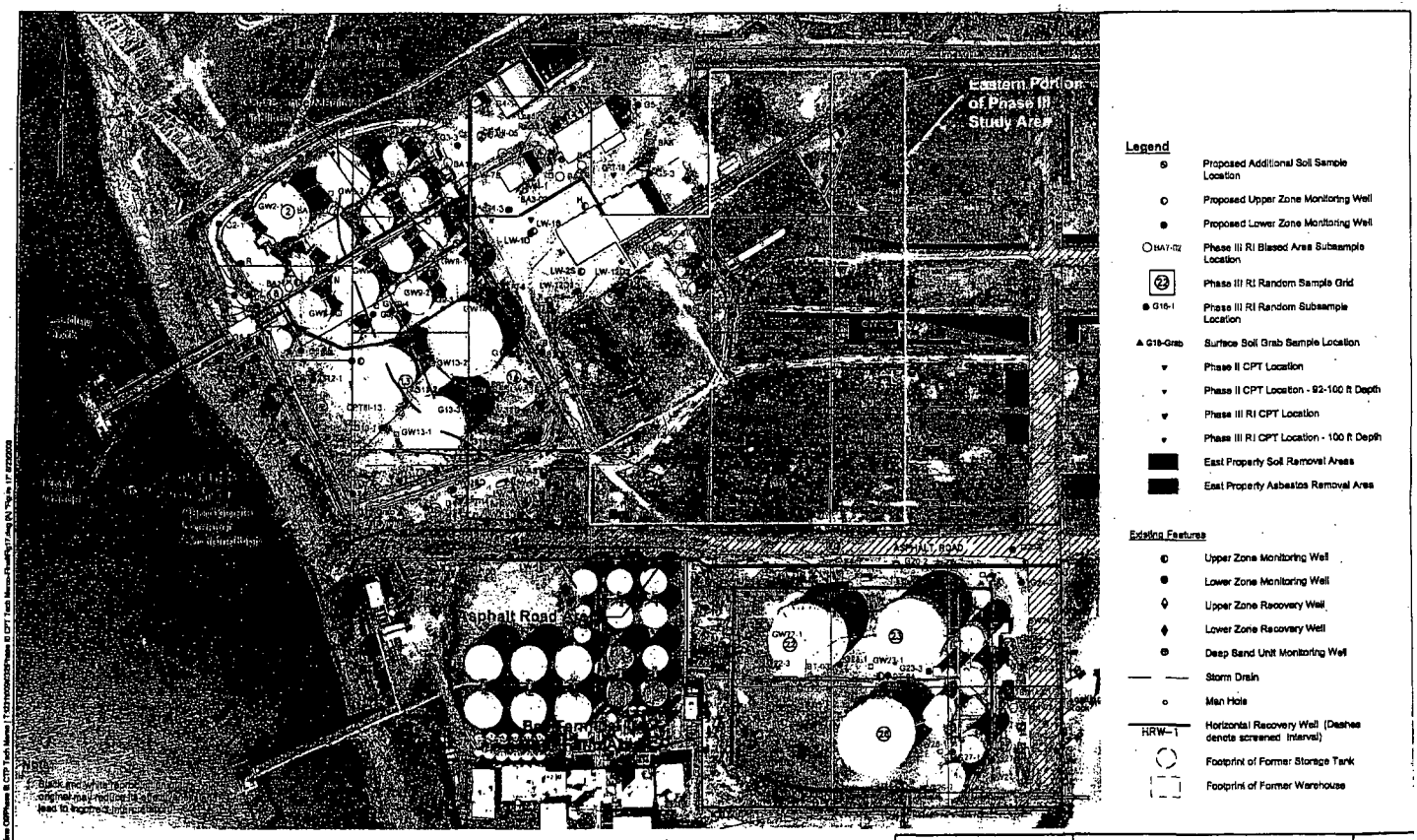
Time Oil NW Terminal Portland, Oregon	Cross Section L-L'	Figure 16

SCHN00380296



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Time Oil NW Terminal
Portland, Oregon

Proposed Additional Soil Samples and Monitoring Well Locations

Figure 17

SCHN00380297

TABLE 1
SOIL DESCRIPTION COMPARISONS
PHASE III RI - INITIAL SUBSURFACE INVESTIGATION

Exploration Identification	Sample Depth (ft, BGS)	CPT Log Soil Description	Sieve Analysis/Hydrometer Test Soil Description	USCS Symbol
CPTIII-05	8.5 - 9.5	silty SAND to sandy SILT	fine to medium SAND with silt	SP-SM
CPTIII-05	12.5 - 13.5	SAND to silty SAND	silty fine to medium SAND with trace gravel	SM
CPTIII-05	69 - 70	SAND to silty SAND	fine SAND with silt	SP-SM
CPTIII-19	19.6 - 20	sandy SILT to clayey SILT	SILT with fine sand	ML
CPTIII-19	24 - 25	sensitive fine grained	sandy SILT	ML
CPTIII-19 (1)	27 - 27.5	clayey SILT to silty CLAY	SILT with fine sand and clay	ML
CPTIII-24 (1)	12 - 13	CLAY	clayey SILT with fine sand	ML/CL

(1) Indicates samples for which hydrometer tests were performed.

TABLE 2
CALCULATED GROUNDWATER ELEVATIONS AT CPTIII EXPLORATIONS
PHASE III RI

CPTIII Location	Pore Water Dissipation Test Measurements: Depth of Measurement (ft BGS)	Pore Water Dissipation Test Measurements: Pore Pressure (psi)	Calculated Measurements: Hydrostatic Head (ft)	Calculated Measurements: Depth to Groundwater (ft BGS)	Calculated Measurements: Groundwater Elevation (ft MSL)	Nearest Well	Groundwater Elevation Measured at Nearest Well: 8/26/02 (ft)	Depth of Significant Silt Layers (a) (ft BGS)
1	25.6	1	2.3	23.3	4.4	R	6.09	23.5 - 27
	41	7.2	16.6	24.4	3.3	R	6.09	34.5 - 37.0
	60.5	15.7	36.2	24.3	3.4	R	6.09	54.5 - >60
2	16.1	0	0.0	No water	Dry	–	–	14.2 - 16.5
	40.5	7.7	17.8	22.8	4.5	R	6.09	24.2 - 25
	60.5	16.8	38.8	21.7	5.6	R	6.09	33.3 - 36.1
	–	–	–	–	–	–	–	38.8 - 40.2
	–	–	–	–	–	–	–	51.9 - 54.5
3	25.8	0.7	1.6	24.1	3.0	R	6.09	13.9 - 16
	40.5	6.6	15.2	25.3	1.8	R	6.09	39.5 - 41.5
	60.5	15.8	36.5	24.0	3.1	R	6.09	53 - 54
4	24.6	0	0.0	No water	Dry	LW-7S	12.69	13.2 - 14.2
	39.5	6.3	14.5	25.0	2.5	LW-1D	5.46	16.8 - 34.8
	60.5	14.8	34.2	26.3	1.2	LW-1D	5.46	51.9 - 54.7
	–	–	–	–				58.2 - >60
5	18.4	0.9	2.1	16.3	11.6	LW-7S	12.69	18.9 - 30.6
	62.3	15.6	36.0	26.3	1.5	LW-1D	5.46	35.2 - 37
	69.6	19.5	45.0	24.6	3.3	LW-1D	5.46	45.4 - 51.8
	–	–	–	–				52.8 - 54.3
	–	–	–	–				55.1 - 59
	–	–	–	–				61.5 - 62.2
	–	–	–	–				66.1 - 67.1
6	16.2	0.9	2.1	14.2	14.0	LW-7S	12.69	17.3 - 29.7
	18.5	1.8	4.2	14.4	13.8	LW-7S	12.69	31.9 - 32.8
	26.4	1.5	3.5	22.9	5.2	LW-1D	5.46	34.3 - 35.8
	42.6	8.8	20.3	22.3	5.9	LW-1D	5.46	44 - 49.9
	64.8	18	41.5	23.3	4.9	LW-1D	5.46	52.8 - 60

SCHN00380299

TABLE 2
CALCULATED GROUNDWATER ELEVATIONS AT CPTIII EXPLORATIONS
PHASE III RI

CPTIII Location	Pore Water Dissipation Test Measurements: Depth of Measurement (ft BGS)	Pore Water Dissipation Test Measurements: Pore Pressure (psi)	Calculated Measurements: Hydrostatic Head (ft)	Calculated Measurements: Depth to Groundwater (ft BGS)	Calculated Measurements: Groundwater Elevation (ft MSL)	Nearest Well	Groundwater Elevation Measured at Nearest Well: 8/26/02 (ft)	Depth of Significant Silt Layers (a) (ft BGS)
7	16.4	1.0	2.3	14.1	13.1	H	15.54	10.7 - 11.6
	30.5	5.0	11.5	19.0	8.2	--	--	14.5 - 34.1
	37.6	6.7	15.5	22.1	5.0	--	--	38.9 - 43.5
	60.5	16.5	38.1	22.5	4.7	--	--	50.2 - 53
	--	--	--	--	--	--	--	55.1 - 57.1
8	25.3	0.66	1.5	23.7	5.2	--	--	20.5 - 22.3
	34.9	4.5	10.5	24.4	4.4	--	--	33.5 - 39.5
	40.4	7.4	17.0	23.3	5.6	--	--	40.8 - 41.3
	60.5	16.7	38.5	22.0	6.9	--	--	59.5 > 60
9	19.4	Not Steady	--	--	--	--	--	13.2 - 22
	60.7	17.5	40.4	20.3	7.7	--	--	29.7 - 35.1
	--	--	--	--	--	--	--	56.2 - 57.6
	--	--	--	--	--	--	--	59.1 - >60
10	21.5	-0.4	-1.0	No water	Dry	--	--	24.7 - 30.5
	38.7	5.5	12.7	26.0	2.7	O	6.12	33.9 - 36.9
	59.5	15.0	34.5	25.0	3.7	O	6.12	39.8 - 41.5
11	19.0	0	0.0	No water	Dry	--	--	27 - 27.6
	22.3	0.1	0.2	22.1	5.6	O	6.12	28.5 - 36.7
	35.1	5.6	12.9	22.2	5.4	O	6.12	39.5 - 40.8
	60.5	16.2	37.4	23.1	4.5	O	6.12	56.5 - >60
12	18.5	-0.7	-1.6	No water	Dry	None	--	16.5 - 17.1
	43.5	7.5	17.3	26.2	1.7	None	--	21.3 - 23.8
	60.5	15.2	35.1	25.5	2.4	None	--	32.2 - 35.4

SCHN00380300

TABLE 2
CALCULATED GROUNDWATER ELEVATIONS AT CPTIII EXPLORATIONS
PHASE III RI

CPTIII Location	Pore Water Dissipation Test Measurements: Depth of Measurement (ft BGS)	Pore Water Dissipation Test Measurements: Pore Pressure (psi)	Calculated Measurements: Hydrostatic Head (ft)	Calculated Measurements: Depth to Groundwater (ft BGS)	Calculated Measurements: Groundwater Elevation (ft MSL)	Nearest Well	Groundwater Elevation Measured at Nearest Well: 8/26/02 (ft)	Depth of Significant Silt Layers (a) (ft BGS)
13	20.8	-0.7	-1.6	No water	Dry	--	--	26.2 - 26.9
	46.4	10	23.1	23.3	4.4	LW6D	5.05	28.5 - 31
	96.5	31.5	72.7	23.8	4.0	LW6D	5.05	34.9 - 38.1
	--	--	--	--	--	--	--	54.3 - 67.5
14	18.5	0	0.0	No water	Dry	G1A	Dry	23.6 - 32.5
	60.5	14.5	33.5	27.1	1.2	LW-17D	5.15	37.5 - 39.5
15	20.0	-2.5	-5.8	No water	Dry	LW-9S	Dry	27.6 - 28.2
	42.5	6.2	14.3	28.2	0.0	LW6D	5.05	34.8 - 35.6
	60.5	13.6	31.4	29.1	-1.0	LW6D	5.05	52.5 - 59.4
16	36.9	3.9	9.0	27.9	-0.2	LW-3D	5.17	18.5 - 33.5
	51.2	10.4	24.0	27.2	0.6	LW-3D	5.17	37.9 - 48.2
	60.5	14	32.3	28.2	-0.5	LW-3D	5.17	51.3 - 53
	--	--	--	--				55 - 57.7
17	40.7	6.5	15.0	25.7	1.9	None	--	10 - 39.9
	54.0	12.1	27.9	26.0	1.5	None	--	49.4 - 52
	100.6	Not Steady	--	--	--	None	--	55.5 - 57.5
18	40.8	6	13.8	27.0	0.3	None	--	6.2 - 8.7
	60.5	14	32.3	28.2	-0.9	None	--	12.1 - 39.4
	--	--	--	--	--	None	--	41.7 - 55.5
19	17.4	Not Steady	--	--	--	None	--	19.6 - 27.9
	61.7	Not Steady	--	--	--	None	--	32.6 - 35.5
	--	--	--	--	--	None	--	40.8 - 42.1
	--	--	--	--	--	None	--	45.5 - 56.8
	--	--	--	--	--	None	--	59.3 - 60.8

SCHN00380301

TABLE 2
CALCULATED GROUNDWATER ELEVATIONS AT CPTIII EXPLORATIONS
PHASE III RI

CPTIII Location	Pore Water Dissipation Test Measurements		Calculated Measurements			Nearest Well	Groundwater Elevation Measured at Nearest Well	Depth of Significant Silt Layers (a) (ft BGS)
	Depth of Measurement (ft BGS)	Pore Pressure (psi)	Hydrostatic Head (ft)	Depth to Groundwater (ft BGS)	Groundwater Elevation (ft MSL)		8/26/02 (ft)	
20	NM	NM	--	--	--	None	--	16.0 - 26.6 28.1 - 29.8 31.6 - 34.7 39.0 - 41.4 46.4 - 51.4 54.5 - 57.5
21	NM	NM	--	--	--	None	--	18.1 - 41.6 48.3 - 51.2 58.2 - 61.4
22	17.6	0	0.0	No water	Dry	None	--	18.2 - 26.6
	19.5	-6	-13.8	No water	Dry	None	--	30.6 - 31.4
	32.0	3	6.9	25.1	3.1	None	--	33.1 - 36.3
	43.6	7.8	18.0	25.6	2.6	None	--	48.7 - 49.4
	60.4	15.1	34.8	25.5	2.7	None	--	50 - 56.9
23	41.2	6.8	15.7	25.5	2.6	None	--	14.1 - 30.3
	--	--	--	--	--	None	--	33 - 35
	--	--	--	--	--	None	--	38.7 - 40.5
	--	--	--	--	--	None	--	44.1 - 49.9
	--	--	--	--	--	None	--	52 - 55.4
24	60.4	13.7	31.6	28.8	-0.2	None	--	16 - 33.5 34.5 - 41.5 51.4 - 55.1
25	36	5	11.5	24.5	3.6	None	--	18.8 - 26
	42	7.5	17.3	24.7	3.4	None	--	30.8 - 34.2
	74.6	21.5	49.6	25.0	3.1	None	--	37 - 38 48.5 - 56

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TABLE 2
CALCULATED GROUNDWATER ELEVATIONS AT CPTIII EXPLORATIONS
PHASE III RI

CPTIII Location	Pore Water Dissipation Test Measurements		Calculated Measurements			Nearest Well	Groundwater Elevation Measured at Nearest Well	Depth of Significant Silt Layers (a) (ft BGS)
	Depth of Measurement (ft BGS)	Pore Pressure (psi)	Hydrostatic Head (ft)	Depth to Groundwater (ft BGS)	Groundwater Elevation (ft MSL)		8/26/02 (ft)	
26	18	0	0.0	No water	Dry	None	--	19.9 - 22.7
	21.2	0	0.0	No water	Dry	None	--	32.4 - 35.2
	47.6	9	20.8	26.8	1.6	None	--	36.8 - 38.6
	61.7	15.5	35.8	25.9	2.4	None	--	51.5 - 58.3
27	60.2	17.2	39.6	20.6	7.4	None	--	16.5 - 30
								31.2 - 35.4
								38.9 - 40
								43.1 - 54.5
								58.7 - 59.2

NM = Not Measured.
H = Monitoring Well.
O = Monitoring Well.
R = Monitoring Well.

(a) Silt layer at least 0.5 ft thick or greater.

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TABLE 3
EXPLANATION SHEET FOR DATA SUMMARY TABLES

SAMPLE INFORMATION

Date: Date of sample collection

Depth (ft): Top of depth interval at which soil sample was collected. Depth intervals sampled included: 0 - 0.5 ft BGS, 1 -2 ft BGS, 5 - 6 ft BGS, 9 - 10 ft BGS, 12.5 -13.5 ft BGS, 13.5 - 14.5 ft BGS, and 14 - 15 ft BGS.

Primary: Indicates no duplicate sample was analyzed or parent sample if a duplicate sample was analyzed.

Duplicate 1: Indicates a blind field duplicate sample.

DATA QUALIFIER DEFINITIONS

J Indicates analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

U Indicates compound was analyzed for, but was not detected at the given detection limit.

JU The analyte was not detected in the sample; the reported sample detection limit is an estimate.

NT Indicates not tested.

TABLE 4
SOIL ANALYTICAL RESULTS
BTEX (METHOD 8021B)
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE	BT01	BT05	BT06	BT08
	SAMPLE ID	BT01(13.5-14.5)	BT05(14-15)	BT06(14-15)	BT08(13.5-14.5)
	DATE	07/08/2002	07/08/2002	07/09/2002	07/08/2002
	DEPTH (ft)	13.50	14.00	14.00	13.50
Benzene	(mg/kg)	0.0276 U	0.0275 U	0.0305 U	0.0298 U
Ethylbenzene	(mg/kg)	0.110 U	0.552	1.33	0.119 U
Toluene	(mg/kg)	0.110 U	0.110 U	0.410	0.119 U
Xylene (total)	(mg/kg)	0.331 U	1.02	1.67	0.358 U

The following qualifier(s) exist: CLP Q: U NT=Not analyzed

SCHN00380305

TABLE 5
SOIL ANALYTICAL RESULTS
SEMIVOLATILES (METHOD 8270)
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	BT01 BT01(13.5-14.5) 07/08/2002 13.50	BT03 BT03(0-0.5) 07/08/2002 0.00	BT04 BT04(0-0.5) 07/09/2002 0.00	BT04 BT04(9-10) 07/09/2002 9.00	BT05 BT05(14-15) 07/08/2002 14.00	BT06 BT06(14-15) 07/09/2002 14.00
Acenaphthene	(ug/kg)	6.67 U	6.67 JU	6.67 JU	6.67 JU	927 J	28.0
Acenaphthylene	(ug/kg)	6.67 U	6.67 JU	6.67 JU	6.67 JU	487 J	31.3
Anthracene	(ug/kg)	6.67 U	6.67 JU	6.67 JU	6.67 JU	267 J	6.67 U
Benzo(a)anthracene	(ug/kg)	6.67 U	6.67 JU	22.0 J	20.7 J	7.33 J	6.67 U
Benzo(a)pyrene	(ug/kg)	6.67 U	6.67 JU	36.7 J	36.0 J	6.67 JU	6.67 U
Benzo(b)fluoranthene	(ug/kg)	6.67 U	16.0 J	44.0 J	50.0 J	6.67 JU	6.67 U
Benzo(ghi)perylene	(ug/kg)	6.67 U	33.3 J	44.7 J	36.0 J	6.67 JU	6.67 U
Benzo(k)fluoranthene	(ug/kg)	6.67 U	6.67 JU	14.0 J	14.7 J	6.67 JU	6.67 U
Chrysene	(ug/kg)	6.67 U	6.67 JU	24.7 J	24.0 J	14.0 J	6.67 U
Dibenzo(a,h)anthracene	(ug/kg)	6.67 U	6.67 JU	11.3 J	10.7 J	6.67 JU	6.67 U
Fluoranthene	(ug/kg)	6.67 U	6.67 JU	33.3 J	29.3 J	113 J	6.67 U
Fluorene	(ug/kg)	6.67 U	6.67 JU	6.67 JU	6.67 JU	2590 J	87.3
Indeno(1,2,3-cd)pyrene	(ug/kg)	6.67 U	15.3 J	36.0 J	30.0 J	6.67 JU	6.67 U
Naphthalene	(ug/kg)	6.67 U	6.67 JU	6.67 JU	6.67 JU	407 JU	239
Phenanthrene	(ug/kg)	6.67 U	6.67 JU	12.7 J	8.7 J	4780 J	28.0
Pyrene	(ug/kg)	6.67 U	6.67 JU	53.3 J	70.7 J	107 J	6.67 U

The following qualifier(s) exist: CLP Q: U, Expert: J NT=Not analyzed

SCHN00380306

TABLE 5
SOIL ANALYTICAL RESULTS
SEMIVOLATILES (METHOD 8270)
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	BT08 BT08(0-0.5) 07/08/2002 0.00	BT08 BT08(13.5-14.5) 07/08/2002 13.50
Acenaphthene	(ug/kg)	6.67 JU	6.67 U
Acenaphthylene	(ug/kg)	6.67 JU	6.67 U
Anthracene	(ug/kg)	6.67 JU	6.67 U
Benzo(a)anthracene	(ug/kg)	72.7 J	6.67 U
Benzo(a)pyrene	(ug/kg)	106 J	6.67 U
Benzo(b)fluoranthene	(ug/kg)	193 J	6.67 U
Benzo(ghi)perylene	(ug/kg)	94.0 J	6.67 U
Benzo(k)fluoranthene	(ug/kg)	44.7 J	6.67 U
Chrysene	(ug/kg)	87.3 J	6.67 U
Dibenzo(a,h)anthracene	(ug/kg)	22.7 J	6.67 U
Fluoranthene	(ug/kg)	168 J	6.67 U
Fluorene	(ug/kg)	6.67 JU	6.67 U
Indeno(1,2,3-cd)pyrene	(ug/kg)	66.0 J	6.67 U
Naphthalene	(ug/kg)	6.67 JU	6.67 U
Phenanthrene	(ug/kg)	43.3 J	6.67 U
Pyrene	(ug/kg)	177 J	6.67 U

Landau Associates

The following qualifier(s) exist: CLP Q: U, Expert: J NT=Not analyzed

SCHN00380307

TABLE 6
SOIL ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE	BT01	BT01	BT01	BT01	BT01	BT02
	SAMPLE ID	BT01(0-0.5)	BT01(1-2)	BT01(5-6)	BT01(9-10)	BT01(13.5-14.5)	BT02(0-0.5)
	DATE	07/08/2002	07/08/2002	07/08/2002	07/08/2002	07/08/2002	07/08/2002
	DEPTH (ft)	0.00	1.00	5.00	9.00	13.50	0.00
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Diesel (HCID)	(mg/kg)	54.3 U	54.5 U	54.8 U	57.3 U	NT	54.1 U
Diesel Range Hydrocarbons	(mg/kg)	NT	NT	NT	NT	301	NT
Gasoline (HCID)	(mg/kg)	21.7 U	21.8 U	21.9 U	22.9 U	NT	21.6 U
Gasoline Range Hydrocarbons	(mg/kg)	NT	NT	NT	NT	2.76 U	NT
Kerosene	(mg/kg)	54.3 U	54.5 U	54.8 U	57.3 U	NT	54.1 U
Lube Oil	(mg/kg)	109 U	109 U	110 U	115 U	NT	108 U
Mineral spirits	(mg/kg)	21.7 U	21.8 U	21.9 U	22.9 U	NT	21.6 U
TPH-Motor Oil Range	(mg/kg)	NT	NT	NT	NT	86.9	NT

The following qualifier(s) exist: CLP Q: U NT=Not analyzed

SCHN00380308

TABLE 6
SOIL ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE	BT02	BT02	BT02	BT02	BT03	BT03
	SAMPLE ID	BT02(1-2)	BT02(5-6)	BT02(9-10)	BT02(14-15)	BT03(0-0.5)	BT03(0-0.5)
	DATE	07/08/2002	07/08/2002	07/08/2002	07/08/2002	07/08/2002	07/08/2002
	DEPTH (ft)	1.00	5.00	9.00	14.00	0.00	0.00
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Duplicate 1
Diesel (HCID)	(mg/kg)	54.6 U	55.1 U	55.9 U	60.2 U	Y	Y
Diesel Range Hydrocarbons	(mg/kg)	NT	NT	NT	NT	244	237
Gasoline (HCID)	(mg/kg)	21.8 U	22.1 U	22.4 U	24.1 U	22 U	22.2 U
Gasoline Range Hydrocarbons	(mg/kg)	NT	NT	NT	NT	NT	NT
Kerosene	(mg/kg)	54.6 U	55.1 U	55.9 U	60.2 U	55.1 U	55.4 U
Lube Oil	(mg/kg)	109 U	110 U	112 U	120 U	110 U	111 U
Mineral spirits	(mg/kg)	21.8 U	22.1 U	22.4 U	24.1 U	22 U	22.2 U
TPH-Motor Oil Range	(mg/kg)	NT	NT	NT	NT	67.2	69.6

The following qualifier(s) exist: CLP Q: U, Expert: Y NT=Not analyzed

SCHN00380309

TABLE 6
SOIL ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE	BT03	BT03	BT03	BT03	BT04	BT04
	SAMPLE ID	BT03(1-2)	BT03(1-2)	BT03(5-6)	BT03(9-10)	BT04(0-0.5)	BT04(1-2)
	DATE	07/08/2002	07/08/2002	07/08/2002	07/08/2002	07/09/2002	07/09/2002
	DEPTH (ft)	1.00	1.00	5.00	9.00	0.00	1.00
	RESULT TYPE	Primary	Duplicate 1	Primary	Primary	Primary	Primary
Diesel (HCID)	(mg/kg)	54.7 U	54.7 U	54.9 U	55.5 U	Y	54.5 U
Diesel Range Hydrocarbons	(mg/kg)	NT	NT	NT	NT	198	NT
Gasoline (HCID)	(mg/kg)	21.9 U	21.9 U	22.0 U	22.2 U	21.8 U	21.8 U
Gasoline Range Hydrocarbons	(mg/kg)	NT	NT	NT	NT	NT	NT
Kerosene	(mg/kg)	54.7 U	54.7 U	54.9 U	55.5 U	54.5 U	54.5 U
Lube Oil	(mg/kg)	109 U	109 U	110 U	111 U	Y	109 U
Mineral spirits	(mg/kg)	21.9 U	21.9 U	22.0 U	22.2 U	21.8 U	21.8 U
TPH-Motor Oil Range	(mg/kg)	NT	NT	NT	NT	699	NT

The following qualifier(s) exist: CLP Q: U, Expert: Y NT=Not analyzed

SCHN00380310

TABLE 6
SOIL ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE	BT04	BT04	BT04	BT05	BT05	BT05
	SAMPLE ID	BT04(5-6)	BT04(9-10)	BT04(12.5-13.5)	BT05(0-0.5)	BT05(1-2)	BT05(5-6)
	DATE	07/09/2002	07/09/2002	07/09/2002	07/08/2002	07/08/2002	07/08/2002
	DEPTH (ft)	5.00	9.00	12.50	0.00	1.00	5.00
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Diesel (HCID)	(mg/kg)	55.6 U	Y	57.5 U	53.4 U	56.1 U	54.8 U
Diesel Range Hydrocarbons	(mg/kg)	NT	115	NT	NT	NT	NT
Gasoline (HCID)	(mg/kg)	22.2 U	22.4 U	23.0 U	21.4 U	22.4 U	21.9 U
Gasoline Range Hydrocarbons	(mg/kg)	NT	NT	NT	NT	NT	NT
Kerosene	(mg/kg)	55.6 U	56.0 U	57.5 U	53.4 U	56.1 U	54.8 U
Lube Oil	(mg/kg)	111 U	Y	115 U	107 U	112 U	110 U
Mineral spirits	(mg/kg)	22.2 U	22.4 U	23.0 U	21.4 U	22.4 U	21.9 U
TPH-Motor Oil Range	(mg/kg)	NT	1070	NT	NT	NT	NT

The following qualifier(s) exist: CLP Q: U, Expert: Y NT=Not analyzed

SCHN00380311

TABLE 6
SOIL ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE	BT05	BT05	BT06	BT06	BT06	BT06
	SAMPLE ID	BT05(9-10)	BT05(14-15)	BT06(0-0.5)	BT06(0-0.5)	BT06(1-2)	BT06(1-2)
	DATE	07/08/2002	07/08/2002	07/09/2002	07/09/2002	07/09/2002	07/09/2002
	DEPTH (ft)	9.00	14.00	0.00	0.00	1.00	1.00
	RESULT TYPE	Primary	Primary	Primary	Duplicate 1	Primary	Duplicate 1
Diesel (HCID)	(mg/kg)	55.9 U	NT	54.5 U	54.7 U	55.6 U	55.6 U
Diesel Range Hydrocarbons	(mg/kg)	NT	6200	NT	NT	NT	NT
Gasoline (HCID)	(mg/kg)	22.4 U	NT	21.8 U	21.9 U	22.2 U	22.2 U
Gasoline Range Hydrocarbons	(mg/kg)	NT	715	NT	NT	NT	NT
Kerosene	(mg/kg)	55.9 U	NT	54.5 U	54.7 U	55.6 U	55.6 U
Lube Oil	(mg/kg)	112 U	NT	109 U	109 U	111 U	111 U
Mineral spirits	(mg/kg)	22.4 U	NT	21.8 U	21.9 U	22.2 U	22.2 U
TPH-Motor Oil Range	(mg/kg)	NT	99.0	NT	NT	NT	NT

The following qualifier(s) exist: CLP Q: U NT=Not analyzed

SCHN00380312

TABLE 6
SOIL ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE	BT06	BT06	BT06	BT07	BT07	BT07
	SAMPLE ID	BT06(5-6)	BT06(9-10)	BT06(14-15)	BT07(0-0.5)	BT07(0-0.5)	BT07(1-2)
	DATE	07/09/2002	07/09/2002	07/09/2002	07/08/2002	07/08/2002	07/08/2002
	DEPTH (ft)	5.00	9.00	14.00	0.00	0.00	1.00
	RESULT TYPE	Primary	Primary	Primary	Primary	Duplicate 1	Primary
Diesel (HCID)	(mg/kg)	55.4 U	55.9 U	NT	54.7 U	55.6 U	54.1 U
Diesel Range Hydrocarbons	(mg/kg)	NT	NT	198	NT	NT	NT
Gasoline (HCID)	(mg/kg)	22.2 U	22.4 U	NT	21.9 U	22.2 U	21.6 U
Gasoline Range Hydrocarbons	(mg/kg)	NT	NT	1160	NT	NT	NT
Kerosene	(mg/kg)	55.4 U	55.9 U	NT	54.7 U	55.6 U	54.1 U
Lube Oil	(mg/kg)	111 U	112 U	NT	109 U	111 U	108 U
Mineral spirits	(mg/kg)	22.2 U	22.4 U	NT	21.9 U	22.2 U	21.6 U
TPH-Motor Oil Range	(mg/kg)	NT	NT	61.0 U	NT	NT	NT

The following qualifier(s) exist: CLP Q: U NT=Not analyzed

SCHN00380313

TABLE 6
SOIL ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

'ERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
'AMPLE TYPE: Soil

CONSTITUENT	SITE	BT07	BT07	BT07	BT07	BT08	BT08
	SAMPLE ID	BT07(1-2)	BT07(5-6)	BT07(9-10)	BT07(12.5-13.5)	BT08(0-0.5)	BT08(1-2)
	DATE	07/08/2002	07/08/2002	07/08/2002	07/08/2002	07/08/2002	07/08/2002
	DEPTH (ft)	1.00	5.00	9.00	12.50	0.00	1.00
	RESULT TYPE	Duplicate 1	Primary	Primary	Primary	Primary	Primary
Diesel (HCID)	(mg/kg)	55.6 U	54.2 U	55.9 U	55.1 U	Y	54.2 U
Diesel Range Hydrocarbons	(mg/kg)	NT	NT	NT	NT	93.4	NT
Gasoline (HCID)	(mg/kg)	22.2 U	21.7 U	22.4 U	22.1 U	21.8 U	21.7 U
Gasoline Range Hydrocarbons	(mg/kg)	NT	NT	NT	NT	NT	NT
Kerosene	(mg/kg)	55.6 U	54.2 U	55.9 U	55.1 U	54.5 U	54.2 U
Lube Oil	(mg/kg)	111 U	108 U	112 U	110 U	109 U	108 U
Mineral spirits	(mg/kg)	22.2 U	21.7 U	22.4 U	22.1 U	21.8 U	21.7 U
TPH-Motor Oil Range	(mg/kg)	NT	NT	NT	NT	54.5 U	NT

The following qualifier(s) exist: CLP Q: U, Expert: Y NT=Not analyzed

SCHN00380314

TABLE 6
SOIL ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE	BT08	BT08	BT08	BT09	BT09	BT09
	SAMPLE ID	BT08(5-6)	BT08(9-10)	BT08(13.5-14.5)	BT09(0-0.5)	BT09(1-2)	BT09(5-6)
	DATE	07/08/2002	07/08/2002	07/08/2002	07/09/2002	07/09/2002	07/09/2002
	DEPTH (ft)	5.00	9.00	13.50	0.00	1.00	5.00
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Diesel (HCID)	(mg/kg)	54.5 U	56.2 U	NT	53.9 U	54.3 U	55.3 U
Diesel Range Hydrocarbons	(mg/kg)	NT	NT	17.9 U	NT	NT	NT
Gasoline (HCID)	(mg/kg)	21.8 U	22.5 U	NT	21.6 U	21.7 U	22.1 U
Gasoline Range Hydrocarbons	(mg/kg)	NT	NT	2.98 U	NT	NT	NT
Kerosene	(mg/kg)	54.5 U	56.2 U	NT	53.9 U	54.3 U	55.3 U
Lube Oil	(mg/kg)	109 U	112 U	NT	108 U	109 U	111 U
Mineral spirits	(mg/kg)	21.8 U	22.5 U	NT	21.6 U	21.7 U	22.1 U
TPH-Motor Oil Range	(mg/kg)	NT	NT	59.7 U	NT	NT	NT

The following qualifier(s) exist: CLP Q: U NT=Not analyzed

SCHN00380315

TABLE 6
SOIL ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

ERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
AMPLE TYPE: Soil

CONSTITUENT	SITE	BT09	BT09	BT10	BT10	BT10	BT10
	SAMPLE ID	BT09(9-10)	BT09(13.5-14.5)	BT10(0-0.5)	BT10(1-2)	BT10(5-6)	BT10(9-10)
	DATE	07/09/2002	07/09/2002	07/09/2002	07/09/2002	07/09/2002	07/09/2002
	DEPTH (ft)	9.00	13.50	0.00	1.00	5.00	9.00
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Diesel (HCID)	(mg/kg)	55.3 U	57.7 U	55.1 U	55.5 U	54.4 U	54.4 U
Diesel Range Hydrocarbons	(mg/kg)	NT	NT	NT	NT	NT	NT
Gasoline (HCID)	(mg/kg)	22.1 U	23.1 U	22.0 U	22.2 U	21.8 U	21.8 U
Gasoline Range Hydrocarbons	(mg/kg)	NT	NT	NT	NT	NT	NT
Kerosene	(mg/kg)	55.3 U	57.7 U	55.1 U	55.5 U	54.4 U	54.4 U
Lube Oil	(mg/kg)	111 U	115 U	110 U	111 U	109 U	109 U
Mineral spirits	(mg/kg)	22.1 U	23.1 U	22.0 U	22.2 U	21.8 U	21.8 U
TPH-Motor Oil Range	(mg/kg)	NT	NT	NT	NT	NT	NT

The following qualifier(s) exist: CLP Q: U NT=Not analyzed

SCHN00380316

TABLE 6
SOIL ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT		
	SITE	BT10
	SAMPLE ID	BT10(13.5-14.5)
	DATE	07/09/2002
	DEPTH (ft)	13.50
	RESULT TYPE	Primary
Diesel (HCID)	(mg/kg)	54.9 U
Diesel Range Hydrocarbons	(mg/kg)	NT
Gasoline (HCID)	(mg/kg)	22.0 U
Gasoline Range Hydrocarbons	(mg/kg)	NT
Kerosene	(mg/kg)	54.9 U
Lube Oil	(mg/kg)	110 U
Mineral spirits	(mg/kg)	22.0 U
TPH-Motor Oil Range	(mg/kg)	NT

The following qualifier(s) exist: CLP Q: U NT=Not analyzed

SCHN00380317

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
BTEX (METHOD 8021B)
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

RIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
MPLE TYPE: Water

CONSTITUENT	SITE	BT01	BT02	BT03	BT04	BT05	BT06
	SAMPLE ID	BT-01-GW	BT-02-GW	BT-03-GW	BT-04-GW	BT-05-GW	BT-06-GW
	DATE	07/08/2002	07/08/2002	07/08/2002	07/09/2002	07/08/2002	07/09/2002
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Benzene	(ug/l)	0.400 U	0.400 U	0.400 U	1.08	0.400 U	18.6
Ethylbenzene	(ug/l)	15.6	0.500 U	0.500 U	6.10	0.500 U	24.9
Toluene	(ug/l)	5.43	0.544	0.500 U	4.99	3.40 J	15.6
Xylene (total)	(ug/l)	1.50 U	1.50 U	1.50 U	12.1	1.50 U	68.2

The following qualifier(s) exist: CLP Q: U, Expert: J NT=Not analyzed

SCHN0038031 8

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
BTEX (METHOD 8021B)
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE	BT07	BT07	BT08	BT09	BT10
	SAMPLE ID	BT-07-GW	BT-12-GW	BT-08-GW	BT-09-GW	BT-10-GW
	DATE	07/08/2002	07/08/2002	07/08/2002	07/09/2002	07/09/2002
	RESULT TYPE	Primary	Duplicate 1	Primary	Primary	Primary
Benzene	(ug/l)	0.400 U	0.400 U	0.400 U	1.09	0.400 U
Ethylbenzene	(ug/l)	0.500 U	0.500 U	3.30	0.500 U	0.500 U
Toluene	(ug/l)	2.40	1.30 J	7.83	4.49	0.923
Xylene (total)	(ug/l)	1.66	2.91	17.0	23.7	1.50 U

Landau Associates

The following qualifier(s) exist: CLP Q: U, Expert: J NT=Not analyzed

SCHN00380319

TABLE 8
GROUNDWATER ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

TABLE 8
GROUNDWATER ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
BELL TERMINAL - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/08/2002 thru 07/09/2002 - Inclusive
SAMPLE TYPE: Water

CONSTITUENT	SITE SAMPLE ID DATE RESULT TYPE	BT01 BT-01-GW 07/08/2002 Primary	BT02 BT-02-GW 07/08/2002 Primary	BT03 BT-03-GW 07/08/2002 Primary	BT04 BT-04-GW 07/08/2002 Primary	BT05 BT-05-GW 07/08/2002 Primary	BT06 BT-06-GW 07/08/2002 Primary
Diesel Range Hydrocarbons	(mg/l)	1.94	0.625	22.2	7.48	2.96 J	8.61
Gasoline Range Hydrocarbons	(mg/l)	1.87	0.100 U	5.57	5.29	0.981	12.2
TPH-Motor Oil Range	(mg/l)	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U

Landau Associates

The following qualifier(s) exist: CLP Q: U, Expert: J NT=Not analyzed

SCHN00380320

TABLE 9
SOIL ANALYTICAL RESULTS
BTEX (METHOD 8021B)
ADDITIONAL GRID SAMPLES - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/11/2002 thru 07/11/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT		SITE	G13-4
		SAMPLE ID	(14.5-15.5)
		DATE	07/11/2002
		DEPTH (ft)	14.50
Benzene	(mg/kg)		0.0274 U
Ethylbenzene	(mg/kg)		0.110 U
Toluene	(mg/kg)		0.110 U
Xylene (total)	(mg/kg)		0.329 U

Landau Associates

The following qualifier(s) exist: CLP Q: U NT=Not analyzed

TABLE 10
SOIL ANALYTICAL RESULTS
SEMIVOLATILES (METHOD 8270)
ADDITIONAL GRID SAMPLES - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/11/2002 thru 07/11/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	G13-4 (14.5-15.5) 07/11/2002 14.50
Acenaphthene	(ug/kg)	37.3
Acenaphthylene	(ug/kg)	24.7
Anthracene	(ug/kg)	6.67 U
Benzo(a)anthracene	(ug/kg)	6.67 U
Benzo(a)pyrene	(ug/kg)	6.67 U
Benzo(b)fluoranthene	(ug/kg)	6.67 U
Benzo(ghi)perylene	(ug/kg)	6.67 U
Benzo(k)fluoranthene	(ug/kg)	6.67 U
Chrysene	(ug/kg)	6.67 U
Dibenzo(a,h)anthracene	(ug/kg)	6.67 U
Fluoranthene	(ug/kg)	6.67 U
Fluorene	(ug/kg)	142
Indeno(1,2,3-cd)pyrene	(ug/kg)	6.67 U
Naphthalene	(ug/kg)	6.67 U
Phenanthrene	(ug/kg)	165 U
Pyrene	(ug/kg)	6.67 U

Landau Associates

The following qualifier(s) exist: CLP Q: U NT=Not analyzed

SCHN00380322

TABLE 11
SOIL ANALYTICAL RESULTS
PETROLEUM HYDROCARBONS
ADDITIONAL GRID SAMPLES - PHASE III RI
TIME OIL NORTHWEST TERMINAL

PERIOD: From 07/11/2002 thru 07/11/2002 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	G12-3 (17.5-18.5) 07/11/2002 17.50	G13-4 (14.5-15.5) 07/11/2002 14.50	G2-4 (18.5-19.5) 07/11/2002 18.50	G2-5 (16-17) 07/11/2002 16.00	G21-3 (13-14) 07/11/2002 13.00
Diesel (HCID)	(mg/kg)	56.6 U	NT	57.5 U	ND	60.5 U
Diesel Range Hydrocarbons	(mg/kg)	NT	304	NT	1550 J	NT
Gasoline (HCID)	(mg/kg)	22.2 U	NT	23 U	23.5 U	24.2 U
Gasoline Range Hydrocarbons	(mg/kg)	NT	119	NT	NT	NT
Kerosene	(mg/kg)	55.6 U	NT	57.5 U	58.7 U	60.5 U
Lube Oil	(mg/kg)	111 U	NT	115 U	ND	121 U
Mineral spirits	(mg/kg)	22.2 U	NT	23 U	23.5 U	24.2 U
TPH-Motor Oil Range	(mg/kg)	NT	54.8 U	NT	225 J	NT

Landau Associates

ND=Not Detected The following qualifier(s) exist: CLP Q: U, Expert: J NT=Not analyzed

SCHN00380323

Attachment 2

Soil Boring Logs

Soil Classification System

MAJOR DIVISIONS			GRAPHIC SYMBOL	USCS LETTER SYMBOL[1]	TYPICAL DESCRIPTIONS[2][3]
COARSE-GRAINED SOIL (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)		GW	Well-graded gravel; gravel/sand mixture(s); little or no fines
				GP	*Poorly graded gravel; gravel/sand mixture(s); little or no fines*
		GRAVEL WITH FINES (Appreciable amount of fines)		GM	Silty gravel; gravel/sand/silt mixture(s)
				GC	Clayey gravel; gravel/sand/clay mixture(s)
	SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)		SW	Well-graded sand; gravelly sand; little or no fines
				SP	Poorly graded sand; gravelly sand; little or no fines
		SAND WITH FINES (Appreciable amount of fines)		SM	Silty sand; sand/silt mixture(s)
				SC	Clayey sand; sand/clay mixture(s)
FINE-GRAINED SOIL (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY (Liquid limit less than 50)			ML	Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity
				CL	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay
				OL	Organic silt; organic, silty clay of low plasticity
	SILT AND CLAY (Liquid limit greater than 50)			MH	Inorganic silt; micaceous or diatomaceous fine sand
				CH	Inorganic clay of high plasticity; fat clay
				OH	Organic clay of medium to high plasticity; organic silt
	HIGHLY ORGANIC SOIL			PT	Peat; humus; swamp soil with high organic content

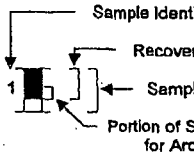
OTHER MATERIALS	GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
PAVEMENT		AC or PC	Asphalt concrete pavement or Portland cement pavement
ROCK		RK	Rock (See Rock Classification)
WOOD		WD	Wood, lumber, wood chips
DEBRIS		DB	Construction debris, garbage

Notes:
1. USCS letter symbols correspond to the symbols used by the Unified Soil Classification System and ASTM classification methods. Dual letter symbols (e.g., SP-SM) for a sand or gravel indicate a soil with an estimated 5-15% fines. Multiple letter symbols (e.g., ML/CL) indicate borderline or multiple soil classifications.
2. Soil descriptions are based on the general approach presented in the *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*, as outlined in ASTM D 2488. Where laboratory index testing has been conducted, soil classifications are based on the *Standard Test Method for Classification of Soils for Engineering Purposes*, as outlined in ASTM D 2487.
3. Soil description terminology is based on visual estimates (in the absence of laboratory test data) of the percentages of each soil type and is defined as follows:

Primary Constituent:	> 50% - "GRAVEL," "SAND," "SILT," "CLAY," etc.
Secondary Constituents:	> 30% and ≤ 50% - "very gravelly," "very sandy," "very silty," etc.
	> 15% and ≤ 30% - "gravelly," "sandy," "silty," etc.
Additional Constituents:	> 5% and ≤ 15% - "with gravel," "with sand," "with silt," etc.
	≤ 5% - "trace gravel," "trace sand," "trace silt," etc., or not noted.

Drilling and Sampling Key

SAMPLE NUMBER & INTERVAL



SAMPLER TYPE

Code	Description
a	3.25-inch O.D., 2.42-inch I.D. Split Spoon
b	2.00-inch O.D., 1.50-inch I.D. Split Spoon
c	Shelby Tube
d	Grab Sample
e	Other - See text if applicable
1	300-lb Hammer, 30-inch Drop
2	140-lb Hammer, 30-inch Drop
3	Pushed
4	Other - See text if applicable

Groundwater

▽ ATD — Approximate water elevation at time of drilling (ATD) or on date noted. Groundwater levels can fluctuate due to precipitation, seasonal conditions, and other factors.

Field and Lab Test Data

Code	Description
PP = 1.0	Pocket Penetrometer, tsf
TV = 0.5	Torvane, tsf
PID = 100	Photoionization Detector VOC screening, ppm
W = 10	Moisture Content, %
D = 120	Dry Density, pcf
-200 = 60	Material smaller than No. 200 sieve, %
GS	Grain Size - See separate figure for data
AL	Atterberg Limits - See separate figure for data
GT	Other Geotechnical Testing
CA	Chemical Analysis

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Time Oil NW Terminal Portland, Oregon	Soil Classification System and Key	Figure 2-1

19/03 \\EDMNAS\GINTGINT\WPROJECTS\231009.39.GPJ SOIL CLASS SHEET

BT-01

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 28.59 (MSL)	Water Level
0		1	d4		0		GP	Brown, sandy GRAVEL (dry to moist) (no odor, no sheen)	
							SP	Brown, fine to medium SAND with gravel (moist) (no odor, no sheen)	
		2	d4		0				
	25								
					0			No gravel.	
5		3	b3						
	20				0				
10		4	b3						
					820		SP	Brown, fine to medium SAND with trace silt (moist) (strong petroleum-like odor, no sheen)	
	15	5	b3				SP-SM	Gray, fine to medium SAND with silt (medium dense, wet) (very strong petroleum-like odor, no sheen)	ATD
15									
		6	b3		1756				
	10								
20							ML	Gray SILT with fine sand	
25									
30									

Boring Completed 07/08/02
Total Depth of Boring = 20.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. *Boring backfilled with bentonite chips following sample collection.*

231009.39 5/19/03 \\EDMNAS\GINT\GINTW\PROJECTS\231009.39.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Time Oil NW Terminal Portland, Oregon	Log of BT-01	Figure 2-2

SCHN00380326

BT-02

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 28.13 (MSL)	Water Level
0		1	d4		0		GP	Brown, sandy GRAVEL (dry)	
		2	d4		0		SP	Brown, fine to medium SAND (moist) (no odor, no sheen)	
	25								
5					0				
		3	b3						
	20				0				
10		4	b3						
					0				
	15	5	b3					Becomes wet.	ATD
15									
							SP	Gray, fine to medium SAND (wet) (mild petroleum-like odor, no sheen)	
	10	6	b3		231				
							SM	Gray, silty, fine to medium SAND (wet)	
20							ML	Gray SILT with sand and wood debris (wet)	
25									
30									

Boring Completed 07/08/02
Total Depth of Boring = 20.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Boring backfilled with bentonite chips following sample collection.

z31009.39 5/19/03 \\EDMNAS\GINT\GINTW\PROJECTS\231009.39.GPJ SOIL BORING LOG W/ ELEV

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Time Oil NW Terminal Portland, Oregon	Log of BT-02	Figure 2-3

SCHN00380327

BT-03

Drilling Method: Geoprobe™

Ground Elevation (ft): 28.32 (MSL)

Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Description	Water Level
0		1	d4		0		GP	Brown, sandy GRAVEL (dry)	
		2	d4		0		SP	Brown, fine to medium SAND (moist) (no odor, no sheen)	
	25								
5					0				
		3	b3						
	20				0				
10		4	b3					Becomes wet	ATD
	15								
		5	b3		791		SP-SM	Gray, fine to medium SAND with silt (wet) (strong petroleum-like odor, no sheen)	
15									
	10	6	b3		116		ML	Gray, sandy SILT (wet) (mild petroleum-like odor, no sheen)	
20									
25									
30									

Boring Completed 07/08/02
Total Depth of Boring = 20.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Boring backfilled with bentonite chips following sample collection.

231009.39 5/19/03 \\EDMNAS\GINT\GINTW\PROJECTS\231009.39.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Time Oil NW Terminal
Portland, Oregon

Log of BT-03

Figure 2-4

BT-04

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 28.51 (MSL)	Water Level
0		1	d4		0		GP	Brown, sandy GRAVEL (dry)	
		2	d4		0		SP	Brown, fine to medium SAND (moist) (no odor, no sheen)	
	25								
5					0				
		3	b3						
	20								
10		4	b3						
	15								ATD
		5	b3				SP	Gray, fine to medium SAND with trace silt (wet) (mild petroleum-like odor, no sheen)	
15									
		6	b3						
	10								
20		7	b3						
		8	b3						
	5								
							ML	Gray, sandy SILT (wet) (no odor, no sheen)	
25		9	b3						
30									

Boring Completed 07/09/02
Total Depth of Boring = 28.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Boring backfilled with bentonite chips following sample collection.

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Time Oil NW Terminal Portland, Oregon	Log of BT-04	Figure 2-5

2cr009.39 5/19/03 \\EDMNAS\GINT\GINTWPROJECTS\231009.39.GPJ SOIL BORING LOG W/ ELEV

BT-05

Drilling Method: Geoprobe™

Ground Elevation (ft): 28.40 (MSL)

Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0		1	d4		0		GP	Brown, sandy GRAVEL (dry)	
		2	d4		0		SP	Brown, fine to medium SAND (moist) (no odor, no sheen)	
	25								
5		3	b3		0				
	20				0				
10		4	b3		413				
	15	5	b3				SP	Gray, fine to medium SAND with trace silt (moist to wet) (strong petroleum-like odor, no sheen)	ATD
15								Trace sheen.	
	10	6	b3		864			Wood debris from 18.5 ft to 18.9 ft.	
20							ML	Gray, sandy SILT (wet)	
25									
30									

Boring Completed 07/08/02
Total Depth of Boring = 20.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Boring backfilled with bentonite chips following sample collection.

231009.39 5/19/03 \\EDMNAS\GINTG\INTWAPROJECTS\231009.39.GPJ SOIL BORING LOG W ELEV

LANDAU ASSOCIATES

Time Oil NW Terminal
Portland, Oregon

Log of BT-05

Figure 2-6

SCHN00380330

BT-06

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 28.94 (MSL)	Water Level
0		1	d4		0		GP	Brown, sandy GRAVEL (dry)	
		2	d4		0				
							SP	Brown, fine to medium SAND (moist) (no odor, no sheen)	
	25				0				
5		3	b3						
					0				
	20								
10		4	b3						
	15	5	b3		431		SP	Gray, fine to medium SAND with trace silt (moist) (strong petroleum-like odor, no sheen) Becomes wet at 15.5 ft.	ATD
15									
		6	b	3	219				
	10						WD	Wood.	
20									
25									
30									

Boring Completed 07/09/02
Total Depth of Boring = 19.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Boring backfilled with bentonite chips following sample collection.

231009.39 5/19/03 \\EDMNAS\GINT\GINTW\PROJECTS\231009.39.GPJ SOIL BORING LOG W/ ELEV

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Time Oil NW Terminal
Portland, Oregon

Log of BT-06

Figure 2-7

BT-07

Drilling Method: Geoprobe™

Ground Elevation (ft): 28.20 (MSL)

Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0		1	d4		0		GP	Brown, sandy GRAVEL (dry)	
		2	d4		0		SP	Brown, fine to medium SAND (moist) (no odor, no sheen)	
	25								
5					0				
		3	b3						
	20				0				
10		4	b3						
					0				
	15								
		5	b3						ATD
15								Becomes wet.	
							SP-SM	Gray, fine to medium SAND with silt (wet) (mild petroleum-like odor, no sheen)	
	10	6	b3		0				
20							ML	Gray SILT with fine sand (wet)	
25									
30									

Boring Completed 07/08/02
Total Depth of Boring = 20.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Boring backfilled with bentonite chips following sample collection.

231009.39 5/19/03 \\EDMNAS\GINT\GINTW\PROJECTS\231009.39.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Time Oil NW Terminal
Portland, Oregon

Log of BT-07

Figure 2-8

SCHN00380332

BT-08

SAMPLE DATA						SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Drilling Method: Geoprobe™ Ground Elevation (ft): 28.11 (MSL)	Water Level
0		1	d4		0		GP	Brown, sandy GRAVEL (dry)	
		2	d4		0		SP	Brown, fine to medium SAND (dry to moist) (no odor, no sheen)	
	25								
5					0				
		3	b3						
	20				0				
10		4	b3						
					100				
	15	5	b3						ATD
15							SP	Gray, fine to medium SAND (wet) (strong petroleum-like odor, no sheen)	
	10	6	b3		220				
							ML	Gray, SILT (moist)	
20									
25									
30									

Boring Completed 07/08/02
Total Depth of Boring = 20.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Boring backfilled with bentonite chips following sample collection.

231009.39 5/19/03 \\EDMNAS\GINT\GINTWP\PROJECTS\231009.39.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Time Oil NW Terminal
Portland, Oregon

Log of BT-08

Figure 2-9

SCHN00380333

BT-09

Drilling Method: Geoprobe™

Ground Elevation (ft): 28.04 (MSL)

Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0		1	d4		0		GP	Brown, sandy GRAVEL (dry)	
		2	d4		0		SP	Brown, fine to medium SAND (moist) (no odor, no sheen)	
	25								
5					0				
		3	b3						
	20				0				
10		4	b3						
					0				
	15								
		5	b3						ATD
15								Becomes wet.	
							SP	Gray, fine to medium SAND with trace silt (wet) (strong petroleum-like odor, no sheen)	
		6	b3		176		ML	Gray SILT (wet) (no odor, no sheen)	
	10								
20									
25									
30									

Boring Completed 07/09/02
Total Depth of Boring = 19.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Boring backfilled with bentonite chips following sample collection.

231009.39 5/19/03 \\EDMNAS\GINT\GINTWPROJECTS\231009.39.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

Time Oil NW Terminal
Portland, Oregon

Log of BT-09

Figure 2-10

SCHN00380334

BT-10

Drilling Method: Geoprobe™

Ground Elevation (ft): 28.62 (MSL)

Depth (ft)	Elevation	Sample Number & Interval	Sampler Type	Blows/Foot	PID (ppm)	Graphic Symbol	USCS Symbol	Soil Profile	Water Level
0		1	d4		0		GP	Brown, sandy GRAVEL (dry)	
		2	d4		0				
	25						SP	Brown, fine to medium SAND with trace silt (moist) (no odor, no sheen)	
5		3	b3		0				
	20				0				
10		4	b3						
					0				
	15	5	b3						ATD
15								Becomes wet.	
		6	b3		0		SP-SM	Gray, fine to medium SAND with silt (wet) (no odor, no sheen)	
	10								
20							ML	Gray SILT with fine sand and wood debris (wet)	
25									
30									

Boring Completed 07/09/02
Total Depth of Boring = 20.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.
4. Boring backfilled with bentonite chips following sample collection.

231009.39 5/19/03 \\EDMNAS\GINT\GINT\WPROJECTS\231009.39.GPJ SOIL BORING LOG W/ ELEV

LANDAU ASSOCIATES

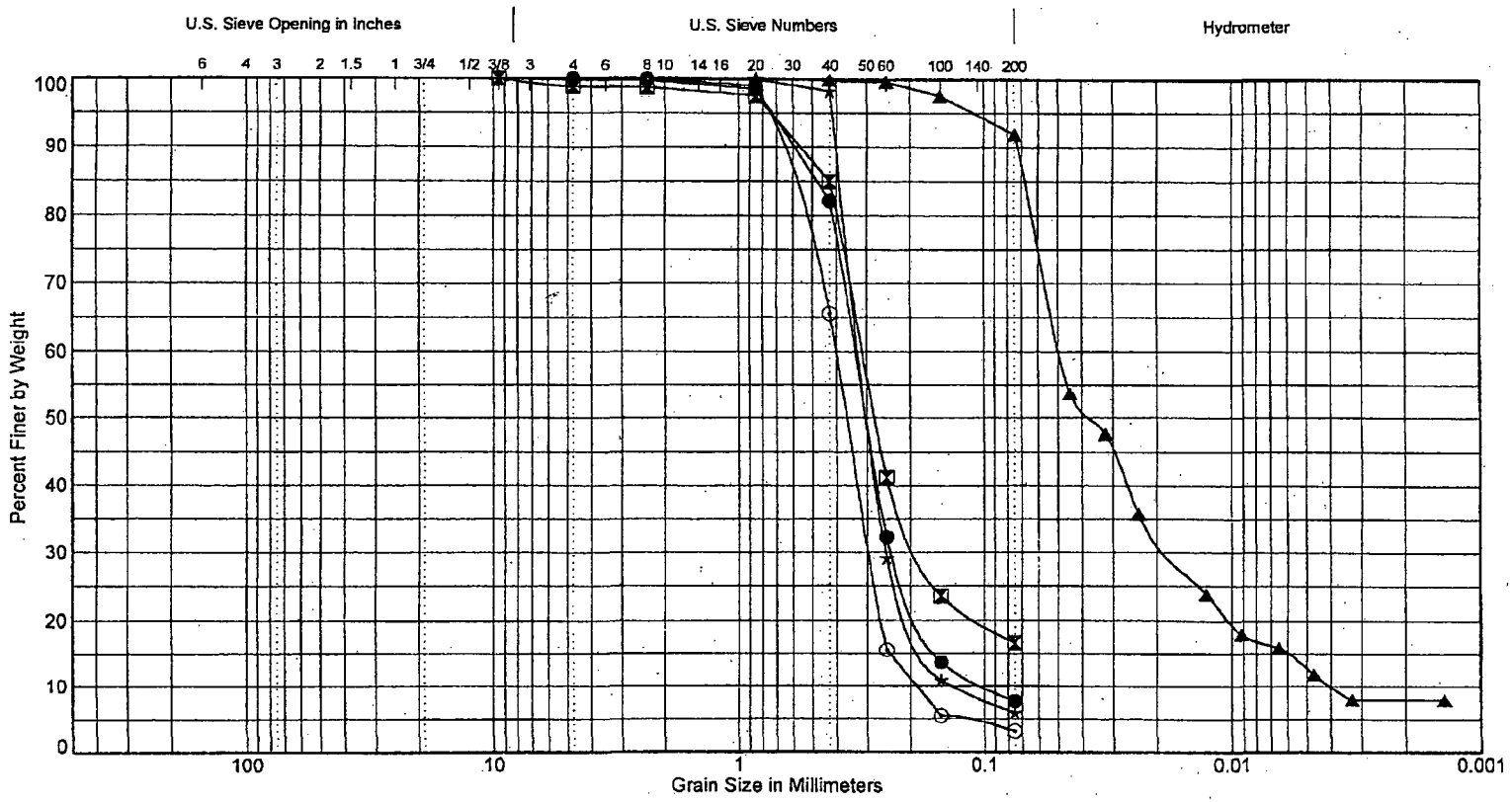
Time Oil NW Terminal Portland, Oregon	Log of BT-10	Figure 2-11

SCHN00380335

Attachment 3

Grain Size Analyses and Hydrometer Tests

231009.22 5/16/03 \\EDMNAS\GINT\GINTW\PROJECTS\231009.GPJ GRAIN SIZE FIGURE



Cobbles	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

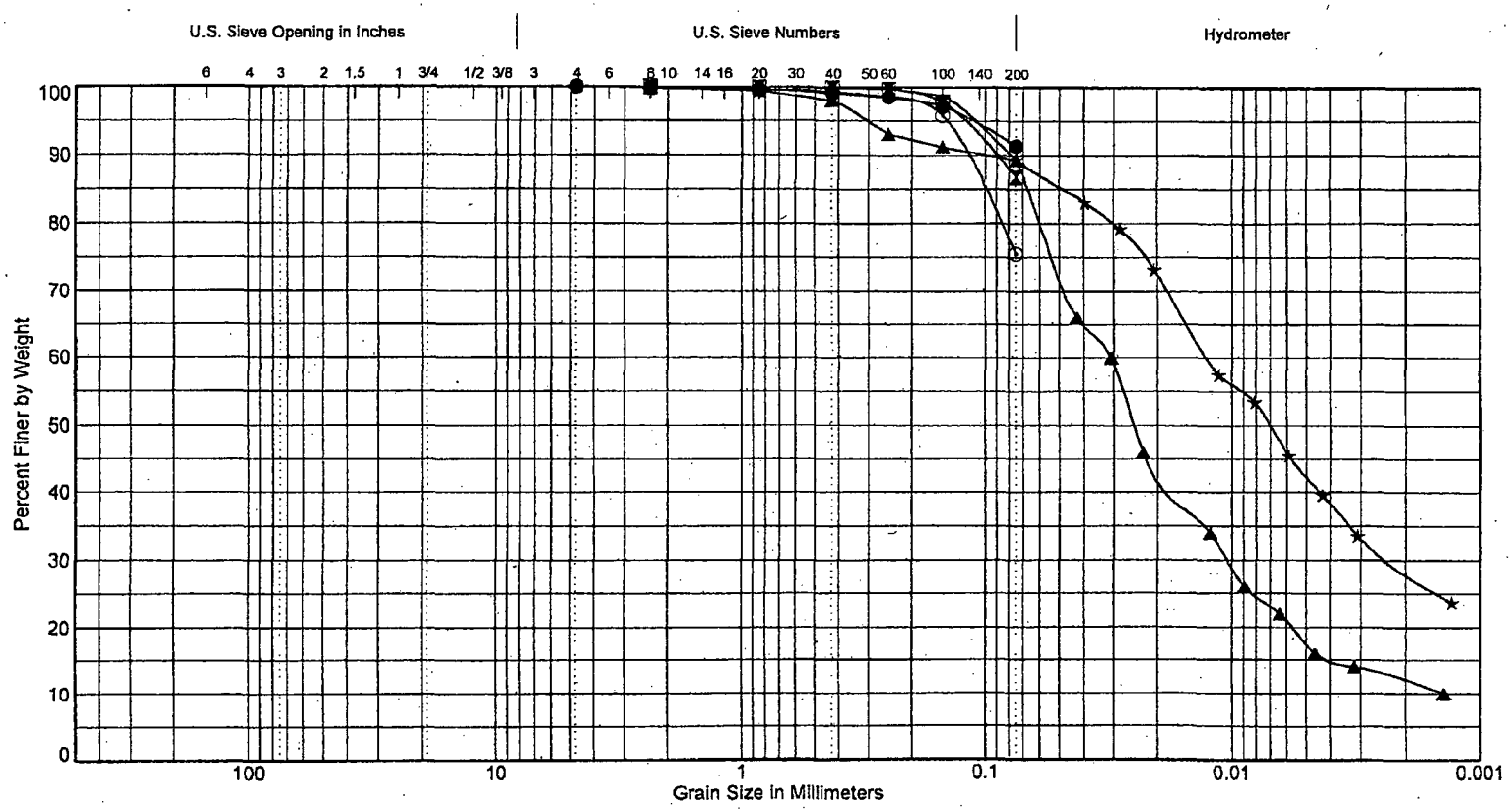
Symbol	Exploration Number	Sample Number	Depth (ft)	Natural Moisture (%)	Soil Description	Unified Soil Classification
●	CPTIII 05		8.5	16	Dark brown, fine to medium SAND with silt	SP-SM
⊠	CPTIII 05		12.5	23	Brown, silty, fine to medium SAND with trace gravel	SM
▲	CPTIII 05		57.0	51	Gray SILT with fine sand	ML
★	CPTIII 05		69.0	29	Dark gray, fine SAND with silt	SP-SM
⊙	CPTIII 19		18.0	32	Brown, fine to medium SAND with trace silt	SP

LANDAU ASSOCIATES

Time Oil NW Terminal Portland, Oregon	Grain Size Distribution	Figure 3-1

SCHN00380337

231009.22 5/16/03 \\EDMNAS\GINT\GINTW\PROJECTS\231009.GPJ GRAIN SIZE FIGURE



Cobbles	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Exploration Number	Sample Number	Depth (ft)	Natural Moisture (%)	Soil Description	Unified Soil Classification
●	CPTIII 19		19.6	52	Brown, SILT with fine sand	ML
⊠	CPTIII 19		24.0	46	Gray, sandy SILT	ML
▲	CPTIII 19		27.0	54	Gray SILT with fine sand	ML
★	CPTIII 24		12.0	46	Light gray, clayey SILT with fine sand	ML/CL
⊙	CPTIII 24		23.0	47	Brown, sandy SILT	SM/ML

LANDAU ASSOCIATES

Time Oil NW Terminal
Portland, Oregon

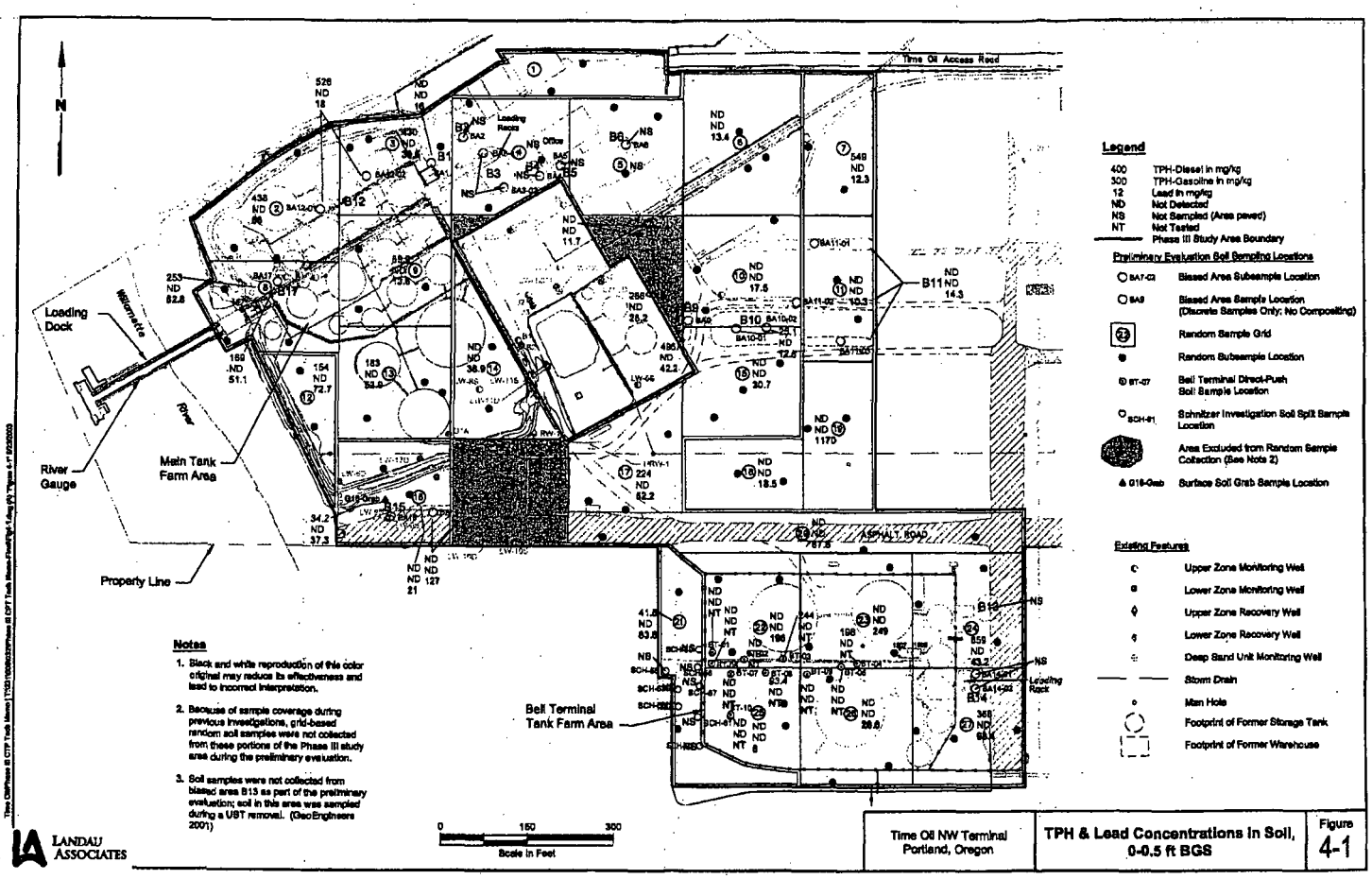
Grain Size Distribution

Figure 3-2

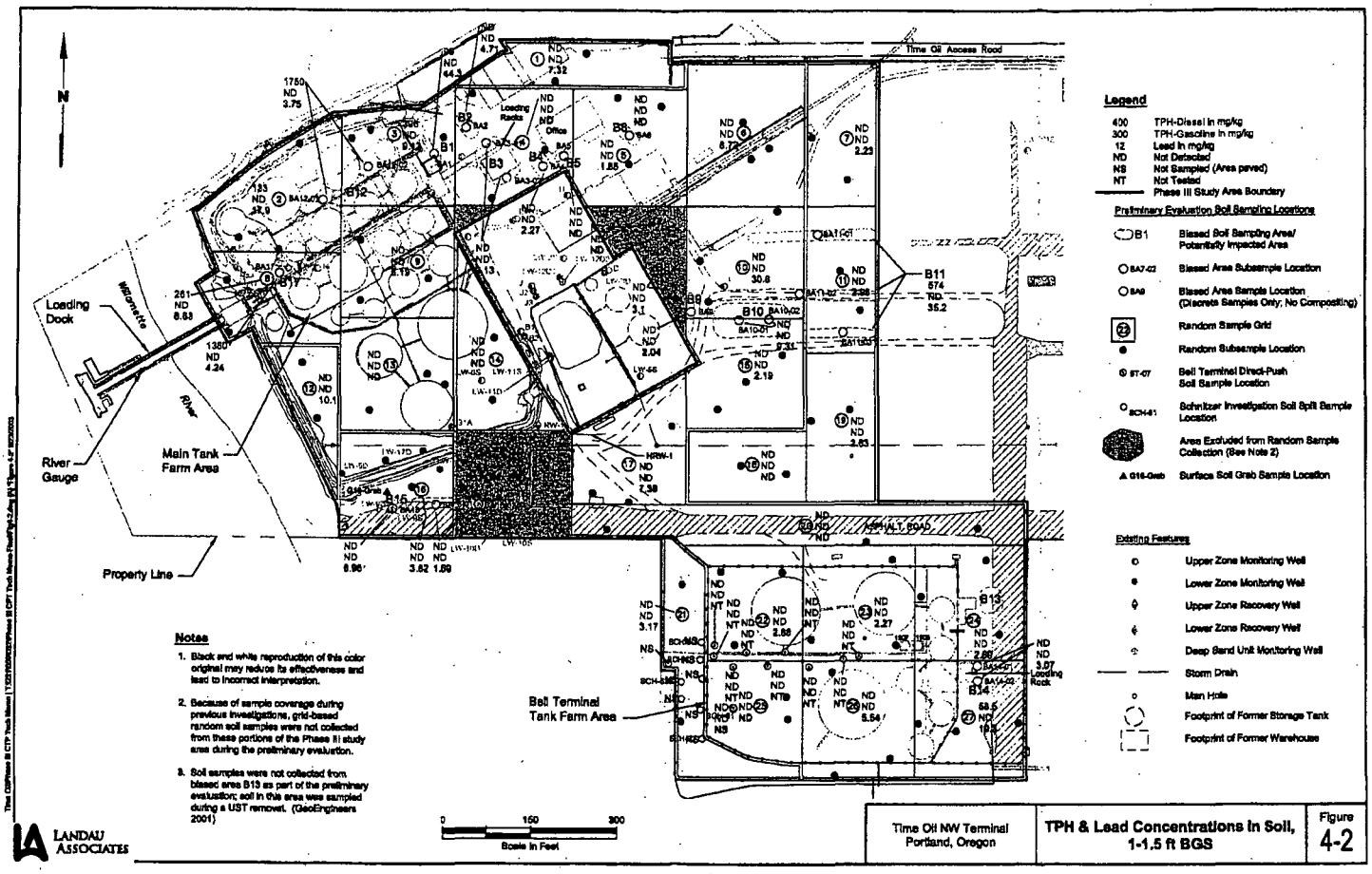
SCHN00380338

Attachment 4

Soil and Groundwater Concentrations



SCHN00380340



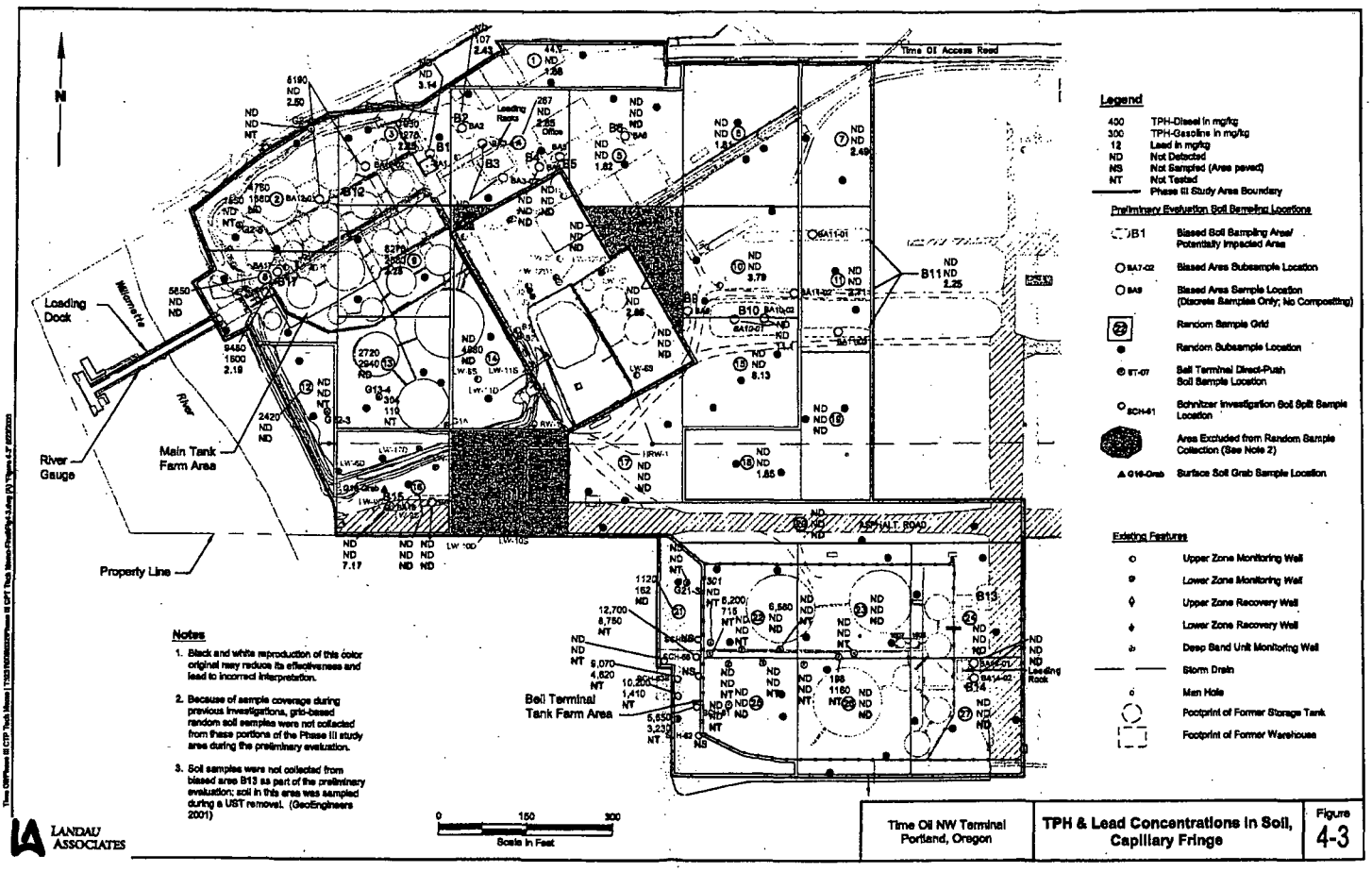
Notes

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
2. Because of sample coverage during previous investigations, grid-based random soil samples were not collected from these portions of the Phase III study area during the preliminary evaluation.
3. Soil samples were not collected from biased area B13 as part of the preliminary evaluation; soil in this area was sampled during a UST removal. (GeoEngineers 2001)

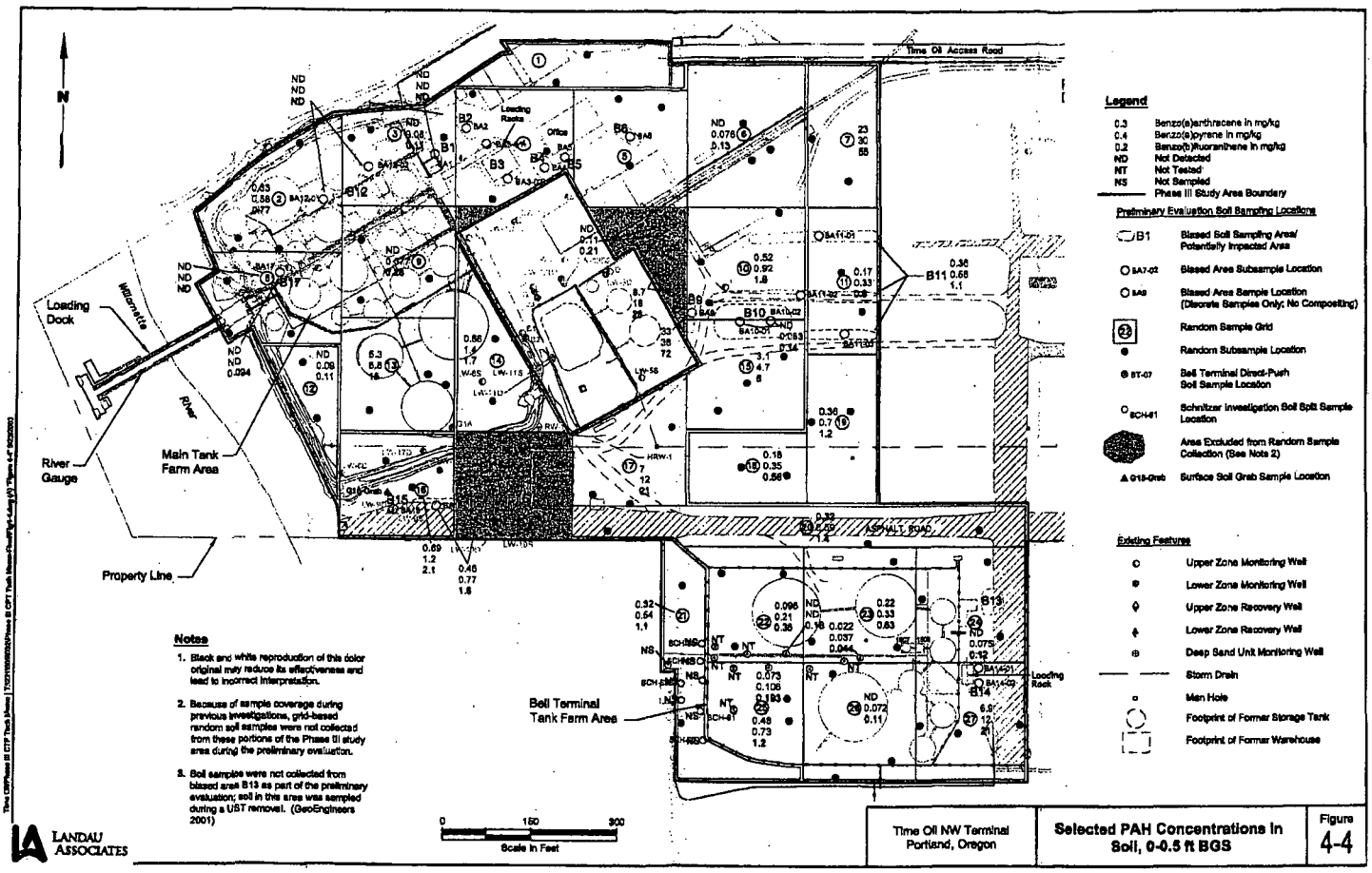
LANDAU ASSOCIATES

Time Oil NW Terminal Portland, Oregon	TPH & Lead Concentrations in Soil, 1-1.5 ft BGS	Figure 4-2

SCHN00380341

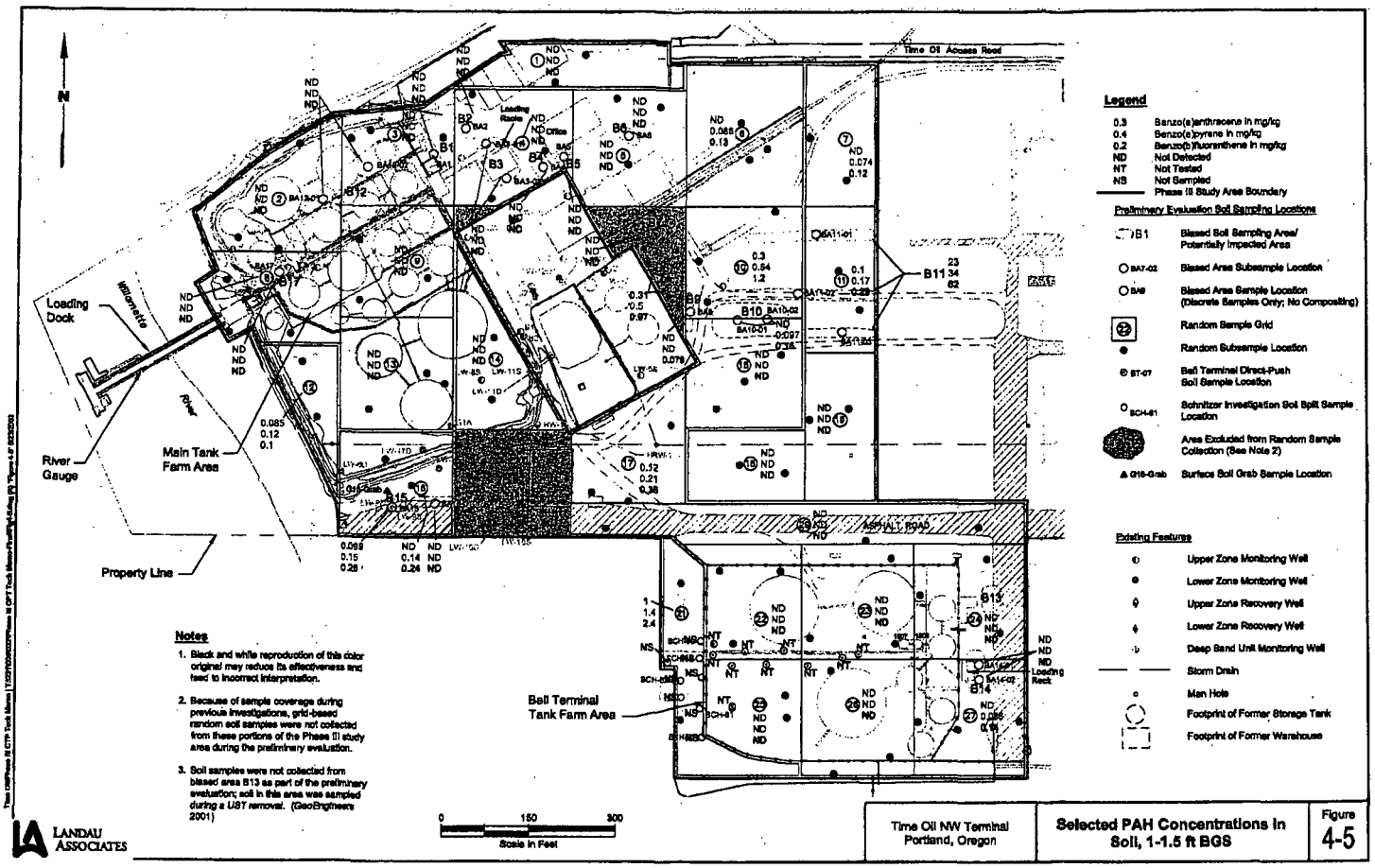


SCHN00380342

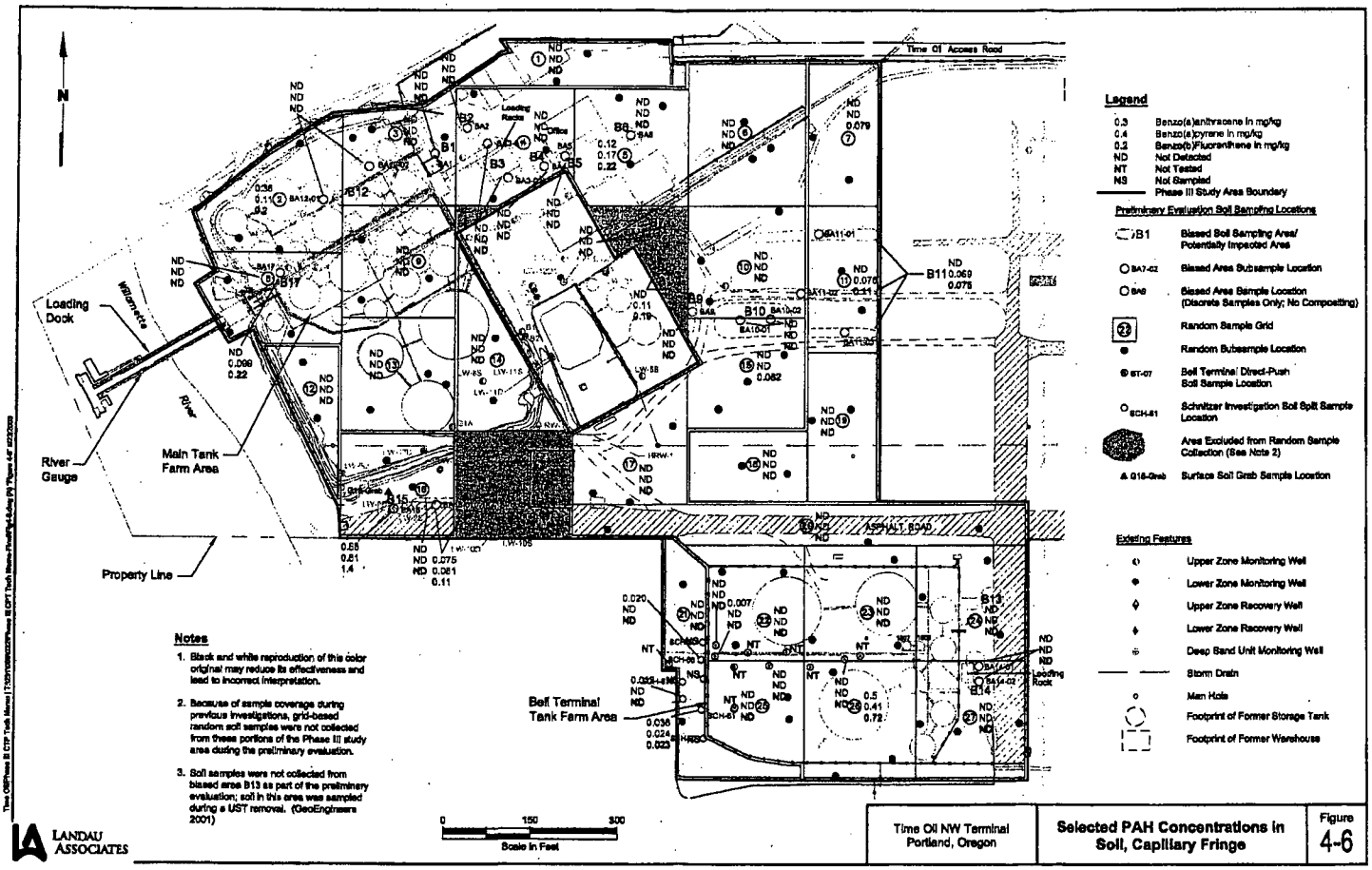


Time Oil NW Terminal Portland, Oregon	**Selected PAH Concentrations in Soil, 0-0.5 ft BGS**	Figure 4-4

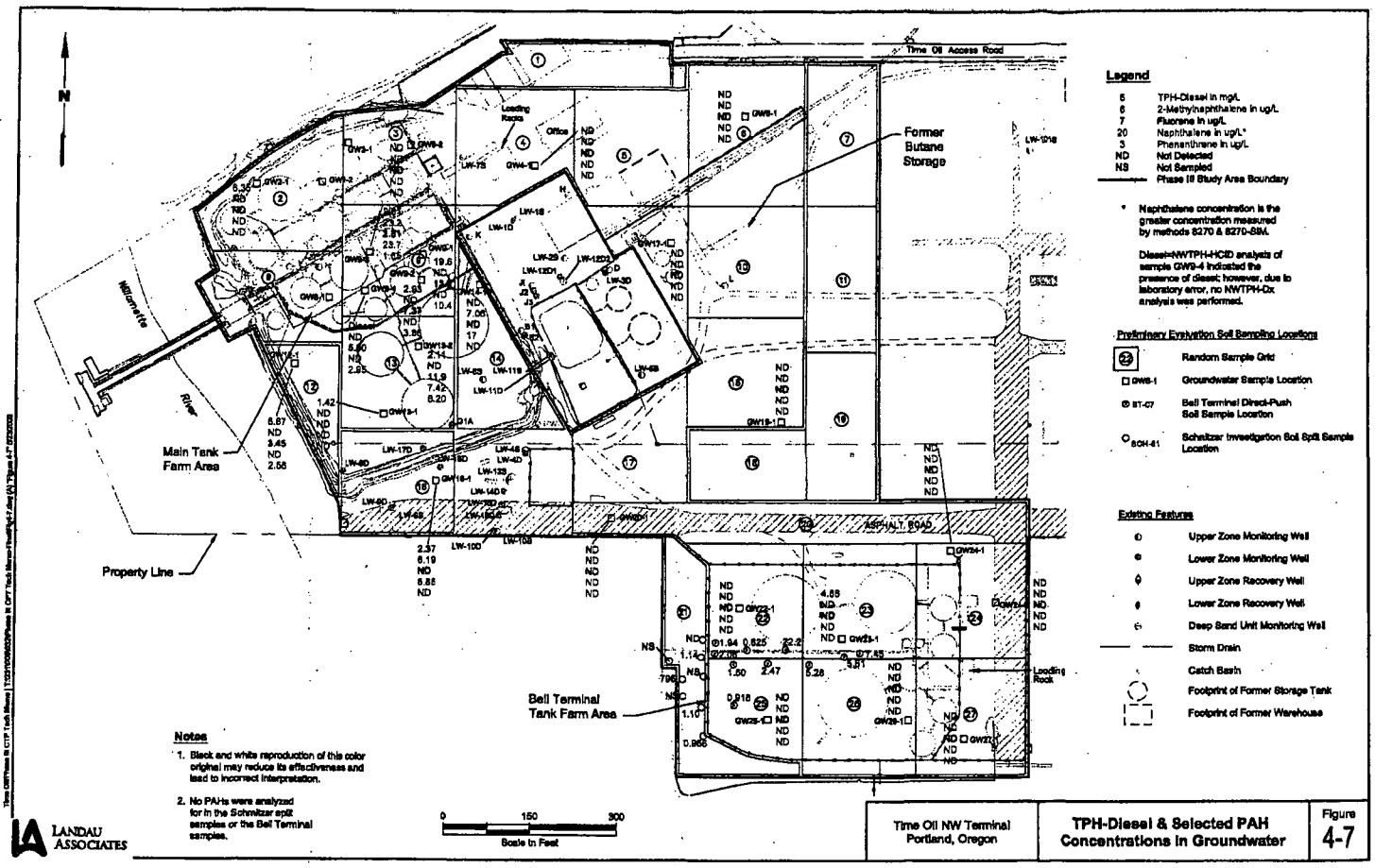
SCHN00380343



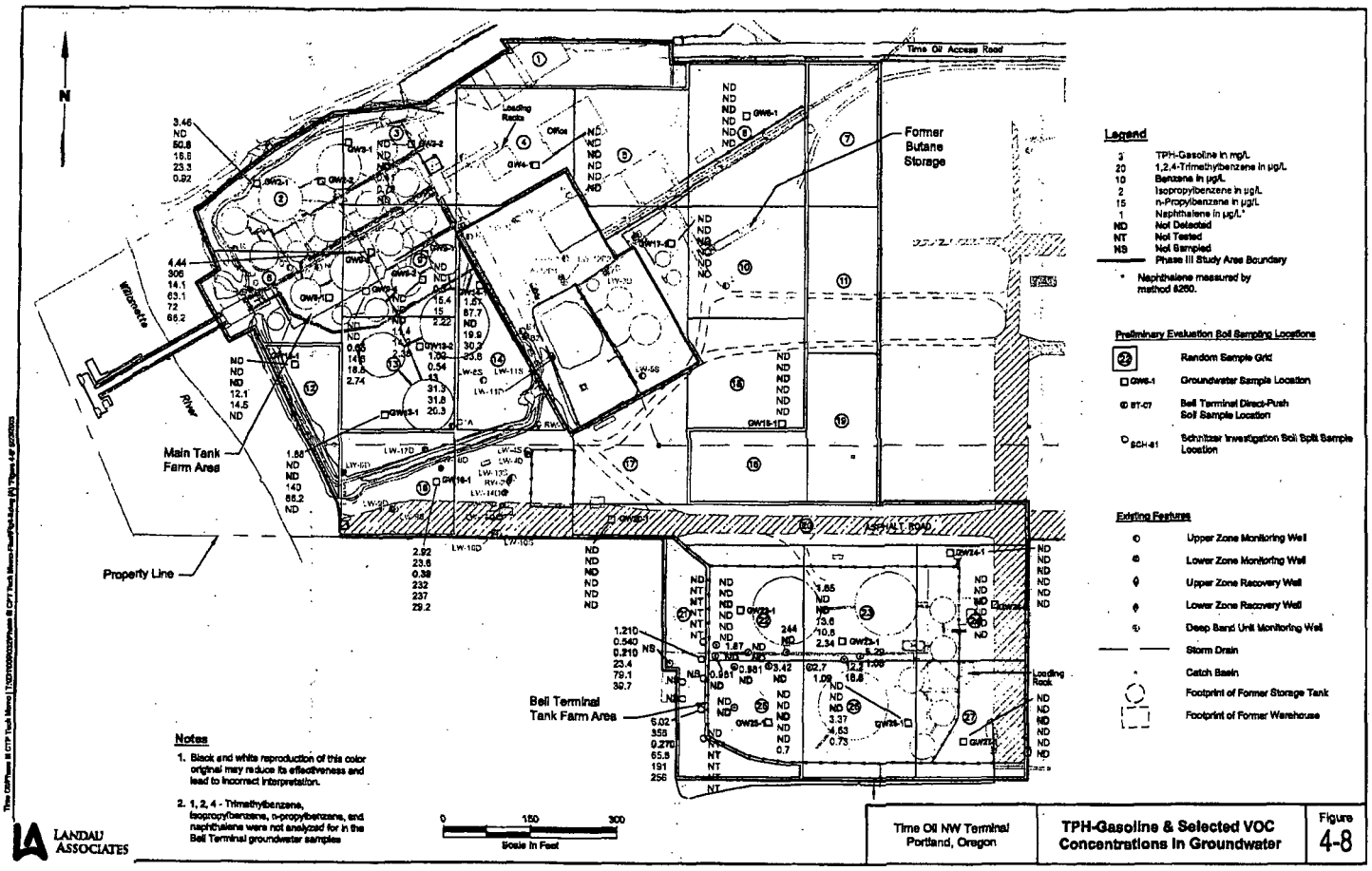
SCHN00380344



SCHN00380345



SCHN00380346



SCHN00380347

Gradient
CORPORATION

July 11, 2003

Ms. Alicia Voss
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, 4th Floor
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Alicia:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this eighth Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between April 1 and June 30, 2003, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- Submitted preliminary unvalidated data from the fourth quarterly groundwater monitoring event.
- Conducted shoreline reconnaissance surveys on three occasions (May 21, June 27, and July 11, 2003). Memos documenting these surveys accompany this quarterly report.
- Conducted validation of data from four quarterly groundwater monitoring events and preliminary remedial investigation.
- Received from DEQ and began evaluating Time Oil's investigative data for the Bell Terminal site, focusing on implications of available data for potential impacts on PEO site from Time Oil site.
- Continued compilation of documentation of site activities.

Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between July 1 and September 30, 2003:

- Complete validation of data from four quarterly groundwater monitoring events and preliminary remedial investigation.
- Continue to synthesize and evaluate site data, including tidal monitoring evaluations.

IQ_070903_202017

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www.gradientcorp.com

SCHNITZER INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 5/21/03

Re: Premier Edible Oils Site – River Bank Reconnaissance, 5/21/03

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 1:00 pm and 1:45 pm.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 6/27/03

Re: Premier Edible Oils Site – River Bank Reconnaissance, 6/27/03

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 12:05 pm and 12:48 pm.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 7/11/03

Re: Premier Edible Oils Site – River Bank Reconnaissance, 7/11/03

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 11:30 am and 12:03 pm.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

September 8, 2003

Oregon Department of Environmental Quality
2020 SW Fourth Avenue, Suite 400
Portland, Oregon 97201-4987

Attn: Tom Roick

RE: CLARIFICATION TO DEQ COMMENTS, SEPTEMBER 3, 2003 LETTER
TIME OIL NORTHWEST TERMINAL

Dear Tom:

As discussed with Bruce Brody-Heine last week, this letter provides clarifications to comments or answers to questions in the Oregon Department of Environmental Quality's (DEQ) letter, dated September 3, 2003, on behalf of Time Oil Co., regarding the proposed work for the Phase III RI, east property wells, and Phase II wells at the Time Oil Northwest Terminal.

Response to DEQ's Comments on the Phase III RI – Interim Subsurface Investigation Letter (August 15, 2003)

- *Revised Figure 17:* The revised Figure 17, which incorporates our responses to DEQ's comments is attached.

- *Soil Sample Locations, Grids 10 and 11, Figure 17:*

  - Grid 10: As indicated in the text of the Phase III – Interim Subsurface Investigation (ISI), two additional soil samples are planned in Grid 10. These include: one in the gravel surface area south of previous sample location G10-1 and west of previous sample location BA11-01, and one in the vegetated portion of the grid. Revisions on Figure 17 within Grid 10 included shifting the sample location directly adjacent to the former butane bullet southeast to within an area outside of historical roadways, but within the asphalt covered area. The other location was unchanged. This provides information on spatial distribution of concentrations in asphalt covered areas and in vegetated areas within this grid.

  - B9 within Grid 10: Several shallow test pits will be dug within the potentially impacted area, B9, to assess the presence of roadbed material in this area. A sample will not be collected at this location if roadbed material is identified to depths of 1 ft BGS throughout the area because the samples collected within this area at depths of 1-1.5 ft BGS show nondetect to low level concentrations of PAHs. However, if roadbed material is not identified at the surface, at least two samples will be collected to define the extent of the elevated PAH concentrations found in the sample collected from this area as part of the ISI (BA-9).

  - Grid 11: Revisions on Figure 17 in Grid 11 include moving the sample located directly west of BA11-01 to within the potentially impacted area to the northeast of BA11-02, as stated in the ISI. This location will provide information in an area not covered by the east property remedial action confirmation samples.

- *VOC list for soil and groundwater:* Table 2.1 in DEQ's September 1999 Guidance document *"Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites"* indicates that the constituents of potential concern in petroleum products for gasolines include benzene, toluene, ethylbenzenes, and xylenes (BTEX); PAHs; methyl t-butyl ether (MTBE); lead; 1,2-dibromoethane (EDB); and 1,2-dicloroethane (EDC). Time Oil will analyze soil and groundwater samples collected during the Phase III RI at locations within (or associated with) the former tank areas for these listed constituents (see response to DEQ comments, dated August 15, 2003). Based on site-specific data, analyses will also be conducted for 1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene; iso-propylbenzene; and n-propylbenzene. After the first two rounds of groundwater samples, we will evaluate the necessity to analyze future groundwater samples for these constituents.

Abandonment Method Amendment – East Property Monitoring Wells (August 15, 2003)

- Time Oil agrees to abandon the east property wells using either a bentonite grout or cement-bentonite grout mixture to provide additional assurance of penetration through the screen slots. We understand that DEQ will work with us to obtain any necessary variance approval from the Oregon Water Resource Department for these abandonments.

Plan for Replacement Well Installations and Well Abandonment – Phase II RI (August 15, 2003)

- As stated in the plan, the rationale for replacing the wells previously abandoned in the former PCP mixing area was to provide locations that could be used to monitor groundwater conditions before, during, and after implementation of future *in situ* interim remedial applications and to allow for comparison of groundwater conditions within the PCP-impacted area to upgradient groundwater conditions. All of the replacement wells are located within the soil removal area where soil was excavated to a maximum depth of 13 ft BGS, or the approximate water table. The wells located farthest to the south will be just downgradient of the locations where soil PCP concentrations at the base of the excavation after completion of the removal action were at a maximum (44.7 mg/kg). Maps showing the limits of excavation will be provided with the upcoming completion report for the removal actions in the former stockpile and PCP mixing areas.

We hope that this provides the clarification that you need. We understand that DEQ has agreed to the field activities proposed in the submittals listed above and Time Oil is authorized to proceed. Our planned schedule for beginning of the activities is September 15, 2003. We thank you again for your expeditious review.

LANDAU ASSOCIATES, INC.

Rebekah Brooks
Project Manager

RB/tam
9/22/03 wproc\231\009\023\responseto DEQ9-3-03letter.doc

Enclosure

LANDAU ASSOCIATES

Time Oil NW Terminal
Portland, Oregon

Proposed Additional Soil Samples and Monitoring Well Locations

Figure 17

Gradient
CORPORATION

October 15, 2003

Ms. Alicia Voss
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, 4th Floor
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Alicia:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this ninth Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter, describes activities planned for the next quarter, and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between July 1 and September 30, 2003, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- Conducted shoreline reconnaissance surveys on three occasions (August 15, September 24, and October 14, 2003). Memos documenting these surveys accompany this quarterly report.
- On September 17, 2003, submitted preliminary recommendations to DEQ regarding sampling being conducted by Time Oil at its Bell Terminal site.
- Continued validation of data from four quarterly groundwater monitoring events and preliminary remedial investigation.
- Received additional information from DEQ and continued evaluating Time Oil's investigative data for the Bell Terminal site, focusing on implications of available data for potential impacts on the PEO site from the Time Oil site.
- Communicated with DEQ regarding status of Time Oil investigations, obtaining additional documentation of Time Oil investigations, and scheduling of status report meeting.
- Continued compilation of documentation of site activities.

IQ_101503_202017

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Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between October 1 and December 31, 2003:

- Complete validation of data from four quarterly groundwater monitoring events and preliminary remedial investigation.
- Continue to synthesize and evaluate site data.
- Continue evaluating Time Oil's investigative data for the Bell Terminal site, including assessing implications of available data for potential impacts on PEO site from Time Oil site.
- Arrange for meeting with DEQ to discuss site status, investigations on Bell Terminal site, and next steps.

Issues to be Resolved/Recommended Actions

None.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberly/URS
J. Jakubiak/SIC
T. Zelenka/SIC

Documentation of Shoreline Reconnaissance Surveys
August – October 2003

Premier Edible Oils Site

1Q_101503_202017

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SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 8/15/03

Re: Premier Edible Oils Site – River Bank Reconnaissance, 8/15/03

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry due to dry weather conditions. The reconnaissance was conducted between 12:30 pm and 1:16 pm.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 9/24/03

Re: Premier Edible Oils Site – River Bank Reconnaissance, 9/24/03

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry due to dry weather conditions. The reconnaissance was conducted between 9:22 am and 10:30 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 10/14/03

Re: Premier Edible Oils Site – River Bank Reconnaissance, 10/14/03

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry due to dry weather conditions. The reconnaissance was conducted between 4:00 pm and 4:33 pm.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

FILE COPY

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CORPORATION

January 12, 2004

Ms. Alicia Voss
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, 4th Floor
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Alicia:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between October 1 and December 31, 2003, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- Met with DEQ on December 11, 2003 to discuss status of PEO site investigations, next steps for evaluating PEO property, and inter-relationships between PEO site evaluations and investigations conducted by Time Oil on the adjacent Bell Terminal property.
- Conducted shoreline reconnaissance surveys on three occasions (October 14, November 13, and December 1). Memos documenting these surveys accompany this quarterly report. As agreed with DEQ in our December 11 meeting, these surveys will no longer be conducted on a monthly basis. Conducted from September 2001 through December 2003, these monthly surveys have provided sufficient information regarding the absence of visible seeps or sheens on the PEO site shoreline under a broad spectrum of conditions.
- Continued conducting validation of data from four quarterly groundwater monitoring events and preliminary remedial investigation. Conducted validation of data from focused site characterization.
- Continued evaluating Time Oil's investigative data for the Bell Terminal site (including additional updates received from DEQ), focusing on implications of available data for potential impacts on PEO site from Time Oil site. Continued preparing supporting documentation for recommendations regarding additional investigations on the Bell Terminal facility that we submitted to DEQ on September 17.
- Continued compilation of documentation of site activities.

IQ_010804_202017.doc

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Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between January 1 and March 31, 2004:

- Prepare technical memorandum briefly describing additional investigations proposed for the PEO site, focusing on information required to enhance characterization of the southern portion of the PEO site.
- Update documentation of recommendations for additional sampling on the Bell Terminal site following receipt of Time Oil data from September sampling event and November quarterly groundwater monitoring event.
- Continue evaluating Time Oil's investigative data for the Bell Terminal site (and updating previous evaluations in light of ongoing data collection), including assessing implications of available data for potential impacts on PEO site from Time Oil site.
- Continue communications with DEQ regarding proposed additional investigations for PEO site and ongoing Time Oil activities on Bell Terminal site. Obtain additional information from DEQ regarding Time Oil investigations and site features.
- Complete validation of data from four quarterly groundwater monitoring events, preliminary remedial investigation, and focused site characterization.
- Continue to synthesize and evaluate site data, including tidal monitoring evaluations.

Issues to be Resolved/Recommended Actions

None.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

Cathy Petito Boyce

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberly/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00380526

Documentation of Shoreline Reconnaissance Surveys
October – December 2003

Premier Edible Oils Site

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 10/14/03

Re: Premier Edible Oils Site – River Bank Reconnaissance, 10/14/03

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 4:00 pm and 4:33 pm.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 11/13/03

Re: Premier Edible Oils Site – River Bank Reconnaissance, 11/13/03

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 8:00 am and 8:43 am.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

SCHNITZER
INVESTMENT CORP.

Memorandum

To: File

From: Jim Jakubiak

CC: Tom Zelenka, Cathy Petito Boyce

Date: 12/2/03

Re: Premier Edible Oils Site – River Bank Reconnaissance, 12/1/03

I completed a reconnaissance of the river bank at the Premier Edible Oils facility to look for evidence of hydrocarbon product or sheen. I walked the entire river bank from along the Slip to the Time Oil fence line along Willamette River.

I observed conditions from the top of the bank to the water line. I looked for evidence of hydrocarbon product or sheen. I paid particular attention to the base of the bank and the water line. The majority of the bank was dry do to dry weather conditions. The reconnaissance was conducted between 2:55 pm and 3:45 pm.

No groundwater seeps, hydrocarbon product or hydrocarbon sheen were observed during the reconnaissance event.

COPY

Memorandum

Gradient CORPORATION

To: Alicia Voss/Oregon Department of Environmental Quality

Date: March 4, 2004

From: Cathy Petito Boyce and Manu Sharma

Subject: Recommended Additional Data Collection for the Southern Portion of the Schnitzer PEO Site, Portland, OR

Gradient has prepared this memo on behalf of Schnitzer Investment Corporation recommending additional data collection for the Premier Edible Oils (PEO) site. The data collected to date at the PEO site will assist in characterizing the nature and extent of materials present at the PEO site. As previously discussed with you, however, we cannot complete our characterization evaluations for the PEO site until we have received the information previously requested from the Oregon Department of Environmental Quality (DEQ) characterizing the environmental conditions and potential contaminant source areas on the adjacent Time Oil properties, which are upgradient of the PEO site. The additional data collection activities recommended in this memo focus on specific elements of site characterization that will support and strengthen our evaluations of potential contaminant source areas as well as the fate and transport of materials observed in the southern portion of the site. Following receipt of information from the Time Oil investigations that was previously requested from DEQ, Schnitzer may identify other information needs that are required to characterize and support decision-making for the PEO site.

The recommended additional data collection for the PEO site focuses on the following aspects of site characterization:

- Enhancing the understanding of the distribution and behavior of petroleum hydrocarbon product present in the southern portion of the site, including tidal influences on product behavior
- Supplementing the understanding of hydrogeologic characteristics of the southern portion of the site

The basis for these recommendations is briefly described below. Monitoring well locations discussed in these recommendations are shown in Figure 1.

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Supplemental Product Characterization

Site investigations to date include tidal monitoring studies conducted in October 2001. Data from these studies provide valuable information regarding the behavior of site groundwater in response to tidal fluctuations; however, the currently available data do not completely characterize the relationship between petroleum hydrocarbon product thickness and tidal fluctuations. The recommended additional data collection activities will enhance our understanding of this relationship. When combined with information from the scientific literature regarding tidal influences on product levels (*e.g.*, Kemblowski and Cheng, 1988; Hunt *et al.*, 1989), this additional information will more strongly support our evaluations of the likely limited potential for hydrocarbon product that is present in the southern portion of the site to be transported through the site subsurface to the Willamette River. This enhanced understanding will provide stronger support for the overall conceptual site model, including contaminant source evaluations. The additional recommended data collection activities listed below will further characterize the distribution, nature, amounts, and behavior of petroleum hydrocarbon product present at the site.

The recommended additional data collection activities are as follows:

- Evaluating areal extent of product: Free-phase petroleum hydrocarbon product has been observed in a number of wells in the southern portion of the PEO site. To support evaluations of the areal extent of product in this part of the site, two additional monitoring wells will be installed at locations to the north and east of existing wells where product has been observed. Proposed locations are shown on Figure 1. If well installation cannot be completed at the proposed locations (*e.g.*, due to the presence of the concrete slab in the former warehouse area), the well may be installed in an alternate location (*e.g.*, farther north between the existing and former warehouse areas). Groundwater elevations and product thicknesses (if product is present) will be monitored monthly in these wells for three months following their installation. If product is found to be present in these wells, the affected well(s) will be included in the tidal monitoring survey described below. To assist integration of these data with previously collected site data, groundwater elevations and product thicknesses will also be measured in two existing wells (*i.e.*, MW-02 and MW-11) during this three-month monitoring period.
- Monitoring tidal influences on product levels. After the initial monitoring period for the new wells has been completed, a short-term continuous groundwater and product monitoring survey will be conducted over a period of 24-48 hours (to extend over 2-4 tidal cycles). This survey will include manual water level and product thickness measurements at frequent intervals throughout this time period. All monitoring wells within the southern portion of the site with a previous history of floating product will be included in the survey (*i.e.*, wells MW-02, MW-09, MW-11, MW-12, and MW-13). As noted above, one or both of the new monitoring wells will also be included in this survey

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if product is observed at these locations during the initial monitoring period. The survey will be conducted in the spring and in the fall to capture seasonal variations in groundwater elevations. These data will allow evaluation of changes in product thickness associated with tidal fluctuations. These data will also support evaluations of the range of actual product thicknesses present on the southern portion of the property.

- Measuring physical properties of product. A sample of the petroleum hydrocarbon product present at well MW-02 will be collected and analyzed for physical properties (*i.e.*, density and viscosity). Product-containing soil samples will also be collected in the vicinity of well MW-02 and during the installation of the new monitoring wells (if product is present) and will be analyzed to assess other product properties that are inherent in the subsurface matrix (*e.g.*, oil-water capillary pressure and oil-air capillary pressure). These data are important for assessing potential product transport, including the magnitude of the physical forces determining product transport.

Additional information regarding product behavior will also be collected in conjunction with the supplemental hydrogeologic characterization efforts described below. When combined, the results of these data collection activities will provide a stronger technical foundation for evaluating the distribution, nature, amounts, and behavior of the product present within the southern portion of the site. As noted above, however, a complete source evaluation for all product present at the PEO site is not possible without adequate characterization of the potential offsite source areas on the upgradient Time Oil property. Therefore, review of the Time Oil data previously requested from DEQ is critical for fully characterizing the PEO site.

Supplemental Hydrogeologic Characterization

A variety of types of data have been collected that provide site-specific information regarding the hydrogeologic characteristics of the PEO site; however, site-specific data are not available for certain important hydrogeologic properties. In particular, site-specific measurements of hydraulic conductivity and soil organic carbon content have not been collected.

Issues associated with collecting such site-specific data were discussed with DEQ previously as part of the development of the scope of work (SOW) for the remedial investigation and feasibility study (RI/FS) for the PEO site (Bridgewater Group, 2001). Based on those discussions, it was agreed that literature information would be used as an interim approach to estimate hydraulic conductivity at the site. Collection of site-specific data was deferred to a later date due to concerns that approaches for collecting site-specific hydraulic conductivity data (*e.g.*, slug tests or pump tests) could mobilize free-phase hydrocarbons or dissolved constituents in site groundwater. In addition, concern was expressed that the

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distribution of free-phase and dissolved constituents was insufficiently characterized at that time to allow the testing to be adequately designed to minimize or prevent mobilization of these materials.

Although use of literature data provides a useful approach for estimating hydraulic conductivity in the absence of site-specific measurements, such estimates are order-of-magnitude values and do not adequately reflect spatial or other site-specific variability. Consequently, where site-specific measurements can be obtained, such data are preferable and reduce an important source of uncertainty in site evaluations. Supplemental data characterizing the distribution of free-phase and dissolved constituents at the site have been collected since the time that the RI/FS SOW was prepared. Therefore, the additional data collection activities recommended in this memorandum include collection of selected site-specific measurements of hydraulic conductivity. These data will support evaluations of the fate and transport of groundwater-associated constituents at the site, including contaminant source evaluations of the potential for materials found on the southern portion of the PEO site to be transported to the Willamette River.

In light of the concerns regarding potential contaminant mobilization at the site, the recommended approach for collecting site-specific hydraulic conductivity data incorporates a phased approach. Specifically, the approach recommends that initial indications of hydraulic conductivity be obtained using slug tests (based on groundwater removal) at 2-3 locations in the southern portion of the site. . To obtain supplemental information regarding product behavior as part of these investigations, bail-down tests (involving removal of product) will also be applied at 2-3 monitoring well locations in the southern portion of the site where product has been observed. Specific sampling locations for the slug and bail-down tests will be selected following review of the initial monitoring results from the new wells and will include wells with and without tidal influence. Using this approach, information regarding the behavior of both groundwater and product will be collected during these tests. For example, the rate at which the slug-tested wells recover (*i.e.*, the rate at which the heads respond due to placement of a hydraulic stress) will provide information regarding the degree to which tidal influences and the free-phase product (if any) present in the vicinity of a given well will affect interpretation of the test results. For example, if the response rate at a well is rapid relative to the tidal cycle length, then tidal influences will be negligible in interpreting the aquifer test data.

By including wells with and without tidal influence and wells with and without free-phase product, the potential influence of these factors on interpretation of the test results can be assessed.

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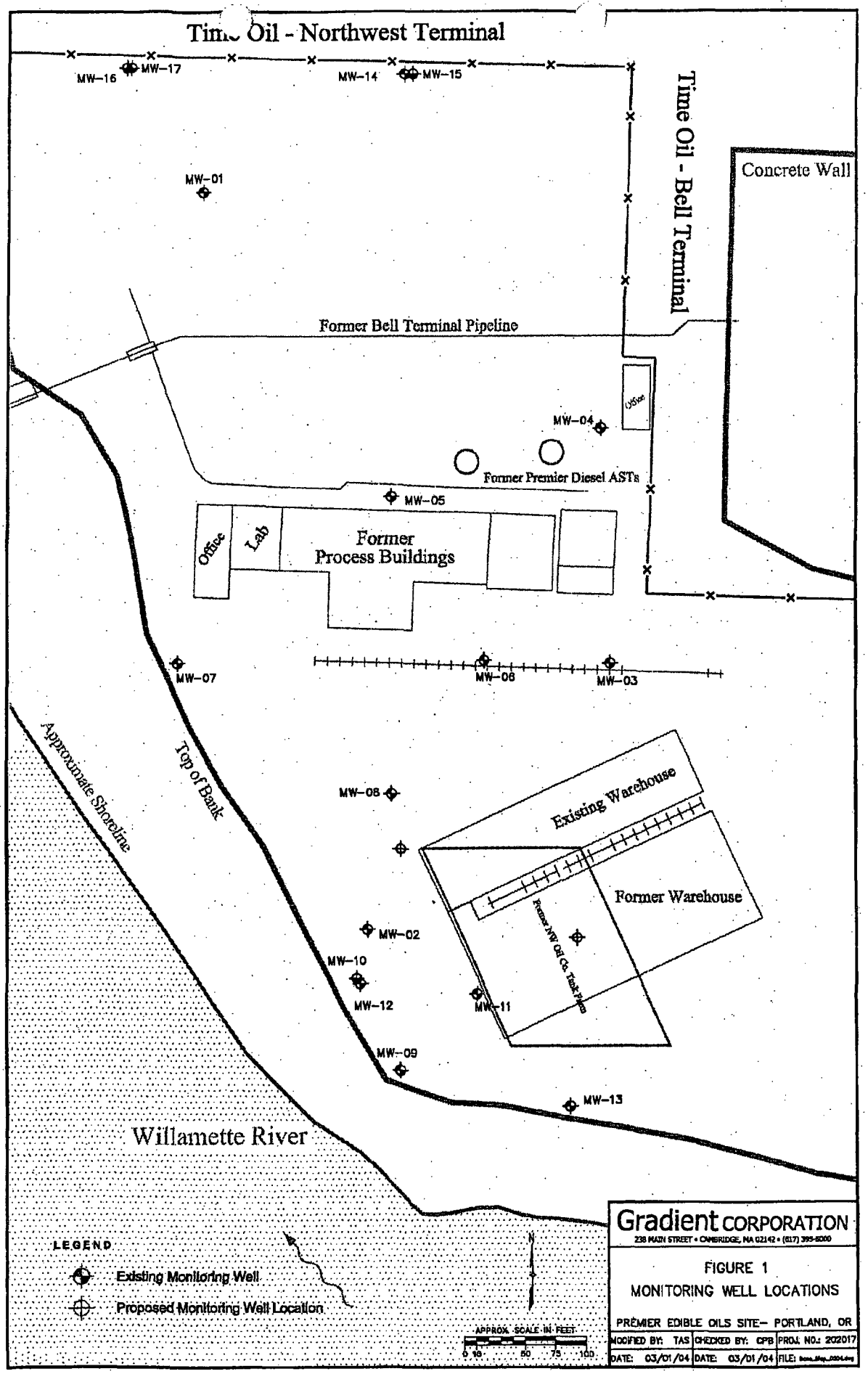

SCHN00380535

Memorandum

To: Alicia Voss, Oregon Department of Environmental Quality

Date: August 3, 2004

From: Cathy Petito Boyce and Eric Butler

Subject: Overview of Comments on Time Oil's Phase III Remedial Investigation Report

cc: Jim Jakubiak, Schnitzer
Jim Brown, James Brown and Associates
Tom Zelenka, Schnitzer

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation has reviewed Time Oil's April 30, 2004 *Phase III Remedial Investigation Report for the Time Oil Northwest Terminal, Portland, Oregon* (the Phase III RI; Landau, 2004), which you provided to SIC. As you are aware, the data collected by Time Oil at its Northwest Terminal site are critical for understanding potential sources and contaminant distribution at SIC's downgradient Premier Edible Oils (PEO) site. Of particular concern are data for Time Oil's Bell Terminal facility.

Located directly adjacent to and upgradient of the PEO property, the Bell Terminal facility consists of 10 above-ground storage tanks (ASTs) with more than 12 million gallons of storage capacity, a petroleum product loading rack, and an associated above- and below-ground piping network. This extensive petroleum hydrocarbon handling facility was in operation at this location for approximately 50 years, beginning in the 1950s. As described in the initial conceptual site model prepared for the PEO site (Bridgewater Group, 2001), releases and migration from sources on the Bell Terminal property have been identified as known or potential sources of contamination on the PEO property. The impacts of the Bell Terminal facility on the PEO site are further supported by the data presented in Time Oil's Phase III report. Thus, this review focuses on the implications of the data and conclusions presented in the Phase III RI report for understanding conditions at the PEO site.

This memorandum provides an initial overview of our concerns regarding the data and conclusions presented in Time Oil's Phase III RI report. As we have discussed, we are preparing more detailed documentation of our concerns for subsequent submittal to you and would appreciate the

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opportunity to meet with you to discuss our concerns with the adequacy of the existing information for the Time Oil site and the implications of the available data for evaluations at the PEO site.

Our primary concerns with the Phase III RI report focus on the following issues:

- Misleading data presentation leading to erroneous conclusions, including failure to present integrated site information
- Data inconsistencies indicating incomplete site characterization
- Unsupported allegations regarding contamination sources

Examples of these three broad areas of concern are reviewed below.

As we have previously discussed with you, limitations in the available data for the Bell Terminal facility indicate that additional data collection and analysis is required to adequately characterize potential contaminant sources on the Bell Terminal facility and to support informed decisions regarding the need for and nature of any remedial action requirements for downgradient areas. Specific areas that should be addressed by these additional efforts include the following:

- Additional characterization of the vertical distribution of total petroleum hydrocarbon (TPH) compounds
- Enhanced site coverage of sampling (particularly in the western and northern portions of the Bell Terminal facility) and enhanced characterization of potential source areas (such as in the vicinity of the former diesel underground storage tank located at the eastern end of the facility)
- Enhanced presentation of integrated site data, *e.g.*, presenting a combined understanding of soil and groundwater data together with information regarding historical site activities, releases, and clean-ups

Until such data are collected, site characterization and remedial decision-making for downgradient properties cannot be completed.

Misleading Data Presentation

The Phase III RI report presents data for petroleum hydrocarbons in soil and groundwater in a misleading fashion. As a result, erroneous conclusions are presented regarding the sources and disposition of these materials. For example, figures and text presented in the Phase III RI report indicate

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that petroleum hydrocarbons are present in three separate groundwater plumes beneath the Bell Terminal facility, with differing sources (*e.g.*, Figures 7-33 and 7-34 in the Phase III RI report). In a number of cases, the lines marking the "edge" of a plume are arbitrarily drawn and are not supported by the underlying numerical concentrations.[1] Moreover, the perspective on the distribution of petroleum hydrocarbons in groundwater (particularly for diesel) is skewed by the inclusion of inappropriate data.[2]

In fact, as shown in Figure 1 of this memo, the available data do not support a finding of three distinct plumes. Instead, the data indicate that petroleum hydrocarbons are more broadly present in groundwater extending under most of the central and western portion of the Bell Terminal facility. This finding is consistent with observations in the North Tank Farm part of the Time Oil Terminal, for which elevated petroleum hydrocarbon concentrations were also observed in groundwater over a broad area and are attributed to various spills, releases, and leaks from tanks, conveyance pipelines, and the loading rack (Landau, 2004). Specifically, the results for the Bell Terminal facility show elevated petroleum hydrocarbon concentrations in the central portion of the site extending to the southwest and western property boundary. As a result, as discussed below, the conclusions drawn in the Phase III RI report regarding the sources of the petroleum hydrocarbons in groundwater are unfounded.

Data Inconsistencies

Inconsistencies between reported petroleum hydrocarbon concentrations in groundwater and capillary fringe zone soil samples indicate that sampling conducted at the site to date has not adequately or completely characterized contaminant presence at the Bell Terminal facility. In particular, at numerous locations at the Bell Terminal facility (*e.g.*, BT-01, BT-03, BT-04, BT-08, and BT-09), the available data indicate elevated concentrations of diesel- and gasoline-range petroleum hydrocarbons in groundwater samples (*e.g.*, ranging as high as 22 mg/L), while concentrations of these chemicals in soil samples characterized as capillary fringe zone samples from the corresponding locations are reported as not

[1] For example, Figure 7-33 in the Phase III RI report presents a clear separation between the highly similar diesel-range concentrations at sampling locations SCH56 (1.14 mg/L) and LW30S (0.87 mg/L), even though there are no data available indicating substantially lower concentrations at any locations between these two sampling stations. In fact, the pattern of concentrations at these and other nearby locations suggests a much broader area of elevated groundwater concentrations than is suggested by the figure.

[2] The western-most "plume" of TPH-diesel in groundwater (shown on Figure 7-33) includes an isopleth line indicating highly elevated concentrations (greater than 100 mg/L) based on a single result from a temporary well point (796 mg/L at SCH-63B). Subsequent TPH-diesel results observed in a monitoring well located adjacent to this sampling point were substantially lower (0.87 mg/L at LW-30S). As acknowledged in Time Oil's Phase III RI report (p. 7-12), the initial elevated results are likely due to use of a temporary well point and likely reflect the presence of suspended particulate in the sample. If the dubious elevated result from temporary well point SCH-63B is omitted from this figure, then a pattern is again observed of TPH-diesel concentrations in groundwater on the order of 1-2 mg/L across the western and southwestern end of the site.

detected, detected at relatively low concentrations, or not analyzed based on non-detect results in qualitative screening analyses. Because groundwater concentrations at these levels are typically accompanied by elevated soil concentrations and the presence of residual product, the reported data suggest that the collected soil samples do not accurately reflect conditions within the capillary fringe. Review of soil sample depths and groundwater elevations for these samples suggests that in some cases, this discrepancy may have resulted because the soil samples were collected at depths that are shallower than the true capillary fringe zone.[3]

These inconsistencies and deficiencies in the site's characterization are critical because they again result in misleading presentations of the available data and erroneous conclusions regarding the distribution and fate of contaminants at the Bell Terminal facility. For example, figures such as Figures 7-25 and 7-26 in Time Oil's Phase III RI report suggest that substantial zones of "clean" soil exist between locations where elevated petroleum hydrocarbons were observed in capillary fringe zone soil (*e.g.*, between locations BT-05 and BT-06). By contrast, as indicated by the shading in the first column of Table 1 of this memo, when the groundwater and soil data are reviewed together, clear indications of elevated petroleum hydrocarbon presence are observed at 8 of the 10 locations sampled during the interim subsurface investigation, while petroleum product presence is also suggested at the remaining two locations. Moreover, as indicated in Figure 1 of this memo, when the integrated data indicating the presence of elevated petroleum hydrocarbons are illustrated, a more wide-spread distribution of such contaminants is observed beginning, at a minimum, at sampling location BT-04 and extending westward to the property boundary.

Unsupported Allegations

The Phase III RI report presents a number of unsupported allegations regarding the potential sources of petroleum hydrocarbon contamination at the Bell Terminal facility. In particular, based on the erroneous interpretation that the available data indicate three separate groundwater plumes for petroleum hydrocarbon compounds at the site, the Phase III RI report speculates that the primary source of

[3] To illustrate this issue, Table 1 of this memo summarizes the petroleum hydrocarbon results for soil and groundwater samples collected at the Bell Terminal facility during Time Oil's Phase III interim subsurface investigation (Landau, 2003). As can be seen, the petroleum hydrocarbon concentrations in groundwater at locations BT-01 and BT-08 were in the 2-3 mg/L range, while the concentrations in corresponding capillary fringe zone soil samples were reported at relatively low or non-detect levels. Groundwater concentrations of petroleum hydrocarbons in samples BT-03, BT-04, and BT-08 range as high as 22.2 mg/L; however, based on qualitative screening analyses, corresponding soil samples were not analyzed for petroleum hydrocarbons using quantitative laboratory methods. Moreover, the reported depths of these soil samples ranged from just above to 3 feet or more above the reported groundwater elevation.

petroleum hydrocarbon contamination is due to activities and sources on the PEO property. However, the report provides no specific data or factual information to support this allegation.

Moreover, the lack of technical foundation for this allegation is indicated by the following factors. First, as discussed above, the available data do not indicate that three separate groundwater plumes exist for petroleum hydrocarbons at the Bell Terminal facility. Instead, the data indicate that a single diffuse plume extends from the central portion of the Bell Terminal facility towards the west and southwest, consistent with the prevailing groundwater flow direction and consistent with the pattern of contamination observed on Time Oil's North Tank Farm.

Second, the Phase III RI report provides no specific information regarding the types of activities or releases that are alleged to have occurred on the PEO property. In contrast to statements in the Phase III RI report that such activities on the PEO property are the predominant source of the contamination observed on the western edge of the Bell Terminal facility, available information indicates that activities on the PEO property are unlikely to have played any significant role in the observed petroleum hydrocarbon distribution. For example, sworn testimony of individuals familiar with the 1973 disruption of the Bell Terminal pipeline that formerly extended across the PEO site indicates that the pipeline had not been in active use for many years prior to this event and that little material, if any, was released as the result of this event. Moreover, these individuals state that this pipeline was initially encountered near the river, not near the Bell Terminal-PEO property boundary. Thus, if any releases occurred as a result of this disruption, such releases would not have been expected to occur in the area near the Bell Terminal-PEO property boundary.

Similarly, as supported by review of historical aerial photographs, SIC and other users of the PEO property did not use the property bordering the Bell Terminal facility for any operations. Moreover, use and storage of petroleum hydrocarbon materials was limited at the PEO property, particularly in contrast with the far greater petroleum storage capacity at the upgradient Bell Terminal facility. Specifically, the only petroleum storage capacity at the PEO property was a single 10,000-gallon diesel above-ground storage tank located approximately 100 feet east of the PEO-Bell Terminal property boundary (*i.e.*, a tank with less than 0.1% of the storage capacity of the Bell Terminal facility). By contrast, the Bell Terminal facility (which began operations in the 1950s) had a storage capacity for petroleum hydrocarbon materials of more than 12 million gallons. It should also be noted that the distributions of gasoline and diesel petroleum hydrocarbons presented in the Time Oil Phase III report are quite similar, suggesting similar sources. Both types of materials were stored at the Bell Terminal facility. By contrast, SIC and other

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users of the PEO property were not known to have any significant uses or storage of gasoline. This observation further undermines the credibility of the statements presented in the Phase III RI report regarding sources of the contamination observed at the west end of the Bell Terminal facility.

Thus, the allegations regarding potential downgradient sources of the contamination observed on the Bell Terminal facility are without foundation and are inconsistent with available information.

We hope this information is helpful to you as you conduct your review of Time Oil's Phase III RI report. We look forward to meeting with you to discuss these findings in more detail. In the meantime, please contact me (at 206-267-2920) if you have any questions regarding these comments.

References

Bridgewater Group. 2001. "Remedial Investigation/Feasibility Study Scope of Work, Premier Edible Oils Site, 10400 North Burgard Way, Portland, Oregon." Prepared for Schnitzer Investment Corporation. April.

Landau Associates, Inc. (Landau). 2003. Technical memo to Kevin Murphy from Rebekah Brooks re: Phase III RI – Interim Subsurface Investigations. May 22.

Landau Associates, Inc. (Landau). 2004. "Phase III Remedial Investigation Report, Time Oil Northwest Terminal, Portland, Oregon." Prepared for Time Oil Co. April 30.

Table 1
Summary of Petroleum Hydrocarbon Results for Time Oil Bell Terminal Phase III Interim Subsurface Investigation

Sample Location[a]	Soil Concentration (mg/kg)[b]		Soil Sample Depth (ft bgs)	Groundwater Concentration (mg/L)[c]		Groundwater Elevation (ft bgs)[d]	Notes[e]
	TPH-G	TPH-D		TPH-G	TPH-D		
BT-01	2.76 U	301	13.5-14.5	1.87	1.94	14.25	Strong petroleum-like odor for depth interval between 12 and 14 feet bgs; very strong odor for interval between 14 and 20 feet bgs
BT-02	NT	NT	14-15	0.100 U	0.625	13.5	Mild petroleum-like odor for depth interval between 16 and 19 feet bgs
BT-03	NT	NT	9-10	5.57	22.2	12.5	Strong petroleum-like odor for depth interval between 13.5 and 17 feet bgs; mild odor for interval between 17 and 20 ft bgs
BT-04	NT	NT	12.5-13.5	5.29	7.45	14	Mild petroleum-like odor for depth interval between 14 and 24 feet bgs
BT-05	715	6,200	14-15	0.981	2.06 J	14.5	Strong petroleum-like odor for depth interval between 13 and 19.5 feet bgs
BT-06	1,160	198	14-15	12.2	5.61	14	Strong petroleum-like odor for depth interval between 14 and 19.5 feet bgs
BT-07	NT	NT	12.5-13.5	0.933	1.06	14.25	Mild petroleum-like odor for depth interval between 15.5 and 19.5 feet bgs
BT-08	2.98 U	17.9 U	13.5-14.5	3.42	2.47	15	Strong petroleum-like odor for depth interval between 15 and 19 feet bgs
BT-09	NT	NT	13.5-14.5	2.7	5.28	14.5	Strong petroleum-like odor for depth interval between 15.5 and 17 feet bgs
BT-10	NT	NT	13.5-14.5	0.100 U	0.918	14.5	No odor reported

Notes:

bgs *below ground surface*
NT *sample not analyzed for quantitative TPH concentrations (using Method NWTPH-Gx and –Dx) based on non-detect readings in qualitative screening analyses (using Method NWTPH-HCID)*
TPH *total petroleum hydrocarbons (-G – gasoline, -D – diesel)*
U *not detected at listed detection limit*

The presence of elevated TPH concentrations in groundwater (at mg/L levels) together with low or not detected TPH concentrations in soil suggests that the collected soil sample may not accurately reflect conditions in the capillary fringe zone.

a *Shading indicates sample locations where elevated TPH concentrations were observed, i.e., TPH concentrations in groundwater > 1 mg/L, TPH concentration in soil > 1,000 mg/kg. Note that a mild petroleum odor was also observed at one of the remaining two locations (i.e., BT-02) and that TPH concentrations in groundwater at both of the remaining locations were not substantially less than the 1 mg/L benchmark used in this evaluation (i.e., 0.918 mg/L at BT-10 and 0.625 mg/L at BT-02).*
b *Soil concentration data reported in Table 6 of Landau (2003).*
c *Groundwater concentration data reported in Table 8 of Landau (2003).*
d *Approximate depth to groundwater at time of drilling as reported in boring logs (Attachment 2; Landau, 2003).*
e *Observations reported in boring logs (Attachment 2; Landau, 2003).*

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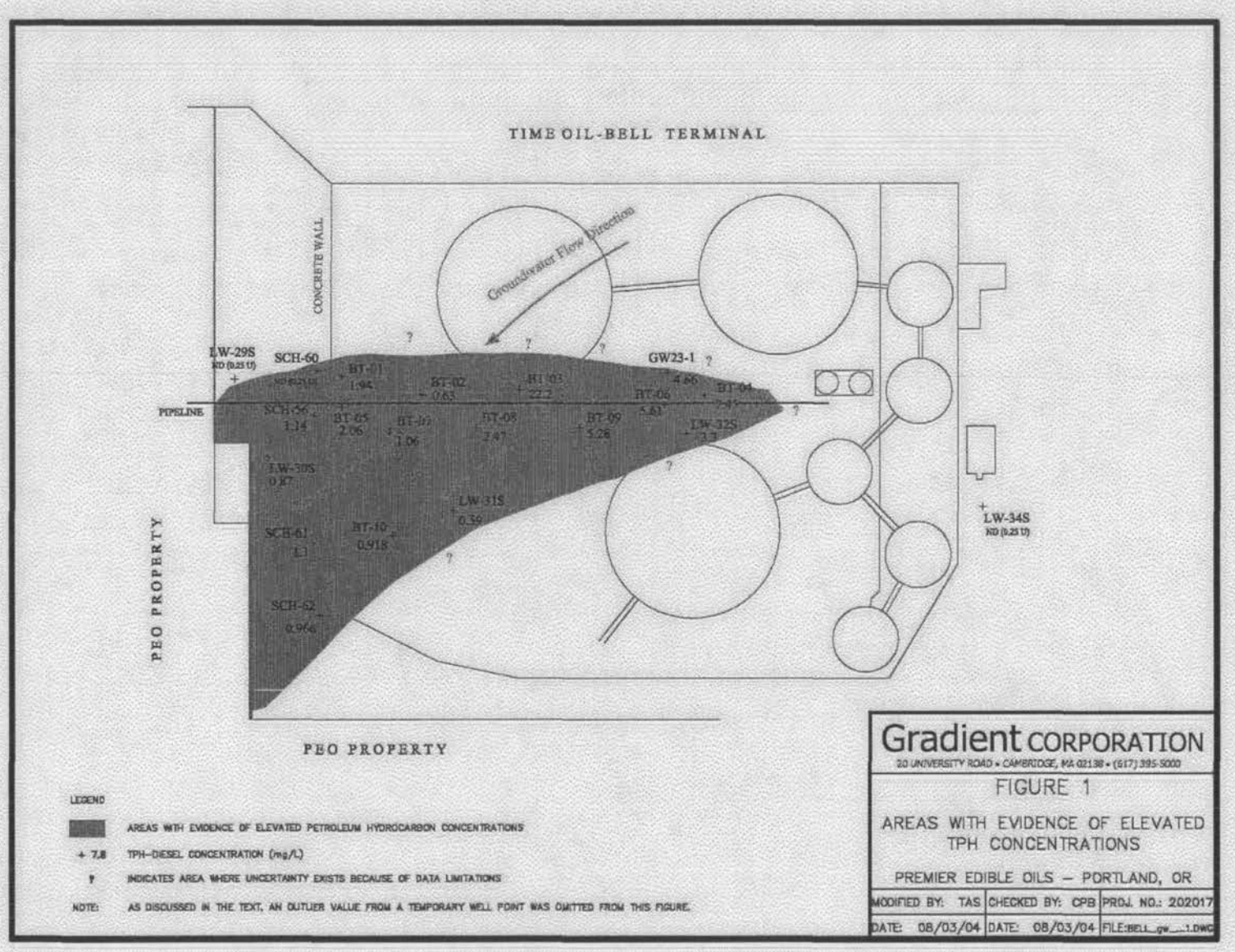

LEGEND

AREAS WITH EVIDENCE OF ELEVATED PETROLEUM HYDROCARBON CONCENTRATIONS

+ 7.8 TPH–DIESEL CONCENTRATION (mg/L)

? INDICATES AREA WHERE UNCERTAINTY EXISTS BECAUSE OF DATA LIMITATIONS

NOTE: AS DISCUSSED IN THE TEXT, AN OUTLIER VALUE FROM A TEMPORARY WELL POINT WAS OMITTED FROM THIS FIGURE.

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FIGURE 1

AREAS WITH EVIDENCE OF ELEVATED TPH CONCENTRATIONS

PREMIER EDIBLE OILS – PORTLAND, OR

MODIFIED BY: TAS	CHECKED BY: CPB	PROJ. NO.: 202017
DATE: 08/03/04	DATE: 08/03/04	FILE:BELL_gw_1.DWG

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Time Oil : Com

Oregon
Theodore R. Kulongoski, Governor

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September 20, 2004

Mark Chandler
Time Oil Co.
2737 W. Commodore Way
Seattle, WA 98199-1233

Re: Phase III RI Report
Time Oil Co. Northwest Terminal

Dear Mr. Chandler:

The Department of Environmental Quality (DEQ) reviewed the April 30, 2004 *Phase III Remedial Investigation Report, Time Oil Northwest Terminal, Portland, Oregon* (Phase III RI) prepared by Landau Associates. The Phase III RI report follows the May 22, 2003 *Phase III RI – Interim Subsurface Investigations Technical Memorandum*. Overall, the RI report is well written and presents much of the Phase III data. DEQ appreciates the effort Time Oil and Landau put into preparing the geologic cross-sections, interpreting available data, and continuing to refine the conceptual site model.

Thank you for meeting with us today. DEQ's comments on the RI report are attached. DEQ looks forward to Landau's proposal for additional groundwater monitoring points to better define the extent of contamination at the Main Tank Farm and the Bell Terminal.

Please call me at 503-229-5502 if you have any questions about our review.

Sincerely,

Thomas E. Roick, Project Manager
Cleanup & Lower Willamette Section

Cc: Rod Struck / Alicia Voss, DEQ NWR
Rebekah Brooks, Landau Associates, Inc.
Patricia Dost, Schwabe, Williamson & Wyatt

Attachment: DEQ comments on the Phase III RI Report

SCHN00380724

DEQ Comments on the April 30, 2004 Phase III Remedial Investigation Report

General Comments

A. The RI needs to provide the reader (e.g., U.S. Environmental Protection Agency, tribes, other interested parties) with an understanding of the nature and extent of contamination and the basis for the findings and conclusions in the report. While it is impracticable to reproduce all previous work in the RI report, the report needs to explain to the reader each step and the rationale used in completing the RI, and provide clear references to previous documents. Reproducing some of the information and figures presented in the RI Work Plan and Interim Subsurface Investigations submittal is necessary to provide a comprehensive RI report.

B. The RI is based on only one round of results from the new Phase III groundwater monitoring wells. According to the schedule presented in Section 10, the results for the May 2004 sampling event, and groundwater elevation measurements for August 2004 should be available to incorporate into the final RI report.

C. The RI should provide a summary of the potential for historic or current releases to impact sediments or surface water of the Willamette River. Areas of concern are: 1) historic loading activities at the dock and potential for spills to sediments or surface water; 2) Phase II groundwater impacts to the storm drain with discharge to the River [IRAM already in place]; 3) petroleum hydrocarbon impacts to groundwater in the Main Tank Farm; and, 4) petroleum hydrocarbon impacts to groundwater at the Bell Terminal. In-water sediment sampling by the Lower Willamette Group will provide some data to assess potential sediment impacts. The need for any source control measures, in addition to those already conducted or in progress, should be evaluated as a follow-up to the upland Phase III RI work.

Specific Comments

1. Executive Summary. This section should be revised based on the comments on the main text as appropriate.

2. Section 2. Page 2-1. A section should be added to the report that describes the facilities regulatory compliance history with all applicable rules and regulations.

3. Section 2.1. Page 2-1. This section states that the terminal was used for the receipt, storage, and distribution of petroleum and petroleum related products. The RI report should summarize historical information from the Phase III RI Work Plan, but provide a more detailed history of the Main Tank Farm and Bell Terminal activities. For example, the following information should be included:
   - Summary of over water (loading dock) activities;
   - Size, age, contents (current and historical), and construction (foundations) of the various on-site tanks;
   - Procedures for receipt and transfer of products should be further discussed (i.e., filling/transfer areas);

- Any documented spills or releases (e.g., include historic ethanol spills);
- A description of what is known about how operators of the adjacent Schnitzer property "used" the 80 foot wide strip of land at the Bell Terminal western property boundary;
- A summary of what is known about releases associated with Schnitzer's removal of the pipeline to the Bell Terminal; and
- Spill prevention and control plans in place during site operations.

4. Section 2.2.2.7. Page 2-14. Please note that fluorene should be fluorine.

5. Section 2.2.3.1. Page 2-15. The RI report should provide the basis and rationale for the grid system (i.e., how was the grid developed, how soil samples were collected and composited). While this information is referenced, it would be helpful for the reader to restate the rationale and provide figures (e.g., Figure B-1 of the Phase III RI Work Plan showing grid versus biased sampling areas, and Figure 17 of the Phase III RI – Interim Subsurface Investigation Technical Memorandum).

6. Section 2.2.3.1. Page 2-15. Paragraph 1. This section states that 23 temporary well points were located within the Phase III study area. The logs for these borings should be included in the report, the tabulated data referenced, and the results posted on an appropriate figure.

7. Section 2.2.3.1. Page 2-15. Paragraph 2. Time Oil must address the potential for Bell Terminal releases to impact the downgradient Schnitzer property. In order to accurately characterize the nature and extent of Bell Terminal contamination, off-site data from the adjacent Schnitzer investigation should be included in the RI report and shown on appropriate figures. A discussion of the split sample results should be provided.

8. Section 3.0. Page 3-1. Available historical maps (e.g., 1850's, 1890's, 1912, etc.) and aerial photographs or references to those provided in previous reports (e.g., Phase III RI Work Plan) should be reviewed and discussed in terms of site features, topography, and geomorphology.

9. Section 3.4. Page 3-4. A more detailed description of stormwater drainage should be provided (e.g., an update to that described in the February 9, 2001 Phase II RI Report, response to comment 2 and comment 9). Include a figure specific to the storm water drain lines, historic and existing catch basins, and piping to the wastewater treatment system. This section should also include general characteristics and the hydrology of the Willamette River (e.g., bathymetry, river dimensions, flow, depositional environment).

10. Section 4.1. Figure 4-1. Figures 7-34 and 7-38 suggest that the extent of groundwater contamination has not been defined to the north. Therefore, the locality of the facility (LOF) may extend beyond the Time Oil property boundary to the north (the Port of Portland mitigation wetlands). Additionally, apparent releases at the Bell Terminal could migrate downgradient and impact the adjacent Schnitzer property. The LOF should be considered an approximation at these property boundaries until contaminant plumes and the extent of potential downgradient migration are more clearly defined.

11. Section 4.3. Page 4-3. This section should include the details provided in Landau's February 9, 2001 Response to DEQ's Comments, Phase II RI Report, comment #6. Also note (comment 10 above) that it is not clear the Port of Portland mitigation wetlands are outside of the groundwater LOF. Additionally, this section should mention the beneficial uses of Willamette River surface water.

12. Section 5.1. Page 5-1. In order for the investigation strategy to be more transparent to the reader, this section should provide additional information regarding the soil investigation. The grid sampling approach should be presented in greater detail including how soil sample locations and depths were selected. Provide boring logs for all phase III drilled and hand-dug soil borings. A table would be helpful summarizing the boring, field screening results, samples collected and analyses performed.

13. Section 5.2. Page 5-3. This section should introduce existing monitoring wells and data available from those wells and how that data was used to locate the Phase III wells.

14. Section 6.1. Page 6-1. Numerous borings have been completed on-site. A table listing the boring number, total, depth, observations, and a detailed reference to the location of the boring log should be provided.

15. Section 6.1. Page 6-1. Discuss whether available historic maps and aerial photographs indicate geomorphologic or manmade features that could have an effect on contaminant transport (e.g., preferential pathways).

16. Section 7.0 and Figures 7-1 through 7-32. The RI should demonstrate whether the nature and extent (horizontal and vertical distribution) of hazardous substances released from the facility have been adequately characterized using available information on source locations, physical site data (groundwater flow data, topography, preferential pathways), and chemical analysis.

    It is difficult to tell from the data presentation in Section 7 and the figures if the extent of contamination has been determined. While the colored dots presented on the figures give the reader a general idea of the level of contamination, it would be more helpful if the actual concentration was posted on the figures, and contours estimated so that the reader can readily identify areas of contamination above various screening levels. The concentration ranges currently presented on some of the figures do not allow the reader to identify areas potentially above risk-based concentrations. The extent of contamination should be shown by contouring available concentration data, allowing areas that have been impacted to be defined, the extent to be estimated, the adequacy of the sampling locations to be evaluated, and potential data gaps to be identified. Data could also be presented in cross-sectional view. The report should comment on whether the grid-based composite sampling approach should be followed-up with additional biased samples to define the extent of contamination in areas where contamination was detected.

17. Section 7.2. Page 7-1. A general description and introduction to available groundwater monitoring data would be helpful to the reader. For example, an introduction to all available groundwater quality data and groundwater concentration trends in selected wells would help the reader interpret the 1st quarter of Phase III groundwater monitoring data.

18. Section 7.2.2. Page 7-11. It would be helpful if representative groundwater concentrations were presented in cross-sectional view.

19. Section 7.2.2.1. Page 7-12. Bell Terminal. The data collected by Schnitzer on and in the area of the Bell Terminal should be included and discussed in this section.

20. Section 7.3. Page 7-16. Please provide a figure identifying borings and wells where sheens, or non-aqueous phase liquid (NAPL) were observed. The extent of NAPL should be estimated.

21. Section 8.2. Page 8-1. Metals concentrations detected in groundwater should be evaluated to determine if they may be related to reducing conditions resulting from the presence and degradation of petroleum product in the subsurface.

22. Section 8.3.3. Page 8-11. Discuss PAH concentrations in soil as they relate to the former tank foundations. Are existing tank foundations a potential source of contamination to soil immediately underneath the tanks?

23. Figure 2-6. Note that GW8-1 is not labeled on Figure 2-6.

24. Figures 6-2 through 6-13.
    - Is there a reason why GW borings are not included on cross-sections?
    - Selected cross-sections should show the extent of petroleum contamination based on sheen or NAPL.
    - Selected cross-sections should show the extent of site contamination by posting groundwater grab sample or monitoring well data.

25. Figure 6-15. This figure should include the location of wells located on the Schnitzer property near the Bell Terminal.

26. Figure 6-18. The contours on this figure indicate the presence of a northwest-southeast trending groundwater trough on-site. It is unclear if this is the result of tidal fluctuations in the lower groundwater zone. The figure should include contours between the shoreline wells and the river gauge. The interpretation of this figure should be presented in the text of the RI and any special considerations noted on the figure. Figures showing "representative" groundwater flow conditions should be presented in the RI report.

27. Appendices C and D. Do outlined values represent exceedances of screening levels?

28. Appendices D and E. The cover page titles for these appendices are incorrect.

Facsimile Memorandum

Gradient CORPORATION

To: Jim Jakubiak, Schnitzer — **Fax:** 503-286-6948
Jim Brown, James C. Brown & Assoc. — 503-557-0377

From: Cathy Petito Boyce — **Date:** January 5, 2005

Subject: DEQ comments on Time Oil Phase III RI Report — **Project No:** 202017-10

Pages: 6 (including cover sheet) — **Original:** ☐ will ☒ will not follow

NOTICE OF CONFIDENTIAL INFORMATION
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Comments: Attached is a document that we received from DEQ presenting their comments on Time Oil's Phase III RI Report. I also sent you an e-mail with additional information regarding DEQ's comments. Talk to you soon.

Suite 803, 600 Stewart Street, Seattle, WA 98101 • (206) 267-2920 • fax: (206) 267-2921 • www.gradientcorp.com

Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
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October 18, 2004

Jim Jakubiak
Schnitzer Investment Corp.
12005 N. Burgard Way
Portland, Oregon 97203

Re: Premier Edible Oils
Portland, Oregon
ECSI #2013

Dear Mr. Jakubiak:

The Department of Environmental Quality (DEQ) is requiring further investigation of environmental conditions at the former Premier Edible Oils property at the Burgard Industrial Park in north Portland. The additional investigation is based on a review of site information and the April 2004 *Phase III Remedial Investigation* report for the Time Oil Northwest Terminal, which is adjacent to the Premier Edible Oils site. The additional investigation will include a source control evaluation and further groundwater characterization.

Source Control Evaluation

DEQ will require a source control evaluation of free-phase product present at the southwest portion of the site, along the Willamette River and fitting slip. Further delineation of the extent of free-phase product in the site uplands and riverward will be required in order to determine whether this product is impacting surface water or sediments.

Gradient Corp. (Gradient) recommended additional data collection in this area of the site in a memorandum dated March 4, 2004. The recommendations included the installation of two additional wells north of MW-02 and northeast of MW-11, monitoring product levels in the wells, and conducting well slug tests. DEQ reviewed Gradient's recommendations and has the following comments.

1) Well installations. DEQ approves of the two additional well locations and will require two more wells, one east of MW-13 and one northwest of MW-02. The rationale for the two additional wells is that the lateral extent of product has not been defined in these directions (see figure for approximate locations). DEQ will also require quarterly monitoring of the wells and groundwater analysis for total petroleum hydrocarbons, volatile organic compounds, semi-volatile organic compounds, and metals.

2) Product Monitoring. Gradient proposes to monitor product thickness and water levels in selected wells over 24-48 hour periods (spring and fall). DEQ will require additional information regarding the proposed monitoring and it should include monitoring specifics (frequency and methodology) and methods to monitor river levels contemporaneously.

3) Product Physical Properties. Gradient proposes to collect product samples from MW-02 for density and viscosity analysis and then product-containing soil samples near MW-02 to conduct oil-water capillary pressure and oil-air capillary pressure analysis. DEQ agrees that additional information is needed regarding product characteristics and will require more information regarding the proposed sample collection and analysis methods. DEQ suggests that consideration should also be given to collecting several product samples from different wells where product is present to determine whether the product is similar at different locations on the site.

4) Supplemental Hydrogeologic Characterization. Gradient proposes to conduct slug tests at several wells to help determine site-specific hydraulic conductivity. Although DEQ still believes that slug tests are of limited value in determining hydraulic conductivity of the shallow aquifer and may be of little usefulness at locations where free-phase product is present, Gradient and Schnitzer may collect this data, if desired.

5) Additional DEQ requirements for the source control evaluation. The riverward extent of the free-phase product must also be investigated. Potential discharge areas should be identified using the upland investigation information (groundwater and river elevations, lithology, etc.). Verification sampling of shallow groundwater and/or sediments will be required to determine whether the product or dissolved phase constituents are impacting surface water or sediments.

Groundwater Characterization

Other sources of soil and groundwater impacts have been identified near the former process building and above-ground storage tank areas of the site. DEQ recognizes that there may be potential off-site contribution to the groundwater impacts from the Time Oil Bell Terminal property. Further delineation of the extent of the on-site groundwater impacts will be required in conjunction with additional groundwater characterization being conducted by Time Oil on the Bell Terminal property.

DEQ is requiring five additional groundwater wells on the Premier Edible Oils site at the approximate locations shown on the attached figure. The purpose of the wells is to determine the northern and southeastern/southwestern extents of the previously-identified plume and investigate groundwater conditions nearer source areas (former diesel AST and wastewater treatment plant). DEQ is also requiring Time Oil to install four additional wells on the Bell Terminal property.

DEQ will require that sampling schedules be coordinated and well elevations, water levels, and other sampling results be shared with both parties (Time Oil and Schnitzer Investment Corp.).

The purpose of the coordinated sampling will be to provide contemporaneous data evaluation for both properties.

Conclusions

Please develop a short work plan that addresses the additional site characterization scope of work outlined in this letter and Gradient's March 4, 2004 memorandum. Please submit the work plan by November 20, 2004. If Schnitzer Investment Corp. objects to the required additional investigation, please notify DEQ by October 28, 2004. DEQ will endeavor to resolve any disagreement according to the dispute resolution provision in the 2000 Agreement.

Time Oil plans to install the additional wells on the Bell Terminal property in October 2004 and DEQ requests that the additional well installations be completed on the Premier Edible Oils property before the end of 2004.

Sincerely,

Alicia C. Voss
Portland Harbor Section

Attachment

cc: Jim Anderson, Rod Struck, Tom Roick; DEQ
Cathy Petito Boyce, Gradient Corporation
Jim Brown, Jim Brown Associates

James C. Brown

From: "Jim Jakubiak" <jjakubiak@schn.com>
To: '"James C. Brown"' (b) (6)
Sent: Friday, November 19, 2004 9:20 AM
Attach: Source control evaluation letter October 2004.doc
Subject: FW: mailing errors

-----Original Message-----
From: VOSS Alicia [mailto:VOSS.Alicia@deq.state.or.us]
Sent: Friday, November 05, 2004 9:57 AM
To: Jim Jakubiak; cpboyce@gradientcorp.com
Subject: mailing errors

Jim and Cathy, I sent a letter last month to both of you about Premier Oils and both letters came back to me with mailing errors. Sorry.

Attached is a copy. All deliverable dates in the letter will be extended 30 days because of our error. Another hard copy will be sent out again. The addresses I will use are the PO Box 10047 for Schnitzer and the 600 Stewart Street address for Gradient. Please correct me if I am wrong again. Thanks.

Alicia Voss.

Gradient
CORPORATION

October 20, 2004

Ms. Alicia Voss
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, 4th Floor
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Alicia:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between July 1 and September 30, 2004, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- Ongoing communications with DEQ regarding next steps for evaluating PEO property and inter-relationships between PEO site evaluations and investigations conducted by Time Oil on the adjacent Bell Terminal property. Communications included discussions regarding status of DEQ review of technical memorandum briefly describing additional investigations proposed for the PEO site, focusing on information required to enhance characterization of the southern portion of the PEO site. Memorandum submitted to DEQ on March 4, 2004.
- Reviewed Phase III Remedial Investigation (RI) Report for Time Oil's Northwest Terminal for implications for evaluations of PEO property. Met with DEQ on August 6, 2004 to present initial results of review of Time Oil Phase III RI report. Submitted written comments presenting SIC's concerns with the Time Oil Phase III RI report to DEQ on September 10, 2004.
- Continued validating and analyzing site data.

Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between October 1 and December 31, 2004:

- Update evaluation of Time Oil's investigative data for the Bell Terminal site in light of proposed and ongoing data collection, including assessing implications of available data for potential impacts on PEO site from Time Oil site and assessing need for additional recommendations regarding sampling on the Bell Terminal site.

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- Continue communications with DEQ regarding proposed additional investigations for PEO site and ongoing Time Oil activities on Bell Terminal site. As data become available, obtain additional information from DEQ regarding Time Oil's ongoing investigations and Bell Terminal site features.
- Complete validation of data from four quarterly groundwater monitoring events, preliminary remedial investigation, and focused site characterization.
- Continue to synthesize and evaluate site data, including tidal monitoring evaluations.

Issues to be Resolved/Recommended Actions

None.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

Cathy Petito Boyce

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberly/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00380735

Gradient
CORPORATION

December 16, 2004

Ms. Alicia Voss
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, 4th Floor
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Response to October 18, 2004 Letter

Dear Alicia:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is providing this written response to the letter sent by the Oregon Department of Environmental Quality (DEQ) on October 18, 2004 regarding additional investigations at the Premier Edible Oils property in Portland, Oregon. As indicated in your subsequent e-mail correspondence of November 5, 2004, mailing difficulties delayed receipt of this document by Schnitzer and its consultants. As a result, you extended the target dates presented in the October 18 letter by 30 days.

In advance of the notification deadline specified in the October 18 letter and subsequent e-mail correspondence, we had a telephone conversation on November 17, 2004, which notified DEQ of SIC's willingness to continue with discussions of future efforts for the PEO site. As we have discussed, we currently plan to meet with you in January regarding the issues presented in the October 18 letter and future efforts for this site.

We look forward to meeting with you in the new year.

Sincerely,

Cathy Petito Boyce

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
J. Jakubiak/SIC
T. Zelenka/SIC

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COPY

Gradient
CORPORATION

January 13, 2005

Ms. Alicia Voss
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, 4th Floor
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Alicia:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between October 1 and December 31, 2004, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- Ongoing communications with DEQ regarding next steps for evaluating PEO property and inter-relationships between PEO site evaluations and investigations conducted by Time Oil on the adjacent Bell Terminal property. Communications included discussions regarding status of DEQ review of March 2004 technical memorandum briefly describing additional investigations proposed for the PEO site, focusing on information required to enhance characterization of the southern portion of the PEO site.
- Letter response regarding additional sampling for the PEO site received from DEQ on November 5, 2004. Notified DEQ of SIC's response to the November 5 letter *via* telephone on November 17 and in a letter submitted on December 16. Also participated in additional ongoing communications with DEQ regarding the scope of future efforts at the PEO site.
- Ongoing review of remedial investigation efforts at Time Oil's Northwest Terminal to determine implications for evaluations of PEO property. Specific documentation reviewed during this reporting period included DEQ comments on Time Oil's April 2004 draft Phase III Remedial Investigation report and DEQ's requests for additional investigations at Time Oil's Northwest Terminal.
- Continued validating and analyzing site data.

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Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between January 1 and March 31, 2005:

- Continue evaluation of Time Oil's investigative data for the Bell Terminal site in light of proposed and ongoing data collection, including assessing implications of available data for potential impacts on PEO site from Time Oil site and assessing need for additional recommendations regarding sampling on the Bell Terminal site.
- Continue communications with DEQ regarding proposed future efforts at PEO site and ongoing Time Oil activities on Bell Terminal site. As data become available, obtain additional information from DEQ regarding Time Oil's ongoing investigations and Bell Terminal site features. Participate in meeting with DEQ planned for January 2005.
- Complete validation of data from four quarterly groundwater monitoring events, preliminary remedial investigation, and focused site characterization.
- Continue to synthesize and evaluate site data, including tidal monitoring evaluations.

Issues to be Resolved/Recommended Actions

None.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

Catherine Petito Boyce

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberly/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00380788

Gradient
CORPORATION

October 12, 2005

Mr. Rod Struck
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Rod:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between July 1 and September 30, 2005, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- As jointly requested by DEQ and the U.S. Environmental Protection Agency (EPA), reviewed and commented on Interim Final Portland Harbor Joint Source Control Strategy document issued by DEQ and EPA in September 2005.
- Ongoing communications with DEQ regarding next steps for evaluating PEO property and inter-relationships between PEO site evaluations and investigations conducted by Time Oil on the adjacent Bell Terminal property.
- Ongoing review of remedial investigation efforts at Time Oil's Northwest Terminal to determine implications for evaluations of PEO property.
- Continued review of draft Conceptual Site Model (CSM) for the PEO site that was prepared by the Lower Willamette Group (LWG). Continued preparing SIC comments to correct the numerous erroneous and/or misleading statements in the draft CSM regarding contaminant sources and distribution for the PEO site.
- Continued review of selected sediment data from the LWG Round 2 field sampling program and evaluation of implications of data for assessing conditions in the vicinity of the PEO site.

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Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between October 1 and December 31, 2005:

- Continue evaluation of Time Oil's investigative data for the Bell Terminal site in light of proposed and ongoing data collection, including assessing implications of available data for potential impacts on PEO site from Time Oil site and assessing need for additional recommendations regarding further sampling on the Bell Terminal site.
- Continue communications with DEQ regarding proposed future efforts at PEO site and ongoing Time Oil activities on Bell Terminal site. As data become available, obtain additional information from DEQ regarding Time Oil's ongoing investigations and Bell Terminal site features.
- Continue working with DEQ to follow up on June 17, 2005 letter response to DEQ comments, to finalize *Work Plan for Additional Characterization of the Premier Edible Oils Property*, and to initiate additional efforts.
- Continue preparing SIC comments to correct errors in the LWG's draft CSM for the PEO site.
- Continue reviewing data from the LWG field sampling program as data become available.
- Work with DEQ during transition to new DEQ project management.

Issues to be Resolved/Recommended Actions

None.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

Cathy Petito Boyce

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00380790

Oregon
Theodore Kulongoski, Governor

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May 26, 2005

Jim Jakubiak
Schnitzer Investment Corp.
P.O. Box 10047
Portland, Oregon 97296

Re: March 2005 Work Plan for Additional Characterization
Premier Edible Oils
Portland, Oregon
ECSI #2013

Dear Mr. Jakubiak:

The Department of Environmental Quality (DEQ) completed its review of the March 2005 *Work Plan for Additional Characterization of the Premier Edible Oils Property*. Gradient Corporation (Gradient) submitted the work plan on behalf of Schnitzer Investment Corp. (Schnitzer) as DEQ requested in our January 21, 2005 meeting.

General Comments

A. The purpose of the work plan was to identify additional site characterization tasks needed to collect adequate data regarding the nature and extent of contamination to complete an upland source control evaluation and the upland remedial investigation (RI). The current hydrogeologic conceptual site model includes two areas of groundwater contamination; the NAPL area along the southern property boundary with the slip and a larger contaminant plume in the central portion of the site. Petroleum constituents have been identified as the primary contaminants of interest (COIs) for both groundwater plumes and halogentated volatile organic compounds (VOCs) have been detected in selected wells.

B. DEQ is in general agreement with the approach outlined in the work plan but is requiring that additional sample points be advanced upland in the known NAPL areas and riverward of the NAPL area, as described in the specific comments.

C. In addition, groundwater monitoring events for the wells on the Premier Edible Oils site must be coordinated with similar monitoring events on the adjacent Time Oil Bell

Terminal. The next quarterly groundwater monitoring event at the Bell Terminal is planned for August 2005.

D. DEQ requires all reports and work plans that are covered by the definition of the public practice of geology to be stamped by an Oregon registered geologist in accordance with ORS 672.505 to 672.705.

Specific Comments

1. **Section 2.2.1 Source Control Evaluation and NAPL Characterization – Southern PEO Site.**

Gradient proposes to install one additional well and two pushprobe borings in the NAPL area in the southern portion of the site. DEQ agrees with the proposed well and boring locations.

Groundwater samples should be collected from the new well and all existing wells in this area for a minimum of one initial sampling event before determining whether a limited monitoring program will provide sufficient data to complete the characterization of the area. DEQ approval must be obtained prior to reducing the groundwater monitoring program. Groundwater samples from the wells and pushprobes should be analyzed for a full suite of volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), selected metals (as listed in the work plan) and total petroleum hydrocarbons (TPH).

2. **Section 2.2.2. Soil Boring Installation**

DEQ requests that three additional soil borings be advanced to evaluate the extent of NAPL in the southern area. These borings should be completed as shallow monitoring wells if significant petroleum contamination is noted. These boring should be completed in the following locations:

- Midway between MW-10 and MW-09.
- Midway between MW-09 and MW-13.
- Midway between MW-13 and SHL-21.

Soil and groundwater grab samples should be collected from these borings in accordance with Section 2.3.3. of the work plan.

3. **Section 2.2.4 Product Physical and Chemical Property Measurements**

Chemical analysis (TPH, VOCs, metals, PAHs, PCB) of product samples must be conducted in conjunction with the physical property analysis, if this information has not yet been collected in previous investigation phases.

Product fingerprinting analysis (biomarkers) can be conducted, if desired by Schnitzer, but will not be required by DEQ. There is no need to make the fingerprinting analysis contingent of comparable product analysis from the nearby Bell Terminal property.

4. **Section 2.2.5 Supplemental Sewer Flow Characterization**

Information collected for the evaluation of the remaining storm sewer system should include any historic as-built drawings, pipe depth and diameter, catchbasin locations and design, and drainage areas.

5. **Section 2.2.6 Additional Source Control Evaluations**

DEQ believes the existing upland site data are sufficient to require:

a) Collection of subsurface soil/sediment and groundwater grab samples riverward (*i.e.*, from the beach) directly off the NAPL area. Data from this area is needed to define the nature and extent of NAPL and to evaluate potential impacts to the Willamette River. Three to five shallow soil borings should be advanced on the beach to a depth of 3-5 feet below the water table. A soil sample should be collected from the capillary fringe and a groundwater grab sample should be collected from each boring. The collection of these samples should be conducted during the next field sampling event, along with the well and other pushprobe installations. The beach boring locations should be targeted toward potential NAPL discharge areas and be based on a current understanding of the NAPL area, depth to product, water levels, and soil conditions. Please provide DEQ figure with proposed beach sample locations and anticipated sample depths. The basis for the locations and depths should be supported by a review of the existing boring logs (upland and in-water), and water and product levels. DEQ requests appropriate geologic cross-sections and a map showing the estimated extent of NAPL (residual or mobile) be submitted to support proposed beach boring locations and depths of these borings.

b) Initiation of a focused feasibility study (*i.e.*, engineering evaluation and cost analysis (EE/CA)) to evaluate potential NAPL recovery alternatives. The installation of the new monitoring well, pushprobes, and beach borings should provide an adequate data set to complete a source control evaluation and EE/CA for the NAPL area. DEQ requests Schnitzer prepare an annotated outline for the EE/CA and a schedule within 60 days of this letter.

6. **Section 2.3.1 Technical Considerations in Collecting and Interpreting TPH Data**

Schnitzer's concerns regarding collection and interpretation of TPH data are noted. However, DEQ does not necessarily concur with information presented.

7. **Section 2.3.2 Monitoring Well Installation – Central PEO Site**

Gradient proposes to install two additional groundwater monitoring wells and two pushprobes where DEQ had requested five (October 2004 letter) additional wells. DEQ will accept the proposed wells MW-19 and MW-20 but will also require well installations at the proposed PB-6 and PB-9. Gradient proposed to install wells at these locations based on field observations but DEQ believes that well data will provide better quality information and reproducible data. DEQ agrees with the deletion of proposed well near MW-6.

8. **Section 2.3.3 Soil Boring Installation – Central PEO Site**

Soil samples should be analyzed for full VOCs along with the proposed TPH, PAHs, and selected metals.

9. **Section 2.3.4 Coordinated Sampling with Time Oil**

All of the groundwater monitoring wells in this area of the site must have an initial sampling event on a coordinated schedule with the groundwater sampling at the Time Oil Bell Terminal, which is conducting groundwater monitoring on a quarterly schedule. The 2005 summer sampling event for the Bell Terminal is scheduled for August. DEQ will require that the wells on the Premier Edible Oils site be sampled within the same calendar month.

10. **Section 2.4 Supplemental Site-wide Hydrogeological Characterization**

DEQ suggests using tidal data along with the water level/product thickness to estimate formation transmissivity. It is DEQ's opinion that slug tests will provide data of limited use and will not add significantly to the site characterization.

Conclusions

Please review current information from the NAPL area and determine locations and sampling depths for the beach sample points. Provide a figure with the proposed locations by June 17, 2005.

No revisions to the Work Plan will be required provided Schnitzer agrees to DEQ's changes in the scope as discussed in this letter. Please indicate your agreement to those changes by June 17, 2005.

DEQ requests Schnitzer prepare an annotated outline for the EE/CA and a schedule by July 26, 2005.

DEQ anticipates that the field work will be completed within July or early August which will allow a coordinated groundwater sampling event with the Bell Terminal in August 2005. If you have any questions, please contact me at 503-229-5011.

Sincerely,

Alicia C. Voss
Portland Harbor Section

cc: Rod Struck, Tom Roick, DEQ
Cathy Petito Boyce, Gradient Corporation
Jim Brown, Jim Brown Associates

Gradient
CORPORATION

August 4, 2005

Ms. Alicia Voss
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, 4th Floor
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Alicia:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between April 1 and June 30, 2005, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- Ongoing communications with DEQ regarding next steps for evaluating PEO property and inter-relationships between PEO site evaluations and investigations conducted by Time Oil on the adjacent Bell Terminal property.
- Received DEQ comments regarding March 2005 draft *Work Plan for Additional Characterization of the Premier Edible Oils Property* on May 26, 2005. Scope of work included recommendations for coordinated sampling between the PEO and Time Oil Bell Terminal properties. Submitted letter response to DEQ comments on June 17, 2005.
- Ongoing review of remedial investigation efforts at Time Oil's Northwest Terminal to determine implications for evaluations of PEO property.
- Continued review of draft Conceptual Site Model (CSM) for the PEO site that was prepared by the Lower Willamette Group (LWG). Continued preparing SIC comments to correct the numerous erroneous and/or misleading statements in the draft CSM regarding contaminant sources and distribution for the PEO site.
- Received selected sediment data from the LWG Round 2 field sampling program. Began reviewing implications of data for assessing conditions in the vicinity of the PEO site.

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Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between July 1 and September 30, 2005:

- Continue evaluation of Time Oil's investigative data for the Bell Terminal site in light of proposed and ongoing data collection, including assessing implications of available data for potential impacts on PEO site from Time Oil site and assessing need for additional recommendations regarding further sampling on the Bell Terminal site.
- Continue communications with DEQ regarding proposed future efforts at PEO site and ongoing Time Oil activities on Bell Terminal site. As data become available, obtain additional information from DEQ regarding Time Oil's ongoing investigations and Bell Terminal site features.
- Continue working with DEQ to finalize *Work Plan for Additional Characterization of the Premier Edible Oils Property* and initiate additional efforts.
- Continue preparing SIC comments to correct errors in the LWG's draft CSM for the PEO site.
- Continue reviewing data from the LWG field sampling program as data become available.
- Work with DEQ during transition to new DEQ project management.

Issues to be Resolved/Recommended Actions

None.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

Cathy Petito Boyce /gx

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00381282

James C. Brown & Associates, P.C.

Law Offices

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FAX: (503) 557-0377
E-mail: jcbrownpc@msn.com

September 30, 2005

Jim Anderson, Portland Harbor Section Manager
DEQ Northwest Region
2020 SW Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer Investment Corp. (SIC)
Comments on September 2005 Interim Final Portland Harbor
Joint Source Control Strategy

Dear Mr. Anderson:

As jointly requested by the Oregon Department of Environmental Quality (DEQ) and the U.S. Environmental Protection Agency (EPA) in their September 1, 2005 letter to the Portland Harbor Superfund Project Stakeholders, Schnitzer Investment Corp. (SIC) has reviewed the Interim Final Portland Harbor Joint Source Control Strategy (JSCS) document (issued by DEQ and EPA in September 2005) and has prepared this letter commenting on the JSCS document. The JSCS document presents a framework for identifying, evaluating, and prioritizing the potential for upland sites within the Portland Harbor Superfund site to contribute to the contamination within the Willamette River. These comments focus on the need for the use accurate and substantiated data in the JSCS process.

Most of the information included within the JSCS document is general in nature, and little information is presented regarding specific sites. Nonetheless, the validity and success of the JSCS evaluative process is dependent on the accuracy and quality of the site-specific information to be utilized within the JSCS framework. To illustrate our concerns with the inaccuracies that have entered the governments' records under the current process, we call you attention to the data for the Premier Edible Oil (PEO) Site. The PEO Site is a site that SIC owns but has never operated on, and for which SIC has entered into a voluntary agreement with DEQ to investigate and characterize potential upland contaminant source(s).

We have found that the PEO Site documentation suffers from numerous limitations, false or misleading statements by third parties, inadequate or non-existent documentation to support alleged releases, and other significant errors. The public assumes that information present on agency websites or in agency issued documents is accurate factually; and, for various reasons, it carries an aura of validity that private sector reports generally do not enjoy. Therefore, it is imperative that the government does its very best to insure, to the extent practical, the

documents/ websites bearing its seal are as accurate and unbiased as practical.

For example, the draft *Premier Edible Oils CSM Site Summary – Appendix A-15* prepared by the Lower Willamette Group (LWG) is filled with inaccuracies and false and misleading statements regarding potential contamination sources and the distribution of contamination at the PEO Site. Moreover, the draft CSM document presents a number of unsubstantiated allegations against SIC or its former tenants. In particular, as recognized by DEQ and EPA in their review of the draft CSM document[1], the draft CSM document includes "subjective and sometimes biased language in the site summaries" and the summary information presented for the PEO Site contains numerous statements regarding alleged contaminant sources at the PEO Site that "cannot be verified by information contained in [agency] project files." The draft CSM document for the PEO Site also fails to "mention...sources on the [upgradient Time Oil] Bell Terminal property, which DEQ said...[are] likely" to be present. SIC is currently preparing additional documentation regarding these deficiencies for submittal to the agencies.

Similarly, much of the summary information regarding the PEO Site that is presented on DEQ's web site and is referenced in the JSCS document is incomplete and outdated (*e.g.*, the descriptions of available information for the PEO Site presented in DEQ's Portland Harbor Upland Investigation Deliverable Summary table or DEQ's Portland Harbor Upland Site Summary Information table). Accordingly, a technically sound and objective source evaluation for the PEO Site cannot be undertaken, if it is based on the information presented in the draft CSM document or the information currently set forth in the DEQ's site summary tables, which are available for review on the Department's Portland Harbor web site. Before an objective source control evaluation can be undertaken for the PEO site, the full scope of available information (including the information that will be presented in SIC's forthcoming comments on the draft LWG CSM document for the PEO site) must be incorporated into the review process. Moreover, the numerous inaccuracies in the information that has been compiled for the PEO Site within the context of the Portland Harbor Superfund site evaluations must be corrected. In addition, to support source evaluations for the downgradient PEO site, Time Oil must be required to disclose to the agencies all of its corporate information (including corporate officer and employee deposition testimony) regarding facility construction, historic operations and maintenance practices (*e.g.*, historic practices related to the removal and management of tank bottoms), and historic spills and releases at the Main Northwest Terminal and Bell Oil Terminal tank farms.

Any source evaluation of the PEO Site must also consider the full scope of efforts that have already been undertaken and that are underway at the site. In particular, to support evaluations of site conditions and potential hazards, SIC is currently working with DEQ to develop a field program for supplemental investigations at the PEO site. A critical objective of these investigations is to support a source control evaluation for this site. Thus, these planned

1 U.S. EPA. 2005. Letter from C. Humphrey and E. Blischke to J. McKenna and R. Wyatt (Lower Willamette Group) re: Portland Harbor Superfund Site; Administrative Order on Consent for Remedial Investigation and Feasibility Study; Dockct No. CERCLA-10-2001-0240, Conceptual Site Model Update. January 13.

investigations should be acknowledged within the source control evaluation process conducted for the PEO Site and, when available, the results of these investigations should be included when applying the JSCS framework at the PEO site.

While the issues related to the PEO Site have been used herein to illustrate our concerns for the need for accurate information in the evaluative process, we believe that the PEO Site is not unique. Rather, we believe that it may be indicative of any site with the Portland Harbor Superfund where information is provided to the agencies by third parties and where the property owner is not a participant in the Lower Willamette Group (LWG) and does not have ready access to all the information that is submitted to the agencies by the LWG or others regarding their property.

To assist the agencies in making sound evaluative decisions, we strongly suggest that the agencies inform each property owner, in advance, as to when the JSCS process will begin for their respective property and provide the property owner copies of the available information that the agencies will utilize in the evaluative process. This action informs the property owner of the current public record and allows the owner to expand, correct or rebut the record, as needed. If the owner chooses to do nothing, their subsequent complaints regarding potential inaccuracies are lacking in merit. It also assures the public that the agencies have worked diligently to establish an accurate record for each site and have striven to honor and maintain the public's trust.

We appreciate the opportunity to present these comments. Please contact me if you have any questions regarding these comments or need any additional information.

Sincerely,

James C. Brown

Gradient
CORPORATION

October 12, 2005

Mr. Rod Struck
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Rod:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between July 1 and September 30, 2005, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- As jointly requested by DEQ and the U.S. Environmental Protection Agency (EPA), reviewed and commented on Interim Final Portland Harbor Joint Source Control Strategy document issued by DEQ and EPA in September 2005.
- Ongoing communications with DEQ regarding next steps for evaluating PEO property and inter-relationships between PEO site evaluations and investigations conducted by Time Oil on the adjacent Bell Terminal property.
- Ongoing review of remedial investigation efforts at Time Oil's Northwest Terminal to determine implications for evaluations of PEO property.
- Continued review of draft Conceptual Site Model (CSM) for the PEO site that was prepared by the Lower Willamette Group (LWG). Continued preparing SIC comments to correct the numerous erroneous and/or misleading statements in the draft CSM regarding contaminant sources and distribution for the PEO site.
- Continued review of selected sediment data from the LWG Round 2 field sampling program and evaluation of implications of data for assessing conditions in the vicinity of the PEO site.

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Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between October 1 and December 31, 2005:

- Continue evaluation of Time Oil's investigative data for the Bell Terminal site in light of proposed and ongoing data collection, including assessing implications of available data for potential impacts on PEO site from Time Oil site and assessing need for additional recommendations regarding further sampling on the Bell Terminal site.
- Continue communications with DEQ regarding proposed future efforts at PEO site and ongoing Time Oil activities on Bell Terminal site. As data become available, obtain additional information from DEQ regarding Time Oil's ongoing investigations and Bell Terminal site features.
- Continue working with DEQ to follow up on June 17, 2005 letter response to DEQ comments, to finalize *Work Plan for Additional Characterization of the Premier Edible Oils Property*, and to initiate additional efforts.
- Continue preparing SIC comments to correct errors in the LWG's draft CSM for the PEO site.
- Continue reviewing data from the LWG field sampling program as data become available.
- Work with DEQ during transition to new DEQ project management.

Issues to be Resolved/Recommended Actions

None.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

Cathy Petito Boyce

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00381287

Gradient
CORPORATION

January 12, 2006

Mr. Mike Romero
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Mike:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems. Based on my January 9 conversation with Jim Anderson of DEQ, it is our understanding that you have been appointed as the Project Manager for the PEO site following the departure of Rod Struck from DEQ. Accordingly, we are submitting this quarterly report to you and look forward to working with you at this site.

Summary of Project Activities

Between October 1 and December 31, 2005, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- Ongoing communications with DEQ regarding next steps for evaluating PEO property and inter-relationships between PEO site evaluations and investigations conducted by Time Oil on the adjacent Bell Terminal property, including submittal of letters addressing outstanding issues on October 27, 2005 and November 3, 2005. Obtaining a timely approval of SIC's proposed *Work Plan for Additional Characterization of the Premier Edible Oils Property* and achieving further progress on the activities proposed in the Work Plan has been hindered by two changes in the DEQ Project Manager for the PEO site over the past six months.
- Ongoing review of remedial investigation efforts at Time Oil's Northwest Terminal to determine implications for evaluations of PEO property.
- Continued review of draft Conceptual Site Model (CSM) for the PEO site that was prepared by the Lower Willamette Group (LWG). Continued preparing SIC comments to correct the numerous erroneous and/or misleading statements in the draft CSM regarding contaminant sources and distribution for the PEO site.
- Continued review of selected sediment data from the LWG Round 2 field sampling program and evaluation of implications of data for assessing conditions in the vicinity of the PEO site.

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Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between January 1 and March 31, 2006:

- Continue evaluation of Time Oil's investigative data for the Bell Terminal site in light of proposed and ongoing data collection, including assessing implications of available data for potential impacts on PEO site from Time Oil site and assessing need for additional recommendations regarding further sampling on the Bell Terminal site.
- Continue communications with DEQ regarding proposed future efforts at PEO site and ongoing Time Oil activities on Bell Terminal site. As data become available, obtain additional information from DEQ regarding Time Oil's ongoing investigations and Bell Terminal site features.
- Continue working with DEQ to follow up on June 17, 2005 letter response to DEQ comments, to finalize the *Work Plan for Additional Characterization of the Premier Edible Oils Property*, and to initiate additional efforts.
- Continue reviewing statements made regarding the PEO site in documentation prepared by the LWG (*e.g.*, the LWG's draft CSM) and correcting errors presented in such documentation.
- Continue reviewing data from the LWG field sampling program as data become available.
- Work with DEQ during transition to new DEQ project management, including setting up a meeting to discuss outstanding issues for the PEO site.

Issues to be Resolved/Recommended Actions

None.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

Cathy Petito Boyce

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00381362

Oregon DEQ

Environmental Cleanup Site Information (ECSI) Database Site Summary Report - Details for Site ID 2013

This report shows data entered as of February 1, 2006 at 11:29:20 AM

This report contains site details, organized into the following sections: 1) Site Photos (appears only if the site has photos); 2) General Site Information; 3) Site Characteristics; 4) Substance Contamination Information; 5) Investigative, Remedial and Administrative Actions; and 6) Site Environmental Controls (i.e., institutional or engineering controls; appears only if DEQ has applied one or more such controls to the site). A key to certain acronyms and terms used in the report appears at the bottom of the page.

Go to DEQ's Facility Profiler to see a site map as well is information on what other DEQ programs may be active at this site.

General Site Information

Site ID: 2013	Site Name: Premier Edible Oils		CERCLIS No:	
Address:	10400 N Burgard Way Portland 97203			
	County: Multnomah		Region: Northwest	
Other location information:				
Investigation Status:	Listed on CRL or Inventory			
	Brownfield Site: No	NPL Site: No	Orphan Site: No	Study Area: No
Property:	Twnshp/Range/Sect: 2N , 1W , 35		Tax Lots: 57	
	Latitude: 45.6141 deg.	Longitude: -122.7827 deg.	Site Size: 18.5 acres	
Other Site Names:	C & T Quincy Foods (SEE ECSI 2355) Portland Harbor Sediment Study Schnitzer Investment Corp.			

Site Characteristics

General Site Description:	
Site History:	
Contamination Information:	Property owner submitted an 11/96 Phase II ESA to DEQ in February 1997, which documented groundwater contamination at this site. Primary contaminants included petroleum hydrocarbons, particularly BTEX and other petroleum-based VOCs. Several well points also contained low levels of chlorinated solvents. The property owner and operator concluded that the contamination originated from the adjacent Time Oil site (ECSI #170). (6/17/99 JMW/SAP) Weston sampling results from the Portland Harbor Sediment Study revealed mercury, cobalt, antimony, barium, PAHs, zinc, copper, manganese, arsenic, carbazole, dibenzofuran, methylnaphthalene, and bis(2-ethylhexyl)phthalate in river sediments adjacent to the site. DEQ has not determined the source(s) of these contaminants. (1/4/02 ACV/VCP) Results of investigation activities conducted through 2001 indicate groundwater impacts in several different locations on the site. Free-phase petroleum is present on groundwater at the southwest

SCHN00381367

corner of the site and appears to be from historic site operations. Low-level chlorinated solvents, PAHs, and VOCs usually associated with gasoline were detected with the free-phase petroleum. This contaminated groundwater plume appears to be distinct from impacted groundwater toward the northeast part of the property. Activities on adjacent Time Oil property may have contributed to groundwater contamination in northeast part of property. Further groundwater investigation is planned in 2002 to more fully characterize groundwater conditions.

Manner and Time of Release:

Hazardous Substances/Waste Types: Petroleum hydrocarbons, BTEX, PAHs, and VOCs, including chlorinated solvents, on-site. In adjacent river sediments: mercury, cobalt, antimony, barium, PAHs, copper, zinc, manganese, arsenic, carbazole, dibenzofuran, methylnaphthalene, and bis(2-ethylhexyl) phthalate.

Pathways:

Environmental/Health Threats:

Status of Investigative or Remedial Action: (6/17/99 JMW/SAP) Based on initial sampling results from a river sediment quality study, the C & T Quincy Foods/Premier Edible Oils (PEO) site has been identified as a potential source of contamination to the Portland Harbor. DEQ sent a Site Assessment review notice to C&T Quincy Foods 3/2/99, but has received no response. A site screening is scheduled (level II priority). (2/1/00 JMW/SAP) PEO information combined with the Schnitzer Investment Corporation (SIC) Strategy Recommendation - SEE ECSI #2355. (9/1/00 ACV/VCP) DEQ is reviewing site investigation information conducted by Schnitzer. (12/21/00 ACV/VCP) DEQ issued a file review memo summarizing additional information submitted by PEO, SIC, and Time Oil on December 21, 2000. DEQ proposed that SIC, as the property owner, take over the remedial investigation for PEO. (7/17/01 ACV/VCP) Negotiations for formal agreement started in March 2001. Soil and groundwater investigation running concurrent with negotiations. Free-phase petroleum discovered at two locations on-site. (11/1/01 ACV/VCP) SIC conducted off-site groundwater investigation, on upgradient/adjacent Bell Terminal (Time Oil) property in September 2001. Preliminary results anticipated in December 2001. (1/4/02 ACV/VCP) New groundwater data confirms contamination from historic operations in the southwestern portion of the site. Premier Edible Oils should be added to the Confirmed Release List. (4/03 ACV) Groundwater RI to be completed in early 2003. Risk assessment work plan anticipated in 5/03.

Data Sources: 1996 Phase I and Phase II ESAs documenting the presence of petroleum hydrocarbons and chlorinated solvents in groundwater and petroleum in soils; EPA, 1998, Portland Harbor Sediment Investigation Report; September 1998 Focused Site Characterization; September 2001 Preliminary RI; April 2002 Bell Terminal Geoprobe Investigation; Quarterly groundwater Monitoring Data from On-Site Wells, With Results Through October 2001.

Substance Contamination Information

Substance	Media Contaminated	Concentration Level	Date Recorded
BENZENE	Groundwater	6.8 ppb	11/23/1996
BUTYLBENZENE,n-	Groundwater	220 ppb	11/23/1996
BUTYLBENZENE,sec-	Groundwater	81 ppb	11/23/1996
CHLOROETHANE	Groundwater	11.6 ppb	11/23/1996
DICHLOROETHANE,1,1-	Groundwater	3.5 ppb	11/23/1996

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DIESEL - FUEL OIL	Groundwater	19 ppm	11/23/1996
DIESEL - FUEL OIL	Soil	3,900 ppm	11/23/1996
ETHYLBENZENE	Groundwater	2,600 ppb	11/23/1996
GASOLINE	Groundwater	7.1 ppm	11/23/1996
GASOLINE	Soil	1,500 ppm	11/23/1996
ISOPROPYLTOLUENE,p-	Groundwater	350 ppb	11/23/1996
NAPHTHALENE	Groundwater	1,900 ppb	11/23/1996
PROPYLBENZENE,n-	Groundwater	1,000 ppb	11/23/1996
STYRENE	Groundwater	400 ppb	11/23/1996
TRICHLOROETHANE,1,1,1-	Groundwater	2.5 ppb	11/23/1996
TRIMETHYLBENZENE,1,2,4-	Groundwater	5,200 ppb	11/23/1996
TRIMETHYLBENZENE,1,3,5-	Groundwater	1,200 ppb	11/23/1996
XYLENEs	Groundwater	3,953 ppb	11/23/1996

Investigative, Remedial and Administrative Actions

Action	Start Date	Compl. Date	Resp. Staff	Lead Pgm
Site added to database	03/11/1997	03/11/1997	Gil Wistar	SAS
SITE EVALUATION	03/11/1997	03/11/1997	Gil Wistar	SAS
Site Screening recommended (EV)	06/17/1999	06/17/1999	Stephen Fortuna	VCS
Letter Agreement	12/01/1999	07/01/2000	Alicia Voss	VCS
NEGOTIATIONS	03/06/2001	07/28/2001	Alicia Voss	VCS
REMEDIAL INVESTIGATION (Primary Action)	03/06/2001		Alicia Voss	VCS
Proposal for Confirmed Release List recommended	01/04/2002	01/04/2002	Alicia Voss	VCS
Facility proposed for Confirmed Release List	01/08/2002	01/08/2002	Kim Van Patten	VCS
Facility placed on Confirmed Release List	03/29/2002	03/29/2002	Kim Van Patten	VCS

Key to certain acronyms and terms in this report:

CERCLIS No.: The U.S. EPA's Hazardous Waste Site identification number, shown only if EPA has been involved at the site.

Region: DEQ divides the state into three regions, Eastern, Northwest, and Western; the regional office shown is responsible for site investigation/cleanup.

NPL Site: Is this site on EPA's National Priority List (i.e., a federal Superfund site)? (Y/N).

Orphan Site: Has DEQ's Orphan Program been active at this site? (Y/N). The Orphan Program uses state funds to clean up high-priority sites where owners and operators responsible for the contamination are absent, or are unable or unwilling to use their own resources for cleanup.

Study Area: Is this site a Study Area? (Y/N). Study Areas are groupings of individual ECSI sites that may be contributing to a larger, area-wide problem. ECSI assigns unique Site ID numbers to both individual sites and to Study Areas.

Pathways: A description of human or environmental resources that site contamination could affect.

Lead Pgm: This column refers to the Cleanup Program affiliation of the DEQ employee responsible for the action shown. SAS or SAP = Site Assessment; VCS or VCP = Voluntary Cleanup; ICP = Independent Cleanup; SRS or SRP = Site Response (enforcement cleanup); ORP = Orphan Program.

SCHN00381369

For more information on this site you may contact Gil Wistar at (503) 229-5512, or via email at wistar.gil@deq.state.or.us or contact the Northwest regional office.

DEQ Online is the official web site for the Oregon Department of Environmental Quality.

James C. Brown & Associates, P.C.

Law Offices

Post Office Box 31
Marylhurst, Oregon 97036
Telephone: (503) 557-2245
FAX: (503) 557-0377
E-mail: (b) (6)

March 10, 2006

Mike Romero
Northwest Region
Department of Environmental Quality
Voluntary Cleanup Program
2020 SW Fourth Avenue, Suite 400
Portland, OR 97201-4987

Re: Premier Edible Oils Site
White Paper – Contaminant Sources at the PEO Site (ESCI # 2013)
And
Gradient Comments on the Lower Willamette Group's Draft Conceptual Site Model for the PEO Site, dated March 1, 2006

Dear Mr. Romero:

Based upon recent e-mails between you and Gradient Corporation (Gradient), Schnitzer Investment Corp.'s (SIC's) environmental consultant at the Premier Edible Oils (PEO) Site, it is our understanding that you have been assigned as the Project Manager for the PEO Site located at 10400 N Burgard Way, Portland. As SIC's environmental counsel for the PEO Site, let me assure you that SIC looks forward to working with you in getting the needed site evaluations completed at the PEO Site.

As you are probably aware, however, good faith differences of opinion exist between SIC and Time Oil Company (the adjoining landowner) as to the sources of the residual petroleum product contamination at and in the vicinity of the PEO Site. To facilitate the timely resolution of these differences, SIC has authorized our office to prepare the enclosed ***White Paper – Contaminant Sources at the Premier Edible Oils Site (ESCI #2013) located within the Portland Harbor Superfund Site*** (hereinafter referred to as the "White Paper"), dated March 6, 2006, and has authorized Gradient to prepare the enclosed Memorandum entitled ***Comments on the Lower Willamette Group's Draft Conceptual Site Model for the Premier Edible Oils Site***, dated March 1, 2006 (hereinafter referred to as Gradient's "3/1/06 Memorandum"). These documents shed significant new light and knowledge on the historic activities of Time Oil that allow for a factual resolution of these differences.

The purpose of the White Paper is to consider existing Time Oil allegations and speculations as to the sources for the residual petroleum product contamination at and in the vicinity of the PEO

Site to determine whether there is a factual basis for those allegations. A review of the available site data and other relevant factual information indicates that there is no such basis. Furthermore, the White Paper examines whether other available information that has apparently been withheld, overlooked, and/or mischaracterized by Time Oil and provides factually more accurate and plausible explanations of the sources of the residual petroleum product contamination at and in the vicinity of the PEO Site. These evaluations considered information relevant to the PEO property, the Time Oil facilities located adjacent to and/or upgradient of the PEO property (particularly the Bell Terminal facility), and the Time Oil facility that was historically located on the southern portion of the PEO property itself.

As discussed in the White Paper, the available data and other relevant information indicate that the residual petroleum hydrocarbon contamination at and in the vicinity of the PEO Site is primarily due to:

- the historic operation and maintenance practices at the Time Oil facilities (including the management and on-site disposal of tank sludges);
- the known historic releases of hazardous substances on the current and former Time Oil terminal properties; and
- the apparent lengthy and conscious disregard of certain required environmental compliance measures displayed by Time Oil management, from at least 1971 to 1983.

Gradient's 3/1/06 Memorandum also addresses issues associated with characterizing the sources of petroleum hydrocarbon contamination at and in the vicinity of the PEO site, particularly as such issues are reflected in the Draft Conceptual Site Model (CSM) for the PEO site that was developed by the Lower Willamette Group (LWG) relying extensively on documents prepared by Time Oil.

As reflected in Gradient's Memorandum, the primary concerns raised by the LWG's Draft CSM document for the PEO site include the following:

- *Misleading and erroneous characterization of the conditions and potential contaminant sources at and in the vicinity of the PEO site.* In particular, the LWG's CSM document ignores substantial petroleum contaminant sources (*e.g.*, Time Oil's upgradient Bell Terminal petroleum handling and storage facility), while focusing on potential sources that are unlikely to have contributed significantly, if at all, to the petroleum contamination observed in groundwater and soil at depth at the PEO site (*e.g.*, the former Bell Terminal pipeline that crossed the PEO property).

- *Deficient and erroneous characterization of conditions and potential contaminant sources for the Time Oil Bell Terminal facility.* In particular, the conclusions presented in the LWG's CSM document rely heavily on draft Time Oil documentation regarding the Bell Terminal facility that suffers from numerous limitations including: misleading data

presentations that promote erroneous conclusions, data inconsistencies indicating incomplete site characterization, and misleading and unsupported allegations regarding potential contamination sources.

- *Inadequate characterization of conditions at the PEO facility, due to reliance on outdated or incomplete information.* In particular, by contrast with the interpretation of the available data for the PEO site presented in the LWG's CSM document, a more complete and accurate review of the available data strongly points to Time Oil-related sources as playing the significant contributing role in the petroleum hydrocarbon contamination observed in groundwater and soil at depth at the PEO site (*i.e.*, activities on the Bell Terminal property and the historic Time Oil bulk fuel facility previously located on the southern portion of the PEO property).

Even through there is a considerable amount of information to digest in the enclosed documents, we believe that this information is critical to the Department's forming an accurate understanding of the environmental conditions at the PEO Site.

As you have requested, Gradient will be contacting you shortly to arrange for a meeting between DEQ and SIC representatives to discuss the status of the site evaluations, as well as to further discuss the information presented in this submittal. We look forward to working with you in addressing the environmental concerns at the PEO Site. If you have any questions, please call.

Sincerely,

James C. Brown

c (With Enclosures):
Jim Anderson, DEQ
Tom Roick, DEQ

Gradient
CORPORATION

April 13, 2006

Mr. Mike Romero
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Mike:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between January 1 and March 31, 2006, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- Completed review of draft Conceptual Site Model (CSM) for the PEO site that was prepared by the Lower Willamette Group (LWG). On March 10, 2006, submitted SIC comments to correct the numerous erroneous and/or misleading statements in the draft CSM regarding contaminant sources and distribution for the PEO site. The comments memorandum (*Comments on the Lower Willamette Group's Draft Conceptual Site Model for the Premier Edible Oils Site*, dated March 1, 2006) was prepared on behalf of SIC by Gradient Corporation in collaboration with URS Corporation. On March 10, SIC's environmental counsel submitted a report discussing sources for the residual contamination at the PEO site (*White Paper – Contaminant Sources at the Premier Edible Oils Site (ECSI #2013) Located Within The Portland Harbor Superfund Site*, dated March 6, 2006), and requested that Time Oil be named as a responsible party at the PEO site.
- Ongoing communications with DEQ regarding next steps for evaluating PEO property and inter-relationships between PEO site evaluations and investigations conducted by Time Oil on the adjacent Bell Terminal property. As DEQ is aware, obtaining a timely approval of SIC's proposed *Work Plan for Additional Characterization of the Premier Edible Oils Property* and achieving further progress on the activities proposed in the Work Plan has been slowed by several changes in the DEQ project manager assignment for the PEO site.
- Ongoing review of remedial investigation efforts at Time Oil's Northwest Terminal to determine implications for evaluations of PEO property.

Suite 803, 600 Stewart Street, Seattle, WA 98101 • (206) 267-2920 • fax: (206) 267-2921 • www.gradientcorp.com

- Continued review of selected sediment data from the LWG Round 2 field sampling program and evaluation of implications of data for assessing conditions in the vicinity of the PEO site.

Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between April 1 and June 30, 2006:

- Continue communications with DEQ regarding proposed future efforts at PEO site and ongoing Time Oil activities on Bell Terminal site. As data become available, obtain additional information from DEQ regarding Time Oil's ongoing investigations and Bell Terminal site features.
- Continue working with DEQ to follow up on SIC's June 17, 2005 letter response to DEQ comments, to finalize the *Work Plan for Additional Characterization of the Premier Edible Oils Property*, and to initiate additional efforts.
- Continue working with DEQ during transition to new DEQ project management, including setting up a meeting to discuss outstanding issues for the PEO site.
- Continue evaluation of Time Oil's investigative data for the Bell Terminal site in light of proposed and ongoing data collection, including assessing implications of available data for potential impacts on PEO site from Time Oil site and assessing need for additional recommendations regarding further sampling on the Bell Terminal site.
- Continue reviewing statements made regarding the PEO site in documentation prepared by the LWG and correcting errors presented in such documentation.
- Continue reviewing data from the LWG field sampling program as data become available.

Issues to be Resolved/Recommended Actions

None.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

Catherine Petito Boyce

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00381704

Oregon
Theodore Kulongoski, Governor

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Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
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(503) 229-5263
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May 10, 2006

Mr. Jim Jakubiak
Schnitzer Investment Corp.
P.O. Box 10047
Portland, Oregon 97296-0047

Re: Schnitzer/Premier Edible Oils (PEO) Remedial Investigation and Portland Harbor Source Control Evaluation, ECSI # 2013

Dear Mr. Jakubiak

The DEQ project team has reviewed the site file, the March 2005 *Work Plan for Additional Characterization of the Premier Edible Oils Property* and the subsequent comments and project correspondence between Gradient and DEQ that have transpired since the 2005 workplan was submitted. The purpose of this letter is to summarize DEQ's expectations regarding the remaining workplan-related issues at the Former Premier Edible Oils site. It will also serve as our response to both the June 17, 2005 and November 3, 2005 letters to DEQ from Gradient Corporation. DEQ understands that a revised workplan and implementation schedule will be submitted by Schnitzer Investment Corporation (SIC) after the resolution of these outstanding issues. DEQ appreciates SIC's continued commitment to complete the Remedial Investigation and Source Control Evaluation at the former Premier Edible Oils site.

It is important to note that the finalized Portland Harbor Joint Source Control Strategy (JSCS) was released by DEQ and EPA in December 2005. The JSCS recommends an approach for completing source control evaluations at Portland Harbor upland sites and provides screening levels for contaminants that have complete pathways to the Willamette River. DEQ is actively implementing the JSCS at all Portland Harbor upland sites and will use it as guidance for the source control evaluation at the former PEO site. DEQ requests that SIC and Gradient review the JSCS and determine if the currently proposed workplan will provide the information necessary to prepare a complete source control evaluation report for the site. The JSCS is available at http://www.deq.state.or.us/nwr/PortlandHarbor/JSCS.htm.

This letter follows the comment numbering structure of the response to comments presented in the June 17, 2005 and responds to each of Gradient's responses. Comments 3, 5 and 9 were also discussed in the October 27, 2005 email from DEQ and the November 5, 2005 letter from Gradient and are considered to be the outstanding workplan-related issues.

Comment #1 – Section 2.2.1 Source Control Evaluation and NAPL Characterization – Southern PEO site
DEQ acknowledges SIC's agreement to collect a groundwater sample from the new well.

Comment #2 – Section 2.2.2 Soil Boring Installation
DEQ acknowledges SIC's agreement to install the requested three additional borings. It is not clear, however, if SIC is agreeing to complete the soil borings as monitoring wells if significant petroleum contamination is noted during the installation as requested in DEQ's May 26, 2005 comments on the workplan. If petroleum contamination is present along the beach, permanent monitoring wells will be necessary to adequately determine the potential current and future impact to the Willamette River. DEQ stands firm behind its request for the borings to be completed as monitor wells if significant contamination is detected.

Comment #3 – Section 2.2.4 Product Physical and Chemical Property Measurements
SIC may conduct product finger printing analysis if samples can be collected from the Bell Terminal. SIC and Gradient can coordinate these efforts with Time Oil.

Comment #4 – Section 2.2.5 Supplemental Sewer Flow Characterization
DEQ understands that SIC will collect and evaluate all relevant information for characterizing the storm sewer system. DEQ recommends that SIC and Gradient refer to the storm water pathway section and Appendix D of the JSCS to further define what information DEQ considers relevant.

Comment #5 – Section 2.2.6 Additional Source Control Evaluations
It remains DEQ's expectation that 3 to 5 shallow borings be advanced down gradient and riverward of the NAPL plume in the southern portion of the site. This effort will help to define the nature and extent of contamination on site and is within the scope of the Agreement as stated in the October 27th, 2005 email. The borings will also help to ensure that a complete source control evaluation is conducted at the site. The borings should be located based on the additional information requested in DEQ's May 26, 2005 comment (i.e., a map and cross-sections).

DEQ acknowledges SIC's concerns regarding the timing of this investigative effort expressed in both the June 1, 2005 and November 3, 2005 letters. DEQ agrees that a more complete review of the analytical and lithologic data collected as part of the 2005 workplan and all the existing LWG off-shore data (note that this area has been dredged in the past and access issues have hindered the off-shore sediment sampling efforts) will provide a stronger technical foundation on which to scope these riverward subsurface soil/sediment and groundwater samples. DEQ will allow SIC to follow a phased approach for characterizing this potential NAPL discharge area provided that SIC prepares a scope of work outline and schedule for analyzing the required data, preparing the required NAPL plume maps and cross-sections, and for installing the riverward borings. The outline should strive to collect information that can also be used in the evaluation of future source control measures and NAPL recovery alternatives. The schedule for outline completion shall be incorporated into the schedule presented in the November 3, 2005 letter from Gradient. All data reviewed in the evaluation should be compared to all the relevant Screening Level Values listed in Table 3.1 of the JSCS. This phased approach will provide an efficient approach to determine what source control measures may be necessary at the site and whether an EE/CA like effort is necessary prior to implementation of source control measures.

Comment #6 – Section 2.3.1 Technical Considerations in Collecting and Interpreting TPH Data
DEQ acknowledges SIC's acceptance of DEQ's comment.

Comment #7 – Section 2.3.2 Monitoring Well installation – Central PEO Site
DEQ agrees that a monitor well will be installed at the PB-6 location and a monitor well will be installed at the location of boring PB-9 if TPH is observed during the field screening efforts. If not already planned, please ensure that sheen testing is included in the soil boring field screening protocol for all proposed borings.

Comment #8 – Section 2.3.3 Soil boring Installation – Central PEO Site
DEQ understands that SIC will analyze the soil samples for the full suite of VOC analytes.

Comment #9 – Section 2.3.4 Coordinated Sampling with Time Oil
DEQ has requested that Time Oil conduct an additional round of sampling in the Bell Terminal area to be coordinated with SIC's sampling event at the former Premier Oil site. Please coordinate sampling activities directly with Time Oil as appropriate. If necessary, DEQ can assist in this effort.

Comment #10 - Section 2.4 Supplemental Site-Wide Hydrogeologic Characterization
DEQ understands that slug and bail-down tests proposed in the work plan will not be conducted during these field investigations.

During the May 3, 2006 site visit, the following new issues were identified and should be incorporated into the project as suggested.

- The slag identified along the southern portion of the site needs to be incorporated into the site conceptual model and its extent delineated. Additional groundwater sampling parameters for metals may need to be incorporated into the workplan to assess any impact the slag may or may not be having on the groundwater at the site.
- The drums of IDW being stored at various locations on site need to profiled and disposed of properly. Please provide the waste characterization and disposal information to DEQ when this is complete.
- The rusty pipe access points we observed in the east central portion of the property near the former AST locations and the soil piles in the SE portion of site need to be identified on a site map. An explanation of what they are, if soil sampling of the soil pile is necessary and the rationale used to determine this needs to be included in the next phase of reporting. A plan to do this is can be included in the revised scope of work.

During the May 3rd meeting, DEQ and Schnitzer agreed that Schnitzer would submit the revised workplan within 60 days of the receipt of this letter. The general schedule for the work plan finalization, implementation and report preparation presented in the November 3,

2005 is adequate for the remainder of the tasks to be completed. Please contact me at (503) 229-5563 if you have any questions regarding this letter.

Sincerely,

Michael Romero
Cleanup and Lower Willamette Section

Cc: Cathy Petito Boyce, Gradient Corporation
Jim Brown, Jim Brown Associates
Mavis Kent, Jim Anderson, DEQ

Milestone Report

for Upland Source Control at the Portland Harbor Superfund Site

June 2006

Prepared by the Oregon Department of Environmental Quality
as required by the 2005 Portland Harbor Joint Source Control Strategy

DEQ
State of Oregon
Department of
Environmental
Quality

This document is posted on DEQ's web page at http://www.deq.state.or.us/nwr/PortlandHarbor/JSCS.htm.

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Table 1. Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

1.0 Introduction

On December 1, 2000, a section of the lower Willamette River within the City of Portland, the Portland Harbor, was added to the Superfund National Priority List (NPL). In February 2001, the Oregon Department of Environmental Quality (DEQ), United States Environmental Protection Agency (EPA), and other governmental parties[1] signed a Memorandum of Understanding (MOU) that provided a framework for cooperation in the investigation and cleanup of the Portland Harbor Superfund Site to optimize federal, state, tribal and trustee expertise and available resources.

Under the 2001 MOU, EPA was designated as the lead agency for investigating and cleaning up "in-water" contamination in the Harbor, or contamination in the river water and underlying sediment, using federal Superfund authorities. DEQ, using state cleanup authority, was designated as the lead agency for identifying and controlling "upland" sources of contamination, or those sources of pollution adjacent to or near the river that may be contaminating river water or sediments. To coordinate in-water cleanup and upland source control work, the MOU directed DEQ and EPA to jointly develop a source control strategy that defines a process for identifying and controlling potential sources of contamination threatening the river.

DEQ and EPA finalized the Portland Harbor Joint Source Control Strategy (JSCS) in December 2005[2]. The overarching goal of the JSCS is to identify, evaluate and control sources of contamination that may affect the Willamette River in a manner that is consistent with the objectives and schedule for the Portland Harbor remedial investigation and feasibility study (RI/FS). Timely upland source control is necessary to allow cleanup of the river to proceed without risk of significant recontamination. DEQ is currently implementing the JSCS in the Portland Harbor Superfund Site study area – approximately River Mile 2 to River Mile 11[3].

The JSCS requires DEQ to prepare a Milestone Report on a quarterly basis that summarizes the status of DEQ's upland source control work. This is the second Milestone Report, the first report was prepared in March 2006. Milestone Reports are submitted to EPA, and provide the basis for potential meetings with EPA and our government partners to discuss site prioritization and source control progress. These reports also serve as documentation of progress on river-wide source control within Portland Harbor.

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[1] The signatory partners to the MOU include the EPA, DEQ, Confederated Tribes and Bands of the Yakama Nation, Confederated Tribes of the Grand Ronde Community of Oregon, Confederated Tribes of Siletz Indians, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs Reservation of Oregon, Nez Perce Tribe, National Oceanic and Atmospheric Administration, Oregon Department of Fish and Wildlife, and U.S. Department of the Interior.

[2] The JSCS is available on DEQ's web site at http://www.deq.state.or.us/nwr/PortlandHarbor/ph.htm; click "Joint Source Control Strategy" on the left side bar.

[3] "River Mile" indicates the distance from the Willamette River's confluence with the Columbia River (i.e., River Mile 11 is 11 miles upstream of the confluence).

1.1 Organization of the Milestone Report

The Milestone Report is organized as follows.

- Section 2.0: Identifying Potential Sources of Contamination in Portland Harbor – This section describes DEQ's work to identify potential sources of contamination to the Willamette River in Portland Harbor, including site discovery and site assessment activities.
- Section 3.0: Evaluating Potential Sources of Contamination to the River – This section describes DEQ's evaluation of all confirmed or suspected upland sources of contamination to Portland Harbor, as summarized in Table 1.
- Section 4.0: Taking Measures to Control Sources and Making Source Control Decisions – This section describes the source control measures used at upland sites in Portland Harbor and the process for making source control decisions, including coordination with EPA and our government partners, and public involvement opportunities. Source control measures and decisions are summarized in Table 1.
- Section 5.0: Status of Ongoing and Completed Source Control Measures – This section describes the information presented in Table 1 that summarizes the status of ongoing and completed source control measures.
- Section 6.0: Issues Encountered in Source Control Work – This section describes issues affecting DEQ's ability to conduct source control work and proposes ways to resolve issues as well as a desired timeframe for resolution.
- Section 7.0: Summary – This section summarizes the overall status of source control work in Portland Harbor, highlighting accomplishments, key issues and next steps for moving forward.
- Section 8.0: Obtaining Additional Information on Upland Source Control Work – This section indicates where additional information can be found on the status of source control work at upland sites in Portland Harbor.
- Section 9.0: Information on Table 1, *Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor*. This section provides helpful information for interpreting Table 1, including definition of key terms and acronyms used.

2.0 Identifying Potential Sources of Contamination in Portland Harbor

DEQ's strategy for identifying and investigating potential sources of contamination to Portland Harbor prior to the December 2000 Superfund Site listing was described in the March 2006 Milestone Report. Those site identification and investigation activities were initially focused on a six mile stretch of the lower Willamette River (now known as the Initial Study Area) extending from the southern tip of Sauvie Island upstream to Swan Island, from approximately River Mile 3.5 to River Mile 9.2. For more information, please see the March 2006 Milestone Report at www.deq.state.or.us/nwr/PortlandHarbor/JSCS.htm.

2.1 Recent Site Discovery and Site Assessment activities

As the Portland Harbor study area has grown to include a nine mile stretch of the lower Willamette River extending from River Mile 2 to River Mile 11, DEQ's site discovery and site assessment efforts have expanded with it. Recently, much of DEQ's site discovery and site assessment work has focused on identifying potential sources of contamination threatening the river through stormwater that is piped to the river from surrounding upland areas. DEQ is working closely with the City of Portland to identify upland sources contributing contamination via the City's municipal stormwater system, and evaluating and controlling stormwater inputs to the Harbor will continue to be a focus for DEQ in the years to come.

3.0 Evaluating Potential Sources of Contamination to the River

DEQ is investigating or directing source control work at over 60 upland sites in Portland Harbor. Preliminary investigation activities at these sites are designed to determine whether the site is a potential or ongoing source of contamination to the river. These investigations, or "source control evaluations," consider all potential, current and historic contaminant sources and pathways for the contaminants to migrate to the river. Potential pathways include:

- Direct discharges – Pollutants from commercial, industrial, private or municipal outfalls are being discharged directly to the Portland Harbor Superfund Site. Many of these discharges are permitted under the Clean Water Act National Pollutant Discharge Elimination System (NPDES). Permitted discharges include industrial wastes, storm water runoff, and combined sewer overflows (CSOs)[6].
- Groundwater – Contaminated groundwater may enter the river directly via discharge through sediments, bank seeps, or it may infiltrate into storm drains/pipes, ditches or creeks that discharge to the river. Contaminant migration may occur as non-aqueous phase liquids (NAPLs) or as chemicals dissolved in the groundwater itself.
- Stormwater – Contaminants may be carried to the river by water that runs off a site into storm drains after it rains, delivered to the river by stormwater pipes (including permitted and unpermitted stormwater discharges).
- Overland transport/sheet flow – The uncontrolled flow of water from a site to the river and the transport of other materials from a site may deliver contaminants to the river.

[6] CSO events are untreated discharges of combined storm water, sanitary sewage from residential, commercial, and industrial sources that overflow from the sewer system into the river during heavy rainfall periods when the amount of storm water and sewage exceeds the capacity of the collection system.

- Bank erosion/leaching – River bank soil, contaminated fill, waste piles, landfills and surface impoundments may release contaminants directly to the river through erosion, via soil erosion to storm water, or by leaching to groundwater.
- Overwater activities – Contaminants from overwater activities (e.g., sandblasting, painting, unloading, maintenance, repair and operations) at riverside docks, wharves, or piers; discharges from vessels (e.g., gray, bulge, ballast waters); full releases; and spills may affect the river.

These potential contaminant migration pathways are evaluated for each site, and sites that are identified as current or potential sources of pollution to the river are characterized and prioritized. Source control measures are then initiated, or further evaluation of source control alternatives is conducted to determine whether source control measures are required.

Table 1 provides a summary of confirmed and suspected upland sources of contamination to the river that DEQ is either actively working on or has finished source control work on by issuing a final source control decision. Table 1 also provides the basis for the determination that a site is a source of contamination to the river, the status of and schedule for source control evaluation, and the priority of the site for source control. The table includes the priority of each contaminant migration pathway for each site, as well as the overall priority of the site based on the pathway priorities.

High priority sites are identified in the table based on existing site information, and subsequent Milestone Reports will identify any new high priority sites as new information becomes available. Source control is expected to move forward at high priority sites without delay.

4.0 Taking Measures to Control Sources and Making Source Control Decisions

DEQ determines the need for source control measures at each upland site, in consultation with EPA, based on the completeness of contaminant migration pathways, exceedances of Screening Level Values (SLVs), and other factors as appropriate. See p. 3-1 through 3-6 of the JSCS for more information about SLVs, and p. 4-1 through 4-8 of the JSCS for more information about the source control decision process.

4.1 Types of source control measures

Upland source control is an iterative process, where early steps may be revisited and conclusions refined by information gathered later in the process. A combination of tools may be used to control a source, including but not limited to the following.

- Technical assistance – Technical assistance, often provided during inspections, provides technical information designed to help individual businesses bring their facilities into compliance with environmental regulations. DEQ's Hazardous Waste Program is actively providing technical assistance to facilities within the Portland Harbor Superfund Site area.
- Cleaning up contaminated upland areas – Cleanup work addresses contaminated soil, groundwater, stormwater and other sources and focuses on reducing or eliminating

contaminant migration to the river. Common source control measures include removing highly contaminated soil areas, stabilizing or capping contaminated bank areas, treating or containing contaminated groundwater, and extracting contaminated sediment from storm sewer systems. Source control measures vary from site to site.

- Source control of active discharges – Tools to control active discharges include best management practices, industrial process changes, pollution prevention practices, and technology-based effluent controls. Compliance is achieved voluntarily or through administrative actions, including permits or enforcement.
- Source control of storm water – Storm water source control is complex because storm drain systems capture discharges from many different sources (e.g., land use activities, runoff from contaminated sites, and infiltration of contaminated groundwater into the storm drain system). It is also complex because storm water regulation may involve federal, state and local agencies. Because of this complexity, all of the tools described above are useful for storm water source control and will be used as appropriate.
- Administrative actions and enforcement – Administrative actions include licenses, permits, deed restrictions, requirements for site development plans, and enforcement actions, which may be necessary when administrative actions are violated. Agencies rarely take enforcement actions without first conducting an inspection and documenting findings, requested changes, warnings and offers of technical assistance. When enforcement actions are warranted, they are usually taken in escalating order, starting with notices of violation, moving to enforcement or compliance orders requiring specific changes by a set date, and ending with monetary penalties, court action or DEQ's takeover of investigation or cleanup work. Formal cleanup actions performed under an order or decree use oversight and enforcement to ensure that appropriate actions are taken in a timely manner.

Table 1 summarizes source control decisions conducted at upland sites, the basis for the determination that upland source control measures are necessary, a summary of the selected source control measure(s), and a schedule for implementing the source control measure(s).

4.2 DEQ coordination with EPA and partners on source control decisions

As the lead agency for identifying and controlling sources of upland contamination threatening the river in Portland Harbor, DEQ coordinates with EPA and our government partners on source control work. This includes documenting, tracking and coordinating source control efforts as described in Sections 2.5 and 7 of the JSCS.

DEQ will provide EPA and our partners with an opportunity to review source control decisions prior to being finalized. These decisions typically fall into the following three categories.

- DEQ has determined that a site is not a current or future source of contaminants to Portland Harbor and that no source control measures are required.
- DEQ has selected the source control measures for a site.
- DEQ has concluded that source control at a site is complete, or in the case of systems that require operation and maintenance (e.g., hydraulic containment), that the source control action is effective.

DEQ will inform EPA and our partners of pending source control decisions and the schedule for review, and will provide copies of source control decision documentation to EPA and partners upon request. EPA and partners will have 30 days to provide comments to DEQ on source control decisions.

In addition to this regular review and comment process, some upland sites in Portland Harbor may warrant closer coordination between DEQ, EPA and our partners for source control (e.g., the Gasco site and potential source control measures for the chlorinated solvent groundwater plume at the Siltronic site). In these instances, DEQ and EPA source control coordinators will develop a project-specific coordination strategy.

4.3 Public involvement in source control decisions

DEQ Cleanup Program statutes and rules require that a public notice and comment opportunity be provided prior to DEQ's selection of a final site cleanup remedy and before DEQ determines that the cleanup is complete. For upland Portland Harbor cleanup projects, this means that DEQ issues a public notice and seeks public comments on the recommended final site cleanup strategy. Once public input is considered, DEQ's final decision is documented in a Record of Decision (ROD) for the site. For most sites, the upland DEQ ROD includes elements that address both source control for Portland Harbor and cleanup actions specific to areas of upland contamination that are not related to pollution in the Harbor.

Many of the source control measures implemented at upland sites are conducted prior to the selection of the final upland site remedy. While public notice and comment is not required for these "interim" removal actions under DEQ statutes and rules, DEQ typically does issue a public notice and seek public comments when the action is likely to be a substantive piece of the final site remedy, or as the DEQ project manager determines is appropriate.

DEQ does not typically seek public comments for small-scale interim source control measures and time critical actions. Project managers will, however, issue notices as appropriate to let the public know that the activity is being conducted.

5.0 Status of Ongoing and Completed Source Control Measures

Table 1 summarizes the status of ongoing source control measures (SCMs), including SCM activities completed to date, proposed SCM activities, and a target schedule for completion. To the extent practicable, DEQ has collected information and/or made estimates of the mass or volume of contaminants removed, contained, treated or otherwise controlled, to help demonstrate the progress of source control activities.

Table 1 also summarizes completed SCMs and provides the date that the SCM was completed, the date of EPA review and comment, and any operation and maintenance requirements associated with the SCM.

6.0 Issues Encountered in Source Control Work

This section summarizes issues affecting DEQ's ability to make source control decisions or completeness of determinations for any step of the source control process. This section also presents DEQ's proposed ways to resolve the issues and a desired timeframe for resolution.

Issue 1: Moving certain projects through the source control process
For a number of reasons, certain DEQ Portland Harbor cleanup projects are not proceeding through the source control process at an acceptable pace. Source control activities at these sites need to be accelerated in order to identify, evaluate and control upland contaminant sources before the Portland Harbor Record of Decision.

To resolve this issue, DEQ will first identify the sites and then accelerate their schedules for source control work. DEQ identified following sites in the March 2006 Milestone Report, and these sites remain a high priority for accelerated source control. Below is a summary of the status of each site.

- **Premier Edible Oil (PEO)**
  Problem: Schnitzer Investment Corp (SIC) is the owner and responsible party of the PEO site. SIC claims that their neighboring site, Time Oil, has contributed to contamination at the PEO site by either former Time Oil operations at the PEO site or by trespass from the Time Oil site adjacent to PEO. SIC has been resistant to move forward with source control work at the PEO site that SIC claims is, at least partially, Time Oil's responsibility.
  Path to resolving: DEQ directed SIC to prepare a site characterization/source control evaluation work plan which DEQ has reviewed. SIC has also prepared a "White Paper" describing site operational history and contaminant sources at the PEO site. DEQ will review the "White Paper" in July 2006, and then direct SIC to implement the work plan.
  Progress made since March 2006 Milestone Report: DEQ reviewed the draft site characterization source control evaluation work plan, met with SIC to discuss project status and future actions, and began review of the "White Paper."

- **Crawford Street**
  Problem: Crawford Street completed a limited removal of black sands (sand blast grit) in 2001 from a portion of their beach and at the top of the bank (which was the source of the black sands in the beach). Crawford Street also completed a groundwater investigation. Crawford Street needs to complete their source control evaluation by investigating the stormwater pathway at the site.
  Path to resolving: DEQ will direct Crawford Street to complete a stormwater evaluation in the 2006/2007 water year.
  Progress made since March 2006 Milestone Report: DEQ reviewed the site's file information and project status to prepare for directive action.

- **Georgia Pacific Linnton**
  DEQ made a source control determination in 2001 that the Georgia Pacific Linnton site was not a contaminant source to Portland Harbor. This determination is not consistent with DEQ's identification of the Georgia Pacific Linnton site in the March 2006 Milestone Report

as a site that required accelerated action for source control. There appears to have been an internal DEQ miscommunication regarding the status of this site, which requires additional internal DEQ review.

- **Schnitzer Burgard (aka Portland Blast Media)**
  Problem: The responsible party has implemented a number of stormwater upgrades and best management practices over the last several years, but site characterization/source control evaluation needs to be completed.
  Path to resolving: DEQ will conduct site visits and hold project status meetings, and then outline a clear path for completing the site characterization/source control evaluation.
  Progress made since March 2006 Milestone Report: None.

- **MarCom South**
  Problem: Site characterization/source control evaluation in the MarCom south parcel was stalled by the owner/operator entering bankruptcy.
  Path to resolving: Property ownership has reverted to the previous owner, which has entered into a Cost Recovery Agreement with DEQ to conduct a remedial investigation/source control evaluation at the property.
  Progress made since March 2006 Milestone Report: The responsible party submitted a draft remedial investigation/source control evaluation work plan and DEQ is completing our review of the work plan.

- **GS Roofing**
  Problem: The DEQ project manger overseeing work at GS Roofing recently left DEQ, and the vacant position has not been filled due to agency budget constraints. This has affected the progress of source control work at the site.
  Path to Resolving: DEQ is now making the GS Roofing site a priority for staffing and accelerated source control work. GS Roofing has conducted independent investigations of the facility. The next step in the project is for DEQ to review this information and provide direction regarding what additional work is required and a schedule for this work.
  Progress made since March 2006 Milestone Report: DEQ recently assigned a new project team to the GS Roofing site. DEQ has completed the review of available site information and is scheduled to provide written comments to GS Roofing by the end of July 2006.

Issue 2: Completing source control at the Gasco site

NW Natural's Gasco site is a high priority site for upland source control. The distribution and magnitude of upland contamination at the Gasco site is extensive and very significant. DEQ has directed NW Natural to collect data to support the selection, design, installation and operation of source control measures, rather than conducting further source control evaluation. NW Natural and DEQ have agreed to a schedule for a phased approach to design and implementation of source control measures by 2008. NW Natural is moving forward with this work.

DEQ is also currently negotiating an amended agreement with NW Natural that will increase DEQ's ability to require compliance with the aggressive source control schedule. Unfortunately, the DEQ project manager for the Gasco site recently left DEQ. DEQ is actively working to

recruit a new project manager and to keep the project momentum going until a replacement is retained.

Issue 3: DEQ staff resource limitations
Limited staff resources are affecting DEQ's ability to conduct and complete source control work in Portland Harbor. The size of DEQ's Cleanup Program was recently reduced due to budget constraints, and with that reduction, DEQ lost several staff working on Portland Harbor. It is unlikely that DEQ's Portland Harbor staffing levels will be increased in the near future.

DEQ is continually looking at staff work load and developing priorities to address the most important work. DEQ will continue Portland Harbor source control efforts focusing on the most significant and potentially significant upland sources, and explore opportunities to increase staffing levels when possible.

Issue 4: Storm water investigations and site discovery efforts
The City of Portland is investigating contamination and source control options (i.e., conducting a remedial investigation and feasibility study) for the City's municipal storm water conveyance system in Portland Harbor under DEQ oversight. The purpose of the work is to determine whether discharges from the City's outfalls are a significant source of Portland Harbor sediment contamination. DEQ is working closely with the City to identify upland sites that may be contributing contamination to the storm water outfalls. A number of new upland sites may be identified in this process, and limited staff resources may affect DEQ's ability to evaluate these new sites.

DEQ will continue to prioritize source control work based on the most significant and potentially significant sources, including upland sites contributing storm water to the City's conveyance system.

Issue 5: Storm water evaluation and control
Storm water has been the most challenging Portland Harbor contaminant migration pathway for DEQ to evaluate and control because of the many sources contributing to storm water systems, the temporal variation in storm water and the complexity of storm water regulation. For these reasons, storm water evaluation and control has generally lagged behind other contaminant migration pathways (i.e., soil and groundwater pathways) in Portland Harbor source control efforts.

DEQ sees resolution of this issue through a number of elements. First, with the December 2005 finalization of the JSCS (and JSCS Appendix D, "*Framework for Portland Harbor Storm Water Screening Evaluations*"), DEQ project managers now have tools to better evaluate Portland Harbor storm water. Second, DEQ recently appointed Karen Tarnow as the Portland Harbor Storm Water Coordinator. This City of Portland, Bureau of Environmental Services-funded position was created to provide programmatic regulatory and site-specific assistance to sites that discharge storm water to the Harbor. Karen is assisting DEQ project managers with Portland Harbor storm water issues and helping to advance the storm water evaluation and control process. Third, DEQ's Portland Harbor Manager and Project Coordinators will work with project managers to address the storm water pathway in a timely manner.

Issue 6: Developing a long-term storm water solution
A long-term solution is needed to control contaminants in storm water discharges to Portland Harbor to ensure that ongoing storm water discharges do not recontaminate in-water cleanup remedies.

Resolving this issue will take time. In 2005, DEQ formed a Portland Harbor Storm Water work group composed of staff and managers from DEQ's Cleanup and Water Quality Programs. The purpose of the work group is to address the issue – to develop a regulatory method of ensuring that storm water will not recontaminate sediments after the remedy for Portland Harbor has been implemented. The work group will continue to meet and attempt to develop a long-term storm water solution for Portland Harbor.

7.0 Summary

DEQ is making significant progress in controlling sources of contamination to the lower Willamette River in Portland Harbor, and is coordinating resources of its Cleanup, Hazardous and Solid Waste, Water Quality and Spills Programs to achieve upland source control objectives by the expected time of the Portland Harbor Record of Decision. To date, DEQ has identified approximately 80 upland sites that may be potential sources of contaminants in Portland Harbor, and these sites have been prioritized for additional investigation or source control.

Currently, DEQ is actively overseeing investigation and source control work at over 60 upland sites (summarized in Table 1). Of these 60 sites:

- DEQ has determined that 16 sites are considered to be a high priority for source control. Seven of these high priority sites have active or operating source control measures in place.
- The priority level for 31 sites has not yet been determined. Source control evaluations, which will determine the priority for source control, are scheduled to be complete for 16 of these 31 sites in 2006.
- DEQ has determined that source control work is complete, through closing and/or issuing "No Further Action" determinations, at 15 upland sites (see shaded sites in Table 1).

In addition, the DEQ Toxic Use/Waste Reduction Assistance Program (TU/WRAP) is providing technical assistance to facilities in the Portland Harbor area that may be discharging contaminants to the river via the City's storm sewer system, encouraging these facilities to reduce their hazardous waste use and pollution releases. DEQ TU/WRAP staff worked with the City of Portland to identify priority areas and facilities, and conducted over 70 technical assistance visits and facility inspections within City outfall basins M-1, 18, 24 and 52. DEQ and the City are currently evaluating the next City outfall basins to focus on in technical assistance and inspection efforts.

DEQ will submit a Milestone Report to EPA twice a year, with the next Milestone Report scheduled for December 2006, and update Table 1 with the current status of source control work at all upland sites. For more information about the Milestone Report or DEQ's source control work generally, please contact Jim Anderson, DEQ Portland Harbor Project Manager, at (503) 229-6825, or anderson.jim@deq.state.or.us.

8.0 Obtaining Additional Information on Upland Source Control Work

For more information on DEQ's source control work at any of the sites listed in Table 1, see DEQ's Portland Harbor web page (http://www.deq.state.or.us/nwr/PortlandHarbor/ph.htm) and click on "Map of Sites" on the left side bar. This link provides a map showing all Portland Harbor upland sites and summary reports of the status of source control work. Just open the map and click on the site you are interested in to connect to DEQ's Environmental Cleanup Site Information (ESCI) database, which houses current information on work at each site.

Alternatively, contact the DEQ project manager (PM) that is leading work on the site you are interested in. Contact information for each DEQ PM is listed on the last page of this report.

For more information on the status work on the Portland Harbor Superfund Site, see EPA's Portland Harbor web page (http://yosemite.epa.gov/r10/cleanup.nsf/sites/ptldharbor).

9.0 Information about Table 1: Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

The purpose of Table 1, entitled *Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor,* is to track and share information on the status of DEQ's efforts to evaluate and control sources of pollution to the Willamette River in Portland Harbor. The table provides information on each upland site that DEQ is working on in the Harbor, including the status of evaluations to determine whether source control is needed, the progress of source control measures, and the status of source control decisions and EPA review. Below is some helpful information for interpreting the table, including definitions for key terms and acronyms.

Site Information and Project Status

The first columns of Table 1 provide basic background information on each site, including:

- the name of the site,
- the site's reference number for DEQ's Environmental Cleanup Site Information (ESCI) database,
- the location of the site (river mile and address),
- the DEQ project manager (PM) that is leading source control work,
- the type of agreement DEQ is using to direct cleanup activities at the site (i.e., Intergovernmental Agreement, Portland Harbor Agreement, Unilateral Order, etc.), and
- the status of work occurring at the site (i.e., Preliminary Assessment, Remedial Investigation, completed Source Control Decision, Remedial Design/Remedial Action, etc.).

Sites are listed in Table 1 based on their position alongside the Willamette River, or the "River Mile" associated with their location. The River Mile indicates distance of the site from the Willamette River's confluence with the Columbia River. Sites associated with a lower river mile occur downstream of sites with a higher river mile.

Sites listed in Table 1 are those in Portland Harbor at which DEQ is actively overseeing upland investigation or source control actions, or for which source control decisions have been made. DEQ updates the site information in ECSI when a Strategy Recommendation is made, but a site is not added to Table 1 until active oversight of the project is provided by DEQ.

Source Control Evaluation

The Source Control Evaluation (SCE) columns in Table 1 provide information on the status of DEQ's work to evaluate the need for source control measures, including the status of SCE for each potential pathway, the schedule for completing SCE, the basis for determining whether source control measures are needed, and the status of EPA review.

<u>Potential pathways</u>
Six standard pathways represent the major potential pathways that contaminants could follow to reach the river from an upland site. These pathways include:

- overland transport/sheet flow – the uncontrolled flow of water and other material to the river from a site
- back erosion – erosion of material within the sloping bank areas of the site to the river
- groundwater – groundwater plumes or discharges to the river via seeps or through preferential pathways
- stormwater – stormwater discharges to the river that originate from a pipe or stormwater system, including unpermitted stormwater discharges and discharges under a DEQ general stormwater permit
- overwater activities – the storage or use of hazardous substances over the water (i.e., storage tanks on docks, permanent work activities conducted over water), that if released would be a potential current or future source of contamination to the river; pipelines and other conveyance systems are not considered in this category, releases from these types of systems are reported to the Oregon Emergency Response System (OERS) system for clean up
- other – may include permitted wastewater discharges, individually permitted stormwater discharges, air deposition or other pathways

Each of these standard pathways appears for each site in Table 1 to track SCE work on a pathway-specific basis.

Basis for determining the need for source control

DEQ evaluates each of the pathways listed above to determine the need for source control measures. DEQ makes this determination based on (1) whether contaminants are present and whether the pathway is capable of carrying them to the river (if it is, the pathway is called "complete"); and if a complete pathway exists, (2) whether it is carrying contaminants to the river at concentrations that exceed the Screening Level Values (SLVs) provided in the Joint Source Control Strategy (JSCS)[7].

Three general examples are provided below:

- *Example 1:* DEQ's initial investigations of a site that is adjacent to the river indicate that bank soils have the potential to erode into the river and carry contaminants. DEQ conducts a SCE to determine whether contaminants are in fact present in the bank soils and whether the bank soils are carrying or could carry those contaminants into the river. The SCE concludes that contaminants are present in the bank soils and the soils are carrying contaminants into the river; the pathway is deemed "complete." The SCE then determines whether the bank soils are carrying or could carry contaminants to the river at concentrations that exceed the SLVs in the JSCS. If they are or could carry contaminants to the river at concentrations exceeding SLVs, DEQ determines that source control measures are needed and assigns a priority of *high, medium* or *low* to the pathway based on the degree of SLV exceedance (see "Priority levels for each pathway and site" below for more information on the priority levels).
- *Example 2:* DEQ's initial investigations of a site adjacent to the river indicate that groundwater has the potential to migrate toward the river and carry contaminants. DEQ conducts a SCE to determine whether contaminants are present in the groundwater and

[7] See p. 3-1 through 3-6 of the JSCS for more information about SLVs.

whether the groundwater is carrying or could carry those contaminants into the river. The SCE concludes that groundwater is or could carry contaminants into the river, but only at concentrations significantly below the SLVs listed in the JSCS. DEQ determines that the pathway is "complete," but no source control actions are needed because SLVs are not exceeded.

- *Example 3:* DEQ's initial investigations of a site near (but not adjacent to) the river indicate that stormwater has the potential to migrate toward the river and carry contaminants. DEQ conducts a SCE to determine whether stormwater is in fact migrating to the river and whether it is or could carry contaminants to the river. The SCE concludes that stormwater is actually not reaching the river and could not reach the river because it is diverted to a stormwater treatment system. DEQ determines that the pathway is "not complete" and no source control actions are needed.

Definition of "Insignificant pathway; no actions recommended"
The term "insignificant pathway; no actions recommended," is used in Table 1 when (1) the pathway is complete, and (2) contaminant concentrations are below SLVs at a point of compliance (e.g., river bank monitoring wells), and are not anticipated to increase.

Use of "N/A" for the pathways
"N/A" is used in Table 1 to indicate that the particular pathway does not exist at the site. For example, for an upland site that is set back from the river (i.e., not adjacent to the river's edge) N/A would indicate that the *overland transport/sheet flow*, *overwater activities*, and *bank erosion* pathways do not exist at the site. For a site that is adjacent to the river, but where a concrete seawall lines the river bank, N/A would indicate that the pathway *bank erosion* does not exist at the site.

Priority levels for each pathway and site
Each pathway evaluated at each site is given a priority level for source control upon completion of the SCE, or when adequate information exists to determine the pathway's priority. Pathways are prioritized based on their ability to carry contaminants from upland areas to the river at concentrations that exceed SLVs. Each site is then given a priority level based on the highest priority of the pathways. For example, if a site has two *low* priority pathways and one *high* priority pathway, the site is determined to be a *high* priority for source control. Definitions for *high*, *medium* and *low* priority determinations follow.

- High – High priority pathways and sites are those where a complete contaminant migration pathway exists and the upland source is significantly impacting the river or poses a significant and imminent threat to the river based on initial evaluation of key source control prioritization factors (listed on p. 4-3 of the JSCS). A primary consideration is that one or more media (soil, water or air) significantly exceed applicable SLVs at the point of discharge to the river (e.g., water at the end of a discharge pipe, or soil or material at the riverbank) or the most reliable and cost-effective data point (e.g., groundwater measured at the shoreline), or where a bioaccumulative chemical is detected at concentrations significantly above the SLV. In addition, if an upland source is violating DEQ narrative water quality criteria for the Willamette River, the site may be considered a high priority. High priority sites are expected

to move forward with aggressive source control measures without delay or be subject to enforcement action.

- Medium – Medium priority pathways and sites are those where a complete contaminant migration pathway exists and the upland source is impacting the river or poses a significant and/or imminent threat to the river based on an initial evaluation of key source control prioritization factors (listed on p. 4-3 of the JSCS). A primary consideration is that one or more media exceed applicable SLVs, but not significantly, at the point of discharge to the river, or where a bioaccumulative chemical is detected at concentrations above the SLV. Although exceedance of SLVs does not necessarily indicate that a site poses a significant and/or imminent threat or needs to immediately implement source control measures, it does indicate that the site may pose a threat to human health or the environment and that additional evaluation may be needed to determine if source control measures are required to prevent, minimize or mitigate the migration of hazardous substances to the river. If the site exceeds one or more SLVs, the need for further characterization or for implementation of source control measures will be based on a site-specific weight-of-evidence determination. Medium priority sites are expected to perform a weight-of-evidence evaluation to determine if source control measures are required (see p. 4-5 of the JSCS for more information on the weight-of-evidence evaluation).
- Low – Low priority pathways and sites are those where upland data indicate, based on an initial evaluation of key source control prioritization factors (listed on p. 4-3 JSCS), that the site likely poses a low threat to the river (e.g., concentrations are near or below SLVs) or where DEQ, in consultation with EPA, may issue an upland "No Further Action" (NFA) determination or lower the State's priority of the site for further upland investigation or remedial action under DEQ's cleanup authority. Source control measures will not be required at low priority sites unless determined necessary by the results of the Portland Harbor RIFS or ROD.
- p High – DEQ's preliminary determination is that this is likely a high priority pathway or site based on available information. A final determination of pathway or site priority will be made upon completion of the SCE.
- p Med – DEQ's preliminary determination is that this is likely a medium priority pathway or site based on available information. A final determination of pathway or site priority will be made upon completion of the SCE.
- p Low – DEQ's preliminary determination is that this is likely a low priority pathway or site based on available information. A final determination of pathway or site priority will be made upon completion of the SCE.

Source Control Decisions and Status of Source Control Measures

The Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs) columns in Table 1 provide information on actions taken or needed to control sources of contamination to the river, including the selected SCMs for each pathway, status of SCM implementation, status of EPA review, and ongoing operation and maintenance requirements.

For many sites listed in Table 1, boxes for information on SCDs and SCMs will be blank because source control work at those sites is still in the evaluation (SCE) phase. Other sites may be in the process of implementing SCMs, and still others may have completed all source control work. For those sites that have completed upland source control and SCMs have been determined to be effective, shading indicates that work is finished at this point in time. Upon completion of the Portland Harbor in-water RIFS, however, DEQ will reevaluate all source control work to ensure that it adequate controlled contaminants to the final cleanup levels developed for the Harbor.

9.1 Acronyms and abbreviations

Agr	Agreement
AOC	Administrative Order on Consent
AS/SVE	Air sparge/soil vapor extraction – a Source Control Measure used to remove volatile contaminants from groundwater, often combined with treatment measures
AST	Above ground Storage Tank
AWQC	Ambient Water Quality Criteria
BMPs	Best Management Practices
BRA	Baseline Risk Assessment
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COI	Contaminant of Interest – chemicals present in Portland Harbor at levels that could threaten human health and the environment
DEQ	Oregon Department of Environmental Quality
ECSI	DEQ's Environmental Cleanup Site Information database
EPA	Environmental Protection Agency
FS	Feasibility Study – a phase of the cleanup process; evaluating cleanup alternatives after the Remedial Investigation has been completed
GW or gw	Groundwater
ICP	Independent Cleanup Pathway
IGA	Inter-Governmental Agreement
IRAM	Interim Remedial Action Measure
HVOCs	Halogenated Volatile Organic Compounds
JSCS	Joint Source Control Strategy – issued by DEQ and EPA in December 2005[8]
LNAPL	Low density Non-Aqueous Phase Liquid
N/A	Not Applicable – used in Table 4 to indicate that the particular pathway does not exist at the site
NAPL	Non-Aqueous Phase Liquid
N&E	Nature and extent of the contamination at the site
NFA	No Further Action – a DEQ notice to a Responsible Party declaring that no further cleanup action is needed at the site
OF	Outfall
p&t	Pump & Treat system – a Source Control Measure used to remove or contain and treat contaminated groundwater
PA	Preliminary Assessment – an early assessment stage of the cleanup process

[8] The JSCS is available on DEQ's web site at http://www.deq.state.or.us/nwr/PortlandHarbor/ph.htm; click "Joint Source Control Strategy" on the left side bar.

PCB	Polychlorinated Biphenyls
PH	Portland Harbor
PH Agr	Portland Harbor Agreement – a formal agreement to conduct the remedial investigation and source control work
PH Ltr Agr	Portland Harbor Letter Agreement – an initial agreement to conduct limited investigation and cleanup activities and cover DEQ's oversight costs
PM	DEQ Project Manager leading cleanup work at the site
PPA	Prospective Purchaser Agreement – a tool for negotiating and agreeing upon potential liability for prospective purchasers of sites
PRP	Potentially Responsible Party
RD/RA	Remedial Design/Remedial Action – a phase of the cleanup process that occurs after the Record of Decision; designing and implementing the cleanup action
RI	Remedial Investigation – a phase of the cleanup process; investigating the nature and extent of contamination and understanding the potential risks posed by the contaminants to human health and the environment
RI/FS	Remedial Investigation/Feasibility Study
RP	Responsible Party
SC	Source Control
SCD	Source Control Decision
SCE	Source Control Evaluation
SCM	Source Control Measure
SLV	Screening Level Value – a contaminant-specific level established in the JSCS (see JSCS Table 3.1) that is used to screen upland pathways and sites to identify potential threats to human health and the environment.
SOW	Scope of Work
SVE	Soil Vapor Extraction – a Source Control Measure used to remove volatile contaminants from subsurface soils; often combined with soil vapor treatment
TCA	Trichloroethane
UIC	Underground Injection Control system
UST	Underground Storage Tank
VCP	Voluntary Cleanup Program
VOCs	Volatile Organic Compounds
WO	Waiting on
XPA	Expanded Preliminary Assessment – an early assessment stage of the cleanup process

9.2 Contact information for DEQ Project Managers

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Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

Note: Sites in this table are listed in order of their position in upstream the Willamette River, or the "River Mile" associated with their location, the River Mile includes distance from the Willamette River's confluence with the Columbia River.

- Shading indicates that upland source control work has been completed at the site.
- Orange indicates that the site is a high priority, or potentially high priority for source control.
- Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
- Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed													
Site name	SCE #	River mile	Address	DEQ PM	Type of agreement driving source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCDs	Status of EPA review of SCE selection decision	SCE activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCE activities to be done and schedule (m-y)	Date SCE completed (m-y)	Status of EPA review of completed SCE	Operation and maintenance requirements
Terminal 3	1668	1.5 E	10940, 10930 & 10900 N Lombard	Tier Deliner	OA	X/A	08/1/2008	Overland Transport/Direct Flow	N/A	N/A	N/A	N/A	none	to be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Terminal 5	1668	1.5 E	10940, 10930 & 10900 N Lombard	Tier Deliner	OA	X/A	08/1/2008	Back Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Terminal 6	1668	1.5 E	10940, 10930 & 10900 N Lombard	Tier Deliner	OA	X/A	08/1/2008	Groundwater	Ongoing		Fall 2008	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed 2008									
Terminal 7	1668	1.5 E	10940, 10930 & 10900 N Lombard	Tier Deliner	OA	X/A	08/1/2008	Stormwater	Ongoing	Implement Stormwater Sampling	Winter 2008	Waiting on SCE to be completed	to be determined		Waiting on RFP to be completed 2008									
Terminal 9	1668	1.5 E	10940, 10930 & 10900 N Lombard	Tier Deliner	OA	X/A	08/1/2008	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Terminal 9	1668	1.5 E	10940, 10930 & 10900 N Lombard	Tier Deliner	OA	X/A	08/1/2008	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oregon Steel Mills	1671	3.2 E	14400 N Rivergate	Mark Ariz/Cindy	Prior Agr for RI/FS/CM (2000)	30	05/27/2008	Overland Transport/Direct Flow	N/A	N/A	N/A	Not anticipated	None	High	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oregon Steel Mills	1671	3.2 E	14400 N Rivergate	Mark Ariz/Cindy	Prior Agr for RI/FS/CM (2000)	30	05/27/2008	Water Erosion	Completed			Pathway is complete	High		SCE not complete or description/evaluation	alternatives evaluation completed (June 2008)		Anticipate start 1Q08 to EPA Supplemental Review 2008						
Oregon Steel Mills	1671	3.2 E	14400 N Rivergate	Mark Ariz/Cindy	Prior Agr for RI/FS/CM (2000)	30	05/27/2008	Groundwater (LNAPL and ACDC)	Completed			Pathway is complete, risk and site characterization	Low		SCE submitted to EPA 10/2006 for review of remedial options		Remedial decision expected time of RI/FS 2010 for PAH						SCE submitted 10 EPA 10/2006 no comments received	
Oregon Steel Mills	1671	3.2 E	14400 N Rivergate	Mark Ariz/Cindy	Prior Agr for RI/FS/CM (2000)	30	05/27/2008	Stormwater (also ACDC)	Ongoing		July 2008	Pathway is complete	to be determined	High	SCE to be submitted to EPA for review/ 2008									
Oregon Steel Mills	1671	3.2 E	14400 N Rivergate	Mark Ariz/Cindy	Prior Agr for RI/FS/CM (2000)	30	05/27/2008	Groundwater	Ongoing	Further investigation of stormwater system	December 2008	Pathway is complete	p. high		SCE not complete or description/evaluation	alternative evaluation in progress								
Oregon Steel Mills	1671	3.2 E	14400 N Rivergate	Mark Ariz/Cindy	Prior Agr for RI/FS/CM (2000)	30	05/27/2008	Overwater Activities	N/A	N/A	N/A	Pathway is complete/ Activities (pipe removal in 2008)	none		N/A	N/A	N/P	N/P	N/A	N/A	N/A	N/A	N/A	N/A
Oregon Steel Mills	1671	3.2 E	14400 N Rivergate	Mark Ariz/Cindy	Prior Agr for RI/FS/CM (2000)	30	05/27/2008	Other - current NPDES permits / Discharge	Not Started	Tasks are needed	No current activities	Waiting on SCE to be completed			Waiting on SCE to be completed									
Gaze Landfill Source Island	4488	2.8	16444 N Lyle St (Main Loop)	No PM Assigned	Industrial landfill disposal permit	PA	08/1/2008	Overland Transport/Direct Flow	N/A	N/A	N/A	N/A	none	to be determined		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gaze Landfill Source Island	4488	2.8	16444 N Lyle St (Main Loop)	No PM Assigned	Industrial landfill disposal permit	PA	08/1/2008	Back Erosion	N/A	N/A	N/A	N/A	none			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gaze Landfill Source Island	4488	2.8	16444 N Lyle St (Main Loop)	No PM Assigned	Industrial landfill disposal permit	PA	08/1/2008	Groundwater	Ongoing	Joint Source monitoring ongoing	2007	Waiting on SCE to be completed	to be determined		Waiting on SCE completion 2007									
Gaze Landfill Source Island	4488	2.8	16444 N Lyle St (Main Loop)	No PM Assigned	Industrial landfill disposal permit	PA	08/1/2008	Stormwater	N/A	N/A	N/A	N/A	none			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gaze Landfill Source Island	4488	2.8	16444 N Lyle St (Main Loop)	No PM Assigned	Industrial landfill disposal permit	PA	08/1/2008	Overwater Activities	N/A	N/A	N/A	N/A	none			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gaze Landfill Source Island	4488	2.8	16444 N Lyle St (Main Loop)	No PM Assigned	Industrial landfill disposal permit	PA	08/1/2008	Other	N/A	N/A	N/A	N/A	none			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chemical Island Sediment	5001	2.9 L	2000 N Rivergate	Mike Rainey	Prior Letter Agr for CM	X/A	08/1/2008	Overland Transport/Direct Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	DEQ #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decisions	Source control site milestone completion and schedule (m-y)	Schedule SCDs	Status of EPA review of SCD selection decisions	SCM activities completed to date (m-y)	Basis or release of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Basis of EPA review of completed SCM	Observation and maintenance requirements
Consolidated Metals	[illegible]	[illegible]	[illegible] N. Rivergate	Mike Rainbolt	PH Letter Agr for ECA	[illegible]	[illegible]	Soil/Groundwater	[illegible]	N/A	[illegible]	N/A	None	P Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Consolidated Metals	[illegible]	[illegible]	[illegible] N. Rivergate	Mike Rainbolt	PH Letter Agr for ECA	[illegible]	[illegible]	Groundwater	Ongoing	[illegible]	2007	Waiting on SCD to be completed	[illegible]			Waiting on SCD to be completed								
Consolidated Metals	[illegible]	[illegible]	[illegible] N. Rivergate	Mike Rainbolt	PH Letter Agr for ECA	[illegible]	[illegible]	Stormwater	Ongoing	[illegible]	2007	Waiting on SCD to be completed	[illegible]			Waiting on SCD to be completed								
Consolidated Metals	[illegible]	[illegible]	[illegible] N. Rivergate	Mike Rainbolt	PH Letter Agr for ECA	[illegible]	[illegible]	Groundwater/ Stormwater	N/A	N/A	N/A	N/A	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Consolidated Metals	[illegible]	[illegible]	[illegible] N. Rivergate	Mike Rainbolt	PH Letter Agr for ECA	[illegible]	[illegible]	Other	F/A	N/A	N/A	N/A	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]				[illegible]							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]				[illegible]							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]				[illegible]							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]				[illegible]							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Time Oil	170	[illegible]	[illegible] Rivergate Blvd	Tom Bauer	Prior Voluntary Agreement	Prior Assessment	[illegible]	Groundwater/ Stormwater	N/A	N/A	N/A	N/A	None	Low		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time Oil	170	[illegible]	[illegible] Time Oil Rd.	Tom Bauer	PH Letter Agr (2004)	High Assessment 1	[illegible]	Soil/Sediment	F/A	N/A	N/A	N/A	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time Oil	170	[illegible]	[illegible] Time Oil Rd.	Tom Bauer	PH Letter Agr (2004)	Prior Assessment 1	[illegible]	Groundwater (Main Tank Farm Pathway F-1/F-2)	Ongoing	Remedial design and evaluation report	SCD w/ SCD submitted 6/08	Waiting on SCD to be completed	[illegible]			Waiting on SCD to be completed								
Time Oil	170	[illegible]	[illegible] Time Oil Rd.	Tom Bauer	PH Letter Agr (2004)	Prior Assessment 1	[illegible]	Groundwater (Drip Tanks and Pathways F-3/F-4)	Ongoing	Remedial design and evaluation report	SCD w/ SCD submitted 6/08	[illegible]	[illegible]			Waiting on SCD to be completed								
Time Oil	170	[illegible]	[illegible] Time Oil Rd.	Tom Bauer	PH Letter Agr (2004)	High Assessment 1	[illegible]	Groundwater (Waste Pathway)	Completed			[illegible]	[illegible]			SCD = [illegible] to EPA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]
Time Oil	170	[illegible]	[illegible] Time Oil Rd.	Tom Bauer	PH Letter Agr (2004)	Prior Assessment 1	[illegible]	Stormwater	Ongoing		SCD w/ SCD submitted 6/08	[illegible]	[illegible]			Waiting on SCD to be completed								
Time Oil	170	[illegible]	[illegible] Time Oil Rd.	Tom Bauer	PH Letter Agr (2004)	Prior Assessment 1	[illegible]	Groundwater Pathway	Ongoing		SCD w/ SCD submitted 6/08	[illegible]	[illegible]			Waiting on SCD to be completed								
Time Oil	170	[illegible]	[illegible] Time Oil Rd.	Tom Bauer	PH Letter Agr (2004)	Prior Assessment 1	[illegible]	Other	Pass	N/A	N/A	N/A	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination they source control is needed													
Site name	SCD #	River mile	Address	DEQ File	Type of upcoming or ongoing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation (est. schedule (m-y))	Selected SCDs	Status of EPA review of SCD selection	SCM activities completed to date (m-y)	Area or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCD completed (m-y)	Status of EPA review of completed SCD	Correction and implementation measures
City of Portland Outfalls	various	2.0 to 9.2	various	Tom Bates	IGA for RI SCM (design)	IN	10/2/2008	Sewer Exfiltration	Full	N/A	N/A	N/A	Alpha	[illegible]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
City of Portland Outfalls	various	5.0 to 9.2	various	Tom Bates	IGA for RI SCM (design)	IN	10/2/2008	Groundwater	n/a	N/A	N/A	N/A	Alpha	[illegible]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
City of Portland Outfalls	various	2.0 to 9.2	various	Tom Bates	IGA for RI SCM (design)	IN	10/2/2008	Stormwater	Ongoing	Complete outfall basin characterizations, site specific investigations and SCM feasibility/cost/benefit assessments	Ongoing through 2008 (continue working to Portland Harbor SCD)	Sustained pathway	a - high	a - high	Waiting on SCD to be completed	Phase SCM [illegible] Ongoing SCM implementation beyond gallery of BMP discharges. Identification of potential contaminants to City system. Site specific and [illegible] work underway. Any drawing, and recommendations to drain.									
City of Portland Outfalls	various	2.0 to 9.2	various	Tom Bates	IGA for RI SCM (design)	IN	10/2/2008	Fire and Life Activities	n/a	N/A	N/A	N/A	Alpha		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
City of Portland Outfalls	various	2.0 to 9.2	various	Tom Bates	IGA for RI SCM (design)	IN	10/2/2008	Other	n/a	N/A	N/A	N/A	Alpha		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		N/A	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Premier Edible Oils	2012	5.2 E	10402 N Burgard	Brian Ramsey	PA Agreement RI/BSCM (SCD)	IN	10/1/2008	Overland Transport/Wind Flow	Ongoing	Complete final phases of RI	2008	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed (2008)										
Premier Edible Oils	2012	5.2 E	10402 N Burgard	Brian Ramsey	PA Agreement RI/BSCM (SCD)	IN	10/1/2008	Sewer Drainer	Ongoing	Complete final phases of RI	2008	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed (2008)										
Premier Edible Oils	2012	5.2 E	10402 N Burgard	Brian Ramsey	PA Agreement RI/BSCM (SCD)	IN	10/1/2008	Stormwater	n/a	N/A	N/A	Facility demolished and surfaces removed	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Premier Edible Oils	2012	5.2 E	10402 N Burgard	Brian Ramsey	PA Agreement RI/BSCM (SCD)	IN	10/1/2008	Overwater Activities	n/a	N/A	N/A	No known current sources (upto receptor to DEQ)	none	to be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Premier Edible Oils	2012	5.2 E	10402 N Burgard	Brian Ramsey	PA Agreement RI/BSCM (SCD)	IN	10/1/2008	Groundwater (DNAPL/NAPL dark Dense)	Ongoing	Complete data collection for SCD design	2008	DNAPL pathway discharging to river	a - high		Waiting on SCD to be completed 2008										
Premier Edible Oils	2012	5.2 E	10402 N Burgard	Brian Ramsey	PA Agreement RI/BSCM (SCD)	IN	10/1/2008	Groundwater (Remaining dim plumes)	Ongoing	Continue investigation with Tons Orchard Terminal near property boundaries	2008	DIN/NAPHTHA migration pathway	to be determined		Waiting on SCD to be completed 2008										

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)									
Site information					Project status							Basis for determination that source control is needed													
Site name	ECSI #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]									
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Overland Transport/Sheet Flow	Ongoing	Visual inspection	Fall 2006	Waiting on SCE to be completed	to be determined	to be determined	Waiting on SCE to be completed 2006									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Bank Erosion	Ongoing	Visual inspection	Fall 2006	Waiting on SCE to be completed	[illegible]		Waiting on SCE to be completed 2006									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Completed			Insignificant pathway; No action recommended	Low		Waiting on SCE to be completed 2006									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Stormwater	Ongoing	Initiate stormwater evaluation	3/07	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed 2006									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Overland Transport/Sheet Flow	Completed			Insignificant pathway; no action recommended	Low		[illegible]		No SCM needed							

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed													
Site name	RCB #	River mile	Address	DEQ File	Type of agreement directing source control	Project status	Date site modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control actions taken (or are scheduled to do so)	Scheduled SCDs	Status of EPA review of SCD initiation decision	SCM activities completed to date (m-d)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Georgia Pacific (Linder)	2000	5.8 W	10222 NW Marina	Tyler Gaster	PA Letter Agr for ISA (10/99)	X-NA	06/1/2006	Back Process	Left	N/A	N/A	N/A	none	Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Georgia Pacific (Linder)	2000	5.8 W	10222 NW Marina	Tyler Gaster	PA Letter Agr for ISA (10/99)	X-NA	06/1/2006	Onsite Activities	Completed				Low		EPA concurred in 2003 and did not provide comments	N/A	No SCM needed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Georgia Pacific (Linder)	2000	5.8 W	10222 NW Marina	Tyler Gaster	PA Letter Agr for ISA (10/99)	X-NA	06/1/2006	Stormwater	Left	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Georgia Pacific (Linder)	2000	5.8 W	10222 NW Marina	Tyler Gaster	PA Letter Agr for ISA (10/99)	X-NA	06/1/2006	Overwater Activities	Left	N/A	N/A	No direct current sources (only PAHs in SEDS)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Georgia Pacific (Linder)	2000	5.8 W	10222 NW Marina	Tyler Gaster	PA Letter Agr for ISA (10/99)	X-NA	06/1/2006	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Low	N/A
NW Pipe	1.5A	3.9 E	12005 N Burgard	Alice Romero	PA Agr for IMD/CM (DEQ)	IN	06/1/2006	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	In the determination	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NW Pipe	1.5A	3.9 E	12005 N Burgard	Alice Romero	PA Agr for IMD/CM (DEQ)	IN	06/1/2006	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NW Pipe	1.5A	3.9 E	12005 N Burgard	Alice Romero	PA Agr for IMD/CM (DEQ)	IN	06/1/2006	Onsite Activities	Ongoing	DEQ to complete review of SCE report prepared by RI	2006	Off-site sediment migration pathway	to be determined		Waiting on SCE to be completed 2006										
NW Pipe	1.5A	3.9 E	12005 N Burgard	Alice Romero	PA Agr for IMD/CM (DEQ)	IN	06/1/2006	Stormwater	Ongoing	DEQ to complete review of SCE report prepared by RP	2006	Off-suspected migration pathway	to be determined		Waiting on SCE to be completed 2006										
NW Pipe	1.5A	3.9 E	12005 N Burgard	Alice Romero	PA Agr for IMD/CM (DEQ)	IN	06/1/2006	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NW Pipe	1.5A	3.9 E	12005 N Burgard	Alice Romero	PA Agr for IMD/CM (DEQ)	IN	06/1/2006	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Low	Low	Completed										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Low		Completed										
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Schnitzer Burgard	2000	4.1 E	12005 N Burgard	Alice Romero	PA Agr for IMD/CM (DEQ)	IN	06/1/2006	Overland Transport/Sheet Flow	Not Started	To be determined	2006	Waiting on SCE to be completed	to be determined	In the determination	Waiting on SCE to be completed		Likely plan: engineering improvements to capture sheet flow stormwater								
Schnitzer Burgard	2000	4.1 E	12005 N Burgard	Alice Romero	PA Agr for IMD/CM (DEQ)	IN	06/1/2006	Bank Erosion	Ongoing	Additional sampling needed	2006	Waiting on SCE to be completed	to be determined		Waiting on SCE to be complete										
Schnitzer Burgard	2000	4.1 E	12005 N Burgard	Alice Romero	PA Agr for IMD/CM (DEQ)	IN	06/1/2006	Onsite Activities	Ongoing	ongoing monitoring	2006	Waiting on SCE to be completed	to be determined		Waiting on SCE to be complete										
Schnitzer Burgard	2000	4.1 E	12005 N Burgard	Alice Romero	PA Agr for IMD/CM (DEQ)	IN	06/1/2006	Stormwater	Ongoing	ongoing monitoring - engineering improvements have been built	2006	Waiting on SCE to be completed	to be determined		Waiting on SCE to be complete		No developing & implementing BMPs for stormwater. Others yet to be determined								
Schnitzer Burgard	2000	4.1 E	12005 N Burgard	Alice Romero	PA Agr for IMD/CM (DEQ)	IN	06/1/2006	Overwater Activities	Not Started	To be determined	2006	Waiting on SCE to be completed	to be determined		Waiting on SCE to be complete										
Schnitzer Burgard	2000	4.1 E	12005 N Burgard	Alice Romero	PA Agr for IMD/CM (DEQ)	IN	06/1/2006	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or Suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	VCS #	River mile	Address	DEQ PM	Type of agreement showing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Report SCE team to be completed	Rationale for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCDs	Status of EPA review of SCM selection rationale	SCM activities completed to date (m-y)	Basis for release of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Basis of EPA review of completed SCM	Corrective and confirmatory measures
Arkema Oregon Inc. (OATX)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Arkema Oregon Inc. (OATX)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Arkema Oregon Inc. (OATX)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Arkema Oregon Inc. (OATX)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Arkema Oregon Inc. (OATX)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Arkema Oregon Inc. (OATX)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
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Terminal 4 Site 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Terminal 4 Site 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Terminal 4 Site 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Terminal 4 Site 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Terminal 4 Site 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed													
Site name	DEQ #	River mile	Address	DEQ PM	Type of agreement driving source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Source control effectiveness evaluation and schedule (m-y)	Selected SCDs	Status of EPA review of SCDs selection	SCDP activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Basis of EPA review of completed SCM	Operation and maintenance requirements
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Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

- = Sterling indicates that upland source control work has been completed at the site.
- = Orange indicates that the site is a high priority, or potentially high priority for source control.
- = Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
- = Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	SCE #	River mile	Address	DEQ PM	Type of agreement (cleanup source control)	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluated and schedule (m-y)	Selected SCDs	Status of EPA review of SCDs selection process	DEQ selection completed to date (m-y)	Basis for selection of recommended alternative	Proposed SCM selection as per done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	VCP Agr for Remedial Action (RAA)	Active	[illegible]	Groundwater	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	VCP Agr for Remedial Action (RAA)	[illegible]	[illegible]	Other - current [illegible] permitted discharge	Not Started	To be determined	No current schedule	Track up on SCE to be completed	[illegible]		Waiting on SCE to be completed									
Olympic Pipeline Portland Facility water Discharge	24H2	[illegible]	9420 NW St Helens	Matt Kirchney	ICP	[illegible]	[illegible]	Groundwater Discharge/Surface Flow	[illegible]	[illegible]	[illegible]	[illegible]	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Olympic Pipeline Portland Facility water Discharge	24H2	[illegible]	9420 NW St Helens	Matt Kirchney	ICP	[illegible]	[illegible]	Sediment	[illegible]	[illegible]	[illegible]	[illegible]	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Olympic Pipeline Portland Facility water Discharge	[illegible]	[illegible]	9420 NW St Helens	Matt Kirchney	ICP	[illegible]	[illegible]	Groundwater	Completed			Insignificant pathway: No actions recommended	Low	To be determined		Conducted soil vapor sampling: petroleum spill in mid 1960s								
Olympic Pipeline Portland Facility water Discharge	[illegible]	[illegible]	9420 NW St Helens	Matt Kirchney	ICP	[illegible]	[illegible]	Stormwater	Ongoing	Dependent upon groundwater conditions	[illegible]	Waiting on SCE to be completed	To be determined		Waiting on SCE completion [illegible]									
Olympic Pipeline Portland Facility water Discharge	[illegible]	[illegible]	9420 NW St Helens	Matt Kirchney	ICP	[illegible]	[illegible]	Groundwater Activities	[illegible]	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Olympic Pipeline Portland Facility water Discharge	[illegible]	[illegible]	9420 NW St Helens	Matt Kirchney	ICP	[illegible]	[illegible]	Other	[illegible]	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater Discharge/Surface Flow	[illegible]	N/A	N/A	N/A	None	3 High	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Basin Erosion	[illegible]	No Source pathwaysbe met	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater	Ongoing	[illegible]	[illegible]	Insignificant & dependent upon potentially high cleanup cost	[illegible]		Waiting on SCE to be completed	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Stormwater	Ongoing	[illegible]	[illegible]	[illegible]			Waiting on SCE to be completed, DEQ									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Stormwater Activities	N/A	N/A	N/A	[illegible]	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Other	N/A	N/A	N/A	N/A	Other		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater Discharge/Surface Flow	Completed			Insignificant pathway: No actions recommended	Medium		EPA reviewed and concurred the SCM	[illegible]	[illegible]	EPA reviewed and approved SCM	None set		[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Basin Erosion	Not Started	To be determined	No current schedule	Deferred: Investigation to Site Cam Smith Parcel	To be determined		Waiting on SCE to be completed		Deferred: Investigation to Site Cam Smith Parcel							

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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- = Yellow indicates that the site is a medium priority, or potentially medium priority for source control
- = Green indicates that the site is a low priority, or potentially low priority for source control

Confirmed or suspected Sources of contamination to the river: Site information					Project status			Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
												Basis for determination that source control is needed												
Site name	DEQ #	River mile	Address	DEQ PM	Type of represented cleanup process routine	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control effectiveness evaluation and schedule (Y/N)	Selected SCMs	Status of EPA review of SCE selection decision	SCM activities completed to date (Y/N)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (Y/N)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Mar Cam Marine (N Parcel)	2060	0.4 E	ESIC N Bradford	Mark Ronneke	PA/Agr for RI/FS/CM (11/01)	HCPA	09/1/2009	Groundwater	Completed			Insignificant to pathway; no risk or new requirements	Low	Medium	(EPA reviewed and concurred) SCM		N/A							
Mar Cam Marine (N Parcel)	2060	0.5 E	ESIC N Bradford	Mark Ronneke	PA/Agr for RI/FS/CM (11/01)	HCPA	09/1/2009	Stormwater	Completed			Insignificant to pathway; no risk or new requirements	Low		(EPA reviewed and concurred) SCM		N/A							
Mar Cam Marine (N Parcel)	2060	0.5 E	ESIC N Bradford	Mark Ronneke	PA/Agr for RI/FS/CM (11/01)	HCPA	Oct/2009	Overwater Activities	N/A	N/A	N/A	N/A	Impact		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mar Cam Marine (N Parcel)	2060	0.5 E	ESIC N Bradford	Mark Ronneke	PA/Agr for RI/FS/CM (11/01)	HCPA	09/1/2009	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brix Wall Inc (Alta Field)	2064	9.7 W	8000 NW St Helens	Dana Bartok	PA/Agr for RI/FS/CM (SCD)	W	09/1/2009	Overland Transport/Sheet Flow	N/A	N/A, needed Per DEQ's RCI to actively permit under development	N/A	N/A	None	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brix Wall Inc (Alta Field)	2064	9.7 W	8000 NW St Helens	Dana Bartok	PA/Agr for RI/FS/CM (SCD)	W	09/1/2009	Sediment	N/A	N/A, released Per DEQ's, heavily armored site, no exp no significant habitat	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brix Wall Inc (Alta Field)	2064	9.7 W	8000 NW St Helens	Dana Bartok	PA/Agr for RI/FS/CM (SCD)	W	09/1/2009	Groundwater	Ongoing	Continue monitoring. Remove monitor wells 500 for 10 and assess current wells sampled	2009	Pathway is complete	To be determined		Waiting on DEQ to be completed									
Brix Wall Inc (Alta Field)	2064	9.7 W	8000 NW St Helens	Dana Bartok	PA/Agr for RI/FS/CM (SCD)	W	09/1/2009	Stormwater	N/A	N/A, Issues from LSTs. SCPs have been implemented. City does not require storm water permit	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brix Wall Inc (Alta Field)	2064	9.7 W	8000 NW St Helens	Dana Bartok	PA/Agr for RI/FS/CM (SCD)	W	09/1/2009	Overwater Activities	N/A	N/A	N/A	No in both (pend.) sources (so to not be reported to DEQ)	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brix Wall Inc (Alta Field)	2064	9.7 W	8000 NW St Helens	Dana Bartok	PA/Agr for RI/FS/CM (SCD)	W	09/1/2009	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mar Cam (S Parcel)	2065	0.6 E	ESIC N Bradford	Mark Ronneke	Negotiating PA/Agr	W	09/1/2009	Overland Transport/Sheet Flow	Ongoing	Overland flow: direct concrete of fence and actual large unpaved site areas need to be investigated	2009	Waiting on SCE to be completed	to be determined	To be determined	Waiting on DEQ to be completed in 2009									
Mar Cam (S Parcel)	2065	0.6 E	ESIC N Bradford	Mark Ronneke	Negotiating PA/Agr	W	09/1/2009	Sediment	Ongoing	Investigation: Need to begin bench marks (wells and beach)	2009	Waiting on SCE to be completed	To be determined		Waiting on DEQ to be completed in 2009									
Mar Cam (S Parcel)	2065	0.6 E	ESIC N Bradford	Mark Ronneke	Negotiating PA/Agr	W	09/1/2009	Groundwater	Ongoing	Need to determine NAD in W	2009	Waiting on SCE to be completed	To be determined	To be determined	Waiting on DEQ to be completed in 2009									
Mar Cam (S Parcel)	2065	0.6 E	ESIC N Bradford	Mark Ronneke	Negotiating PA/Agr	W	09/1/2009	Stormwater	Ongoing	Need to determine NAD in W	early 2007	Waiting on SCE to be completed	To be determined		Waiting on DEQ to be completed in 2009									
Mar Cam (S Parcel)	2065	0.6 E	ESIC N Bradford	Mark Ronneke	Negotiating PA/Agr	W	09/1/2009	Overwater Activities	Ongoing	Need to complete NAD in W, relocate bioassay, overwater activities	2009	Waiting on SCE to be completed	To be determined		Waiting on DEQ to be completed in 2009		Meeting any data needs in 2009, and removed from site							
Mar Cam (S Parcel)	2065	0.6 E	ESIC N Bradford	Mark Ronneke	Negotiating PA/Agr	W	09/1/2009	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	DEQ #	Water-shed	Address	DEQ PM	Type of agreement allowing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Next SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE structure	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection evidence	SCM structure completed or date (m-y)	Water or volume of contaminants controlled	Proposed SCM submittal to EPA and schedule (m-y)	Item SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
LS Moorings	1841	E2	8010 NW St. Helens Rd.	EPA and Kristina Hoch	AOC	N	02/14/08	Overland Transport/Direct Flow	N/A	N/A	N/A	N/A	N/A/W	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LS Moorings	1841	E2	8010 NW St. Helens Rd.	EPA and Kristina Hoch	AOC	N	02/14/08	Bank Erosion	Ongoing		2007	Waiting on SCE to be completed	To be determined			Waiting on SCE completion_2007								
LS Moorings	1841	E2	8010 NW St. Helens Rd.	EPA and Kristina Hoch	AOC	N	02/14/08	Direct/Leader	Ongoing		2007	Waiting on SCE to be completed	To be determined			Waiting on SCE completion_2007								
LS Moorings	1841	E2	8010 NW St. Helens Rd.	EPA and Kristina Hoch	AOC	N	02/14/08	Stormwater	Ongoing		2007	Waiting on SCE to be completed	To be determined			Waiting on SCE completion_2007								
LS Moorings	1841	E2	8010 NW St. Helens Rd.	EPA and Kristina Hoch	AOC	N	02/14/08	Overwater Activities	Ongoing		2007	Waiting on SCE to be completed	To be determined			Waiting on SCE completion_2007								
LS Moorings	1841	E2	8010 NW St. Helens Rd.	EPA and Kristina Hoch	AOC	N	02/14/08	Other	N/A	N/A	N/A	N/A	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cleveland Street Dump	2363	E3 E	3420 N. Cleveland	Tom Gainer	PA Letter Agr for ERA (1/08)	N/A	02/12/08	Cleveland's Transport/Direct Flow	Ongoing	See Stormwater Pathway	No current schedule	Waiting on SCE to be completed	To be determined			Waiting on SCE comp. date								
Cleveland Street Dump	2363	E3 E	3420 N. Cleveland	Tom Gainer	PA Letter Agr for ERA (1/08)	N/A	02/12/08	Bank Erosion	Ongoing	To be determined	No current schedule	Waiting on SCE to be completed	To be determined			"To be determined"	RP removed black sand from beach and bank in 1/2001. Residual contamination remains or "lesser" data was not found with clean fill.							
Cleveland Street Dump	2363	E3 E	3420 N. Cleveland	Tom Gainer	PA Letter Agr for ERA (1/08)	N/A	02/12/08	Direct/Leader	Completed			Insignificant pathway remains are recommended	LOW	To be determined		Waiting on SCE comp. date								
Cleveland Street Dump	2363	E3 E	3420 N. Cleveland	Tom Gainer	PA Letter Agr for ERA (1/08)	N/A	02/12/08	Stormwater	Ongoing	Storm water sampling per LDCS	No current schedule	Waiting on SCE to be completed	To be determined			Waiting on SCE comp. date								
Cleveland Water Dump	2363	E3 E	3420 N. Cleveland	Tom Gainer	PA Letter Agr for ERA (1/08)	N/A	02/12/08	Overwater Activities	N/A	N/A	N/A	N/A	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cleveland Street Dump	2363	E3 E	3420 N. Cleveland	Tom Gainer	PA Letter Agr for ERA (1/08)	N/A	02/12/08	Other	N/A	N/A	N/A	N/A	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco Tar Deposits	3c	S-4 W	3420 NW St. Helens	Gretchen Kennedy Jensen	PA PA DOP Agr for DOP (2/05)	3c	02/12/08	Overland Transport/Direct Flow	N/A	N/A	N/A	N/A	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco Tar Deposits	3c	S-4 W	3420 NW St. Helens	Gretchen Kennedy Jensen	PA PA DOP Agr for DOP (2/05)	3c	02/12/08	Bank Erosion	Ongoing	Continue Bank Source Control Activities and Monitor for Future Action	To be determined	Potentially unacceptable	A-1 NAD			Waiting on SCE to be completed								

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information						Project status																		
Site name	SCD #	River mile	Address	DEQ PM	Type of agreement allowing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Basis for determination that source control is needed: Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Report control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Waste volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Contaminant migration maintenance
Cleveland Avenue	61	0.0 W	7000 NW St. Helens	Jennifer Sawyers (DEQ)	Prospective Purchaser Agreement (PPA)	IN	5/28/2008	Stormwater	Completed			Pathway is potential	High	High	Waiting on EPA review of SCE decision	Per PPA, PSD/Kucera Company Attachment Evaluation Report 2007								
Gasco (NW Natural)	64	0.4 W	7000 NW St. Helens	Jennifer Sawyers (DEQ)	Prospective Purchaser Agreement (PPA)	IN	5/28/2008	Stormwater	Ongoing	Complete stormwater system evaluation and sampling	Jan-Mar 2010	Pathway is complete	Low (as planned)		Waiting on SCD to be completed									
Gasco (NW Natural)	64	0.4 W	1300 NW St. Helens	Jennifer Sawyers (DEQ)	Prospective Purchaser Agreement (PPA)	TA	5/28/2008	Groundwater Activities	N/A	N/A	N/A	Not known (current sampling indicates contamination is DRAFT)	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco (NW Natural)	64	0.4 W	1400 NW St. Helens	Jennifer Sawyers (DEQ)	Prospective Purchaser Agreement (PPA)	IN	5/28/2008	Other NPDES Permit	Ongoing	Develop discharge standards	July 2009	Pathway is complete	Low (as planned)		Waiting on SCD to be completed									
Gasco (Gunderson Operable Unit)	100	0.0 W	7000 NW St. Helens	Rick Sappington (DEQ)	Joint Order With Natural and Water Systems (1000)	IN	5/27/2008	Overland Transport Sheet Flow	N/A	N/A	N/A	N/A	None	Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco (Gunderson Operable Unit)	100	0.0 W	7000 NW St. Helens	Rick Sappington (DEQ)	Joint Order With Natural and Water Systems (1000)	IN	5/27/2008	Bank Erosion	Ongoing	Accident management and assessment	Summer 2009	Waiting on SCE to be completed	To be determined		Waiting on SCE to be completed									
Gasco (Gunderson Operable Unit)	100	0.0 W	7000 NW Front	Rick Sappington (DEQ)	Joint Order With Natural and Water Systems (1000)	IN	5/27/2008	Other Stormwater	Completed	Upland evaluation for manufactured gas plant waste or ongoing pollutant SCE; attachment, attachment		Pathway is complete	High		Waiting on SCD after EPA review of SCE completed, SCE completed 2007	Per PPA PSD/Kucera Company Attachment Evaluation Report 2007								
Gasco (Gunderson Operable Unit)	100	0.0 W	7000 NW Front	Rick Sappington (DEQ)	Joint Order With Natural and Water Systems (1000)	IN	5/27/2008	Stormwater	Ongoing	Complete annual analysis of sampling results	Yearly work	Waiting on SCE to be completed	Low	Low	Waiting on SCD to be completed, 2009									
Gasco (Gunderson Operable Unit)	100	0.0 W	7000 NW Front	Rick Sappington (DEQ)	Joint Order With Natural and Water Systems (1000)	IN	5/27/2008	Groundwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco (Gunderson Operable Unit)	100	0.0 W	7000 NW Front	Rick Sappington (DEQ)	Joint Order With Natural and Water Systems (1000)	IN	5/27/2008	Other - Other Other	Ongoing	Other - work plan/application completed	Summer 2009	Pathway is potential	Low		Waiting on SCD to be completed, 2009									
Gasco (Gunderson Operable Unit)	100	0.0 W	7000 NW Front	Rick Sappington (DEQ)	Joint Order With Natural and Water Systems (1000)	IN	5/27/2008	Other - NPDES permit	Completed			Pathway is complete	Low		Waiting on SCD to be completed, 2009									
Harris Oil Corp. TCE Investigation	163	0.0 W	7000 NW Front	Chris Bauer	UST Order (DEQ)	IN	5/27/2008	Overland Transport Sheet Flow	N/A	N/A, Groundwater measured from UST system	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Harris Oil Corp. TCE Investigation	163	0.0 W	7000 NW Front	Chris Bauer	UST Order (DEQ)	IN	5/27/2008	Bank Erosion	N/A	N/A, Groundwater measured from UST system	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Harris Oil Corp. TCE Investigation	163	0.0 W	7000 NW Front	Chris Bauer	UST Order (DEQ)	IN	5/27/2008	Other Stormwater	Ongoing	Complete upland RI and source control evaluation	2009	Pathway is complete	Low - High	Low - High	Waiting on SCD to be completed	Attachment completed draft evaluation report submitted for Water 2008	Final SCMs TBD based on SCM and Work Plan review, to be submitted by end of January 2009							
Harris Oil Corp. TCE Investigation	163	0.0 W	7000 NW Front	Chris Bauer	UST Order (DEQ)	IN	5/27/2008	Stormwater	Ongoing	Site specific outfall location evaluation, including field construction and sampling	2009	Completed and Pathway not known (but SD outfall Shed C)	Low (to be determined)		Waiting on SCD to be completed									
Harris Oil Corp. TCE Investigation	163	0.0 W	7000 NW Front	Chris Bauer	UST Order (DEQ)	IN	5/27/2008	Groundwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Harris Oil Corp. TCE Investigation	163	0.0 W	7000 NW Front	Chris Bauer	UST Order (DEQ)	IN	5/27/2008	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Willamette Cove	200	0.0 E	Foot of N. Edgewater	Keith Farrell	Tri-Agency BHSCM (1100)	IN	6/28/2008	Overland Transport Sheet Flow	Completed			Unknown but not likely based on site characterization	Low		Waiting on SCD to be completed, 2008									

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Source control evaluation (SCE)												
Site name	SCS #	Map w/w	Address	DEQ PM	Type of upland source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Required control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection rationale	SCM activities completed to date (m-y)	Make-up volume of contaminated controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Comment and explanation of inconsistencies
Willamette Cove	3066	6.5 E	Foot of N. Edgewater	Kevin Parrett	PH Agr for 03/SCM (11/05)	Al	12/05/06	Sediment	Ongoing	Complete sediment sampling	2006	Suspected migration pathway	N/ to be determined	N/ to determined	Waiting on SCE to be completed, 2006									
Willamette Cove	3066	6.5 E	Foot of N. Edgewater	Kevin Parrett	PH Agr for 03/SCM (11/05)	Al	12/05/06	Groundwater	Ongoing	Continue groundwater monitoring	2006	Suspected migration pathway	N/ to determined		Waiting on SCE to be completed, 2006									
Willamette Cove	3066	6.5 E	Foot of N. Edgewater	Kevin Parrett	PH Agr for 03/SCM (11/05)	Al	12/05/06	Stormwater	Ongoing	Evaluate potential SVOC above criteria	2006	Suspected migration pathway	N/ to determined		Waiting on SCE to be completed, 2006									
Willamette Cove	3066	6.5 E	Foot of N. Edgewater	Kevin Parrett	PH Agr for 03/SCM (11/05)	Al	12/05/06	Overwater activities	N/A	N/A	N/A	No current known likely migration pathway	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Willamette Cove	3066	6.5 E	Foot of N. Edgewater	Kevin Parrett	PH Agr for 03/SCM (11/05)	Al	12/05/06	Other - in river sediments removal	Completed			Suspected migration pathway	Medium		EPA reviewed and concurred	alternatives evaluation completed 2004	Source removal completed, to date 10/2004	Returned to in-river Al						
Willamette Cove	3066	6.5 E	Foot of N. Edgewater	Kevin Parrett	PH Agr for 03/SCM (11/05)	Al	12/05/06	Overwater Activities	Completed			Suspected migration pathway	Medium		EPA reviewed and concurred	alternatives evaluation completed 2004	Source removal completed, to date 10/2004	Returned to in-river Al						
Wacker Property	1122	2.5 W of	4200 NW Front Avenue	Tom Bishop	PH Agr for 03/SCM (11/05)	Al	12/05/06	Groundwater/Seep Flow	N/A	N/A	N/A	UPE	None	High	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wacker Property	1122	2.5 W of	4200 NW Front Avenue	Tom Bishop	PH Agr for 03/SCM (11/05)	Al	12/05/06	Seep Sediments	N/A	N/A	N/A	N/A	Low		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wacker Property	1122	2.5 W of	4200 NW Front Avenue	Tom Bishop	PH Agr for 03/SCM (11/05)	Al	12/05/06	Groundwater (SVOC, PCB, DDT, DDE, Dieldrin and Arsenic)	Ongoing	SCE Sediment investigation completed, 4/06; DEQ Sediment Assessment completed 2/06	2/1/06 (Sediment investigation completed)	Not known at complete	p - high		Waiting on SCE to be completed	N/A - NT								
Wacker Property	1122	2.5 W of	4200 NW Front Avenue	Tom Bishop	PH Agr for 03/SCM (11/05)	Al	12/05/06	Groundwater/Seep Sediments, Overwater Activities, Other Upland Sources	Completed			Unknown at complete	High				PH-04-SCM, 11/05 TO groundwater monitoring, SCMs are little involving soil, seeing source water treatment, dispersion per refinery							
Wacker Property	1122	2.5 W of	4200 NW Front Avenue	Tom Bishop	PH Agr for 03/SCM (11/05)	Al	12/05/06	Stormwater	Ongoing	Site Outfall 002 & 003, storm water sampling	Plan by Q4 2006 to be completed	Not sig at SCE to be completed	p-high		Waiting on SCE to be completed									
Wacker Property	1122	2.5 W of	4200 NW Front Avenue	Tom Bishop	PH Agr for 03/SCM (11/05)	Al	12/05/06	Overwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wacker Property	1122	2.5 W of	4200 NW Front Avenue	Tom Bishop	PH Agr for 03/SCM (11/05)	Al	12/05/06	Other - Historical sediment	Ongoing	Complete sediment investigation	SCE Sediment investigation due 6/06	Not sig at SCE to be completed	N/ to SCE		Waiting on SCE to be completed									
Wacker Property	1122	2.5 W of	4200 NW Front Avenue	Tom Bishop	PH Agr for 03/SCM (11/05)	Al	12/05/06	Other - Upland sediments removal	Ongoing	Cyclic stormwater	No current information	Not sig at SCE to be completed	N/ to SCE to be		Waiting on SCE to be completed									
Ex-Centennial Mills/W	1a	1	1800 N. Edgewater Street	Kevin Parrett	Supplemental agreement with City	Centennial Mills Ongoing	12/05/06	Groundwater Seep/Sediment Flow	Completed			Removed to satisfaction	High	High	Complete									
Ex-Centennial Mills/W	1a	1	1800 N. Edgewater Street	Kevin Parrett	Supplemental agreement with City	Centennial Mills Ongoing	12/05/06	Seep Sediment	Completed			Pathway is complete	High		Complete									
Ex-Centennial Mills/W	1a	1	1800 N. Edgewater Street	Kevin Parrett	Supplemental agreement with City	Centennial Mills Ongoing	12/05/06	Stormwater	Completed			Removed to satisfaction	High		Complete									
Ex-Centennial Mills/W	1a	1	1800 N. Edgewater Street	Kevin Parrett	Supplemental agreement with City	Centennial Mills Ongoing	12/05/06	Overwater	Completed			Pathway is complete	High		Complete									
Ex-Centennial Mills/W	1a	1	1800 N. Edgewater Street	Kevin Parrett	Supplemental agreement with City	Centennial Mills Ongoing	12/05/06	Overwater Activities	Completed			Removed to satisfaction	High		Complete									
Ex-Centennial Mills/W	1a	1	1800 N. Edgewater Street	Kevin Parrett	Supplemental agreement with City	Centennial Mills Ongoing	12/05/06	Other	N/A			N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kaiser Inc	2343	7	7000 NW St. Helens Rd.	Matt Wick/Chris	Port of NW Natural Gas or etc. gas, Elec. etc.			Chemical Transport/Sediment Flow																
Kaiser Inc	2343	7	7000 NW St. Helens Rd.	Matt Wick/Chris				Seep Sediment																
Kaiser Inc	2343	7	7000 NW St. Helens Rd.	Matt Wick/Chris				Groundwater																
Kaiser Inc	2343	7	7000 NW St. Helens Rd.	Matt Wick/Chris				Stormwater																
Kaiser Inc	2343	7	7000 NW St. Helens Rd.	Matt Wick/Chris				Overwater Activities																
Kaiser Inc	2343	7	7000 NW St. Helens Rd.	Matt Wick/Chris				Other																

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river																											
Site information					Project status			Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)										
												Basis for determination that source control is needed															
Site name	SCE #	River mile	Address	DEQ File	Type of agreement allowing source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control measures selected or are scheduled (m-y)	Selected SCDs	Status of EPA review of SCD selection decision	SCM activities completed to date (m-y)	Measure volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river: Site Information					Project status			Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site name	SCD #	River mile	Address	DEQ PM	Type of suspected upland source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Basis for determination that source control is needed: Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Source control alternatives evaluation and schedule (m-d-y)	Selected SCMs	Status of EPA review of SCM selection conclusion	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM modifications to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operator and maintenance requirements
GS Kuebing	117	7.5 W	6323 NW Front	Mike Rylander	VCP - Pri Agr Pending	3/1/1	09/1/2008	Groundwater Interflow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GS Kuebing	117	7.5 W	6323 NW Front	Mike Rylander	VCP - Pri Agr Pending	3/1/1	09/1/2008	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Triangle Park (N PDX Yard)	277	1.6 E	5625 N Van Houten	Jim Anderson	Pre-Pri PPA for RIFS (SAP)	RI / RA	03/10/08	Dockside Transport/Haul Road	Completed			Contaminated soil areas not in stormwater & groundwater	SMC's		EPA reviewed and commented	alternatives evaluation completed, 12/2009	-Dig & haul all hot spots & CONNECTION and backup anticipated to be completed within 3-7 after property sale	Proposed SCM to EPA 9/24. Received comments 12/24. DEQ responded to comments 2/25	SCMs completed to be subject after pending property transfer & complete (2017)	Estimated 600cy or 400 kg removed & 3. 1/2cy of surface stripped	-Dig & haul all hot spots & CONNECTION and cleanup anticipated to be completed in 07 after property sale			
Triangle Park (N PDX Yard)	277	1.6 E	5625 N Van Houten	Jim Anderson	Pre-Pri PPA for RIFS (SAP)	RI	03/10/08	Back Eddies	Completed			Contaminated soil areas not in stormwater & groundwater	SMC's		EPA reviewed and commented	alternatives evaluation completed, 12/2009	-Dig & haul all hot spots & CONNECTION and cleanup anticipated to be completed within 3-7 after property sale	Proposed SCM to EPA 9/24. Received comments 12/24. DEQ responded to comments 2/25	SCMs completed to be subject after pending property transfer & complete (2017)	A portion of the estimated 600cy or 400 kg removed & 3. 1/2cy of surface stripped to in the back area	-Dig & haul all hot spots & CONNECTION and cleanup anticipated to be completed in 07 after property sale			
Triangle Park (N PDX Yard)	277	1.6 E	5625 N Van Houten	Dave Rupp	UST Leak (Orphan Release)	RI	09/1/2008	Groundwater	Ongoing	Prepare source control evaluation	June 2009	Pathway is complete	p Low	to be determined	Pending on SCD comp when									N/A
Triangle Park (N PDX Yard)	277	1.6 E	5625 N Van Houten	Jim Anderson	Pre-Pri PPA for RIFS (SAP)	RI	03/10/08	Stormwater	Completed			Contaminated soil areas not in stormwater & groundwater	Mod's		EPA reviewed and commented, 12/2009	alternatives evaluation completed, 12/2009	Dig & haul all hot spots & CONNECTION and backup anticipated to be completed within 3-7 after property sale	EPA review completed 12/09	SCMs completed to be subject after pending property transfer & complete (2017)	A portion of the estimated 600cy or 400 kg removed & 3. 1/2cy of surface stripped to in the back area	-Dig & haul all hot spots & CONNECTION and cleanup anticipated to be completed in 07 after property sale		Proposed SCD to EPA 9/24. Received comments 12/24. DEQ responded to comments 2/25	
Triangle Park (N PDX Yard)	277	1.6 E	5625 N Van Houten	Jim Anderson	Pre-Pri PPA for RIFS (SAP)	RI	09/10/08	Groundwater Interflow	N/A			No current exposure activities	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Triangle Park (N PDX Yard)	277	1.6 E	5625 N Van Houten	Jim Anderson	Pre-Pri PPA for RIFS (SAP)	RI	09/10/08	Other - Pedestrian pipeline exterior at south end of site from Kenworth the river	Completed			Insignificant pathway, health risk recommended	Low		EPA reviewed and commented									
Gasco Gasworks (Portland Gas Co)	49	2.5 W	5330 NW Front Ave	DEQ Mark Ryan (Orphan Release)	2 N Gasoline Storage		07/10/02	Groundwater Transport/Seep Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco Gasworks (Portland Gas Co)	49	2.5 W	5330 NW Front Ave	DEQ Mark Ryan (Orphan Release)	2 N Gasoline Storage		09/10/08	Back Eddies	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco Gasworks (Portland Gas Co)	49	2.5W	5330 NW Front Ave	DEQ Mark Ryan (Orphan Release)	2 N Gasoline Storage		09/10/08	Groundwater	Completed			Insignificant pathway or not risk recommended	Low		DEQ review completed 10/10, concurrence on decision memo									EPA review
Gasco Gasworks (Portland Gas Co)	49	2.5W	5330 NW Front Ave	DEQ Mark Ryan (Orphan Release)	2 N Gasoline Storage		01/10/09	Groundwater/Surface Water Seep	Ongoing	Track source control activities to completion, pathway for contaminant seep, other	Active commercial	Pathway is complete	p. Mod		EPA review									
Gasco Gasworks (Portland Gas Co)	49	2.5W	5330 NW Front Ave	DEQ Mark Ryan (Orphan Release)	2 N Gasoline Storage		09/10/08	Stormwater	Completed			Insignificant pathway needed. Current overhead replacement pathway, no further recommended	Low		EPA review		1) Contaminated soil removal and containment; backfill; 2) Stormwater recharge; 3) NCSW treatment/recharge; 4) Barrier to infiltration zone; 5) O&M integrity								EPA review
Gasco Gasworks (Portland Gas Co)	49	2.5W	5330 NW Front Ave	DEQ Mark Ryan (Orphan Release)	2 N Gasoline Storage		09/10/08	Groundwater Interflow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Confirmed or suspected Sources of contamination to the river																										
Site information					Project status			Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)									
Site name	RCB #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of ACE	Major SCE tasks to be completed	Scheduled for completing SCE	Basis for determination that source control is needed: Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Open SCM completion (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
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Chemtrol Asphalt	1201	8.2 W	9201 NW Front	Mark Pugh	P-1 Letter Agr for EPA / DEQ	ACTIVE	09/08/08	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chemtrol Asphalt	1201	8.2 W	9201 NW Front	Mark Pugh	P-1 Letter Agr for EPA / DEQ	ACTIVE	09/08/08	Rain Water	N/A	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chemtrol Asphalt	1201	8.2 W	9201 NW Front	Mark Pugh	P-1 Letter Agr for EPA / DEQ, new agreement being negotiated	ACTIVE	09/08/08	Groundwater	Ongoing	EPA Methods sampling DEQ provided comments for source control screening SCE report pending	spring 2009	Waiting on SCE to be completed	p Low	p Med	Waiting on SCE to be completed									
Chemtrol Asphalt	1201	8.2 W	9201 NW Front	Mark Pugh	P-1 Letter Agr for EPA / DEQ, new agreement being negotiated	ACTIVE	09/08/08	Stormwater	Ongoing	EPA Methods sampling DEQ provided comments for source control screening SCE report pending	spring 2009	Waiting on SCE to be completed	p Med		Waiting on SCE to be completed			Waiting on SCE to be completed						
Chemtrol Asphalt	1201	8.2 W	9201 NW Front	Mark Pugh	P-1 Letter Agr for EPA / DEQ	ACTIVE	09/08/08	Overland Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chemtrol Asphalt	1201	8.2 W	9201 NW Front	Mark Pugh	P-1 Letter Agr for EPA / DEQ	ACTIVE	09/08/08	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Ave LP	1209	8.1 W	4800, 5004 & 5020 NW Front	Mike Romano	VCP Letter Agr for PA (1020)	IC	09/12/08	Overland Transport/Sheet Flow	Ongoing	Conducting EPA	2009	Waiting on SCE to be completed	To be determined	To be determined	Waiting on SCE to be completed									
Front Ave LP	1209	8.1 W	4800, 5004 & 5020 NW Front	Mike Romano	VCP Letter Agr for PA (1020)	IC	09/12/08	Rain Water	Ongoing	Conducting EPA	2009	Waiting on SCE to be completed	To be determined		Waiting on SCE to be completed									
Front Ave LP	1209	8.1 W	4800, 5004 & 5020 NW Front	Mike Romano	VCP Letter Agr for PA (1020)	IC	09/12/08	Groundwater	Ongoing	Conducting EPA	2009	Waiting on SCE to be completed	To be determined		Waiting on SCE to be completed									

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	SCD #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Source control alternatives and cost/benefit analysis (Y/N)	Selected SCMs	Status of EPA review of SCM selection conclusion	SCM activities completed to date (Y/N)	Mass or volume of contaminants controlled	Proposed SCM activities to be done after finalization (Y/N)	Date SCM completed (m-d)	Status of EPA review of completed SCM	Operation and maintenance requirements
Front Ave LF	1120	6.1 W	4800, 5004 & 5020 NW Front	Mike Romano	VCP Letter Agr for PA (1/02)	AI	09/12/06	Stormwater	Ongoing	Conducting EPA additional sampling needed	2009	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed									
Front Ave LF	1120	6.1 W	4800, 5004 & 5020 NW Front	Mike Romano	VCP Letter Agr for PA (1/02)	AI	09/12/06	Overwater Activities	N/A	N/A	N/A	No known current sources (with adjacent to CERCLA)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Ave LF	1120	6.1 W	4800, 5004 & 5020 NW Front	Mike Romano	VCP Letter Agr for PA (1/02)	AI	09/12/06	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Greater Northwest Inc	2078		5004 NW Front Ave	Mike Romano	Part of Front Ave LF site see DEQ #1120			Overland Transport/Sheet Flow																
Greater Northwest Inc	2078		5004 NW Front Ave	Mike Romano				Bank Erosion																
Greater Northwest Inc	2078		5004 NW Front Ave	Mike Romano				Groundwater																
Greater Northwest Inc	2078		5004 NW Front Ave	Mike Romano				Stormwater																
Greater Northwest Inc	2078		5004 NW Front Ave	Mike Romano				Overwater Activities																
Greater Northwest Inc	2078		5004 NW Front Ave	Mike Romano				Other																
LSCO	1208	6.3 E	4747 N Basin Ave	Tom Gainer	VCP Letter Agr (1/02)	AI	03/08/06	Overland Transport/Sheet Flow	Completed			Insignificant pathway, no act ions recommended	Low	to be determined	Waiting on SCE to be completed, Winter 2008									
LSCO	1208	6.3 E	4747 N Basin Ave	Tom Gainer	VCP Letter Agr (1/02)	AI	03/08/06	Bank Erosion	Completed			Insignificant pathway, no act ions recommended	Low		Waiting on SCE to be completed, Winter 2008									
LSCO	1208	6.3 E	4747 N Basin Ave	Tom Gainer	VCP Letter Agr (2/01)	AI	03/08/06	Groundwater	Completed			Insignificant pathway, no actions recommended	Low		Waiting on SCE to be completed, Winter 2008									
LSCO	1208	6.3 E	4747 N Basin Ave	Tom Gainer	VCP Letter Agr (2/01)	AI	03/12/06	Stormwater	Ongoing	Sampling stormwater system	Fall 2008	Waiting on SCE to be completed	Lower		Waiting on SCE to be completed, Winter 2008									
LSCO	1208	6.3 E	4747 N Basin Ave	Tom Gainer	VCP Letter Agr (2/01)	AI	06/12/06	Overwater Activities	Ongoing	Evaluate dock activities	Fall 2008	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed, Winter 2008									
LSCO	1208	6.3 E	4747 N Basin Ave	Tom Gainer	VCP Letter Agr (2/01)	AI	03/08/06	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pilot Device	2360	6.3 E	6211 N Bradg	Mark Pugh	No Agr	S/N	03/08/06	Overland Transport/Sheet Flow	not started	screen IQ	No current schedule	Insignificant pathway, no act ions recommended	Low	p-level	Waiting on SCD comp start									
Pilot Device	2360	6.3 E	6211 N Bradg	Mark Pugh	No Agr	S/N	03/08/06	Bank Erosion	not started	scheduling	No current schedule	Waiting on SCE to be completed	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pilot Device	2360	6.3 E	6211 N Bradg	Mark Pugh	No Agr	S/N	03/08/06	Groundwater	not started	screen IQ	No current schedule	Waiting on SCE to be completed	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pilot Device	2360	6.3 E	6211 N Bradg	Mark Pugh	No Agr	S/N	03/08/06	Stormwater	Ongoing	Insignificant pathway as issue under a current stormwater SCD	Not clear, screening IQ, sampling SCD, early 2007	Waiting on SCE to be completed	p-level		Waiting on SCD to be completed									
Pilot Device	2360	6.3 E	6211 N Bradg	Mark Pugh	No Agr	S/N	03/08/06	Overwater Activities	N/A	N/A	N/A	No known current sources (with adjacent to CERCLA)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pilot Device	2360	6.3 E	6211 N Bradg	Mark Pugh	No Agr	S/N	03/08/06	Other	N/A	N/A	N/A	Waiting on SCE to be completed	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lumber yard	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

- Shading indicates that all upland source control work has been completed at the site.
- Orange indicates that the site is a high priority, or potentially high priority for source control.
- Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
- Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river									Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status								Basis for determination that source control is needed													
Site name	DEQ #	Work area	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (M-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusions	Source control alternatives evaluation and schedule (M-y)	Selected SCDs	Status of EPA review of SCD selection rationale	SCM activities completed to date (M-y)	Mass or volume of contamination controlled	Proposed SCM activities to be done and schedule (M-y)	Date SCM completed (M-y)	Basis of EPA review of completed SCM	Operation and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Freightliner Truck Plant	2366	6.4 E	6600 N Fathom	West Remains	Pri Agr for 6600CM (1995)	IR	06/1/2006	Overbank Transport/Wind Blow	N/A	N/A	N/A	N/A	none	to be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner Truck Plant	2366	6.4 E	6600 N Fathom	West Remains	Pri Agr for 6600CM (1995)	IR	06/1/2006	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner Truck Plant	2366	6.4 E	6600 N Fathom	West Remains	Pri Agr for 6600CM (1995)	IR	06/1/2006	Groundwater	Ongoing	determine nature and extent of NAPL plume	SCM under development 2006	Waiting on SCD to be completed	to be determined		Waiting on SCD to be completed										
Freightliner Truck Plant	2366	6.4 E	6600 N Fathom	West Remains	Pri Agr for 6600CM (1995)	IR	06/1/2006	Stormwater	Ongoing	EPA indicated needed	SCM under development, due spring 2006	Waiting on SCD to be completed	to be determined		Waiting on SCD to be completed		non-voluntary agreement with Oregon Steel Outfall; existing media "out" stormwater system treatment required DEQ prior to completing screening								
Freightliner Truck Plant	2366	6.4 E	6600 N Fathom	West Remains	Pri Agr for 6600CM (1995)	IR	06/1/2006	Overbank Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner Truck Plant	2366	6.4 E	6600 N Fathom	West Remains	Pri Agr for 6600CM (1995)	IR	06/1/2006	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lakeside Industries	2372	6.4 W	4800 NW Front	SW Rotterdam	Pri Letter Agr for XPA (2002)	N/A	03/08/06	Overbank Transport/Wind Blow	N/A	N/A	N/A	N/A	none	to be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lakeside Industries	2372	6.4 W	4800 NW Front	SW Rotterdam	Pri Letter Agr for XPA (2002)	N/A	03/08/06	Bank Erosion	Completed			Insignificant or unlikely needed and determined	Low		Waiting on SCD comp. plan										
Lakeside Industries	2372	6.4 W	4800 NW Front	SW Rotterdam	Pri Letter Agr for XPA (2002)	N/A	03/08/06	Groundwater	Ongoing	DEQ review of SCE data and source control determination	2006	Waiting on SCD to be completed	to be determined	to be determined	Waiting on SCD comp. plan May 2006		UIC process in 2003								
Lakeside Industries	2372	6.4 W	4800 NW Front	SW Rotterdam	Pri Letter Agr for XPA (2002)	N/A	03/08/06	Stormwater	Ongoing	Initiate stormwater evaluation	to be determined	Waiting on SCD to be completed	to be determined		Waiting on SCD comp. plan		reuse UIC stormwater UIC volume in 2003								
Lakeside Industries	2372	6.4 W	4800 NW Front	SW Rotterdam	Pri Letter Agr for XPA (2002)	N/A	03/08/06	Overbank Activities	N/A	N/A	N/A	No known current sources (data requested to DEQ)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lakeside Industries	2372	6.4 W	4800 NW Front	SW Rotterdam	Pri Letter Agr for XPA (2002)	N/A	03/08/06	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portland Shipyard	271	6.4 C	Swan Island	Jennifer Sutter	Pre-PA VCP Letter Agr (1998); Pri Agr is signature process	IR	09/06/06	Bank Erosion	Ongoing	RP is conducting RI to determine if SCM is needed	SCM under development, due 30 days after RI Agr issued	Waiting on SCD to be completed	p. Med		Waiting on SCD to be completed										
Portland Shipyard	271	6.4 C	Swan Island	Jennifer Sutter	Pre-PA VCP Letter Agr (1998)	IR	09/06/06	Bank Erosion - In Channel Area Pilot Area	Ongoing	RP is conducting RI to determine if SCM is needed	Risk assessment completion April 2006 with comment	Waiting on SCD to be completed	p. Med		Waiting on SCD to be completed Spring 2006										

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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= Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
= Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)									
Site information					Project status							Basis for determination that source control is needed													
Site name	SCE #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule	Date SCM completed	Status of EPA review of completed SCM	Operation and maintenance requirements	
[illegible]	271	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]										
[illegible]	271	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]										
[illegible]	271	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]										
[illegible]	271	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]										
[illegible]	271	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N/A	N/A	N/A	[illegible]	[illegible]		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
[illegible]	271	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N/A	N/A	N/A	[illegible]	[illegible]		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
[illegible]	271	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]										
[illegible]	271	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]										
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Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

- = Blending indicates that upland source control work has been completed at the site.
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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status						Basis for determination that source control is needed													
Site name	TCB #	River mile	Address	DEQ PM	Type of approved cleanup source control	Project status	Date last modified (M-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control effectiveness evaluation (one schedule line)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (line)	Mass or volume of contaminants controlled	Proposed SCM activities to be done (one schedule line)	Date SCM completed (M-d)	Status of EPA review of completed SCM	Contaminant and mechanism determinations
Tidewater Product Pipeline	21-17	6.7	4420 Block Front Ave.	Jeff McCrory	Not Agr for RI/FS/CM (RCC)	Ac	06/1/2000	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tidewater Product Pipeline	21-17	6.7	4420 Block Front Ave.	Jeff McCrory	Not Agr for RI/FS/CM (RCC)	Ac	06/1/2000	Sediment Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tidewater Product Pipeline	21-17	6.7	4420 Block Front Ave.	Jeff McCrory	Not Agr for RI/FS/CM (RCC)	Ac	06/1/2000	Groundwater	Ongoing	RI needs to evaluate R. sys. SCE issues	Fall 2000 SCE expected 2006	Waiting on SCE to be completed	Low		Waiting on SCE to be completed									
Tidewater Product Pipeline	21-17	6.7	4420 Block Front Ave.	Jeff McCrory	Not Agr for RI/FS/CM (RCC)	Ac	06/1/2000	Stormwater	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tidewater Product Pipeline	21-17	6.7	4420 Block Front Ave.	Jeff McCrory	Not Agr for RI/FS/CM (RCC)	Ac	06/1/2000	Overbank Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tidewater Product Pipeline	21-17	6.7	4420 Block Front Ave.	Jeff McCrory	Not Agr for RI/FS/CM (RCC)	Ac	06/1/2000	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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PGE Forest Park	24G2	8.5	4400 Block Street	*jon Rieck	TTSA	Ac	06/01/00	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PGE Forest Park	24G2	8.5	4400 Block Street	*jon Rieck	TTSA	Ac	06/01/00	Sediment Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PGE Forest Park	24G2	8.5	4400 Block Street	*jon Rieck	TTSA	Ac	06/01/00	Groundwater	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PGE Forest Park	24G2	8.5	4400 Block Street	*jon Rieck	TTSA	Ac	06/01/00	Stormwater	Ongoing	Storm Sys investigation SCE	~Fall 2000	Waiting on SCE to be completed	To be determined		Waiting on SCE to be completed									
PGE Forest Park	24G2	8.5	4400 Block Street	*jon Rieck	TTSA	Ac	06/01/00	Overbank Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PGE Forest Park	24G2	8.5	4400 Block Street	*jon Rieck	TTSA	Ac	06/01/00	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysler/Jeep Corp.	24C6	8.8 W	3621 NW St Helens	Tom Gainer	VCP Letter Agr for PA (SCE)	XTA	01/08/00	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysler/Jeep Corp.	24C6	8.8 W	3621 NW St Helens	Tom Gainer	VCP Letter Agr for PA (SCE)	XTA	01/08/00	Sediment Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysler/Jeep Corp.	24C6	8.8 W	3621 NW St Helens	Tom Gainer	VCP Letter Agr for PA (SCE)	XTA	01/08/00	Groundwater	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysler/Jeep Corp.	24C6	8.8 W	3621 NW St Helens	Tom Gainer	VCP Letter Agr for PA (SCE)	XTA	01/08/00	Stormwater	Ongoing	Storm water sampling 2Q 2000	Mid-2000	Waiting on SCE to be completed	To be determined		Waiting on SCE to be completed 2006		Storm water basins and flaring water basin and liner							
Chrysler/Jeep Corp.	24C6	8.8 W	3621 NW St Helens	Tom Gainer	VCP Letter Agr for PA (SCE)	XTA	01/08/00	Overbank Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysler/Jeep Corp.	24C6	8.8 W	3621 NW St Helens	Tom Gainer	VCP Letter Agr for PA (SCE)	XTA	01/08/00	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tidewater Terminal	14B	8.9 W	3600 NW St Helens	Jeff McCrory	Not Agr for RI/FS/CM (RCC)	Ac	06/1/2000	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

- Shading indicates that upland source control work has been completed at the site.
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Confirmed or suspected Sources of contamination to the river									Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status								Basis for determination that source control is needed												
Site name	SCD #	River mile	Address	DEQ PM	Type of agreement governing source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation are to include (m-y)	Selected SCM	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done this calendar (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Texaco Terminal	102	8.5 W	3800 NW St Helens	Matt Wolcomb	Prj Agr for AMSCM (MCS)	In	09/12/08	Berry Cracker	N/A	N/A	N/A	N/A	none	In the determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Texaco Terminal	102	8.5 W	3800 NW St Helens	Matt Wolcomb	Prj Agr for AMSCM (MCS)	N	09/12/08	Groundwater	Ongoing	RI Needs to finalize R and SCE report	Draft SCE expected 2008	Waiting on SCE to be completed	3 Low		Waiting for SCE to be completed										
Texaco Terminal	102	8.5 W	3800 NW St Helens	Matt Wolcomb	Prj Agr for AMSCM (MCS)	M	09/12/08	Stormwater	Ongoing	RI Needs to finalize R and SCE report	Draft SCE expected 2008	Waiting on SCE to be completed	to be determined		Waiting for SCE to be completed										
Texaco Terminal	102	8.5 W	3800 NW St Helens	Matt Wolcomb	Prj Agr for AMSCM (MCS)	H	09/12/08	Overwater Activities	N/A	N/A	N/A	No known current sources (active sources to OCSD)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Texaco Terminal	102	8.5 W	3800 NW St Helens	Matt Wolcomb	Prj Agr for AMSCM (MCS)	N	09/12/08	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anderson Brothers Property	272	5.0	5275 S 32 St NW St, Helens Or	Bob Schwarz	Cr	N	6/25/08	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	None	In the determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anderson Brothers Property	272	5.0	5275 S 32 St NW St, Helens Or	Bob Schwarz	Cr	N	6/25/08	Berry Cracker	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anderson Brothers Property	272	5.0	5275 S 32 St NW St, Helens Or	Bob Schwarz	Cr	N	6/25/08	Groundwater	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anderson Brothers Property	272	5.0	5275 S 32 St NW St, Helens Or	Bob Schwarz	Cr	N	6/25/08	Stormwater	Ongoing	Implementation of stormwater line cleanout and SWPP	No survey scheduled	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed										
Anderson Brothers Property	272	5.0	5275 S 32 St NW St, Helens Or	Bob Schwarz	Cr	N	6/25/08	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anderson Brothers Property	272	5.0	5275 S 32 St NW St, Helens Or	Bob Schwarz	Cr	N	6/25/08	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alexander and Rogers	102	3	3800 NW Front Ave	EPA and Kristine Koch				Overland Transport/Sheet Flow																	
Alexander and Rogers	102	3	3800 NW Front Ave	EPA and Kristine Koch				Berry Cracker																	
Alexander and Rogers	102	3	3800 NW Front Ave	EPA and Kristine Koch				Groundwater																	
Alexander and Rogers	102	3	3800 NW Front Ave	EPA and Kristine Koch				Stormwater																	
Alexander and Rogers	102	3	3800 NW Front Ave	EPA and Kristine Koch				Overwater activities																	
Alexander and Rogers	102	3	3800 NW Front Ave	EPA and Kristine Koch				Other																	
Gulch Lake Rifle Yard	102	8.0 W	3300 NW Front	Mike Nelsen	Prj Agr for AMSCM (TMS)	N	05/12/08	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	In the determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gulch Lake Rifle Yard	102	8.0 W	3300 NW Front	Mike Nelsen	Prj Agr for AMSCM (TMS)	N	05/12/08	Berry Cracker	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gulch Lake Rifle Yard	102	8.0 W	3300 NW Front	Mike Nelsen	Prj Agr for AMSCM (TMS)	N	05/12/08	Groundwater	Ongoing	DAR investigation ongoing; in early stages	2008 Pre-RI report report that some sources but SCE schedule to be determined	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed										
Gulch Lake Rifle Yard	102	8.0 W	3300 NW Front	Mike Nelsen	Prj Agr for AMSCM (TMS)	N	05/12/08	Stormwater	Ongoing	EPA investigation ongoing; in early stages	2008 Pre-RI report report that some sources but SCE schedule to be determined	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed										
Gulch Lake Rifle Yard	102	8.0 W	3300 NW Front	Mike Nelsen	Prj Agr for AMSCM (TMS)	N	05/12/08	Dredgeate Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gulch Lake Rifle Yard	102	8.0 W	3300 NW Front	Mike Nelsen	Prj Agr for AMSCM (TMS)	N	05/12/08	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

- = Shading indicates that upland source control work has been completed at the site
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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed													
Site name	SCD #	River mile	Address	DEQ File	Type of suspected upland source control	Project status	Date last modified (mm/dd)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Source control information and schedule (mm/yy)	Selected SCDs	Status of EPA review of SCD selection conclusion	SCM activities completed to date (mm/yy)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (mm/yy)	Date SCM completed (mm/yy)	Status of EPA review of completed SCM	Operation and maintenance requirements
Gasline Creek	1102	0.3 W	4210 SW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (SBG)	TS	06/21/06	Overland Transport/Surface Flow - Area 1	N/A	Will actually process and/or sediment	N/A	N/A	none	a-high	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Superfund	1103	0.0 W	4701 NW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (1100)	JB	06/21/06	Overland Transport/Surface Flow - Area 2	Ongoing	Complete 10 reports with source control screening process, as well as e.g. gallery	Projection: for late 2006	Pathway is complete	p - high		Waiting on SCE to be completed										
Guardian	1103	0.3 W	4201 SW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (1104)	JH	07/13/06	Overland Transport/Surface Flow - Area 3	Ongoing	Complete 10 reports with source control screening process, as well as RI/FS decision	Fall 2006	Pathway is complete	p - high		Waiting on SCE completion										
Guardian	1103	0.3 W	4201 NW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (1104)	JH	06/21/06	Back Slope - Area 1	Ongoing	Review of workbook with follow-up gallery trip	No current estimate	Waiting on SCE to be completed	to be determined		Waiting on SCE completion										
Guardian	1103	0.3 W	4201 SW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (1104)	JH	06/21/06	Back Slope - Area 2	Ongoing	Complete 10 reports with source control screening process, as well as RI/FS decision	Projection: for late 2006	Pathway is complete	p - high		Waiting on SCE completion										
Guardian	1103	0.3 W	4201 SW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (1104)	JH	06/21/06	Back Slope - Area 3	Ongoing	Complete 10 reports with source control screening process, as well as RI/FS decision	Fall 2006	Pathway is complete	p - high		Waiting on SCE completion										
Guardian	1103	0.3 W	4201 SW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (1104)	JB	06/21/06	Groundwater - Area 1	Ongoing	Review of workbook with follow-up gallery trip	No current estimate	Pathway is not applicable	n/a		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Guardian	1103	0.3 W	4201 SW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (1104)	JB	06/21/06	Groundwater - Area 2	Ongoing	Complete 10 reports with source control screening process, as well as RI/FS decision	Projection: for late 2006	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed										
Guardian	1103	0.3 W	4201 SW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (1104)	JB	06/21/06	Groundwater - Area 3	Ongoing	Complete 10 reports with source control screening process, as well as RI/FS decision	Fall 2006	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed										
Guardian	1103	0.3 W	4201 SW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (1104)	JB	06/21/06	Stormwater - Area 1	Ongoing	Complete 10 reports with source control screening process, as well as RI/FS decision	Projection: for late 2006	Waiting on SCE to be completed	to be determined		Waiting on SCE completion										
Guardian	1103	0.3 W	4201 SW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (1104)	JB	06/21/06	Stormwater - Area 2	Ongoing	Complete 10 reports with source control screening process, as well as RI/FS decision	Fall 2006	Waiting on SCE to be completed	p - high		Waiting on SCE completion										
Guardian	1103	0.3 W	4201 SW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (1104)	JB	06/21/06	Stormwater - Area 3	Ongoing	Complete 10 reports with source control screening process, as well as RI/FS decision	Fall 2006	Waiting on SCE to be completed	p - high		Waiting on SCE completion										
Guardian	1103	0.3 W	4201 SW Front	Clean Beach	Pre-PA VCP Form 4(g) for RI/FS (1104)	JB	06/21/06	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner (Parts Mfg Plant)	1112	8.2 E	5400 N Basin	Mine Remain	Pre-PA for RI/FS/CM (1200)	JB	06/21/06	Overland Transport/Surface Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner (Parts Mfg Plant)	1112	8.3 E	5400 N Basin	Mine Remain	Pre-PA for RI/FS/CM (1200)	JB	06/21/06	Back Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner (Parts Mfg Plant)	1112	8.3 E	5400 N Basin	Mine Remain	Pre-PA for RI/FS/CM (1200)	JB	06/21/06	Groundwater	Ongoing	Site investigation working complete	2006	Waiting on SCE to be completed	to be determined												
Freightliner (Parts Mfg Plant)	1112	8.3 E	5400 N Basin	Mine Remain	Pre-PA for RI/FS/CM (1200)	JB	06/21/06	Stormwater	Ongoing	Additional stormwater sampling needed	SCM further development, due spring 2006	Waiting on SCE to be completed	to be determined	to be determined			SI voluntary cleanup of stormwater system prior to carry along screening								

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)							Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed											
Site name	SCS #	River mile	Address	DEQ PM	Type of upcoming source control	Project status	Date last modified (M-d-y)	Potential contaminant migration pathway	Status of SCS	Major SCS tasks to be completed	Schedule for completing SCS	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCS decisions	Source control information evaluation and schedule (M-y)	Selected SCMs	Status of EPA review of SCM effectiveness evaluation	SCM activities completed to date (M-y)	Mass or volume of contaminants controlled	Proposed SCM milestones to be done and schedule (M-y)	Date SCM completed (M-y)	Status of EPA review of completed SCM	Comments and/or Remarks/Recommendations
Portland Plating (Park Ave Plating)	112	8.2 E	2400 N Basin	Mick Rizzuto	Fin Agr for KUECM (1998)	N	06/12/08	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portland Plating (Park Ave Plating)	112	8.2 E	2400 N Basin	Mick Rizzuto	Fin Agr for BUSCM (1998)	N	06/12/08	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Columbia American Plating	28	8.3	3623 NW 29th Ave	Mark Pugh	Negotiating FPA	Negotiating FPA	05/09/08	Overland Transport/Direct Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Columbia American Plating	28	8.3	3623 NW 29th Ave	Mark Pugh	Negotiating FPA	Negotiating FPA	05/09/08	Dam Cribber	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Columbia American Plating	28	8.3	3623 NW 29th Ave	Mark Pugh	Negotiating FPA	Negotiating FPA	05/09/08	Groundwater	Not started	Additional limited grab/shallow sampling	No current schedule (pending FPA development)	Waiting on SCS to be completed	to be determined	to be determined										
Columbia American Plating	28	8.3	3623 NW 29th Ave	Mark Pugh	Negotiating FPA	Negotiating FPA	05/09/08	Stormwater	Not started	Installation and sampling of storm drain	No current schedule (pending FPA development)	Waiting on SCS to be completed	to be determined											
Columbia American Plating	28	8.3	3623 NW 29th Ave	Mark Pugh	Negotiating FPA	Negotiating FPA	05/09/08	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Columbia American Plating	28	8.3	3623 NW 29th Ave	Mark Pugh	Negotiating FPA	Negotiating FPA	05/09/08	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GE Doublemac-Kinking	4400	8.3 W	2727 NW 29th	Tom Danner	Fin Agr for EPA (UIC)	EPA	02/08/08	Overland Transport/Direct Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GE Doublemac-Kinking	4400	8.3 W	2727 NW 29th	Tom Danner	Fin Agr for EPA (UIC)	EPA	02/08/08	Dam Cribber	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GE Doublemac-Kinking	4400	8.3 W	2727 NW 29th	Tom Danner	Fin Agr for EPA (UIC)	EPA	02/08/08	Groundwater	N/A	N/A	N/A	N/A	none	to be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GE Doublemac-Kinking	4400	8.3 W	2727 NW 29th	Tom Danner	Fin Agr for EPA (UIC)	EPA	02/08/08	Stormwater	Ongoing	Storm water sampling (1st 2 years - 2007-2008)	mid-fall 2008	Waiting on SCS to be completed	to be determined		Waiting on SCS to be completed - winter 2008		Detailed network of PCB contaminated sediment from shallow water basins and plume							
GE Doublemac-Kinking	4400	8.3 W	2727 NW 29th	Tom Danner	Fin Agr for EPA (UIC)	EPA	02/08/08	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasnexus Company	1136	8.9 W	3408 NW 23rd	Dave Sweet	Fin Agr for EPA (UIC)	EPA	06/12/08	Overland Transport/Direct Flow	N/A	N/A, site located ~4,000 feet from river	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasnexus Company	1136	8.9 W	3408 NW 23rd	Dave Sweet	Fin Agr for EPA (UIC)	EPA	06/12/08	Dam Cribber	N/A	N/A, site located ~4,000 feet from river	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasnexus Company	1136	8.9 W	3408 NW 23rd	Dave Sweet	Fin Agr for EPA (UIC)	EPA	06/12/08	Direct Infiltration	Ongoing	Continuous monitoring	No current schedule	EPA data suggests groundwater may contribute to CSO alarm, pre-during low flows	to be determined		Waiting on SCS to be completed (2008)									

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	RCE #	River mile	Address	DEQ PM	Type of suspected ongoing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Reason control alternatives evaluated (or not) and schedule (mo)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (mo)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (mo)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Downstream Company	1196	8.8 W	2400 NW 32n	Dana Bagnuk	Pr Agr for EPA (1000)	X/A	06/1/200	Stormwater	Ongoing	Continued monitoring per JBCR	2002	Pathway is complete	to be determined	to be determined	Waiting on SCE to be completed (1000)		Final SCMs TBD. Interim SCMs include substantiating SWPs (performing/ing) and evaluating and participating and reporting site storm water from City line							
Downstream Company	1196	8.8 W	2400 NW 32n	Dana Bagnuk	Pr Agr for EPA (1000)	X/A	06/1/200	Overwater Activities	N/A	N/A, site located ~4,000 feet from river	N/A	N/A	N/A	none	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Downstream Company	1196	8.8 W	2400 NW 32n	Dana Bagnuk	Pr Agr for EPA (1000)	X/A	06/1/200	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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Port of Portland Terminal 2	2196	10.0 W	3700 NW Front	Tier Garner	X/A	X/A	2/2/2000	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	to be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal 2	2196	10.0 W	3700 NW Front	Tier Garner	X/A	X/A	2/2/2000	Spill Drawn	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal 2	2196	10.0 W	3700 NW Front	Tier Garner	X/A	X/A	2/2/2000	Dry Industry	Completed			High Point pathway, no active requirement	Low		Waiting on SCE to be completed (2006)									
Port of Portland Terminal 2	2196	10.0 W	3700 NW Front	Tier Garner	X/A	X/A	2/2/2000	Stormwater	Ongoing	Evaluate stormwater system	Fall 2004	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed (2006)									
Port of Portland Terminal 2	2196	10.0 W	3700 NW Front	Tier Garner	X/A	X/A	2/2/2000	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal 2	2196	10.0 W	3700 NW Front	Tier Garner	X/A	X/A	2/2/2000	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LYNN Albina	172	10.3 E	2740 N. Interstate	Alice Romano	Pr Agr for BUSCM (SCE)	N	06/1/200	Overland Transport/Sheet Flow	Ongoing	SCE ongoing	2002	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed									
LYNN Albina	172	10.3 E	2740 N. Interstate	Alice Romano	Pr Agr for BUSCM (SCE)	N	06/1/200	Bank Erosion	Ongoing	SCE ongoing	2002	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed									

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- Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status																			
Site name	SCD #	River mile	Address	DEQ PM	Type of upgradient upland source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Baseline SCE tasks to be completed	Schedule for completing SCE	Basis for determination that source control is needed: Pathway determination	Basis for determination that source control is needed: Pathway priority level	Basis for determination that source control is needed: Site priority level	Status of SCD review of SCE conclusions	Baseline control effectiveness evaluation and schedule (m-y)	Selected SCDs	Status of SCD review of SCD selection decisions	SCD schedule consistent w/ date (m-y)	Scope or volume of contaminated controlled	Proposed SCM application to be done and schedule (m-y)	Date SCD completed (m-y)	Status of SCM completed SCD	Operation and maintenance requirements
LPRR Albina	139	10.3 E	2740 N Interstate	Mike Hansen	PH Agr for RI/FS/CM (SC2)	In	09/1/2000	Groundwater	Ongoing	SCE ongoing	2000	Waiting on SCE to be completed	to be determined	To be determined	Waiting on SCE to be completed									
LPRR Albina	139	10.3 E	2740 N Interstate	Mike Hansen	PH Agr for RI/FS/CM (SC2)	In	09/1/2000	Stormwater	Ongoing	SCE ongoing	2000	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed		RCP-related soil site/receptor contam prior to completion of remedial; term SCMs may be needed.							
LPRR Albina	139	10.3 E	2740 N Interstate	Mike Hansen	PH Agr for RI/FS/CM (SC2)	In	09/1/2000	Overwater activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LPRR Albina	139	10.4 E	2740 N Interstate	Mike Hansen	PH Agr for RI/FS/CM (SC2)	In	09/1/2000	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POC Outfall on E	8878	2.1	2500 NW Front Ave.	Tom Gainer	VCP	3/1/4	2/24/2000	Overwater Transport/Shed Flow	N/A	N/A	N/A	N/A	None	Low	N/A	N/A	N/F	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POC Outfall on C	8878	2.1	2500 NW Front Ave.	Tom Gainer	VCP	3/1/4	2/24/2000	Sediment	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POC Outfall on B	8878	2.1	2500 NW Front Ave.	Tom Gainer	VCP	3/1/4	02/1/2000	Groundwater	Completed	Approved in 1999 submittals	Summer 2000	Weight that SCM/SCMs are not/are needed	Low		SCD sub-mitted to EPA for review 2/2000									
POC Outfall on E	8878	2.1	2500 NW Front Ave.	Tom Gainer	VCP	3/1/4	02/1/2000	Stormwater	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POC Outfall on 2	8878	2.1	2500 NW Front Ave.	Tom Gainer	VCP	3/1/4	02/1/2000	Overwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POC Outfall on 2	8878	2.1	2500 NW Front Ave.	Tom Gainer	VCP	3/1/4	02/1/2000	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kinsle Pump	1300	10.4 W	2800 NW Front	Mark Pugh	PH Agr for RI/FS (SC2)	3/1/4	02/2/2000	Overland Transport/Shed Flow	N/A	N/A	N/A	N/A	None	Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kinsle Pump	1300	10.4 W	2800 NW Front	Mark Pugh	PH Agr for RI/FS (SC2)	3/1/4	02/2/2000	Sediment	Ongoing	RI is conducting a SCE	SCE to be completed by fall 2000	Waiting on SCE to be completed	a Low		Waiting on SCD to be completed fall 2000									
Kinsle Pump	1300	10.4 W	2800 NW Front	Mark Pugh	PH Agr for RI/FS (SC2)	3/1/4	02/2/2000	Groundwater	Ongoing	RI is conducting a SCE	SCE to be completed by fall 2000	Waiting on SCE to be completed	a Low	a Low	Waiting on SCE to be completed fall 2000	all tasks for completing post-removal m report, Fall 2000	Groundwater and sediments below seawall	SCD evaluation pending	Cleanup completed in Oct 2000					
Kinsle Pump	1300	10.4 W	2800 NW Front	Mark Pugh	PH Agr for RI/FS (SC2)	3/1/4	02/2/2000	Stormwater	Ongoing	RI is conducting a SCE	SCE to be completed by fall 2000	Waiting on SCE to be completed	a Med		Waiting on SCD to be completed fall 2000									
Kinsle Pump	1300	10.4 W	2800 NW Front	Mark Pugh	PH Agr for RI/FS (SC2)	3/1/4	02/2/2000	Overwater Activities	N/A	N/A	N/A	No known/suspected source/pathway identified to CRWR	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kinsle Pump	1300	10.4 W	2800 NW Front	Mark Pugh	PH Agr for RI/FS (SC2)	3/1/4	02/2/2000	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal North	2077	10.8 W	2000 NW Front	Tom Gainer	PH Agr for RI/FS/CM	In	02/2/2000	Overland Transport/Shed Flow	N/A	N/A	N/A	N/A	None	In SW	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal North	2077	10.8 W	2000 NW Front	Tom Gainer	PH Agr for RI/FS/CM	In	02/2/2000	Sediment	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal North	2077	10.8 W	2000 NW Front	Tom Gainer	PH Agr for RI/FS/CM	In	02/1/2000	Groundwater	Ongoing	Complete groundwater sampling elsewhere; evaluate preparing one well	Summer 2000	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed 2000									

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	RCB #	Tax lots	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCE selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Hatch Portland Terminal - North	3077	1N E W	2320 NW Front	Tom Dalton	Ph Agr for RI/FS/CM	IC	10/08/03	Stormwater	Completed			Unpaved or partially paved area recommended	Low		Waiting on SCE to be completed 2005									
Port of Portland Terminal - North	3077	1N E W	2320 NW Front	Tom Dalton	Ph Agr for RI/FS/CM	RI	10/08/03	Overwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal - North	3077	1N E W	2320 NW Front	Tom Dalton	Ph Agr for RI/FS/CM	RI	10/08/03	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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Note: DEQ screened the following sites and determined that they are not potential sources of contamination to the Willamette River: Rider Creek Lumber, Gasbarre Lane Company, LLC, City of Portland Bureau of Environmental Services Water Lab, Hamilton Lumber [illegible], Peterson Iron Works, Lone Star Wire, Inc, Storage, Sorting Inc (Pacific Highway), and Lower Willamette Channel Contamination (City).

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

Note: Sites in this table are listed in order of river position (upriver to downriver) on the Willamette River, or the "River Mile" associated with their location. The River Mile indicates distance from the Willamette River's confluence with the Columbia River.

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	SCD #	River mile	Address	DEQ PM	Type of suspected drainage source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluated and scheduled (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities or its date and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Duration and monitoring requirements
Terminal 3	1668	1.0 E	10340, 10530 & 10580 N Lombard	Tom Donner	Oil	ETA	05/12/06	Overland Transport/Sheet Flow	N/A	NA	NA	NA	none		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terminal 4	1668	1.0 E	10340, 10530 & 10580 N Lombard	Tom Donner	Oil	ETA	06/12/06	Bank Erosion	N/A	NA	NA	NA	none		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terminal 5	1668	1.0 E	10340, 10530 & 10580 N Lombard	Tom Donner	TBA	ETA	06/12/06	Groundwater	Ongoing		Fall 2006	Waiting on SCE to be completed.	to be determined	to be determined	Waiting on SCE to be completed 2006									
Terminal 6	1668	1.0 E	10340, 10530 & 10580 N Lombard	Tom Donner	Oil	ETA	06/12/06	Stormwater	Ongoing	Implement Stormwater Sampling	Winter 2006	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed, 2006									
Terminal 5	1668	1.0 E	10340, 10530 & 10580 N Lombard	Tom Donner	Oil	ETA	06/12/06	Overwater Activities	N/A	NA	NA	NA	none		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terminal 6	1668	1.0 E	10340, 10530 & 10580 N Lombard	Tom Donner	Oil	ETA	06/12/06	Other	N/A	NA	NA	NA	none		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oregon Steel Mills	141	2.0 E	14400 N Rivergate	Mike McCrady	Air Agg for 8/8/06 (2006)	TI	06/07/06	Overland Transport/Sheet Flow	N/A	NA	NA	Unknown; been already source controlled (residual/sediment)	None	High	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oregon Steel Mills	141	2.0 E	14400 N Rivergate	Mike McCrady	Air Agg for 8/8/06 (2006)	TI	06/07/06	Bank Erosion	Completed			Unknown	High		SCE will include alternatives evaluation (Evaluation)	Alternatives evaluation (scheduled June 2006)		Adequate information for SCM suggestion/decision 2006						
Oregon Steel Mills	141	2.0 E	14400 N Rivergate	Mike McCrady	Air Agg for 8/8/06 (2006)	TI	06/07/06	Groundwater (JCP & NCP AOEC)	Completed			Pathway is not likely to be relevant (Unknown)	Low		SCE is sufficient to CRA Studies and operations review		Not required; conclusion at time of decision or SCM						SCE indicates no CRA Studies or operations needed	
Oregon Steel Mills	141	2.0 E	14400 N Rivergate	Mike McCrady	Air Agg for 8/8/06 (2006)	TI	06/07/06	Groundwater Other AOEs	Ongoing		July 2006	Pathway is complete	to be determined		SCE is to be submitted to DEQ in January 2006									
Oregon Steel Mills	141	2.0 E	14400 N Rivergate	Mike McCrady	Air Agg for 8/8/06 (2006)	TI	06/07/06	Stormwater	Ongoing	Finish installation of stormwater system	Spring 2006	Pathway is complete	to be determined		SCE not included in CRA of Alternatives Evaluation	Alternative evaluation in progress								
Oregon Steel Mills	141	2.0 E	14400 N Rivergate	Mike McCrady	Air Agg for 8/8/06 (2006)	TI	06/07/06	Overwater Activities	Low	NA	N/A	No pathway found; source control (NPDES)	none		NA	Low	Low	NA	NA	NA	NA	NA	NA	NA
Oregon Steel Mills	141	2.0 E	14400 N Rivergate	Mike McCrady	Air Agg for 8/8/06 (2006)	TI	06/07/06	Other (wind erosion, PCB/Dioxin contamination, discharge	Not started	To be determined	To be determined	Waiting on SCE to be completed			Waiting on SCE to be completed									
Willamette Cove (Swan Island)	4400	2.0	14440 NW Gilham Loop	No PM Assigned	Industrial landfill disposal permit	TI	05/12/06	Overland Transport/Sheet Flow	N/A	NA	NA	NA	none	to be determined		NA	NA	NA	NA	NA	NA	NA	NA	NA
Willamette Cove (Swan Island)	4400	2.0	14440 NW Gilham Loop	No PM Assigned	Industrial landfill disposal permit	TI	05/12/06	Bank Erosion	N/A	NA	N/A	NA	none			NA	NA	NA	NA	NA	NA	NA	NA	NA
Willamette Cove (Swan Island)	4400	2.0	14440 NW Gilham Loop	No PM Assigned	Industrial landfill disposal permit	TI	05/12/06	Groundwater	Ongoing	Finish cluster monitoring wells	2007	Waiting on SCE to be completed.	to be determined		Waiting on SCE completion, 2007									
Willamette Cove (Swan Island)	4400	2.0	14440 NW Gilham Loop	No PM Assigned	Industrial landfill disposal permit	TI	05/12/06	Stormwater	N/A	NA	NA	NA	none			NA	NA	NA	NA	NA	NA	NA	NA	NA
Willamette Cove (Swan Island)	4400	2.0	14440 NW Gilham Loop	No PM Assigned	Industrial landfill disposal permit	TI	05/12/06	Overwater Activities	N/A	NA	NA	NA	none			NA	NA	NA	NA	NA	NA	NA	NA	NA
Willamette Cove (Swan Island)	4400	2.0	14440 NW Gilham Loop	No PM Assigned	Industrial landfill disposal permit	TI	05/12/06	Other	N/A	NA	NA	NA	none			NA	NA	NA	NA	NA	NA	NA	NA	NA
Chinatown/Lower Albina	3300	2.0 E	2000 N Rivergate	Mike Romero	Air Leaching for EPA	ETA	05/12/06	Overland Transport/Sheet Flow	N/A	NA	NA	NA	none		N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

- Blue/Green indicates that upland source control work has been completed at the site.
- Orange indicates that the site is a high priority, or potentially high priority for source control.
- Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
- Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	ECSI #	River mile	Address	DEQ PM	Type of agreement allowing anyone involved	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE document	Source control site evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminant controlled	Proposed SCM activities to be done site evaluation (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Consolidated Matrix	3045	2.5 E	3845 N Rivergate	Mike Rizzolo	PH Letter Agr for DTA	X Yes	10/1/2008	Soil/Crawl	N/A	N/A	N/A	N/A	N/A	Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Consolidated Matrix	3050	2.5 E	3845 N Rivergate	Mike Rizzolo	PH Letter Agr for DTA	X Yes	10/1/2008	Groundwater	Ongoing	DEQ is reviewing draft SCD	2007	Waiting on SCD to be completed	Low		Waiting on SCD to be completed									
Consolidated Matrix	3080	2.5 E	3845 N Rivergate	Mike Rizzolo	PH Letter Agr for DTA	X Yes	10/1/2008	Stormwater	Ongoing	DEQ is reviewing draft SCD	2007	Waiting on SCD to be completed	Low		Waiting on SCD to be completed									
Consolidated Matrix	3088	2.5 E	3845 N Rivergate	Mike Rizzolo	PH Letter Agr for DTA	X Yes	10/1/2008	Overwater activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Consolidated Matrix	3095	2.5 E	3845 N Rivergate	Mike Rizzolo	PH Letter Agr for DTA	X Yes	10/1/2008	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Tanner Ck	[illegible]	3.4 E	12300 Tanner Ck Rd	Tony Rizzolo	Pre-PH Agr (DEQ)	Risk Assessment 1	08/03/08	[illegible]	Full	Half	N/A	N/A	None	[illegible]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tanner Ck	[illegible]	3.4 E	12300 Tanner Ck Rd	Tony Rizzolo	Pre-PH Agr (DEQ)	Risk Assessment 1	08/03/08	Soil/Crawl	Low	[illegible]	N/A	[illegible]	None		N/A	N/A	Now DEQ/ DEQ has in passive tank, nutrient, organic, trash, [illegible] removed/ buried [illegible]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tanner Ck	[illegible]	3.4 E	12300 Tanner Ck Rd	Tony Rizzolo	Pre-PH Agr (DEQ)	Risk Assessment 1	08/03/08	Groundwater/ Well Tanner Transition Zones	Ongoing	Source control evaluation report	SCD is to submitted 2008	Waiting on SCD to be completed	Low		Waiting on SCD to be completed									
Tanner Ck	[illegible]	3.4 E	12300 Tanner Ck Rd	Tony Rizzolo	Pre-PH Agr (DEQ)	Risk Assessment 1	08/03/08	Groundwater/ Well Tanner Transition Zones	Ongoing	Source control evaluation report	SCD is to submitted 2008	[illegible]	Low	Low	Waiting on SCD to be completed									
Tanner Ck	[illegible]	3.4 E	12300 Tanner Ck Rd	Tony Rizzolo	Pre-PH Agr (DEQ)	Risk Assessment 1	08/03/08	Groundwater/ Wells/ Tanner	Groundwater			[illegible]	High		SCD is to be completed	alternatives evaluation completed	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			Ongoing monitoring and maintenance
Tanner Ck	[illegible]	3.4 E	12300 Tanner Ck Rd	Tony Rizzolo	Pre-PH Agr (DEQ)	Risk Assessment 1	08/03/08	Stormwater	Ongoing		SCD is to submitted 2008	[illegible]	Low		Waiting on SCD to be completed									
Tanner Ck	[illegible]	3.4 E	12300 Tanner Ck Rd	Tony Rizzolo	Pre-PH Agr (DEQ)	Risk Assessment 1	08/03/08	Overwater Activities	Ongoing		SCD is to submitted 2008	No known pollutant discharges to DEQ	Low		Waiting on SCD to be completed									
Tanner Ck	[illegible]	3.4 E	12300 Tanner Ck Rd	Tony Rizzolo	Pre-PH Agr (DEQ)	Risk Assessment 1	08/03/08	Other	Full	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tidal Ck Harbor	[illegible]	2.5 to 3.5 E	Harbor	Tony Rizzolo	SCD on file DEQ (2000)	[illegible]	08/03/08	Stormwater/ Tidal Harbor Zone	Full	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

= Shading indicates that upland source control work has been completed at the site.
= Orange indicates that the site is a high priority, or potentially high priority for source control.
= Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
= Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	SCE #	Ward/ward	Address	DEQ PM	Type of approved standing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluated (or not evaluated) (m-y)	Selected SCDs	Status of EPA review of SCD selection decision	SCM activities completed to date (m-y)	Basis or rationale of determination	Proposed SCM activities to be done with schedule (m-y)	Date SCM completed (m-y)	Basis of EPA review of completed SCM	Corrective and maintenance requirements
City of Portland Outfall	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Dry Weather	N/A	N/A	N/A	N/A	None	[illegible]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
City of Portland Outfall	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater	N/A	N/A	N/A	N/A	Lower	[illegible]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
City of Portland Outfall	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Stormwater	Ongoing	Complete outfall basin characterization, dry weather, wet weather and other outfall source control assessment	Ongoing through 2009 (completion of Tanner Creek SCE)	Supporting pathway	[illegible]	[illegible]	Waiting for SCE to be completed	Step SCM TMS Project (CIP Inspection, liquid pollution of foul discharges, identification of previous contributions to City system, Site specific catch basin cleaning, line cleaning and [illegible])								
City of Portland Outfall	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Combustible pollutants	N/A	N/A	N/A	N/A	[illegible]	[illegible]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
City of Portland Outfall	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Other	N/A	N/A	N/A	N/A	[illegible]	[illegible]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N/A	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Portland Editor Site	2012	5-4 S	10402 N Burgard	Mike Remmele	No Action for RI/BEDA (DEQ)	N	09/01/2010	Creosote Transportation Flow	Ongoing	Complete final phase of RI	2008	Waiting on SCE to be completed	To be determined		Waiting on SCE to be completed (2008)									
Portland Editor Site	2012	5-4 S	10402 N Burgard	Mike Remmele	No Action for RI/BEDA (DEQ)	N	09/01/2010	Seep Drainer	Ongoing	Complete final phase of RI	2008	Waiting on SCE to be completed	To be determined		Waiting on SCE to be completed (2008)									
Portland Editor Site	2012	5-4 S	10402 N Burgard	Mike Remmele	No Action for RI/BEDA (DEQ)	N	09/01/2010	Stormwater	N/A	N/A	N/A	Facility demolished and outfalls removed	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portland Editor Site	2012	5-4 S	10402 N Burgard	Mike Remmele	No Action for RI/BEDA (DEQ)	N	09/01/2010	Overwater Activities	N/A	N/A	N/A	No known current sources (active or inactive) to DEQ/EPA	None	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portland Editor Site	2012	5-4 S	10402 N Burgard	Mike Remmele	No Action for RI/BEDA (DEQ)	N	09/01/2010	Groundwater (DNAPL, NAPL, Bulk Cement)	Ongoing	Complete data collection for SCD design	2008	(NAPL potentially discharging to river	[illegible]		Waiting on SCE to be completed (2008)									
Portland Editor Site	2012	5-4 S	10402 N Burgard	Mike Remmele	No Action for RI/BEDA (DEQ)	N	09/01/2010	Groundwater (Remaining DNAPL Source)	Ongoing	Continue investigation with Time Critical Removal near property boundaries	2008	DNAPL suspected migration pathway	To be determined		Waiting on SCE to be completed (2008)									

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Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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- Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
- Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	SCD #	River mile	Address	DEQ PM	Type of approved standing source control	Project status	Date last modified (M-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (Dec)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (Dec)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (Dec)	Date SCM completed (M-d-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Fasler cable site	3H-D	3.6-E	12400 N Burgard	West Hayden	Tri-digital 400KW (10.1)	W	06/12/03	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Owens-Corning Fiberglass (Triangle Inc)	103C	3.6 W	11444 NW S Hayden	Tom Gainer	P-Letter Agr for ATA (1998)	ATA	06/12/03	Overland Transport/Wind Blow	Ongoing	Visual inspection	Fall 2004	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed 2004									
Owens-Corning Fiberglass (Triangle Inc)	103B	3.6 W	11444 NW S Hayden	Tom Gainer	P-Letter Agr for ATA (1998)	ATA	06/12/03	Bank Erosion	Ongoing	Visual inspection	Fall 2004	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed 2004									
Owens-Corning Fiberglass (Triangle Inc)	103B	3.6 W	11444 NW S Hayden	Tom Gainer	P-Letter Agr for ATA (1998)	ATA	10/28/03	Groundwater	Completed			Project has to be finally handled - recommended	Low		Waiting on SCE to be completed 2004									
Owens-Corning Fiberglass (Triangle Inc)	103B	3.6 W	11444 NW S Hayden	Tom Gainer	P-Letter Agr for ATA (1998)	ATA	06/12/03	Stormwater	Ongoing	Infiltration stormwater and pattern	3/03	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed 2004									
Owens-Corning Fiberglass (Triangle Inc)	103B	3.6 W	11444 NW S Hayden	Tom Gainer	P-Letter Agr for ATA (1998)	ATA	07/08/03	Overspray Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Owens-Corning Fiberglass (Triangle Inc)	103B	3.6 W	11444 NW S Hayden	Tom Gainer	P-Letter Agr for ATA (1998)	ATA	10/28/03	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portland Public Schools	203F	3.6 W	12022 NW Skyline	Tom Gainer	P-Letter Agr for ATA (1998)	ATA	06/12/03	Overland Transport/Wind Blow	Completed			Project has to be finally handled - recommended	Low		EPA reviewed in 2002 and did not approve comments	No SCM Selected								

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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- Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
- Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed													
Site name	SCS #	River mile	Address	DEQ PM	Type of upland activity causing source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decisions	Source control actions/measures completed and schedule (m-y)	Selected SCDs	Status of EPA review of SCDs and plan decisions	SCM activities completed to date (m-y)	Means to achieve of demonstrate controlled	Proposed SCM modifications to be done and schedule (m-y)	Date SCM completed (m-y)	Basis of EPA review of completed SCM	Operation and maintenance requirements
Georgia Pacific (Toledo)	1010	1.6 W	1022 NW Bertha	Tom Gainer	Pre Letter Agr for ERA (1998)	X-NA	09/1998	Sediment	N/A	N/A	N/A	N/A	none	Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Georgia Pacific (Toledo)	2010	1.2 W	1022 NW Bertha	Tom Gainer	Pre Letter Agr for ERA (1998)	X-NA	09/1998	Groundwater	Completed				Low		EPA concurred in DEQ and site-specific cleanup	N/A	No SCM needed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Georgia Pacific (Toledo)	3010	0.9 W	1022 NW Bertha	Tom Gainer	Pre Letter Agr for ERA (1998)	X-NA	09/1998	Stormwater	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Georgia Pacific (Toledo)	3010	0.9 W	1022 NW Bertha	Tom Gainer	Pre Letter Agr for ERA (1998)	X-NA	09/1998	Groundwater Activities	N/A	N/A	N/A	No short-term control (with monitor in DEQ)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Georgia Pacific (Toledo)	3010	0.9 W	1022 NW Bertha	Tom Gainer	Pre Letter Agr for ERA (1998)	X-NA	09/1998	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NW Pipe	110	2.0 E	12005 N Burgard	Mike Romano	Pre Agr for RI/FS (1998)	W	09/1998	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NW Pipe	120	2.0 E	12005 N Burgard	Mike Romano	Pre Agr for RI/FS (1998)	W	09/1998	Sediment	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NW Pipe	130	2.0 E	12005 N Burgard	Mike Romano	Pre Agr for RI/FS (1998)	W	09/1998	Drainbuilding	Ongoing	DEQ to complete review of SCE report completed by RP	2000	Still suspected migration pathway	to be determined		Waiting on SCE to be completed 2000										
NW Pipe	130	2.0 E	12005 N Burgard	Mike Romano	Pre Agr for RI/FS (1998)	W	09/1998	Stormwater	Ongoing	DEQ to complete review of SCE report prepared by RP	2000	Still suspected migration pathway	to be determined		Waiting on SCE to be completed 2000										
NW Pipe	130	2.0 E	12005 N Burgard	Mike Romano	Pre Agr for RI/FS (1998)	W	09/1998	Groundwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NW Pipe	130	2.0 E	12005 N Burgard	Mike Romano	Pre Agr for RI/FS (1998)	W	09/1998	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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Schnitzer Burgard	2000	4.1 N	12005 N Burgard	Mike Romano	Pre Agr for RI/FS (1998)	W	09/1998	Overland Transport/Sheet Flow	Not Started	To be determined	2000	Waiting on SCE to be completed	to be determined	To be determined	Waiting on SCE to be complete		Underwater engineering improvements to capture sheet flow stormwater								
Schnitzer Burgard	2000	4.1 N	12005 N Burgard	Mike Romano	Pre Agr for RI/FS (1998)	W	09/1998	Sediment	Ongoing	Additional sampling needed	2000	Waiting on SCE to be completed	to be determined		Waiting on SCE to be complete										
Schnitzer Burgard	2000	4.1 N	12005 N Burgard	Mike Romano	Pre Agr for RI/FS (1998)	W	09/1998	Groundwater	Ongoing	ongoing monitoring	2000	Waiting on SCE to be completed	to be determined		Waiting on SCE to be complete										
Schnitzer Burgard	2000	4.1 N	12005 N Burgard	Mike Romano	Pre Agr for RI/FS (1998)	W	09/1998	Stormwater	Ongoing	ongoing monitoring, engineering improvements have been built	2000	Waiting on SCE to be completed	to be determined		Waiting on SCE to be complete		NW developing & implementing plans for stormwater. Others yet to be determined								
Schnitzer Burgard	2000	4.1 N	12005 N Burgard	Mike Romano	Pre Agr for RI/FS (1998)	W	09/1998	Overwater Activities	Not Started	To be determined	2000	Waiting on SCE to be completed	to be determined		Waiting on SCE to be complete										
Schnitzer Burgard	2000	4.1 N	12005 N Burgard	Mike Romano	Pre Agr for RI/FS (1998)	W	09/1998	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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- = Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
- = Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status																				
Site name	SCD #	River mile	Address	DEQ PM	Type of completed controlling source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Remaining SCE	Major SCE tasks to be completed	Schedule for completing SCE	Basis for determination that source control is needed: Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Source control alternatives evaluation and schedule (m-y)	Selected SCDs	Status of EPA review of SCD selection rationale	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done, and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Former Morgan Lake (GATX)	[illegible]	2.2 W	[illegible] Avenue	Alice Kamara	Fill Agr for RI/FS/CA (NTR)	IN	10/1/2010	Overburden Groundwater Flow	N/A	N/A	N/A	N/A	N/A	[illegible]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Former Morgan Lake (GATX)	[illegible]	1.2 W	[illegible] Avenue	Alice Kamara	Fill Agr for RI/FS/CA (NTR)	IN	10/1/2010	Surface Water	Ongoing	To be determined	[illegible]	Waiting on SCE to be completed	To be determined		Waiting on ECE to be completed										
Former Morgan Lake (GATX)	[illegible]	2.2 W	[illegible] Avenue	Alice Kamara	Fill Agr for RI/FS/CA (NTR)	IN	10/1/2010	Groundwater	Ongoing	Complete nature & extent of contamination, affect analysis, evaluation	[illegible]	LNAPL seeps to groundwater and deep in groundwater likely discharge up to River	> High	> High	Waiting on SCE to be completed		[illegible] Removal and treatment [illegible] are most suitable to operation								
Former Morgan Lake (GATX)	[illegible]	2.2 W	[illegible] Avenue	Alice Kamara	Fill Agr for RI/FS/CA (NTR)	IN	10/1/2010	Stormwater	Ongoing	Stormwater evaluation	[illegible]	Waiting on SCE to be completed	To be determined		Waiting on SCE to be completed										
Former Morgan Lake (GATX)	[illegible]	2.2 W	[illegible] Avenue	Alice Kamara	Fill Agr for RI/FS/CA (NTR)	IN	10/1/2010	Overall activities	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Former Morgan Lake (GATX)	[illegible]	2.2 W	[illegible] Avenue	Alice Kamara	Fill Agr for RI/FS/CA (NTR)	IN	10/1/2010	Other	Ongoing	Groundwater/surface & sediment transport; or UPCES - Evaluate existing data set	[illegible]	Waiting on SCE to be completed	> Low		Waiting on SCE to be completed										
Terminal 4 Site 1	[illegible]	4.0 E	[illegible] Lombard	Tom Gainer	Fill Agr for RI/FS/CE	IN	10/28/2002	Overburden Groundwater Flow	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Terminal 4 Site 1	[illegible]	4.0 E	[illegible] Lombard	Tom Gainer	Fill Agr for RI/FS/CE	IN	10/1/2010	Surface Water	Pending EPA Review	SCDM remedy development, due [illegible]	[illegible] Development, due [illegible]	Pathway is complete	> High	> High	Waiting on SCD to be completed	Schedule for completing draft product in August on 2005									
Terminal 4 Site 1	[illegible]	4.0 E	[illegible] Lombard	Tom Gainer	Fill Agr for RI/FS/CE	IN	10/1/2010	Groundwater	Ongoing	Complete review	Feb 2006	Preliminary determination that pathway is incomplete	> Low		Waiting on SCE to be completed										
Terminal 4 Site 1	[illegible]	4.0 E	[illegible] Lombard	Tom Gainer	Fill Agr for RI/FS/CE	IN	10/1/2010	Stormwater	Ongoing	Evaluation report due [illegible]	SCDM remedy development, due [illegible]	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed										
Terminal 4 Site 1	[illegible]	4.0 E	[illegible] Lombard	Tom Gainer	Fill Agr for RI/FS/CE	IN	10/28/2002	Stormwater Activities	N/A	N/A	N/A	No known current pathway (upland, stormwater or GW/SW)	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Terminal 4 Site 1	[illegible]	4.0 E	[illegible] Lombard	Tom Gainer	Fill Agr for RI/FS/CE	IN	10/28/2002	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Terminal 4 Site 3	[illegible]	4.0 E	[illegible] Lombard	Tom Gainer	Judgment for Injunction (NTR)	IN/OUT	10/27/2010	Overburden Groundwater Flow	N/A	N/A - see Bank Erosion and Stormwater pathways	[illegible]	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Terminal 4 Site 3	[illegible]	4.0 E	[illegible] Lombard	Tom Gainer	Judgment for RI/FS/CA (NTR)	IN/OUT	10/27/2010	Bank Erosion	Ongoing	Review "Bank Erosion" and "Stormwater Issues"	Review "Bank Erosion" by [illegible] and "Stormwater Issues" by [illegible]	Pathway pollutant transport and Pathway determination for bank erosion is PECs	> Low		Waiting on SCE to be completed										

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status																			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

- = Shading indicates that upland source control work has been completed at the site.
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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status																				
Site name	SCD #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Basis for determination that source control is needed: Pathway determination	Basis for determination that source control is needed: Pathway priority level	Basis for determination that source control is needed: Site priority level	Status of EPA review of SCE conclusion	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done after schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Zone Seed	107	3.3 W	5420 NW St Helens	Hart (UC/Dale)	VCP Agr for Remedial Action (RA)	RI/FS	08/12/08	Overwater Activities	N/A	N/A	N/A	No known current release; facility inactive? S. CERCLA	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Zone Seed	107	3.1 W	5420 NW St Helens	Hart (UC/Dale)	VCP Agr for Remedial Action (RA)	RI/FS	08/12/08	Other - subject to NRDA remedial strategy	Not started	To be determined	No subject schedule	Pick up as SCE to be completed	To be determined		Waiting on SCE to be completed										
Olympic Plastics Portland Facility within Downtown	201/2	0.2W	5420 NW St Helens	Hart (UC/Dale)	ICP	ICM	08/12/08	Overland transportation Type	N/A	N/A	N/A	N/A	None	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Olympic Plastics Portland Facility within Downtown	201/2	0.2W	5420 NW St Helens	Hart (UC/Dale)	ICP	ICM	08/12/08	Bank Erosion	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Olympic Plastics Portland Facility within Downtown	201/2	0.2W	5420 NW St Helens	Hart (UC/Dale)	ICP	ICM	08/12/08	Groundwater	Completed			Inadequate pathway; No actions (recommended)	Low		Waiting on SCE completion: 2007		Conducted soil vapour follow-up extension upon in mid 1990s								
Olympic Plastics Portland Facility within Downtown	201/2	0.2W	5420 NW St Helens	Hart (UC/Dale)	ICP	ICM	08/12/08	Stormwater	Ongoing	Determined upon groundwater outcome	2007	Pick up as SCE to be completed	To be determined		Waiting on SCE completion: 2007										
Olympic Plastics Portland Facility within Downtown	201/2	0.2W	5420 NW St Helens	Hart (UC/Dale)	ICP	ICM	08/12/08	Overwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Olympic Plastics Portland Facility within Downtown	201/2	0.2W	5420 NW St Helens	Hart (UC/Dale)	ICP	ICM	08/12/08	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NP Terminal 107 (NRC02)	107E	0.3 W	5970 NW St Helens	Tom Dexter	VCP Agr for RI/FS/RA (RD)	RI	08/08/08	Overland Transport/Bank Erosion	N/A	N/A	N/A	N/A	None	3 High	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NP Terminal 107 (NRC02)	107E	0.3 W	5970 NW St Helens	Tom Dexter	VCP Agr for RI/FS/RA (RD)	RI	08/08/08	Bank Erosion	N/A	No Bank sediments found	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NP Terminal 107 (NRC02)	107E	0.3 W	5970 NW St Helens	Tom Dexter	VCP Agr for RI/FS/RA (RD)	RI	08/08/08	Groundwater	Ongoing	Investigation of DNAPL on adjacent property	Feb 2009	Free product & adjacent upland potentially impacting river	4 High		Waiting on SCE to be completed	Mitigation and recovery system 1997 to for at site DNA	Groundwater and Soil Vapor & Free product system	NCP Approval for SVE & DNA system & treatment system	Installed & Operate system - installed 12/2005	100 cubic feet of source recovered to date	Additional sampling, source and pathway for full DNA delineation	ongoing		Without source monitoring	
NP Terminal 107 (NRC02)	107E	0.3 W	5970 NW St Helens	Tom Dexter	VCP Agr for RI/FS/RA (RD)	RI	08/08/08	Stormwater	Ongoing	Performing stormwater monitor	Mar 2009	Pick up as SCE to be completed	To be determined		Waiting on SCE to be completed: 2007										
NP Terminal 107 (NRC02)	107E	0.3 W	5970 NW St Helens	Tom Dexter	VCP Agr for RI/FS/RA (RD)	RI	08/08/08	Overwater Activities	N/A	N/A	N/A	No known current source to be addressed at 107E	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NP Terminal 107 (NRC02)	107E	0.3 W	5970 NW St Helens	Tom Dexter	VCP Agr for RI/FS/RA (RD)	RI	08/08/08	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nor Cam Marina (Al Parrish)	250E	0.6 E	5736 N Bradford	Brian Parmenter	VCP Agr for RI/FS/RA (11/01)	RI/FS	08/12/08	Overland Transport/Bank Erosion	Completed			Overland and transport release/ migration pathway	Med Low		EPA reviewed and concurred in 2004	Mitigation was better completed in 2004	Removal of 25 cubic yards of sediment grid at a cost, DEQ issues SCD in 2005	EPA reviewed and approved 2004	None yet		No Owner remediation, RP will monitor pt. potential future source will continue source control (NRC02-100)				
Nor Cam Marina (Al Parrish)	250E	0.6 E	5736 N Bradford	Brian Parmenter	VCP Agr for RI/FS/RA (11/01)	RI/FS	08/12/08	Bank Erosion	Not Started	To be determined	No subject schedule	Deferred investigation to Nor Cam South Parcel	Under determined		Waiting on SCP to be completed		Deferred investigation to Nor Cam South Parcel								

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	DEQ #	Mile to the	Address	DEQ PM	Type of agreement covering source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Scheduled for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCDs	Status of EPA review of SCDs decision	SCM activities completed to date (m-y)	Make or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Basis of EPA review of completed SCM	Operation and maintenance requirements
Wal Com Marine (N Parcel)	2340	6.6 E	ETIC N Bradford	Mike Romano	PA Agr for RI/FS (TVDL)	ROMA	10/1/2006	Gro.Groundwater	Completed			Weight Test 1 pathway requires Gro.Groundwater responsiveness	Low	Medium	EPA delayed and intervened SCA		NA							
Wal Com Marine (N Parcel)	2340	6.6 E	ETIC N Bradford	Mike Romano	PA Agr for RI/FS (TVDL)	ROMA	09/1/2006	Stormwater	Completed			Weight Test 1 pathway requires Gro.Groundwater responsiveness	Low		EPA delayed and intervened SCA		NA							
Wal Com Marine (N Parcel)	2340	5.5 E	ETIC N Bradford	Mike Romano	PA Agr for RI/FS (TVDL)	ROMA	09/1/2006	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wal Com Marine (N Parcel)	2340	5.5 E	ETIC N Bradford	Mike Romano	PA Agr for RI/FS (TVDL)	ROMA	09/1/2006	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brix Wall Inc (aka Fasp)	2344	5.7 W	9000 NW St Helens	Dana Bartel	PA Agr for RI/FS (SCS)	R	09/1/2006	Overland Transport/Sheet Flow	N/A	NA. Release from USTs and is entirely paved paved development	N/A	N/A	none	to be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brix Wall Inc (aka Fasp)	2344	5.7 W	9000 NW St Helens	Dana Bartel	PA Agr for RI/FS (SCS)	R	09/1/2006	Bank Erosion	N/A	NA. Between Fasp USTs heavily and may not warrant up-grade significant hazard	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brix Wall Inc (aka Fasp)	2344	5.7 W	9000 NW St Helens	Dana Bartel	PA Agr for RI/FS (SCS)	R	09/1/2006	Gro.Groundwater	Ongoing	Certificate monitoring sample analysis and data for GI and source control was added	2006	Pathway is complete	to be determined		Waiting on SCS to be completed									
Brix Wall Inc (aka Fasp)	2344	5.7 W	9000 NW St Helens	Dana Bartel	PA Agr for RI/FS (SCS)	R	09/1/2006	Stormwater	N/A	NA. Leaves from USTs. BMPs have been implemented. City crews not require storm water permit	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brix Wall Inc (aka Fasp)	2344	5.7 W	9000 NW St Helens	Dana Bartel	PA Agr for RI/FS (SCS)	R	09/1/2006	Overwater Activities	N/A	N/A	N/A	No GI tech current discharge cap be will be reported to DEQ/EPA	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brix Wall Inc (aka Fasp)	2344	5.7 W	9000 NW St Helens	Dana Bartel	PA Agr for RI/FS (SCS)	R	09/1/2006	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wal Com (S Parcel)	2340	6.6 E	ETIC N Bradford	Mike Romano	Negotiating PA Agr	R	09/1/2006	Overland Transport/Sheet Flow	Ongoing	Overland flow down concrete of pavement and across large unpaved site areas need to be investigated.	2006	Waiting on SCS to be completed	to be determined	to be determined	Waiting on SCS to be completed in 2006									
Wal Com (S Parcel)	2340	6.6 E	ETIC N Bradford	Mike Romano	Negotiating PA Agr	R	09/1/2006	Gro.Groundwater	Ongoing	Investigation. Need to decide based on source control work to be done.	2006	Waiting on SCS to be completed	to be determined		Waiting on SCS to be completed in 2006									
Wal Com (S Parcel)	2340	6.6 E	ETIC N Bradford	Mike Romano	Negotiating PA Agr	R	09/1/2006	Gro.Groundwater	Ongoing	Need to determine NAD in SI	2006	Waiting on SCS to be completed	to be determined		Waiting on SCS to be completed in 2006									
Wal Com (S Parcel)	2340	6.6 E	ETIC N Bradford	Mike Romano	Negotiating PA Agr	R	09/1/2006	Stormwater	Ongoing	Need to determine NAD in SI	2006-2007	Waiting on SCS to be completed	to be determined		Waiting on SCS to be completed in 2006									
Wal Com (S Parcel)	2340	6.6 E	ETIC N Bradford	Mike Romano	Negotiating PA Agr	R	09/1/2006	Overwater Activities	Ongoing	Need to complete NAD in SI, refer to Hulsbach overwater activities	2006	Waiting on SCS to be completed	to be determined		Waiting on SCS to be completed in 2006		Waiting on tech report from DSA and reviewed from site							
Wal Com (S Parcel)	2340	6.6 E	ETIC N Bradford	Mike Romano	Negotiating PA Agr	R	09/1/2006	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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Confirmed or suspected Sources of contamination to the river																											
Site information					Project status			Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)									
												Basis for determination that source control is needed														
Site name	SCD #	River mile	Address	DEQ PM	Type of approved cleanup source control	Project status	Date last modified (M-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Source control alternatives evaluation and schedule (key)	Selected SCDs	Status of EPA review of SCE conclusion decision	SCM activities completed to date (key)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (key)	Date SCM completed (M-d-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Low	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LS Moorings	1W1	E2	4010 NW St. Helens Rd.	EPA, asst. Kristina Keefe	AOC	N	07/1/05	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	None	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LS Moorings	1W1	E2	4010 NW St. Helens Rd.	EPA, asst. Kristina Keefe	AOC	N	07/1/05	Bank Erosion	Ongoing		2007	Waiting on SCE to be completed	To be determined		Waiting on SCE completion, 2007									
LS Moorings	1W1	E2	4010 NW St. Helens Rd.	EPA, asst. Kristina Keefe	AOC	N	07/1/05	Groundwater	Ongoing		2007	Waiting on SCE to be completed	To be determined		Waiting on SCE completion, 2007									
LS Moorings	1W1	E2	4010 NW St. Helens Rd.	EPA, asst. Kristina Keefe	AOC	N	07/1/05	Stormwater	Ongoing		2007	Waiting on SCE to be completed	To be determined		Waiting on SCE completion, 2007									
LS Moorings	1W1	E2	4010 NW St. Helens Rd.	EPA, asst. Kristina Keefe	AOC	N	07/1/05	Overwater Activities	Ongoing		2007	Waiting on SCE to be completed	To be determined		Waiting on SCE completion, 2007									
LS Moorings	1W1	E2	4010 NW St. Helens Rd.	EPA, asst. Kristina Keefe	AOC	N	07/1/05	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crawford Street Dairy	2W2	E2.2	5426 N. Crawford	Tom Gainer	P-1 Letter Agr for EPA (1/08)	KPA	05/12/05	Overland Transport/Sheet Flow	Ongoing	See Stormwater Pathway	No current schedule	Waiting on SCE to be completed	To be determined	To be determined	Waiting on SCE completion									
Crawford Street Dairy	2W2	E2.2	5426 N. Crawford	Tom Gainer	P-1 Letter Agr for EPA (1/08)	KPA	05/12/05	Bank Erosion	Ongoing	To be determined	No current schedule	Waiting on SCE to be completed	To be determined		Focus determined	RT removed back land from beach and bank in 1301. Residual contaminated soil/fill or "beach" bank was not cleaned with clean fill.								
Crawford Street Dairy	2W2	E2.2	5426 N. Crawford	Tom Gainer	P-1 Letter Agr for EPA (1/08)	KPA	05/12/05	Groundwater	Completed			Insignificant pathway, RESOLVED recommended	Low		Waiting on SCE completion									
Crawford Street Dairy	2W2	E2.2	5426 N. Crawford	Tom Gainer	P-1 Letter Agr for EPA (1/08)	KPA	05/12/05	Stormwater	Ongoing	Storm water sampling per JSCS	No current schedule	Waiting on SCE to be completed	To be determined		Waiting on SCE completion									
Crawford Street Dairy	2W2	E2.2	5426 N. Crawford	Tom Gainer	P-1 Letter Agr for EPA (1/08)	KPA	05/12/05	Overwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crawford Street Dairy	2W2	E2.2	5426 N. Crawford	Tom Gainer	P-1 Letter Agr for EPA (1/08)	KPA	05/12/05	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Overland Transport/Sheet Flow	N/A	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Ongoing	Complete Site Source Control evaluation in river [illegible]	To be determined	Pathway is not [illegible]	[illegible] High		Waiting on SCE review completion									

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	DEQ #	River mile	Address	DEQ File	Type of approved cleanup source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Name or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and Maintenance requirements
Gasco (Site Name)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Completed			Pathway is complete	High	High	Waiting on SCD to be completed	Poly Tree DEMO/Sample Cleanup Alternatives Evaluation, Mid-to 2007								
Gasco (Site Name)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Ongoing	Complete stormwater system evaluation and sampling	Jan-Mar 2006	Pathway is complete	Not a priority (NAP)		Waiting on SCD to be completed									
Gasco (Site Name)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater Adjacent	N/A	N/A	N/A	Groundwater pathway incomplete (upland source removed or controlled)	Low		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco (Site Name)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Other (SPOILS Events)	Ongoing	Initiate SWI permit renewals	July 2006	Pathway is complete	Not a priority (NAP)		Waiting on SCD to be completed									
Gasco (Gateway Specialty Lot 2)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Overland Transport/Wind Blow	N/A	N/A	N/A	N/A	Medium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco (Cross of America Lot 3)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Wind Blown	Ongoing	Put North Parking Lot in SCE area evaluation	Initial 2006	Will fill up on SCE area evaluation	Not a priority (NAP)		Waiting on SCD to be completed									
Gasco (Gateway Gateway Lot 5)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater	Not started	Ongoing evaluation for contaminated gas and vapors in regards to potential SCM, potentially [illegible]		Pathway is incomplete	Low	High	Waiting on SCD review completion, SCE	Poly Tree DEMO/Sample Cleanup Alternatives Evaluation, Mid-to 2007								
Gasco (Gateway Lot 6)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Overland Transport	Initiated	Complete broad analysis of company's portfolio	Feb 2006	Will fill up on SCE area evaluation	Not a priority (NAP)		Waiting on SCD review completion, SCE									
Gasco (Gateway Gateway Lot 7)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater Adjacent	Ongoing	Work	N/A	N/A	Medium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco (Gateway Gateway Lot 8)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Other - Dust Gases	Ongoing	Work area evaluation projects	Summer 2006	Pathway is incomplete	Not a priority (NAP)		Waiting on SCD review completion, 2006									
Gasco (Gateway Gateway Lot 9)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Other - Spoils Events	Completed			Pathway is complete	Low		Waiting on SCD review completion, 2006									
Siltron Inc (Gasco PCE investigation)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Overland Transport/Wind Blow	N/A	N/A, Groundwater monitoring, Gas, UST system	N/A	N/A	Medium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Siltron Inc (Gasco PCE investigation)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Soil Erosion	N/A	N/A, Groundwater monitoring, Gas, UST system	N/A	N/A	Medium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Siltron Inc (Gasco PCE investigation)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater	Ongoing	Complete stormwater SE and source control evaluation	2006	Pathway is complete	Not a priority (NAP)		Waiting on SCD review completion	Scheduled for completing work evaluation report (potential for completion by mid-2006)	Field SCM: SCD meets SCM area (potential for work completion in post-evaluation) related SCM							
Siltron Inc (Gasco PCE investigation)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Stormwater	Ongoing	Stormwater evaluation, including dock completion and sampling	2006	Contaminated river sediments over surface (but 50 acres, Phase 2)	Not a priority (NAP)		Waiting on SCD review completion									
Siltron Inc (Gasco PCE investigation)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater Adjacent	N/A	N/A	N/A	N/A	Medium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Siltron Inc (Gasco PCE investigation)	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Other	N/A	N/A	N/A	N/A	Medium		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Willamette Cove	2000	6.0 E	Front of St. Helens	Multi-Parcel	PA Algae for RI/FS (1 MG)	[illegible]	[illegible]	Overland Transport/Wind Blow	Completed			Pathway is complete, no need for source control	Low		Waiting on SCD review completion, 2006									

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed													
Site name	SCD #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM services completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Willamette Cove	2006	8.5 E	Foot of N. Edgewater	Kevin Parrett	PA Agr for RI/FS/CM (11/00)	IR	12/09/04	Bank Erosion	Ongoing	Complete bank sampling	2005	Suspected migration pathway	to be determined	to be determined	Waiting on SCD to be completed 2005										
Willamette Cove	2006	8.5 E	Foot of N. Edgewater	Kevin Parrett	PA Agr for RI/FS/CM (11/00)	IR	12/09/04	Groundwater	Ongoing	Continue groundwater monitoring	2005	Suspected migration pathway	to be determined		Waiting on SCD to be completed 2005										
Willamette Cove	2006	8.5 E	Foot of N. Edgewater	Kevin Parrett	PA Agr for RI/FS/CM (11/00)	IR	12/09/04	Stormwater	Ongoing	Evaluate potential drywells above drains	2005	Suspected migration pathway	to be determined		Waiting for ok to be completed 2005										
Willamette Cove	2006	8.5 E	Foot of N. Edgewater	Kevin Parrett	PA Agr for RI/FS/CM (11/00)	IR	12/09/04	Groundwater Activities	N/A	N/A	N/A	No current source: Basin-wide source	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Willamette Cove	2006	8.5 E	Foot of N. Edgewater	Kevin Parrett	PA Agr for RI/FS/CM (11/00)	IR	12/09/04	Other - in-river sediments (removal)	Completed			Suspected migration pathway	Medium		EPA reviewed and concurred	alternatives evaluation complete 3/2004	Source removal completed, in river 10/2004	deferred to in-water RI							
Rivers Pointe	1005	0.9 W	9200 NW St Helens	Tom Bates	PA Agr Order for RI (1/99)	RI	3/30/04	Groundwater Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	High	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rivers Pointe	1005	0.9 W	9200 NW St Helens	Tom Bates	PA Agr Order for RI (1/99)	RI	10/07/03	Bank Erosion	High	N/A	N/A	N/A	Low		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rivers Pointe	1005	0.9 W	9200 NW St Helens	Tom Bates	PA Agr Order for RI (1/99)	RI	7/07/04	Groundwater Activities (Oil sheen in river)	Ongoing	BHP Stormwater monitoring results (OSE, DEQ Report Land Stormwater Monitoring 2/04)	Evaluation 1 day every quarter for two yrs	Pathway is complete	> high		Waiting on SCD to be completed	TBD - 4/07									
Rivers Pointe	1005	0.9 W	9200 NW St Helens	Tom Bates	PA Agr Order for RI (1/99)	RI	7/07/04	Groundwater Surface Interaction in Dry Outfall Line	Completed			Pathway is complete	> high	High			From BCM: DEQ to groundwater, explore to be sampled. Testing any existing alarm and/or testing. Diagnostic activities								
Rivers Pointe	1005	0.9 W	9200 NW St Helens	Tom Bates	PA Agr Order for RI (1/99)	RI	7/07/04	Stormwater	Ongoing	Site Under SDC & DEQ storm press stormwater	Pending DEQ SCM for 2/05	Not in an SCD time sensitive	> Med		Waiting on SCD to be completed										
Rivers Pointe	1005	0.9 W	9200 NW St Helens	Tom Bates	PA Agr Order for RI (1/99)	RI	7/07/04	Groundwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rivers Pointe	1005	0.9 W	9200 NW St Helens	Tom Bates	PA Agr Order for RI (1/99)	RI	7/07/04	Other - Sediment discharge/erosion	Ongoing	Complete remedial investigation	RI/FS Technical Memorandum due 9/04	DEQ to run SCD to be completed	> Low		Waiting on SCD to be completed										
Rivers Pointe	1005	0.9 W	9200 NW St Helens	Tom Bates	PA Agr Order for RI (1/99)	RI	7/07/04	Other - current SCD(s) identified elsewhere	Ongoing	Tyco waterfront	No current schedule	DEQ to run SCD to be completed	to be determined		Waiting on SCD to be completed										
McCormick & Baxter	1a	1	6800 N Edgewater Street	Kevin Parrett	Superfund Agreement with EPA	remedy in place	2/28/03	Groundwater Transport/Sheet Flow	Completed			Pathway is complete	High	High	Complete										Periodic inspection and repair, gear or attachment monitoring, dirt and debris etc
McCormick & Baxter	1a	1	6800 N Edgewater Street	Kevin Parrett	Superfund Agreement with EPA	remedy in place	4/30/03	Bank Erosion	Completed			Pathway is complete	High		Complete										
McCormick & Baxter	1a	1	6800 N Edgewater Street	Kevin Parrett	Superfund Agreement with EPA	remedy in place	7/09/03	Groundwater	Completed			Pathway is complete	High		Complete										
McCormick & Baxter	1a	1	6800 N Edgewater Street	Kevin Parrett	Superfund Agreement with EPA	remedy in place	3/03/03	Stormwater	Completed			Pathway is complete	High		Complete										
McCormick & Baxter	1a	1	6800 N Edgewater Street	Kevin Parrett	Superfund Agreement with EPA	remedy in place	3/03/03	Groundwater Activities	Completed			Pathway is complete	High		Complete										
McCormick & Baxter	1a	1	6800 N Edgewater Street	Kevin Parrett	Superfund Agreement with EPA	remedy in place	3/03/03	Other	N/A			N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kaiser Inc	2048	7	7040 NW St Helens Rd	Matt Kirchney	Part of NW Natural Gasco site; see DEQ 3004			Overlap Transport/Sheet Flow																	
Kaiser Inc	2048	7	7040 NW St Helens Rd	Matt Kirchney				Bank Erosion																	
Kaiser Inc	2048	7	7040 NW St Helens Rd	Matt Kirchney				Groundwater																	
Kaiser Inc	2048	7	7040 NW St Helens Rd	Matt Kirchney				Stormwater																	
Kaiser Inc	2048	7	7040 NW St Helens Rd	Matt Kirchney				Groundwater Activities																	
Kaiser Inc	2048	7	7040 NW St Helens Rd	Matt Kirchney				Other																	

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Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	SCS #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Recent remedial alternatives evaluation (any schedule dates)	Recorded SCDs	Status of EPA review of SCDs enforcing decisions	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Basis of EPA review of completed SCM	Operation and maintenance requirements
Arkema	200	7.0 W	9900 NW Front	Matt Ecl Corey	Exp PH VCP Partial Agr for RIFS, RAM	IN	10/21/2008	Groundwater (Chlorinated VOC Plume)	Ongoing	Source control evaluation in progress	2008	Pathway is complete	p. High	Low	Waiting on EPA review	Alternatives for completing relief evaluation report per SAP - Draft, Interim CRA alternatives report 2008	Prior SCDs TBD: interim SCM activities include pump-and-treat system, Evaporator, Ecology on Lower Willamette 1999	EPA reviewed and approved the interim SCM system, in place & in-situ chemical treatment	Interim SCMs include 400MGT system, in place & in-situ chemical treatment					
Ashtoria	196	7.0 W	9900 NW Front	Matt Ecl Corey	Exp PH VCP Partial Agr for RIFS, RAM	IN	04/14/2008	Groundwater (Chlorinated VOC Plume - 2 plumes)	Ongoing	Source control evaluation in progress	2008	Pathway is complete	p. High		Waiting on SCD completion	All actions for completing relief evaluation report per SAP 2008	Prior SCM TBD: interim SCM include pump-and-treat system, Evaporator, Ecology on Lower Willamette 1999	EPA reviewed and approved the interim SCM (July 2008)					
Arkema	192	7.0 W	9900 NW Front	Matt Ecl Corey	Exp PH VCP Partial Agr for RIFS, RAM	IN	04/14/2008	Groundwater (Chlorinated Plume)	Ongoing	Source control evaluation in progress	2008	Pathway is complete	p. High		Waiting on SCD completion	All actions for completing relief evaluation report per SAP 2008	Prior SCM TBD: interim SCM include pump-and-treat system per SAP 2008		None					
Arkema	198	7.0 W	9900 NW Front	Matt Ecl Corey	Exp PH VCP Partial Agr for RIFS, RAM	IN	10/21/2008	Outfalls to Willamette River	N/A	N/A	N/A	N/A	none	Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arkema	194	7.0 W	9900 NW Front	Matt Ecl Corey	Exp PH VCP Partial Agr for RIFS, RAM	IN	08/12/2008	Sand Erosion	Ongoing	soil or sediment loss or erosion to river, surface water	Tasks completed	Pathway is complete	p. High		EPA further evaluation or review of SCD or SCM	Alternatives for completing relief evaluation report 2007	Tasks in SCM to be completed in short term, EPA early action		None					
Arkema	200	7.0 W	9900 NW Front	Matt Ecl Corey	Exp PH VCP Partial Agr for RIFS, RAM	IN	10/21/2008	Stormwater	Ongoing	Additional investigation data to be collected in 2008	2007	Pathway is complete	p. High		EPA further evaluation or review of SCD or SCM	Alternatives evaluated in RI or FS, TBD	Tasks TBD in SCM to be determined		Potential SCMs include BMPs, surface soil removal and surface soil caps					
Arkema	190	7.0 W	9900 NW Front	Matt Ecl Corey	Exp PH VCP Partial Agr for RIFS, RAM	IN	08/12/2008	Overwater Activities	N/A	N/A	2008	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arkema	200	7.0 W	9900 NW Front	Matt Ecl Corey	Exp PH VCP Partial Agr for RIFS, RAM	IN	08/12/2008	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
McCall, Cl	134	7.4 W	9900 NW Front	Tom Gainer	PH Agr for RI/CEM (WCS)	IN	02/08/02	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	In be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
McCall, Cl	134	7.4 W	9900 NW Front	Tom Gainer	PH Agr for RI/CEM (WCS)	IN	08/12/2008	Sand Erosion	Ongoing	RI to completing SI to determine if SCMs are needed or "No Sediment"	SI to be completed in 2008	Preliminary determination that pathway is significant	p. Low		Waiting on SCD to be completed									
McCall, Cl	134	7.4 W	9900 NW Front	Tom Gainer	PH Agr for RI/CEM (WCS)	IN	08/12/2008	Groundwater	Ongoing	Continue groundwater monitoring to evaluate shoreline concentrations	Fall 2008	Waiting on SCD to be completed	p. Med		Waiting on SCD to be completed									
McCall, Cl	134	7.4 W	9900 NW Front	Tom Gainer	PH Agr for RI/CEM (WCS)	IN	08/12/2008	Stormwater	Ongoing	Storm water sampling (CFP - WCS)	Fall 2008	Waiting on SCD to be completed	p. Med		Waiting on SCD to be completed									
McCall, Cl	134	7.4 W	9900 NW Front	Tom Gainer	PH Agr for RI/CEM (WCS)	IN	02/08/02	Overwater Activities	N/A	N/A	N/A	No known current sources (other sources to be DEMS)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
McCall, Cl	134	7.4 W	9900 NW Front	Tom Gainer	PH Agr for RI/CEM (WCS)	IN	02/08/02	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GS Roofing	117	7.6 W	9900 NW Front	Mike Remsen	VCP - PH Agr Pending	IN/A	03/03/08	Overland Transport/Sheet Flow	Ongoing	EPA complete; RI and FS to be initiated	ECM under development, due 2008	Waiting on SCD to be completed	no be determined	In be determined	Waiting on SCD to be completed									
GS Roofing	117	7.6 W	9900 NW Front	Mike Remsen	VCP - PH Agr Pending	IN/A	08/12/08	Sand Erosion	Ongoing	EPA complete; RI and SCD to be initiated in RI	ECM under development, due 2008	Waiting on SCD to be completed	no be determined		Waiting on SCD to be completed									
GS Roofing	117	7.6 W	9900 NW Front	Mike Remsen	VCP - PH Agr Pending	IN/A	08/12/08	Groundwater	Ongoing	EPA complete; RI and SCD to be initiated	ECM under development, due 2008	Waiting on SCD to be completed	no be determined		Waiting on SCD to be completed									
GS Roofing	117	7.6 W	9900 NW Front	Mike Remsen	VCP - PH Agr Pending	IN/A	08/12/08	Stormwater	Ongoing	EPA complete; RI and SCD to be initiated	ECM under development, due 2008	Waiting on SCD to be completed	no be determined		Waiting on SCD to be completed									

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	SCE #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (M-d-y)	Potential/ confirmed migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Source control alternatives evaluation and schedule (M-y)	Selected SCDs	Status of EPA review of SCE selection decision	SCM activities completed to date (M-y)	Nature or volume of contaminants controlled	Proposed SCM activities to be done and schedule (M-y)	Date SCE completed (M-y)	Status of EPA review of completed SCE	Operation and maintenance requirements
DR Kading	117	7.5 W	8505 NW Front	Brian Newport	VCP - PA/Ap Pending	X Pre	09/12/02	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GD Kading	117	7.5 W	8505 NW Front	Brian Newport	VCP - PA/Ap Pending	X Pre	02/12/02	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Triangle Park (N POX Yard)	2/7	7.5 E	5625 N Van Houten	Jim Anderson	Pre-PA/RIs for RI/FS (SAC)	RI/FS	02/12/02	Overland Transport/Water Flow	Completed			Contaminated soil entrained in stormwater & shoreline	Medium		EPA reviewed and commented	alternatives evaluation completed, 12/2004	-Dig & haul out hot spots & 1CONNECCN- -soil cleanup anticipated to be initiated in '07 after property sale	Proposed SCM to EPA MW. Received comments 12/04. DEQ responded to comments 2/05	SCMs not started to be initiated after pending property transaction is complete (2007)	Estimated 500cy of soil will be removed & 5,100cy of surface capped	-Dig & haul out hot spots & 1CONNECCN- -soil cleanup will continue to be initiated in '07 after property sale			
Triangle Park (N POX Yard)	2/7	7.5 E	5625 N Van Houten	Jim Anderson	Pre-PA/RIs for RI/FS (SAC)	RI	02/12/02	Bank Erosion	Completed			Contaminated soil entrained in stormwater & shoreline	Medium		EPA reviewed and commented	alternatives evaluation completed, 12/2004	-Dig & haul out hot spots & 1CONNECCN- -soil cleanup anticipated to be initiated in '07 after property sale	Proposed SCM to EPA MW. Received comments 12/04. DEQ responded to comments 2/05	SCMs not started to be initiated after pending property transaction is complete (2007)	A portion of the estimated 500cy of soil will be removed & 5,100cy of surface capped in the beach area	-Dig & haul out hot spots & 1CONNECCN- -soil cleanup will continue to be initiated in '07 after property sale			
Triangle Park (N POX Yard)	2/7	7.5 E	5625 N Van Houten	Dave Sayre	CEO Lead (Cyman-Kassuel)	RI	09/12/02	Groundwater	Ongoing	Prepare overall control evaluation	June 2005	Pathway is complete	Low	In the aquatic	Pending on SCC comments									N/A
Triangle Park (N POX Yard)	2/7	7.5 E	5625 N Van Houten	Jim Anderson	Pre-PA/RIs for RI/FS (SAC)	RI	02/12/02	Stormwater	Completed			Contaminated soil entrained in stormwater & shoreline	Medium		EPA reviewed and commented, 12/2004	alternatives evaluation completed, 12/2004	-Dig & haul out hot spots & 1CONNECCN- -soil cleanup anticipated to be initiated in '07 after property sale	EPA review completed 12/04	SCMs not started to be initiated after pending property transaction is complete (2007)	A portion of the estimated 500cy of soil to be removed & 5,100cy of surface capped in the beach area	-Dig & haul out hot spots & 1CONNECCN- -soil cleanup will continue to be initiated in '07 after property sale			Proposed SCD to EPA MW. Received comments 12/04. DEQ responded to comments 2/05
Triangle Park (N POX Yard)	2/7	7.5 E	5625 N Van Houten	Jim Anderson	Pre-PA/RIs for RI/FS (SAC)	RI	09/12/02	Overwater Activities	N/A			No current overwater activities	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Triangle Park (N POX Yard)	2/7	7.5 E	5625 N Van Houten	Jim Anderson	Pre-PA/RIs for RI/FS (SAC)	RI	09/12/02	Other - Petroleum pipeline release or waste mov or also from beneath the river	Completed			Insignificant pathway has been recommended	Low		EPA reviewed and commented									
Gould Electronics, Inc (aka GA-Tek)	40	3.5 W	5900 NW Front Ave	EPA lead Chris Humphrey	2-Yr Consent Decree		03/12/02	Groundwater Transport/Water Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gould Electronics, Inc (aka GA-Tek)	40	3.5W	5900 NW Front Ave	EPA lead Chris Humphrey	6-Yr Consent Decree		03/12/02	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gould Electronics, Inc (aka GA-Tek)	40	3.5W	5900 NW Front Ave	EPA lead Chris Humphrey	6-Yr Consent Decree		03/12/02	Groundwater	Completed			Insignificant pathway has been recommended	Low		EPA review groundwater MTCA cleanup level in the waterfront									EPA lead
Gould Electronics, Inc (aka GA-Tek)	40	3.5W	5900 NW Front Ave	EPA lead Chris Humphrey	2-Yr Consent Decree		03/12/02	Groundwater Transport/Water Flow	Ongoing	TBD. Work scope should be on a reasonable pathway for completion using when	to be determined	Pathway is complete	Low	In High	EPA review									
Gould Electronics, Inc (aka GA-Tek)	40	3.5W	5900 NW Front Ave	EPA lead Chris Humphrey	6-Yr Consent Decree		03/12/02	Stormwater	Completed			Insignificant pathway has been recommended	Low		EPA review		1) Complete review and develop and implement plan(s), 2) Continued monitoring, 3) NCRA work plan review, 4) Status of whole plant, 5) DEQ is ongoing							EPA lead
Gould Electronics, Inc (aka GA-Tek)	40	3.5W	5900 NW Front Ave	EPA lead Chris Humphrey	6-Yr Consent Decree		03/12/02	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	SCE #	River mile	Address	DEQ YR	Type of agreement allowing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCDs	Status of EPA review of SCE selection decision	SCM activities completed to date (m-y)	Basis for release of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Gasco Portland (12 and 5th St)	tbd	1.5(?)	1900 NW Front Ave	Site need Orig. Completion	CTA Consent Decree		08/10/08	Other - possible groundwater NAPL/Upland	Complete			Historically potential release - Gasco storage, storage, migration pathway, receptors (groundwater)	Low		EPA Lead		Remove waste plant, clean Gasco, cap/ Old Wastepond						07/01/2007	
Willbridge (Willbridge Barge, Chevron, Gasco, Phase)	15-02	7.7 Mi	Front Ave & NW Doane	Jill Kamran	Prio-Pri Consent Order (DEQ)	FS	08/01/08	Overland Transport/Wind Flow	Ongoing			Weak/Not Significant Pathway	Low		Submitted to EPA for SCE review on schedule		No SCM needed						N/A	
Willbridge (Willbridge Barge, Chevron, Gasco, Phase)	15-03	2 Mi	Front Ave & NW Doane	Jill Kamran	Prio-Pri Consent Order (DEQ)	FS	08/01/08	Surface Water	Complete			Weak/Not Significant Pathway	Low		Submitted to EPA for SCE review on schedule		No SCM needed						N/A	
Willbridge (Willbridge Barge, Chevron, Gasco, Phase)	15-05	7.7 Mi	Front Ave & NW Doane	Jill Kamran	Prio-Pri Consent Order (DEQ)	FS	08/01/08	Groundwater	Complete			Other (exposure/ migration pathway)	High	High	Submitted to EPA for SCE review on schedule	Not determined, evaluation forthcoming	PCB/LNAPL/Metals & Contaminated sediment/ upland source control (storm pipe/ well)	Proposed SCM: Remove 50 to 100 PCB Hot Spots, DNAPL not contributing	Hydraulic connections and flow rates		Remove hot spots to be complete or summer 2008			
Willbridge (Willbridge Barge, Chevron, Gasco, Phase)	15-02	7.7 Mi	Front Ave & NW Doane	Jill Kamran	Prio-Pri Consent Order (DEQ)	FS	08/01/08	Stormwater	Ongoing	Report/ Remedial guidance to assess pathway	Fall 2009	Field up to SCE to be completed	to be determined		Waiting on SCE to be complete									
Willbridge (Willbridge Barge, Chevron, Gasco, Phase)	15-03	7.7 Mi	Front Ave & NW Doane	Jill Kamran	Prio-Pri Consent Order (DEQ)	FS	08/01/08	Groundwater Activities	Ongoing	Site	N/A	Site determination/ source control alternatives to (DEQ)	Other		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Willbridge (Willbridge Barge, Chevron, Gasco, Phase)	15-05	7.7 Mi	Front Ave & NW Doane	Jill Kamran	Prio-Pri Consent Order (DEQ)	FS	08/01/08	Other	N/A	N/A	N/A	N/A	Other		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chevron Asphalt	13-01	8.0 Mi	5001 NW Front	Mark Pugh	P1 Letter Agr for EPA (VCS)	EPA	09/08/08	Overland Transport/Wind Flow	N/A	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chevron Asphalt	13-01	8.0 Mi	5001 NW Front	Mark Pugh	P1 Letter Agr for EPA (VCS)	EPA	09/08/08	Surface Water	N/A	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chevron Asphalt	13-01	8.0 Mi	5001 NW Front	Mark Pugh	P1 Letter Agr for EPA (VCS) - new agreement being negotiated	EPA	09/08/08	Groundwater	EPA Bedrock complete; DEQ provided comments for source control screening SCE report pending	spring 2011	Waiting on SCE to be completed	p Low	p Med		Waiting on SCE to be complete			Waiting on SCE to be completed						
Chevron Asphalt	13-01	8.0 Mi	5001 NW Front	Mark Pugh	P1 Letter Agr for EPA (VCS) - new agreement being negotiated	EPA	09/08/08	Stormwater	Ongoing	EPA Bedrock complete; DEQ provided comments for source control screening SCE report pending	spring 2011	Waiting on SCE to be completed	p Med		Waiting on SCE to be complete			Waiting on SCE to be completed						
Chevron Asphalt	13-01	8.0 Mi	5001 NW Front	Mark Pugh	P1 Letter Agr for EPA (VCS)	EPA	09/08/08	Groundwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chevron Asphalt	13-01	8.0 Mi	5001 NW Front	Mark Pugh	P1 Letter Agr for EPA (VCS)	EPA	09/08/08	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Ave LF	13-2b	8.1 Mi	4000, 5024 & 5200 NW Front	Brian Ronsen	VCP Letter Agr for PA (VCS)	IR	08/12/08	Overland Transport/Wind Flow	Ongoing	Conducting RPA	2008	Waiting on SCE to be completed	to be determined	to be determined	Waiting on SCE to be completed									
Front Ave LF	13-2b	8.1 Mi	4000, 5024 & 5200 NW Front	Brian Ronsen	VCP Letter Agr for PA (VCS)	IR	08/12/08	Surface Water	Ongoing	Conducting RPA	2008	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed									
Front Ave LF	13-2b	8.1 Mi	4000, 5024 & 5200 NW Front	Brian Ronsen	VCP Letter Agr for PA (VCS)	IR	08/12/08	Groundwater	Ongoing	Conducting RPA	2008	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed									

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	SCE #	River mile	Address	DEQ PM	Type of approved cleanup source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (Y/n)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (Y/n)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (Y/n)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Corrective and maintenance requirements
Front Ave LP	1250	E 1 W	4800, 5004 & 5020 NW Front	Nina Bennett	VCP Letter Agr for PA (1/02)	IC	09/1/2005	Stormwater	Ongoing	Conducting EPA. Additional sampling needed	2006	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed									
Front Ave LP	1250	E 1 W	4800, 5004 & 5020 NW Front	Nina Bennett	VCP Letter Agr for PA (1/02)	IC	09/1/2005	Overwater Activities	N/A	N/A	N/A	No known current sources (soils moved to CEMS)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Ave LP	1250	E 1 W	4800, 5004 & 5020 NW Front	Nina Bennett	VCP Letter Agr for PA (1/02)	IC	09/1/2005	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Glacier Northwest Inc	2078		5004 NW Front Ave	Nina Bennett	Part of Front Ave LP site use IEC #1258			Overland Transport/Sheet Flow																
Glacier Northwest Inc	2078		5004 NW Front Ave	Nina Bennett				Air																
Glacier Northwest Inc	2078		5004 NW Front Ave	Nina Bennett				Groundwater																
Glacier Northwest Inc	2078		5004 NW Front Ave	Nina Bennett				Stormwater																
Glacier Northwest Inc	2078		5004 NW Front Ave	Nina Bennett				Overwater Activities																
Glacier Northwest Inc	2078		5004 NW Front Ave	Nina Bennett				Other																
LSCC	1308	8.3 E	4760 N Basin Ave.	Tom Gainer	VCP Letter Agr (2/04)	IC	3/24/2005	Overland Transport/Sheet Flow	Completed			Insignificant pathway, no act. site recommended	Low	to be determined	Waiting on SCE to be completed, Winter 2006									
LSCC	1308	8.3 E	4760 N Basin Ave.	Tom Gainer	VCP Letter Agr (2/04)	IC	3/24/2005	Bank Erosion	Completed			Insignificant pathway, no act. site recommended	Low		Waiting on SCE to be completed, Winter 2006									
LSCC	1308	8.3 E	4760 N Basin Ave.	Tom Gainer	VCP Letter Agr (2/04)	IC	3/24/2005	Groundwater	Completed			Insignificant pathway, no actions recommended	Low		Waiting on SCE to be completed, Winter 2006									
LSCC	1308	8.3 E	4760 N Basin Ave.	Tom Gainer	VCP Letter Agr (2/04)	IC	04/1/2005	Stormwater	Ongoing	Remaining stormwater system	Fall 2006	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed, Winter 2006									
LSCC	1308	8.3 E	4760 N Basin Ave.	Tom Gainer	VCP Letter Agr (2/04)	IC	04/1/2005	Overwater Activities	Ongoing	Overwater work activities	Fall 2006	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed, Winter 2006									
LSCC	1308	8.3 E	4760 N Basin Ave.	Tom Gainer	VCP Letter Agr (2/04)	IC	3/24/2005	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fred Devine	2082	8.3 E	5211 N Basin	Mark Pugh	no Agr	NFA	05/06/05	Overland Transport/Sheet Flow	not Started	screening	No current schedule.	Insignificant pathway, no act. site recommended	Low	p Med	Waiting on SCE comp. plan									
Fred Devine	2082	8.3 E	5211 N Basin	Mark Pugh	no Agr	NFA	05/06/05	Bank Erosion	not Started	screening	No current schedule.	Waiting for SCE to be completed	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fred Devine	2082	8.3 E	5211 N Basin	Mark Pugh	no Agr	NFA	05/06/05	Groundwater	not Started	screening	No current schedule.	Waiting for SCE to be completed	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fred Devine	2082	8.3 E	5211 N Basin	Mark Pugh	no Agr	NFA	05/06/05	Stormwater	Ongoing	Insignificant pathway or cross-agreement or cross-agreement or cross-agreement or cross-agreement	Waiting on SCE to be completed	p Med			Waiting on SCE to be completed									
Fred Devine	2082	8.3 E	5211 N Basin	Mark Pugh	no Agr	NFA	05/06/05	Overwater activities	N/A	N/A	N/A	No known current sources (soils moved to CEMS)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fred Devine	2082	8.3 E	5211 N Basin	Mark Pugh	no Agr	NFA	05/06/05	Other	N/A	N/A	N/A	Waiting on SCE to be completed	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		[illegible]	[illegible]								

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Confirmed or suspected Sources of contamination to the river																											
Site information					Project status			Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site name	SCD #	River mile	Address	DEQ PM	Type of agreement allowing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Steps for determination that source control is needed: Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation anticipated schedule (m-y)	Selected SCDs	Status of EPA review of SCDs selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities or be done anticipated schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Comment and information requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		[illegible]		[illegible]							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		[illegible]		[illegible]							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		[illegible]		[illegible]							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Neighbor Truck Part	3360	3.4 E	4500 N Fathom	Mike Romano	Pri Agr for RI/FS CM (1995)	3h	05/1/2008	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Neighbor Truck Part	3360	3.4 E	4500 N Fathom	Mike Romano	Pri Agr for RI/FS CM (1995)	4h	05/1/2008	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Neighbor Truck Part	3360	3.4 E	4500 N Fathom	Mike Romano	Pri Agr for RI/FS CM (1995)	5h	05/1/2008	Groundwater	Ongoing	Remove nature and extent of VOC plume	SCM under development, due spring 2008	Waiting on SCE to be completed	to be determined		Waiting on SCD to be completed									
Neighbor Truck Part	3360	3.4 E	4500 N Fathom	Mike Romano	Pri Agr for RI/FS CM (1995)	6h	05/1/2008	Stormwater	Ongoing	SW evaluation needed	SCM under development, due spring 2008	Waiting on SCE to be completed	to be determined	to be determined	Waiting on SCD to be completed		EPA separately applying GW engineering controls on Slough Street Outfall, existing media roof stormwater system replaced several years ago, including screening							
Neighbor Truck Part	3360	3.4 E	4500 N Fathom	Mike Romano	Pri Agr for RI/FS CM (1995)	7h	05/1/2008	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Neighbor Truck Part	3360	3.4 E	4500 N Fathom	Mike Romano	Pri Agr for RI/FS CM (1995)	8h	05/1/2008	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lavadale Industries	3372	5.4 W	4500 NW Front	81 Rabenhorst	Pri Letter Agr for ATA (2002)	3/7/4	05/08/02	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lavadale Industries	3372	5.4 W	4500 NW Front	81 Rabenhorst	Pri Letter Agr for ATA (2002)	3/7/4	05/08/02	Bank Erosion	Completed			Insignificant pathway, natural/new - Recommended	Low		Waiting on SCD comp plan									
Lavadale Industries	3372	5.4 W	4500 NW Front	81 Rabenhorst	Pri Letter Agr for ATA (2002)	3/7/4	05/08/02	Groundwater	Ongoing	DEQ review of SCE data and another interim determination	2008	Waiting on SCE to be completed	to be determined	to be determined	Waiting on SCD comp plan May 2008		UIC closures in 2008							
Lavadale Industries	3372	5.4 W	4500 NW Front	81 Rabenhorst	Pri Letter Agr for ATA (2002)	3/7/4	05/08/02	Stormwater	Ongoing	Initiate stormwater assessment	to be determined	Waiting on SCD to be completed	to be determined		Waiting on SCD comp plan		none FCSI stormwater UICs closure in 2003							
Lavadale Industries	3372	5.4 W	4500 NW Front	81 Rabenhorst	Pri Letter Agr for ATA (2002)	3/7/4	05/08/02	Groundwater Activities	N/A	N/A	N/A	No known/suspect sources (data reviewed by DEQ)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lavadale Industries	3372	5.4 W	4500 NW Front	81 Rabenhorst	Pri Letter Agr for ATA (2002)	3/7/4	05/08/02	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portland Shipyard	271	6.4 E	Swan Island	Jennifer Sutter	Site PM VCP Letter Agr (1998) Pri Agr is signed and preserve	6h	05/08/02	Bank Erosion	Ongoing	RP is conducting RI to determine if SCM is needed	SCM under development, due DEQ says after Pri Agr signed	Waiting on SCE to be completed	y likely		Waiting on SCE to be completed									
Portland Shipyard	271	6.4 E	Swan Island	Jennifer Sutter	Site PM VCP Letter Agr (1998)	7h	05/08/02	Bank Erosion - in Cowlitz and Fall Area	Ongoing	RP is conducting RI to determine if SCM is needed	Bank assessment between aug (river) with pavement	Waiting on SCE to be completed	y likely		Waiting on SCD to be completed Spring 2008									

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	ECSI #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule	Date SCM completed	Status of EPA review of completed SCM	Operation and maintenance requirements
Portland Shipyard	271	8.4 E	Swan Island	Jennifer Sutter	Pre-PP VCP Letter Agr (SAR)	[illegible]	[illegible]	Groundwater	Ongoing	[illegible]	SOW under development, due [illegible]	Waiting on SCE to be completed	p Med	p Med	Waiting on SCE to be completed									
Portland Shipyard	271	8.4 E	Swan Island	Jennifer Sutter	Pre-PP VCP Letter Agr (SAR)	[illegible]	[illegible]	Groundwater - N. Channel Ave Fab Area	Ongoing	Risk assessment workplan approved with comment	SOW under development, due [illegible]	Waiting on SCE to be completed	p Med		Waiting on SCE to be completed Spring 2006									
Portland Shipyard	271	8.4 E	Swan Island	Jennifer Sutter	Pre-PP VCP Letter Agr (SAR)	[illegible]	[illegible]	Stormwater	Not Started	Negotiating agreement with [illegible]	[illegible]	Waiting on SCE to be completed	p Med		Waiting on SCE to be completed									
Portland Shipyard	271	8.4 E	Swan Island	Jennifer Sutter	Pre-PP VCP Letter Agr (SAR)	[illegible]	[illegible]	Overwater - N. Channel Ave Fab Area	Ongoing	Risk assessment workplan approved with comment	Supplemental RI data needed, to be completed by summer 2006	Waiting on SCE to be completed	p Med		Waiting on SCE to be completed Spring 2006									
Portland Shipyard	271	8.4 E	Swan Island	Jennifer Sutter	Pre-PP VCP Letter Agr (SAR)	[illegible]	[illegible]	Overwater Activities	N/A	N/A	N/A	No known current sources [illegible]	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portland Shipyard	271	8.4 E	Swan Island	Jennifer Sutter	Pre-PP VCP Letter Agr (SAR)	[illegible]	[illegible]	Overwater Activities - N. Channel Ave Fab Area	N/A	N/A	N/A	No known current sources [illegible]	[illegible]		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portland Shipyard	271	8.4 E	Swan Island	Jennifer Sutter	Pre-PP VCP Letter Agr (SAR)	[illegible]	[illegible]	Overland Transport/Sheet Flow	Ongoing	RP is conducting RI to determine if SCM is needed	SOW under development, due [illegible]	Waiting on SCE to be completed	p Low		Waiting on SCE to be completed Spring 2006									
Portland Shipyard	271	8.4 E	Swan Island	Jennifer Sutter	Pre-PP VCP Letter Agr (SAR)	[illegible]	[illegible]	Overland Transport/Sheet Flow - N Channel Ave Fab Area	Ongoing	Risk assessment workplan approved with comment	SOW under development, due [illegible]	Waiting on SCE to be completed	p Med		Waiting on SCE to be completed Spring 2006									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		[illegible]							
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Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

- = Shading indicates that upland source control work has been completed at the site.
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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	ECSI #	River mile	Address	DEQ PM	Type of agreement allowing source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusions	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM structure completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Tidewater Petroleum Products Portland	2117	6.7	4700 Block N Front Avenue	Matt McCurdy	Prospective Purchaser Agreement (PPA)	In progress	10/1/2008	Groundwater Transport/Overland Flow	Low	N/A	N/A	N/A	None	Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tidewater Petroleum Products Portland	2117	6.7	4800 Block N Front Avenue	Matt McCurdy	Prospective Purchaser Agreement (PPA)	In progress	10/1/2008	Air/Air Pathway	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tidewater Petroleum Products Portland	2117	6.7	4900 Block N Front Avenue	Matt McCurdy	Prospective Purchaser Agreement (PPA)	In progress	10/1/2008	Groundwater	Ongoing	RI needs to be done in the SCE report	Final SCE expected 12/08	Waiting on SCE to be completed	A-UPP	Low	Waiting for SCE to be completed									
Tidewater Petroleum Products Portland	2117	6.7	4700 Block Front Avenue	Matt McCurdy	Prospective Purchaser Agreement (PPA)	In progress	10/1/2008	Stormwater	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tidewater Petroleum Products Portland	2117	6.7	4800 Block Front Avenue	Matt McCurdy	Prospective Purchaser Agreement (PPA)	In progress	10/1/2008	Overwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tidewater Petroleum Products Portland	2117	6.7	4900 Block Front Avenue	Matt McCurdy	Prospective Purchaser Agreement (PPA)	In progress	10/1/2008	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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PGE Forest Park	2456	6.5	4400 Block Street	*see Reed	PPA	In	10/8/2008	Groundwater Transport/Overland Flow	N/A	N/A	N/A	N/A	None	In an priority area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PGE Forest Park	2456	6.5	4400 Block Street	*see Reed	PPA	In	10/8/2008	Back Pumper	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PGE Forest Park	2456	6.5	4400 Block Street	*see Reed	PPA	In	10/8/2008	Groundwater	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PGE Forest Park	2456	6.5	4400 Block Street	*see Reed	PPA	In	10/8/2008	Stormwater	Ongoing	Storm line investigation 2008	~Feb 2009	Waiting on SCE to be completed	In an priority area		Waiting on SCE to be completed									
PGE Forest Park	2456	6.5	4400 Block Street	*see Reed	PPA	In	10/8/2008	Overwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PGE Forest Park	2456	6.5	4400 Block Street	*see Reed	PPA	In	10/8/2008	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysler/Jeep Corporation	2436	8.0 W	3800 NW 61st Portland	Tom Gainer	VCP Letter Agreement (VCP)	In progress	10/2/2008	Groundwater Transport/Overland Flow	N/A	N/A	N/A	N/A	None	In an priority area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysler/Jeep Corporation	2436	8.0 W	3800 NW 61st Portland	Tom Gainer	VCP Letter Agreement (VCP)	In progress	10/2/2008	Back Drainer	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysler/Jeep Corporation	2436	8.0 W	3800 NW 61st Portland	Tom Gainer	VCP Letter Agreement (VCP)	In progress	10/2/2008	Groundwater	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysler/Jeep Corporation	2436	8.0 W	3800 NW 61st Portland	Tom Gainer	VCP Letter Agreement (VCP)	In progress	10/2/2008	Stormwater	Ongoing	Storm water sampling in progress	Varies/2009	Waiting on SCE to be completed	In an priority area		Waiting on SCE to be completed 2009		Storm water sampling and training, oil/grease basins and drains							
Chrysler/Jeep Corporation	2436	8.0 W	3800 NW 61st Portland	Tom Gainer	VCP Letter Agreement (VCP)	In progress	10/2/2008	Overwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysler/Jeep Corporation	2436	8.0 W	3800 NW 61st Portland	Tom Gainer	VCP Letter Agreement (VCP)	In progress	10/2/2008	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Terminal 180	180	8.0 W	3800 NW 61st Portland	Matt McCurdy	Prospective Purchaser Agreement (PPA)	In	10/8/2008	Groundwater Transport/Overland Flow	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	SCS #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCE selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Teekos Terminal	162	8.9 W	2800 NW St Helens	Matt McCrady	PA Agr for RI/FS/CM (SCS)	IN	09/1/2008	Bank Erosion	N/A	N/A	N/A	N/A	none	to be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Teekos Terminal	162	8.9 W	2800 NW St Helens	Matt McCrady	PA Agr for RI/FS/CM (SCS)	IN	09/1/2008	Groundwater	Ongoing	RP ready to finalize "A" and SCE report	Draft SCE expected: 2/2009	Waiting on SCE to be completed	3 Low		Waiting on SCE to be completed									
Teekos Terminal	162	8.9 W	2800 NW St Helens	Matt McCrady	PA Agr for RI/FS/CM (SCS)	IN	09/1/2008	Stormwater	Ongoing	RP ready to finalize "A" and SCE report	Draft SCE expected: 2/2009	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed									
Teekos Terminal	162	8.9 W	2800 NW St Helens	Matt McCrady	PA Agr for RI/FS/CM (SCS)	IN	09/1/2008	Overbank activities	N/A	N/A	N/A	No known current source/pathway (another to CSCS)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Teekos Terminal	162	8.9 W	2800 NW St Helens	Matt McCrady	PA Agr for RI/FS/CM (SCS)	IN	09/1/2008	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
American Brothers Property	370	8.9	3275 S. 52 St NW 31, Helens City	Bob Schwarz	CP	IN	12/24/2008	Overbank transport/Street Flow	N/A	N/A	N/A	N/A	none	to be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
American Brothers Property	370	8.9	3275 S. 52 St NW 31, Helens City	Bob Schwarz	CP	IN	12/24/2008	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
American Brothers Property	370	8.9	3275 S. 52 St NW 31, Helens City	Bob Schwarz	CP	IN	12/08/2008	Groundwater	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
American Brothers Property	370	8.9	3275 S. 52 St NW 31, Helens City	Bob Schwarz	CP	IN	09/02/2008	Stormwater	Ongoing	Implementation of stormwater BMP (barrier) and SWPP	No current schedule	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed									
American Brothers Property	370	8.9	3275 S. 52 St NW 31, Helens City	Bob Schwarz	CP	IN	12/08/2008	Overbank Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
American Brothers Property	370	8.9	3275 S. 52 St NW 31, Helens City	Bob Schwarz	CP	IN	12/08/2008	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wemeiler and Rogers	332	3	2800 NW Front Ave	EPA and Kristine Koch				Overbank Transport/Street Flow																
Wemeiler and Rogers	332	3	2800 NW Front Ave	EPA and Kristine Koch				Bank Erosion																
Wemeiler and Rogers	332	3	2800 NW Front Ave	EPA and Kristine Koch				Groundwater																
Wemeiler and Rogers	332	3	2800 NW Front Ave	EPA and Kristine Koch				Stormwater																
Wemeiler and Rogers	332	3	2800 NW Front Ave	EPA and Kristine Koch				Overbank activities																
Wemeiler and Rogers	332	3	2800 NW Front Ave	EPA and Kristine Koch				Other																
Gulch Lake Rill Yard	100	9.6 W	3200 NW Front	Mike Nemeth	PA Agr for RI/FS/CM (SWD)	IN	09/1/2008	Overbank Transport/Street Flow	N/A	N/A	N/A	N/A	none	to be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gulch Lake Rill Yard	100	9.6 W	3200 NW Front	Mike Nemeth	PA Agr for RI/FS/CM (SWD)	IN	09/1/2008	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gulch Lake Rill Yard	100	9.6 W	3200 NW Front	Mike Nemeth	PA Agr for RI/FS/CM (SWD)	IN	09/1/2008	Groundwater	Ongoing	DAR investigation ongoing, at early stages	2008 Fnal-N report identified source sources but SCE schedule to be determined	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed									
Gulch Lake Rill Yard	100	9.6 W	3200 NW Front	Mike Nemeth	PA Agr for RI/FS/CM (SWD)	IN	09/1/2008	Stormwater	Ongoing	DAR investigation ongoing, at early stages	2008 Fnal-N report identified source sources but SCE schedule to be determined	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed									
Gulch Lake Rill Yard	100	9.6 W	3200 NW Front	Mike Nemeth	PA Agr for RI/FS/CM (SWD)	IN	09/1/2008	Overbank Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gulch Lake Rill Yard	100	9.6 W	3200 NW Front	Mike Nemeth	PA Agr for RI/FS/CM (SWD)	IN	09/1/2008	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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- Blueing indicates that upland source control work has been completed at the site.
- Orange indicates that the site is a high priority, or potentially high priority for source control.
- Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
- Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	SCD #	River mile	Address	DEQ PM	Type of agreement allowing source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Require control alternatives evaluation and schedule (m-d)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-d)	Area to volume of contaminants controlled	Proposed SCM milestones to be done and schedule (m-d)	Date SCM completed (m-d)	Basis of EPA review of completed SCM	Operation and maintenance requirements
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Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	SCD #	River mile	Address	DEQ PM	Type of agreement allowing source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCR selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Freightliner (Parts Mfg. Plant)	112	8.2 E	5400 N Basin	Mike Romano	PA Agr for RI/FS/CM (1995)	N	06/1998	Overwater Activities	N/A	N/A	N/A	N/A	none	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner (Parts Mfg. Plant)	112	8.2 E	5400 N Basin	Mike Romano	PA Agr for RI/FS/CM (1995)	N	06/1998	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Columbia American Plating	29	8.3	3623 NW 20th Ave	Mark Pugh	Negotiating PPA	Negotiating PPA	05/2008	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Columbia American Plating	29	8.3	3623 NW 20th Ave	Mark Pugh	Negotiating PPA	Negotiating PPA	05/2008	Sediment	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Columbia American Plating	29	8.3	3623 NW 20th Ave	Mark Pugh	Negotiating PPA	Negotiating PPA	05/2008	Groundwater	Not Started	Additional limited groundwater sampling	No current activities pending PPA development	Waiting on SCE to be completed	To be determined											
Columbia American Plating	29	8.3	3623 NW 20th Ave	Mark Pugh	Negotiating PPA	Negotiating PPA	05/2008	Stormwater	Not Started	Installation and sampling of storm drain	No current activities pending PPA development	Waiting on SCE to be completed	To be determined											
Columbia American Plating	29	8.3	3623 NW 20th Ave	Mark Pugh	Negotiating PPA	Negotiating PPA	05/2008	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Columbia American Plating	29	8.3	3623 NW 20th Ave	Mark Pugh	Negotiating PPA	Negotiating PPA	05/2008	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CE Decommissioning	4600	8.2 W	2727 NW 29th	Tom Gainer	PA Agr for RPA (1994)	N/A	8/2008	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CE Decommissioning	4600	8.2 W	2727 NW 29th	Tom Gainer	PA Agr for RPA (1994)	N/A	8/2008	Mark Fritzler	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CE Decommissioning	4600	8.2 W	2727 NW 29th	Tom Gainer	PA Agr for RPA (1994)	N/A	8/2008	Groundwater	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CE Decommissioning	4600	8.2 W	2727 NW 29th	Tom Gainer	PA Agr for RPA (1994)	N/A	06/1998	Stormwater	Ongoing	Storm water sampling in 2007-8	Winter 2008	Waiting on SCE to be completed	To be determined		Waiting on SCE to be completed winter 2008		Tentatively removing of PCB contaminated soil in hard hats, shale stack basins and pipe							
CE Decommissioning	4600	8.2 W	2727 NW 29th	Tom Gainer	PA Agr for RPA (1994)	N/A	8/2008	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gainescorp Company	1106	8.9 W	2408 NW 20th	Dana Bevan	PA Agr for RPA (1995)	N/A	08/1998	Overland Transport/Sheet Flow	N/A	N/A, site located ~4,500 feet from river	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gainescorp Company	1106	8.9 W	2408 NW 20th	Dana Bevan	PA Agr for RPA (1995)	N/A	08/1998	Storm sewer	N/A	N/A, site located ~4,500 feet from river	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gainescorp Company	1106	8.9 W	2408 NW 20th	Dana Bevan	PA Agr for RPA (1995)	N/A	08/1998	Groundwater	Ongoing	Continuous monitoring	No current activities	EPA staff suggested group whether they could talk to City about site during last meeting	To be determined		Waiting on SCE to be completed (2008)									

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Confirmed or suspected Sources of contamination to the river: Site information:					Project status			Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site name	SCD #	River mile	Address	DEQ PM	Type of agreement allowing source control	Project status	Date last modified (M-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Basis for determination that source control is needed: Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control effectiveness evaluation and schedule (M-y)	Selected SCMs	Status of EPA review of SCM selection decisions	SCM activities completed to date (M-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (M-y)	Next SCM completed (M-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Gunderson Dredging	1186	8.8 W	2400 NW 50th	Dana Bartok	PA Agr for SPA (1998)	X PA	06/12/08	Stormwater	Ongoing	Continuous monitoring per JSCE	2008	Pathway is complete	to be determined	to be determined	Waiting on RGF to be completed (12/08)		Final SCMs TBD. Interim SCMs include: sandcovering SMFs (sand swaying) and evaluating sand pump/heating and repairing site storm water from City line							
Gunderson Company	1186	8.8 W	2400 NW 50th	Dana Bartok	PA Agr for SPA (1998)	X PA	06/12/08	Overwater Activities	N/A	N/A, site located ~4,000 feet from river	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gunderson Company	1186	8.8 W	2400 NW 50th	Dana Bartok	PA Agr for SPA (1998)	X PA	06/12/08	Other	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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Port of Portland Terminal 5	2180	10.2 W	3555 NW Front	Tom Garner	IGA	X PA	2/28/08	Overland Transport/Wind Blow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal 2	2180	10.2 W	3555 NW Front	Tom Garner	IGA	X PA	2/28/08	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal 2	2180	10.2 W	3555 NW Front	Tom Garner	IGA	X PA	2/28/08	Drainageway	Completed			Neighborhood pathway no activity remaining	Low	to be determined	Waiting on SCD to be completed (2008)									
Port of Portland Terminal 2	2180	10.2 W	3555 NW Front	Tom Garner	IGA	X PA	06/12/08	Stormwater	Ongoing	Evaluate stormwater system	Fall 2008	Waiting on SCD to be completed	to be determined		Waiting for SCD to be completed (2008)									
Port of Portland Terminal 2	2180	10.2 W	3555 NW Front	Tom Garner	IGA	X PA	2/28/08	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal 2	2180	10.2 W	3555 NW Front	Tom Garner	IGA	X PA	2/28/08	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LYNR/Abbey	113	10.3 E	2740 E Interstate	Brian Bonner	PA Agr for BUSCM (SCD)	N	06/12/08	Overland Transport/Wind Blow	Ongoing	SCD ongoing	2008	Waiting on SCD to be completed	to be determined		Waiting on SCD to be completed									
LYNR/Abbey	113	10.3 E	2740 E Interstate	Brian Bonner	PA Agr for BUSCM (SCD)	N	06/12/08	Bank Erosion	Ongoing	SCD ongoing	2008	Waiting on SCD to be completed	to be determined		Waiting on SCD to be decided									

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Confirmed or suspected Sources of contamination to the river																												
Site information					Project status			Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
												Basis for determination that source control is needed																
Site name	ECSI #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusions	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Basis or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Corrosion and maintenance requirements
LPRR Alkene	170	10.3 E	2740 N peninsula	Mike Remers	PA/Agr for RI/FS/CM (3CE)	IC	06/1/2006	Groundwater	Ongoing	SCE ongoing	2008	Waiting on SCE to be completed	to be determined	to be determined	Waiting on SCE to be completed										
LPRR Alkene	170	10.3 E	2740 N peninsula	Mike Remers	PA/Agr for RI/FS/CM (3CE)	IC	06/1/2006	Stormwater	Ongoing	SCE ongoing	2008	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed		RP initiated out stormwater sampling prior to completion of screening; more SCMs may be needed								
LPRR Alkene	170	10.3 E	2740 N peninsula	Mike Remers	PA/Agr for RI/FS/CM (3CE)	IC	06/1/2006	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LPRR Alkene	170	10.3 E	2740 N peninsula	Mike Remers	PA/Agr for RI/FS/CM (3CE)	IC	06/1/2006	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PGE Sucker in E	3670	12.4	2020 NW Front Ave.	Tom Gainer	VCP	N/A	03/2006	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	None	low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PGE Sucker in E	3670	12.4	2020 NW Front Ave.	Tom Gainer	VCP	N/A	03/2006	Sediment	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PGE Sucker in E	3670	12.4	2020 NW Front Ave.	Tom Gainer	VCP	N/A	06/1/2006	Groundwater	Completed	Respond to DEQ comments	Summer 2006	Insufficient data to support pathway determination	Low		SCE submitted to EPA for review 03/06										
PGE Sucker in E	3670	12.4	2020 NW Front Ave.	Tom Gainer	VCP	N/A	03/2006	Stormwater	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PGE Sucker in E	3670	12.4	2020 NW Front Ave.	Tom Gainer	VCP	N/A	03/2006	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PGE Sucker in E	3670	12.4	2020 NW Front Ave.	Tom Gainer	VCP	N/A	03/2006	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sewer Pump	1200	10.4 W	2800 NW Front	Mark Pugh	PA/Agr for RI/FS (3CE)	N/A	03/2006	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	a Med	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sewer Pump	1230	10.4 W	2800 NW Front	Mark Pugh	PA/Agr for RI/FS (3CE)	N/A	06/2006	Sediment	Ongoing	RP is conducting a SCE	SCE to be completed in fall 2006	Waiting on SCE to be completed	a Low		Waiting on SCE to be completed fall 2006										
Sewer Pump	1325	10.4 W	2800 NW Front	Mark Pugh	PA/Agr for RI/FS (3CE)	N/A	06/2006	Groundwater	Ongoing	RP is conducting a SCE	SCE tasks completed in fall 2006	Waiting on SCE to be completed	a Low		Waiting on SCE to be completed fall 2006	scheduled for completing draft evaluation report: Feb 2006	Storm line and catch basin cleanout	SCE evaluation pending	Cleanout completed in Oct 2005						
Sewer Pump	1385	10.4 W	2800 NW Front	Mark Pugh	PA/Agr for RI/FS (3CE)	N/A	06/2006	Stormwater	Ongoing	RP is conducting a SCE	SCE tasks completed in fall 2006	Waiting on SCE to be completed	a Med		Waiting on SCE to be completed fall 2006										
Sewer Pump	1400	10.4 W	2800 NW Front	Mark Pugh	PA/Agr for RI/FS (3CE)	N/A	06/2006	Overwater Activities	N/A	N/A	N/A	No latent contam. exceed baseline to DUNS	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sewer Pump	1420	10.4 W	2800 NW Front	Mark Pugh	PA/Agr for RI/FS (3CE)	N/A	06/2006	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal North	3077	10.8 W	2000 NW Front	Tom Gainer	PA/Agr for RI/FS/CM	IC	03/2006	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal North	3077	10.8 W	2000 NW Front	Tom Gainer	PA/Agr for RI/FS/CM	IC	03/2006	Sediment	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal North	3077	10.8 W	2000 NW Front	Tom Gainer	PA/Agr for RI/FS/CM	IC	06/1/2006	Groundwater	Ongoing	Complete groundwater weight-of-evidence evaluation, remaining one well	Summer 2006	Waiting on SCE to be completed	to be determined	to be determined	Waiting on SLC to be completed 2006										

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

- Shading indicates that upland source control work has been completed at the site.
- Orange indicates that the site is a high priority, or possible a high priority for source control.
- Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
- Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	SCM #	River mile	Address	DEQ File	Type of agreement providing source control	Project status	Date last modified (m-d-y)	Potential measurement impacted pathway	Status of SCE	Major SCE tasks to be completed	Scheduled for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusions	Source control alternatives evaluation and schedule (m-y)	Scheduled SCMs	Status of EPA review of SCM activities decisions	SCM activities completed to date (m-y)	Source volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Basis of EPA review of completed SCM	Operation and maintenance requirements
Site at Portland Harbor - North	3077	10-8 W	2203 NW Front	Tax Owner	Pre Agr for RI/FS	IN	10/08/02	Stormwater	Complete			Insufficient information recommended	Low	Unknown	Waiting on SCE to be completed 2006									
Site at Portland Harbor - North	3077	10-8 W	2203 NW Front	Tax Owner	Pre Agr for RI/FS	IN	10/08/02	Overwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Site at Portland Harbor - North	3077	10-8 W	2203 NW Front	Tax Owner	Pre Agr for RI/FS	IN	10/08/02	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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NOTE: DeGrossmandi the following sites and determined that they are not potential sources of contamination to the Willamette River: Alder Creek Lumber; Gladstone Lane Company, LLC; City of Portland Bureau of Environmental Services Water Lab; Harrison Lumber Mill Site/CMCRAY; Harrison Tree Stump; Lane Star NW; NK Biology; Santa Fe Pacific Pipeline; Lenscrafter International (Decator Construction Co.)

Oregon
Theodore R. Kulongoski, Governor

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Northwest Region Portland Office
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June 30, 2006

Jim Jakubiak
Premier Edible Oil (c/o Schnitzer Investment Corp)
3200 NW Yeon Avenue,
Portland, Oregon 97296

Re: Portland Harbor Stormwater Concerns

Dear Ms./Mr. Jakubiak:

In 2001, the Oregon Department of Environmental Quality (DEQ) entered into an agreement with the U.S. Environmental Protection Agency (EPA) that assigned DEQ the responsibility for controlling current and future upland discharges to the Portland Harbor superfund site. The purpose is to ensure these potential sources do not pose an unacceptable risk to aquatic organisms or to people and animals that consume fish from the harbor.

DEQ is currently working with upland parties to implement source control actions at sites in order to mitigate ongoing contamination to the river. Stormwater runoff from upland sites has been identified as one of the potential sources of contamination to the river. Evaluating and controlling discharges of contaminants via stormwater is an important consideration in source control and is required under DEQ's Environmental Cleanup authority. The process for controlling these sources is detailed in the EPA/DEQ Joint Source Control Strategy[1] (JSCS).

To implement this strategy, DEQ is currently working with many property owners to take immediate measures to ensure stormwater is adequately characterized and controlled to prevent contamination to the river. In many cases, this work will go beyond existing applicable discharge permit requirements[2] that may exist at a site.

When the Portland Harbor in-water RI/FS is completed, EPA will issue a Record of Decision (ROD). The ROD will describe the objectives and actions necessary to clean up the river. Sites that have not taken actions to implement stormwater control measures may be included in the ROD unless data exist demonstrating they are not a source of contamination to the Portland Harbor site.

Following cleanup efforts in Portland Harbor, river water and sediments will be monitored to ensure that those efforts were successful, and to identify any sources of contaminants that could contribute

[1] This document can be found at http://www.deq.state.or.us/nwr/PortlandHarbor/JSCS.htm.

[2] Some Portland Harbor sites are already operating under a stormwater permit which requires certain stormwater control measures. However, these permits do not address all of the contaminants that are most problematic in Portland Harbor and may not be sufficient to address the Portland Harbor cleanup goals. Additionally, some sites that are not currently operating under a stormwater permit may also be sources of contaminants to the river. These sites may need to implement additional stormwater control measures to prevent recontamination of harbor sediments.

to recontamination. This could result in additional evaluation of sources at your site and/or additional control measures on those sources.

Taking action now to evaluate and control stormwater discharges from your property will minimize the likelihood that these outcomes will affect your operations in the future. We are encouraging you to work with your DEQ Project Manager to ensure stormwater and stormwater-borne sediments leaving your site are managed to prevent or reduce the amount of contaminants leaving your site, if warranted.

To provide more information on this topic, DEQ has scheduled two free Stormwater Evaluation Workshops (see attached) for Portland Harbor property owners, managers and consultants. If you have any questions, please contact your DEQ Project Manager for more information, or contact Karen Tarnow, DEQ's Portland Harbor Stormwater Coordinator at 503-229-5988 or tarnow.karen.e@deq.state.or.us

Thank you for your continued cooperation in identifying and controlling sources of pollution to the Willamette River. We look forward to working with you on stormwater evaluation and control.

Sincerely,

Keith Johnson

Keith Johnson
Lower Willamette Section Manager

Attachment: Stormwater Evaluation Workshop Announcement

Portland Harbor Superfund Site

Stormwater Evaluation Workshops for Portland Harbor Cleanup Sites

WHEN: **July 17, 2006 1:30 – 4:30**
July 31, 2006 1:30 – 4:30
(Both workshops will cover the same material)

WHERE: **University Place Hotel at Portland State University**
310 SW Lincoln Street in Downtown Portland
(Across the street from DEQ's NW Region office)

WHAT: **Explanation of Stormwater Sampling Procedures**

Background: DEQ is working with certain Portland Harbor-area properties to evaluate and control stormwater that is discharging contaminants of concern into the Willamette River. DEQ's approach to this work is described in Appendix D of the Portland Harbor Joint Source Control Strategy.[1] At many sites, this work is already underway or will be commencing this fall.

Purpose of the Workshops: DEQ is holding two free workshops for property owners and consultants to explain the procedures and answer any questions people may have. The workshop will begin with a presentation and Q&A session (60-90 minutes). Following that, staff will be available for 1-on-1 consultations.

Questions? Contact your DEQ Project Manager or Karen Tarnow at 503-229-5988

DEQ
State of Oregon
Department of
Environmental
Quality

[1] This document can be found at http://www.deq.state.or.us/nwr/PortlandHarbor/JSCS.htm.

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
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July 3, 2006

Kristine Koch
Remedial Project Manager
U.S. Environmental Protection Agency
1200 Sixth Avenue, M/S ECL-115
Seattle, WA 98101

RE: Milestone Report for Upland Source Control at the Portland Harbor Superfund Site

Dear Ms. Koch,

DEQ submits the attached *Milestone Report for Upland Source Control at the Portland Harbor Superfund Site*, dated June 2006, to EPA as required by the Portland Harbor Joint Source Control Strategy (JSCS), which was finalized in December 2005. This is the second Milestone Report prepared by DEQ; the first was submitted in March 2006. Three hard copies of the report are included for your convenience, and DEQ will provide hard copies to EPA partners and members of the public upon request as well. The report will also be posted on DEQ's web site within the next week.[1]

DEQ appreciated EPA's comments on the March 2006 Milestone Report, and DEQ managers and staff discussed all of EPA's suggestions and questions raised. In meetings with you on May 8 and with EPA partners on May 25, we discussed comments with both EPA and EPA partners. As a result, DEQ decided to make a number of changes to the format and content of the Milestone Report, as summarized below.

Changes made in response to EPA and EPA partner comments

- Modified *Section 2: Identifying Potential Sources of Contamination in Portland Harbor* to describe only DEQ's current site discovery process (the March 2006 Milestone Report described DEQ's site discovery process both before the 2000 Superfund listing and after the listing).
- Removed Tables 1, 2 and 3 from the June 2006 Milestone Report (these tables provided information about DEQ's site discovery process before the 2000 Superfund listing).
- Added text to *Section 6: Issues Encountered in Source Control Work* providing more information on the sites that DEQ identified for accelerated source control work, including a statement of the problem(s) at each site and DEQ's approach for addressing the problem(s).

[1] Milestone Reports are available at www.deq.state.or.us/nwr/PortlandHarbor/JSCS.htm.

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- Provided color coding in Table 1 to indicate high, medium and low priority sites (*note: Table 1 was previously titled Table 4 in the March 2006 report*).
- Provided more information where possible in Table 1 to clarify schedules for expected source control work.
- Provided more information where possible in Table 1 to better describe *interim* source control actions that are occurring or have occurred at sites, even if formal source control alternative evaluations have not yet been conducted.
- Updated the "date last modified" column in Table 1 to indicate information that has changed for each site since the March 2006 report.
- Added a footnote to the end of Table 1 that lists sites in Portland Harbor that DEQ has screened and determined that they are *not* potential sources of contamination to the river.
- Added text in *Section 9: Information about Table 1* to (1) clarify that sites in Table 1 are listed by river mile, (2) better describe DEQ's basis for determining whether source control is needed at each site, and (3) define "insignificant pathway" as it is used in Table 1.

In addition, DEQ acknowledges EPA's request for more information about the status and progress of evaluation and control measures at individual stormwater basins that are covered by the City of Portland Outfall project. DEQ received a similar comment from the Port of Portland. We are in the process of working with the City to develop a tracking and reporting format for stormwater basin evaluation and control, and updates on the progress of this effort will be provided in future Milestone Reports.

Also, a suggestion was made by EPA's partner, Environment International, to include in the Milestone Report a map of all the sites listed in Table 1. DEQ agrees that a map would be helpful, and we plan to develop and include a map of sites in the December 2006 report.

As you review the June 2006 Milestone Report, please contact Jim Anderson, Portland Harbor Project Manager, with any additional suggestions or comments.

Frequency of future Milestone Reports

The 2001 MOU states that "annually, DEQ will prepare and provide to EPA and the TCT a milestone report summarizing the status of DEQ source control activities." The 2005 JSCS, however, calls for Milestone Reports to be submitted to EPA on a quarterly basis. Given limited DEQ staff resources, and recognizing that the overall status of source control work in the Harbor does not change significantly on a quarterly basis, DEQ has decided that we will begin submitting Milestone Reports to EPA on a biannual basis – once every six months. Biannual reports will assist EPA, EPA partners and the public in discerning significant changes in source control activities over time, thus making the best use of everyone's limited time and resources. Accordingly, DEQ will submit the third Milestone Report to EPA in December 2006.

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Thank you for your continued assistance in coordinating EPA's support to DEQ on Portland Harbor source control work. Please let us know if you would like to convene a meeting with DEQ and interested EPA partners to discuss the June 2006 Milestone Report, including site prioritization and source control progress.

Sincerely,

Mikell O'Mealy

Mikell O'Mealy
Portland Harbor Project Outreach Coordinator

Cc: Jim Anderson, Portland Harbor Project Manager, DEQ/NWR
Matt McClincy, Portland Harbor Project Technical Coordinator, DEQ/NWR

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Oregon DEQ

Environmental Cleanup Site Information (ECSI) Database
Site Summary Report - Details for Site ID 2013

This report shows data entered as of July 24, 2006 at 2:45:56 PM

This report contains site details, organized into the following sections: 1) Site Photos (appears only if the site has photos); 2) General Site Information; 3) Site Characteristics; 4) Substance Contamination Information; 5) Investigative, Remedial and Administrative Actions; and 6) Site Environmental Controls (i.e., institutional or engineering controls; appears only if DEQ has applied one or more such controls to the site). A key to certain acronyms and terms used in the report appears at the bottom of the page.

Go to DEQ's Facility Profiler to see a site map as well is information on what other DEQ programs may be active at this site.

General Site Information

Site ID: 2013	Site Name: Premier Edible Oils		CERCLIS No:
Address:	10400 N Burgard Way Portland 97203		
	County: Multnomah		Region: Northwest
Other location information:			
Investigation Status:	Listed on CRL or Inventory		
	Brownfield Site: No	NPL Site: No	Orphan Site: No / Study Area: No
Property:	Twnshp/Range/Sect: 2N , 1W , 35		Tax Lots: 57
	Latitude: 45.6132 deg.	Longitude: -122.7836 deg.	Site Size: 18.5 acres
Other Site Names:	C & T Quincy Foods (SEE ECSI 2355) Portland Harbor Sediment Study Schnitzer Investment Corp.		

Site Characteristics

General Site Description:	
Site History:	
Contamination Information:	Property owner submitted an 11/96 Phase II ESA to DEQ in February 1997, which documented groundwater contamination at this site. Primary contaminants included petroleum hydrocarbons, particularly BTEX and other petroleum-based VOCs. Several well points also contained low levels of chlorinated solvents. The property owner and operator concluded that the contamination originated from the adjacent Time Oil site (ECSI #170). (6/17/99 JMW/SAP) Weston sampling results from the Portland Harbor Sediment Study revealed mercury, cobalt, antimony, barium, PAHs, zinc, copper, manganese, arsenic, carbazole, dibenzofuran, methylnaphthalene, and bis(2-ethylhexyl)phthalate in river sediments adjacent to the site. DEQ has not determined the source(s) of these contaminants. (1/4/02 ACV/VCP) Results of investigation activities conducted through 2001 indicate groundwater impacts in several different locations on the site. Free-phase petroleum is present on groundwater at the southwest

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corner of the site and appears to be from historic site operations. Low-level chlorinated solvents, PAHs, and VOCs usually associated with gasoline were detected with the free-phase petroleum. This contaminated groundwater plume appears to be distinct from impacted groundwater toward the northeast part of the property. Activities on adjacent Time Oil property may have contributed to groundwater contamination in northeast part of property. Further groundwater investigation is planned in 2002 to more fully characterize groundwater conditions.

Manner and Time of Release:

Hazardous Substances/Waste Types: Petroleum hydrocarbons, BTEX, PAHs, and VOCs, including chlorinated solvents, on-site. In adjacent river sediments: mercury, cobalt, antimony, barium, PAHs, copper, zinc, manganese, arsenic, carbazole, dibenzofuran, methylnaphthalene, and bis(2-ethylhexyl) phthalate.

Pathways:

Environmental/Health Threats:

Status of Investigative or Remedial Action: (6/17/99 JMW/SAP) Based on initial sampling results from a river sediment quality study, the C & T Quincy Foods/Premier Edible Oils (PEO) site has been identified as a potential source of contamination to the Portland Harbor. DEQ sent a Site Assessment review notice to C&T Quincy Foods 3/2/99, but has received no response. A site screening is scheduled (level II priority). (2/1/00 JMW/SAP) PEO information combined with the Schnitzer Investment Corporation (SIC) Strategy Recommendation - SEE ECSI #2355. (9/1/00 ACV/VCP) DEQ is reviewing site investigation information conducted by Schnitzer. (12/21/00 ACV/VCP) DEQ issued a file review memo summarizing additional information submitted by PEO, SIC, and Time Oil on December 21, 2000. DEQ proposed that SIC, as the property owner, take over the remedial investigation for PEO. (7/17/01 ACV/VCP) Negotiations for formal agreement started in March 2001. Soil and groundwater investigation running concurrent with negotiations. Free-phase petroleum discovered at two locations on-site. (11/1/01 ACV/VCP) SIC conducted off-site groundwater investigation, on upgradient/adjacent Bell Terminal (Time Oil) property in September 2001. Preliminary results anticipated in December 2001. (1/4/02 ACV/VCP) New groundwater data confirms contamination from historic operations in the southwestern portion of the site. Premier Edible Oils should be added to the Confirmed Release List. (4/03 ACV) Groundwater RI to be completed in early 2003. Risk assessment work plan anticipated in 5/03.

Data Sources: 1996 Phase I and Phase II ESAs documenting the presence of petroleum hydrocarbons and chlorinated solvents in groundwater and petroleum in soils; EPA, 1998, Portland Harbor Sediment Investigation Report; September 1998 Focused Site Characterization; September 2001 Preliminary RI; April 2002 Bell Terminal Geoprobe Investigation; Quarterly groundwater Monitoring Data from On-Site Wells, With Results Through October 2001.

Substance Contamination Information

Substance	Media Contaminated	Concentration Level	Date Recorded
BENZENE	Groundwater	6.8 ppb	11/23/1996
BUTYLBENZENE,n-	Groundwater	220 ppb	11/23/1996
BUTYLBENZENE,sec-	Groundwater	81 ppb	11/23/1996
CHLOROETHANE	Groundwater	11.6 ppb	11/23/1996
DICHLOROETHANE,1,1-	Groundwater	3.5 ppb	11/23/1996

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DIESEL - FUEL OIL	Groundwater	19 ppm	11/23/1996
DIESEL - FUEL OIL	Soil	3,900 ppm	11/23/1996
ETHYLBENZENE	Groundwater	2,600 ppb	11/23/1996
GASOLINE	Groundwater	7.1 ppm	11/23/1996
GASOLINE	Soil	1,500 ppm	11/23/1996
ISOPROPYLTOLUENE,p-	Groundwater	350 ppb	11/23/1996
NAPHTHALENE	Groundwater	1,900 ppb	11/23/1996
PROPYLBENZENE,n-	Groundwater	1,000 ppb	11/23/1996
STYRENE	Groundwater	400 ppb	11/23/1996
TRICHLOROETHANE,1,1,1-	Groundwater	2.5 ppb	11/23/1996
TRIMETHYLBENZENE,1,2,4-	Groundwater	5,200 ppb	11/23/1996
TRIMETHYLBENZENE,1,3,5-	Groundwater	1,200 ppb	11/23/1996
XYLENEs	Groundwater	3,953 ppb	11/23/1996

Investigative, Remedial and Administrative Actions

Action	Start Date	Compl. Date	Resp. Staff	Lead Pgm
Site added to database	03/11/1997	03/11/1997	Gil Wistar	SAS
SITE EVALUATION	03/11/1997	03/11/1997	Gil Wistar	SAS
Site Screening recommended (EV)	06/17/1999	06/17/1999	Stephen Fortuna	VCS
Letter Agreement	12/01/1999	07/01/2000	Alicia Voss	VCS
NEGOTIATIONS	03/06/2001	07/28/2001	Alicia Voss	VCS
REMEDIAL INVESTIGATION (Primary Action)	03/06/2001		Mike Romero	VCS
Proposal for Confirmed Release List recommended	01/04/2002	01/04/2002	Alicia Voss	VCS
Facility proposed for Confirmed Release List	01/08/2002	01/08/2002	Kim Van Patten	VCS
Facility placed on Confirmed Release List	03/29/2002	03/29/2002	Kim Van Patten	VCS

Key to certain acronyms and terms in this report:

CERCLIS No.: The U.S. EPA's Hazardous Waste Site identification number, shown only if EPA has been involved at the site.

Region: DEQ divides the state into three regions, Eastern, Northwest, and Western; the regional office shown is responsible for site investigation/cleanup.

NPL Site: Is this site on EPA's National Priority List (i.e., a federal Superfund site)? (Y/N).

Orphan Site: Has DEQ's Orphan Program been active at this site? (Y/N). The Orphan Program uses state funds to clean up high-priority sites where owners and operators responsible for the contamination are absent, or are unable or unwilling to use their own resources for cleanup.

Study Area: Is this site a Study Area? (Y/N). Study Areas are groupings of individual ECSI sites that may be contributing to a larger, area-wide problem. ECSI assigns unique Site ID numbers to both individual sites and to Study Areas.

Pathways: A description of human or environmental resources that site contamination could affect.

Lead Pgm: This column refers to the Cleanup Program affiliation of the DEQ employee responsible for the action shown. SAS or SAP = Site Assessment; VCS or VCP = Voluntary Cleanup; ICP = Independent Cleanup; SRS or SRP = Site Response (enforcement cleanup); ORP = Orphan Program.

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You may be able to obtain more information about this site by contacting Mike Romero at (503) 229-5563 or via email at romero.mike@deq.state.or.us. If this does not work, you may contact Gil Wistar at (503) 229-5512, or via email at wistar.gil@deq.state.or.us or contact the Northwest regional office.

DEQ Online is the official web site for the Oregon Department of Environmental Quality.

SCHN00381816

Gradient
CORPORATION

August 2, 2006

Mr. Mike Romero
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Re: Schnitzer/Premier Edible Oils (PEO) Site – Submittal of final *Work Plan For Additional Characterization of the Premier Edible Oils (PEO) Property*

Dear Mike:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this final version of the *Work Plan For Additional Characterization of the Premier Edible Oils (PEO) Property*, which was prepared by Gradient in collaboration with URS Corporation. This version of the Work Plan addresses the comments that were received from the Oregon Department of Environmental Quality (DEQ) regarding the March 2005 draft version of the Work Plan. These comments were transmitted in letters dated May 25, 2005 and May 10, 2006 and in other meetings and communications.

Following a May 3 site visit, DEQ identified several new investigation issues for the PEO site, including evaluations of slag, drums, pipes, and soil piles observed during the site visit. These issues were documented in DEQ's letter to SIC of May 10, 2006. As we have discussed, to facilitate finalization of the Work Plan, the Work Plan does not specifically address these new issues. As indicated in the July quarterly report for the PEO site, however, efforts to evaluate these issues have been initiated and will be conducted and documented separately from the efforts conducted in the Work Plan. The results of these evaluations will be incorporated in the overall remedial investigation documentation that will be prepared for this site.

Please contact me if you have any questions regarding this document or need any additional information.

Sincerely,

Cathy Petito Boyce

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
T. Zelenka/SIC

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Suite 803, 600 Stewart Street, Seattle, WA 98101 • (206) 267-2920 • fax: (206) 267-2921 • www.gradientcorp.com

Work Plan for Additional Characterization

of the Premier Edible Oils Property

Portland, Oregon

Prepared for
Schnitzer Investment Corp.
3200 NW Yeon Avenue
Portland, OR 97210

Prepared by
Gradient Corporation
Plaza 600 Building, Suite 803
600 Stewart Street
Seattle, WA 98101

in Collaboration with
URS Corporation
111SW Columbia, Suite 1500
Portland, OR 97201

August 2, 2006

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Acronym List

AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
bgs	Below ground surface
DRO	Diesel Range Organics
f_{oc}	Fraction Organic Carbon
GC/FID	Gas Chromatograph/Flame Ionization Detection
GC/MS SIM	Gas Chromatograph/Mass Spectrometer with Selective Ion Monitoring
GRO	Gasoline Range Organics
HASP	Health and Safety Plan
LWG	Lower Willamette Group
NAPL	Non-Aqueous Phase Liquid
LNAPL	Lighter than water NAPL
DEQ	Oregon Department of Environmental Quality
PAH	Polycyclic Aromatic Hydrocarbon
PEO	Premier Edible Oils
RI/FS	Remedial Investigation/Feasibility Study
SAP	Sampling and Analysis Plan
SLVs	Screening Level Values
TPH	Total Petroleum Hydrocarbon
URS	URS Corporation
US EPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
VPH	Volatile Petroleum Hydrocarbons

1 Introduction

On behalf of Schnitzer Investment Corp. (Schnitzer), Gradient Corporation (Gradient) in collaboration with URS Corporation (URS) has prepared this Work Plan describing additional investigations to be conducted at the Premier Edible Oils (PEO) site, located in Portland, Oregon. Building upon previous investigations, the efforts described in this Work Plan will provide supplemental information for characterizing the nature and extent of the residual contamination present at the PEO site, particularly petroleum hydrocarbon compounds. Addressing requests from the Oregon Department of Environmental Quality (DEQ) (DEQ, 2004), these investigations will also support a source control evaluation for free-phase petroleum hydrocarbon product in the southwest portion of the site. As discussed with DEQ, complete characterization of the PEO site will require additional information characterizing the environmental conditions and contaminant source areas on the adjacent upgradient Time Oil properties, particularly the Bell Terminal property. As requested by DEQ, this Work Plan includes recommendations for coordinated sampling for the PEO and Bell Terminal properties to assist in characterizing Bell Terminal contaminant sources and their impacts on the residual petroleum contamination observed on the downgradient PEO property.

The PEO property is an 18.5-acre industrial property located within an industrial area adjacent to the Willamette River (Figure 1). Between 1973 and 1997, PEO processed edible oils on the property. During World War II, the site was part of the Oregon Shipbuilding facility and the Northwest Oil Company owned and operated an aboveground petroleum storage facility in the southern portion of the site between 1941 and 1943.[1] Although Schnitzer has owned the property since 1972, it has never occupied or operated on the site. Additional information regarding site background and use is provided in the Remedial Investigation/Feasibility Study (RI/FS) Scope of Work (Bridgewater Group, 2001a). Key site features are shown on Figure 2.

Located directly adjacent to and upgradient of the PEO property, the Bell Terminal facility consists of 10 aboveground storage tanks (ASTs) with more than 12 million gallons of storage capacity, a petroleum product loading rack, and an associated above- and below-ground piping network. This petroleum product storage and transfer facility operated at this location for approximately 50 years, beginning in 1953. Both gasoline and diesel (as well as other products) were handled at this facility (Landau, 2001). As described in the initial conceptual site model prepared for the PEO site (Bridgewater

[1] Available information indicates that the Northwest Oil Company was a predecessor company to Time Oil. See, *e.g.*, LWG, 2004.

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Group, 2001a), releases and migration of petroleum product contamination from sources on the Bell Terminal property have been identified as known or potential sources of contamination on the PEO site. The impact of the Bell Terminal facility releases on the PEO site is further supported by historical information and data that have been collected during investigations at the Bell Terminal facility (*e.g.*, Gradient, 2004b, 2006; James C. Brown & Associates, 2006; Landau, 2004). Additional site characterization needs exist at the Time Oil tank farm (including the Bell Terminal facility). It is unknown when characterization of petroleum product sources and contaminant distribution on the Bell Terminal property will be completed. As reflected in DEQ's request for coordinated sampling at the PEO and Bell Terminal sites, a coordinated approach for collecting and interpreting data for these two properties is required to fully characterize contaminant sources and distribution. As noted above, this Work Plan includes recommendations for coordinated sampling at the two properties.

Investigations previously undertaken at the PEO site include: Phase I and II Environmental Site Assessments (Hanson Engineers, 1996; AGRA, 1996), a Focused Site Characterization (Bridgewater Group, 1998), and numerous sampling events undertaken by Schnitzer during the Remedial Investigation, including soil and groundwater sampling at the PEO site and selected locations in the western portion of the Bell Terminal site (Bridgewater Group, 2001b, 2002; Gradient, 2002, 2003). Locations where groundwater and soil samples were collected in the Focused Site Characterization and Remedial Investigation sampling events conducted by Schnitzer are shown in Figures 3 and 4.

The objectives and scope of work presented this Work Plan reflect a series of communications between DEQ and Schnitzer, including meetings in December 2003, August 2004, January 2005, and May 2006; a March 2004 memorandum prepared on behalf of Schnitzer recommending additional data collection efforts for the southern portion of the PEO site (Gradient, 2004a); an October 2004 letter from DEQ requesting additional sampling for the southern and central portions of the PEO site (DEQ, 2004); and other communications. The objectives and approaches for the planned investigations are presented in Section 2, while management components of the sampling program are described in Section 3.

2 Scope of Work

2.1 Objectives

Reflecting communications between Schnitzer and DEQ, the primary objectives of the additional site investigations are as follows:

- Source Control Evaluation and Supplemental Product Characterization for the Southern Portion of the Site. DEQ has requested that Schnitzer further delineate the upland and riverward extents of the free-phase residual petroleum hydrocarbon product observed in the southwestern portion of the PEO site, evaluate potential discharge areas, and determine impacts to the Willamette River sediments and surface water, if any. This component will enhance the understanding of the distribution and behavior of residual petroleum hydrocarbon product present in the southwestern portion of the site, including tidal influences on product behavior. Tasks undertaken during this component will include installing additional monitoring wells, conducting additional studies of product behavior and properties, and integrating previous and newly collected data regarding potential impacts on the Willamette River. These investigations will support the overall conceptual site model and the goal of preparing a Source Control Evaluation for the PEO site.
- Additional Site Characterization for the Central Portion of the PEO Site. DEQ has requested further delineation of groundwater concentrations in the central portion of the PEO site. Collection of additional soil and product data is also included in this Work Plan to assist in characterizing the residual petroleum hydrocarbon contamination in this portion of the site and in understanding the nature and magnitude of Bell Terminal sources and their impacts on the contamination observed on the downgradient PEO property.

The following sections describe the specific efforts that will be undertaken to achieve these objectives. Except as specified in the addendum to the Sampling and Analysis Plan (SAP) presented in Appendix A, the efforts encompassed in this Work Plan will follow the sampling and analysis procedures presented in the SAP prepared for the RI/FS, including the procedures for quality assurance and quality control of the collected data (Bridgewater Group, 2001a). Investigation-derived waste will also be addressed in accordance with the procedures specified in the RI/FS SAP (Bridgewater Group, 2001a). Health and safety procedures during the field investigations will follow the Health and Safety Plan (HASP) prepared for the RI/FS (URS, 2001). Any necessary modifications to the previously prepared plan will be separately submitted to DEQ by Schnitzer's field subcontractors.

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2.2 Source Control Evaluation and NAPL Characterization – Southern PEO Site

Tasks undertaken in this component of the additional investigations will assist in identifying the areal extent of the residual petroleum product in the southwestern portion of the site and will provide additional information regarding product behavior, including tidal influence on product behavior. When combined with information from the scientific literature regarding tidal influences on the apparent thickness of product (*e.g.*, Kemblowski and Chiang, 1988; Hunt *et al.*, 1989), this additional information will help document the potential, if any, for the residual hydrocarbon product present in the southwestern portion of the site to be transported to the Willamette River. This enhanced understanding will provide stronger support for the overall conceptual site model, including source control evaluations for the PEO site.

2.2.1 Monitoring Well Installation and Sampling

Free-phase petroleum hydrocarbon product has been observed in monitoring wells in the southwestern portion of the PEO site. To further characterize the northern extent of this product, an additional monitoring well will be installed (*i.e.*, monitoring well MW-18). As shown in Figure 5, MW-18 will be located northwest of MW-02. During well construction, borings will be logged continuously, soil will be field-screened at regular intervals,[2] and 2"-diameter slotted screen will extend from 12 to 27 ft below ground surface (bgs). In addition, soil samples from different layers will be collected for grain size and fraction organic carbon (f_{oc}) analysis. The 2001 SAP provides additional monitoring well construction and development details (Bridgewater Group, 2001a).

In previous communications with DEQ, two other locations had been considered for additional monitoring well installation (shown as PW-A and PW-B on Figure 5). Monitoring wells will not be installed at these locations during these investigations. Location PW-A is not included because it is in close proximity to the existing monitoring well MW-08 (as well as the new monitoring well MW-18) and would not provide significant additional information regarding the northern extent of the residual petroleum product. Similarly, Location PW-B is not included because logs from previous soil borings at locations SHL-21 and SHL-22 sufficiently characterize the eastern extent of residual petroleum product in this portion of the PEO site. As discussed in Section 2.2.2, another area that was considered for monitoring well installation in previous communications with DEQ (*i.e.*, in the vicinity of boring

[2] Field screening of soil will be conducted using a photoionization detector with a 10.2 eV lamp source.

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locations PB-9 and PB-10, located in and near the concrete pad, north and east of SS-91) will be investigated through soil borings in this area.

Consistent with previous monitoring programs at the PEO site, groundwater samples will be collected from the new monitoring well on a quarterly basis for one year. As discussed in Section 2.3.4 (*Coordinated Sampling with Time Oil*), one round of groundwater samples will also be collected from the other wells previously installed in this area (*i.e.*, MW-02, MW-08, MW-09, MW-10, MW-11, MW-12, and MW-13). These samples will be collected during the initial PEO site fieldwork conducted in accordance with this Work Plan or during one of the quarterly groundwater sampling events, depending on coordination outcomes with Time Oil. These samples will be analyzed for volatile organic compounds (VOCs; including petroleum hydrocarbon components such as benzene, toluene, ethylbenzene, and xylenes or Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX); using EPA Method 8260B), polycyclic aromatic hydrocarbon (PAH) compounds (using EPA Method 8270 SIM), and selected metals (*i.e.*, arsenic, chromium, copper, iron, lead, manganese, nickel, silver, and zinc; using EPA Method 6010). As requested by DEQ, these samples will also be analyzed for total petroleum hydrocarbon (TPH) compounds, including analyses of Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) using NWTPH-Gx, NWTPH-Dx, and NWTPH-HCID methods, or equivalent. As discussed in more detail in Section 2.3.1, numerous limitations exist in TPH data for groundwater and the results of such analyses must be carefully interpreted. In accordance with previous practice at the site, groundwater samples will not be collected from the new well (or from a previously existing well) if free product is present at the time of sampling. Similarly, consistent with previous investigations at the site, based on ongoing review of the quarterly sampling analysis results, future modifications to the sampling parameters and frequency of groundwater monitoring for the new well may be proposed.

2.2.2 Soil Boring Installation

As shown in Figure 5, five soil borings will be installed in the southern portion of the PEO site. Soil boring PB-9 will be installed near the center of the former NW Oil Co. tank farm area to further characterize this area, while soil boring PB-10 will be installed along the southern edge of the concrete pad, east of SS-91, to help further characterize the eastern extent of the free-phase petroleum hydrocarbon plume in this portion of the site. Soil borings PB-11, PB-12, and PB-13 will be installed as shown – interspersed among previously sampled locations near the Willamette River shoreline – to further assess

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the riverward extent of LNAPL (lighter than water non-aqueous phase liquid) in this area of the site.[3] These soil borings will be installed in accordance with the procedures described in Section 2.3.3. Similarly, procedures described in Section 2.3.3 will be followed to collect and analyze soil and groundwater samples from these borings.

2.2.3 Product Thickness Monitoring

PEO site investigations undertaken to date have developed information regarding the effect of tidal fluctuations on water table elevations and groundwater flow directions. The effort described in this task will expand upon previous investigations by providing information characterizing the relationship between LNAPL product thickness and tidal fluctuations.

A short-term continuous groundwater level, river stage, and product thickness monitoring survey will be conducted over a period of 48 hours (to extend over 4 tidal cycles) at all monitoring wells within the southern portion of the site with a history of floating product (*i.e.*, wells MW-02, MW-09, MW-11, MW-12, and MW-13). The new monitoring well(s) (*i.e.*, MW-18 or any well installed at locations PB-11, PB-12, or PB-13) will also be included in this survey if product is observed at the new location(s) during the initial monitoring period. The monitoring survey will include the following specific elements:

- At product-containing wells, hourly water level and product thickness measurements will be conducted using a conductivity/optical sounding probe.
- At product-free wells, water level will be monitored at 10-minute intervals using pressure transducers and data loggers.
- During the survey, river stage will be monitored every 10 minutes using a pressure transducer/data logger installed along the river dock.

The survey will be conducted in the fall (*e.g.*, October 2006) and spring (*e.g.*, February 2007) to capture seasonally low and high river stages, respectively.

2.2.4 Product Physical and Chemical Property Measurements

Using disposable bailers, non-aqueous phase liquid (NAPL) product samples will be collected from monitoring well MW-02. NAPL samples will also be collected from monitoring well MW-04

[3] As requested by DEQ, if elevated TPH is detected at PB-11, PB-12, or PB-13, the soil boring at the location(s) where the elevated TPH is observed will be completed as a monitoring well.

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located in the central portion of the PEO site. These two monitoring wells are the locations where product has been observed most consistently and at the greatest thicknesses. The following parameters will be measured in these two samples:

- Specific gravity will be measured at room temperature by weighing a known volume of the NAPL
- Viscosity will be measured at room temperature with a Brookfield viscometer (American Society for Testing and Materials (ASTM) Method D2196), or similar
- Contact angle will be measured using the Sessile drop method described by Cohen and Mercer (1993), or similar
- Interfacial tension between free product and water will be measured using the DuNouy ring method (ASTM D971), or similar

These data are important for assessing the magnitude of the physical forces that determine product entrapment and transport.

Product samples were previously collected from monitoring wells MW-02 and MW-04 in June 2001 and were analyzed for TPH (using Methods NWTPH-Gx and NWTPH-Dx); BTEX (using EPA Method 8021B); VOCs (using EPA Method 8620B); PAH compounds (using GC/MS with selected ion monitoring or EPA Method 8270C); polychlorinated biphenyl (PCB) compounds (using EPA Method 8082); and total metals (using EPA 6000/7000 Series Methods). As a result, additional routine chemical analyses of product samples will not be undertaken during this component of the site investigations.

Product samples will also be archived for potential chemical fingerprinting analyses using modified EPA Method 8015 (Gas Chromatograph/Flame Ionization Detection (GC/FID)), and modified EPA Method 8270 (Gas Chromatograph/Mass Spectrometer with Selective Ion Monitoring (GC/MS SIM)) for PAH compounds and biomarkers (US EPA test methods SW-846). An important goal of these fingerprinting analyses would be to further explore the initial chromatographic evidence that is consistent with a common source for petroleum hydrocarbon materials on the Bell Terminal and downgradient PEO properties. As described in Section 2.3.4, these fingerprinting analyses will only be undertaken if coordinated product samples can be collected from both the PEO and Bell Terminal properties.

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2.2.5 Supplemental Sewer Flow Characterization

Available information suggests that storm sewer lines from the Bell Terminal facility discharge through PEO site piping. To clarify the origins and contributing sources to this storm sewer pipe, additional characterization of this pipe will be undertaken. These activities will include use of sewer locating techniques (*e.g.*, video inspection techniques) to identify the path of this storm sewer pipe as well as inflow locations. This information will enhance source evaluation for the southern portion of the PEO site as well as characterization of the influences of the Bell Terminal facility on the downgradient PEO property.

2.2.6 Additional Source Control Evaluations

In its October 2004 letter, DEQ requested additional investigations to support a source control evaluation, including investigating the riverward extent of the free-phase product, identifying potential discharge areas, and performing verification sampling of shallow groundwater and/or sediment.

In addition to the site-specific data that have been collected by Schnitzer, this task will also include reviewing deepwater river sediment and beach sand data that have been collected near the PEO site during investigations of the Portland Harbor Superfund site. These data include results from an investigation of river sediment within a 6-mile stretch of the Willamette River, including several sampling locations near the PEO site (Weston, 1998). In addition, in 2004, the Lower Willamette Group (LWG) collected beach samples from the vicinity of the PEO property.

As discussed with DEQ, this task of the Work Plan will include reviewing available data from these investigations that are relevant to evaluations of the PEO site. This review will include consideration of relevant Screening Level Values (SLVs) that have been identified by DEQ and the U.S. Environmental Protection Agency (EPA) in the *Portland Harbor Joint Source Control Strategy* document (DEQ and US EPA, 2005). The relevant data and observations will be summarized in both text and figures. It should be noted that caution must be exercised in interpreting the results of the sampling data collected from the river and adjacent sediments due to the presence of multiple confounding sources of many river contaminants. This issue is particularly important for chemicals with a multitude of potential sources, such as PAH compounds and petroleum hydrocarbon compounds. As discussed with DEQ in our January 2005 and May 2006 meetings, following evaluation of these data, the need for and nature of

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any additional data collection to fill any remaining data gaps in the vicinity of the PEO site will be assessed.

2.3 Additional Site Characterization - Central PEO Site

2.3.1 Technical Considerations in Collecting and Interpreting TPH Data

In its October 2004 letter, DEQ requested additional sampling in the central portion of the PEO site. Although DEQ's requests focused on groundwater data as the basis for further characterizing this portion of the site, as discussed below, various technical limitations in TPH data for groundwater may hinder accurate interpretation of such data, particularly for diesel-range and heavier hydrocarbon compounds. Moreover, the interpretation of such groundwater data may be enhanced by consideration of other types of data and contextual information. Thus, as described below, the types of data that will be collected from the central portion of the PEO site include soil and product analyses, as well as the groundwater sampling requested by DEQ. This combined suite of data will more effectively support achievement of DEQ's stated objectives.

Great care must be taken in evaluating groundwater results for PAH and TPH compounds because such results often do not represent actual groundwater quality. Instead, the results often reflect the incidental incorporation into the groundwater sample of NAPL or particles onto which PAH or TPH compounds are adsorbed. If NAPL is present at the water table or if the smear zone is contaminated with these parameters at a given well, then the results of groundwater samples collected from that location will likely be highly variable. Moreover, the groundwater sampling results at such a well are likely to reflect the precise sampling techniques used to collect the sample more than they reflect true groundwater quality.

These factors are of less concern for the volatile fraction of TPH (*i.e.*, GRO or Volatile Petroleum Hydrocarbons (VPH). Many of the constituents of lighter petroleum products (*e.g.*, gasoline) are much more soluble than the constituents in heavier products. As a result, more representative data generally can be derived from analysis of groundwater for GRO or VPH (Cline *et al.*, 1991). In areas where NAPL is present on the water table, however, incidental incorporation of NAPL or sheen material into the sample container would introduce variability into the sample results and would confound interpretation of the groundwater results to the extent that volatile compounds still are present in the NAPL.

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In contrast, PAH compounds and diesel-range or heavier TPH compounds are considered semi-volatile materials, are hydrophobic, and generally have limited solubility. The maximum concentration that any PAH or discrete TPH compound could achieve in a groundwater sample is a function of that chemical's solubility and its mole fraction in the oil that is the source of the groundwater contamination. The maximum concentrations in groundwater that could result from equilibrium with typical diesel fuel have been evaluated for several PAH compounds (Lee *et al.*, 1992). For some of the PAH compounds studied, the maximum concentrations dissolved in groundwater were less than the standard detection limits for these compounds in groundwater. As a result, for example, if fluoranthene (a 4-ring PAH compound) is detected in a groundwater sample, it must be because the sample contains NAPL or particles onto which the fluoranthene is adsorbed.[4]

Even for naphthalene (the most abundant PAH in diesel fuel and among the most soluble), the measured aqueous concentrations in equilibrium with four typical diesel fuels ranged from 0.080 – 0.30 mg/L (Lee *et al.*, 1992). In other words, these are the concentrations that would result if one placed a pint of diesel fuel and a pint of water in a single container. As a result of the natural dispersion and dilution processes that exist in the environment, the actual naphthalene concentrations in groundwater downgradient from a diesel spill would be much less.

In summary, because of their inherent chemical characteristics – *i.e.*, low solubility and high affinity for particles – dissolved forms of PAH compounds and other petroleum product constituents in the semi-volatile range are not expected to be observed in groundwater to any appreciable extent. When they are found in groundwater samples, it is usually not a true representation of groundwater quality, but instead reflects the incidental incorporation of NAPL or contaminated particles into the groundwater samples. Consequently, even though this Work Plan complies with DEQ's request that PAH and TPH compounds be measured in groundwater samples, the use of such data to infer groundwater quality for these parameters (within a quantitative framework) should proceed carefully (if at all). Moreover, as reflected in the scope of work described below, such data should be interpreted in the context of other relevant sampling data and information and the full suite of available information should be considered when interpreting the data to assess nature, extent, fate, and transport of petroleum hydrocarbon compounds at specific sites. Measurements of TPH in soil are more useful in this regard, especially in samples collected from the capillary fringe or smear zone. It is this zone where evidence of the migration

[4] In a study using special sensitive techniques, Lee *et al.* (1992) found aqueous concentrations of fluoranthene in equilibrium with diesel fuels to range from below the detection limit (unspecified) up to 0.0005 mg/L. This maximum detected level is substantially less than the typical detection limit for fluoranthene in water of 0.010 mg/L, using EPA Method 8270.

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of petroleum NAPL can best be found. Measurement of the volatile fraction of TPH (GRO or VPH) in soils can be helpful in this regard as well. In soil sampling (for volatiles especially), care must be taken to collect the sample with minimal disturbance of the soil matrix to minimize the possible loss of volatiles.

2.3.2 Monitoring Well Installation and Sampling

As requested by DEQ, three additional monitoring wells (MW-19, MW-20, and MW-21) will be installed in the central portion of the PEO site to provide supplemental information regarding the extent of contamination in this part of the site. These wells are shown on Figure 6 and are described further below:

- MW-19 to delineate the extent of groundwater contamination downgradient from the former waste water treatment plant
- MW-20 to identify the presence of free-phase product and groundwater condition near the former diesel aboveground storage tank locations
- MW-21 to evaluate the extent of groundwater contamination in the area to the south of Time Oil's Bell Terminal facility

These additional monitoring wells will be installed using the procedures presented in Section 2.2.1. In previous communications with DEQ, two other locations had been considered for additional monitoring wells. As described in Section 2.3.3, one of these locations will be investigated using a soil boring (*i.e.*, PB-8) to further characterize this area (and the option will be retained to complete this boring as a monitoring well if elevated TPH is observed during boring installation). At one other location considered for further investigation (shown as PW-C on Figure 6), no further investigation will be conducted because of its close proximity to existing monitoring well MW-06. Thus, the proposed location would not provide significant additional information regarding the lateral extent of groundwater contamination in this area.

2.3.3 Soil Boring Installation

As illustrated in Figure 6, six soil borings will be drilled with a Geoprobe drill rig to better characterize the lithology and contamination along the Bell Terminal-PEO site border (borings PB-1 to PB-6).[5] Another soil boring (boring PB-8) will be installed to characterize the northern extent of the contamination in the central portion of the site. As described in the SAP, all borings will be logged

[5] If elevated TPH is detected at PB-6, the soil boring at this location will be completed as a monitoring well and soil boring PB-7 will be installed. Soil boring PB-7 will also be installed if elevated TPH is detected at monitoring well location MW-21.

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continuously and soil will be field-screened at regular intervals.[6] Soil samples will be collected from the capillary fringe zone and submitted for chemical analyses. Consistent with previous monitoring programs at the PEO site, these samples will be analyzed for VOCs (using EPA Method 8260B), PAH compounds (using EPA Method 8270 SIM), selected metals (using EPA Method 6010), and TPH compounds (using NWTPH-Gx, NWTPH-Dx, and NWTPH-HCID methods, or equivalent). Similar soil samples and information will be collected during the installation of monitoring well MW-21. Shallow groundwater samples will also be collected from the borings and subjected to TPH analysis. More detailed fingerprinting analyses described in Section A.2.2.2 of Appendix A will be performed only if the coordinated sampling with Time Oil is undertaken (as described in Section 2.3.4). Sections A.2.6.1 and A.2.6.2 of Appendix A present the soil and groundwater sample nomenclature that will be used for the additional site investigation work.

2.3.4 Coordinated Sampling with Time Oil

DEQ recognizes that activities associated with storing millions of gallons of petroleum products on the upgradient Bell Terminal for more than 50 years may have contributed to groundwater and capillary fringe zone soil contamination on the PEO property (DEQ, 2004). Accordingly, DEQ has requested that coordinated sampling activities be conducted on the PEO and Bell Terminal properties. To address this request, this Work Plan includes tasks that would be undertaken in a coordinated sampling event for both properties. These efforts will only be undertaken if the coordinated data can be collected for both properties.

Specific tasks to be conducted in this part of the investigations include the following:

- Collecting one coordinated round of water level measurements. These measurements will be conducted during the upcoming PEO fieldwork or during one of the quarterly groundwater sampling events, depending on coordination outcomes with Time Oil.[7]
- Collecting a coordinated set of capillary fringe soil samples (and product samples, if available) and conducting fingerprinting analysis using the fingerprinting methods described in Section A.2.2.2 (Appendix A) or, at a minimum, using consistent analytical

[6] Field screening of soil from soil boring locations being considered for completion as monitoring wells will include sheen testing as described in Appendix A (*i.e.*, locations PB-6 and PB-8 in the central portion of the PEO site, and PB-11, PB-12, and PB-13 in the southern portion of the PEO site). Soil samples from location MW-21 will also be subjected to sheen testing because information from this sampling location will be used to determine whether soil boring PB-7 is installed.

[7] As discussed in Section 2.2.1, groundwater levels will be measured at all monitoring well locations on the PEO site to provide baseline data for evaluating the new PEO monitoring well locations as well as to provide the PEO component of the coordinated data for assessing potential impacts from Time Oil's Bell Terminal site. The PEO data will be evaluated in conjunction with groundwater data collected by Time Oil for the monitoring wells located on the Bell Terminal.

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techniques and reporting procedures. The locations to be included in this coordinated sampling program are shown on Figure 7.[8]

- Collecting one round of groundwater samples to be submitted for chemical analysis (*i.e.*, VOCs, PAH compounds, selected metals, and TPH). Again, these measurements will be conducted during the upcoming PEO fieldwork or during one of the quarterly groundwater sampling events, depending on coordination outcomes with Time Oil.[9]

Moreover, to better characterize potential sources for residual petroleum hydrocarbons associated with the Bell Terminal facility (*e.g.*, arising from historical tank farm practices resulting in releases of petroleum products or petroleum-containing tank sludges, as documented in James C. Brown & Associates, 2006), it is recommended that soil and groundwater samples in addition to those identified on Figure 7 be collected from the Bell Terminal property. At a minimum, soil borings should be installed to collect such samples outside of the access ports to the Bell Terminal tanks where documentation of historical tank maintenance practices suggests that tank sludge disposal may have occurred. At least one soil boring should be installed near the access port to each of the three large and five medium-sized tanks on the Bell Terminal facility. Approximately 4 to 6 additional soil borings should be installed in the southwestern quadrant of the Bell Terminal facility downgradient of the access port locations for the large tanks. Representative discrete soil samples should be collected from multiple depths in each soil boring, including samples from surface, subsurface, and capillary fringe zone depths (i.e., samples should not be composited across depths or sample locations prior to laboratory analysis). All soil and groundwater samples should be analyzed for VOCs, PAH compounds, metals, and TPH. These samples could be collected by either Schnitzer or Time Oil during the coordinated sampling event.

Schnitzer will work with DEQ and Time Oil to address the logistical elements of the coordinated sampling program.

[8] As described in Sections 2.3.2 and 2.3.3, monitoring well MW-21 and soil borings PB-1 through PB-6 will be installed as part of the additional investigations of the central portion of the PEO site, and certain chemical analyses of soil samples from these locations will be undertaken. If the coordinated sampling with Time Oil occurs, the suite of chemical analyses conducted on the collected samples will be expanded to include the fingerprinting analyses discussed in Section A.2.2.2 (Appendix A).

[9] Groundwater samples for chemical analyses will be collected from all monitoring well locations on the PEO site to provide baseline data for evaluating the new PEO monitoring well locations as well as to provide the PEO component of the coordinated data for assessing potential impacts from Time Oil's Bell Terminal site. The PEO data will be evaluated in conjunction with groundwater data collected by Time Oil for the monitoring wells located on the Bell Terminal.

3 Management Plan

3.1 Schedule

The proposed schedule for implementation of the additional PEO site investigation activities includes:

Submittal/Scope Activity	Date
Final Work Plan	Submitted to DEQ during the week of July 31, 2006
Initiation of Site Activities	Within 30 days after DEQ approval of final Work Plan
Scope of Work Outline for Additional Source Control Evaluations	Within 90 days after completion of field work
Draft Report	Within 90 days after completion of field work
Final Report	Within 45 days after receipt of DEQ comments on the draft report.

If necessary, a supplemental work plan for additional sampling to support the source control evaluations discussed in Section 2.2.6 will be submitted to DEQ for review and approval. As necessary, additional work plan elements will be processed according to schedules negotiated between Schnitzer and DEQ.

3.2 Project Team

Schnitzer's technical project team consists of:

- Tom Zelenka/Schnitzer – PEO Project Manager
- Jim Jakubiak/Schnitzer – PEO Technical Project Manager
- Catherine Petito Boyce/Gradient – Lead Consultant

In addition, Gradient will direct subcontractors selected by Schnitzer to perform the field tasks. The selected subcontractors will be firms and individuals with the requisite technical expertise to conduct their particular work scope.

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3.3 DEQ Communications and Reporting

As required by Section VII of Attachment B to Schnitzer's Voluntary Cleanup Agreement, quarterly reports will be submitted to the DEQ by the 15th day of the quarter following the reporting period. The quarterly reports shall summarize the activities performed, sampling data collected or received, problems encountered or resolved during the previous quarter, and activities planned for the upcoming quarter.

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Collaborative Role of URS Corporation

This work plan was prepared by Gradient Corporation in collaboration with URS Corporation (URS) on behalf of Schnitzer Investment Corp. (SIC) to support evaluations of SIC's Premier Edible Oils site. URS has collected, compiled, documented, and interpreted the geological data available for this site, and has contributed to, reviewed, and concurred with the geological interpretations presented in this work plan.

URS CORPORATION

Donald M. Coberley

Don Coberley, RPG
Senior Hydrogeologist

REGISTERED
OREGON
DONALD MICHAEL COBERLEY
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SCHN00381846

Figures

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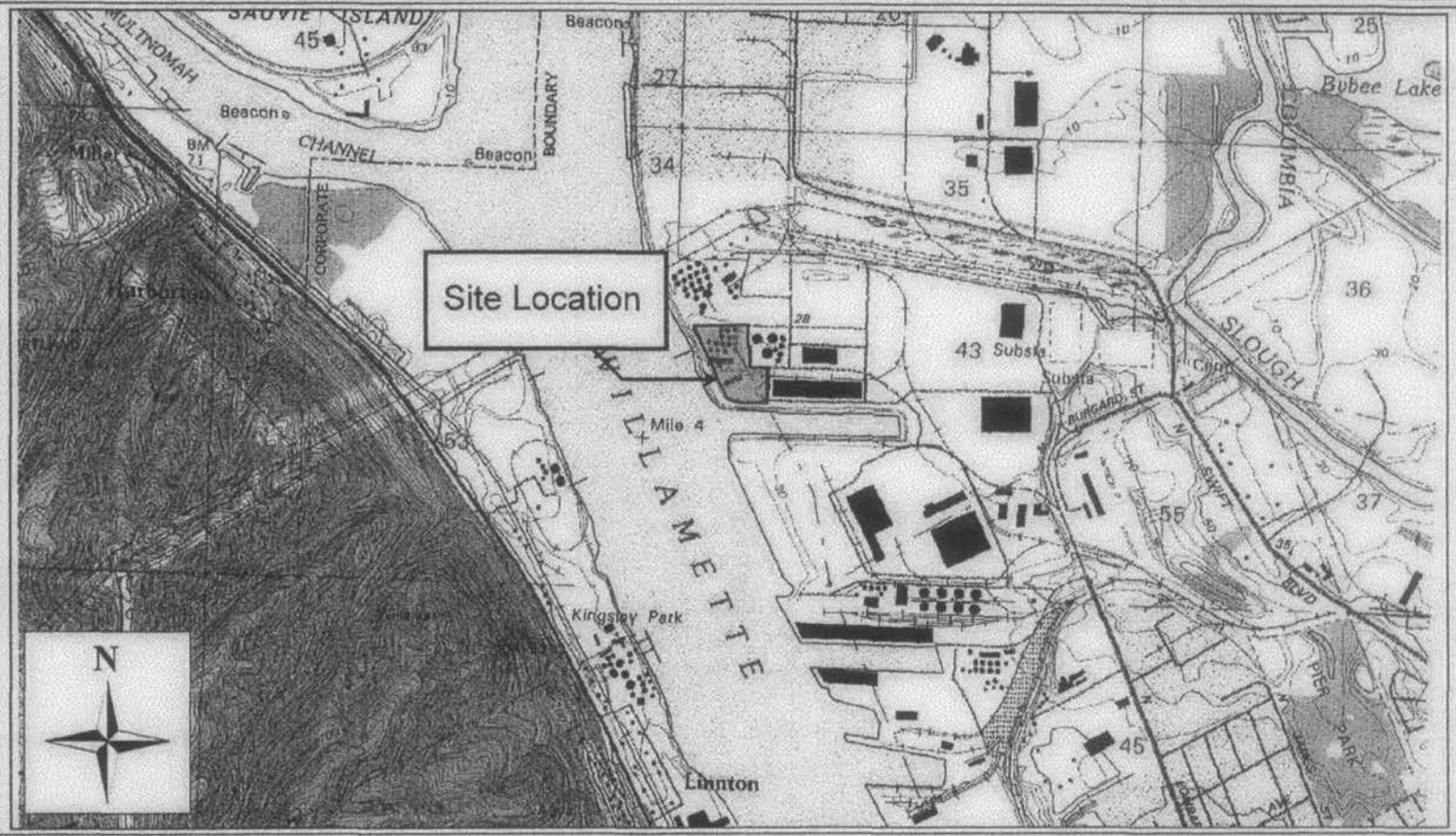

Map Source: USGS

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FIGURE 1

Site Location

Schnitzer Investment Corp.
Premier Edible Oils Site – Portland, Oregon

Drawing By:	JJC	Checked By:	CPB	Project No.:	202017
Date:	07/27/06	Date:	07/28/06	File:	202017-101_01.ai

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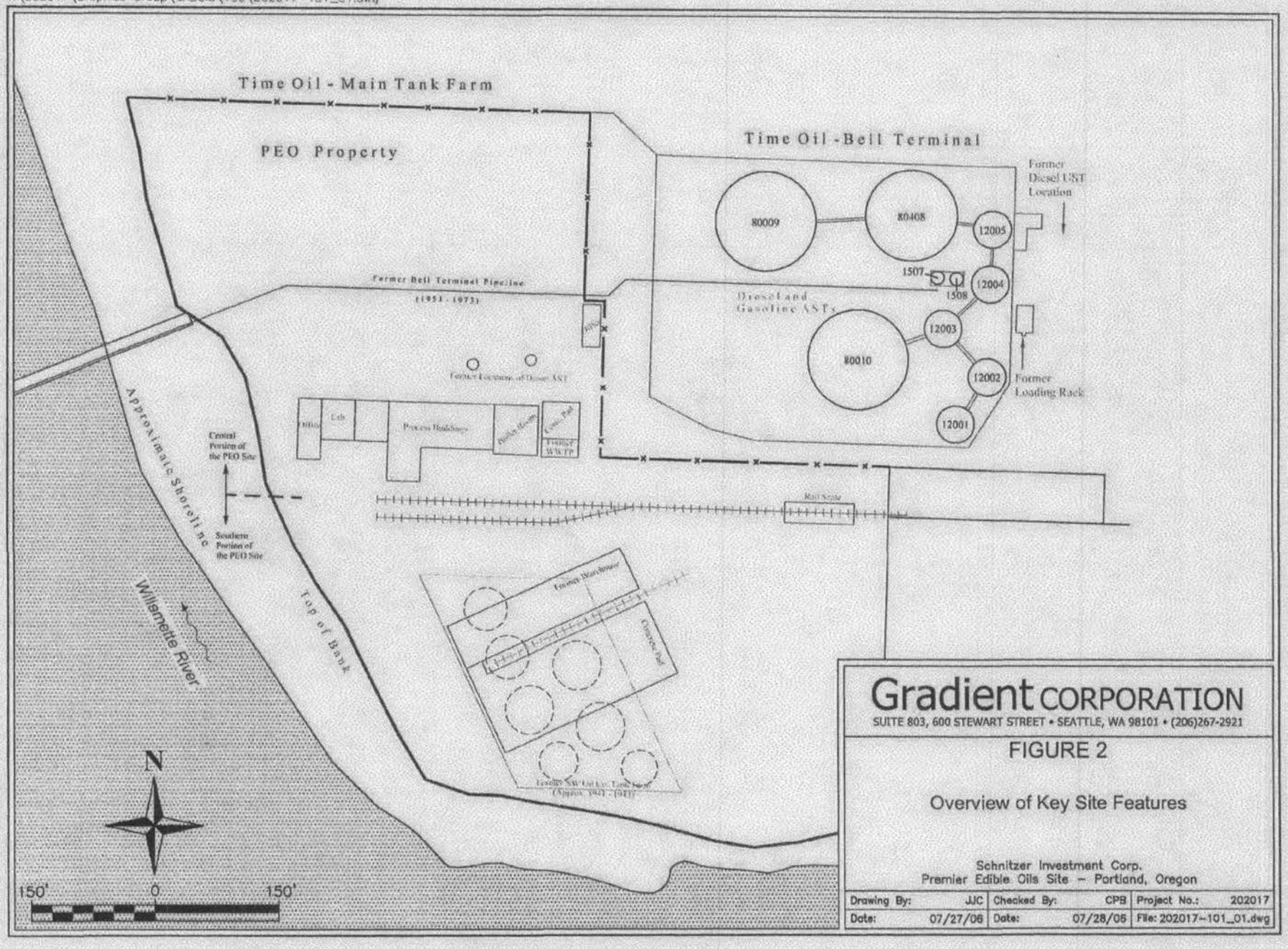

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FIGURE 2

Overview of Key Site Features

Schnitzer Investment Corp.
Premier Edible Oils Site – Portland, Oregon

Drawing By:	JJC	Checked By:	CPB	Project No.:	202017
Date:	07/27/06	Date:	07/28/06	File: 202017-101_01.dwg	

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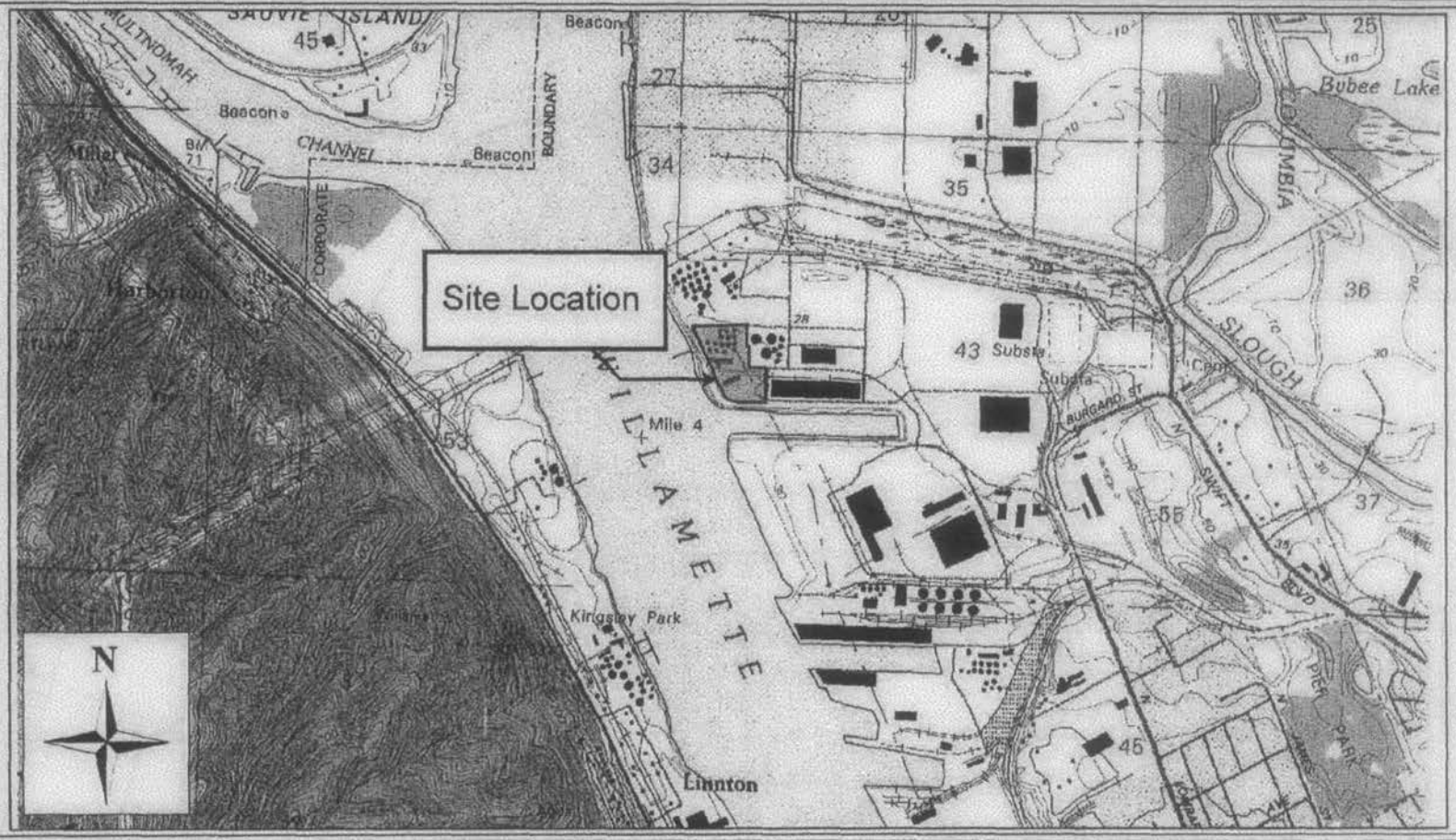

Map Source: USGS

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FIGURE 1

Site Location

Schnitzer Investment Corp.
Premier Edible Oils Site – Portland, Oregon

Drawing By:	JJC	Checked By:	CPB	Project No.:	202017
Date:	07/27/06	Date:	07/28/06	File:	202017-101_01.ai

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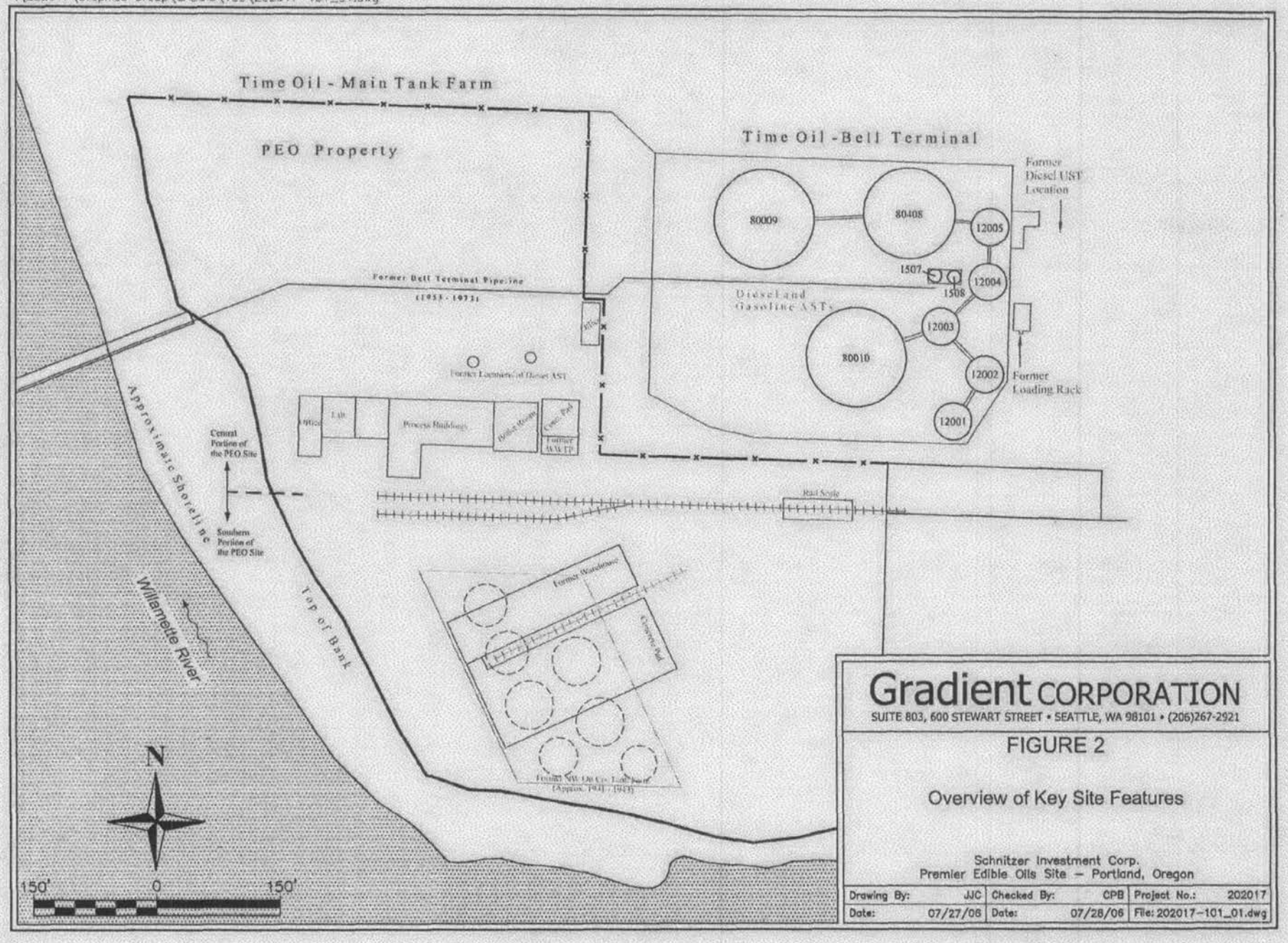

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FIGURE 2

Overview of Key Site Features

Schnitzer Investment Corp.
Premier Edible Oils Site – Portland, Oregon

Drawing By:	JJC	Checked By:	CPB	Project No.:	202017
Date:	07/27/06	Date:	07/28/06	File: 202017-101_01.dwg	

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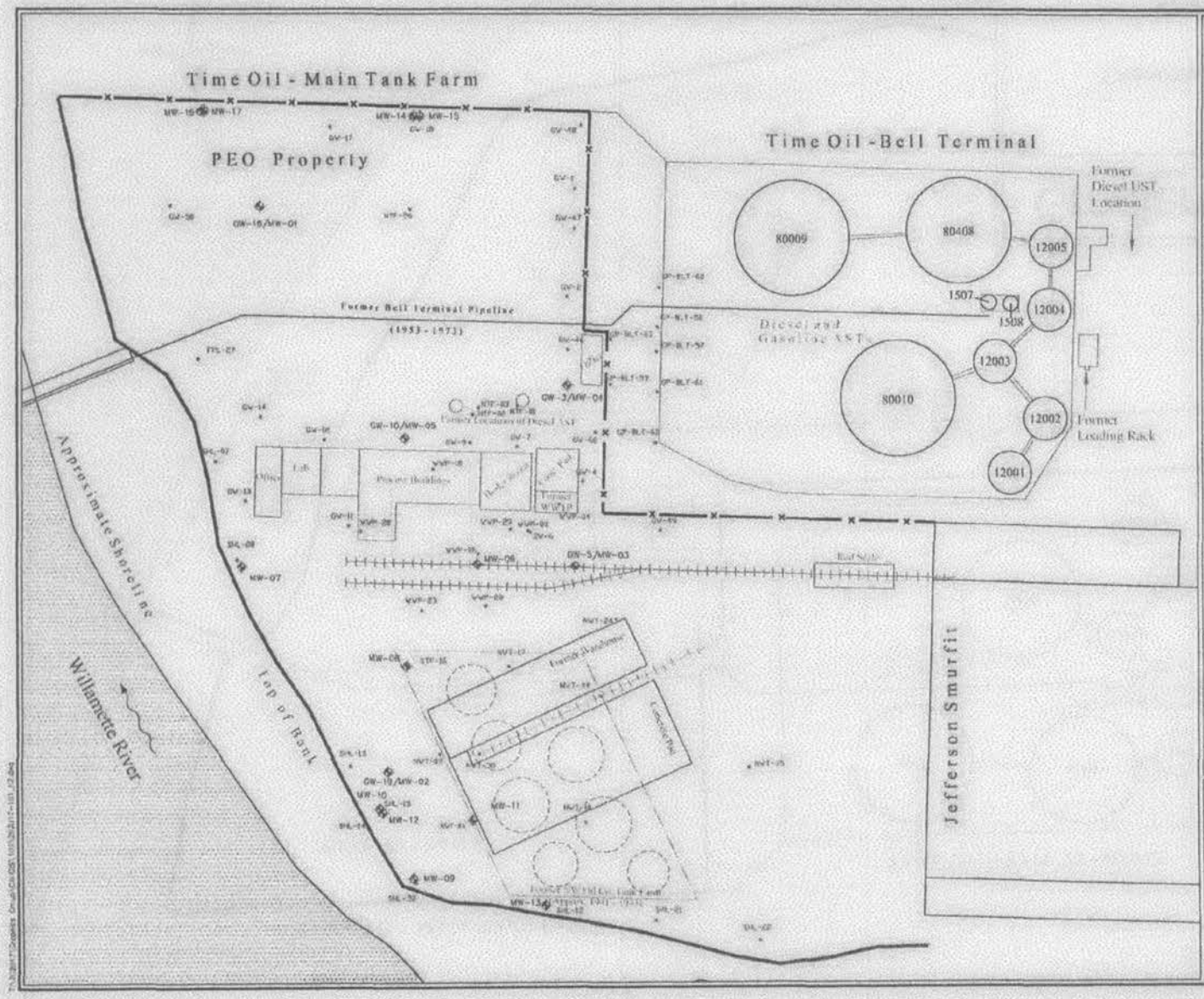

LEGEND

Monitoring Well Location

Geoprobe Location

NOTES:

1) Focused Site Characterization samples (GW-samples) were collected in September 1998.

2) Preliminary Remedial Investigation samples (SHL-, NWT-, STF-, NTF-, FPL-, and WWP-) were collected in May 2001.

3) Bell Terminal samples (GP-BLT samples) were collected by Schnitzer in October 2001.

4) Groundwater sampling at MW-locations was conducted in June and October 2001, March 2002, and January 2003.

Sampling locations shown on this figure reflect sampling conducted by Schnitzer.

N

100' 0 100'

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FIGURE 3

Previous Groundwater Sampling Locations

Schnitzer Investment Corp.
Premier Edible Oils Site - Portland, Oregon

Drawing By:	JJC	Checked By:	CPB	Project No.:	202017
Date:	07/27/06	Date:	07/28/06	File: 202017-101_03.dwg	

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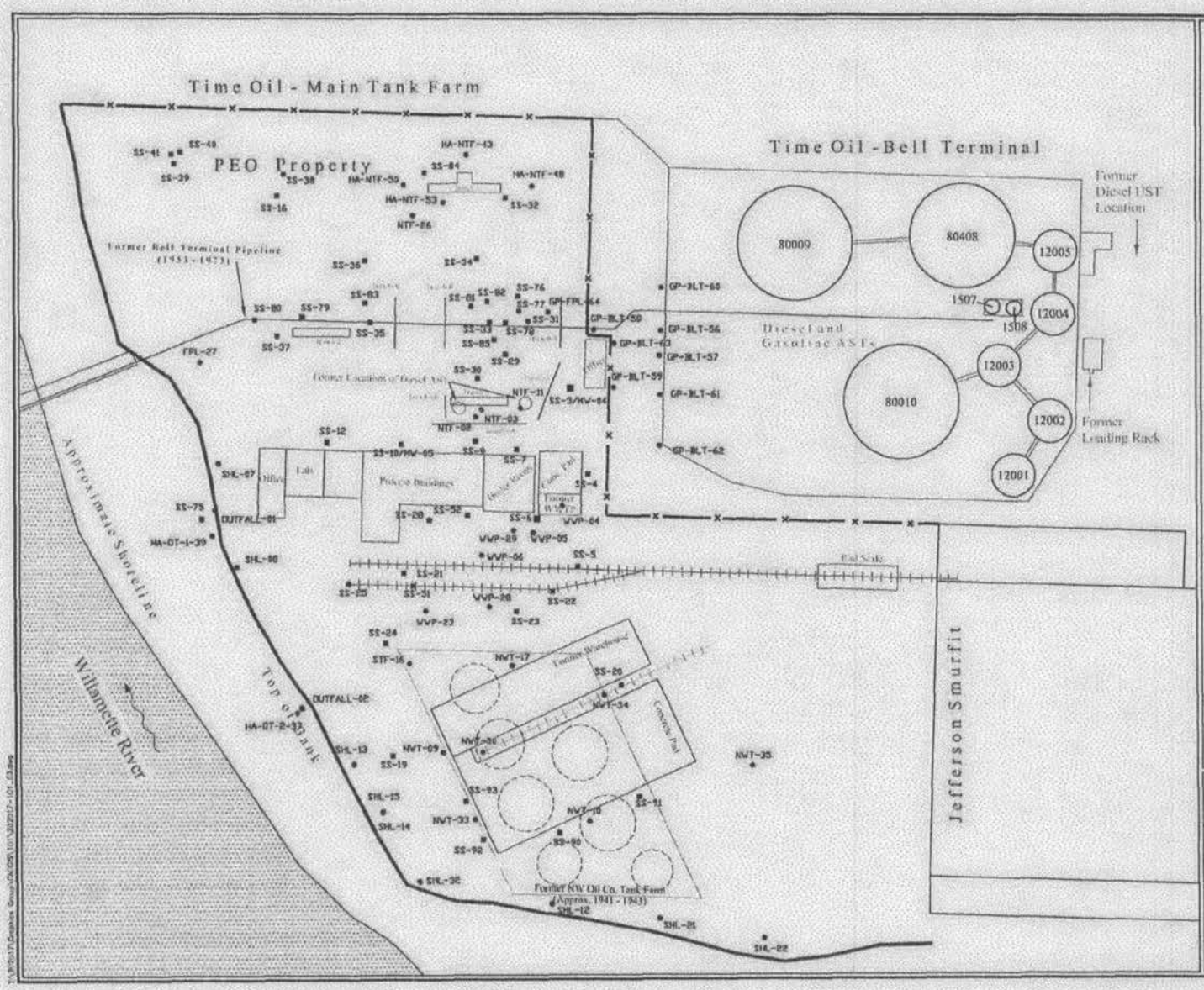

LEGEND

- Focused Site Characterization samples collected in September 1998
- Preliminary Remedial Investigation samples collected in May 2001
- Bell Terminal samples collected by Schnitzer in October 2001

Sampling locations shown on this figure reflect sampling conducted by Schnitzer.

N

100' 0 100'

APPROX. SCALE IN FEET

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FIGURE 4

Previous Soil Sampling Locations

Schnitzer Investment Corp.
Premier Edible Oils Site – Portland, Oregon

Drawing By:	JJC	Checked By:	CPB	Project No.:	202017
Date:	07/27/08	Date:	07/28/08	File: 202017-101_03.dwg	

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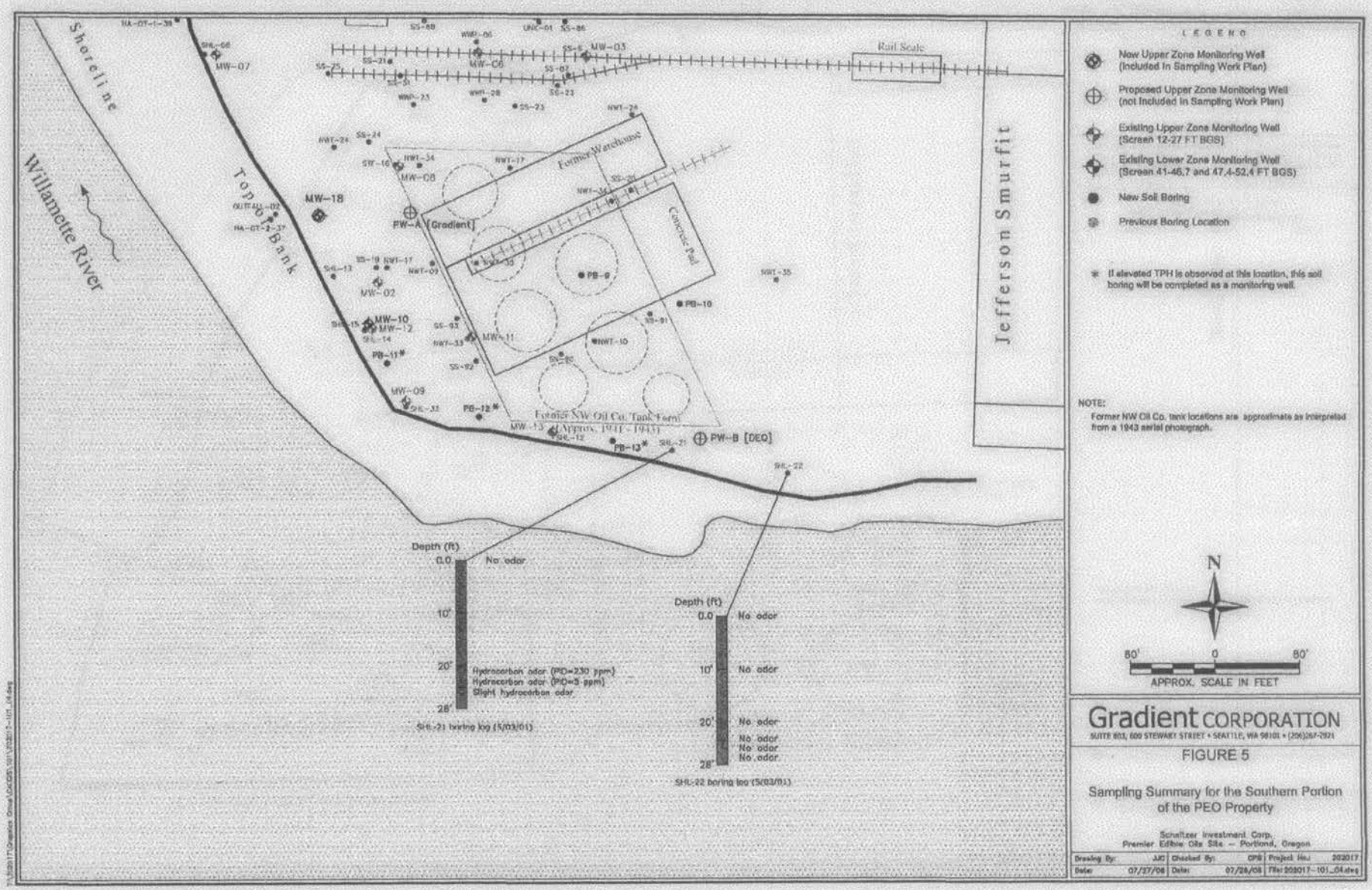

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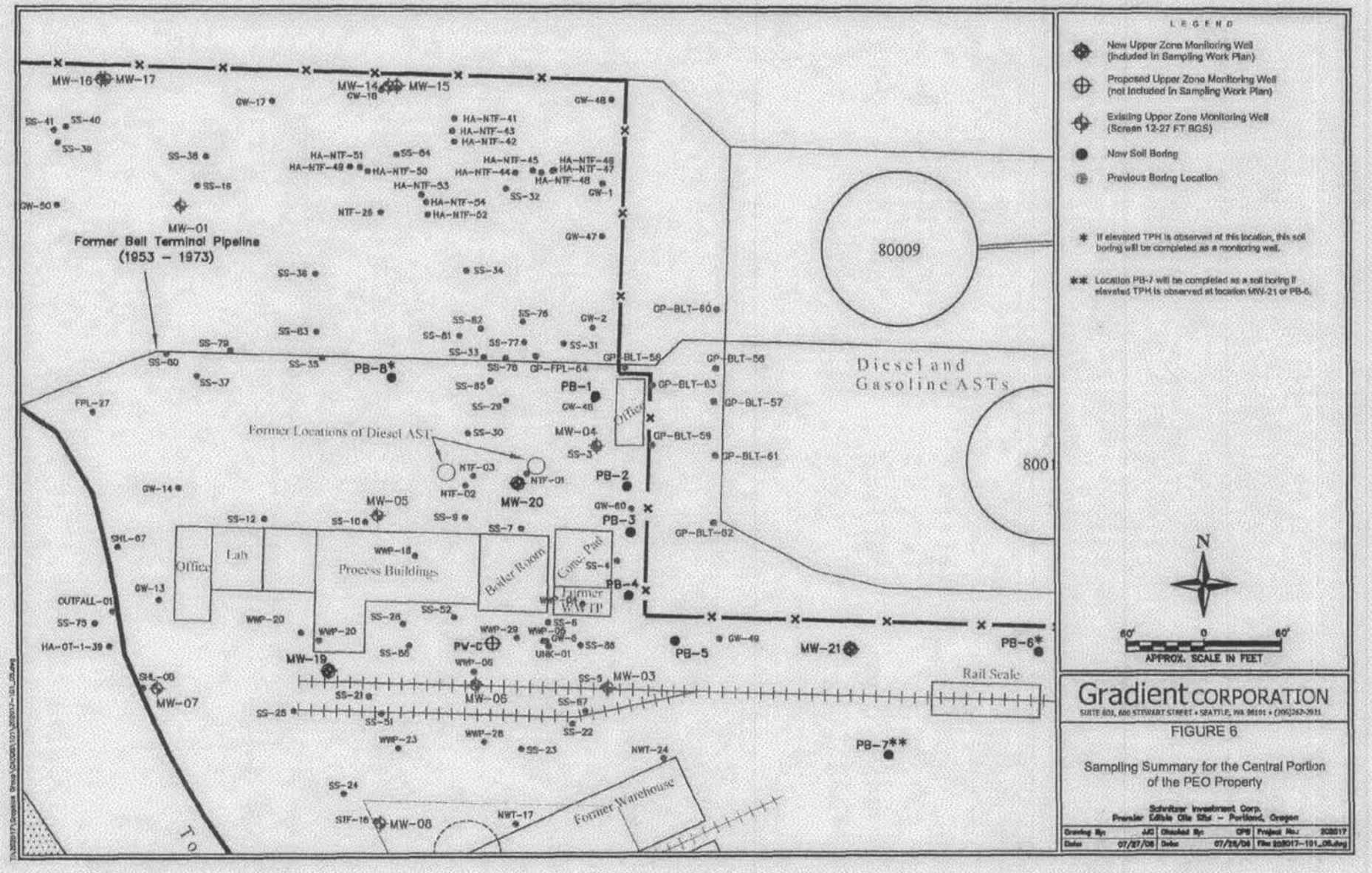

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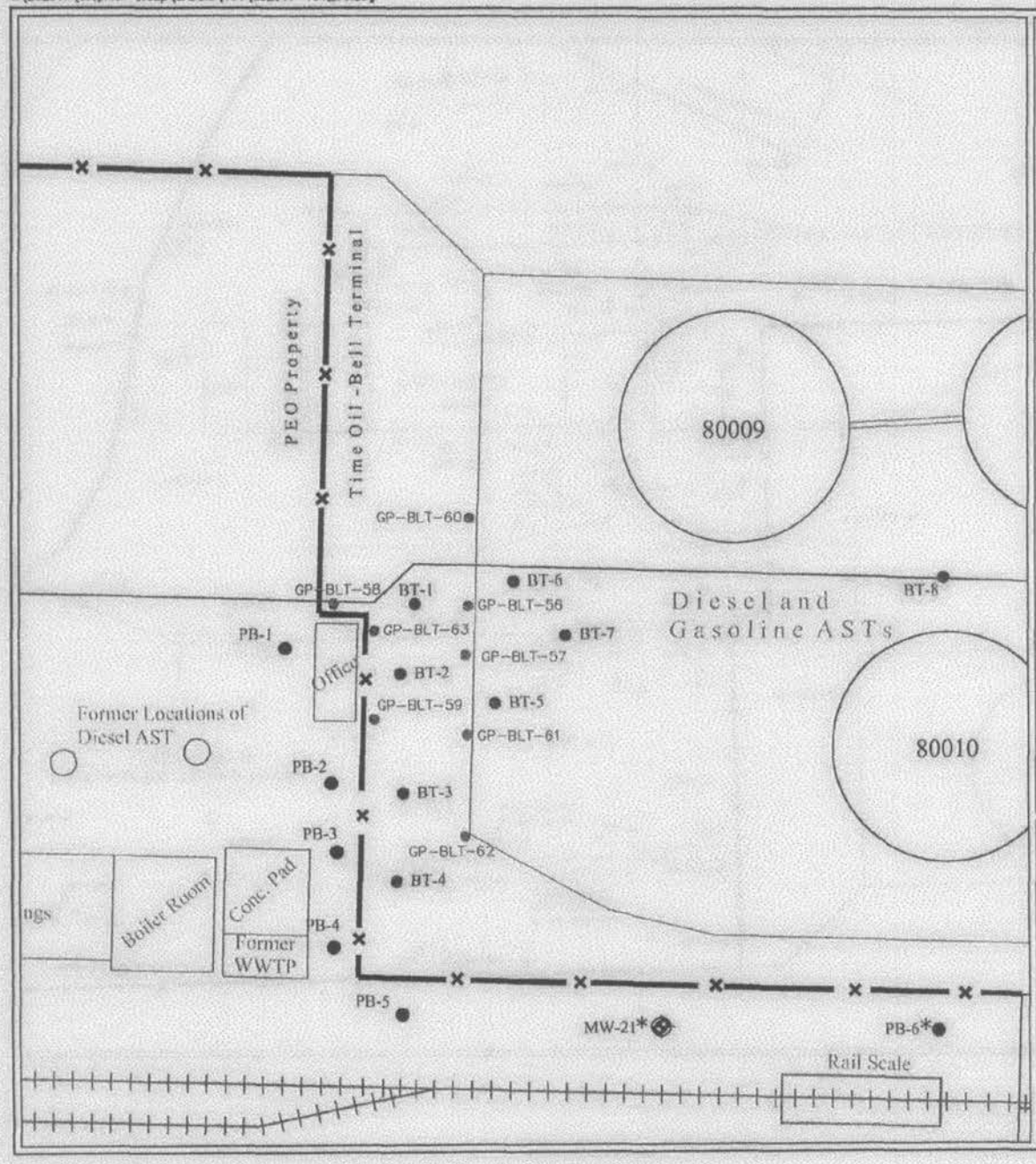

LEGEND

- Proposed Soil Boring Location Bell Terminal Property
- Previous Schnitzer Boring Location Bell Terminal Property
- Proposed Soil Boring Location PEO Property
- Proposed Monitoring Well PEO Property

* MW-21 and/or PB-6 will be included in the coordinated sampling if elevated TPH is observed at these locations.

N

80' 0 80'

APPROX. SCALE IN FEET

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FIGURE 7

Proposed Soil Boring Locations for Coordinated Sampling

Schnitzer Investment Corp.
Premier Edible Oils Site – Portland, Oregon

Drawing By:	JJC	Checked By:	CPB	Project No.:	202017
Date:	07/27/06	Date:	07/28/06	File: 202017-101_06.dwg	

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Appendix A

Addendum to the April 2001 Sampling and Analysis Plan

Addendum to the
April 2001 Sampling and Analysis Plan

Premier Edible Oil Property
Portland, Oregon

Prepared for
Schnitzer Investment Corp.
3200 NW Yeon Avenue
Portland, OR 97210

Prepared by

Gradient Corporation
Plaza 600 Building, Suite 803
600 Stewart Street
Seattle, WA 98101

in Collaboration with

URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201

August 2, 2006

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2 Amended Sections A-1
Section A2.2.2 Geoprobe Soil Samples A-1
Section A2.6.1 Soil Sample Nomenclature A-2
Section A2.6.2 Groundwater Sample Nomenclature A-3

1 Introduction

This addendum contains amendments to the Sampling and Analysis Plan (SAP) submitted in April 2001 to DEQ by Bridgewater Group as part of the documentation for the Scope of Work for the Remedial Investigation and Feasibility Study (RI/FS) (Bridgewater Group, 2001a).

2 Amended Sections

Section A2.2.2 Geoprobe Soil Samples

As described in the main text of this Work Plan, sheen testing will be conducted for soil collected from certain sampling locations. The sheen testing will be conducted using the following procedure. Soil to be tested (10-20 grams) will be placed in a wide-mouth sample jar (8 oz. or larger), or in a shallow, flat-bottom pan. Deionized water (40-50 l) will be added to the soil. The soil and water will be agitated to mix well. The water surface will be observed for the presence and (if present) color of sheen. The presence of any free globules of hydrocarbon product in the water will also be noted. The observations will be recorded. If a shallow, flat-bottom pan is used, the pan will be decontaminated between tests with Alconox solution, followed by a rinse with deionized water.

If the coordinated sampling with Time Oil is conducted, soil samples from sampling locations PB-1 through PB-5 (and possibly sampling locations PB-6 and/or MW-21, if elevated TPH is observed at these locations) will be placed in an appropriate sample jar provided by the offsite laboratory[1] and cooled to 4°C. (See Table 1 for sample collection, preservation, and holding times.) Selected soil samples collected from the capillary fringe zone will be submitted for fingerprinting analyses using the following methods:

- NWTPH-Gx (GRO) and NWTPH-Dx (DRO): Gas chromatography with flame ionization detection (GC/FID), providing data on total petroleum hydrocarbons (TPH), n-alkanes, pristane, and phytane as well as a chromatograms for visual evaluation;
- Modified EPA Method 8270: Gas chromatography with mass spectrometry using selected ion monitoring (GC/MS SIM), providing data on parent and alkylated polycyclic aromatic hydrocarbon (PAH) compounds;

[1] Samples will be sent to Wood Hole Group laboratory in Massachusetts for analysis. Soil samples collected for GRO (gasoline range organics) will be methanol-preserved. No chemical preservation is necessary for soil samples collected for DRO (diesel range organics) analysis.

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- Modified EPA Method 8270: GC/MS SIM providing data on steranes and triterpanes (collectively known as biomarkers).

Table 1. Soil Sample Collection, Preservation, and Holding Times

Method	Matrix	Container	Preservation	Holding Time
NWTPH -Gx	Soil	VOC vial or container; add 15 g to 40 mL vial; 25 g to 60 mL vial.	1 mL methanol per 1 g soil (+/- 25%); cool to 4°C.	28 days.
NWTPH -Dx	Soil	4-oz (120 mL) +/- wide mouth amber glass jar with Teflon-lined screw cap.	Cool to 4°C.	Extract within 7 days; analyze extract within 40 days.

Note:
The offsite laboratory will provide containers.

Section A2.6.1 Soil Sample Nomenclature

Consistent with the soil sample nomenclature described in the SAP, the following nomenclature will be used for the soil boring samples collected from the PEO property in this phase of the investigations:

xx-yy-dd-tt

where

xx = the type of sample with:

GP = Geoprobe™ sample

yy = the investigation identifier, with:

PB = PEO boring (for all soil samples collected from the PEO site in this phase of the investigations)

dd = the depth from the existing ground surface to the middle of the sample interval, in feet

(*e.g.*, for a sample collected from 17.5 to 18.5 ft bgs, d=18).

The thickness of the soil sample collected will be detailed in the field notes.

dd can include a decimal point (*e.g.*, dd could equal 12.5)

tt = The sequential sampling location number corresponding to the sample locations identified in Figures 5 through 7 (*e.g.*, for sampling location PB-1, t = 01). Duplicate samples will be identified in the field notes and will be assigned a unique numerical identifier for t.

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If the coordinated sampling with the Time Oil property is undertaken, yy for any soil samples collected by Schnitzer will equal BT (for Bell Terminal).

Section A2.6.2 Groundwater Sample Nomenclature

For Geoprobe™ samples, the following nomenclature will be used for groundwater samples collected from Geoprobe™ borings:

GP-yy-tt

where

yy = the investigation identifier, with:

PB = PEO boring (for all Geoprobe™ groundwater samples collected from the PEO site in this phase of the investigations)

tt = The sequential sampling location number corresponding to the sample locations identified in Figures 5 through 7 (*e.g.*, for sampling location PB-1, t = 01). Duplicate samples will be identified in the field notes and will be assigned a unique numerical identifier for t.

If the coordinated sampling with the Time Oil property is undertaken, yy for any groundwater samples collected by Schnitzer from Geoprobe™ locations will equal BT (for Bell Terminal).

For groundwater samples collected from monitoring wells (including quarterly monitoring samples), the following nomenclature will be used:

MW-tt-nnnnnn

where

tt = The sequential sampling location number corresponding to the sample locations identified in Figures 5 through 7 (*e.g.*, for sampling location MW-18, t = 18). Duplicate samples will be identified in the field notes and will be assigned a unique numerical identifier for t.

nnnnnn = date sample collected (*e.g.*, for January 15, 2006, t = 011506)

Gradient
CORPORATION

October 8, 2007

Mr. Mike Romero
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Response to June 25, 2007 DEQ Comments on August 2006 Work Plan for Additional Characterization

Dear Mike:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this response to the June 25, 2007 comments of the Oregon Department of Environmental Quality (DEQ) on the August 2006 *Work Plan for Additional Characterization of the Premier Edible Oils Property*, prepared by Gradient. The August 2006 Work Plan reflected SIC's responses to DEQ's May 25, 2005 and May 10, 2006 written comments on the March 2005 draft version of the Work Plan, as well as DEQ comments transmitted in other communications. Following the structure of DEQ's June 25, 2007 comments, this letter responds to each of DEQ's specific comments on the Work Plan. Proposed modifications to the August 2006 Work Plan that are consistent with SIC's responses to DEQ's latest comments are summarized in the Attachment to this letter.

General Comments

1. Data evaluation and presentation: *This comment has been addressed in previous submittals; no additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ states that the Work Plan does not provide sufficient information regarding how the data generated by the Work Plan efforts will be "evaluated and presented." SIC notes that the August 2006 Work Plan is not a stand-alone document, but instead reflects a limited-scope sampling effort that builds upon and supplements the more comprehensive sampling program described in the *Remedial Investigation/Feasibility Study, Scope of Work, Premier Edible Oils Site, 10400 North Burgard Way, Portland, Oregon* (RI/FS SOW, Bridgewater Group, April 2001). The RI/FS SOW includes discussions of a range of analyses that will be conducted using the full suite of available site data (*e.g.*, RI, FS, and risk assessment evaluations), while the August 2006 Work Plan indicates that the site data will also be applied to support a source control evaluation (SCE) for the site. As reflected in Section 2.2.6 of the August 2006 Work Plan (*Additional Source Control Evaluations*) and agreed to in communications with DEQ, specific elements of the analyses to support the SCE are identified in the August 2006 Work Plan (*e.g.*, evaluations of relevant Screening Level Values) and the full scope of the SCE analyses will be determined following evaluation of the data collected pursuant to the August 2006 Work Plan as well as other data previously collected at and in the vicinity of the PEO site by SIC and others.

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2. Applications of collected data: *This comment has been addressed in previous submittals; no additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ specifically requests that the data collection and presentation support SCE analyses and "recovery alternatives" for non-aqueous phase liquid (NAPL). As reflected in the RI/FS SOW, August 2006 Work Plan, and numerous other communications with DEQ, supporting SCE analyses and evaluations of potential remedial alternatives are recognized as key goals of data collection and evaluation at the site.

3. Presentation of site lithology: *The topic of this comment has been addressed in previous submittals; no additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ requests specific elements of presentation for the collected data, *e.g.*, specific site cross-sections. The types of elements that have been specifically requested are components of the evaluations that will be undertaken in the efforts discussed in Section 2.2.6 of the August 2006 Work Plan DEQ's requested elements will be incorporated into the efforts to develop the outline and scope for these evaluations.

4 Sheen testing frequency: *The Work Plan will be modified as discussed below to address this comment, i.e., to incorporate additional locations for sheen testing in the field investigation procedures.*

In this comment, DEQ requests that sheen testing be conducted at 1 foot intervals for soil obtained from proposed soil boring and monitoring well locations. As reflected in the August 2006 Work Plan, SIC has previously incorporated sheen testing into the field screening approaches for the site investigations in response to a May 20, 2006 DEQ request.

In a September 12, 2007 conversation, we discussed several SIC concerns regarding the request in DEQ's June 25 comments. First, because the sampling effort described in the August 2006 Work Plan represents only a relatively small supplemental component of a more comprehensive sampling program at the site, SIC prefers to minimize changes to the sampling approaches to maximize consistency of the newly collected data to the substantial set of data previously collected at the site. Second, SIC questions whether the requested 1-foot sampling frequency will provide useful supplemental information relative to the additional effort that will be required when compared with a slightly less frequent sheen testing frequency. Moreover, SIC questions whether the 1-foot sampling frequency will give a greater appearance of data precision than will actually be provided by the field sampling technique. In addition, because the former operations at the site included the refining of vegetable oil, SIC is concerned that sheen testing results may be affected by the presence of vegetable oil and may, therefore, be of more limited usefulness at this site. As a result, as discussed in more detail in the response to the Specific Comment on Section 2.2.1 presented below, sheen testing results should be evaluated in the context of the full range of field data and other site information.

Based on our September 12 conversation, you agreed that the sampling frequency specified in the August 2006 Work Plan ("at regular intervals") is acceptable to DEQ. Field personnel for the previous PEO site investigations have indicated that, in practice, depth-specific field evaluations performed in accordance with this criterion (*e.g.*, photoionization detector (PID) readings under certain conditions) have been conducted approximately 1-2 times per soil core (or at a frequency of approximately every 2-5 feet). Other field observations that are not depth-specific (*e.g.*, visual

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observations and logging of geological conditions) have been and will continue to be made on a continuous basis.

Based on our conversations, the procedures specified in the Work Plan will be modified so that sheen testing will be included in the field observations of soil from soil boring and monitoring well locations included in the August 2006 Work Plan. The sampling frequency will be kept consistent with previously used field investigation practice at the site, *i.e.*, "at regular intervals" of approximately every 2-5 feet of sample depth.

5 Sampling Coordination with Time Oil: *The topic of this comment has been addressed in previous submittals; no additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ states its support for SIC to conduct coordinated sampling with Time Oil. SIC acknowledges and appreciates DEQ's offer of assistance with this sampling.

Specific Comments

Section 2.2.1 Monitoring Well Installation and Sampling: *The Work Plan will be modified as noted below to address specific aspects of this comment, i.e., to incorporate additional DEQ requests for changes to specific sampling locations.*

In this comment, DEQ raises questions regarding certain sampling location decisions DEQ previously approved in a May 26, 2005 letter. First, DEQ seeks further clarification of the choice not to install a monitoring well at a location previously considered for sampling (identified as PW-B on Figure 5 of the August 2006 Work Plan). As summarized in the Work Plan, following discussions and agreement with DEQ, Location PW-B was not included as a location for monitoring well installation because available data characterized the eastern extent of residual petroleum product in this portion of the site. In particular, available information illustrated a generally decreasing trend in the presence of residual petroleum product from locations to the west of PW-B such as MW-02 and MW-11 (where the greatest depth and most consistent presence of NAPL have been observed) to SHL-22 located directly to the east of PW-B (where no indications of residual petroleum product have been observed). Information reviewed in making this determination included not only the PID readings and odor observations illustrated in Figure 5 of the Work Plan, but also product observations and other site data. As noted below, however, based on a request presented in DEQ's June 25 comments, a soil boring (and potentially a monitoring well) may be installed in the general vicinity of Location PW-B based on field observations made during installation of a soil boring and monitoring well at Location PB-13.

Second, DEQ requests that SIC identify a quantitative "combined measured and observed threshold field screening level for 'elevated' TPH levels" to be used in identifying specific soil boring locations that will be completed as monitoring wells. As discussed in our September 12, 2007 conversation, this requested modification to the field investigation approaches used in the existing extensive sampling at the site raises a similar issue to that discussed in General Comment #4 for the sheen testing request. In particular, SIC is concerned about introducing changes to the sampling approaches applied in this relatively small supplemental component of a more comprehensive sampling program and the potential implications of such changes on the consistency of the newly collected data (and their interpretation) relative to the extensive data previously collected at the site.

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Based on our September 12 conversation, you agreed that the general field investigation procedures identified in the August 2006 Work Plan (and previously applied at the site) are acceptable to DEQ and that a specific numerical field screening level is not required. Instead, SIC will continue to use field investigation procedures and decision-making processes that are consistent with those applied previously at the site. Such procedures have included continuous logging of soil samples, visual and odor observations of soil removed from soil borings (including visual observations of sheen on soil particles), and PID readings. As requested by DEQ and reflected in the August 2006 Work Plan, sheen testing will also be included in the field observations. The use of a more holistic approach (rather than a specific quantitative threshold) also allows monitoring well siting decisions to reflect factors such as geographic and transport considerations. It should be noted that not all monitoring wells at the PEO site have been sited based solely on field observations. Instead, some well locations have been selected based on other criteria, *e.g.*, geographic distribution of well locations, historical petroleum product source areas, and identified product locations.

In past investigations in which field observations were used to identify locations for monitoring well installation, the full suite of field observations was considered for each location in making monitoring well decisions. Observations of sheen, odor, elevated PID readings, and/or large soil intervals with staining have led to monitoring well installation. PID readings collected from locations selected for monitoring well installation have been greater than those observed at locations that were not selected for monitoring well installation, and generally were greater than approximately 150 ppm for maximum reported PID readings for a given location and in the range of 75-100 ppm for average detected PID values for a given location. Other relevant information considered in selecting specific monitoring well locations included chemical distribution information, groundwater flow direction, and field observations from proximate borings. Similar criteria and experience with site conditions will guide decision-making in the current field investigations as well.

Third, DEQ requests additional changes to specific sampling location decisions DEQ previously approved in a May 26, 2005 letter. These changes include requesting that: 1) a monitoring well automatically be installed at soil boring location PB-13, 2) soil borings PB-12 and PB-11 be installed after installation of the monitoring well at soil boring location PB-13, and 3) soil boring location PB-11 be moved to the east of soil boring location PB-13, if information obtained during installation of PB-13 indicates that such a modification would yield better information regarding the eastern extent of residual petroleum product in the southern portion of the site. These modifications will be made to the procedures specified in the Work Plan.

<u>Section 2.2.5 Supplemental Sewer Flow Characterization</u>: *No additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ seeks additional information regarding the sewer flow characterizations that will be undertaken as part of the PEO site investigations. As discussed in the August 2006 Work Plan, the PEO site investigations will focus on evaluating the potential contributions of discharges from Time Oil's Bell Terminal facility to PEO site sewer piping (*e.g.*, by using sewer locating techniques to identify the path and inflows to such piping). Any questions regarding any broader characterization of stormwater discharges associated with the Burgard Industrial Park should be directed to SIC's Project Manager for that site.

<u>Section 2.2.6 Additional Source Control Evaluations</u>: *The topic of this comment has been addressed in previous submittals; no additional changes to the Work Plan are required to address this comment.*

SCHN00381866

In this comment, DEQ reiterates previous comments regarding the analyses to be conducted using the data that will be collected based on the Work Plan, particularly their use in a Source Control Evaluation. As reflected in the August 2006 Work Plan and discussed in the responses to General Comments numbers 1, 2, and 3 above, SIC recognizes the importance of developing the Source Control Evaluation and, as indicated in the August 2006 Work Plan, will determine the full scope of the SCE analyses following evaluation of the data collected based on the August 2006 Work Plan as well as evaluation of other data previously collected at and in the vicinity of the PEO site by SIC and others.

Section 2.3.1 Technical Considerations in Collecting and Interpreting TPH Data: *No additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ discusses a section of the Work Plan that addressed technical limitations in using groundwater data to evaluate chemical distribution for petroleum hydrocarbons. In particular, DEQ discusses approaches that can be taken to address some of the difficulties in collecting and interpreting such data. SIC notes that its primary concern with limitations in TPH data is not with the data collected consistent with the August 2006 Work Plan, but rather with the quality of other TPH data that have been historically collected in the vicinity of the PEO site by others and that are likely to be considered by DEQ in evaluating conditions at the PEO site.

In particular, as detailed in several previous SIC submittals to DEQ and the U.S. Environmental Protection Agency,[1] several important reports presenting petroleum hydrocarbon data collected by Time Oil for the upgradient Bell Terminal have not reflected the type of comprehensive synthesis of available petroleum hydrocarbon data that is necessary to accurately characterize conditions at petroleum-contaminated sites. These reports have been prepared directly by Time Oil (*e.g.*, Landau, 2004, 2005)[2] and by other groups relying upon Time Oil's reports (*e.g.*, Lower Willamette Group [LWG], 2004).[3] As discussed in the previous SIC submittals, the Time Oil and LWG reports discussing Time Oil's Bell Terminal facility and the downgradient PEO site have presented misleading, deficient, and erroneous characterizations of the conditions and potential contaminant sources at and in the vicinity of the PEO and Bell Terminal properties. Many of these deficiencies have arisen because these reports failed to address the types of considerations discussed in Section 2.3.1 of the Work Plan. Thus, the material presented in Section 2.3.1 of the Work Plan has been included to encourage a more comprehensive and technically sound application of the full suite of available data when evaluating conditions at the PEO site.

As noted above, the necessary modifications to the Work Plan based on DEQ's June 25 comments are summarized in the Attachment to this letter. Once DEQ has approved these final modifications to the Work Plan, SIC will proceed with implementing the work described in the Work Plan and collecting the additional data for the PEO site.

---

[1] Previous submittals include: Gradient Corporation. 2004. Memorandum from C. Petito Boyce to A. Voss (Oregon Department of Environmental Quality) re: Comments on Time Oil's Phase III Remedial Investigation Report. Prepared for Schnitzer Investment Corp. September 10; and Gradient Corporation. 2006. Memorandum from C. Petito Boyce and E. Butler in collaboration with D Coberley (URS Corporation) to C. Humphrey and E. Blischke (U.S. Environmental Protection Agency) re: Comments on the Lower Willamette Group's Draft Conceptual Model for the Premier Edible Oils Site. Prepared for Schnitzer Investment Corp. March 1

[2] Landau Associates, Inc. 2004. Draft Phase III Remedial Investigation Report, Time Oil Northwest Terminal, Portland, Oregon. April 30; and Landau Associates, Inc. 2005. Final Phase III Remedial Investigation Report, Time Oil Northwest Terminal, Portland, Oregon. July 19.

[3] Lower Willamette Group. 2004. Premier Edible Oils CSM Site Summary – Appendix A-15.

SCHN00381867

Please contact me (at 206-267-2920) or Jim Jakubiak of SIC (at 503-286-6976) if you have any questions regarding these comments or need any additional information.

Sincerely,

GRADIENT CORPORATION

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00381868

Attachment

Modifications to August 2006 Work Plan:

1. Sheen testing will be conducted at regular intervals for soil collected from soil borings and monitoring well locations in the August 2006 Work Plan. (In response to General Comment #4.)

2. Soil boring PB-13 will be completed as a monitoring well, regardless of the results of the field observations at this location. Soil boring PB-13 will be completed prior to installation of soil borings at locations PB-12 and PB-11. If field observations at location PB-13 indicate that additional investigations to the east of location PB-13 would provide a better determination of the eastern extent of residual petroleum product in the southern portion of the site (*e.g.*, due to observations of elevated residual petroleum product at location PB-13), soil boring PB-11 will be relocated to a location to the east of PB-13, *i.e.*, midway between the locations of soil borings SHL-21 and SHL-22. (In response to Specific Comment on Section 2.2.1.)

SCHN00381869

Gradient
CORPORATION

October 12, 2006

Mr. Mike Romero
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Mike:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between July 1 and September 30, 2006, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- On August 2, 2006, submitted final *Work Plan for Additional Characterization of the Premier Edible Oils Property* for DEQ review and approval. The Work Plan is one component of ongoing communications with DEQ regarding next steps for evaluating the PEO property and inter-relationships between PEO site evaluations and investigations conducted by Time Oil on the adjacent Bell Terminal property
- Continued efforts to address new site issues identified by DEQ during May 3 site visit and listed in DEQ's May 10, 2006 letter to SIC regarding additional investigations at the PEO site (*i.e.*, evaluation of drums, slag, soil piles, and pipes observed at site). Documentation of the disposition of drums of investigation derived waste (IDW) is included with this quarterly report.
- Ongoing review of remedial investigation efforts at Time Oil's Northwest Terminal to determine implications for evaluations of the PEO property.
- Ongoing review of selected sediment data from the LWG Round 2 field sampling program and evaluation of implications of data for assessing conditions in the vicinity of the PEO site.

IQ_100206_202017.doc

Suite 803, 600 Stewart Street, Seattle, WA 98101 • (206) 267-2920 • fax: (206) 267-2921 • www.gradientcorp.com

Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between October 1 and December 31, 2006:

- Proceed with additional investigations of PEO site upon receiving DEQ approval of the Work Plan submitted on August 2, 2006.
- Continue efforts to address new site issues identified by DEQ during the May 3 site visit and prepare additional documentation of findings for submittal to DEQ.
- Continue communications with DEQ regarding proposed future efforts at the PEO site and ongoing Time Oil activities on the Bell Terminal site. As data become available, obtain additional information from DEQ regarding Time Oil's ongoing investigations and Bell Terminal site features.
- Continue evaluation of Time Oil's investigative data for the Bell Terminal site in light of proposed and ongoing data collection. This effort includes assessing implications of available data for potential impacts on the PEO site from the Time Oil site and assessing need for additional recommendations regarding further sampling on the Bell Terminal site.
- Continue reviewing statements made regarding the PEO site in documentation prepared by the LWG, Time Oil, and/or DEQ, and, as necessary, correcting errors presented in such documentation.
- Continue reviewing data from the LWG field sampling program as data become available.

Issues to be Resolved/Recommended Actions

In March 2006, SIC provided several submittals to DEQ, including comments to correct the numerous erroneous and/or misleading statements in the Lower Willamette Group's (LWG) draft conceptual site model (CSM) regarding contaminant sources and distribution for the PEO site (*Comments on the Lower Willamette Group's Draft Conceptual Site Model for the Premier Edible Oils Site*, dated March 1, 2006, prepared on behalf of SIC by Gradient Corporation in collaboration with URS Corporation) and a submittal from SIC's environmental counsel discussing sources for the residual contamination at the PEO site and requesting that Time Oil be named as a responsible party at the PEO site (*White Paper – Contaminant Sources at the Premier Edible Oils Site (ECSI #2013) Located Within The Portland Harbor Superfund Site*, dated March 6, 2006). SIC continues to await DEQ's response to SIC's March 2006 submittals, including DEQ's May 3, 2006 commitment to provide a written response within 60 days to SIC's request to name Time Oil as a responsible party at the PEO site.

SCHN00381871

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00381872

Memorandum

URS

To: Project File

From: Donald M. Coberley, RPG

URS, Portland

Date: October 10, 2006

Subject: Investigation Derived Waste Disposition, Schnitzer Investment Corp. Premier Edible Oils site

On behalf of Schnitzer Investment Corp. (SIC), URS and its subcontractor (Stratus Corporation) visited SIC's Premier Edible Oils (PEO) site on May 12, 2006 to arrange disposal of investigation derived waste (IDW) present at the site. An inventory indicated 14 drums of purge water from groundwater-monitoring wells located on site. This memo describes disposal of the purge water IDW.

Stratus personnel returned to the site on May 16, 2006. Stratus transported one drum of purge water containing hydrocarbon product to Oil Re-Refining Company (ORRCO) of Portland, Oregon for disposal. The disposal certificate for the material is provided as Attachment A. Stratus also collected a composite sample from the 13 remaining drums of purge water for chemical analysis for volatile organic compounds (VOCs) by US Environmental Protection Agency (EPA) method 8260, diesel-range hydrocarbons by method NWTPH-Dx, and flash point. Chemical analyses were completed by Test America of Beaverton, Oregon.

Analytical results are included as Attachment B. No VOCs or diesel-range or heavy oil-range hydrocarbons were detected above laboratory detection limits.

Pacific Power Vac, LLC (PPV) removed a total of 390 gallons of purge water from the 13 drums on May 30, 2006. The water was transported to PPV's Portland, Oregon facility via vacuum truck and treated as non-hazardous waste liquid, oily water on that day. Disposal documentation for the purge water is included as Attachment C. The drums were staged on site for eventual recycling.

SCHN00381873

Attachment A

Disposal Certificate for One Drum of Purge Water IDW

** RECEIVING RECORD ** No. [illegible]

RECEIVED BY: Oil Re-Refining Company, EPA# WAD9B0986013 PLANT: PORTLAND
4150 N. Suttle Road Phone (503) 286-8352 EMPLOYEE: [illegible]
Portland, OR 97217 Fax (503) 286-5027 PAGE: 1

RECEIVED FROM: Stratus Corporation Customer ID# [illegible]
19700 SW Teton Phone: [illegible]
DATE: 05/17/2006 Tualatin, OR 97217 Driver: [illegible]

QTY.	UNIT	ITEM	MNF	%H2O	%SOLID	B/L#
30.	GAL.	USED OIL	N	0.%		
	SEN:	Stratus Corporation				
		PASSED SNIFFER. JOB# P06113.				
15.	GAL.	Diesel	N	0.%	0.%	0
	SEN:	Stratus Corporation				
		PASSED SNIFFER. JOB# P06113.				

TOTAL GAL 45.

Signed [illegible] DATE: 05/17/2006

SCHN00381875

Attachment B

Analytical Results for Composite Sample of 13 Drums of Purge Water IDW

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

May 26, 2006

Scott Flaherty
Stratus Corporation
39515 S.W. Hartley Road
Gaston, OR 97119

RE: Premier Edible Oils

Enclosed are the results of analyses for samples received by the laboratory on 05/17/06 16:20. The following list is a summary of the Work Orders contained in this report, generated on 05/26/06 14:30.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PPE0756	Premier Edible Oils	P06113

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

SCHN00381877

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P06113-1	PPE0756-01	Other wet	05/17/06 12:00	05/17/06 16:20

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:30

Physical Parameters per APHA/ASTM/EPA Methods

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPE0756-01 (P06113-1)			**Other wet**			**Sampled: 05/17/06 12:00**				
Flashpoint	EPA 1010	ND	-----	150	°F	1x	6051110	05/23/06 12:35	05/23/06 19:57	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

SCHN00381879

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:30

Physical Parameters per APHA/ASTM/EPA Methods - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 6051110 **Other wet Preparation Method: EPA 1010**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (6051110-BS1)								**Extracted: 05/23/06 12:35**						
Flashpoint	EPA 1010	130	—		°F	1x	--	127	102%	(96.5-103)	--	--	05/23/06 19:57	
Duplicate (6051110-DUP1)				**QC Source: PPE0614-19**				**Extracted: 05/23/06 12:35**						
Flashpoint	EPA 1010	ND	---	150	°F	1x	ND	--	--	--		(50)	05/23/06 19:57	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:30

Notes and Definitions

Report Specific Notes:

None

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

SCHN00381881

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

May 26, 2006

Scott Flaherty
Stratus Corporation
39515 S.W. Hartley Road
Gaston, OR 97119

RE: Premier Edible Oils

Enclosed are the results of analyses for samples received by the laboratory on 05/18/06 12:20. The following list is a summary of the Work Orders contained in this report, generated on 05/26/06 14:02.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PPE0861	Premier Edible Oils	P06113

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

SCHN00381882

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P06113-2	PPE0861-01	Water	05/17/06 17:40	05/18/06 12:20
P06113-3	PPE0861-02	Water	05/17/06 17:40	05/18/06 12:20

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

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ph: (503) 906.9200 fax: (503) 906 9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:02

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPE0861-02 (P06113-3)			**Water**			**Sampled: 05/17/06 17:40**				
Diesel Range Organics	NWTPH-Dx	ND	-----	0.243	mg/l	1x	6051020	05/22/06 13:30	05/22/06 20:27	
Heavy Oil Range Hydrocarbons	"	ND	-----	0.485	"	"	"	"	"	
Surrogate(s): 1-Chlorooctadecane			*67.1%*		*50 - 150 %*	"			"	

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Roxanne L. Clifton, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:02

Volatile Organic Compounds by EPA Method 8260B

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPE0861-01 (P06113-2)		**Water**			**Sampled: 05/17/06 17:40**					
Acetone	EPA 8260B	ND	-----	25.0	ug/l	1x	6050186	05/25/06 16:09	05/25/06 23:10	
Benzene	"	ND	-----	1.00	"	"	"	"	"	
Bromobenzene	"	ND	-----	1.00	"	"	"	"	"	
Bromochloromethane	"	ND	-----	1.00	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	1.00	"	"	"	"	"	
Bromoform	"	ND	-----	1.00	"	"	"	"	"	
Bromomethane	"	ND	-----	5.00	"	"	"	"	"	
2-Butanone	"	ND	-----	10.0	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Carbon disulfide	"	ND	-----	1.00	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	1.00	"	"	"	"	"	
Chlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
Chloroethane	"	ND	-----	1.00	"	"	"	"	"	
Chloroform	"	ND	-----	1.00	"	"	"	"	"	
Chloromethane	"	ND	-----	5.00	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	1.00	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	1.00	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	5.00	"	"	"	"	"	
1,2-Dibromoethane	"	ND	-----	1.00	"	"	"	"	"	
Dibromomethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloroethane (EDC)	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	-----	1.00	"	"	"	"	"	
1,2-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,3-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
2,2-Dichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,1-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	-----	1.00	"	"	"	"	"	

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

SCHN00381885

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:02

Volatile Organic Compounds by EPA Method 8260B

TestAmerica - Spokane, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPE0861-01 (P06113-2)		**Water**			**Sampled: 05/17/06 17:40**					
Ethylbenzene	EPA 8260B	ND	-----	1.00	ug/l	1x	6050186	05/25/06 16:09	05/25/06 23:10	
Hexachlorobutadiene	"	ND	-----	1.00	"	"	"	"	"	
2-Hexanone	"	ND	-----	10.0	"	"	"	"	"	
Isopropylbenzene	"	ND	-----	1.00	"	"	"	"	"	
p-Isopropyltoluene	"	ND	-----	1.00	"	"	"	"	"	
Methylene chloride	"	ND	-----	5.00	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	-----	10.0	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	1.00	"	"	"	"	"	
Naphthalene	"	ND	-----	2.00	"	"	"	"	"	
n-Propylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Styrene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	-----	1.00	"	"	"	"	"	
Tetrachloroethene	"	ND	-----	1.00	"	"	"	"	"	
Toluene	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.00	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	-----	1.00	"	"	"	"	"	
Trichloroethene	"	ND	-----	1.00	"	"	"	"	"	
Trichlorofluoromethane	"	ND	-----	1.00	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	-----	1.00	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	-----	1.00	"	"	"	"	"	
Vinyl chloride	"	ND	-----	0.200	"	"	"	"	"	
o-Xylene	"	ND	-----	1.00	"	"	"	"	"	
m,p-Xylene	"	ND	-----	2.00	"	"	"	"	"	
Surrogate(s): Dibromofluoromethane		*92.9%*			*62.9 - 131 %*	"			"	
Toluene-d8		*90.8%*			*58.7 - 133 %*	"			"	
4-bromofluorobenzene		*100%*			*60.8 - 140 %*	"			"	

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Roxanne L. Clifton, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name: **Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number: P06113	Report Created:
Gaston, OR 97119	Project Manager: Scott Flaherty	05/26/06 14:02

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 6051020 **Water Preparation Method: EPA 3510 Fuels**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6051020-BLK1)								Extracted: 05/22/06 13:30						
Diesel Range Organics	NWTPH-Dx	ND	—	0.250	mg/l	1x	--	--	--	--	--	--	05/22/06 19:19	
Heavy Oil Range Hydrocarbons	"	ND	—	0.500	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 84.6%*		*Limits: 50-150%*		"							*05/22/06 19:19*	
LCS (6051020-BS1)								Extracted: 05/22/06 13:30						
Diesel Range Organics	NWTPH-Dx	2.35	—	0.250	mg/l	1x	--	2.51	93.6%	(50-150)	--	--	05/22/06 18:45	
Heavy Oil Range Hydrocarbons	"	1.46	—	0.500	"	"	--	1.53	95.4%	"	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 82.8%*		*Limits: 50-150%*		"							*05/22/06 18:45*	
LCS Dup (6051020-BSD1)								Extracted: 05/22/06 13:30						
Diesel Range Organics	NWTPH-Dx	2.46	—	0.250	mg/l	1x	--	2.51	98.0%	(50-150)	4.57%	(50)	05/22/06 18:11	
Heavy Oil Range Hydrocarbons	"	1.53	—	0.500	"	"	--	1.53	100%	"	4.68%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 87.4%*		*Limits: 50-150%*		"							*05/22/06 18:11*	

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BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:02

Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batch: 6050186 **Water Preparation Method: GC/MS Volatiles**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6050186-BLK1)								Extracted: 05/25/06 16:09						
Acetone	EPA 8260B	ND	---	25.0	ug/l	1x	--	--	--	--	--	--	05/25/06 19:27	
Benzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromochloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromodichloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromoform	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromomethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Butanone	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
n-Butylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
sec-Butylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
tert-Butylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Carbon disulfide	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Carbon tetrachloride	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloroform	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloromethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Chlorotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
4-Chlorotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dibromochloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dibromo-3-chloropropane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,2-Dibromoethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dibromomethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,4-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dichlorodifluoromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichloroethane (EDC)	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
cis-1,2-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
trans-1,2-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
2,2-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
cis-1,3-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
trans-1,3-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	

TestAmerica - Portland, OR

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Roxanne L. Clifton, Project Manager

SCHN00381888

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name: **Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number: P06113	Report Created:
Gaston, OR 97119	Project Manager: Scott Flaherty	05/26/06 14:02

Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batch: 6050186 **Water Preparation Method: GC/MS Volatiles**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (6050186-BLK1)								Extracted: 05/25/06 16:09						
Hexachlorobutadiene	EPA 8260B	ND	—	1.00	ug/l	1x	--	--	--	--	--	--	05/25/06 19:27	
2-Hexanone	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Isopropylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
p-Isopropyltoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Methylene chloride	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
4-Methyl-2-pentanone	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Methyl tert-butyl ether	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
n-Propylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Styrene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,1,2-Tetrachloroethane	"	ND	—	1.00	"	"	--	--	--	--	--	--	"	
1,1,2,2-Tetrachloroethane	"	ND	—	1.00	"	"	--	--	--	--	--	--	"	
Tetrachloroethene	"	ND	—	1.00	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,3-Trichlorobenzene	"	ND	—	1.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trichlorobenzene	"	ND	—	1.00	"	"	--	--	--	--	--	--	"	
1,1,1-Trichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,2-Trichloroethane	"	ND	—	1.00	"	"	--	--	--	--	--	--	"	
Trichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Trichlorofluoromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,3-Trichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trimethylbenzene	"	ND	—	1.00	"	"	--	--	--	--	--	--	"	
1,3,5-Trimethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Vinyl chloride	"	ND	---	0.200	"	"	--	--	--	--	--	--	"	
o-Xylene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
m,p-Xylene	"	ND	—	2.00	"	"	--	--	--	--	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 90.1%*			*Limits: 62.9-131%*	"							*05/25/06 19:27*	
Toluene-d8		*94.3%*			*58.7-133%*	"							"	
4-bromofluorobenzene		*98.5%*			*60.8-140%*	"							"	

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Roxanne L. Clifton, Project Manager

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ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name: **Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number: P06113	Report Created:
Gaston, OR 97119	Project Manager: Scott Flaherty	05/26/06 14:02

Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica - Spokane, WA

QC Batch: 6050186 **Water Preparation Method: GC/MS Volatiles**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (6050186-BS1)								Extracted: 05/25/06 16:09						
Benzene	EPA 8260B	9.96	---	1.00	ug/l	1x	--	10.0	99.6%	(70-130)	--	--	05/25/06 19:55	
Chlorobenzene	"	10.0	---	1.00	"	"	--	"	100%	(68.3-123)	--	--	"	
1,1-Dichloroethene	"	10.8	---	1.00	"	"	--	"	108%	(67-137)	--	--	"	
Toluene	"	10.0	---	1.00	"	"	--	"	100%	(68.8-139)	--	--	"	
Trichloroethene	"	10.1	---	1.00	"	"	--	"	101%	(68.1-128)	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery:*	*108%*		*Limits:*	*62.9-131%*	"						*05/25/06 19:55*	
Toluene-d8			*107%*			*58.7-133%*	"						"	
4-bromofluorobenzene			*102%*			*60.8-140%*	"						"	
Matrix Spike (6050186-MS1)				QC Source: SPE0099-02				Extracted: 05/25/06 16:09						
Benzene	EPA 8260B	10.7	---	1.00	ug/l	1x	0.955	10.0	97.4%	(59.7-129)	--	--	05/25/06 22:14	
Chlorobenzene	"	9.98	---	1.00	"	"	ND	"	99.8%	(75.8-121)	--	--	"	
1,1-Dichloroethene	"	10.4	---	1.00	"	"	ND	"	104%	(63.8-137)	--	--	"	
Toluene	"	10.1	---	1.00	"	"	0.600	"	95.0%	(84.5-127)	--	--	"	
Trichloroethene	"	9.93	---	1.00	"	"	ND	"	99.3%	(75.5-129)	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery:*	*109%*		*Limits:*	*62.9-131%*	"						*05/25/06 22:14*	
Toluene-d8			*107%*			*58.7-133%*	"						"	
4-bromofluorobenzene			*108%*			*60.8-140%*	"						"	
Matrix Spike Dup (6050186-MSD1)				QC Source: SPE0099-02				Extracted: 05/25/06 16:09						
Benzene	EPA 8260B	11.3	---	1.00	ug/l	1x	0.955	10.0	103%	(59.7-129)	5.45%	(10)	05/25/06 22:42	
Chlorobenzene	"	10.5	---	1.00	"	"	ND	"	105%	(75.8-121)	5.08%	(11)	"	
1,1-Dichloroethene	"	10.8	---	1.00	"	"	ND	"	108%	(63.8-137)	3.77%	(14)	"	
Toluene	"	10.8	---	1.00	"	"	0.600	"	102%	(84.5-127)	6.70%	(12)	"	
Trichloroethene	"	10.3	---	1.00	"	"	ND	"	103%	(75.5-129)	3.66%	(10)	"	
Surrogate(s): Dibromofluoromethane		*Recovery:*	*103%*		*Limits:*	*62.9-131%*	"						*05/25/06 22:42*	
Toluene-d8			*103%*			*58.7-133%*	"						"	
4-bromofluorobenzene			*99.2%*			*60.8-140%*	"						"	

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ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:02

Notes and Definitions

Report Specific Notes:

None

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Roxanne L. Clifton, Project Manager

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 (425) 420-9200 FAX 420-9210
East 11115 Montgomery, Suite B, Spokane, WA 99206-4779 (509) 924-9200 FAX 924-9290
9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 906-9200 FAX 906-9210

CHAIN OF CUSTODY REPORT

Work Order # PPE0861

REPORT TO: STRATUS CORPORATION
ATTENTION: SCOTT FLAHERTY
ADDRESS: 39515 SW HARTLEY
GASTON, OR
PHONE: 503 985-7192 FAX:
PROJECT NAME: PREMIER EDIBLE OILS
PROJECT NUMBER: P06
SAMPLED BY: SCOTT FLAHERTY

INVOICE TO: SAME
ATTENTION:
ADDRESS:
P.O. NUMBER: NCA QUOTE #:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: [X] Standard | 7 | 5 | 4 | 3 | 2 | 1 | Same Day
Fuels & Hydrocarbon Analyses: 5 Standard | 3-4 | 2 | 1 | Same Day
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

Analysis Request: 8260 | TPH-DX

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NCA SAMPLE ID (Laboratory Use Only)	8260	TPH-DX	MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
1.	P06113-2	5-17-06 17:40		X		W	3	
2.	P06113-3	5-17-06 17:40			X	W	1	
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								

RELINQUISHED BY (Signature): [signature] DATE: 5-18-06
PRINT NAME: SCOTT FLAHERTY FIRM: STRATUS TIME: 10:45
RECEIVED BY (Signature): Virgil Hughes DATE: 5-18-06
PRINT NAME: Virgil Hughes FIRM: STRATUS TIME: 11:00 AM
RELINQUISHED BY (Signature): Virgil Hughes DATE: 5-18-06
PRINT NAME: FIRM: TIME: 12:20
RECEIVED BY (Signature): [signature] DATE: 5-18-06
PRINT NAME: Allen Vickie FIRM: TAP TIME: 12:20

ADDITIONAL REMARKS: RUN THE SAMPLE THAT WAS BROUGHT IN ON 5-17-06 FOR FLASH POINT ONLY

5 11

PAGE 1 OF 1

COC Rev 2, 1/96

SCHN00381892

TAT _____

Non-Conformances?
Circle Y or N
(If Y, see other side)

TEST AMERICA SAMPLE RECEIPT CHECKLIST

Received By: (applies to temp at receipt)	Logged-in By:	Unpacked/Labeled By:	Cooler ID: ____ (___ of ___)
Date: 5.18.06	Date: 5.18.06	Date: 5.18.06	Work Order No. PPE0861
Time 2:20	Initials: JD	Initials: JD	Client: Stratus
Initials: JD			Project: Premier edible oil

Container Type:
- ✓ Cooler
- ___ Box
- ___ None/Other _____

COC Seals:
- ___ Ship. Container
- ___ On Bottles
- X None
- ___ Sign By
- ___ Date

Packing Material
- X Bubble Bags
- ___ Styrofoam
- ___ Foam Packs
- ___ None/Other Other _____

Refrigerant:
- ___ Gel Ice Pack _____
- X Loose Ice 1 ~ Bag
- ___ None/Other _____
- ___ None

Received Via: Bill#
- ___ Fed Ex
- X Client
- ___ UPS
- ___ NCA Courier
- ___ DHL
- ___ Mid Valley
- ___ Senvoy
- ___ TDP
- ___ GS
- ___ Other _____

Cooler Temperature (IR): 5 °C Plastic Glass (circle one) (Frozen filters, Tedlars and aqueous Metals exempt)

Temperature Blank? ____ °C or NA Trip Blank? Y or N or NA

Sample Containers:		ID			ID
Intact?	Y or N		Metals Preserved?	Y or N or NA	
Provided by NCA?	Y or N		Client QAPP Preserved?	Y or N or NA	
Correct Type?	Y or N		Adequate Volume? (for tests requested)	Y or N	
#Containers match COC?	Y or N		Water VOAs. Headspace?	Y or N or NA	
IDs/time/date match COC?	Y or N		Comments:		
Hold Times in hold?	Y or N				

PROJECT MANAGEMENT

Is the Chain of Custody complete? Y or N If N, circle the items that were incomplete

Comments,Problems _____

Total access set up? Y or N
Has client been contacted regarding non-conformances? Y or N If Y, ____/____ Date Time

PM Initials _____ Date: _____ Time: _____

(rev 3. 09/12/05)

SCHN00381893

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906-9200 fax: (503) 906-9210

May 26, 2006

Scott Flaherty
Stratus Corporation
39515 S.W. Hartley Road
Gaston, OR 97119

RE: Premier Edible Oils

Enclosed are the results of analyses for samples received by the laboratory on 05/17/06 16:20. The following list is a summary of the Work Orders contained in this report, generated on 05/26/06 14:30.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
PPE0756	Premier Edible Oils	P06113

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

SCHN00381894

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P06113-1	PPE0756-01	Other wet	05/17/06 12:00	05/17/06 16:20

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

SCHN00381895

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:30

Physical Parameters per APHA/ASTM/EPA Methods

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PPE0756-01 (P06113-1)		**Other wet**			**Sampled: 05/17/06 12:00**					
Flashpoint	EPA 1010	ND	-----	150	°F	1x	6051110	05/23/06 12:35	05/23/06 19:57	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:30

Physical Parameters per APHA/ASTM/EPA Methods - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 6051110 **Other wet Preparation Method: EPA 1010**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (6051110-BS1)								Extracted: 05/23/06 12:35						
Flashpoint	EPA 1010	130	---		°F	1x	--	127	102%	(96.5-103)	--	--	05/23/06 19:57	
Duplicate (6051110-DUP1)				QC Source: PPE0614-19				Extracted: 05/23/06 12:35						
Flashpoint	EPA 1010	ND	---	150	°F	1x	ND	--	--	--		(50)	05/23/06 19:57	

TestAmerica - Portland, OR

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

SCHN00381897

TestAmerica
ANALYTICAL TESTING CORPORATION

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008 7132
ph: (503) 906.9200 fax: (503) 906.9210

Stratus Corporation	Project Name:	**Premier Edible Oils**	
39515 S.W. Hartley Road	Project Number:	P06113	Report Created:
Gaston, OR 97119	Project Manager:	Scott Flaherty	05/26/06 14:30

Notes and Definitions

Report Specific Notes:

None

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Roxanne L. Clifton, Project Manager

SCHN00381898

Attachment C

Disposal Documentation for 13 Drums of Purge Water IDW

Material Characterization Profile

Profile Number:
Effective Date:
Expiration Date:

For assistance, contact Customer Service at 1-503-261-9900

Section 1: Generator Information

Generator Name:	Schnitzer Investment Corp	Billing Name:	Schnitzer Investment Corp.
Generator EPA ID:	N/A	Billing Address:	3200 NW Yeon Ave
Pickup Address:	10400 N. Burgard Way		
County:	Multnomah	Billing Contact:	Mr. Jim Jakubiak
Technical Contact:	Mr. Jim Jakubiak	Billing Phone:	503.286.6976
Phone:	503.286.6976		

Section 2: Material Description & Characteristics

Name of Waste: IDW wastewater Description of Waste: purge water from sampling activities

Process Generating Waste: purging groundwater wells prior to analytical sampling

Shipping Information: Quantity: 700 gal Units: bulk Per

Is the waste off-specification or discarded commercial product? ☐ Yes ☒ No If yes, is an MSDS available? ☐ Yes ☐ No ☐ MSDS Provided

Is the waste a hazardous waste as defined in RCRA (40 CFR §261)? ☐ Yes ☒ No If yes, list waste codes:

Is the waste a USDOT Hazardous Material? ☐ Yes ☒ No

Is the waste/wastewater subject to a CWA Categorical Pretreatment Standard (40 CFR §400-471)? ☒ Yes ☐ No List: Subcategory B

Method chemical/physical properties determined: ☐ Process Knowledge ☒ Lab Analysis ☒ Lab Analysis Provided ☐ MSDS ☐ MSDS Provided

Composition (key compounds, soil, water, PPE, debris, etc.):

Purge water % 100
%
%
%
%

Used Oil Management Parameters:

Halogens:
☐ ≤ 1000 ppm
☐ ≤ 4000 ppm
☐

BTU Value:
☐ < 2 (BTU/1000lb)
☐ 2-5 (BTU/1000lb)
☐ 5-9 (BTU/1000lb)
☐ 9-12 (BTU/1000lb)
☐ >12 (BTU/1000lb)
☐

Sulfur:
☐ ≤ 2%
☐

Ash (%):
☐ ≤ 1%
☐

Moisture (%):

Viscosity (SUS):

Description: Color: clear Odor: none

Physical State @ 70°F (check all that apply):
☒ Free Liquid % 100
☐ Sludge %
☐ Solid %
☐ Pumpable %
☐ Pourable %

pH:
☐ ≤ 2 ☐ < 12.5
☐ < 5 ☐ ≥ 12.5
☐ < 9 ☒ 7-8

Specific Gravity:
☐ < 0.8
☒ 0.8-1.2
☐ > 1.2
☐

Flash Point:
☐ < 130 °F
☐ < 140 °F
☐ 140 - 200 °F
☐ ≥ 200 °F
☒ N/A

TSS:
☐ < 200 ppm
☐ < 1000 ppm
☐ ≤ 5000 ppm
☐ > 5000 ppm
☒ N/A

TDS:
☐ < 0.5 ppm
☐ ≤ 1.0 ppm
☐ > 1.0 ppm
☒ N/A

Oil & Grease:
☒ > 100 ppm
☐ > 5%
☐

☐ BOD_5 ☐ COD:
☒ < 200 ppm
☐ < 2000 ppm
☐ ≤ 7500 ppm
☐ > 7500 ppm
☐

Ammonia
Sulfides
Phenols
N/A

Cyanides:
☐ < 0.02 ppm
☐ < 0.1 ppm
☐ < 5 ppm
☐ ≥ 5 ppm
☒ N/A

Contains Chelating Agents:
☐ Yes ☒ No
If Yes, list:

PCBs:
☐ Yes ☒ No
Conc.:

Radioactive:
☐ Yes ☒ No

Section 3: Chemical Constituents

Metals: Metal results below are: ☐ Total ☐ TCLP (Check all that are known present and indicate concentration) below TCLP

☐ Antimony	ppm	☐ Cobalt	ppm	☐ Molybdenum	ppm	☐ Tin	ppm
☐ Arsenic	ppm	☐ Copper	ppm	☐ Nickel	ppm	☐ Titanium	ppm
☐ Barium	ppm	☐ Lead	ppm	☐ Selenium	ppm	☐ Vanadium	ppm
☐ Cadmium	ppm	☐ Mercury	ppm	☐ Silver	ppm	☐ Zinc	ppm
☐ Chromium	ppm						

Organics: Organic results below are: ☐ Total ☐ TCLP (Check all that are known present and indicate concentration) below TCLP

☐ Bis(2-ethylhexyl)phthalate	ppm	☐ o-Cresol	ppm	☐ Fluoranthene	ppm
☐ Carbazole	ppm	☐ p-Cresol	ppm	☐ 2,4,6-Trichlorophenol	ppm
☐ n-Decane	ppm	☐ 2,3-Dichloroaniline	ppm	☐ n-Octadecane	ppm

Section 4: Certification

I certify under penalty of law that this document, all attachments and supporting materials were prepared and presented by me or under my direct supervision and that the information provided is a true accurate and complete representation of the waste materials to be presented for evaluation and management by Pacific Power Vac (PPV). Furthermore, I agree that any waste materials managed under any approval issued by PPV pursuant to this request will be transported, delivered, or tendered to be in conformance with the waste characterization profile. Where PPV determines a waste to be non-conforming, the generator shall be responsible for all costs associated with timely return of the waste to generator or for other alternate and lawful management of the non-conforming waste conducted on behalf of the generator.

Generator Signature: Jim Jakubiak Printed Name: Date: May 30, 2006
Title:

SCHN00381900

PACIFIC POWER VAC LLC

Daily Project Worksheet

FOR SERVICE CALL	Reference number
(503) 261-9800	11622

14041 NE Sandy Blvd
Portland OR 97230
503-261-9800

Bill to Customer	Generator
URS Corp. 111 SW Columbia R, Suite 1500 Portland, OR. 97201	Schnitzner Investment Corp Edible Oils 10400 N. Burgaard, PDX OR

Rental Company Name	Equipment Rented	Hours	Cost	PPV Equipment	Hours	OT Hours
				1-80 BBL		

US DOT Waste Description (proper shipping name, hazard class, & ID	CONTAINERS NO.	TYPE	Quantity	Sub Cat
NON-RCRA WASTEWATER NA	1	BULK	200	B
			390	OMC 5/30/06

Supplies Used	Quantity	Operator & Labor Name	Hours	OT Hours	Equipment Operated
		Jim Welch			

Customer Method of Payment (Circle One)

To be Billed COD VISA MasterCard AMEX Check No._____

Card No. Expiration Date: CVV2 #:

Remarks:

URS WORK ORDER 132669

URS MSA: 1151844

Customer warrants that the waste petroleum products being transferred by the above collector do not contain any contaminants including, without limitations, pesticides, chlorinated solvents at concentrations greater than 1000 PPM, PCB's at greater concentrations then 2 PPM (or PPM with Manifest), or any other material classified as hazardous waste by 40 CFR part 261, customer subparts C and D (implementing the Federal Resource Conservation and Recovery Act or by any equivalent state hazardous waste or hazardous substance classification program. Should laboratory tests find this waste product not in compliance with 40 CFR Part 261, customer (generator) agrees to pay for all disposal costs incurred.

[signature] May 30 2006

Generator Signature Date

Transporter Signature Date

SCHN00381901

PACIFIC POWER VAC LLC

Daily Project Worksheet

FOR SERVICE CALL	Reference number
(503) 261-9800	11522

14041 NE Sandy Blvd
Portland OR 97230
503-261-9800

Bill to Customer	Generator
URS Corp. 111 SW Columbia St, Suite 1500 Portland, OR. 97201	Schwitzer Investment Corp Edible Oils 10400 N. Burgard, PDX OR

Rental Company Name	Equipment Rented	Hours	Cost	PPV Equipment	Hours	OT Hours
				1-80 BBL		

US DOT Waste Description (proper shipping name, hazard class, & ID		CONTAINERS NO.	TYPE	Quantity	Sub-Cat
NON-RCRA WASTEWATER	NA	1	BULK	3000	B

Supplies Used	Quantity	Operator & Labor Name	Hours	OT Hours	Equipment Operated
		Jim Welch			

Customer Method of Payment (Circle One)

(To be Billed) COD VISA MasterCard AMEX Check No._____

Card No. Expiration Date: CVV2 #:

Remarks:

URS WORK ORDER T32669

URS MSA: 1151844

Customer warrants that the waste petroleum products being transferred by the above collector do not contain any contaminants including, without limitations, pesticides, chlorinated solvents at concentrations greater than 1000 PPM, PCB's at greater concentrations then 2 PPM (or PPM with Manifest), or any other material classified as hazardous waste by 40 CFR part 261, customer subparts C and D (implementing the Federal Resource Conservation and Recovery Act or by any equivalent state hazardous waste or hazardous substance classification program. Should laboratory tests find this waste product not in compliance with 40 CFR Part 261, customer (generator) agrees to pay for all disposal costs incurred.

Generator Signature — Date: 5-30-06

Jim Welch
Transporter Signature — Date: 5-30-06

SCHN00381902

PACIFIC POWER VAC INC

14041 NE Sandy Blvd.
Portland, OR 97230
Phone: (503) 261-9800
Fax: (503) 261-9900

26502

Plant Receiving Manifest

Generator

Generator Name	Schnitzner Investment Corp.
Location Address	10400 N Burgaard
Mailing Address	
City/State/Zip	Portland, OR
	Edible Oils
Phone	

This form to be completed by the Hauler of Nonhazardous wastes. The completed form must be presented at the disposal site prior to disposal. **HAZARDOUS AND TSCA WASTE MAY NOT BE DISPOSED OF AT ANY DISPOSAL SITE.** Violation of this restriction could subject you to revocation of your disposal permit. Answer all questions (please print).

Waste Profile

Profile #	Waste Description	Qty	Unit	One Time?
URS	non-rcra waste liquid, oily water	390	gal	X Yes O No
Wk order				O Yes O No
#132609	Project wksheet 111622			O Yes O No
	Profile # 10559			O Yes O No
URS MSA				O Yes O No
# 1151844	NOTE: NON-CONFORMING WASTE MATERIALS NOT CONSISTENT WITH ESTABLISHED PROFILE MAY INCUR ADDITIONAL PROCESSING FEES			O Yes O No
				O Yes O No

Transporter

Company Name / Address
PPV on behalf of URS Corp.

Tom Welch 5/30/06
Driver Signature Date Time

Tom Welch
Print or Type Name

I certify that the information supplied on this manifest is true, that it accurately describes the vehicle, waste and source(s) of the waste presented at the time of submission, and that the waste consists SOLELY of the non-hazardous wastes listed above to the best of my knowledge.

Truck Information

Vehicle Make: _____
Vehicle Model: _____
Capacity (Gallons): _____
Truck License No: _____
Trailer License No: _____

Disposal Site

Pacific Power Vac, LLC
14041 NE Sandy Blvd
Portland, Oregon 97230
503-261-9800

Kristina Williams 5/30/06
Analyst's Signature Date Time

Kristina Williams
Print or Type Name

Screening

Microtox Toxicity Screening Results

Sample No: _____
PCB: _____
PH: 7
Cyanide: _____
Sulfide: _____
Light Loss %: _____ (Loads with light loss greater than 90% will be rejected)

Waste Subcategory
A (B) C Non-Reg

Pass X Fail O Reason for rejection: _____

SCHN00381903

Time Oil Corp

LANDAU ASSOCIATES

October 24, 2006

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED
OCT 25 2006
NORTHWEST REGION

Oregon Department of Environmental Quality
2020 SW Fourth Avenue, Suite 400
Portland, Oregon 97201-4987

Attn: Mr. Tom Roick

RE: RECOMMENDATION FOR MODIFICATION OF GROUNDWATER SAMPLING FREQUENCY TIME OIL NORTHWEST TERMINAL

Dear Tom:

On behalf of Time Oil Co., this letter provides our recommendation for additional modification of the groundwater quality sampling and analysis requirements for future groundwater monitoring events at the Time Oil Northwest Terminal. This recommendation is based on results from previous groundwater monitoring events. We propose that this recommendation be applied to the upcoming fourth quarter 2006 sampling event, which is currently scheduled to occur in November 2006.

The sampling frequency reduction recommendations are broken down by the following areas: Phase II *in-situ* chemical oxidation (ISCO) wells, Phase II wells associated with the groundwater interim action activities, Phase III wells located in the vicinity of the Main Terminal Tank Farm, and Phase III wells located in the vicinity of the Bell Terminal Tank Farm. The following is a summary by area.

- **Phase II ISCO wells:** Two additional ISCO events are planned for 2007, focusing on periods of seasonal increases in groundwater levels. The following wells will continue to be sampled on a quarterly basis to monitor pre-event and post-event conditions within the extent of the pentachlorophenol (PCP) plume in the upper zone: LW-11S, OX-1S through OX-9S, and LW-11D. Downgradient concentrations from the plume will be monitored by the wells included below for the groundwater interim action. After these ISCO events, we will reevaluate the necessity for future ISCO events and future sampling of the ISCO wells.

- **Phase II Groundwater Interim Action:** The following locations associated with the Phase II groundwater interim action monitoring will continue to be sampled on a quarterly basis to meet the requirements for the discharge permit for the onsite wastewater treatment system: RW-2, HRW-1, and SDM-1. The storm drain outfall located along the Willamette River will be sampled when the Willamette River level is below the elevation of the outfall. In addition, wells LW-6D, LW-9D, LW-10S, and LW-10D will be sampled to monitor PCP concentrations downgradient, or outside the influence, of the interim actions.

- **Phase III Main Terminal Tank Farm wells:** The following nearshore (berm) and shoreline wells located on the beach will be sampled on a quarterly basis: LW-35D through LW-39D. In addition, wells LW-21S and LW-27S, located within the Main Terminal Tank Farm, will be monitored for free product and sampled in the absence of product. The shoreline wells have been sampled for eight quarters between November 2005 and August 2006. As

discussed in the *Source Control Evaluation Report* (Landau Associates 2006), results from these wells consistently demonstrate that there is not a current complete contaminant migration pathway via groundwater to the river from the Main Terminal Tank Farm Area.

- **Phase III Bell Terminal Tank Farm wells:** Sampling of Phase III wells located in the Bell Terminal has been discontinued. At DEQ's request, Time Oil will conduct one additional sampling event in conjunction with future sampling planned on the adjacent Schnitzer property, as long as the Schnitzer sampling event is conducted within the time frame planned for monitoring at the Terminal.

The fourth quarter 2006 sampling event is scheduled to begin the week of November 13, 2006. The currently planned wells are presented on Figure 1.

We hope that this letter provides DEQ with the information needed to approve the reduction in the frequency of sampling for some of the wells at the Time Oil Northwest Terminal. We would like to implement this reduction for the next quarterly event in November 2006, therefore, we would appreciate an approval from you by November 3, 2006.

Please do not hesitate to call if you have any questions.

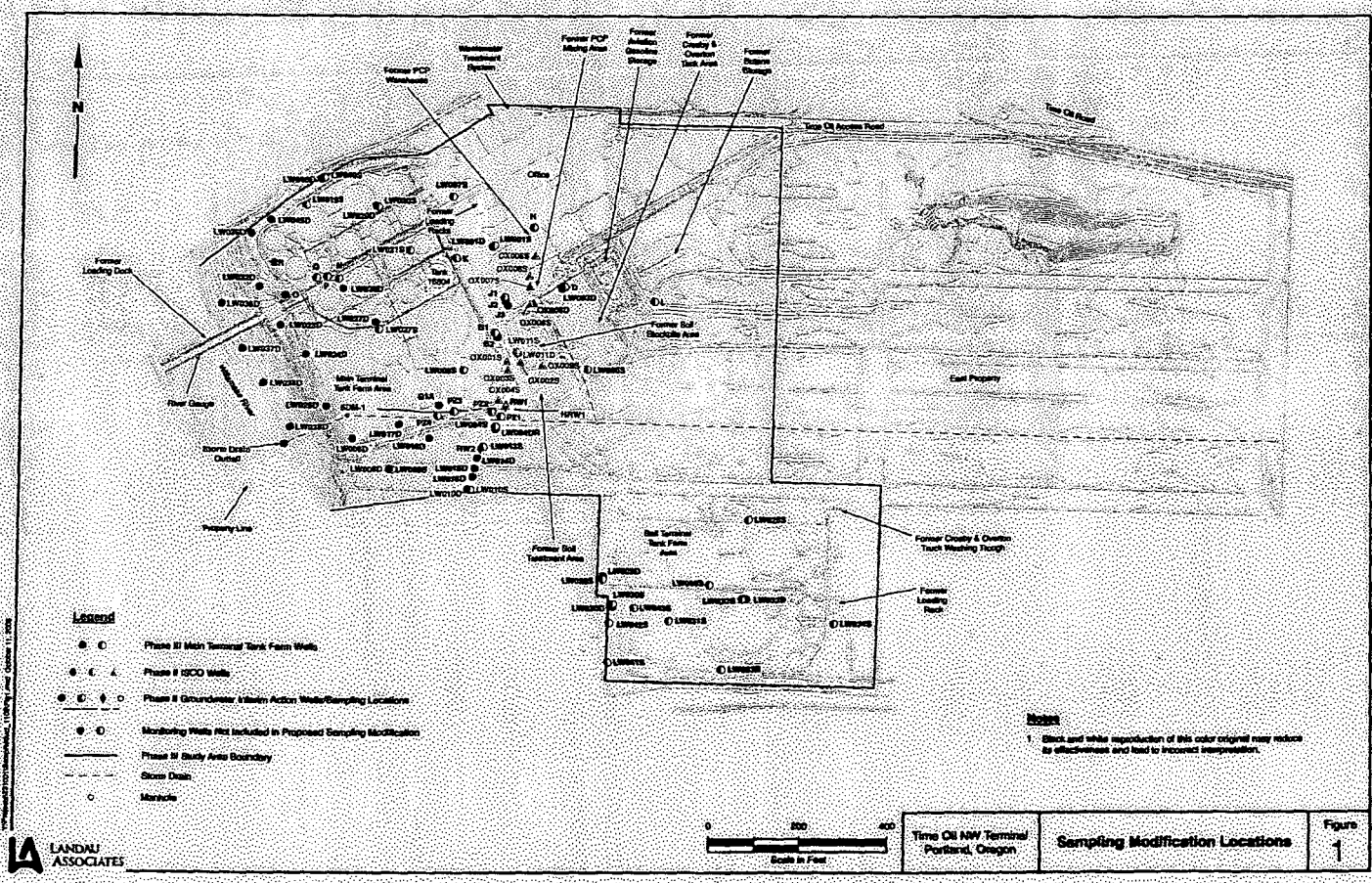
LANDAU ASSOCIATES, INC.

Rebekah Brooks
Project Manager

RB/rgm

Attachment: Figure 1, Sampling Modification Locations

cc: Mark Chandler, Time Oil Co.
Patty Dost, Schwabe Williamson & Wyatt
Mike Tischuk, Beazer, Inc.


N
Former PCP Warehouse
Wastewater Treatment System
Former PCP Mixing Area
Former Aviation Gasoline Storage
Former Crosby & Overton Tank Area
Former Butane Storage
Time Oil Access Road
Time Oil Road
Office
Former Loading Rack
Former Loading Dock
Former Soil Stockpile Area
East Property
River Gauge
Main Terminal Tank Farm Area
Storm Drain Outfall
Property Line
Former Soil Treatment Area
Soil Terminal Tank Farm Area
Former Crosby & Overton Truck Washing Trough
Former Loading Rack
Legend
Phase III Main Terminal Tank Farm Wells
Phase II ISCO Wells
Phase II Groundwater Interim Action Wells/Sampling Locations
Monitoring Wells Not Included in Proposed Sampling Modification
Phase III Study Area Boundary
Storm Drain
Manhole
Notes
1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.
0
200
400
Scale in Feet
LANDAU ASSOCIATES
Time Oil NW Terminal
Portland, Oregon
Sampling Modification Locations
Figure
1

Time Oil: Comm File

Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

November 21, 2006

Mark Chandler
Time Oil Co.
2737 W. Commodore Way
Seattle, WA 98199-1233

Re: Source Control Evaluation
Time Oil Co. Northwest Terminal

Dear Mr. Chandler:

The Department of Environmental Quality (DEQ) reviewed Landau's June 21, 2006 *Source Control Evaluation* (SCE) report for the Time Oil Northwest Terminal. We have a few comments that should be addressed in revisions to the SCE report.

Main Tank Farm

- Section 2.4.4 Other Constituents. The SCE states (in Section 5.1) that materials handled at the Terminal did not contain metals. There are elevated metals in the upper 1.5 feet of shallow soil that suggest past facility operations have resulted in metals contamination, particularly for lead and zinc. Metals in shallow soil are a concern for stormwater management (see comments below). DEQ generally agrees with how the SCE characterizes metals in groundwater.

- Section 5.1, Shoreline Wells. For this evaluation, DEQ reassessed the 1.5 mg/L arsenic background concentration established for groundwater in the Phase I and II Contaminants of Potential Concern Screening Report. The 1.5 mg/L arsenic concentration was calculated as an upper 95% tolerance limit, but is high for a "background" arsenic concentration and does not appear representative of site conditions. The highest total arsenic concentration detected in background wells (areas generally not impacted by facility releases) was 0.017 mg/L. Nevertheless, arsenic concentrations in shoreline wells are not elevated relative to the wells used for background calculations including those previously sampled at the East Property. On this basis DEQ agrees with the weight of evidence approach to metals in groundwater presented in the SCE report.

- Figure 15 Conceptual Site Model. As marked, the figure suggests that the silt (in yellow) is the upper water-bearing zone. The figure should be changed so that the saturated zone above and within the silt layer is marked as the upper water-bearing zone. Also, it would be useful to represent the shoreline wells on this figure or to have a second cross section specific to the Main Tank Farm. A second cross section through the Main Tank Farm

would help show that the wells intercept groundwater along the main transport pathway, and support the finding that petroleum-related site contaminants are not reaching the river above concentrations of concern.

- DEQ concurs with the SCE report that petroleum hydrocarbon contamination in the Main Tank Farm area appears to attenuate before reaching the river at concentrations of concern. Because small amounts of non-aqueous phase liquid (NAPL) are measured in some wells, dissolved phase petroleum hydrocarbons are present in groundwater close to the river, and metals are present in groundwater up to and including shoreline wells, groundwater monitoring is necessary to ensure that site conditions do not change. The extent to which future monitoring will be required should be a consideration in the feasibility study. Treatment and/or NAPL recovery in the tank farm source area could decrease the need for long-term monitoring.

Stormwater – General

Regarding evaluation of the stormwater pathway under Sections 3.4 and 3.5 of the report, DEQ is requiring a more detailed evaluation of the stormwater pathway as part of implementing the December 2005 Portland Harbor Joint Source Control Strategy (JSCS). Two recently developed guidance documents regarding stormwater evaluation are attached, *Instructions for Developing Portland Harbor Stormwater Sampling Plans and Summary Reports*, and *Instructions for Developing Portland Harbor Catch Basin Sampling Plans and Summary Reports*. DEQ is requiring stormwater evaluations to be conducted this 2006-2007 water year.

Untreated Stormwater

It is not clear that untreated stormwater from the site encounters no contaminated erodable soil, specifically at the terminal entrance. The drainage area that flows untreated to the river is not well defined on Figure 17, and it is unclear which soil samples in the site data set represent this area that discharges to the river. Soil samples near the terminal entrance, for example G7 and G10, contain significant detections of polynuclear aromatic hydrocarbons (PAHs). If there is a catch basin at the terminal entrance that collects sediment, and there is insufficient data within 100 feet of the catch basin that shows this area is below JSCS screening level values (SLVs) for upland soil, the catch basin sediments should be sampled and analyzed. The potential for legacy sediment in conveyance lines in this area should also be considered. DEQ notes that the July through September 2006 quarterly report indicates that sediments are likely present in three storm sewer manholes at the site.

Treated Stormwater

- For completeness the SCE report should mention how facility wastewater is managed (discharge to the City sanitary). Any changes to permitted discharges (1200-C and 1200-T) since the Remedial Investigation report was submitted should be discussed, as well as whether untreated stormwater is covered by the 1200-Z permit.

- Evaluation of permitted discharges to the river through sampling at the river outfall should include site-specific and Portland Harbor contaminants of interest (COI). COI not included in the analytical suite for the existing 1200Z NPDES permit (e.g., PAHs, PCBs, and phthalates), should be included in future monitoring events (a minimum of 4 grab samples) to address the requirement for whole water discharge sampling consistent with the JSCS. Analytical detection limits should be reviewed to achieve SLVs where feasible.

- Future land use should be a consideration in the stormwater pathway evaluation. While the 1200Z permit and related on-site water treatment system currently addresses the majority of the stormwater pathway to the river, these controls may not be required depending on the type of future industrial use. A review of existing shallow soil data indicates that contamination is present at the site that exceeds JSCS SLVs for upland (potentially erodable) soil. The need for future stormwater management should be acknowledged in the SCE report, and should be a consideration in the site feasibility study and a part of the site remedy (e.g., a requirement for future maintenance of the current or a revised stormwater treatment system under a 1200Z).

Please call or email me if you would like to set up a meeting to discuss our comments.

Sincerely,

Thomas E. Roick, Project Manager
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Attachments:

Stormwater ampling Plan instr..
Catch Basin ampling Plan inst...

Preassessment Screen

for the

Portland Harbor Superfund Site

Prepared by

The Portland Harbor Natural Resource Trustee Council

January 2007

SCHN00381944

I. INTRODUCTIONS, AUTHORITIES, AND DELEGATIONS

This document is a preassessment screen (PAS), prepared pursuant to 43 CFR Part 11, for the Portland Harbor Superfund site. The Portland Harbor Superfund site currently encompasses a 9-mile stretch of the lower Willamette River near Portland, Oregon, including upland sites along the shoreline of the river. The site is more fully described in Section II(A) below.

The ultimate purpose of this PAS is to provide the foundation for determining the need to conduct a formal natural resource damage assessment as authorized by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. § 9601 *et seq.*, as amended; the Oil Pollution Act of 1990, 33 U.S.C. § 2701 *et seq.*; and the Clean Water Act, 33 U.S.C. § 1251 *et seq.* The criteria on which the decision to proceed past the preassessment phase to full assessment are listed below.

1) A discharge of oil or release of hazardous substance has occurred.
2) Natural resources for which a State or Federal agency or Indian Tribe may assert trusteeship under CERCLA have been or are likely to have been adversely affected by the discharge or release.
3) The quantity and concentration of the discharged oil or released hazardous substances is sufficient to potentially cause injury to those natural resources.
4) Data sufficient to pursue an assessment are readily available or likely to be obtained at reasonable cost.
5) Response actions from Superfund remedial activities carried out or planned do not or will not sufficiently remedy the injury to natural resources without further action.

This preassessment screen has been prepared pursuant to 43 CFR § 11.23(e) by the Department of the Interior, National Oceanic and Atmospheric Administration (NOAA), State of Oregon, Confederated Tribes and Bands of the Yakama Nation, Confederated Tribes of the Grand Ronde Community of Oregon, Confederated Tribes of the Siletz Indians of Oregon, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs Reservation of Oregon, and the Nez Perce Tribe. Collectively, pursuant to CERCLA Section 107 (f) and Section 300.600 of the National Contingency Plan, these sovereign entities are trustees for all of the natural resources in the environment potentially injured by releases from and into the Portland Harbor Superfund site.

II. INFORMATION ON THE SITE

A. Information on the Site and on the Discharge or Release

The Portland Harbor Superfund site is located along the lower Willamette River near Portland, Oregon (Figure 1). The Willamette River originates in the Oregon Cascade Range, drains a watershed area of about 11,400 square miles, and has a total length of 309 miles before its confluence with the Columbia River (Kammerer 1990). From the mouth of the Willamette, the Columbia River then flows another 100 channel miles before discharging into the Pacific Ocean. The river segment between River Mile (RM) 3 and RM 10 is the primary depositional area of the Willamette River system, and contains the highly-industrialized area known as Portland Harbor.

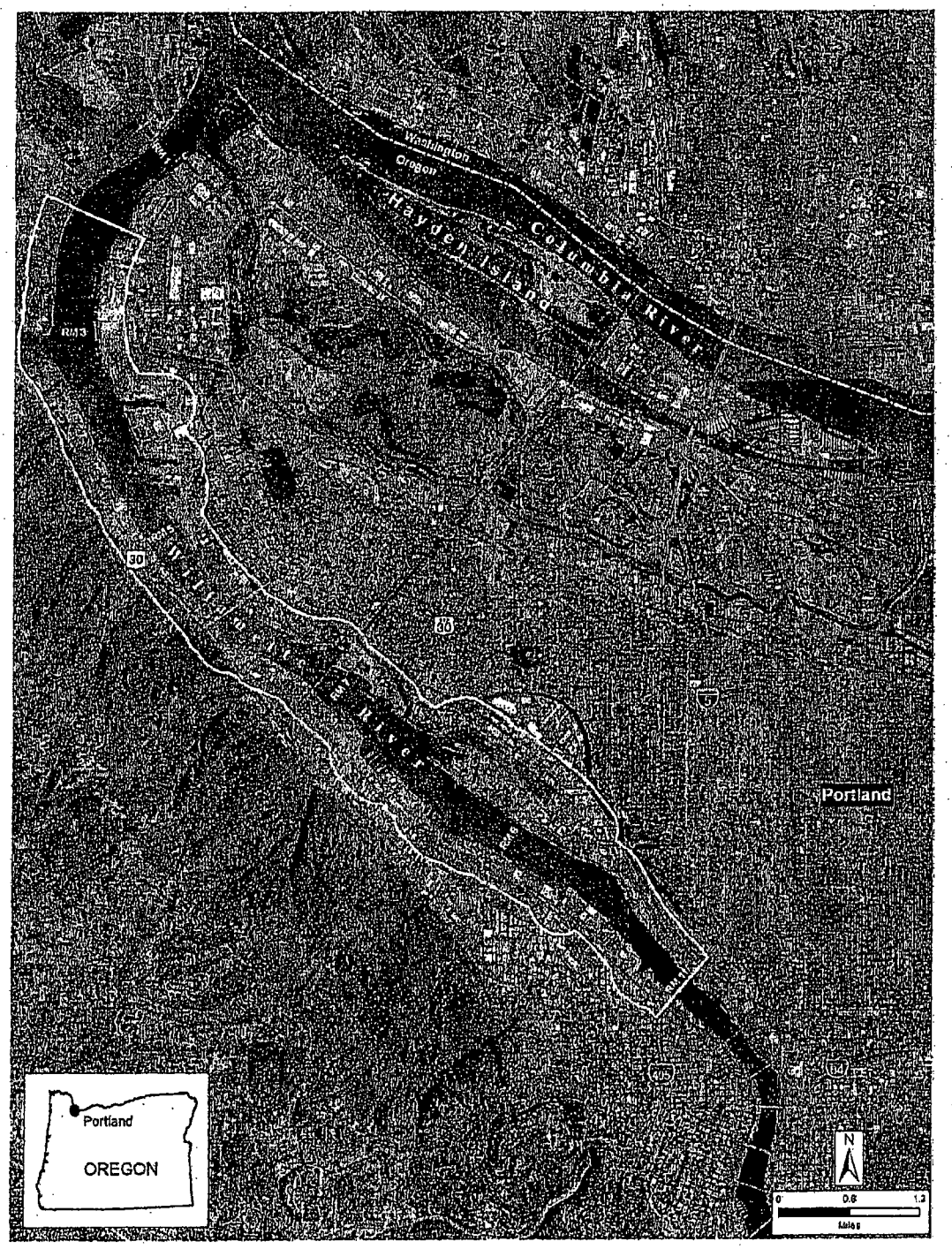

Figure 1. Portland Harbor Superfund site, lower Willamette River, Portland, Oregon. The general site area is outlined in white; as of January 2007 the site is defined as a 9-mile stretch from river mile (RM) 2 to 11, including some upland areas.

This area serves a commercial shipping industry and contains a multitude of facilities and both private and municipal wastewater outfalls. Numerous industrial operations have been identified as sources of contamination to Portland Harbor.

Portland Harbor was added to the National Priorities List in December 2000, and is being addressed through Federal and State actions. The U.S. Environmental Protection Agency (EPA) is the lead agency for Willamette River sediment contamination issues. The Oregon Department of Environmental Quality is the lead agency for upland site contamination. The initial 6-mile stretch of the Superfund site from RM 3.5 to 9.5 has been extended to a 9-mile stretch between RM 2 to 11 and includes upland areas. Remedial investigation sampling activities have been conducted by the potentially responsible parties within this area, as well as upriver of RM 11 over the last few years. Federal and State resource agencies actively participate with counterparts from six Tribes in overseeing the remedial investigation.

Although much of the Portland Harbor area is lined by vertical walls or rock revetment (North et al. 2002), some natural habitats and shoreline areas remain in the lower reach. In addition to unvegetated/disturbed areas, Adlolfson et al. (2000) classified 10 distinct habitat types along the lower Willamette River as bottomland forest, foothill savanna, conifer forest, scrub, meadow, shrub, emergent wetland, beach, rock outcrop, and open water. The more common habitat types in the Portland Harbor area include open water, unvegetated/disturbed areas, and beach areas, with remnants of bottomland forest, emergent wetlands, scrub/shrub, and rock outcrop communities. Mixed emergent and subemergent aquatic vegetation is associated with the natural nearshore areas, and beaches have generally been colonized by annual grasses, perennial shrubs, and willows. The upland areas are mostly comprised of fill, although some ponds, wetlands, sloughs, side channels, and forested habitats remain.

Despite the extensive industrial presence and mixed habitat quality of the Portland Harbor site, a wide variety of natural resources rely on the area as a corridor for upstream and downstream movements, or more permanently for nesting, breeding, foraging, and rearing young. At least 39 species of resident and anadromous fish, including 20 native species, have been documented in the lower Willamette River (Farr and Ward 1993). The area serves as a critical migratory corridor for both juvenile and adult anadromous fish, and as juvenile rearing habitat for several fish species including five stocks of Pacific salmon (*Onchorhynchus* spp.) listed as threatened or endangered under the Endangered Species Act, Pacific lamprey (*Lampetra tridentata*), and white sturgeon (*Acipenser transmontanus*). Migratory birds nesting near or within the site and foraging in the open water and nearshore habitats include piscivorous species such as bald eagle (*Haliaeetus leucocephalus*) (listed as threatened under the Endangered Species Act), osprey (*Pandion haliaetus*), double-crested cormorant (*Phalacrocorax auritus*), great blue heron (*Ardea herodias*), belted kingfisher (*Ceryle alcyon*), common (*Mergus merganser*) and hooded (*Lophodytes cucullatus*) mergansers, and other waterfowl. The beach habitats and aquatic plants along the shorelines provide good habitat for passerines and aquatic-associated birds. Bird species nesting and foraging along the beach, nearshore habitat, and in unvegetated areas or on developed structures include cliff swallows (*Petrochelidon pyrrhonota*), various waterbirds, and shorebirds such as spotted sandpiper (*Actitis macularius*). Mammals including mink (*Mustela vison*) and river otter (*Lontra canadensis*) use the area as a corridor, as well as forage in the river and rear young along the shoreline habitats. Some amphibian species such as northern red-

legged frogs (*Rana aurora aurora*) and Pacific treefrogs (*Pseudacris regilla*) have been observed in the Portland Harbor area and could use the nearshore habitat as breeding areas, whereas reptiles such as turtles are more likely only using the lower river as a corridor. A number of species more common to habitats just outside the Portland Harbor site may visit as transients.

Lower trophic level inhabitants of the Portland Harbor site include infaunal and epifaunal benthic invertebrates such as oligochaete worms, chironomid larvae, and various midges. In the lower Willamette River, Friessan et al. (2005) found cladocerans such as daphnids, copepods, and aquatic insects made up the majority (89.6%) of organisms in drift net samples, daphnia and chironomids made up 94.9% of organisms on multi-plate samples, and oligochaetes and chironomids dominated 87.5% of the organisms from ponar samples. The authors noted a generally homogenous community structure in samples from the Portland Harbor area. Other representative invertebrate species include organisms of the classes Amphipoda such as *Corophium spp.*, Decapoda such as crayfish, and members of classes in the phylum Mollusca, including Gastropoda (snails) and Bivalvia (bivalves) (Integral et al. 2004a). The Columbia pebblesnail (*Fluminicola fuscus*) may occur in lower Willamette River, and this is a species of concern to the U.S. Fish and Wildlife Service. Two species of bivalves documented in the harbor include Asiatic clam (*Corbicula fluminea)* and western pearlshell (*Margaritifer falcata*); these organisms rely on plankton and detritus as food. All these invertebrate species are important for processing organic matter and serve as common prey items for higher trophic level species within the site. Daphnids and chironomids are particularly important food source for juvenile salmonids in the lower Willamette River.

The lower Willamette River also is a popular area for recreation, including swimming, boating, and wildlife viewing. Recreational fishing for spring chinook, steelhead, coho, American shad, and white sturgeon is very common. Exotic resident fish species such as largemouth bass and walleye, and panfish such as black and white crappie, support a large year-round sport fishery. Economically, sport fishing is very important to the Willamette Basin and generated approximately $63 million in personal annual income based on estimates made in 1980 (Howell 1986). In 1998, the Willamette River was named as an American Heritage River, a Federal designation to assist in restoring and protecting the river.

1. ***Information on time, quantity, duration, and frequency of releases and discharges***

The lower Willamette River at Portland Harbor receives contaminant inputs from industrial activities and other sources. Discharges and releases of oil and hazardous substances into Portland Harbor have resulted from current and historical industrial and municipal activities and processes since the early 1900s. Facilities released materials through permitted and non-permitted discharges, spills during cargo transfer and refueling, stormwater runoff through contaminated soils at upland facilities, and discharge of contaminated groundwater. Other releases into the Willamette River upstream of Portland Harbor include metals from historical mining activity, agrochemicals from agricultural and timber operations along the river and its tributaries, and resuspension of deposited contaminated materials from aggregate mining operations.

There are numerous industrial facilities associated with contamination within Portland Harbor (Table 1; Integral et al. 2004a,b). Many sites have contamination in upland soils due to improper disposal of wastes or from spills and mishandling of chemicals and hazardous materials. Contaminated bank soils include shorelines around Arkema/Atofina Chemicals, Crawford Street Corp, Gasco, Linnton Plywood/Columbia River Sand and Gravel, and McCormick and Baxter facilities (Integral et al. 2004a). Other priority sites with documented contamination in groundwater, sediment, upland soil, or other media include ARCO Bulk Terminal, Cascade General (Portland Shipyard), Foss Maritime/Brix Marine, Gunderson, Kinder Morgan Linnton Terminal (GATX), Mar Com, Marine Finance Corporation, McCormick and Baxter Creosoting, Mobil Oil Terminal, Oregon Steel Mills, Port of Portland Terminal 4, Premier Edible Oils, Rhone-Poulenc (Aventis Crop Science), Triangle Park (Riedel Environmental), Union Pacific Railroad/Albina, Wacker Siltronic, and Willbridge Bulk Fuel Facility, which includes Chevron, Shell, and Conoco/Phillips (Integral and Groundwater Solutions 2004). Cleanup activities including barrier wall installation, removal of contaminated sediments, and sediment capping have been undertaken at some of these sites.

The groundwater transport pathway is a significant route for contaminants to enter the Willamette River from contaminated upland facilities within Portland Harbor. The shallow, unconfined groundwater system occurs at or below the shoreline, and low river stages expose seeps along the bank (Groundwater Solutions 2003). Rate of discharge of the shallow system is gradient dependent and full reversals are rare. Intermediate and deep groundwater discharges are also present in Portland Harbor, some of which are contaminated by upland sources. However, Groundwater Solutions (2003) reports that contaminated discharges from the shallow and intermediate systems pose the highest risk to natural resources as these systems contain the vast majority of contaminants. Risk is greatest at the transition zone area where mixing of groundwater and surface water occurs because these areas are attractive to benthic organisms and their predators. Fish and other aquatic organisms can be exposed to contaminants at the transition zone from direct contact with contaminated water or by consuming contaminated prey items.

About 113 upland sites between RM 2 to 11 have been identified that could represent a contaminant source to Portland Harbor through surface seeps or subsurface discharge to sediments (Groundwater Solutions 2003). Of these, 19 sites have contaminants confirmed in groundwater and reasonable likelihood that the groundwater plume reaches the Willamette River, 85 sites have insufficient data to determine if groundwater is contaminated or if contaminated groundwater reaches the Willamette River, and nine sites have data indicating contaminants are not present or will not reach the Willamette River (Groundwater Solutions 2003). Metals and volatile and semi-volatile organic compounds are the most common contaminant issues at sites with data available on groundwater.

Spills of hazardous materials into Portland Harbor occur on an intermittent basis and result from product transfer and handling, overwater activities, utility crossings, and releases from vessels refueling and accidents (Integral et al. 2004a). Records of some spills have been collected since at least the 1940s, and spills or mishandling of products and wastes were likely more common prior to development of regulations governing hazardous materials and reporting requirements. Spill reports indicate petroleum releases from vessels are fairly common (Integral et al. 2004a).

Although prevention and response techniques have improved in the Portland Harbor area, spills are considered an ongoing source of contamination for the harbor.

Contaminants are also discharged under permit from various facilities in Portland Harbor, which potentially increases the contaminant burden for ecological receptors in the area. There are at least 94 National Pollutant Discharge Elimination System (NPDES) permitted discharges into Portland Harbor, many of which discharge into the City of Portland's stormwater system (Integral et al. 2004a). The discharges include industrial process wastewater (contact and non-contact cooling waters), treated water from clean-up projects, and stormwater from municipal sources, construction sites, and industrial facilities. Although there are no discharges directly from municipal sewage treatment plants, there are about 250 non-city stormwater outfalls, 20 city stormwater outfalls, and four combined sewer overflow outfalls (which drain raw sewage into the Willamette River during certain high rain events) (Integral and Groundwater Solutions 2004, Integral et al. 2004a).

In addition to these sources, sediment acting as a sink for contaminants can be resuspended in the lower Willamette River and become more bioavailable to organisms due to bottom-disturbing activities such as dredging and shipping, recreational boating in shallow-water areas, and repair and maintenance of underwater cables and drainage pipes.

The full nature of the duration, quantity, and frequency of release or discharge of hazardous substances into the river from industrial and municipal operations is unknown due to the diversity of sources, industrial facility closings and transitions, and insufficient records of historical operations and spills. However, a list of operations and estimates of the types of discharge are presented in Table 1. Although many releases occurred in the past, ongoing injury is likely from discharges of contaminated groundwater, contact with stormwater runoff from contaminated uplands, and from sediments acting as a source of contaminants to organisms within Portland Harbor.

2. *Names of the Hazardous Substances*

Hazardous substances released to the Portland Harbor area include, but are not limited to, the following chemicals (reported by name and Chemical Abstract Service [CAS] Registry Number): polychlorinated biphenyls (CAS 1336363), including various Aroclor and other mixtures; dioxins and furans, including 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (CAS 1746016) and 2,3,7,8-tetrachlorodibenzofuran (CAS 51207319); organochlorine pesticides and related transformation products, including DDT (CAS 50293), DDD (CAS 72548), DDE (CAS 72559), heptachlor (CAS 76448), and dieldrin (CAS 60571); high and low molecular weight polyaromatic hydrocarbons; metals, including lead (CAS 7439921), mercury (CAS 7439976), copper (CAS 7440508), chromium (CAS 7440473), and arsenic (CAS 7440382); semi-volatile organic compounds such as bis(2-ethylhexyl)phthalate (CAS 117817), other phthalate esters, and pentachlorophenol (CAS 1336363); volatile organic compounds such as benzene (CAS 71432); and other compounds such as perchlorate (CAS 014797730), herbicides, organic solvents, and antifouling agents such as tributyltin (CAS 688733) and other butyltins.

3. ***History of the current and past uses in relation to the sources of hazardous substances released or discharged***

Industrial facilities along Portland Harbor that have potentially contributed to contamination of the lower Willamette River have been operating since the early 1900s. Aerial photos indicate that lumber and steel mills, tank farms, a dry dock at Willamette Cove, and large rail yards existed prior to 1936, but much of the area was developed by 1948 and after (Integral and Groundwater Solutions 2004). Few land use changes occurred following 1974. Many of the industrial facilities are no longer in operation, but other facilities continue to release or discharge contaminants into the Portland Harbor area. Industrial activities that have resulted in releases of hazardous substances include bulk petroleum storage and distribution; manufacture, formulation, and storage of chemicals, pesticides, asphalt, paint, resins, and acetylene; raw materials handling and treatment, including loading and unloading; metal salvage and recycling; oil gasification; wood treating; lumber wood chip export; tar pitch distribution; marine construction, repair, and fueling; pipe manufacturing and coating; semiconductor manufacturing; electrical power generation and substation operations; and railroad operations, fueling, and maintenance (U.S. Environmental Protection Agency 1998, Integral et al. 2004a). Extensive ship building and repair was conducted in the 1940s during World War II, and some of this work continues in the harbor but on a much reduced scale (Integral et al. 2004a). Other activities contributing to contamination in the harbor include erosion of contaminated soils, stormwater runoff from roads and urban areas, recreational boating and marina operations, contamination associated with urban growth, sewage operations and overflows, atmospheric deposition of exhaust and emissions, industrial discharges, and historic direct waste disposal into the river.

Since the 1900s, much of the Willamette River has been modified to control flooding and for navigation, and the lower floodplain has been extensively modified from filling and development for industrial facilities. Lakes, wetlands, bottomlands, and sloughs within the floodplain of the lower river have been filled by hydraulic dredging, especially in Portland Harbor, including portions of Doane, Guilds, and Kittridge Lakes (Integral et al. 2004a). Numerous streams in the Portland Harbor area have been diverted and covered over during development of municipal and industrial areas. The lower reach from RM 0 to RM 11.6 has been dredged to maintain a 40-foot deep by 300-foot wide navigation channel, although depths of over 70 feet occur in the channel (Integral et al. 2004a). Much of the material dredged from the river was used for bank stabilization and for filling in the floodplain. Over the last 100 years, much of the natural shoreline has been replaced by rock revetment or vertical walls for flood control (North et al. 2002).

4. ***Relevant operations occurring at or near the site***

Little industrial activity occurs downstream of RM 2 on the lower Willamette River, although the Port of Portland grain terminal (Terminal 5) at RM 1 receives slag from Oregon Steel Mills. Marinas, rail yard maintenance activities, aluminum storage facilities, and aggregate mining operations occur upstream of RM 11. Ross Island Sand and Gravel operates at RM 15. This large, inwater gravel pit collects aggregate materials and has accepted contaminated dredged material for disposal into confined cells within the pit. A former ship dismantling facility operated at the Zidell property is at RM 14. Upstream of Willamette Falls at RM 26.5 there are

over 800 permitted discharges from facilities, including sewage treatment plants and industries related to pulp and paper and lumber manufacturing, and over 300 permits for discharge of industrial stormwater into the Willamette River (Integral et al. 2004a).

5. ***Additional oil or hazardous substances potentially discharged from the site***

Additional substances discharged into the site include contaminants of emerging interest such as hormones, pharmaceuticals, and personal care products from treated effluent, untreated stormwater overflow, and discharges from nurseries and livestock facilities. Recent water samples collected from the Tualatin River at Boones Ferry Bridge (a tributary of the lower Willamette River) and from the Willamette River at Swan Island (about RM 8) showed relatively low concentrations of some pharmaceuticals such as caffeine (CAS 58-08-2), antibiotics such as sulfamethazine (CAS 57-68-1; Tualatin River only), hormones such as estrone (CAS 53-16-7; Swan Island only), and steroids such as cholesterol (CAS 57-88-5) and coprostanol (CAS 360-68-9) (Barnes et al. 2002, Kolpin et al. 2004). It is unknown if these contaminants occur at sufficient concentrations to affect aquatic organisms, but regulatory mechanisms of fish and other organisms can be impacted by hormones and pharmaceuticals such as those reported by the authors. In addition to contaminants of emerging interest, chemical mixtures such as creosote used in wood treating have been documented in the river, along with non-aqueous phase liquids in groundwater.

6. ***Potentially responsible parties***

All the trustees have been involved in settlement negotiations with the major potentially responsible parties, which include the City of Portland, Port of Portland, Arkema/Atofina, ChevronTexaco Corporation, Gunderson, Inc., NW Natural Gas, Oregon Steel Mills, Time Oil Co., ConocoPhillips Company, and Union Pacific Railroad Company. There are over 65 identified potentially responsible parties as reported by Integral et al. (2004b) and Table 1. Recently, notices of potential liability for the Portland Harbor Superfund site have been sent by EPA inviting an additional 25 facilities into negotiations. Facilities receiving these notices are listed in Appendix 1.

B. Damages Excluded from Liability under CERCLA

Title 43 CFR Part 11.24(b) notes certain damages are excluded from liability under CERCLA, such as damages resulting from a discharge or release that was specifically identified as an irreversible and irretrievable commitment of natural resources in an environmental assessment, damages from a release that occurred wholly before enactment of CERCLA, or damages resulting from other federally-permitted activities as those defined in Section 101(10) of CERCLA. In the Portland Harbor area, a significant amount of releases have occurred which have the potential to cause or continue to cause injury and damages that are not excluded from liability under CERCLA. There are significant historical releases which occurred at the site prior to any permitting under environmental laws, and these contaminants continue to be present at the site and potentially are causing both injury and damage to this date. No environmental impact statement or similar environmental analysis has ever identified an irretrievable or irreversible commitment of natural resources at this site. Moreover, continuing non-permitted releases still

occur and are also potential sources resulting in injury to natural resources and natural resource damages.

Aside from discharges permitted under the NPDES, there are no other known concerns relative to 43 CFR Part 11.24(b) warranting exclusion from liability under CERCLA, the Oil Pollution Act, or the Clean Water Act. Any injuries that may have resulted exclusively from specific NPDES releases, or other releases found to be under exclusion during the remedial investigations or injury assessments, will be considered further during the damage assessment. At this time the natural resource trustees are not aware of any other possible defenses or exclusions of liability under applicable laws that would preclude initiating a natural resource damage assessment.

III. PRELIMINARY IDENTIFICATION OF RESOURCES AT RISK

A. Preliminary identification of pathways

Contaminants from specific sources identified previously are primarily introduced into the lower Willamette River through point and non-point discharges, from spills during overwater activities, and to a lesser degree from aerial deposition and soil erosion. The primary media for transport of contaminants and exposure to organisms are surface water, groundwater, transition zone water, sediment, and tissue (i.e., from consumption of contaminated prey items or food chain transfer). Surface water flow over upland areas erodes soil or collects material from impermeable surfaces and transports contaminants from urban or industrial areas in the dissolved or particulate phase to the river. Precipitation infiltrates upland soils and can leach contaminants from soils as it percolates to the water table and flows along the top of impermeable layers or alongside discharge pipes before entering the river as seeps above the waterline or as transition zone water below the waterline. Groundwater discharge at seeps or in the transition zone can be attractive to aquatic organisms and provides a pathway for contaminants to reach these organisms through direct contact and ingestion of surface water, particulates, and prey items. Contaminated bedload sediment, or suspended sediment and particulates, are transported from upriver or local sources and deposited, resuspended, and redeposited within Portland Harbor or transferred to downstream reaches and into the lower Columbia River. The degree to which contaminants can move in or through these media depends on various factors including the partitioning coefficients of the specific chemicals.

Exposure of aquatic organisms, including trust resources at the Portland Harbor site, occurs through direct contact or ingestion of dissolved or suspended contaminants in the water column, contact or ingestion of groundwater in seeps or transition zones, contact or ingestion of sediment or porewater, and ingestion of contaminated prey items. Specific ecological receptor groups that are vulnerable to exposure to contaminants specific to the Portland Harbor area include plants, benthic invertebrates, fish, amphibians and reptiles, birds, and mammals. Contaminants have been found in tissues of all these receptor groups in Portland Harbor except plants, amphibians, and reptiles; however, contaminant analysis has not occurred in these latter three groups. The primary exposure pathways of a contaminant from media to receptors are outlined in Figure 2. Additional pathways may be identified during the remedial investigation and injury assessment phases.

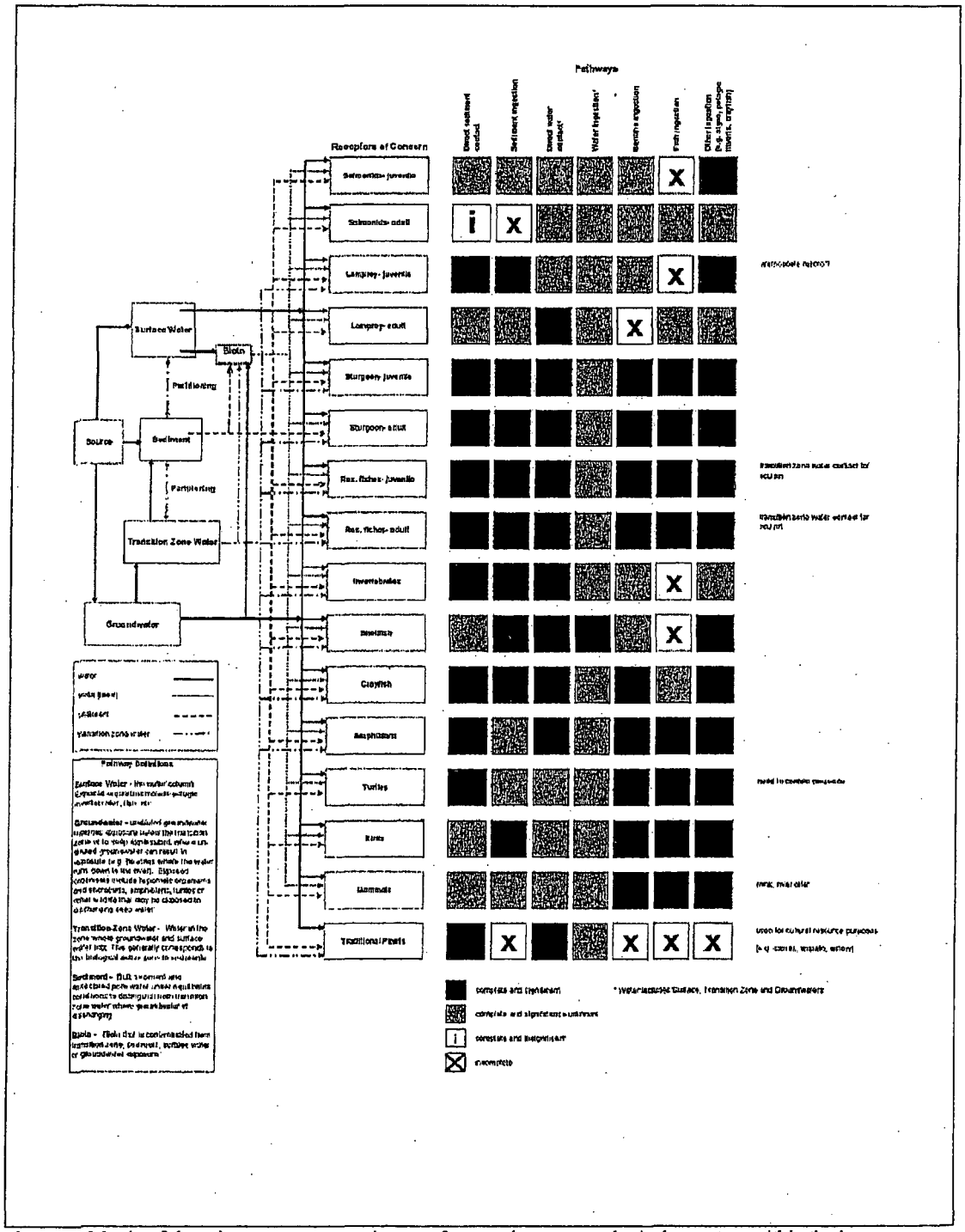

Figure 2. Matrix of the primary exposure pathways of contaminants to ecological receptors within the lower Willamette River.

B. Exposed areas

There are many natural resources moving through the site, and there is a footprint of contamination in sediment between RM 2 and 11 at the Portland Harbor Superfund site. The injury to natural resources is not necessarily limited to the extent of this footprint. The area exposed or potentially exposed to contaminants primarily includes, but is not limited to, the following:

1) A stretch of at least 11 miles of the lower Willamette River between RM 0 to 11, including upland areas around industrial facilities up to approximately 0.5 miles inland, and Swan Island Lagoon at RM 8;

2) The Multnomah Channel from its initiation point at RM 3 of the Willamette River to its mouth on the Columbia River; and

3) A stretch of the Columbia Slough at about RM 1 as a result of tidal reversals moving contaminants up into the slough.

C. Exposed water estimates

The entire main stem of the lower Willamette River from RM 0 to 11 has been exposed to contaminants released from the site. This area includes 11 miles of river length of the Willamette River and associated nearshore habitat, and riparian habitat along the Columbia Slough and Multnomah Channel. It is likely that contaminants from various facilities and outfalls have been released upstream of RM 11 as well.

D. Estimates of concentrations

Numerous contaminants have been documented in abiotic and biotic samples from the lower Willamette River, and the Portland Harbor section contains some of the most elevated contaminants compared to the river's upper reaches. Various studies have documented metals such as mercury and arsenic, polycyclic aromatic hydrocarbons (PAHs), volatile and semi-volatile organic compounds, organochlorine pesticides (including DDT and its metabolites DDE and DDD), polychlorinated biphenyls (PCBs), dioxins, and furans in water, sediment, and fish tissue within the Portland Harbor area and immediately up- and downstream from the harbor (Curtis et al. 1993, Oregon Department of Environmental Quality 1994, Bonn et al. 1995, Harrison et al. 1995, Sethajintanin et al. 2004, Integral 2004, 2005a,b, 2006a). Known or potential injuries to trust resources in the Portland Harbor area resulting from elevated contaminant concentrations include, but are not limited to, consumption advisories issued by the Oregon Department of Human Services for resident fish and crayfish, listing of the lower Willamette River as water quality limited for various contaminants on the State 303d list as required under the Clean Water Act, exceedances of water quality criteria established for the protection of aquatic life in freshwater, impacts on growth and mortality of benthic invertebrate communities from contaminated sediment, direct impacts to fish from accumulated contaminants or from dissolved contaminants impeding anadromous fish passage, and reproductive injuries from trophic transfer of bioaccumulative contaminants to species higher in the food chain.

Contaminant concentrations in specific media within Portland Harbor (as reported by recent evaluations) and some effects to trust resources resulting from exposure to the contaminated media are presented below.

Surface water

Concentrations of many groups of contaminants have been found in surface water in the Portland Harbor site. Recent sampling reported by Integral (2005a, 2006a) to characterize water quality during various flow conditions was conducted during the early rainy season in the fall (November 2004), during winter high flow corresponding to release of amphibian egg masses (March 2005), and during low flow conditions in summer (July 2005). Water samples were collected using solid-phase cartridges (XAD-2 resin) and high volume methods at the following locations: three integrated water column transect stations at RM 4, 6.3, and 11; four single point, near bottom stations at Willamette Cove; near a discharge pipe from the Rhone-Poulenc property; near the Arkema/Atofina property; and at Swan Island near Cascade General. These stations indicated a wide range of contaminants present in both dissolved and particulate fractions of surface water within the harbor.

Dioxins and furans were sampled at only five stations, including the three transect stations and two single point stations. Total polychlorinated dioxins and furans ranged from 16.7 to 163 pg/L during the three sampling events. The highest concentration was documented at the Willamette Cove station in the summer sampling event, although high concentrations (over 80 pg/L in the fall event) were observed near the Rhoune-Poulenc outfall as well. There were only four detections of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin in the particulate fraction ranging from 0.005 to 0.26 pg/L (the higher concentration was a field replicate at Willamette Cove with undetected concentrations in the parent sample). The higher concentration was greater than the total maximum daily load established for the lower Willamette and Columbia Rivers for 2,3,7,8-tetrachlorodibenzo-*p*-dioxin of 0.013 pg/L. All whole water samples contained 2,3,7,8-tetrachlorodibenzofuran ranging from 0.008 to 0.619 pg/L. Higher chlorinated dioxins and furans were more commonly detected than the lower chlorinated isomers and were predominantly associated with the particulate fraction of the water samples.

Similar to the dioxins and furans, most detected organochlorine pesticides and PCBs were associated with particulate matter. DDT and DDE concentrations were detected in all whole water samples during all seasons ranging from 1.34 to 3,862 and 16.4 to 663 pg/L, respectively. DDT at the higher concentrations exceeded Oregon's acute water quality criteria of 1,100 pg/L established for the protection of freshwater aquatic life, and all detectable DDT concentrations exceeded the 1 pg/L chronic criteria. Concentrations of DDT and DDE were relatively similar across sites, although the highest concentrations of these compounds were found at the Rhone-Poulenc discharge pipe and Arkema/Atofina. Total PCBs reported as the sum of congeners ranged from 3,340 to 12,000 pg/L and were highest at the Willamette Cove station, although the Rhone-Poulenc, Arkema/Atofina, and Swan Island locations also exhibited relatively high concentrations of dissolved and particulate PCBs. Most detected PCB concentrations exceeded Oregon's acute and chronic water quality criteria of 2,000 and 14 pg/L, respectively.

Total PAHs were detected at all stations during all sampling events. Whole water concentrations ranged from 6.13 to 231 ng/L. The highest concentrations were found at Rhone-Poulenc

discharge and Arkema/Atofina stations. In contrast to the organochlorine compounds, PAHs were found predominantly in the dissolved phase of the water samples. Total PAHs in these samples exceeded the State water quality criterion of 2.8 ng/L for protection of human health, and this section of the lower Willamette River is listed as water quality limited.

Numerous metals, collected by peristaltic pump and not with XAD resins, were commonly detected in water samples. Arsenic was detected at all stations and ranged from 0.33 to 0.75 µg/L from all three sampling events. In contrast, neither total nor dissolved mercury or hexavalent chromium were detected in any of the sampling events.

Groundwater

Groundwater discharging into Portland Harbor is currently being assessed to further evaluate the transport pathway for chemicals migrating from upland groundwater plumes to transition zone water, sediment, or surface water, and to assess remobilization of chemicals in bulk sediment or transition zone water through physical, chemical, or biological processes (Integral 2006b). Nine high priority sites have been identified for further characterization of groundwater contamination in Portland Harbor. These sites include the following facilities: Kinder Morgan Linnton Terminal, ARCO Terminal 22T, ExxonMobil Oil Terminal, Gasco, Siltronic, Rhone-Poulenc, Arkema (Acid Plant and Chlorate Plant areas), Willbridge Bulk Fuels Terminal, and the Gunderson site. Discharge of upland groundwater contaminants to Portland Harbor has either been confirmed or is reasonably likely at these sites (Integral 2006b).

Results from 70 seepage meters deployed in all sediment types at these sites primarily indicated a positive discharge to the river, and showed an average daily groundwater discharge rate of 1.48 cm/day (minimum of -18.90 cm/day at ExxonMobil and a maximum of 14.20 cm/day at ARCO) (Integral 2006b). Contaminant sample results are available from 117 transition zone water samples (including replicate samples) at depths 0 to 30 cm below the sediment-water interface, and 38 transition zone water samples (including replicates) from depths of 90 to 150 cm below the sediment-water interface (Integral 2006b). Preliminary results indicated that transition zone water samples collected at Gasco have the highest concentrations of PAHs ranging up to 3,491 µg/L in unfiltered samples, total petroleum hydrocarbons up to 6,100 µg/L in unfiltered samples, and benzene, toluene, ethylene, and xylene (BTEX compounds) over 700 µg/L. Groundwater contaminants in discharges from the Siltronic facility were the next highest for total PAHs (just under 250 µg/L in unfiltered samples) and total petroleum hydrocarbons (about 2,250 µg/L in unfiltered samples), while Arkema showed the highest concentrations for total volatile organic compounds (up to 1,300,000 µg/L), barium (2,760 µg/L in filtered samples), and manganese (66,200 µg/L in filtered samples). Relatively lower concentrations of volatile organic compounds, BTEX, PAHs, and total petroleum hydrocarbons were found in transition zone water at Kinder Morgan, ARCO, ExxonMobil, and Willbridge, although arsenic was the highest at these sites (Integral 2006b).

Other contaminants such as mercury, DDE, and DDT were detected in both unfiltered and filtered samples at some sites. In unfiltered samples, mercury was detected in 20 of 84 samples ranging from 0.08 to 0.5 µg/L, DDT was detected in eight of 14 samples ranging from 0.008 to 2.7 µg/L, and DDE was detected in eight of 14 samples ranging from 0.015 to 0.24 µg/L. In filtered samples, mercury was found in only five of 104 samples ranging from 0.08 to 0.36 µg/L,

DDT was found in only one of 17 samples at 0.01 μg/L, and DDE was found in two of 17 samples from 0.004 to 0.008 μg/L.

Surface sediment

Sediment from the Portland Harbor site has been evaluated in a number of studies; the most recent and largest sampling effort was conducted to document the horizontal and vertical distribution of chemicals (Integral 2005b). Horizontal distribution was represented by surface sediment (0-30 cm) collected in November 2004 at 523 locations between RM 2 and 25 (515 locations between RM 2 and 11) with a total of 562 samples collected from all stations. Commonly detected contaminants, concentration ranges, and detection frequency (DF) are as follows:

- total mercury from 0.006 to 2.1 mg/kg in 562 samples with 100% DF;
- PCB Aroclor 1248 from <1.4 to 22,300 μg/kg in 200 of 520 samples or 38.5% DF;
- PCB Aroclor 1254 from <0.67 to 2,100 μg/kg in 216 of 520 samples or 41.5% DF;
- PCB Aroclor 1260 from <0.86 to 5,070 μg/kg in 389 of 520 samples or 74.8% DF;
- DDT from <0.05 to 12,000 μg/kg in 405 of 489 samples or 82.8% DF;
- DDE from <0.04 to 2,240 μg/kg in 483 of 508 samples or 95.1% DF;
- total PAHs from 0.91 to 7,950,000 μg/kg in 557 of 562 samples or 99% DF;
- 2,3,7,8-tetrachlorodibenzo-*p*-dioxin from <0.06 to 111 pg/g in 13 of 76 samples or 17.1 % DF; and
- 2,3,7,8-tetrachlorodibenzofuran from <0.012 to 423 pg/g in 43 of 76 samples or 56.6% DF.

Other compounds detected in surface sediment included volatile and semi-volatile organic compounds other than PAHs, higher chlorinated dioxins and furans (especially the heptachlorodibenzo-*p*-dioxins), total petroleum hydrocarbons, and four herbicides.

Exposure to contaminated sediment can affect the growth and survival of invertebrates and limit the habitat available for colonization. In addition, trust resources higher in the food chain are at risk from exposure to chemicals from eating contaminated invertebrates or from incidental ingestion of sediment.

Benthic invertebrates—Bioassays

To develop a predictive toxicity model that characterizes the relationship between sediment chemistry and benthic invertebrate toxicity in the lower Willamette River, 10-day sediment toxicity tests with *Chironomus tentans* and 28-day sediment tests with *Hyalella azteca* were conducted on 233 sediment samples collected within and upstream of the Portland Harbor Study Area (Windward et al. 2006). Assessment endpoints included growth and survival. NOAA evaluated these data using a methodology of classification based on the EPA National Sediment Inventory. Thus, each endpoint was classified into three categories (N, Tier II, Tier I) based on the test response normalized to the control. For survival, samples greater than or equal to 90 percent of control were classified as N (not different from control), between 75 to 90 percent of control as Tier II (slightly/moderately different from control), and less than 75 percent of control as Tier I (highly different from control). For the growth endpoint, between 70 to 90 percent of control were classified as Tier II and below 70 percent as Tier I. Note that these classifications did not include an evaluation of statistical significance of the difference from control.

To combine the results for the growth and survival endpoints for each test, the classification was based on the endpoint with the greatest response. If either survival or growth was classified as Tier I for *Hyalella azteca*, for example, then the sample was classified as Tier I. If neither endpoint was classified as Tier I, but one or both was classified as Tier II, then the sample was classified as Tier II. If the response for both endpoints was greater than or equal to 90 percent of the control, then the sample was classified as N.

The results from both tests (i.e., growth and survival for *Hyalella azteca* and *Chironomus tentans*) were combined using the same classification approach. Hence, if the survival or growth endpoint for either *Hyalella azteca* or *Chironomus tentans* tests was classified as Tier I, then the combined result was classified as Tier I.

Using this methodology, 21 percent (50/233) of all stations are classified as N (not different from control), 33 percent (76/233) as Tier II (slightly/moderately different from control), and 46 percent (107/233) as Tier I (highly different from control). Of the 233 stations, 18 were located upstream of the study area for reference purposes. NOAA's evaluation of these upstream reference stations indicates that 44 percent are classified as N, 39 percent as Tier II, and 17 percent as Tier I. A similar analysis of the 215 study area stations shows that 20 percent are classified as N, 32 percent as Tier II, and 48 percent as Tier I.

The results of these analyses, summarized below, indicate that responses in the study area are highly different from the control with much greater frequency than upstream of the study area. Hence, it is likely that benthic organisms in the study area experience higher rates of toxicity associated with exposure to contaminants in sediments than benthic organisms in the river reaches upstream of the study area. Reduced rates of survival and growth for benthic organisms in the study area likely constitute an injury to this resource. In addition, various species of fish and other organisms that feed on benthic organisms in the study area may be negatively impacted by reductions in their prey base and potentially through exposure to contaminants via uptake of benthic-dwelling biota.

	Tier I	Tier II	N
All Stations (233)	46 percent	33 percent	21 percent
Upstream Stations (18)	17 percent	39 percent	44 percent
Study Area Stations (215)	48 percent	32 percent	20 percent

Field-Collected Invertebrates

Samples of the Asian clam (*Corbicula fluminea*) and crayfish (*Pacifastacus* spp.) have been collected in Portland Harbor for chemical analysis. Asian clams collected between RM 2 and 10 accumulated various contaminants and reflected localized contamination from known sources within the harbor (electronic data made available by the Lower Willamette Group, Portland, Oregon). DDT and DDE in 31 composite clam samples ranged from 0.61 to 32 and 4.8 to 64 µg/kg, respectively. Total summed PCBs ranged from 50 to 2,660 µg/kg and total Aroclor PCBs (1254 plus 1260) ranged from 26 to 1,456 µg/kg. Although few of 29 clam samples contained detectable concentrations of 2,3,7,8-tetrachlordibenzo-*p*-dioxin, many samples did contain higher chlorinated dioxins and furans, which in some tissues are indicative of releases from facilities

using or combusting wood-treating products (Elliott et al. 1996a, 1996b, Elliott and Norstrom 1998). Total PAHs in 29 clam samples averaged 637 μg/kg and ranged from 35 to 4,975 μg/kg, with the highest concentrations in clams collected from RM 6 to 8.6 where a number of petroleum sources are located. Similarly, concentrations of total high molecular weight PAHs in 27 composite crayfish samples were highest (up to 380 μg/kg) at RM 6.8 (Integral 2004). The elevated PAHs in samples indicates that clams are relatively good accumulators (or poor metabolizers) of PAHs. Many contaminants in clams were lowest at RM 10 and had much higher concentrations downstream. Clams and crayfish are important food sources for fish, waterbirds, and aquatic-dependent mammals, and these species may be impacted by consumption of clams and crayfish within Portland Harbor. Asian clams have been found to be an important component in the diet of white sturgeon captured in the lower Columbia River (Romano et al. 2002).

Juvenile chinook salmon

Contaminant concentrations in juvenile chinnook salmon collected at four locations (RM 4, 7, 10, and an upstream reference location at RM 18) indicate that subyearlings spend sufficient time rearing in Portland Harbor to bioaccumulate compounds at concentrations that represent local sources, based on data reported by Integral and Windward (2006). All subyearling chinook collected from the Portland Harbor site had concentrations of many contaminants at much greater concentrations than the upstream reference area.

Concentrations of DDT and DDE were greatest at RM 7 near a discharge area of a former pesticide manufacturer. Values in the RM 7 sample were 37 and 91 μg/kg for DDT and DDE, respectively, whereas the same compounds in the RM 18 sample were 1.7 and 6.9 μg/kg, respectively. Total PCBs (sum of congeners) ranged from 16.7 to 193 μg/kg, with the higher concentration representing a sample from a known PCB source (Fireboat Station). Lipid-normalized total PCB concentrations (ranging from 6.2 to 11 μg/g) at all three Portland Harbor sites (RM 4, 7, and 10) exceeded the lipid-normalized value of 2.4 μg/g above which wild juvenile salmonids would be expected to exhibit adverse sublethal effects (Meador et al. 2002). In contrast, the lipid-normalized concentration (0.9 μ/g) from the sample at the upstream location was well below the adverse effect value.

Total PAHs in whole-body tissue were similar in samples from RM 4, 7, and 10 (ranging from 13.8 to 15.4 μg/kg), whereas the reference sample concentration (7.4 μg/kg) was nearly half the downstream values. Total PAHs in stomach contents from Portland Harbor fish were as high as 2,460 μg/kg, indicating a contaminated food source. Studies conducted in urban estuaries in Puget Sound, Washington, have documented significant accumulation of PAHs in outmigrating juvenile chinook salmon or stomach contents, and have linked this accumulation in the salmon to altered immune responses (suppression of B-cell mediated immunity and immunological memory) and elevated levels of hepatic DNA adducts (McCain et al. 1990, Arkoosh et al. 1991, 1994, Stein et al. 1995). Compromised immune systems threaten the health and survival of these juvenile salmon.

The data indicate that subyearling chinook accumulate greater concentrations of contaminants depending on their location and residence time in Portland Harbor. Contaminant concentrations circulating in the bloodstream during this early development stage pose a potential risk of

sublethal effects to these fish, including impacts to growth and maturation. Similar effects to outmigrating juvenile chinook from contaminant exposure in other estuaries in the Northwest have been documented (Meador et al. 2002). PCB concentrations in subyearling salmon from Portland Harbor exceed adverse effects values, and PAHs in prey items and whole-body tissues threaten immune system function, growth, and long-term survival of these individuals.

Resident fish

Earlier studies on resident fish within the lower Willamette River revealed that carp (*Cyprinus carpio*) and Northern pikeminnow (*Ptychoceilus oregonensis*) collected particularly between RM 6 and 8 contained median concentrations of DDT, DDD, DDE, and total PCBs that exceeded threshold values derived from EPA water quality criteria (Oregon Department of Environmental Quality 1994). Whole-body pikeminnow samples exhibited significantly higher 2,3,7,8-tetrachlordibenzo-*p*-dioxin and 2,3,7,8-tetrachlordibenzofuran concentrations from this area than from upper reaches, with mean values of composite tissues exceeding 1.3 and 16 pg/g wet weight for 2,3,7,8-tetrachlordibenzo-*p*-dioxin and 2,3,7,8-tetrachlordibenzofuan, respectively (Curtis et al. 1993). Common carp collected from Portland Harbor near RM 7 exhibited significantly more total cytochrome P450-1A1 in hepatic microsomes than in fish from upstream locations, indicating physiological evidence of exposure to aromatic hydrocarbons (Curtis et al. 1993).

More recently, resident fish sampled in 2004 from Portland Harbor and reported by Integral (2004) showed elevated concentrations of bioaccumulative compounds and some inorganic contaminants. Some contaminants were the same as those found in water, sediment, and invertebrates, indicating food chain transfer of bioaccumulative compounds to higher organisms. Whole-body concentrations of DDT and DDE in six composite largescale sucker (*Catostomus macrocheilus*) samples ranged from <17 to 245 and 79 to 185 µg/kg, respectively. PCB Aroclor 1260 ranged from 50 to 1,400 µg/kg, and mercury ranged from 0.05 to 0.09 mg/kg. In six composite carp samples, DDE ranged from 81 to 260 µg/kg and DDT was detected in only one sample (24 µg/kg). PCB Aroclor 1260 in whole-body carp ranged from 170 to 6,500 µg/kg, and mercury was found in seven composite samples ranging from 0.03 to 0.05 µg/kg. Dioxins and furans were also evaluated in whole-body carp tissue; 2,3,7,8-tetrachlorodibenzo-*p*-dioxin ranged from 0.46 to 1.1 pg/g, 2,3,7,8-tetrachlorodibenzofuran ranged from 1.62 to 2.34 pg/g, and total toxic equivalents (TEQs), representing toxic contributions from dioxins, furans, and planar PCB congeners, ranged from 7.9 to 50 pg/g. Based on six composite samples, pikeminnow, representing an upper trophic level fish species, had concentrations of DDE ranging from 82 to 545 µg/kg, DDT in only one sample (53 µg/kg), PCB Aroclor 1260 ranging from 220 to 1,800 µg/kg, and mercury ranging from 0.15 to 0.50 µg/kg. Mercury in some pikeminnow samples exceeded the value of 0.2 mg/kg estimated by Beckvar et al. (2005) to be protective for juvenile and adult fish.

Composite samples of sculpin (*Cottus* spp.) were also collected to represent contamination at more localized areas, especially in relation to sediment contaminants. Concentrations of organic contaminants in tissue samples tended to coincide with localized sources of contamination. DDT was detected in 21 of 26 samples and ranged from below detection to 1,700 µg/kg, and some samples exceeded the value 600 µg/kg estimated to be protective of juvenile and adult fish (Beckvar et al. 2005). DDE concentrations in sculpin were not detected as frequently as DDT;

DDE was detected in 19 of 26 samples up to 630 µg/kg. PCB Aroclor 1260 was detected in all 26 samples ranging from 62 to 2,300 µg/kg, and dioxin-like toxicity as represented by TEQs ranged from 7.03 to 54.1 pg/g in whole-body sculpin tissue. Mercury was evaluated in 27 samples and was relatively low, ranging from 0.03 to 0.09 µg/kg.

The section of river including Portland Harbor is listed as water quality limited in Oregon due to biological criteria and elevated chemicals such as DDT, DDE, aldrin, dieldrin, PCBs, and mercury in fish tissue (Oregon Department of Environmental Quality 2006). Research by Sethajintanin et al. (2004) also found levels of PCBs, DDT, and mercury in fish tissue from the area exceeding EPA's human health screening values. Currently, the Oregon Department of Human Services has issued consumption advisories because of elevated concentrations of organochlorine pesticides, PCBs, dioxins, and mercury in resident fish, and from elevated wood-treating chemicals in crayfish.

Birds and mammals

Previous studies have documented organochlorine contaminants in fish-eating birds and mammals in the lower Willamette River. Great blue herons nesting near Ross Island at about RM 15 had the highest concentrations of all measured organochlorine compounds in egg samples compared to colonies sampled in the lower Columbia River and reference areas (Thomas and Anthony 1999). Herons are commonly observed foraging within Portland Harbor and likely include birds from the Ross Island site. In 10 eggs sampled from the Ross Island colony, DDE ranged from 95 to 7,339 µg/kg, total PCBs ranged from 106 to 33,168 µg/kg, and dioxin-like toxicity measured as TEQs ranged from 11 to 163 pg/g (Thomas and Anthony 1999). Similarly, osprey eggs previously sampled by the U.S. Geological Survey within Portland Harbor in 2001 contained organochlorine compounds and other contaminants. Concentrations in four osprey eggs collected from nests between RM 1.8 and 15.5 ranged from 1,430 to 5,120 µg/kg DDE, 858 to 3,240 µg/kg for sum of PCB congeners, and 0.05 to 4.0 pg/g 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (Chuck Henny, U.S. Geological Survey, Corvallis, Oregon, unpubl. data).

Studies near the mouth of the Willamette River indicated river otter, a common fish and crayfish predator, were experiencing reproductive tract disorders correlated with a number of organochlorine contaminants (Henny et al. 1996). Some otters exhibited enlarged spleens, lack of testes, and other abnormalities associated with contaminants such as organochlorines that can disrupt the endocrine system. The highest concentrations of many organochlorines in otter livers were associated with the Portland-Vancouver area. More recently, otters sampled within Portland Harbor in the late 1990s showed elevated concentrations of organochlorine samples in liver samples (Grove and Henny 2005). Concentrations were ≤904 µg/kg DDE, ≤17.8 mg/kg mercury, ≤3,573 µg/kg for sum of PCB congeners, and ≤18.9 pg/g total dioxin-like TEQs (Grove and Henny 2005). These studies indicate that river otters and other mammals such as mink are exposed to bioaccumulative contaminants that could threaten their reproductive success.

Fish-eating birds and mammals are exposed to organochlorine compounds, mercury, and other contaminants by consuming fish from Portland Harbor which contain contaminants above protective levels. Concentrations in fish that are considered protective of fish-eating birds were exceeded in many fish samples collected from the harbor. Levels in fish considered protective of bald eagles along the lower Columbia River (U.S. Fish and Wildlife Service 2004) were 0.20

µg/g mercury, 40 µg/kg DDE, 60 µg/kg total PCBs, and 0.9 pg/g 2,3,7,8-tetrachlorodibenzo-*p*-dioxin. Slightly higher values were derived for protection of fish-eating species in New York for DDE (200 µg/kg) and total PCBs (110 µg/kg) (Newell et al. 1987), and Eisler (1987) considered a value of 0.1 µg/g mercury in prey items would be protective for fish-eating birds. Contaminants in many fish from Portland Harbor exceed concentrations considered protective of reproductive success and health of fish-eating birds.

E. Potentially affected resources

The Confederated Tribes and Bands of the Yakama Nation, Confederated Tribes of the Grand Ronde Community of Oregon, Confederated Tribes of the Siletz Indians of Oregon, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs Reservation of Oregon, Nez Perce Tribe, U.S. Department of the Interior, National Oceanic and Atmospheric Administration, and the State of Oregon collectively have trusteeship over all natural resources that have been exposed to hazardous substances within Portland Harbor. The natural resources affected or potentially affected from releases or discharges of contaminants include, but are not limited to, the resources listed below.

Aquatic-dependent mammals such as mink and river otter and species they depend on as prey items

Migratory birds, including osprey, bald eagle, mergansers and other waterfowl, great blue heron, spotted sandpiper and other shorebirds, cliff swallow, belted kingfisher, and other species

Threatened and endangered species

Anadromous and resident fish

Reptiles and amphibians

Aquatic invertebrates

Wapato and other aquatic plants

Wetland and upland habitats

Groundwater

Surface water

The services that are provided by these natural resources include, but are not limited to, the following:

Habitat for trust resources, including food, shelter, breeding, foraging, and rearing areas, and other factors essential for survival

Resource use

Hunting and fishing

Non-consumptive uses such as wildlife viewing and photography and other outdoor recreation activities

Primary and secondary contact activities such as swimming and boating

Cultural, spiritual, and religious use

Option and existence values

Traditional foods

IV. PREASSESSMENT SCREEN CRITERIA

As indicated earlier, title 43 CFR Part 11.23(e) notes the five criteria that must be met before proceeding past the preassessment phase to a full natural resource damage assessment. The criteria and corresponding conclusions based on this preassessment screen are as follows.

1) **A discharge of oil or release of hazardous substance has occurred.** Releases of appreciable quantities of petroleum compounds, organochlorine pesticides, PCBs, volatile and semi-volatile organic compounds, solvents, metals, and other materials listed in this preliminary assessment are documented for the Portland Harbor Superfund site, and have been released over a long period of time.

2) **Natural resources for which a State or Federal agency or Indian Tribe may assert trusteeship under CERCLA have been or are likely to have been adversely affected by the discharge or release.** Natural resources over which the State and Federal agencies and Indian Tribes may assert trusteeship have been and are likely to continue to be adversely impacted. Existing field data indicate that hazardous substance concentrations in sediment and tissue spatially coincide or are elevated near areas with known releases from industrial facilities or other documented sources.

3) **The quantity and concentration of the discharged oil or released hazardous substances is sufficient to potentially cause injury to those natural resources.** Tissue samples from Portland Harbor contain hazardous materials at concentrations that exceed concentrations associated with injury in sediment, water, fish, bird eggs, and other natural resources.

4) **Data sufficient to pursue an assessment are readily available or likely to be obtained at reasonable cost.** Data currently exist from the site that will be helpful and cost effective to use to further assess injury of natural resources at the site. Additional studies will be needed to better quantify injury and service losses for some resources, but these

data can be obtained at reasonable costs. The expected costs of resource restoration will exceed the costs of preparing the assessment.

5) **Response actions from Superfund remedial activities carried out or planned do not or will not sufficiently remedy the injury to natural resources without further action.** The trustees expect the remedial actions at the Portland Harbor site will, to a certain extent, minimize or eliminate exposure to hazardous substances. The full extent of such impact cannot be assessed until the remedial action is selected by EPA. However, even at this stage it is evident that the direction of the remedial investigation/feasibility study is not toward full restoration of likely injuries, and will not address lost services of resources which have been ongoing since the enactment of CERCLA. Thus, additional restoration, replacement, and rehabilitation of natural resources will ultimately be necessary.

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Table 1. Industrial facilities along the lower Willamette River and chemicals associated with discharges and releases from those facilities, and potential pathways for chemicals to reach ecological receptors. Data adapted from Table E-1 of Integral et al. (2004b).

Facility	RM	Type of Industry	Chemicals of Interest	Potential Pathway				
				Storm-water	Waste-water	Ground-water	Spills/ Disposal	Product Handling/ Transfer
ACF Industries	4.0	Currently vacant; former lumber mill, railcar painting and repair, wood crate and pallet fabrication	PCBs, chlorinated solvents, PAHs, TPH, antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, silver, selenium, thallium, zinc	X	X	X		
Alder Creek Lumber Co., Inc.	3.0	Lumber	wood waste/debris	X				
Anderson Brothers Property	8.0	Current use unconfirmed; former trucking company hauling agricultural products, freight, and bulk oil and gas	petroleum products, solvents (toluene, mineral spirits), and paint wastes (DEQ reports)					
ARCO Bulk Terminal	5.2	Petroleum product storage and transfer	PAHs, BTEX, isopropylbenzene, n-propylbenzene, arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc	X		X	X	X
ARKEMA/ATOFINA Chemicals (formerly Penwalt Chemical, Elf Atochem)	7.5	Former chemical and pesticide manufacturing	DDT, DDD, DDE, chlorobenzene, chloroform, chlorinated solvents, chloral, 2-chlorophenol, hexavalent chromium, ammonia, monochlorobenzene	X	X	X	X	
Aventis Crop Science (Rhone-Poulenc)	7.3	Former herbicide, insecticide, fertilizer manufacturing	pesticides, herbicides, phenols, VOCs, PAHs, PCBs, arsenic, lead, mercury	X	X	X	X	
Babcock Land Co.	4.8	Log and lumber storage; rail and railroad material storage	unknown	X				
Burlington Northern Santa Fe/Portland Terminal Railroad Company and lessees below	9.5							

SCHN00381971

Facility	RM	Type of Industry	Chemicals of Interest	Potential Pathway				
				Storm-water	Waste-water	Ground-water	Spills/ Disposal	Product Handling/ Transfer
Northern Hub Center/Guild Lake Railyard		Switching yard, bulk petroleum storage, loading/unloading, locomotive refueling	TPH (diesel), PAHs, benzene, toluene, phenolic compounds, solvents (TCE), metals, possibly creosote	X		X	X	X
1) Kleen Blast (BNSF lessee)		Storage, packing, and distribution of copper slag media, spent abrasive grit blast	see above					
2) Eastman Chemical (current leasee)/McWhorter Technologies/McCloskey Corp.		Chemical storage	see above					
3) Gresham Transfer (BNSF lessee)		Transfer of bulk materials (soda ash, lime, coal, roofing grit, cement, talc, plastic beads, sand, cornstarch) from rail cars to tractor trailers	see above					
4) Vopak/Van Water and Rogers (BNSF lessee) subsidiary of Univar, formerly McKesson Chemical		Chemical supply; packaged and stored chemicals; distilled and recycled solvents	see above					
BNSF Willbridge Yard		Staging and loading rail tank cars with petroleum products	see above					
Cascade General (see Swan Island Shipyard)	8-9							
Christenson Oil - Plant No. 1	9.5	Bulk petroleum product storage and transfer	TPH, PAHs, BTEX, copper, lead, zinc	X			X	X
Chevron USA Asphalt Refinery	8.3	Asphalt refining	TPH, BTEX, PAHs, phenolic compounds	X		X	X	X
City of Portland BES Water Pollution Control Lab	6.0	Analytical testing laboratory; former lumber mill						
Columbia American Plating	9.0	Metal finishing and electroplating	cadmium, chromium, lead, cyanide, zinc, TCE			X		
Columbia River Sand and	4.8	Sand and gravel storage and	see Linnton Plywood					

SCHN00381972

Facility	RM	Type of Industry	Chemicals of Interest	Potential Pathway				
				Storm-water	Waste-water	Ground-water	Spills/ Disposal	Product Handling/ Transfer
Gravel - see Linnton Plywood		distribution; located on Linnton Plywood property						
Crawford Street Corp. (formerly Columbia Forge and Machine Works, TLS Steel, Lampros Steel	6.3	Metal forging, stamping, and fabrication; steel recycling and distribution	PAHs, PCBs, arsenic, cadmium, chromium, copper, lead, nickel, zinc	X		X		
Equilon Enterprises, LLC (see Texaco)		Bulk petroleum facility	TPH, BTEX, PAHs, MTBE, ethanol, lead	X				
Foss Maritime / Brix Maritime	5.7	Vessel dispatch, fueling, and maintenance	TPH, PAHs, BETX, VOCs, cadmium, chromium, lead	X		X	X	X
Fred Divine Diving & Salvage Co. (Marine Salvage Consortium, Inc.)	8.2	Storage and maintenance of boats and other marine salvage gear; vessel refueling; washing and storage of hazardous waste transportation equipment from 1989-1996	PAHs, bis(2-ethylhexyl) phthalate, bis(2-chloro-isopropyl) ether, arsenic, cadmium, copper, zinc	X			X	X
Freightliner	8.3	Truck parts manufacturing	toluene, ethylbenzene, xylenes, vinyl chloride, other solvents/thinners (TCE, PCE, DCE)			X	X	
Freightliner	8.3	Truck manufacturing	TPH, PAHs, solvents, antifreeze, phthalate esters, aryl phosphate esters, PCBs, methyl phenols, barium, cadmium, chromium, copper, lead, mercury, zinc					
Front Ave. LLP (Tube Forgings)	8.5	Pipe fitting manufacturing	TPH, VOCs, SVOCs, metals	X		X		
Front Ave. LLP (CMI/Hampton Lumber)	8.5	Lumber and construction material storage and loading	see above					
Front Ave. LLP/Glacier NW (former Lone Star NW)	8.5	Concrete batch plant	see above					
GASCO (Northwest Natural)	6.5	Liquid natural gas production; storage and distribution of creosote oil, coal tar pitch,	PAHs, phenols, naphthalene, BTEX, cyanide, arsenic, chromium, copper, lead,	X	X	X	X	X

SCHN00381973

Facility	RM	Type of Industry	Chemicals of Interest	Potential Pathway				
				Storm-water	Waste-water	Ground-water	Spills/ Disposal	Product Handling/ Transfer
		diesel, and fuel oil products; formerly oil gasification (Portland Gas & Coke Company)	nickel, zinc					
GATX/Kinder Morgan Liquid Terminals (formerly Helens Rd facility). Olympic Pipeline transfer corner of property Also Santa Fe pipeline	4	Bulk petroleum product storage and transfer	TPH, PAHs, lead, BTEX, MTBE, chlorobenzene, dichlorobenzenes		X	X	X	X
General Construction - See Transloader International								
Georgia-Pacific - Linnton Fiber Terminal	3.5	Formerly wood chip export terminal, lumber storage, sawmill, creosoting plant	TPH, PAHs; possibly arsenic and pentachlorophenol	X		X		X
Goldendale Aluminum Co.	10	Alumina off-loading, storage, and transfer	metals, possibly PAHs	X			X	X
Gould Industries	7.5	Battery manufacturing/recycling	lead					
GS Roofing Products (Genstar)	7.3	Asphalt roofing products manufacturing	fuel oil, asphalt, benzene, copper, zinc	X				X
Gunderson Inc. (former Schnitzer site, in part)	9.5	Ship dismantling, auto salvage	1,1,1-trichloroethane, PAHs, TPH, waste copper, mercury, nickel, zinc	X		X	X	
Hendren Tow Boats - See Marine Finance								
Kinder Morgan - see GATX								
Koppers Industries, Inc. (see GASCO)	7	Creosote and tar pitch distribution						
Lakeside Industries	8.5	No information on current use; former steel factory	unknown	X				
Linnton Oil Fire Training Grounds	4.0	No current use; formerly personnel training for extinguishing flammable fluid fires	TPH, PAHs, benzene, chlorinated solvents, arsenic	X				

SCHN00381974

Facility	RM	Type of Industry	Chemicals of Interest	Potential Pathway				
				Storm-water	Waste-water	Ground-water	Spills/ Disposal	Product Handling/ Transfer
Linnton Plywood Association (inc. Columbia R. Sand & Gravel)	4.8	Currently inactive; formerly plywood manufacture	TPH, PAH, phthalates, VOCs, PCBs, cadmium, chromium, copper, lead, zinc	X		X	X	
MarCom, Inc.	5.8	Ship repair, including machining, sandblasting, maintenance	TPH, PAHs, organotins, chlorinated solvents, PCE, arsenic, chromium, copper, lead, mercury, zinc	X		X	X	X
Marine Finance Corporation	6.0	Tug maintenance, storage, and houseboat and sailboat construction; formerly ferry landing, oil storage, and metal salvage	PAHs, TPH, VOCs, phenols, PCBs, phthalates, SVOCs, butyltins, metals	X		X	X	
McCall Oil & Great Western Chemical	7.5	Petroleum product storage and transfer	TPH, chlorinated solvents, metals	X		X	X	X
McCormick & Baxter Creosoting Company		Currently vacant; formerly wood treating facility	PAHs, pentachlorophenol, dioxins/furans, arsenic copper, chromium, cobalt, zinc	X	X	X	X	X
Mobil Oil Terminal	5.3	Petroleum storage and distribution	TPH, PAHs, BTEX, arsenic, copper, lead	X		X	X	X
Morse Brothers - see G-P Linnton								
Olympic Pipeline Co.	3.5-7.9	Petroleum products pipeline	PAHs, BTEX, TPH				X	X
St. Helens Road Petroleum Contamination		Soil and groundwater contamination; may be related to Olympic Pipeline leaks.	diesel, heavy oil, gasoline, PAHs, BTEX			X		
Oregon Steel Mills - Rivergate	3	Steel mill; steel plate and coil manufacturing	TPH, PCBs, VOCs, and metals			X	X	
Owens Corning - Linnton	4.2	Asphalt and roofing manufacturing; formerly wood treating and lumber-related uses	TPH, PAHs, arsenic, PCP					X
Portland Gas Manufacturing	12	Currently inactive; formerly coal/gas manufacturing	contaminants associated with other coal gas facilities (PAHs, TPH, BTEX, heavy				X	X

SCHN00381975

Facility	RM	Type of Industry	Chemicals of Interest	Potential Pathway				
				Storm-water	Waste-water	Ground-water	Spills/ Disposal	Product Handling/ Transfer
			metals, SVOCs)					
Portland General Electric - Harborton Substn.	3.5	Electrical substation	TPH, PAHs, unconfirmed chemicals: PCBs, BTEX, phthalates, PCP, herbicides			X		
Portland Shipyard - Swan Island	9	Ship repair, dry dock	PAHs, TPH, PCBs, VOCs, chlorinated solvents, metals, organotins	X	X	X	X	X
Port of Portland-Terminal 1 North	10.5	Multiple lessees: aluminum window assembly; warehousing of building products; service dock for tour boats; paper product, lumber and wood products storage	TPH	X		X	X	X
Port of Portland-Terminal 1 South	10.5	Multiple lessees: refractory brick manufacture, patrol boat moorage, laminated wood products manufacturing	TPH, PAHs, phthalates, metals, VOCs, herbicides, pesticides, PCBs, organotins	X		X	X	X
Port of Portland-Terminal 2	10	Cargo (steel, lumber, plywood, and pulp) and container shipping and handling	TPH, PCBs	X				X
Port of Portland-Terminal 4 - Slip 3	4.7	Marine shipping and handling	TPH, PAHs, BTEX	X		X	X	X
Port of Portland Terminal 4 - Toyota Motor Sales	5	Vehicle processing, shipping and unloading of automobiles	PAHs	X				
Port of Portland-Terminal 4 - Slip 1	4.3	Shipping terminal for grain, breakbulk cargoes, logs, minerals, liquid bulks	SVOCs, PAHs, cadmium, chromium, lead, mercury, zinc	X				X
Port of Portland-Terminal 5 (Blue Lagoon)	1	Currently grain terminal, bulk mineral shipping, and fiber optic submarine cable manufacture; formerly Oregon Steel Mill slag disposal site	iron and manganese in groundwater; metals and PCBs at low levels	X				
Port/Shaver Oil Sump	2.5	No current use; formerly oily bilge wastewater discharge into ponds	TPHs	X		X	X	X

SCHN00381976

Facility	RM	Type of Industry	Chemicals of Interest	Potential Pathway				
				Storm-water	Waste-water	Ground-water	Spills/ Disposal	Product Handling/ Transfer
RK Storage & Warehousing	4.5	Current use unknown; formerly log and lumber storage, also sand blast grit; West Coast Adhesives manufactured phenol formaldehyde glues on northern portion of property	TPH, formaldehyde, phenolics, phthalate esters	X		X	X	
Ross Island	15.4	Disposal of contaminated dredged material	PCBs, PAHs, petroleum, metals, pesticides, herbicides					
Santa Fe Pipelines (purchased by Kinder-Morgan)	7	Fuel pipeline	TPH, PAHs, BTEX	X			X	
Schnitzer Investment Corp. (North Burgard Site)	3.7	Multiple lessees						
Schnitzer Steel	3.7	Ship dismantling, scrap metal recycling, including automobiles	metals, PAHs, PCBs, TPHs, solvents	X		X		
Boydston Metal Works	3.7	Fabrication and painting of automobile transport trailers	metals, TPH, solvents, PCBs	X		X		
Cal Bag Metals	3.7	Staging area for recycling non-ferrous metals	diesel fuel storage on site	X			X	X
Morgan	3.7	Storage and distribution of urea and wood products for overseas shipment; historically used for log storage	fuel stored on site	X		X	X	
Northwest Pipe and Casing	3.7	Pipe manufacturing and coating	PCBs, oil, gasoline, PAHs, solvents	X		X		
Portland Blast Media	3.7	Sandblasting, manufacture of protective coatings for recycling containers	metals, solvents, paints	X		X	X	X
Portland Container Repair	3.7	Storage and maintenance of intermodal containers and chassis	oil, solvents, fuel	X		X		
Premier Edible Oils	3.7	Food grade product storage	TPH, PAHs, BTEX, chlorinated solvents	X		X		
Romar Transportation Systems	3.7	Warehousing	PCBs	X			X	
Ryerson Steel	3.7	Manufacture and distribution of	no data	X		X		

SCHN00381977

Facility	RM	Type of Industry	Chemicals of Interest	Potential Pathway				
				Storm-water	Waste-water	Ground-water	Spills/ Disposal	Product Handling/ Transfer
		structural steel products						
Jefferson Smurfit	3.7	Unknown	unknown	X				
Western Machine Works	3.7	Metal machining, fabrication for industrial parts (primarily pulp and paper industry)	TPH, PAHs, metals, solvents, waste oils and paints	X		X	X	X
Schnitzer-Doane Lake (Air Liquide American Corp.)		Acetylene manufacturing, disposal of auto shredder waste from other Schnitzer facilities.	calcium hydroxide, lead, arsenic, TPH, PCBs, chlorinated solvents (TCA, acetone, MEK, 1,1-DCA)	X	X	X	X	
Schnitzer-Moody Ave. site		Currently vacant; formerly ship dismantling, auto shredding, metals salvaging, process, pesticide manufacturing	DDTs, hexachloropentadiene, PCBs, TCE, acetone and other solvents, metals, PAHs	X		X	X	
Schnitzer-Kittridge site	8.5	No information						
Schnitzer-near NW Yeon (formerly Chase Bag, Great Western Chemical and Willard Storage Battery)		Former multi-wall bag construction, hardware wholesale, chemical manufacture, storage battery manufacture	chlorinated solvents (possibly PCE DNAPL), metals (particularly lead)	X		X	X	X
Shaver Transportation Co.	8.5	Tug dispatch, refueling and maintenance	materials handled on site include diesel fuel, paints, oils, solvents	X			X	X
South Rivergate Industrial Park - see Terminal 5, Oregon Steel Mills	<3.5							
Sulzer Bingham Pumps		Pump manufacturing	petroleum products, chlorinated solvents, including BTEX, zinc	X		X	X	
Texaco Portland Bulk Pipeline		Petroleum product transfer	TPH, PAHs, BTEX, MTBE, lead	X		X	X	
Texaco Portland Bulk Terminal (see Equilon)								
Time Oil-Northwest Terminal	3.8	Former bulk petroleum storage facility	TPH, BTEX, PAHs, PCP and other chlorinated phenols, dioxins/furans,	X		X	X	X

SCHN00381978

Facility	RM	Type of Industry	Chemicals of Interest	Potential Pathway				
				Storm-water	Waste-water	Ground-water	Spills/ Disposal	Product Handling/ Transfer
			metals, PCBs					
Time Oil-Linnton Terminal	5.5	Bulk petroleum storage facility	TPH (gasoline), PAHs, BTEX				X	X
Triangle Park LLC	7.5	Currently inactive; former lumber mill, petroleum pipeline, fuel storage, marine construction, hazardous waste storage from 1908 to 1984	metals, PCBs, chlorinated solvents, PAHs, pentachlorophenol, possibly dioxins	X		X		
Transloader Intl. Co. (aka: Marine Finance Corp; Hendron Tow Boat	6	Current use unknown; formerly log storage; no other information.	no upland data, sediments do not appear to be impacted					
Trumbull Asphalt Plant		Asphalt manufacturing	petroleum hydrocarbons, diesel fuel, asphalt distillate	X		X	X	X
U.S. Coast Guard - Portland Station	8.3	Docking, servicing and refueling of small boats; limited sandblasting	TPH, PAHs, metals (including mercury, tributylin), possibly solvents, herbicides	X			X	X
U.S. ACOE- Portland Moorings	6.2	Maintenance and repair of Corps vessels	TPH, PAHs, metals including TBT	X			X	X
Union Pacific Railroad-Albina Yard	10	Railroad yard, rail car painting and maintenance, locomotive refueling	TPH, PAHs, other SVOCs, VOCs, metals, butyltins, PCBs	X		X	X	
Union Pacific Railroad pipeline and St. Johns tank farm		Currently vacant; former bulk fuel facility; pipeline extends to Terminal 4 - Slip 3	TPH, PAHs, BTEX	X		X	X	X
Wacker Siltronics Corp.	7	Semiconductor manufacturing; site has been impacted by past disposal practices at GASCO and Olympic Pipeline that transits the site	PAHs, phenols, chlorinated solvents, BTEX, metals		X	X	X	X
Willamette Cove/St. Johns Riverfront	7	No current use; proposed greenbelt; formerly various industrial, including wood and lumber-related activities, dry dock, coal off-loading	TPH, PAHs, TBT, PCP, PCBs, solvents, metals	X		X	X	X

SCHN00381979

Facility	RM	Type of Industry	Chemicals of Interest	Potential Pathway				
				Storm-water	Waste-water	Ground-water	Spills/ Disposal	Product Handling/ Transfer
Willbridge Bulk Fuel Area (includes facilities listed below). Olympic Pipeline and Santa Fe Pipeline also cross facility.	7.8	Petroleum product storage and distribution; includes three separately-owned parcels	TPHs, PAHs, BTEX, chlorinated and non-chlorinated solvents, DDT	X		X	X	X
1) Kinder Morgan (formerly GATX, formerly Shell)		Historically, pesticide, nonchlorinated solvents, ammonia, ethylene glycol, asphalt products storage at GATX	see above					
2) TOSCO (formerly UnoCal)		Petroleum product storage and distribution	see above					
3) Chevron		Historically, naphtha solvents	see above					
Zidell	14	Ship dismantling, barge construction, tube forging	metals, PCBs, TPH, chlorinated solvents, TBTs, asbestos				X	X

SCHN00381980

APPENDIX 1

General Notice of Liability Letter Recipients

Portland Harbor Notice Letter Recipients

April 28, 2006

Name of PRP	Recipient Contact Information	Facility Address
ExxonMobil Refining & Supply Company	Brian J. Harrison, Major Projects Manager Global Remediation ExxonMobil Refining & Supply Company 607 ExxonMobil Road Billings, MT 59101	9420 NW St Helens Road Portland, OR 97231
Northwest Pipe Company	Brian W. Dunham, President Northwest Pipe Company 200 SW Market Street, Suite 1800 Portland, OR 97201	12005 N. Burgard Way Portland, OR 97203
Schnitzer Investment Corp.	Kenneth M. Novack, President Schnitzer Investment Corp. 3200 NW Yeon Avenue Portland, OR 97296-0047	12005 N. Burgard Road Portland, OR 97203 6529 NW Front Avenue Portland, OR 97210 9333 N. Time Oil Road Portland, OR 97227 9449 N. Burgard Way Portland, OR 97203 3720 NW Yeon Avenue Portland, OR 97210 4012-4350 NW Front Avenue Portland, OR 97210
Calbag Metals Company	Mr. Chuck Gleason, Director of Operations Calbag Metals Company 2495 NW Nicolai Street P.O. Box 10067 Portland, OR 97296-0067	4927 NW Front Ave Portland, OR 12005 N. Burgard Rd Portland, OR 2495/2550 N.W. Nicolai St. Portland, OR
ACF Industries, LLC	Roger Wynkopp, President ACF Industries, LLC 101 Clark Street St. Charles, MO 83301	12160 NW St. Helens Road Portland, OR 97321
ARCO in care of BP West Coast Products, LLC	Mr. Ralph J. Moran, Environmental Portfolio Manager Atlantic Richfield Company c/o BP West Coast Products 6 Centerpoint Drive, Suite 727 La Palma, CA 90623	9930 NW St. Helens Road Portland, OR 97231

Name of PRP	Recipient Contact Information	Facility Address
1) Brix Maritime Towing Co. 2) Foss Maritime Co.	Steve T. Scalzo, President Brix Maritime Towing Company, Inc. 660 W. Ewing Street Seattle, WA 98119 Frank Williamson, President Foss Maritime Company 660 W. Ewing Street Seattle, WA 98119	9030 NW St. Helens Road Portland, OR 97231
Christenson Oil	John Horstman Vice President of Operations Christenson Oil 3865 N.W. St. Helens Road Portland, OR 97217	3821 NW St. Helens Road Portland, OR 97231
Crawford Street Corporation	Robert W. Philip, President Crawford Street Corporation 3200 NW Yeon Ave Portland, OR 97296-0047	8424, 8504 and 8524 N. Crawford Street Portland, OR 97203
Front Avenue Corporation	Jay N. Zidell, President Front Avenue Corporation 3121 SW Moody Avenue Portland, OR 97239	4950, 5034 and 5200 NW Front Avenue Portland, OR
Gould Electronics	James F. Cronmiller, Director Corporate Environmental Affairs Gould Electronics, Inc. 35129 Curtis Blvd. Eastlake, OH 44095	5909 NW 61st Avenue Portland, OR 97210
CertainTeed Corporation	Lauren Alterman, Senior Counsel CertainTeed Corporation 750 East Swedesford Road Valley Forge, PA 19482	6350/6080 NW Front Avenue Portland, OR 97210
Hendren Tow-Boat Co., Inc.	Floyd G. Hendren Hendren Tow-Boat Co., Inc. 12751 NW Springville Road Portland, OR 97229	8444 NW St. Helens Road Portland, OR
Beazer East, Inc./Beazer Materials & Services, Inc.	Jill M. Blundon, President Beazer East, Inc./Beazer Materials & Services, Inc. 1 Oxford Centre #3000 Pittsburgh, PA 15219	10350 Time Oil Road Portland, OR 97203
Tube Forgings of America, Inc.	Jay N. Zidell Tube Forgings of America, Inc. 3121 SW Moody Avenue Portland, OR 97239	5200 NW Front Avenue Portland, OR
Shell Oil Company	Mr. William E. Platt III, Esq. Senior Manager, Environmental Claims Shell Oil Company 910 Louisiana, Suite 685 Houston, TX 77002	5880 NW St Helens Portland, OR

Name of PRP	Recipient Contact Information	Facility Address
Shaver Transportation Company	Steve R. Shaver, President Shaver Transportation Company 4900 NW Front Avenue Portland, OR 97210	14400 N. Rivergate Blvd Portland, OR 4900 NW Front Avenue Portland, OR 97210
McCall Oil and Chemical Corporation	James Charriere, President McCall Oil and Chemical Corporation 5480 N Front Street Portland, OR 97210	5480, 5540-5724 NW Front Street Portland, OR 97210
Mar Com Holdings, LLC	Tom R. Maples Mar Com Holdings, LLC 14815 NE 186th Street Brush Prairie, WA 98606	8940/9070 N. Bradford Street Portland, OR 97203
1) Langley-St. Johns Partnership 2) Brix Dearmond, LLC	Peter J. Brix Langley-St. Johns Partnership 14020 SE Johnson Road #201 Milwaukee, OR 97269 Peter J. Brix Brix Dearmond, LLC 14020 SE Johnson Road #201 Milwaukee, OR 97269	8940 N. Bradford Street Portland, OR 97203
Air Liquide America Corporation	Kevin Feeney Vice President and General Counsel Air Liquide America Corporation 2700 Post Oak Boulevard Suite 1800 Houston, TX 77056	6529 NW Front Avenue Portland, OR 97210
FMC Corporation	Andrea E. Utecht, Vice President, General Counsel and Secretary FMC Corporation 1735 Market Street Philadelphia, PA 19103 John F. Stillman, Environmental Counsel FMC Corporation 1735 Market Street Philadelphia, PA 19103	4012-4350 NW Front Ave. Portland, OR 97210 4850 NW Front Avenue Portland, OR 97210
NL Industries, Inc.	Robert D. Graham, Vice President, Secretary and General Counsel NL Industries, Inc. 5430 LBJ Freeway, Suite 1200 Dallas, TX 75240-2697	5909 NW 61st Avenue Portland, OR 97210

202017

Oregon
Theodore Kulongoski, Governor

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June 25, 2007

Mr. Jim Jakubiak
Schnitzer Investment Corp.
P.O. Box 10047
Portland, Oregon 97296-0047

Re: Schnitzer/Premier Edible Oils (PEO) Workplan for Additional Characterization, ECSI # 2013

Dear Mr. Jakubiak:

The Oregon Department of Environmental Quality has reviewed the revised *Work Plan for Additional Characterization of the Premier Edible Oils Property*. Thank you for revising the workplan to reflect comments to the draft workplan provided by DEQ on May10, 2006. DEQ will respond to the SIC's request for an official response to the White Paper in a separate correspondence.

General Comments

DEQ expects the following general comments to be addressed in the draft report.

1. The workplan does not clearly describe how the collected data will be evaluated and presented. DEQ expects the previously requested outline explaining the evaluation and presentation will be provided after the field work is conducted.
2. DEQ reiterates previous requests to see the data collected and presented in a manner that can be used in the evaluation of future source control measures and NAPL recovery alternatives.
3. Cross-sections depicting site lithology in a North to South alignment across the site should be prepared and included in the reporting of the results. The riverbank, shoreline, smear zones, monitor well screened intervals, down hole sample depths and at least one or more of the proposed new soil boring/monitor wells in the southern portion of the site (PB-11 thru PB-13) should be represented in the cross-section sections.
4. Sheen testing in all the proposed soil borings and monitor wells should occur at a minimum of 1 ft intervals and smear zones should be identified in all borings and monitor wells logs.
5. DEQ supports coordinated sampling and other proposed work with Time Oil provided that SIC and Time Oil can work together to manage these efforts. DEQ can assist, if necessary.

Specific Comments

Sec 2.2.1 Monitor Well Installation and Sampling
Please clarify whether the assumptions for not completing the PW-B location as a monitor well is based on PID screening data from SHL-21 and SHL-22 alone or some other line of evidence.

Also state the proposed threshold level of PID detections to be used to determine whether "significant" levels of TPH contamination exist. DEQ understands PID screening to be a qualitative screening method and prefers that additional field screening methods be combined to develop adequate lines of evidence that can be used to determine whether significant TPH contamination exists at a particular location. In this regard, please use PID detections, sheen testing at 1 ft intervals, and keen visual observations for sheen on the continuous cores and the sampling tools and propose a combined measured and observed threshold field screening level for "elevated" TPH levels.

DEQ requests that the proposed boring PB-13 be completed as a monitor well, and that it be installed before drilling at locations PB-12 and PB-11. Constructing a permanent well in the PB-13 location will provide more reliable data. Relocating PB-11 to the east of PB-13 if TPH contamination is found at PB-13 would allow a better determination of the extent of TPH in the southeastern portion of the site. DEQ agrees with the PB-12 location.

2.2.5 Supplemental Sewer Flow Characterization
DEQ agrees with SIC's investigation of all potential stormwater discharges at the PEO site. DEQ understands that stormwater discharges from the PEO site directly to the Willamette River have been eliminated but that at least one stormwater transmission line from the PEO site is still connected to the overall Schnitzer Burgard Industrial Park system. The stormwater line commingles stormwater from other tenants at the industrial park and discharges to the international slip. Please clarify whether the stormwater pathway for the discharges from PEO will be evaluated through catch basin and stormwater sampling (as directed by the JSCS) under this investigation, or incorporated into the work to be done at the Burgard Industrial Park.

2.2.6 Additional Source Control Evaluations
As discussed in previous communications between DEQ and SIC, DEQ is allowing a phased approach to the characterization of the southern portion of the site and the required Source Control Evaluation. Existing data and data collected from the implementation of this workplan should be reviewed, screened and presented in a manner that facilitates the incorporation of the information into the general format for a Source Control Decision as described in Section 7 of the Joint Source Control Strategy (JSCS). The groundwater, soil and stormwater data should be screened against the screening level values (SLVs) listed in Table 3.1 of the JSCS (1 mg/L should be used for TPH in groundwater) and presented in a spreadsheet format with exceedances of the relevant SLVs highlighted or in bold text. Please use the spreadsheet on our website at http://www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/docs/JSCSFinalTable03_1.pdf as the SLVs are periodically updated when new information becomes available.

2.3.1 Technical Considerations in Collecting and Interpreting TPH Data
DEQ expects that that groundwater samples will be collected, especially in the borings and monitor wells along the top of bank in the southern portion of the site. This data is a necessary component of a complete Source Control Evaluation.

DEQ understands that collecting and interpreting groundwater samples from wells that have LNAPL can be difficult. Technology that excludes LNAPL and smear zones from the screened

intervals in a groundwater monitor well exists. Any of the dual-casing methods such as Rotosonic or Direct Push can be used with telescoping casing diameters and bentonite plugs to install groundwater-only monitor wells below the LNAPL zones in areas where only dissolved components should be present. This type of installation can help to eliminate much of the uncertainty discussed in this section. At PEO, two nested wells could be installed at the proposed locations; one to measure LNAPL levels and smear zones and one to measure deeper groundwater only. Both could be used for the proposed water level studies and could provide a better opportunity to observe localized hydraulic gradients. Alternative well construction should be considered if SIC and Gradient feel uncomfortable interpreting TPH groundwater results from more typical wells and borings.

If SIC accepts these comments, they can be incorporated by reference via a written acknowledgement to DEQ. DEQ will not require a revised Work Plan to be delivered. Also, I will be transitioning the project management of this site to Tom Roick, but will remain on the project team as a peer reviewer. Contact me at (503)229-5563 or Romero.Mike@deq.state.or.us or Tom at (503) 229-5502 or Roick.Tom@deq.state.or.us if you have any questions.

Sincerely,

Michael Romero, Project Manager
NWR Cleanup Program

Cc: Cathy Petito Boyce, Gradient Corporation
Tom Zelenka, Schnitzer Investment Corporation
Mavis Kent, ODEQ
Tom Roick, ODEQ
Keith Johnson, ODEQ
Kristine Koch, EPA
ECSI file #2013

SCHN00382059

Oregon
Theodore Kulongoski, Governor

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June 28, 2007

Mr. Jim Jakubiak
Schnitzer Investment Corp.
P.O. Box 10047
Portland, Oregon 97296-0047

Re: Oregon Department of Environmental Quality (DEQ) Comments on "Contaminant Sources at the Premier Edible Oil Site"
ECSI # 2013

Dear Mr. Jakubiak:

DEQ completed its review of the submittal titled "White Paper, Contaminant Sources at the Premier Edible Oil Site," prepared by James C Brown and Associates. DEQ received this report (hereafter referred to as the White Paper) on March 6, 2006. This letter serves as an official response to that report, and will both clarify our position after evaluating the information contained therein, and our expectations for future work at the Premier Edible Oil (PEO) site.

The White Paper provides an extensive body of information supporting an assertion that some of the contamination found on the PEO site appears to be due to past releases of hazardous substances that occurred on property either currently or formerly owned by Time Oil, and its predecessors. The White Paper specifically requests that DEQ direct Time Oil to "take over the PEO Site investigation and any needed cleanup, as well as being named a responsible party at the PEO Site."[1]

It appears that the Time Oil Bell Terminal and its associated operations is a historic source of petroleum hydrocarbon contamination. Because the Bell Terminal is hydraulically up gradient of the PEO site, Bell Terminal groundwater likely has an ongoing contribution to petroleum hydrocarbon contamination at the PEO site. Additionally, the former Northwest Oil Company, a predecessor to Time Oil, was located in what is now the southwest corner of the PEO site and is a likely historic source of petroleum hydrocarbon contamination to this area of the PEO site.

DEQ has the discretion to work with any and all potentially liable parties at a site. The White Paper reflects that, for purposes of the PEO Site, this would include SIC. DEQ expects SIC to continue its investigation and cleanup activities at the PEO site without further delay due to this issue.

[1] Page 4, "White Paper, Contaminant Sources at the Premier Edible Oil Site," prepared by James C Brown and Associates, March 6, 2006

We encourage any cooperation that can be accomplished between Time Oil and SIC in order to advance cleanup at these two properties. If DEQ can be of assistance in this regard we welcome the opportunity. Please contact me if you have further questions in this or other related matters.

Finally, I want to recognize the length of time it has taken DEQ to review and this submittal. Staffing resources were not available until recently to complete the review. With the PEO site identified as a high priority site for source control within Portland Harbor, DEQ is now taking the steps to assign the resources needed to move this site forward. To this end, this letter also serves as formal notification that effective August 1, 2007, Tom Roick will be assigned as the DEQ project manager for the PEO site, replacing Mike Romero.

If you have further questions on this matter, please feel free to contact me at (503) 229-6431.

Sincerely,

Keith Johnson
Manager, NWR Cleanup Section
Oregon Department of Environmental Quality

Cc: Cathy Petito Boyce, SM, Gradient Corporation
Jim Brown, James C. Brown & Associates, PC
Mike Romero, DEQ
Tom Roick, DEQ
Jim Anderson; DEQ
Charlie Landman, DEQ
Mark Chandler, Time Oil
Patricia M. Dost, Schwabe Williamson & Wyatt, PC
ECSI File

July 30, 2007

Kristine Koch
Remedial Project Manager
U.S. Environmental Protection Agency
1200 Sixth Avenue, M/S ECL-115
Seattle, WA 98101

RE: Milestone Report for Upland Source Control at the Portland Harbor Superfund Site

Dear Kristine,

DEQ submits the attached Milestone Report for Upland Source Control at the Portland Harbor Superfund Site, dated July 2007, to EPA as required by the Portland Harbor Joint Source Control Strategy (JSCS), which was finalized in December 2005. This is the fourth Milestone Report prepared by DEQ; the first was submitted in March 2006, the second in June 2006, and the third in December 2006. Three hard copies of the report are included for your convenience, and DEQ will provide hard copies to EPA partners and members of the public upon request as well. The report will also be posted on DEQ's web site within the next 2 weeks.[1]

DEQ appreciates EPA and our partners' comments and suggestions on the Milestone Reports and we have tried to make this latest report as accurate, clear and useful as possible. Besides updating the report, perhaps the 3 biggest changes are:

1) Many "To Be Determined" sites have been prioritized.
2) More information on current or anticipated actions at the High Priority sites.
3) Map showing sites listed in Table 1.

As you review the July 2007 Milestone Report, please contact me or Matt McClincy with any additional suggestions or comments.

Thank you for your continued assistance in coordinating EPA's support to DEQ on Portland Harbor source control work. Please let us know if you would like to convene a meeting with DEQ and interested EPA partners to discuss the July 2007 Milestone Report, including site prioritization and source control progress.

[1] Milestone Reports are available at www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/jointsource.htm.

We anticipate submitting the next Milestone Report in January 2008.

Sincerely,

James M Anderson, Manager
Portland Harbor Section

Cc: Matt McClincy, DEQ/NWR

Milestone Report

for Upland Source Control at the Portland Harbor Superfund Site

July 2007

Prepared by the Oregon Department of Environmental Quality
as required by the 2005 Portland Harbor Joint Source Control Strategy

DEQ
State of Oregon
Department of
Environmental
Quality

This document is posted on DEQ's web page at
http://www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/jointsource.htm.

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Table 1. Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor
Table 2. Status of High Priority Sites
Figure 1-a-c. Land Zoning and Ownership

1.0 Introduction

On December 1, 2000, a section of the lower Willamette River within the City of Portland, the Portland Harbor, was added to the Superfund National Priority List (NPL). In February 2001, the Oregon Department of Environmental Quality (DEQ), United States Environmental Protection Agency (EPA), and other governmental parties[1] signed a Memorandum of Understanding (MOU) that provided a framework for cooperation in the investigation and cleanup of the Portland Harbor Superfund Site to optimize federal, state, tribal and trustee expertise and available resources.

Under the 2001 MOU, EPA was designated as the lead agency for investigating and cleaning up "in-water" contamination in the Harbor, or contamination in the river water and underlying sediment, using federal Superfund authorities. DEQ, using state cleanup authority, was designated as the lead agency for identifying and controlling "upland" sources of contamination, or those sources of pollution adjacent to or near the river that may be contaminating river water or sediments. To coordinate in-water cleanup and upland source control work, the MOU directed DEQ and EPA to jointly develop a source control strategy that defines a process for identifying and controlling potential sources of contamination threatening the river.

DEQ and EPA finalized the Portland Harbor Joint Source Control Strategy (JSCS) in December 2005[2]. The overarching goal of the JSCS is to identify, evaluate and control sources of contamination that may affect the Willamette River in a manner that is consistent with the objectives and schedule for the Portland Harbor remedial investigation and feasibility study (RI/FS). Timely upland source control is necessary to allow cleanup of the river to proceed without risk of significant recontamination. DEQ is currently implementing the JSCS in the Portland Harbor Superfund Site study area – approximately River Mile 2 to River Mile 11[3].

The JSCS requires DEQ to prepare a Milestone Report on a quarterly basis that summarizes the status of DEQ's upland source control work. The report submittal schedule has been changed to bi-yearly. This is the fourth Milestone Report, the first report was prepared in March 2006, the second report in June 2006, and the third report in December 2006. Milestone Reports are submitted to EPA, and provide the basis for potential meetings with EPA and our government partners to discuss site prioritization and source control progress. These reports also serve as documentation of progress on river-wide source control within Portland Harbor.

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[1] The signatory partners to the MOU include the EPA, DEQ, Confederated Tribes and Bands of the Yakama Nation, Confederated Tribes of the Grand Ronde Community of Oregon, Confederated Tribes of Siletz Indians, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs Reservation of Oregon, Nez Perce Tribe, National Oceanic and Atmospheric Administration, Oregon Department of Fish and Wildlife, and U.S. Department of the Interior.

[2] The JSCS is available on DEQ's web site at http://www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/index.htm; click "Joint Source Control Strategy" on the left side bar.

[3] "River Mile" indicates the distance from the Willamette River's confluence with the Columbia River (i.e., River Mile 11 is 11 miles upstream of the confluence).

1.1 Organization of the Milestone Report

The Milestone Report is organized as follows.

- Section 2.0: Identifying Potential Sources of Contamination in Portland Harbor – This section describes DEQ's work to identify potential sources of contamination to the Willamette River in Portland Harbor, including site discovery and site assessment activities.
- Section 3.0: Evaluating Potential Sources of Contamination to the River – This section describes DEQ's evaluation of all confirmed or suspected upland sources of contamination to Portland Harbor, as summarized in Table 1.
- Section 4.0: Taking Measures to Control Sources and Making Source Control Decisions – This section describes the source control measures used at upland sites in Portland Harbor and the process for making source control decisions, including coordination with EPA and our government partners, and public involvement opportunities. Source control measures and decisions are summarized in Table 1.
- Section 5.0: Status of Ongoing and Completed Source Control Measures – This section describes the information presented in Table 1 that summarizes the status of ongoing and completed source control measures. This section also describes the specific status of the 17 High Priority and Preliminary High Priority sites (Table 2). This section also presents five specific source control goals designed to help DEQ focus our efforts to achieve the overarching goal of source control.
- Section 6.0: Issues Encountered in Source Control Work – This section describes issues affecting DEQ's ability to conduct source control work and proposes ways to resolve issues as well as a desired timeframe for resolution.
- Section 7.0: Summary – This section summarizes the overall status of source control work in Portland Harbor, highlighting accomplishments, key issues and next steps for moving forward.
- Section 8.0: Obtaining Additional Information on Upland Source Control Work – This section indicates where additional information can be found on the status of source control work at upland sites in Portland Harbor.
- Section 9.0: Information on Table 1: Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor – This section provides helpful information for interpreting Table 1, including definition of key terms and acronyms used.

2.0 Identifying Potential Sources of Contamination in Portland Harbor

DEQ's strategy for identifying and investigating potential sources of contamination to Portland Harbor prior to the December 2000 Superfund Site listing was described in the March 2006 Milestone Report. Those site identification and investigation activities were initially focused on a six-mile stretch of the lower Willamette River (now known as the Initial Study Area) extending from the southern tip of Sauvie Island upstream to Swan Island, from approximately River Mile

3.5 to River Mile 9.2. For more information, please see the March 2006 Milestone Report at www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/jointsource.htm.

2.1 Recent Site Discovery and Site Assessment activities

As the Portland Harbor study area has grown to include a nine mile stretch of the lower Willamette River extending from River Mile 2 to River Mile 11, DEQ's site discovery and site assessment efforts have expanded with it. Much of DEQ's recent site discovery and site assessment work has continued to focus on identifying potential sources of contamination threatening the river through stormwater that is piped to the river from surrounding upland areas. DEQ is working closely with the City of Portland to identify upland sources contributing contamination via both the City's municipal stormwater system and private stormwater systems. Evaluating and controlling stormwater inputs to the Harbor will continue to be a focus for DEQ in the years to come.

3.0 Evaluating Potential Sources of Contamination to the River

DEQ is investigating or directing source control work at over 60 upland sites in Portland Harbor. Preliminary investigation activities at these sites are designed to determine whether the site is a potential or ongoing source of contamination to the river. These investigations, or "source control evaluations," consider all potential, current and historic contaminant sources and pathways for the contaminants to migrate to the river. Potential pathways include:

- Direct discharges – Pollutants from commercial, industrial, private or municipal outfalls are being discharged directly to the Portland Harbor Superfund Site. Many of these discharges are permitted under the Clean Water Act National Pollutant Discharge Elimination System (NPDES). Permitted discharges include industrial wastes, stormwater runoff, and combined sewer overflows (CSOs)[4].
- Groundwater – Contaminated groundwater may enter the river directly via discharge through sediments, bank seeps, or it may infiltrate into storm drains/pipes, ditches or creeks that discharge to the river. Contaminant migration may occur as non-aqueous phase liquids (NAPLs) or as chemicals dissolved in the groundwater itself.
- Stormwater – Contaminants may be carried to the river by water that runs off a site into storm drains after it rains, delivered to the river by stormwater pipes (including permitted and unpermitted stormwater discharges).
- Overland transport/sheet flow – The uncontrolled flow of water from a site to the river and the transport of other materials from a site may deliver contaminants to the river.
- Bank erosion/leaching – River bank soil, contaminated fill, waste piles, landfills and surface impoundments may release contaminants directly to the river through erosion, via soil erosion to stormwater, or by leaching to groundwater.

[4] CSO events are untreated discharges of combined stormwater, sanitary sewage from residential, commercial, and industrial sources that overflow from the sewer system into the river during heavy rainfall periods when the amount of stormwater and sewage exceeds the capacity of the collection system.

- Overwater activities – Contaminants from overwater activities (e.g., sandblasting, painting, unloading, maintenance, repair and operations) at riverside docks, wharves, or piers; discharges from vessels (e.g., gray, bulge, ballast waters); full releases; and spills may affect the river.

These potential contaminant migration pathways are evaluated for each site and upland contaminant concentrations are screened against conservative screening level values (SLVs) protective of human health and the environment. Sites that are identified as current or potential sources of pollution to the river are characterized and prioritized. Based on the resulting priority, either further source control evaluation is completed or source control measures are initiated.

Table 1 provides a summary of confirmed and suspected upland sources of contamination to the river that DEQ is either actively working on or has finished source control work on by issuing a final source control decision. Table 1 also provides the basis for the determination that a site is a source of contamination to the river, the status of and schedule for source control evaluation, and the priority of the site for source control. The table includes the priority of each contaminant migration pathway for each site, as well as the overall priority of the site based on the pathway priorities.

High priority sites are identified in the table based on existing site information, and subsequent Milestone Reports will identify any new high priority sites as new information becomes available. Source control is expected to move forward at high priority sites without delay.

4.0 Taking Measures to Control Sources and Making Source Control Decisions

DEQ determines the need for source control measures at each upland site, in consultation with EPA, based on the completeness of contaminant migration pathways, exceedances of SLV, and other factors as appropriate. See p. 3-1 through 3-6 of the JSCS for more information about SLVs, and p. 4-1 through 4-10 of the JSCS for more information about the source control decision process.

4.1 Types of source control measures

Upland source control is an iterative process, where early steps may be revisited and conclusions refined by information gathered later in the process. A combination of tools may be used to control a source, including but not limited to the following.

- Technical assistance – Technical assistance, often provided during inspections, provides technical information designed to help individual businesses bring their facilities into compliance with environmental regulations. DEQ's Hazardous Waste Program has recently provided technical assistance to facilities within the Portland Harbor Superfund Site area.
- Cleaning-up contaminated upland areas – Cleanup work addresses contaminated soil, groundwater, stormwater and other sources and focuses on reducing or eliminating contaminant migration to the river. Common source control measures include removing highly contaminated soil areas, stabilizing or capping contaminated bank areas, treating or

containing contaminated groundwater, and extracting contaminated sediment from storm sewer systems. Source control measures vary from site to site.

- Source control of active discharges – Tools to control active discharges include best management practices, industrial process changes, pollution prevention practices, and technology-based effluent controls. Compliance is achieved voluntarily or through administrative actions, including permits or enforcement.
- Source control of stormwater – Stormwater source control is complex because storm drain systems capture discharges from many different sources (e.g., land use activities, runoff from contaminated sites, and infiltration of contaminated groundwater into the storm drain system). It is also complex because stormwater regulation may involve federal, state and local agencies. Because of this complexity, all of the tools described above are useful for stormwater source control and will be used as appropriate.
- Administrative actions and enforcement – Administrative actions include licenses, permits, deed restrictions, requirements for site development plans, and enforcement actions, which may be necessary when administrative actions are violated. Agencies rarely take enforcement actions without first conducting an inspection and documenting findings, requested changes, warnings and offers of technical assistance. When enforcement actions are warranted, they are usually taken in escalating order, starting with notices of violation, moving to enforcement or compliance orders requiring specific changes by a set date, and ending with monetary penalties, court action or DEQ's takeover of investigation or cleanup work. Formal cleanup actions performed under an order or decree use oversight and enforcement to ensure that appropriate actions are taken in a timely manner.

Table 1 summarizes source control decisions conducted at upland sites, the basis for the determination that upland source control measures are necessary, a summary of the selected source control measure(s), and a schedule for implementing the source control measure(s). Figure 1-a-c displays sites listed in Table 1.

4.2 DEQ coordination with EPA and partners on source control decisions

As the lead agency for identifying and controlling sources of upland contamination threatening the river in Portland Harbor, DEQ coordinates with EPA and our government partners on source control work. This includes documenting, tracking and coordinating source control efforts as described in Sections 2.5 and 7 of the JSCS.

DEQ will provide EPA and our partners with an opportunity to review source control decisions prior to being finalized. These decisions typically fall into the following three categories.

- DEQ determined that a site is not a current or future source of contaminants to Portland Harbor and that no source control measures are required.
- DEQ selected the source control measures for a site.
- DEQ concluded that source control at a site is complete, or in the case of systems that require operation and maintenance (e.g., hydraulic containment), that the source control action is effective.

DEQ will inform EPA and our partners of pending source control decisions and the schedule for review, and will provide copies of source control decision documentation to EPA and partners upon request. EPA and partners will have 30 days to provide comments to DEQ on source control decisions.

In addition to this regular review and comment process, some upland sites in Portland Harbor may warrant closer coordination between DEQ, EPA, and our partners for source control (e.g., the Gasco site and potential source control measures for the chlorinated solvent groundwater plume at the Siltronic site). In these instances, DEQ and EPA source control coordinators will develop a project-specific coordination strategy.

4.3 Public involvement in source control decisions

DEQ Cleanup Program statutes and rules require that a public notice and comment opportunity be provided prior to DEQ's selection of a final site cleanup remedy and before DEQ determines that the cleanup is complete. For upland Portland Harbor cleanup projects, this means that DEQ issues a public notice and seeks public comments on the recommended final site cleanup strategy. Once public input is considered, DEQ's final decision is documented in a Record of Decision (ROD) for the site. For most sites, the upland DEQ ROD includes elements that address both source control for Portland Harbor and cleanup actions specific to areas of upland contamination that are not related to pollution in the Harbor.

Many of the source control measures implemented at upland sites are conducted prior to the selection of the final upland site remedy. While public notice and comment is not required for these "interim" removal actions under DEQ statutes and rules, DEQ typically issues a public notice and seeks public comments when the action is likely to be a substantive piece of the final site remedy, or as the DEQ project manager determines is appropriate.

DEQ does not typically seek public comments for small-scale interim source control measures and time critical actions. Project managers will, however, issue notices as appropriate to let the public know that the activity is being conducted.

5.0 Status of Ongoing and Completed Source Control Activities

Table 1 summarizes the status of ongoing source control activities; including source control evaluations (SCEs), source control decisions (SCDs), and source control measures (SCMs). Table 1 also provides information on source control activities completed to date, proposed SCM activities, and a target schedule for completion. To the extent practicable, DEQ has collected information and/or made estimates of the mass or volume of contaminants removed, contained, treated or otherwise controlled, to help demonstrate the progress of source control activities.

Table 1 also summarizes completed SCMs and provides the date that the SCM was completed, the date of EPA review and comment, and any operation and maintenance requirements associated with the SCM.

As of July 2007, the DEQ categorized 76 sites (see Table 1) into the following source control categories:

High Priority Sites- 8
Preliminary High Priority Sites- 10
Medium Priority Sites- 12
Low Priority Sites- 25
Priority "To Be Determined" Sites- 5
Sites with Source Control Decisions- 16

The status of High Priority and Preliminary High Priority sites is presented in Table 2. Nine of the 18 High Priority sites currently have at least interim SCMs in place. Some of the more important actions in-place or anticipated at the High Priority sites include:

-**Oregon Steel Mills**- Full-scale, end-of-pipe stormwater treatment pilot in operation since March 2007. Riverbank treatment source control measure in design and anticipated to be constructed in summer 2008.
-**Premier Edible Oils**- Groundwater investigation designed to support the SCE to be initiated fall 2007.
-**Arco/BP**- Currently conducting significant riverbank & near-shore source control action.
-**Gasco**- Focused Feasibility Study due October 2007 for groundwater NAPL SCMs.
-**Siltronics**- Continued encouraging enhanced bioremediation SCM for TCE groundwater plume.
-**Arkema**- RP is moving forward with the evaluation of options for a well/barrier wall hydraulic containment structure for groundwater source control. The RP is also conducting a number of studies on extracted groundwater that will need to be managed as part of the hydraulic containment system.
-**Rhone-Poulenc**- RP is proposing interim SCMs to treat contaminated groundwater threatening the river.

A number of changes were made in Table 1 from the December 2006 Milestone Report. The priority of some sites changed based upon additional site information, source control progress, updated information was included, and DEQ prioritized a large number of sites that were not prioritized in the December 2006 Milestone Report.

New to the December 2006 Milestone Report, DEQ developed five specific goals for our source control efforts. These goals will help DEQ focus our source control efforts to achieve the overarching goal of source control: to identify, evaluate and control sources of contamination that may affect the Willamette River in a manner that is consistent with the objectives and schedule for the Portland Harbor RI/FS. The goals below have been updated for this Milestone Report.

Goals and Status for High Priority Sites

Goal 1- Source Control Evaluation (SCE) completed at all High Priority sites by 1/1/08.

Goal 1 Status as of 7/07

-7 of 18 SCEs completed

-6 of 18 SCEs to be completed in 2007
-4 of 18 SCEs to be completed in 2008
-1 of 18 sites is EPA lead (Gould)

Goal 2- SCM selected at all High Priority sites by 7/1/08.

Goal 2 Status as of 7/07

-SCMs have been selected and have been implemented at 3 of 18 sites and interim SCMs are in-place at an additional 6 other High Priority sites.

Goal 3- SCM constructed and effectively operating at all High Priority sites by 1/1/10.

Goal 3 Status as of 7/07

-3 of 18 sites have effective SCMs operating (Exxon/Mobil, Gunderson, and Willbridge)

Goals and Status for Medium and Low Priority Sites

Goal 4- SCE completed at all Medium and Low Priority sites by 1/1/09

Goal 4 Status as of 7/07

-None of 12 Medium Priority sites have completed SCEs, but all are on schedule to be completed by the end of 2008.

Goals and Status for Priority "To Be Determined (TBD)" Sites

Goal 5- Completed prioritization at all TBD sites by 1/1/08.

Goal 5 Status as of 7/07

-2 of the 5 sites are EPA-lead sites.
-Only 3 non-EPA-lead TBD sites are left to be prioritized and they are scheduled to be prioritized in 2007.

6.0 Issues Encountered in Source Control Work

This section summarizes issues affecting DEQ's ability to make source control decisions or completeness of determinations for any step of the source control process. This section also presents DEQ's proposed ways to resolve the issues and a desired timeframe for resolution.

Issue 1: Moving certain projects through the source control process

For a number of reasons, certain DEQ Portland Harbor cleanup projects are not proceeding through the source control process at an acceptable pace. Source control activities at these sites need to be accelerated in order to identify, evaluate and control upland contaminant sources before the Portland Harbor Record of Decision (ROD).

To resolve this issue, DEQ first identified these sites and then worked to accelerate their schedules for source control efforts. DEQ identified following sites in the March 2006 Milestone Report, and these sites remain a high priority for accelerated source control. Below is a summary of the status of each site.

- **Premier Edible Oil (PEO)**

Problem: Schnitzer Investment Corp (SIC) is the owner and a responsible party of the PEO site. SIC claims that their neighboring site, Time Oil, has contributed to contamination at the PEO site by either former Time Oil operations at the PEO site or by trespass of contaminants from the Time Oil site adjacent to PEO. SIC has been resistant to move forward with source control work at the PEO site that SIC claims is, at least partially, Time Oil's responsibility. SIC strongly contests DEQ's characterization of SIC actions, position, and intent at the PEO site and states that the actual source of delay in progressing through the source control process is DEQ's inaction in responding to SIC submittals. Regardless of who's at fault, additional important site characterization work needs to be completed to support the Source Control Evaluation at the site.
Path to resolving: DEQ commented on SIC's Additional Site Characterization Work Plan and SIC is trying to resolve any outstanding concerns with DEQ's comments.
Progress made since December 2006 Milestone Report: DEQ reviewed and commented on SIC's White Paper discussing sources for residual contamination at the PEO site. DEQ reviewed and commented on SIC's Additional Site Characterization Work Plan. We anticipate that SIC will implement the work plan in late-summer or early-fall 2007.

- **Crawford Street**
  Problem: Crawford Street completed a limited removal of black sands (sand blast grit) in 2001 from a portion of their beach and at the top of the bank (which was the source of the black sands in the beach). Crawford Street also completed a groundwater investigation. Crawford Street needs to complete their source control evaluation by investigating the stormwater pathway at the site.
  Path to resolving: DEQ directed Crawford Street to complete a stormwater evaluation in the 2006/2007 water year.
  Progress made since December 2006 Milestone Report: Crawford Street will conduct a stormwater screening per the JSCS in the 2006-2007 water year.

- **Schnitzer Burgard**
  Problem: The responsible party (RP) implemented a number of stormwater upgrades and best management practices over the last several years, but site characterization/source control evaluation needs to be completed. Schnitzer submitted a draft RI report, but the stormwater pathway still needs to be evaluated.
  Path to resolving: Schnitzer needs to complete a full Source Control Evaluation for their property.
  Progress made since December 2006 Milestone Report: Schnitzer submitted a draft Source Control Evaluation report in 4/07. DEQ is reviewing the report.

- **MarCom South**
  Problem: Site characterization/source control evaluation in the MarCom South parcel was stalled by the owner/operator entering bankruptcy.
  Path to resolving: Property ownership has reverted to the previous owner, which entered into a Cost Recovery Agreement with DEQ to conduct a remedial investigation/source control evaluation at the property.
  Progress made since December 2006 Milestone Report: DEQ approved the remedial investigation/source control evaluation work plan and the RP has largely implemented the

work plan. The RP is proposing a removal of upland spent sand blast grit on their property. With the problem apparently resolved, MarCom South will be dropped from this list of "Issue 1" sites in the next Milestone Report.

- **GS Roofing**
  Problem: The DEQ project manger overseeing work at GS Roofing left DEQ last year, and the vacant position was not filled in a timely manner due to agency budget constraints. This has affected the progress of source control work at the site.
  Path to Resolving: DEQ made GS Roofing site a priority for staffing and accelerated source control work. GS Roofing conducted independent investigations of the facility. The next step in the project is for DEQ to review this information and provide direction regarding what additional work is required and a schedule for this work.
  Progress made since December 2006 Milestone Report: Late last year DEQ assigned a new project team to the GS Roofing site, however, little progress has been made on the site due to DEQ work load issues.

Issue 2: Completing source control at the Gasco site
NW Natural's Gasco site is a high priority site for upland source control. The distribution and magnitude of upland contamination at the Gasco site is extensive and very significant. DEQ directed NW Natural to collect data to support the selection, design, installation and operation of source control measures, rather than conducting further source control evaluation. NW Natural and DEQ agreed to a schedule for a phased approach to design and implementation of source control measures by 2008. NW Natural is currently moving forward with work that will support source control planning along the shoreline of the Gasco and Siltronic Corporation properties, including the following:

- A pilot study to evaluate groundwater hydraulic containment/control and treatment; and
- A near-shore drilling and sampling program that will provide information regarding the depth of contaminated groundwater and a preliminary assessment of subsurface conditions for a potential vertical barrier.
- Source Control Data Gaps Work Plan designed to identify and resolve existing source control data gaps.

NW Natural submitted an updated RI report in 4/07 and will submit a Groundwater/NAPL Focused Feasibility Study for upland Source Control in 10/07.

Issue 3: DEQ staff resource limitations
Limited staff resources continue to affect DEQ's ability to conduct and complete source control work in Portland Harbor. The size of DEQ's Cleanup Program was reduced last year due to budget constraints, and with that reduction, DEQ lost several staff working on Portland Harbor. Additionally several key staff working the Portland Harbor project have left the Agency or the Cleanup Program. Although it is unlikely that DEQ's Portland Harbor staffing levels will be significantly increased in the near future, we are recruiting for currently open positions and do have a new opportunity to possibly bring on additional staff.

DEQ is continually looking at staff work load and developing priorities to address the most important work. DEQ will continue Portland Harbor source control efforts focusing on the most

significant and potentially significant upland sources, and explore opportunities to increase staffing levels when possible.

Issue 4: Stormwater investigations and site discovery efforts
The City of Portland is investigating contamination and source control options (i.e., conducting an RI/FS) for the City's municipal stormwater conveyance system in Portland Harbor under DEQ oversight. The purpose of the work is to determine whether discharges from the City's outfalls are a significant source of Portland Harbor contamination. DEQ is working closely with the City to identify upland sites that may be contributing contamination to the stormwater outfalls. A number of new upland sites may be identified in this process, and limited staff resources may affect DEQ's ability to evaluate these new sites.

DEQ will continue to prioritize source control work based on the most significant and potentially significant sources, including upland sites contributing stormwater to the City's conveyance system.

Issue 5: Stormwater evaluation and control
Stormwater has been the most challenging Portland Harbor contaminant migration pathway for DEQ to evaluate and control because of the many sources contributing to stormwater systems, the temporal variation in stormwater, and the complexity of stormwater regulations. For these reasons, stormwater evaluation and control has generally lagged behind other contaminant migration pathways (i.e., soil and groundwater pathways) in Portland Harbor source control efforts.

Considerable progress has been made on this front over the past 12 months. DEQ committed to work with Portland Harbor RPs to implement JSCS screening evaluations at as many sites as possible during the 2006-2007 water year. DEQ launched this effort with a blanket mailing to RPs in June 2006. The letter described the agency's intent and invited RPs to attend one of two workshops in July 2006 to learn more about the screening evaluation process. DEQ also developed various guidance documents and provided technical assistance to project managers to help accomplish this objective. DEQ expects that this effort will result in the collection of stormwater data at 20-30 sites during the 2006-2007 water year.

Issue 6: Developing a long-term stormwater solution
A long-term solution is needed to control contaminants in stormwater discharges to Portland Harbor to ensure that ongoing stormwater discharges do not recontaminate in-water cleanup remedies and do not pose a direct threat to aquatic receptors or the food web.

Resolving this issue will take time. In 2005, DEQ formed a Portland Harbor Stormwater work group composed of staff and managers from DEQ's Cleanup and Water Quality Programs. The purpose of the work group is to address the issue – developing a regulatory method of ensuring that stormwater will not recontaminate sediments after the remedy for Portland Harbor has been implemented. The workgroup met several times during 2006 to explore potential approaches and discuss the legal and technical issues associated with each approach. In June 2006, with the understanding that DEQ and its partners would be undertaking significant work of the upcoming year to better understand the nature and extent of stormwater impacts to the harbor, the work

group decided to temporarily suspend its work. The work group felt it had reached a point in its deliberations where it was necessary to better understand the magnitude of stormwater impacts before it could go farther in identifying a long-term solution. It is anticipated that the work group will reinitiate their efforts later in 2007.

7.0 Summary

DEQ is making significant progress in controlling sources of contamination to the lower Willamette River in Portland Harbor, and is coordinating resources of its Cleanup, Hazardous and Solid Waste, Water Quality and Spills Programs to achieve upland source control objectives by the expected time of the Portland Harbor Record of Decision. To date, DEQ has identified more than 70 upland sites that may be potential sources of contaminants in Portland Harbor, and most of these sites have been prioritized for additional investigation or source control. Additionally, DEQ evaluated a number of sites in our site discovery process throughout the Portland Harbor project and concluded these sites do not threaten the river.

As of July 2007, the DEQ categorized 72 sites (see Table 1) into the following source control categories:

- **High Priority Sites**- 8
- **Preliminary High Priority Sites**- 10
- **Medium Priority Sites**- 12
- **Low Priority Sites**- 25
- **Priority To Be Determined Sites**- 5
- **Sites with Source Control Decisions**- 16

DEQ will submit a Milestone Report to EPA twice a year, with the next Milestone Report scheduled for January 2008, and update Table 1 and Table 2 with the current status of source control work at all upland sites. For more information about the Milestone Report or DEQ's source control work generally, please contact Jim Anderson, DEQ Portland Harbor Project Manager, at (503) 229-6825, or anderson.jim@deq.state.or.us.

8.0 Obtaining Additional Information on Upland Source Control Work

For more information on DEQ's source control work at any of the sites listed in Table 1, see DEQ's Portland Harbor web page (http://www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/index.htm) and click on "Upland Sites map" in the right hand corner. This link provides a map showing all Portland Harbor upland sites and summary reports of the status of source control work. Just open the map and click on the site you are interested in to connect to DEQ's Environmental Cleanup Site Information (ESCI) database, which houses current information on work at each site.

Alternatively, contact the DEQ project manager (PM) that is leading work on the site you are interested in. Contact information for each DEQ PM is listed on the last page of this report.

For more information on the status work on the Portland Harbor Superfund Site, see EPA's Portland Harbor web page (http://yosemite.epa.gov/r10/cleanup.nsf/sites/ptldharbor).

9.0 Information about Table 1: Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

The purpose of Table 1, entitled Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor, is to track and share information on the status of DEQ's efforts to evaluate and control sources of pollution to the Willamette River in Portland Harbor. The table provides information on each upland site that DEQ is working on in the Harbor, including the status of evaluations to determine whether source control is needed, the progress of source control measures, and the status of source control decisions and EPA review. Below is some helpful information for interpreting the table, including definitions for key terms and acronyms.

Site Information and Project Status

The first columns of Table 1 provide basic background information on each site, including:

- the name of the site,
- the site's reference number for DEQ's Environmental Cleanup Site Information (ESCI) database,
- the location of the site (river mile and address),
- the DEQ project manager (PM) that is leading source control work,
- the type of agreement DEQ is using to direct cleanup activities at the site (i.e., Intergovernmental Agreement, Portland Harbor Agreement, Unilateral Order, etc.), and
- the status of work occurring at the site (i.e., Preliminary Assessment, Remedial Investigation, completed Source Control Decision, Remedial Design/Remedial Action, etc.).

Sites are listed in Table 1 based on their position alongside the Willamette River, or the "River Mile" associated with their location. The River Mile indicates distance of the site from the Willamette River's confluence with the Columbia River. Sites associated with a lower river mile occur downstream of sites with a higher river mile.

Sites listed in Table 1 are those in Portland Harbor at which DEQ is actively overseeing upland investigation or source control actions, or for which source control decisions have been made. DEQ updates the site information in ECSI when a Strategy Recommendation is made, but a site is not added to Table 1 until active oversight of the project is provided by DEQ.

Source Control Evaluation

The Source Control Evaluation (SCE) columns in Table 1 provide information on the status of DEQ's work to evaluate the need for source control measures, including the status of SCE for each potential pathway, the schedule for completing SCE, the basis for determining whether source control measures are needed, and the status of EPA review.

<u>Potential pathways</u>

Six standard pathways represent the major potential pathways that contaminants could follow to reach the river from an upland site. These pathways include:

- overland transport/sheet flow – the uncontrolled flow of water and other material to the river from a site
- back erosion – erosion of material within the sloping bank areas of the site to the river
- groundwater – groundwater plumes or discharges to the river via seeps or through preferential pathways
- stormwater – stormwater discharges to the river that originate from a pipe or stormwater system, including unpermitted stormwater discharges and discharges under a DEQ general stormwater permit
- overwater activities – the storage or use of hazardous substances over the water (i.e., storage tanks on docks, permanent work activities conducted over water), that if released would be a potential current or future source of contamination to the river; pipelines and other conveyance systems are not considered in this category, releases from these types of systems are reported to the Oregon Emergency Response System (OERS) system for clean up
- other – may include permitted wastewater discharges, individually permitted stormwater discharges, air deposition or other pathways

Each of these standard pathways appears for each site in Table 1 to track SCE work on a pathway-specific basis.

Basis for determining the need for source control

DEQ evaluates each of the pathways listed above to determine the need for source control measures. DEQ makes this determination based on: (1) whether contaminants are present and whether the pathway is capable of carrying them to the river (if it is, the pathway is called "complete"); and if a complete pathway exists, (2) whether it is carrying contaminants to the river at concentrations that exceed the Screening Level Values (SLVs) provided in the Joint Source Control Strategy (JSCS)[5].

Three general examples are provided below.

- Example 1: Initial investigations of a site that is adjacent to the river indicate that bank soils have the potential to erode into the river and carry contaminants. DEQ oversees a SCE to determine whether contaminants are in fact present in the bank soils and whether the bank soils are carrying or could carry those contaminants into the river. The SCE concludes that contaminants are present in the bank soils and the soils are carrying contaminants into the river; the pathway is deemed "complete." The SCE then determines whether the bank soils are carrying or could carry contaminants to the river at concentrations that exceed the SLVs in the JSCS. If they are or could carry contaminants to the river at concentrations exceeding SLVs, DEQ determines that source control measures maybe needed and assigns a priority of high or medium to the pathway based on the degree of SLV exceedance (see "Priority levels for each pathway and site" below for more information on the priority levels). If it is a high priority, then the RP should move forward aggressively evaluating, designing, and

[5] See p. 3-1 through 3-6 of the JSCS for more information about SLVs.

implementing SCMs. If it is medium priority, then the RP should use the weight-of-evidence approach to determine if further SCE is needed or if SCMs are needed.

- Example 2: Initial investigations of a site adjacent to the river indicate that groundwater has the potential to migrate toward the river and carry contaminants. DEQ oversees a SCE to determine whether contaminants are present in the groundwater and whether the groundwater is carrying or could carry those contaminants into the river. The SCE concludes that groundwater is or could carry contaminants into the river, but only at concentrations significantly below the SLVs listed in the JSCS. DEQ determines that the pathway is "complete," but no source control actions are needed because SLVs are not exceeded.
- Example 3: Initial investigations of a site near (but not adjacent to) the river indicate that stormwater has the potential to migrate toward the river and carry contaminants. DEQ oversees a SCE to determine whether stormwater is in fact migrating to the river and whether it is or could carry contaminants to the river. The SCE concludes that stormwater is actually not reaching the river and could not reach the river because it is diverted to a stormwater treatment system. DEQ determines that the pathway is "not complete" and no source control actions are needed.

Definition of "Insignificant pathway; no actions recommended"
The term "insignificant pathway; no actions recommended," is used in Table 1 when (1) the pathway is complete, and (2) contaminant concentrations are below SLVs at a point of compliance (e.g., river bank monitoring wells) and are not anticipated to increase.

Use of "N/A" for the pathways
"N/A" is used in Table 1 to indicate that the particular pathway does not exist at the site. For example, for an upland site that is set back from the river (i.e., not adjacent to the river's edge) N/A would indicate that the overland transport/sheet flow, overwater activities, and bank erosion pathways do not exist at the site. For a site that is adjacent to the river, but where a concrete seawall lines the river bank, N/A would indicate that the pathway bank erosion does not exist at the site.

Priority levels for each pathway and site
Each pathway evaluated at each site is given a priority level for source control upon completion of the SCE, or when adequate information exists to determine the pathway's priority. Pathways are prioritized based on their ability to carry contaminants from upland areas to the river at concentrations that exceed SLVs. Each site is then given a priority level based on the highest priority of the pathways. For example, if a site has two low priority pathways and one high priority pathway, the site is determined to be a high priority for source control. Definitions for high, medium and low priority determinations follow.

- High – High priority pathways and sites are those where a complete contaminant migration pathway exists and the upland source is significantly impacting the river or poses a significant and imminent threat to the river based on initial evaluation of key source control prioritization factors (listed on p. 4-3 of the JSCS). A primary consideration is that one or more media (soil, groundwater or stormwater) significantly exceed applicable SLVs at the point of discharge to the river (e.g., water at the end of a discharge pipe or soil or material at the riverbank) or the most reliable and cost-effective data point (e.g., groundwater measured

at the shoreline), or where a bioaccumulative chemical is detected at concentrations significantly above the SLV. In addition, if an upland source is violating DEQ narrative water quality criteria for the Willamette River, the site may be considered a high priority. High priority sites are expected to move forward with aggressive source control measures without delay or be subject to enforcement action.

- Medium – Medium priority pathways and sites are those where a complete contaminant migration pathway exists and the upland source is impacting the river or poses a significant and/or imminent threat to the river based on an initial evaluation of key source control prioritization factors (listed on p. 4-3 of the JSCS). A primary consideration is that one or more media exceed applicable SLVs, but not significantly, at the point of discharge to the river, or where a bioaccumulative chemical is detected at concentrations above the SLV. Although exceedance of SLVs does not necessarily indicate that a site poses a significant and/or imminent threat or needs to immediately implement source control measures, it does indicate that the site may pose a threat to human health or the environment and that additional evaluation may be needed to determine if source control measures are required to prevent, minimize or mitigate the migration of hazardous substances to the river. If the site exceeds one or more SLVs, the need for further characterization or for implementation of source control measures will be based on a site-specific weight-of-evidence determination. Medium priority sites are expected to perform a weight-of-evidence evaluation to determine if source control measures are required (see p. 4-5 of the JSCS for more information on the weight-of-evidence evaluation).
- Low – Low priority pathways and sites are those where upland data indicate, based on an initial evaluation of key source control prioritization factors (listed on p. 4-3 JSCS), that the site likely poses a low threat to the river (e.g., concentrations are near or below SLVs) or where DEQ, in consultation with EPA, may issue an upland "No Further Action" (NFA) determination or lower the State's priority of the site for further upland investigation or remedial action under DEQ's cleanup authority. Source control measures will not be required at low priority sites unless determined necessary by the results of the Portland Harbor RIFS or ROD.
- p High – DEQ's preliminary determination is that this is likely a high priority pathway or site based on available information. A final determination of pathway or site priority will be made upon completion of the SCE.
- p Med – DEQ's preliminary determination is that this is likely a medium priority pathway or site based on available information. A final determination of pathway or site priority will be made upon completion of the SCE.
- p Low – DEQ's preliminary determination is that this is likely a low priority pathway or site based on available information. A final determination of pathway or site priority will be made upon completion of the SCE.

Source Control Decisions and Status of Source Control Measures

The Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs) columns in Table 1 provide information on actions taken or needed to control sources of contamination to

the river, including the selected SCMs for each pathway, status of SCM implementation, status of EPA review, and ongoing operation and maintenance requirements.

For many sites listed in Table 1, boxes for information on SCDs and SCMs will be blank because source control work at those sites is still in the evaluation (SCE) phase. Other sites may be in the process of implementing SCMs, and still others may have completed all source control work. For those sites that have completed upland source control and SCMs have been determined to be effective, shading indicates that work is finished at this point in time. Upon completion of the Portland Harbor in-water RIFS, however, DEQ will reevaluate all source control work to ensure that it adequate controlled contaminants to the final cleanup levels developed for the Harbor.

9.1 Acronyms and abbreviations

Agr	Agreement
AOC	Administrative Order on Consent
AS/SVE	Air sparge/soil vapor extraction – a Source Control Measure used to remove volatile contaminants from groundwater; often combined with treatment measures
AST	Above ground Storage Tank
AWQC	Ambient Water Quality Criteria
BMPs	Best Management Practices
BRA	Baseline Risk Assessment
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COI	Contaminant of Interest – chemicals present in Portland Harbor at levels that could threaten human health and the environment
DEQ	Oregon Department of Environmental Quality
ECSI	DEQ's Environmental Cleanup Site Information database
EPA	Environmental Protection Agency
FS	Feasibility Study – a phase of the cleanup process; evaluating cleanup alternatives after the Remedial Investigation has been completed
GW or gw	Groundwater
ICP	Independent Cleanup Pathway
IGA	Inter-Governmental Agreement
IRAM	Interim Remedial Action Measure
HVOCs	Halogenated Volatile Organic Compounds
JSCS	Joint Source Control Strategy – issued by DEQ and EPA in December 2005[6]
LNAPL	Low density Non-Aqueous Phase Liquid
N/A	Not Applicable – used in Table 4 to indicate that the particular pathway does not exist at the site
NAPL	Non-Aqueous Phase Liquid
N&E	Nature and extent of the contamination at the site
NFA	No Further Action – a DEQ notice to a Responsible Party declaring that no further cleanup action is needed at the site
OF	Outfall

[6] The JSCS is available on DEQ's web site at (http://www.deq.state.or.us/lq/cu/nwr/PortlandHarbor/index.htm); click "Joint Source Control Strategy" on the left side bar.

p&t	Pump & Treat system – a Source Control Measure used to remove or contain and treat contaminated groundwater
PA	Preliminary Assessment – an early assessment stage of the cleanup process
PCB	Polychlorinated Biphenyls
PH	Portland Harbor
PH Agr	Portland Harbor Agreement – a formal agreement to conduct the remedial investigation and source control work
PH Ltr Agr	Portland Harbor Letter Agreement – an initial agreement to conduct limited investigation and cleanup activities and cover DEQ's oversight costs
PM	DEQ Project Manager leading cleanup work at the site
PPA	Prospective Purchaser Agreement – a tool for negotiating and agreeing upon potential liability for prospective purchasers of sites
PRP	Potentially Responsible Party
RD/RA	Remedial Design/Remedial Action – a phase of the cleanup process that occurs after the Record of Decision; designing and implementing the cleanup action
RI	Remedial Investigation – a phase of the cleanup process; investigating the nature and extent of contamination and understanding the potential risks posed by the contaminants to human health and the environment
RI/FS	Remedial Investigation/Feasibility Study
RP	Responsible Party
SC	Source Control
SCD	Source Control Decision
SCE	Source Control Evaluation
SCM	Source Control Measure
SLV	Screening Level Value – a contaminant-specific level established in the JSCS (see JSCS Table 3.1) that is used to screen upland pathways and sites to identify potential threats to human health and the environment.
SOW	Scope of Work
SVE	Soil Vapor Extraction – a Source Control Measure used to remove volatile contaminants from subsurface soils; often combined with soil vapor treatment
TCA	Trichloroethane
UIC	Underground Injection Control system
UST	Underground Storage Tank
VCP	Voluntary Cleanup Program
VOCs	Volatile Organic Compounds
WO	Waiting on
XPA	Expanded Preliminary Assessment – an early assessment stage of the cleanup process

9.2 Contact information for DEQ Project Managers

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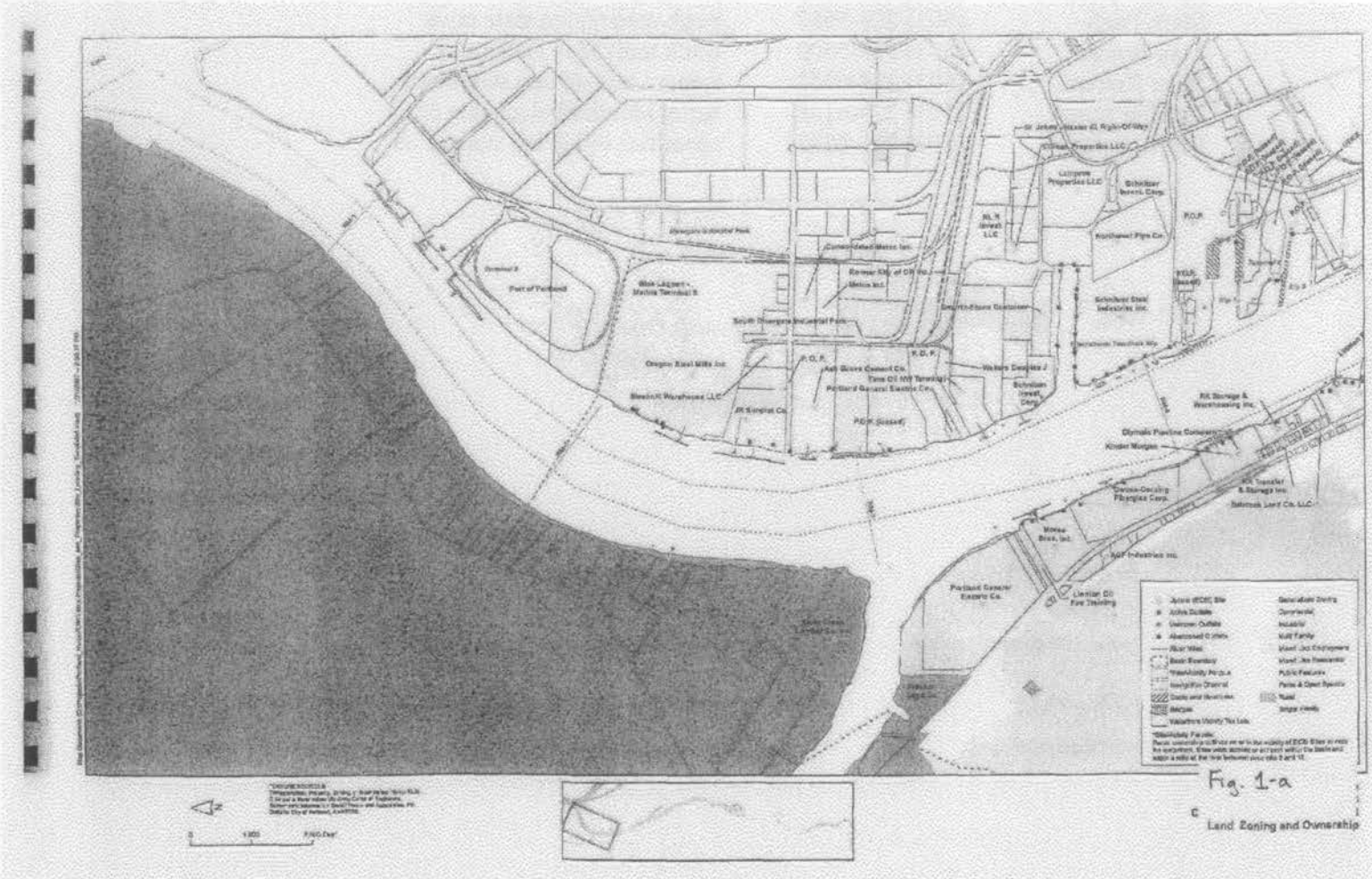
Port of Portland
Oregon Steel Mills Inc.
Portland General Electric Co.
Kinder Morgan
Olympic Pipeline Company
Lionton Oil Fire Training
Land Zoning and Ownership

Fig. 1-a

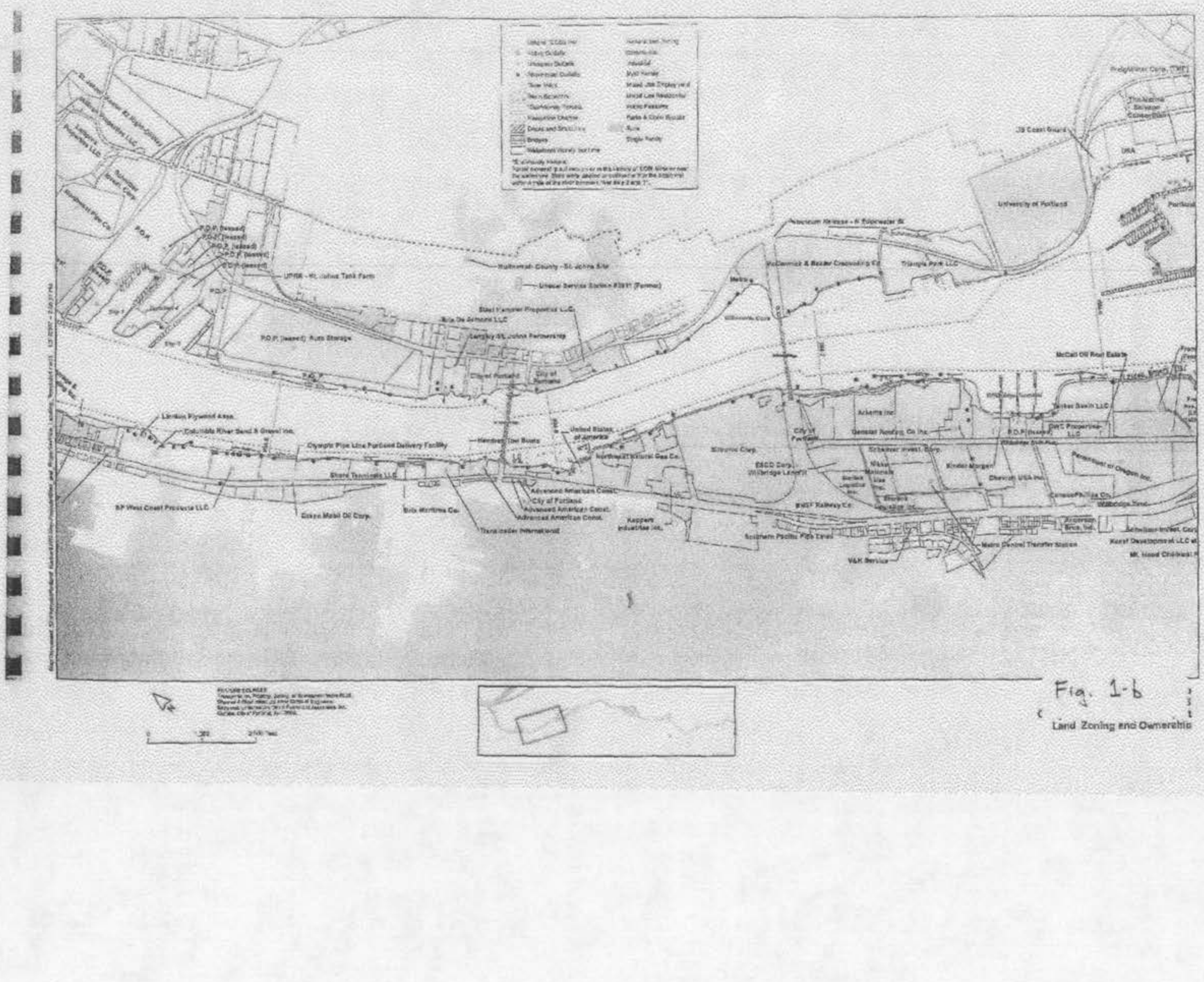

Fig. 1-b

Land Zoning and Ownership

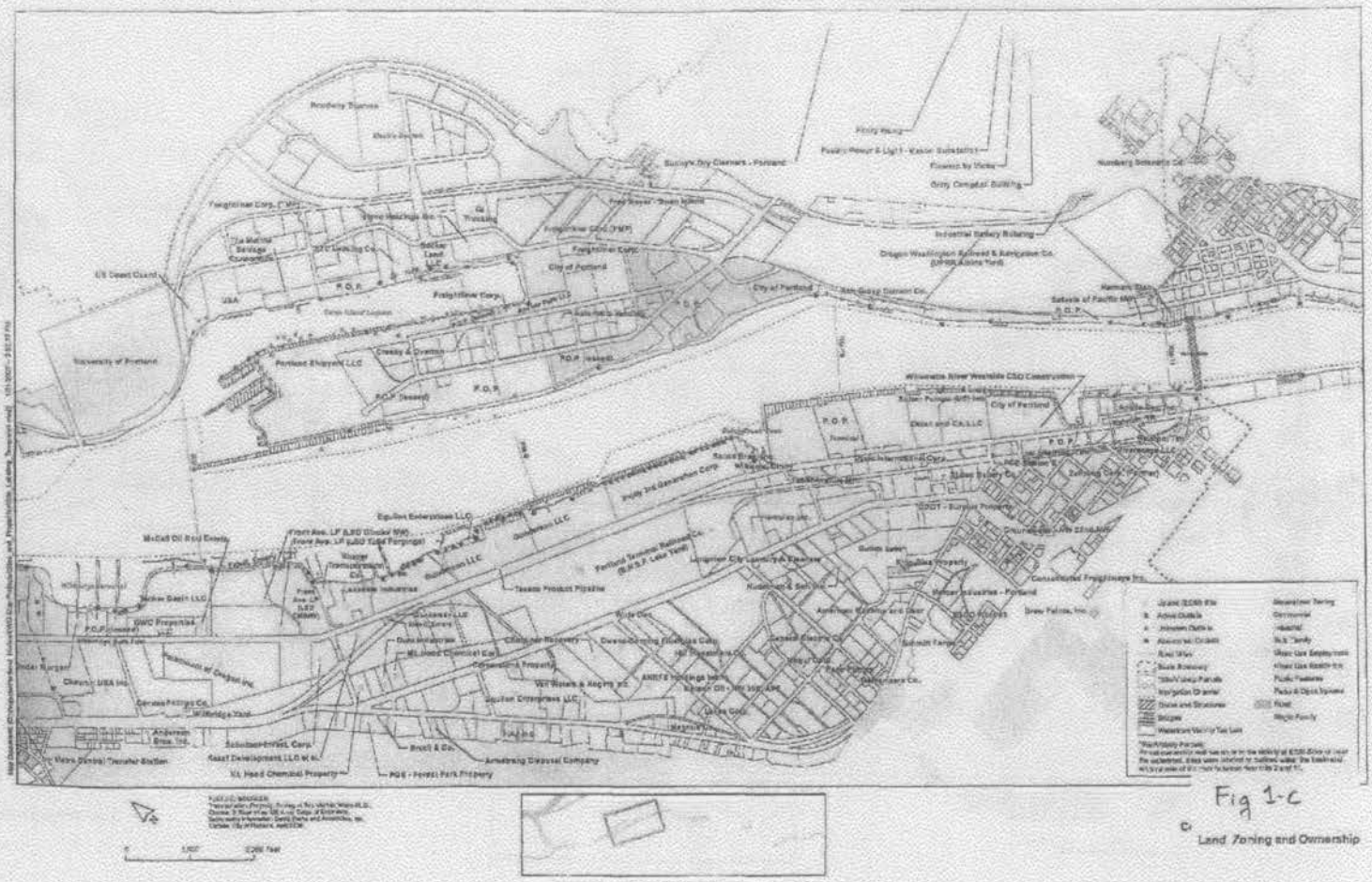

Fig 1-c

Land Zoning and Ownership

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

Note: Sites in this table are listed in order of their position upstream the Willamette River, or the "River Mile" associated with their location. The River Mile indicates distance from the Willamette River's confluence with the Columbia River.

- Shading indicates that upland source control work has been completed at the site.
- Red indicates that there is a high priority, or potentially high priority for source control.
- Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
- Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	SCE #	River mile	Address	DEQ PM	Type of agreement driving source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCE selection decision	SCM activities completed to date (m-y)	Area or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Terminal 5	1665	1.8 E	10340, 10500, & 10360 N Lombard	Tom Gainer	IGA	ATK	10/1/2008	Groundwater/Surface Flow	N/A	NA	NA	NA	None	Low	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA
Terminal 5	1666	1.8 E	10340, 10500, & 10360 N Lombard	Tom Gainer	GA	ATK	10/1/2008	Deep Drainage	N/A	NA	NA	NA	None		N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terminal 5	1668	1.7 E	10340, 10500, & 10360 N Lombard	Tom Gainer	GA	ATK	08/04/07	Groundwater	Pending EPA Review	Notice	submitted 2007	Insignificant pathway (based on site characterization)	Low		SCE submitted to EPA 2007									
Terminal 5	1669	1.7 E	10340, 10500, & 10360 N Lombard	Tom Gainer	GA	ATK	08/04/07	Stormwater	Pending EPA Review	None	summer 2007	Insignificant pathway (based on site characterization)	Low		SCE submitted to EPA 2007									
Terminal 5	1668	1.8 E	10340, 10500, & 10360 N Lombard	Tom Gainer	GA	ATK	08/1/2008	Overwater Activities	N/A	N/A	N/A	None	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Terminal 5	1669	1.8 E	10340, 10500, & 10360 N Lombard	Tom Gainer	GA	ATK	08/1/2008	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oregon Steel Mills	141	11.0 E	14400 N Rivergate	Mark Ranum	Prv Agr for RI/FS (ISM)	IP	09/1/08	Overland Transport/Surface Flow	N/A	N/A	N/A	No Surface Water pathwayfor contaminant transport to Portland Harbor	None	High	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasport Main Site	142	2.0 E	14400 N Rivergate	Mark Ranum	Prv Agr for RI/FS (ISM)	IP	07/1/2007	Soil Erosion	Completed		SCE is part of joint IP Alternatives Evaluation	Pathway is complete	High		Deferred to Alternatives Evaluation	Full-Scale Alternatives Evaluation and ISM recommend "Retain" over 2010								
Oregon Steel Mills	143	2.0 E	14400 N Rivergate	Mark Ranum	Prv Agr for RI/FS (ISM)	IP	08/1/2008	Groundwater (Joint w/ PCC, PCC)	Completed			Insignificant pathway, no risk to ecological receptors	Low	High	SCE submitted to EPA 10/2006 (no comment to date)		EPA recommendation to use Alternatives Evaluation						SCE submitted to EPA 10/2006 (no comment to date)	
Oregon Steel Mills	144	2.0 E	14400 N Rivergate	Mark Ranum	Prv Agr for RI/FS (ISM)	IP	12/1/2010	Groundwater (Other CCCL)	Completed		4/30/2008	Pathway is complete	Low		SCE to be submitted to EPA August 2008	Waiting for Investigation to be completed (groundwater monitoring ongoing)								
Oregon Steel Mills	145	2.0 E	14400 N Rivergate	Mark Ranum	Prv Agr for RI/FS (ISM)	IP	01/1/2012	Stormwater	Completed		August 2009	Pathway is complete	High		SCE is part of Alternatives Evaluation	Alternative evaluation completed August 2008	Final of pipe containment and treatment	Site agreement proposed, signature 8/14/08	RI/FS review and reporting 2007					
Oregon Steel Mills	147	2.0 E	14400 N Rivergate	Mark Ranum	Prv Agr for RI/FS (ISM)	IP	08/1/2008	Groundwater Activities	N/A	N/A	N/A	No Pathway exists, no risk to ecological receptors (NFRR)	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oregon Steel Mills	147	2.0 E	14400 N Rivergate	Mark Ranum	Prv Agr for RI/FS (ISM)	IP	09/1/2008	Other - Ignition of PCB Contaminated Discharge	Not Started	Force Assessment	Re-assess schedule	Field is in RI/FS to be completed			Waiting for SCE to be completed									
Lake Levitt (North Basin)	4400	3.8	14444 NW Old Bain Loop	No PM Assigned	Industrial wastewater disposal permit	IP	08/1/2008	Overland Transport/Surface Flow	N/A	N/A	N/A	N/A	None	Low		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lake Levitt (North Basin)	4400	3.8	14444 NW Old Bain Loop	No PM Assigned	Industrial wastewater disposal permit	NA	10/1/2008	Soil Erosion	N/A	N/A	N/A	N/A	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lake Levitt (Centre Basin)	4400	3.8	14444 NW Old Bain Loop	No PM Assigned	Industrial wastewater disposal permit	IP	10/1/2007	Groundwater	Ongoing	groundwater monitoring ongoing	December 2007	Insignificant pathway (based on site characterization)	Low		SCE to be submitted to EPA July/August 07									
Lake Levitt (Centre Basin)	4400	3.8	14444 NW Old Bain Loop	No PM Assigned	Industrial wastewater disposal permit	IP	08/1/2008	Stormwater	N/A	N/A	N/A	N/A	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lake Levitt (Centre Basin)	4400	3.8	14444 NW Old Bain Loop	No PM Assigned	Industrial wastewater disposal permit	IP	08/1/2008	Overwater Activities	N/A	N/A	N/A	N/A	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lake Levitt (Centre Basin)	4400	3.8	14444 NW Old Bain Loop	No PM Assigned	Industrial wastewater disposal permit	IP	08/1/2008	Other	N/A	N/A	N/A	N/A	None			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cornhusker Island	5000	8.8 E	3800 N Rivergate	Mike Hanson	Prv Letter agr for JCPs	IP/IA	07/1/2007	Overland Transport/Surface Flow	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

= Shading indicates that upland source control work has been completed at the site.
= Orange indicates that the site is a high priority, or moderately high priority for source control.
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= Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for recommendation that source control is needed												
Site name	SCD #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA Review of SCE decision	Source control alternatives evaluation was scheduled (m-y)	Selected SCMs	Status of EPA review of SCM selection rationale	SCM activities completed to date (loc)	Mass or volume of contam loads controlled	Proposed SCM modifications to the done and activities (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Question and recommendations comments
Consolidated Sites	3000	3.8 E	2040 N. Rivergate	Mike Rosmann	PH Letter Agr for EPA	X Yes	08/14/07	Dam Control	N/A	N/A	N/A	N/A	None	P Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Consolidated Sites	3000	3.2 E	2040 N. Rivergate	Mike Rosmann	PH Letter Agr for EPA	X Yes	08/14/07	Groundwater	Ongoing	DEQ is modeling Inv/FS DEQ	12/07	Waiting on SCD to be completed	P Low		Waiting on SCD to be completed										
Consolidated Sites	3000	3.6 E	2040 N. Rivergate	Mike Rosmann	PH Letter Agr for EPA	X Yes	08/14/07	Stormwater	Ongoing	JBCS Prioritized, to Stormwater Evaluation	12/07	Waiting on SCD to be completed	P Low		Waiting on SCD to be completed										
Consolidated Sites	3000	3.3 E	2040 N. Rivergate	Mike Rosmann	PH Letter Agr for EPA	X Yes	08/14/07	Overwater Activities	N/A	N/A	N/A	N/A	Other		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Consolidated Sites	3000	3.4 E	2040 N. Rivergate	Mike Rosmann	PH Letter Agr for EPA	X Yes	08/14/07	Other	N/A	N/A	N/A	N/A	Other		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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Time Oil	170	3.4 E	10300 Time Oil Rd.	Tom Bladh	Pre-PH Agr (WPC)	Not Assessed	08/13/07	Dockside Dredging/Sediment Plume	N/A	N/A	N/A	N/A	None	Medium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time Oil	170	3.4 E	10300 Time Oil Rd.	Tom Bladh	Pre-PH Agr (WPC)	Not Assessed	08/13/07	Bank Erosion	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time Oil	170	3.4 E	10300 Time Oil Rd.	Tom Bladh	Pre-PH Agr (WPC)	Not Assessed	08/13/07	Groundwater (Main Terminal Petroleum Plume)	Ongoing	Source Control Evaluation report submitted 6/08	Winter 2007 to complete stormwater evaluation	Pathway based upon PT/Bank and sediment at the river; monitoring required	≥ Low		Waiting on SCD to be completed	Phase SCM TBD; interim measures (NAPL recovery, ongoing, trends of 2/3 GW wells scheduled Spring 2008)								
Time Oil	170	3.4 E	10300 Time Oil Rd.	Tom Bladh	Pre-PH Agr (WPC)	Not Assessed	08/13/07	Groundwater (Main Terminal Petroleum Plume)	Ongoing	Source Control Evaluation report submitted 6/08	Winter 2007 to complete stormwater evaluation	Pathway appears incomplete to the river, investigation in progress on Phenolic Estuary GWs (CCCS & DEQ)	≥ Low		Waiting on SCD to be completed										
Time Oil	170	3.4 E	10300 Time Oil Rd.	Tom Bladh	Pre-PH Agr (WPC)	Not Assessed	08/13/07	Groundwater (Phenolic Plume)	Completed			SCMs were given priority in general and in present zones, downgrade for private stormwater outfall	Medium		SCD submitted to EPA	Alternatives evaluation completed	Blended sand/gravel 3 feet, mainly chemical oxidation; pH to be adjusted using 5 feet	SCD submitted to EPA May 2008; pathway responsibility with questions	Completed (w/ last 3 feet possibly some removal); 3 months of entry, therefore solution simulated through Spring 08	Over 20 million gallons of groundwater pumped and treated. Chem Ox, Ion exchange treated groundwater traffic (no estimate of volume)	Ongoing groundwater pump & treat; evaluation of Chem Ox effectiveness (TBD – or is of some additional mounds may be needed)			Ongoing maintenance and monitoring of pump & treat system
Time Oil	170	3.4 E	10300 Time Oil Rd.	Tom Bladh	Pre-PH Agr (WPC)	Not Assessed	08/13/07	Stormwater	Ongoing	Source Control Evaluation report submitted 6/08; additional stormwater data required	Winter 2007 to complete stormwater evaluation	Pathway appears insignificant (pers. above outfall/ river sturm)	≥ Low		Waiting on SCD to be completed										
Time Oil	170	3.4 E	10300 Time Oil Rd.	Tom Bladh	Pre-PH Agr (WPC)	Not Assessed	08/13/07	Overwater Activities	Ongoing	Source Control Evaluation report submitted 6/08	Winter 2007	No known current pathway (no dp to receptor) to DEQ	≥ Low		Waiting on SCD to be completed										

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Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	DEQ #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant, migration pathway	Status of SCE	Major SCE tasks to be completed	Anticipated for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation are scheduled (m-y)	Selected SCDs	Status of EPA review of SCD selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and scheduled (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Corrective and maintenance actions
Time Oil	CTO	3.4 E	10000 Time Oil Rd	Jon Blasé	Pre PA Agr (DMA)	Site Assessment	09/15/07	Other	N/A	N/A	N/A	N/A	None	2 High	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
City of Portland Outfalls	[illegible]	[illegible]	[illegible]	Jon Blasé	NO Agr (DMA)	[illegible]	[illegible]	Stormwater Treatment/Sediment Piles	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
City of Portland Outfalls	[illegible]	[illegible]	[illegible]	Jon Blasé	[illegible]	[illegible]	[illegible]	Sediment	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
City of Portland Outfalls	[illegible]	[illegible]	[illegible]	Jon Blasé	[illegible]	[illegible]	[illegible]	Groundwater	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
City of Portland Outfalls	[illegible]	[illegible]	[illegible]	Jon Blasé	[illegible]	[illegible]	[illegible]	Stormwater	Ongoing	Complete outfall field investigation, sediment sampling/assessment, and source control/pollution prevention assessment	Ongoing, potential ranking to Portland Harbor RI/FS	Unprioritized pathway	3 High		Waiting on SCD to be completed	Note SCM TSD: Ongoing SW inspections, review/update of pollution prevention plans, SCD/PP system, BMP specific work been internally and externally, and monitoring and implementation of BMPs								
City of Portland Outfalls	[illegible]	[illegible]	[illegible]	Jon Blasé	[illegible]	[illegible]	[illegible]	Overwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
City of Portland Outfalls	[illegible]	[illegible]	[illegible]	Jon Blasé	[illegible]	[illegible]	[illegible]	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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Confirmed or suspected **Sources** of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	ECSI #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
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Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

- Shading indicates that upland source control work has been completed at the site.
- Orange indicates that the site is a high priority, or possibly high priority for source control.
- Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
- Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status																			
Site name	SCS #	River mile	Address	DEQ PM	Type of approved cleanup source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Source of SCS	Major SCS tasks to be completed	Schedule for completing SCS	Basis for determination that source control is needed: Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCS work plan	Source control alternatives evaluation and schedule (m-y)	Selected SCDs	Status of EPA review of SCS selection decision	SCS activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCS activities to be done and schedule (m-y)	Cost SCS committed (K-$)	Status of EPA review of completed SCS	Operation and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]									
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Hall Pipe	130	2.9 E	12005 N Burgard	Mike Remers	PH Agr for IMD/OU (SED)	IN	09/14/07	Contained Contaminated Pipe	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hall Pipe	130	2.9 C	12005 N Burgard	Mike Remers	PH Agr for IMD/OU (SED)	IN	09/14/07	Dam Crawler	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hall Pipe	130	2.9 E	12005 N Burgard	Mike Remers	PH Agr for IMD/OU (SED)	IN	09/14/07	Groundwater	Completed	Not a complete pathway	N/A	N/A	None		N/A									
Hall Pipe	130	2.9 E	12005 N Burgard	Mike Remers	PH Agr for IMD/OU (SED)	IN	09/14/07	Stormwater	Ongoing	DEQ to complete review of SCS report prepared by BP and sign additional stormwater evaluation	12/07	Soil suspected migration pathway	Med		Waiting on SCS to be completed (DEQ)									
Hall Pipe	130	2.9 E	12005 N Burgard	Mike Remers	PH Agr for IMD/OU (SED)	IN	09/14/07	Groundwater activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hall Pipe	130	2.9 C	12005 N Burgard	Mike Remers	PH Agr for IMD/OU (SED)	IN	09/14/07	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		Complete									
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Schnitzer Burgard	[illegible]	[illegible]	[illegible] Burgard	Mike Remers	PH Agr for IMD/OU (SED)	IN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Waiting on SCS to be completed		Likely sitewide engineering and institutional controls [illegible]							
Schnitzer Burgard	[illegible]	[illegible]	[illegible] Burgard	Mike Remers	PH Agr for IMD/OU (SED)	IN	09/14/07	Sediment Crawler	Ongoing	Additional sediment control	12/07	[illegible]	[illegible]		Waiting on SCS to be completed									
Schnitzer Burgard	[illegible]	[illegible]	[illegible] Burgard	Mike Remers	PH Agr for IMD/OU (SED)	IN	09/14/07	Groundwater	Ongoing	Ongoing monitoring	12/07	[illegible]	[illegible]		Waiting on SCS to be completed									

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Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	SCE #	River mile	Address	DEQ PM	Type of agreement providing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE deliverables	Interim control alternatives evaluation and schedule (m-y)	Selected SCDs	Status of EPA review of SCD selection decision	SCM activities completed to date (m-y)	Share or volume of contaminants controlled	Proposed SCM activities in the short and intermediate (m-y)	Desc SCM completion (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Schnitzer (Gunderson)	[illegible]	4.15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Ongoing	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]							
Schnitzer (Gingerich)	[illegible]	4.15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Schnitzer (Gunderson)	[illegible]	4.15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Willamette Metal (Mid-CATX)	[illegible]	4.21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Willamette Metal (Mid-CATX)	[illegible]	4.21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Willamette Metal (Mid-CATX)	[illegible]	4.21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]							
Willamette Metal (Mid-CATX)	[illegible]	4.21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Willamette Metal (Mid-CATX)	[illegible]	4.21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Willamette Metal (Mid-CATX)	[illegible]	4.21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Willamette Metal (Mid-CATX)	[illegible]	4.21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Tri-Metal & Rail 1	[illegible]	4.22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Tri-Metal & Rail 1	[illegible]	4.22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Tri-Metal & Rail 1	[illegible]	4.22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Tri-Metal & Rail 1	[illegible]	4.22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Tri-Metal & Rail 1	[illegible]	4.22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
Tri-Metal & Rail 1	[illegible]	4.22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
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Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

- = Shading indicates that upland source control work has been completed at the site.
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- = Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
- = Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed													
Site name	SCD #	River mile	Address	DEQ HS	Type of agreement providing source control	Project status	Date last modified (mm-yy)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Source control alternatives evaluation and schedule (mo-y)	Selected SCMs	Status of EPA review of SCM selection conclusion	SCM activities completed to date (mo-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done after selection (mo-y)	Date SCM completed (mm-y)	Status of EPA review of completed SCM	Corrective action monitoring requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		[illegible]		[illegible]	[illegible]					[illegible]	
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Terminal 4 Slip 3	272	4.8 E	10400 Lombard	Tom Rakis	Judgment for RCRA (ADA)	RCRA	06/15/07	Overland Transport/Direct Flow	N/A	Non-river Basin Station and Groundwater pathways	N/A	N/A	none	Medium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Terminal 4 Slip 3	272	4.8 E	10400 Lombard	Tom Rakis	Judgment for RCRA (ADA)	RCRA	06/15/07	Bank Erosion	Ongoing	Parts[illegible] as the "River Bank Area" and "Sub-Bank Area"	Parts[illegible] RCRA activities work plan[illegible]	Parts[illegible]	y Med		Waiting on SCE to be completed										
Terminal 4 Slip 3	272	4.8 E	10400 Lombard	Tom Rakis	Judgment for RCRA (ADA)	RCRA	06/15/07	Fine Sediment	Completed			Complete pathway - already recommended and implemented	Med-Low		EPA reviewed and summarized, 2006		Bank stabilization and backfill remedial action (NAPL recovery, monitoring)	EPA reviewed and summarized, 2006	Bank stabilization and backfill remedial action (NAPL recovery) - 1 USA	2,700 cubic yards of contaminated soil removed; 10-15 gallons NAPL recovered to date	NAPL recovery and monitoring ongoing			
Terminal 4 Slip 3	272	4.8 E	10400 Lombard	Tom Rakis	Judgment for RCRA (ADA)	RCRA	06/15/07	Stormwater	Ongoing	Stormwater sampling planned for 2006/2007	Winter 2007	Complete pathway - BMPs in place	y Med		Waiting on SCE to be completed										
Terminal 4 Slip 3	272	4.8 E	10400 Lombard	Tom Rakis	Judgment for RCRA (ADA)	RCRA	06/15/07	Overwater Activities	N/A	N/A - Habitat mitigation to be addressed by the In-water 14-Early Action	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Terminal 4 Slip 3	272	4.8 E	10400 Lombard	Tom Rakis	Judgment for RCRA (ADA)	RCRA	06/15/07	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project Status							Basis for determination that source control is needed												
Site name	ECSI #	River mile	Address	DEQ PM	Type of completed cleanup source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Source control alternatives evaluation and schedule (m-y)	Excluded SCMs	Status of EPA review of SCDs selection rationale	SCM activities completed to date (m-y)	Status or volume of contaminated material generated	Proposed SCM activities to be done and schedule (m-y)	Deed SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	High	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Olympic Plywood Portland Facility within Guardsman	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Low	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Olympic Plywood Portland Facility within Guardsman	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Olympic Plywood Portland Facility within Guardsman	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Olympic Plywood Portland Facility within Guardsman	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Olympic Plywood Portland Facility within Guardsman	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status																			
Site name	RCSI #	Rank w/in	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Basis for determination that source control is needed: Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Actions taken/ alternative evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	RCSI accounts associated to date (tons)	Reduction volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Comment and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Waiting on SCE to be completed									
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Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status																			
Site name	DEQ #	River mile	Address	DEQ PM	Type of agreement (showing source control)	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Basis for determination that release control is needed: Pathway determination	Basis for determination that release control is needed: Pathway priority level	Basis for determination that release control is needed: Site priority level	Status of EPA review of SCE conclusions	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection criteria	SCM activities completed (or date final)	Mass or volume of contaminants controlled	Proposed SCM verification to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Rail Cartage (Parcel)	[illegible]	[illegible]	[illegible]	[illegible]	Negotiating PA/FA	N	[illegible]	Overwater Activities	N/A	Site surface overwater activities, with relative	2007	Waiting on SCE to be completed	To be determined	Low	Waiting on SCE review completion in 2007		Final priority ranking and of 100% less elevated from site							
Rail Cartage (Parcel)	[illegible]	[illegible]	[illegible]	[illegible]	Negotiating PA/FA	N	[illegible]	Other	N/A	N/A	N/A	N/A	[illegible]		N/A	N/A	N/A	[illegible]	[illegible]	[illegible]	[illegible]	N/A	[illegible]	N/A
[illegible]	[illegible]	[illegible]	[illegible]	Mark Pugh	PFA	[illegible]	[illegible]	Overland Transport/Street Flow	Established			Contaminated soil/ groundwater/ effects on air, water, and/ or sediment to water	Low	Low	SCE submitted to EPA 3/30/07. Not confirmed or reviewed.	alternatives not yet complete as of 2007	Dig and haul, soil cap/capping with cover, fill or other building	SCDs submitted to EPA 3/30/07. No comments received	Not confirmed (N/A), reduced alternatives capped with covering and/or sheet PS	1,700 cubic yards of soil removed (estimated), tarpaulin covering	Off-Site, regular parking	1/07	SCD review to be submitted 1st summer 2007	Institutional controls for use and building will be required.
[illegible]	[illegible]	[illegible]	[illegible]	Mark Pugh	PFA	[illegible]	[illegible]	Belle Crosser	Completed			Transportation/hauling, residential recommended	Low	Low	SCE submitted to EPA 3/30/07. 1st comments received.	alternatives not yet complete as of 2007	1st SCM identified							SCD review to be submitted 1st summer 2007	N/A
[illegible]	[illegible]	[illegible]	[illegible]	Mark Pugh	PFA	[illegible]	[illegible]	Drainageways	Completed			Inspection to continue, not currently recommended	Low	Low	SCE submitted to EPA 3/30/07. 1st comments received.	alternatives not yet complete as of 2007	1st SCM identified							SCD review to be submitted 1st summer 2007	N/A
[illegible]	[illegible]	[illegible]	[illegible]	Mark Pugh	PFA	[illegible]	[illegible]	Stormwater	Ongoing	Quarterly Storm water sampling (beginning 1/06)	July 2007	Sewer and force check water sampling expect first limit negotiated per Permit. Other items found to be determined	Low	Low	N/A	N/A	N/A	N/A	N/A	N/A	Entire plant system may initiate in July 2007 if storm water sampling exceeds permitted. 1 more parking		SCD review to be submitted 1st summer 2007	N/A
[illegible]	[illegible]	[illegible]	[illegible]	Mark Pugh	PFA	[illegible]	[illegible]	Overwater Activities	N/A	N/A	N/A	Not known current sources (other essential to DEQ/PS)	None	Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	SCD review to be submitted 1st summer 2007	N/A
[illegible]	[illegible]	[illegible]	[illegible]	Mark Pugh	PFA	[illegible]	[illegible]	Other	N/A	N/A	N/A	N/A	None	Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	SCD review to be submitted 1st summer 2007	N/A
LS Meetings	[illegible]	[illegible]	[illegible]	EPA and Kristina Keith	Negotiating Federal Facilities Agreement	Negotiating Federal Facilities Agreement	12/1/06	Overland Transport/Street Flow	N/A		No current schedule.	Waiting on SCE to be completed	To be determined	To be determined	N/A									
LS Meetings	[illegible]	[illegible]	[illegible]	EPA and Kristina Keith	Negotiating Federal Facilities Agreement	Negotiating Federal Facilities Agreement	12/1/06	Belle Crosser	N/A Marked		No current schedule.	Waiting on SCE to be completed	To be determined		N/A									
LS Meetings	[illegible]	[illegible]	[illegible]	EPA and Kristina Keith	Negotiating Federal Facilities Agreement	Negotiating Federal Facilities Agreement	12/1/06	Drainageways	N/A Marked		No current schedule.	Waiting on SCE to be completed	To be determined		N/A									
LS Meetings	[illegible]	[illegible]	[illegible]	EPA and Kristina Keith	Negotiating Federal Facilities Agreement	Negotiating Federal Facilities Agreement	12/1/06	Stormwater	N/A Marked		No current schedule.	Waiting on SCE to be completed	To be determined		N/A									
LS Meetings	[illegible]	[illegible]	[illegible]	EPA and Kristina Keith	Negotiating Federal Facilities Agreement	Negotiating Federal Facilities Agreement	12/1/06	Overwater Activities	N/A Marked		No current schedule.	Waiting on SCE to be completed	To be determined		N/A									
LS Meetings	[illegible]	[illegible]	[illegible]	EPA and Kristina Keith	Negotiating Federal Facilities Agreement	Negotiating Federal Facilities Agreement	12/1/06	Other	N/A Marked		No current schedule.	Waiting on SCE to be completed	To be determined		N/A									
Overland Street Cars	[illegible]	[illegible]	[illegible]	Tom Gainer	P-1 Letter dated 10/4/11 (May)	[illegible]	[illegible]	Debris in Transport/Street Flow	Ongoing	See Stormwater Pathway	Summer 2007	Waiting on SCE to be completed	To be determined		Waiting on SCE completion									
Overland Street Cars	[illegible]	[illegible]	[illegible]	Tom Gainer	P-1 Letter dated 10/4/11 (May)	[illegible]	[illegible]	Storm Sewers	Ongoing	To be determined	Fall 2007	Waiting on SCE to be completed	To be determined		To be determined		RP removed back seal from bottom pipe of CSO. Proposed remediation audit or SMART. Will provide no seal with Green [illegible]							

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed													
Site name	SCD #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential environmental migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Source control alternatives evaluation and schedule (m-y)	Recorded SCDs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Own SCM completion (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
Crawford Street Corp	2040	6.2-E	9424 N Crawford	Tyler Stalnaker	PA Letter Agr for SDA (1/1/08)	Active	03/08/08	Groundwater	Conclusive			Average risk to primarily exposed area receptors	Lower	Low	Waiting on SCE completion										
Crawford Street Corp	2040	6.2-E	9424 N Crawford	Tyler Stalnaker	PA Letter Agr for SDA (1/1/08)	Active	08/05/07	Stormwater	Ongoing	SWPPP review and sampling per SCCP	Summer 2007	Waiting on SCE to be completed	N/A determined		Waiting on SCE completion										
Crawford Street Corp	2040	6.2-E	9424 N Crawford	Tyler Stalnaker	PA Letter Agr for SDA (1/1/08)	Active	03/08/08	Overwater Activities	N/A	N/A	N/A	N/A	Notice		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crawford Street Corp	2040	6.2-E	9424 N Crawford	Tyler Stalnaker	PA Letter Agr for SDA (1/1/08)	Active	03/08/08	Other	N/A	N/A	N/A	N/A	Notice		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blazer Mill Historic	41	6.1-W	7800 NW St Helens	Dana Stalnaker	Pre-PA/VCP Agr for SCP/RI (5/5/97)	In	07/17/07	Contract Transport/Direct Flow	N/A	N/A	N/A	N/A	Notice		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Guild's Lake Industrial	42	6.1-W	7800 NW St Helens	Dana Stalnaker	Pre-PA/VCP Agr for SCP/RI (5/5/97)	In	07/17/07	Sediment Activities	Conclusive			Pathway is complete	High			October 2007									
Guild's Lake Industrial	42	6.1-W	7800 NW St Helens	Dana Stalnaker	Pre-PA/VCP Agr for SCP/RI (5/5/97)	In	07/17/07	Groundwater	Conclusive			Pathway is complete	High			Field SCE/RI/FS activities (incl Alternatives) (DEQ, geotechnical engineer/hydrogeologist) in progress; SCD in other SCM Evaluation October 2007									
Gasco (Siltech Historic)	43	6.1-W	7800 NW St Helens	Dana Stalnaker	Pre-PA/VCP Agr for Sediment (5/2/06)	In	07/17/07	Stormwater	Ongoing	Continue with water and sediment sampling/monitoring on site. Site is a PORS & protection, and will be up-dated when remedying per SCCP	Spring 2008	Pathway is complete	N/A determined		Waiting on SCE to be completed										
Gasco (Siltech Historic)	43	6.1-W	7800 NW St Helens	Dana Stalnaker	Pre-PA/VCP Agr for Sediment (5/2/06)	In	07/17/07	Overwater Activities	N/A	N/A	N/A	Pathway is complete (submitted upland document to Clearly)	Notice		N/A	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco (Siltech Historic)	43	6.1-W	7800 NW St Helens	Dana Stalnaker	Pre-PA/VCP Agr for SCP/RI (5/5/97)	In	03/08/07	Other - NPDES Permit	Ongoing	Source is unknown, no DEQ permit(s) to Portland Sewer Maintenance	Merger 2007	Pathway is complete	N/A determined		Waiting to SCC and Completed										
Gasco (Siltech Chemical Unit)	1042	6.1-W	7000 NW Front Avenue	Dana Stalnaker	Joint Order with Natural and Marine Sciences (10/02)	In	07/17/07	Groundwater Transport/Direct Flow	N/A	N/A	N/A	N/A	Notice	Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco (Siltech Chemical Unit)	1042	6.1-W	7000 NW Front Avenue	Dana Stalnaker	Joint Order with Natural and Marine Sciences (10/02)	In	07/17/07	Sediment Activities	Ongoing	SE investigation to be part of Chemical Manufacturing gas plant waste in Siltech sediments	October 2007	Waiting on SCE to be completed	N/A determined		Waiting on SCE to be completed										
Gasco (Siltech Chemical Unit)	1042	6.1-W	7000 NW Front Avenue	Dana Stalnaker	Joint Order with Natural and Marine Sciences (10/02)	In	07/17/07	Other Activities	Conclusive			Pathway is complete	High			Joint Order (10/02) where one of Engineering (DEQ), geophysicist hydrogeologist (DEQ) in other SCM Evaluation October 2007									
Gasco (Siltech Operations Unit)	1042	6.1-W	7000 NW Front Avenue	Dana Stalnaker	Joint Order with Natural and Marine Sciences (10/02)	In	07/17/07	Stormwater	Ongoing	Continue submitted storm water delivery elevation (SCP, Report) to sending contaminants as potential source of contamination over sediments. Area 3 in project area	Fall 2007	Pathway is complete	N/A determined		Waiting to SCC to be completed, Fall 2007										
Gasco (Siltech Operations Unit)	1042	6.1-W	7000 NW Front Avenue	Dana Stalnaker	Joint Order with Natural and Marine Sciences (10/02)	In	07/17/07	Overwater Activities	N/A	N/A	N/A	N/A	Notice		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco (Siltech Gasholder Grid)	1042	6.1-W	7000 NW Front Avenue	Dana Stalnaker	Joint Order with Natural and Marine Sciences (10/02)	In	07/17/07	Other - Gasco Grid	Ongoing	Sediment investigation (DEQ, Gasco/CF, SSI, Kong) to	October 2007	Pathway is complete	Lower		Waiting to SCC to be completed										

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	SCE #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (mm/yy)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determined	Pathway priority level	Site priority level	Status of EPA review of SCE conclusions	Source control allocation and schedule (mm/yy)	Related SCDs	Status of EPA review of SCDs selection rationale	SCM activities completed to date (mm/yy)	Known volume of contaminants controlled	Proposed SCM activities to be done after schedule (mm/yy)	Date SCM completed (mm/yy)	Status of EPA review of completed SCM	Cleanup and maintenance requirements
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river									Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status								Basis for determination that source control is needed												
Site name	SCD #	Sites with	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m/d/y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE structure	Source control alternatives evaluation and schedule (m/y)	Selected SCDs	Status of EPA review of SCD selection decisions	SCM schedule completed to date (m/y)	Mass or volume of contaminants controlled	Proposed SCM solution in its done and schedule (m/y)	Date SCM completed (m/y)	Status of EPA review of completed SCM	Corrective and maintenance requirements
Shaver Property	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Ongoing	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Completed			[illegible]	High	High	Completed										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	High	High	Completed										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	High	High	Completed										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	High	High	Completed										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	High	High	Completed										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	High	High	Completed										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	High	High	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Part of the Portland Harbor site, see SCC list			[illegible]						High											
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				Shell Dealer																	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				Stormwater																	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				Groundwater Activities																	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				Other																	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater (Dry Creek Pump)	Ongoing		Completed [illegible]	[illegible]	High		[illegible] Completed	Preparation of focused feasibility study (FS) for engineered hydraulic control system alternatives - draft scheduled for submittal in [illegible]	Final SCM CD/RA plan, SCM 30 Pump system design, [illegible] System on [illegible] June 2008	[illegible] SCM scheduled and completed for interim SCM phase [illegible]	[illegible] 2008 include 400 lb/yr [illegible] - capture [illegible] [illegible] treatment						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater (Dry Creek Pump)	Ongoing		Completed [illegible]	[illegible]	High		[illegible] Completed	Preparation of focused feasibility study (FS) for engineered hydraulic control system alternatives - draft scheduled for submittal in [illegible]	Final SCM CD/RA plan, SCM 30 Pump system design, [illegible] System on [illegible]	[illegible] SCM scheduled and completed for interim SCM phase [illegible]	[illegible] SCM include [illegible] medium perpetuity [illegible]						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater (Pumping Pump)	Ongoing		Completed [illegible]	[illegible]	High		[illegible] Completed	Preparation of focused feasibility study (FS) for engineered hydraulic control system alternatives - draft scheduled for submittal in [illegible]			None						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Cleaner's Perchloroethylene	[illegible]	[illegible]	[illegible]	[illegible]	None	High	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Bank Erosion	Ongoing	[illegible]	Completed [illegible]	[illegible]	[illegible]		[illegible] Completed	[illegible]	[illegible]		None						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Stormwater	Ongoing	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]			[illegible]						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater Activities	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

= Shading indicates that upland source control work has been completed at the site.
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= Yellow indicates that the site is a medium priority, or potentially medium priority for source control.
= Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river									Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status								Basis for determination that source control is needed												
Site name	RCB #	River mile	Address	DEQ File	Type of agreement allowing source control	Project status	Date last modified (m-d-y)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decisions	Source control alternatives evaluation are available (Y-n)	Proposed SCDs	Status of EPA review of SCDs and/or decisions	SCM activities completed to date (Y-n)	Share or volume of contaminants controlled	Proposed SCM activities to be done and schedule (Y-n)	Deed RCB completed (Y-n)	Status of EPA review of completed RCB	Operation and maintenance requirements
McCall Oil	CM	7.4 W	6800 NW Front	Tax Deferral	Prospective Purchaser Agreement (PPA)	Ill	04/08/03	Overland Transport/Water Flow	N/A	N/A	N/A	N/A	none	Medium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
McCall Oil	CM	7.4 W	6800 NW Front	Tax Deferral	Prospective Purchaser Agreement (PPA)	Ill	04/08/07	Bank Erosion	Ongoing	RI* to be completed (if it is determined that PCBs are present on the site)	Late 2007	Preliminary chemical data indicates pathway is incomplete	unknown		Waiting for DEQ to be completed.										
McCall Oil	CM	7.4 W	6800 NW Front	Tax Deferral	Prospective Purchaser Agreement (PPA)	Ill	04/08/07	Groundwater	Ongoing	Continue groundwater monitoring to evaluate shoreline sediment risk	Late 2007	Waiting on DEQ to be completed	Medium		Waiting on DEQ to be completed										
McCall Oil	CM	7.4 W	6800 NW Front	Tax Deferral	Prospective Purchaser Agreement (PPA)	Ill	04/08/07	Stormwater	Ongoing	Stormwater sampling for 2007	Late 2007	Waiting on DEQ to be completed	Medium		Waiting on DEQ to be completed										
McCall Oil	CM	7.4 W	6800 NW Front	Tax Deferral	Prospective Purchaser Agreement (PPA)	Ill	04/08/07	Direct spill Activities	N/A	N/A	N/A	No known current sources (potential historical to CERCLA)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
McCall Oil	CM	7.4 W	6800 NW Front	Tax Deferral	Prospective Purchaser Agreement (PPA)	Ill	04/08/07	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gill Knitting	117	7.8 W	4300 NW Front	Wine Remedy	VCP - PA Agr Pending	ETA	04/1/07	Overland Transport/Water Flow	Ongoing	EPA completed 26 of 28 SCP to be initiated	SCMs under way (see comment, 06/07)	Waiting on SCP to be completed	to be determined	to be determined	Waiting for DEQ to be completed										
Gill Knitting	117	7.8 W	4300 NW Front	Wine Remedy	VCP - PA Agr Pending	ETA	04/1/07	Bank Erosion	Ongoing	EPA completed 26 and DEQ to be initiated in 4	SCMs under way (see comment, 06/07)	Waiting on DEQ to be completed	to be determined		Waiting on DEQ to be completed										
Gill Knitting	117	7.8 W	4300 NW Front	Wine Remedy	VCP - PA Agr Pending	ETA	04/1/07	Groundwater	Ongoing	EPA completed 16 of 28 SCP to be initiated	SCMs under way (see comment, 06/07)	Waiting on DEQ to be completed	to be determined		Waiting on DEQ to be completed										
Gill Knitting	117	7.8 W	4300 NW Front	Wine Remedy	VCP - PA Agr Pending	ETA	04/1/07	Stormwater	Ongoing	EPA completed 16 of 28 SCP to be initiated	SCMs under way (see comment, 06/07)	Waiting on DEQ to be completed	to be determined		Waiting on DEQ to be completed										
Gill Knitting	117	7.8 W	4300 NW Front	Wine Remedy	VCP - PA Agr Pending	ETA	04/1/07	Overland Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gill Knitting	117	7.8 W	4300 NW Front	Wine Remedy	VCP - PA Agr Pending	ETA	04/1/07	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Triangle Park (fn PDX Yard)	127	7.9 E	5620 N Van Houten	Kinder Morgan	Federal RPA 3004	PA	12/1/06	Overland Transport/Water Flow	Ongoing	Finish Site Characterization	1st qr. 2007	Contaminants not bioavailable in stormwater & shoreline	Medium	Medium	EPA decision pending & instructed on 06/01/07 DEQ SCD	Waiting for EPA to complete Site investigation, 3rd Qtr 2007									
Triangle Park (fn PDX Yard)	127	7.9 E	5620 N Van Houten	Kinder Morgan	Federal RPA 3004	IN	12/1/06	Bank Erosion	Ongoing	Finish Site Characterization	1st qr. 2007	Contaminants not entrained in stormwater & shoreline			EPA decision & commitment on 06/01/07 DEQ SCD	Waiting for EPA to complete Site investigation, 3rd Qtr 2007									
Triangle Park (fn PDX Yard)	127	7.9 E	5620 N Van Houten	Kinder Morgan	Federal RPA 3004	IN	12/1/06	Groundwater	Ongoing	Finish Site Characterization	1st qr. 2007	Pathway incomplete	to be determined		EPA decision & commitment on 06/01/07 DEQ SCD	Waiting for EPA to complete Site investigation, 3rd Qtr 2007									
Triangle Park (fn PDX Yard)	127	7.9 E	5620 N Van Houten	Kinder Morgan	Federal RPA 3004	IN	12/1/06	Stormwater	Ongoing	Finish Site Characterization	1st qr. 2007	Contaminants not entrained in stormwater & shoreline			EPA decision & commitment on 06/01/07 DEQ SCD	Waiting for EPA to complete Site investigation, 3rd Qtr 2007									
Triangle Park (fn PDX Yard)	127	7.9 E	5620 N Van Houten	Kinder Morgan	Federal RPA 3004	IN	12/1/06	Overland Activities	N/A	Finish Site Characterization	1st qr. 2007	No current overland activities	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	SCE #	Rank	Address	DEQ PM	Type of approved cleanup source control	Project status	Date last modified (mm-yy)	Potential/ confirmed migration pathway	Status of SCE	Major SCE tasks to be completed	Scheduled for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Interim control alternatives evaluation and schedule (mm-yy)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (mm-yy)	Steps to volume of contaminants controlled	Proposed SCM activities to be done and schedule (mm-yy)	Date SCM completed (mm-yy)	Status of EPA review of completed SCM	Operation and maintenance requirements
Triangle Park (CPGE Yard)	227	7.5 E	2020 N Vel Haven	Marina Main EPA	Remove PRN 2000	PL	12/1900	Other - Pathways unknown unless of stormwater from beneath the river	Ongoing	Finish PA/SI investigation	1st Q 2007	Insignificant pathway to surface receptors	Low		EPA reviewed & concurred w/ DEQ's SCE & SCD	Waiting for EPA to approve Site Investigation, 2nd Qtr 2007								
Gasco Blackthorn (1 mile Dr. 223)	40	7.5U	5000 NW 17th Ave	EPA, lead Chip Humphrey	E.Pt Cascade Center		07/1900	Groundwater Transport/Water Point	Low	Qtr	N/A	NPL	more		Yes	N/A	N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A
Gasco Blackthorn (1 mile Dr. 223)	40	7.5U	5000 NW 17th Ave	EPA, lead Chip Humphrey	EPA Cascade Station		07/1900	Surface Water	Low	N/A	N/A	N/A	more		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco Blackthorn (1 mile Dr. 223)	40	7.5U	5000 NW 17th Ave	EPA, lead Chip Humphrey	E.Pt Cascade Station		07/1900	Other Infiltration	Completed			Significant pathway	Low		EPA concurs		No SCM needed						EPA lead	
Gasco Blackthorn (1 mile Dr. 223)	40	7.5U	5000 NW 17th Ave	EPA, lead Chip Humphrey	Cascade Station		07/1900	Groundwater/Other Other Source	Ongoing	DEQ, with some objectivity to be determined, pathway to contaminated by river	to be determined	Pathway is complete	a. High		EPA lead									
Gasco Blackthorn (1 mile Dr. 223)	40	7.5U	5000 NW 17th Ave	EPA, lead Chip Humphrey	EPA Cascade Station		07/1900	Stormwater	Completed			Insignificant pathway exists. Current and future pathway for contaminated by river	Low	Medium	EPA concurs		(1) Contaminated soil removal (partial) (completed) 2) Bioremediation (ongoing) 3) RCRA waste consolidation 4) Remained waste area 5) GMS capping							EPA lead	
Gasco Blackthorn (1 mile Dr. 223)	40	7.5U	5000 NW 17th Ave	EPA, lead Chip Humphrey	EPA Cascade Station		07/1900	Groundwater Infiltration	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco Blackthorn (1 mile Dr. 223)	40	7.5U	5000 NW 17th Ave	EPA, lead Chip Humphrey	EPA Cascade Station		07/1900	Other - Seeps and Contact water	Completed			Insignificant pathway, Atlantic Source, drainage, Significant pathway, contaminated sediments	Low		EPA lead		Non-solid waste area, Joint Zone (JMU, GMS capping)							EPA lead	
Willamette Motor Barge, Chevron, Cascade Pacific	7502	7.7 U	5100 NW 3 NW Guilds	Blue Heronz	Pre-PA Cleanup Order (DEQ)	PS	09/1907	Overland Transport/Water Table	Completed			Insignificant pathway, contaminated sediments	Low		Joint Cascade, EPA, lead 2004, no comments		No SCM needed							N/A
Willamette Motor Barge, Chevron, Cascade Pacific	7502	7.7 U	5100 NW 3 NW Guilds	Blue Heronz	Pre-PA Cleanup Order (DEQ)	PS	09/1907	Water Pipeline	Ongoing	Air stripping system depth as of the water discharge stream	1907	Significant pathway, contaminated sediments	Low		Submitted to EPA, lat 2004, no comments		No SCM needed							N/A
Willamette Motor Barge, Chevron, Cascade Pacific	7502	7.7 U	5100 NW 3 NW Guilds	Blue Heronz	Pre-PA Cleanup Order (DEQ)	PS	09/1907	Groundwater	Completed			N/A (suspected) Deep Water pathway	High	High	Submitted to EPA, lat 2004, no comments	No interim control evaluation needed	Product recovery & monitoring, Groundwater, Water Site well	Proposed SCM activities to EPA, lat 2007, no comments	Installed monitoring and treatment		Completed monitoring, January 2007			Operation and Maintenance requirements
Willamette Motor Barge, Chevron, Cascade Pacific	7502	7.7 U	5100 NW 3 NW Guilds	EPA, lead Heronz	Pre-PA Cleanup Order (DEQ)	PS	09/1907	Wastewater	Ongoing	Conduct wastewater characterization	12/07	Waiting on SCC to be completed	to be determined		Waiting on SCC to be completed									
Willamette Motor Barge, Chevron, Cascade Pacific	7502	7.7 U	5100 NW 3 NW Guilds	Blue Heronz	Pre-PA Cleanup Order (DEQ)	PS	09/1907	Stormwater Activities	N/A	Qtr	N/A	No known current pathway exists, potential for GMS	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed												
Site name	ECSI #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (mm/dd)	Potential contaminated migration pathway	Status of SCE	Major SCE tasks to be completed	Estimate for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decisions	Source control alternatives evaluated (on site and/or off-site)	Selected SCMs	Status of EPA review of SCM selection decisions	SCM activities completed to date (freq)	Volume/mass of contaminants removed	Proposed SCM activities to be done after last reporting (freq)	Date SCM completed (m/d)	Basis of EPA review of completed SCM	Comments and outstanding requirements
Willbridge (Gasco, Gasco-Cornell, Cornell, Philips)	3242	1.1 W	Front Ave & Nebraska	Alice Romanski	Final PA Complete Review (DEQ)	4/5	06/15/07	Other	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chevron Asphalt	1261	3.0 W	5331 NW Front	Mark Pugh	PA Letter Agr for EPA (VCS)	3/14	06/05/07	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chevron Asphalt	1261	3.0 W	5331 NW Front	Mark Pugh	PA Letter Agr for EPA (VCS)	3/14	06/05/07	Bank Erosion	N/A	N/A	N/A	N/A			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chevron Asphalt	1261	3.0 W	5331 NW Front	Mark Pugh	PA Letter Agr for EPA (VCS), new agreement being negotiated	3/14	06/07/07	Groundwater	Ongoing	N/A	Winter 2008	Waiting on SCE to be completed	p Low	p Med	Waiting on SCE to be completed	Recontaminating 2008		Waiting on SCE to be completed	N/A					
Chevron Asphalt	1261	3.0 W	5331 NW Front	Mark Pugh	PA Letter Agr for EPA (VCS), new agreement being negotiated	3/14	06/07/07	Stormwater	Ongoing	EPA Sediment Investigation; DEQ provided comments for source control monitoring work plan. SCE Sediment pending	Winter 2008	Waiting on SCE to be completed	p Med		Waiting on SCE to be completed	Recontaminating 2008		Waiting on SCE to be completed	Rain events per month, inspection and water quality (water chemistry) on an as-needed basis					
Chevron Asphalt	1261	3.0 W	5331 NW Front	Mark Pugh	PA Letter Agr for EPA (VCS)	3/14	06/07/07	Groundwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chevron Asphalt	1261	3.0 W	5331 NW Front	Mark Pugh	PA Letter Agr for EPA (VCS)	3/14	06/07/07	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Ave LP	1228	3.1 W	4600, 5004 & 5020 NW Front	Alice Romanski	VCP Letter Agr for PA (VCS)	10	06/15/07	Overland Transport/Sheet Flow	N/A	N/A	2007	N/A	none	p Low	N/A									
Front Ave LP	1228	3.1 W	4600, 5004 & 5020 NW Front	Alice Romanski	VCP Letter Agr for PA (VCS)	10	06/15/07	Bank Erosion	Ongoing	Conducting SPA	2007	Waiting on SCE to be completed	p Low		Waiting on SCE to be completed									
Front Ave LP	1228	3.1 W	4600, 5004 & 5020 NW Front	Alice Romanski	VCP Letter Agr for PA (VCS)	10	06/15/07	Groundwater	Ongoing	Conducting SPA	2007	Waiting on SCE to be completed	p Low		Waiting on SCE to be completed									
Front Ave LP	1228	3.1 W	4600, 5004 & 5020 NW Front	Alice Romanski	VCP Letter Agr for PA (VCS)	10	06/15/07	Stormwater	Ongoing	Conducting SPA; addition of sampling needed for SCE completion	2007	Waiting on SCE to be completed	Under determination		Waiting on SCE to be completed									
Front Ave LP	1228	3.1 W	4600, 5004 & 5020 NW Front	Alice Romanski	VCP Letter Agr for PA (VCS)	10	06/15/07	Groundwater Activities	N/A	N/A	N/A	No basis to support a determination (upstream of CSRML)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Ave LP	1228	3.1 W	4600, 5004 & 5020 NW Front	Alice Romanski	VCP Letter Agr for PA (VCS)	10	06/15/07	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasco/ Northwest Inc.	3216		5200 NW Front Ave	Alice Romanski	Part of Front Ave LP site; See DEQ VCS			Overland Transport/Sheet Flow																
Gasco/ Northwest Inc.	3216		5200 NW Front Ave	Alice Romanski				Bank Erosion																
Gasco/ Northwest Inc.	3216		5200 NW Front Ave	Alice Romanski				Groundwater																
Gasco/ Northwest Inc.	3216		5200 NW Front Ave	Alice Romanski				Stormwater																
Gasco/ Northwest Inc.	3216		5200 NW Front Ave	Alice Romanski				Groundwater Activities																
Gasco/ Northwest Inc.	3216		5200 NW Front Ave	Alice Romanski				Other																
LSGC	1338	6.2 E	6701 N Basin Ave.	Tom Bolster	VCP Letter Agr (2000)	10	06/05/07	Overland Transport/Sheet Flow	Complete			Insignificant pathway, no action recommended	p Low	p Med	Waiting on SCE to be completed 12/07									
LSGC	1338	6.2 E	6701 N Basin Ave.	Tom Bolster	VCP Letter Agr (2000)	10	06/05/07	Bank Erosion	Complete			Insignificant pathway, no action recommended	p Low		Waiting on SCE to be completed 12/07									
LSGC	1338	6.2 E	6701 N Basin Ave.	Tom Bolster	VCP Letter Agr (2000)	10	06/05/07	Groundwater	Complete			Insignificant pathway, no action recommended	p Low		Waiting on SCE to be completed 12/07									

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

- Shading indicates that upland source control work has been completed at the site.
- Orange indicates that the site is a high priority, or possibly high priority for source control.
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- Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river																											
Site information					Project status			Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site name	SCE #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Anticipated for completing SCE	Basis for determination that source control is needed: Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decisions	Source control alternatives evaluation and schedule (m-y)	Selected SCDs	Status of EPA review of SCDI selection rationale	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM solutions to be done and schedule (m-y)	Desc SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
LNSCC	1008	8.2.0	8707 N Basin Ave.	Tom Guinn	VCP Letter Agr (DEQ)	IC	06/06/07	Stormwater	Ongoing	Sampling stormwater system.	2007	Waiting on SCE to be completed	2 Med	2 LPP	Waiting on SCD to be completed 2007	SCM process due 6/07								
LNSCC	1008	8.2.0	8707 N Basin Ave.	Tom Guinn	VCP Letter Agr (DEQ)	IC	06/12/06	Direct/Indirect Activities	Completed			No known current sources (up for review to be reopened for CERCLA)	Low		Waiting on SCD to be completed 2007									
LNSCC	1008	8.2.0	8707 N Basin Ave.	Tom Guinn	VCP Letter Agr (DEQ)	IC	03/08/06	Direct	100%	N/A	N/A	N/A	Med		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Free Desire	2065	8.3.0	4711 N Ensign	Mark Pugh	VCP Letter Agreement / IC	3-Yr	04/07/07	Overland Transport/Sheet Flow	N/A	Screening	No current schedule	No known current sources (up for review to be reopened for CERCLA)	none	2 LPP	N/A									
Free Desire	2065	8.3.0	4711 N Ensign	Mark Pugh	VCP Letter Agreement / IC	3-Yr	04/07/07	Barn Eclipse	N/A	Screening	No current schedule	No known current sources (up for review to be reopened for CERCLA)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Free Desire	2065	8.3.0	4711 N Ensign	Mark Pugh	VCP Letter Agreement / IC	3-Yr	04/07/07	Groundwater	N/A	Screening	No current schedule	No known current sources (up for review to be reopened for CERCLA)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Free Desire	2065	8.3.0	4711 N Ensign	Mark Pugh	VCP Letter Agreement / IC	3-Yr	06/07/07	Stormwater	Ongoing	Continue stormwater screening in 10 water year	Complete SCE early 2008	Waiting on SCD to be completed	2 Low		Waiting on SCD to be completed				2007 is such as stormwater sewers, exploration and cover drain, disinfect and pump 24,000 liters					
Free Desire	2065	8.3.0	4711 N Ensign	Mark Pugh	VCP Letter Agreement / IC	3-Yr	06/07/07	Overland Transport	N/A	N/A	N/A	No known current sources (up for review to be reopened for CERCLA)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Free Desire	2065	8.3.0	4711 N Ensign	Mark Pugh	VCP Letter Agreement / IC	3-Yr	06/07/07	Direct	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		[illegible]									
Freightliner Truck Plant	2900	8.4.0	9200 N Railroad	Mike Rumpke	PH Agr for RUSCM (1200)	IC	05/19/07	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	2 LPP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner Truck Plant	2900	8.4.0	9200 N Railroad	Mike Rumpke	PH Agr for RUSCM (1200)	IC	06/14/07	Barn Eclipse	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner Truck Plant	2900	8.4.0	9200 N Railroad	Mike Rumpke	PH Agr for RUSCM (1200)	IC	07/14/07	Groundwater	Ongoing	SCM to reduce and extent of VOC plume	Investigation complete 2008	Waiting on SCD/IR report to be completed	2 Low		Waiting on SCD/IR to be completed									
Freightliner Truck Plant	2900	8.4.0	9200 N Railroad	Mike Rumpke	PH Agr for RUSCM (1200)	IC	06/14/07	Stormwater	Ongoing	Site evaluation / sampling	12/07	SWMP or NPDES to be completed	To be determined		Waiting on SCD to be completed		EI recently applied to the engineer up for review on line on Sheet Charter, cleaning inside line, stormwater system attached (revised DK plan to controlling sampling)							

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Confirmed or suspected Sources of contamination to the river									Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status																				
Site name	DEQ #	River mile	Address	DEQ File	Type of Agreement affecting source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Basis for determination that source control is needed: Pathway determination	Basis for determination that source control is needed: Pathway priority level	Basis for determination that source control is needed: Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection rationale	SCM activities completed to date (m-y)	Basis or rationale of certain basis controlled	Proposed SCM initiation to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirement
Freightliner Truck Plant	3MB	6.4 E	4536 N Faloma	Blue Schools	Pre-Agr for RCRA (1995)	IH	8/1/1997	Groundwater Activities	n/a	N/A	N/A	N/A	Other		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner Truck Plant	3MB	6.4 E	4536 N Faloma	Blue Schools	Pre-Agr for RCRA (1995)	IH	8/1/1997	Other	N/A	N/A	N/A	N/A	Other		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Linnemann Industries	3DT2	6.4 W	4810 NWTTTH	No Pre-SCS Managed Assigned	Pre-Letter Agr for EPA (2003)	n/a	10/3/2003	Drainage Transportation Pipe	N/A	N/A	N/A	N/A	Other	2 Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Linnemann Industries	3DT2	6.4 W	4810 NWTTTH	No Pre-SCS Managed Assigned	Pre-Letter Agr for EPA (2003)	n/a	10/3/2003	Bank Erosion	Completed			Insufficient pathway risk/SCS not recommended	2 Low		Waiting on EPA comp check										
Linnemann Industries	3DT2	6.4 W	4810 NWTTTH	No Pre-SCS Managed Assigned	Pre-Letter Agr for EPA (2003)	n/a	10/3/2003	Groundwater	Ongoing	DEQ review of NCE data and source control defend details	10-30-2007	Waiting on NCE to be completed	2 Low		Waiting to EPA comp check		UIC closure in 2005								
Linnemann Industries	3DT2	6.4 W	4810 NWTTTH	No Pre-SCS Managed Assigned	Pre-Letter Agr for EPA (2003)	n/a	10/3/2003	Stormwater	Ongoing	Stormwater evaluation	to be determined	Waiting on NCE to be completed	to be determined		Waiting on DEQ comp check		Waiting DEQ stormwater UICs closure in 2005								
Linnemann Industries	3DT2	6.4 W	4810 NWTTTH	No Pre-SCS Managed Assigned	Pre-Letter Agr for EPA (2003)	n/a	10/3/2003	Overlands Activities	N/A	N/A	N/A	No contaminants, sediment depth reported to DEQ/EQ	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Linnemann Industries	3DT2	6.4 W	4810 NWTTTH	No Pre-SCS Managed Assigned	Pre-Letter Agr for EPA (2003)	n/a	10/3/2003	Other	N/A	N/A	N/A	N/A	Other		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portland Shipyard	3T1	6.4 E	Swan Island	Jennifer Sutter	Voluntary Agreement (2006)	IH	11/2/2006	Bank Erosion	Ongoing	RI/FS is conducting IH to determine if SCM is needed	Summer 2007	Waiting on SCE to be completed	p Med	3 Med	Waiting on DEQ to be completed										
Portland Shipyard	3T1	6.4 E	Swan Island	Jennifer Sutter	Voluntary Agreement (2006)	IH	11/2/2006	Bank Erosion – N. Channel Ave Pier Area	Ongoing	RI/FS is conducting IH to determine if SCM is needed	Fall 2007	Waiting on SCE to be completed	p Med		Waiting on DEQ to be completed										
Portland Shipyard	3T1	6.4 E	Swan Island	Jennifer Sutter	Voluntary Agreement (2006)	IH	11/2/2006	Groundwater	Ongoing		Summer 2007	Waiting on SCE to be completed	p Med	3 Med	Waiting on DEQ to be completed										
Portland Shipyard	3T1	6.4 E	Swan Island	Jennifer Sutter	Voluntary Agreement (2006)	IH	11/2/2006	Drainlines/Bank – N. Channel Ave Pier Area	Ongoing	Risk assessment workplan approved with comment, plans to get investigation in progress (DEQ)	Fall 2007	Waiting on SCE to be completed	p Med		Waiting on DEQ to be completed										
Portland Shipyard	3T1	6.4 E	Swan Island	Jennifer Sutter	Water Agreement w/Sugar Industries (2006)	IH	11/2/2006	Stormwater	Ongoing	Oil sep – Stormwater and south sampling workplan submitted (DEQ)	Summer 2007	Waiting on DEQ Response to be submitted	p Med		Waiting on DEQ to be completed										
Portland Shipyard	3T1	6.4 E	Swan Island	Jennifer Sutter	Voluntary Agreement (2006)	IH	11/2/2006	Stormwater – N. Channel Ave Pier Area	Ongoing	Risk assessment workplan approved with comment	Fall 2007	Waiting on SCE to be completed	p Med	p Med	Waiting on DEQ to be completed										
Portland Shipyard	3T1	6.4 A	Swan Island	Jennifer Sutter	Voluntary Agreement (2006)	IH	11/2/2006	Overwater Activities	N/A	N/A	N/A	No work plans, sediment reports not to be expected (DEQ)	n/a		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portland Shipyard	3T1	6.4 E	Swan Island	Jennifer Sutter	Voluntary Agreement (2006)	IH	11/2/2006	Overwater Activities – N. Channel Ave Pier Area	N/A	N/A	N/A	No work plans, sediment reports not to be expected (DEQ)	n/a		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portland Shipyard	3T1	6.4 E	Swan Island	Jennifer Sutter	Voluntary Agreement (2006)	IH	11/2/2006	Overland Transportation Pipe	Ongoing	RI/FS is conducting IH to determine if SCM is needed	Summer 2007	Waiting on SCE to be completed	p Med		Waiting on DEQ to be completed										
Portland Shipyard	3T1	6.4 E	Swan Island	Jennifer Sutter	Voluntary Agreement (2006)	IH	11/2/2006	Overland Transportation Pipe – N. Channel Ave Pier Area	Ongoing	Risk assessment using an approved with comment	Fall 2007	Waiting on SCE to be completed	p Med		Waiting on DEQ to be completed										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		[illegible]		[illegible]								
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Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

[illegible]

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Confirmed or suspected **Sources** of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	ECSI #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Stormwater	Completed			[illegible]	Low		[illegible]		No SCM needed							[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Completed			[illegible]	[illegible]		[illegible]		[illegible]							[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N/A	N/A	N/A	N/A	[illegible]		[illegible]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	[illegible]		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N/A	N/A	N/A	N/A	[illegible]		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N/A	N/A	N/A	N/A	[illegible]	Medium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater	Completed			[illegible]	Medium		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Overwater Activities	N/A	N/A	N/A	N/A	[illegible]		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Other	N/A	N/A	N/A	N/A	[illegible]		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Texaco Product Pipeline	2117	8.7	[illegible] Front Ave	Matt McClincy	[illegible]	[illegible]	[illegible]	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Texaco Product Pipeline	2117	8.7	[illegible] Front Ave	Matt McClincy	[illegible]	[illegible]	[illegible]	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Texaco Product Pipeline	2117	8.7	[illegible] Front Ave	Matt McClincy	[illegible]	[illegible]	[illegible]	Groundwater	Ongoing	[illegible]	To be determined	Waiting on SCE to be completed	p Low	p Low	Waiting for SCE to be completed									
Texaco Product Pipeline	2117	8.7	[illegible] Front Ave	Matt McClincy	[illegible]	[illegible]	[illegible]	Stormwater	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Texaco Product Pipeline	2117	8.7	[illegible] Front Ave	Matt McClincy	[illegible]	[illegible]	[illegible]	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Texaco Product Pipeline	2117	8.7	[illegible] Front Ave	Matt McClincy	[illegible]	[illegible]	[illegible]	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible] Recovery	[illegible]	[illegible]	[illegible] NW Yeon	Matt McClincy	[illegible]	[illegible]	[illegible]	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible] Recovery	[illegible]	[illegible]	[illegible] NW Yeon	Matt McClincy	[illegible]	[illegible]	[illegible]	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible] Recovery	[illegible]	[illegible]	[illegible] NW Yeon	Matt McClincy	[illegible]	[illegible]	[illegible]	Groundwater	Completed			[illegible]	Low	Low	Waiting on SCE completion		No SCM needed							
[illegible] Recovery	[illegible]	[illegible]	[illegible] NW Yeon	Matt McClincy	None	[illegible]	[illegible]	Stormwater		[illegible]	[illegible]	Waiting on SCE to be completed	To be determined		Waiting on SCE completion									
[illegible] Recovery	[illegible]	[illegible]	[illegible] NW Yeon	Matt McClincy	[illegible]	[illegible]	[illegible]	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible] Recovery	[illegible]	[illegible]	[illegible] NW Yeon	Matt McClincy	[illegible]	[illegible]	[illegible]	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	Tom Roick	[illegible]	[illegible]	[illegible]	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
[illegible]	[illegible]	[illegible]	[illegible]	Tom Roick	[illegible]	[illegible]	[illegible]	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected SOURCES or contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	SCD #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m/d/y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusions	Source control alternatives evaluated (or not) and schedule (m/y)	Selected SCDs	Status of EPA review of SCD selection decisions	SCM activities completed (to date) (m/y)	Basis or nature of contaminants controlled	Proposed SCM activities to be done and schedule (m/y)	Short-SCM completed (m/y)	Status of EPA review of completed SCM	Operation and maintenance requirements
PDX Forest Park	2A02	8.5	4400 Barry Street	Tom Raslan	TPA	IP	06/12/07	Overland	N/A	N/A	N/A	N/A	none	p Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PDX Forest Park	2A08	8.5	4400 Barry Street	Tom Raslan	TPA	IP	06/12/07	Stormwater	Ongoing	Storm line investigation report submitted 6/07	Schedule for completing SCE: Fall '07	Waiting on SCE to be completed	p Low		Waiting on SCE to be completed									
PDX Forest Park	2A02	8.5	4400 Barry Street	Tom Raslan	TPA	IP	06/12/07	Groundwater	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PDX Forest Park	2A08	8.5	4400 Barry Street	Tom Raslan	TPA	IP	06/12/07	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium Co	2A08	8.8 W	2001 NW 52 Helens	Tom Dermer	VCP Letter Agr for PA (8/06)	ETA	05/08/06	Overland Transport/Wind Flow	N/A	N/A	N/A	N/A	none	p Med	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium Co	2A08	8.8 W	2001 NW 52 Helens	Tom Dermer	VCP Letter Agr for PA (8/06)	ETA	05/08/06	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium Co	2A08	8.8 W	2001 NW 52 Helens	Tom Dermer	VCP Letter Agr for PA (8/06)	ETA	05/08/06	Groundwater	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium Co	2A08	8.8 W	2001 NW 52 Helens	Tom Dermer	VCP Letter Agr for PA (8/06)	ETA	05/08/06	Stormwater	Ongoing	Storm water sampling per pMOD	Summer 2007	Waiting on SCP to be completed	p Med		Waiting on SCP to be completed	Storm water SWPPP and training paper work complete								
Chromium Co	2A08	8.8 W	2001 NW 52 Helens	Tom Dermer	VCP Letter Agr for PA (8/06)	ETA	05/08/06	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium Co	2A08	8.8 W	2001 NW 52 Helens	Tom Dermer	VCP Letter Agr for PA (8/06)	ETA	05/08/06	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Texaco Terminal	1H	4 W	3800 NW 31 Helens	Mark Krachney	Pri Agr for BWSCA (8/02)	IP	06/12/06	Overland Transport/Wind Flow	N/A	N/A	N/A	N/A	none	p Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Texaco Terminal	1H2	4.3 W	3800 NW 31 Helens	Mark Krachney	Pri Agr for BWSCA (8/02)	IP	06/12/06	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Texaco Terminal	1H2	4.3 W	3800 NW 31 Helens	Mark Krachney	Pri Agr for BWSCA (8/02)	IP	12/14/06	Groundwater	Ongoing	97 hours to delete 81 and 3C01 report	to be determined	Waiting on SCD to be completed	3 Low		Waiting for SCD to be completed									
Texaco Terminal	1H2	4 W	3800 NW 31 Helens	Mark Krachney	Pri Agr for BWSCA (8/02)	IP	12/14/06	Stormwater	Ongoing	Overwater Evaluation Work Plan due Summer 2007	to be determined	Waiting on SCD to be completed	to be determined		Waiting on SCD to be completed									
Texaco Terminal	1H2	4.3 W	3800 NW 31 Helens	Mark Krachney	Pri Agr for BWSCA (8/02)	IP	06/12/06	Overwater Activities	N/A	N/A	N/A	No known current source (NOAA/ACE DEFR)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Texaco Terminal	1H2	4.3 W	3800 NW 31 Helens	Mark Krachney	Pri Agr for BWSCA (8/02)	IP	06/12/06	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anderson Brothers Property	2T6	3.8	5270 N 50 S NW 60, Helens Rd	Bob Schwarz	CP	IP	11/28/06	Overland Transport/Wind Flow	N/A	N/A	N/A	N/A	none	p Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anderson Brothers Property	2T6	3.8	5270 N 50 S NW 60, Helens Rd	Bob Schwarz	ICP	IP	11/28/06	Bank Erosion	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anderson Brothers Property	2T6	3.8	5270 N 50 S NW 60, Helens Rd	Bob Schwarz	ICP	IP	11/28/06	Groundwater	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anderson Brothers Property	2T6	3.8	5270 N 50 S NW 60, Helens Rd	Bob Schwarz	ICP	IP	11/28/06	Stormwater	Ongoing	Stormwater TV of CMP SO and drains are connected - Direct sewer monitoring ongoing	N/A	Waiting on SCD to be completed - schedule to be determined	3 Low		Waiting on SCD to be completed					04 qtr 2007				
Anderson Brothers Property	2T6	3.8	5270 N 50 S NW 60, Helens Rd	Bob Schwarz	ICP	IP	11/28/06	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anderson Brothers Property	2T6	3.8	5270 N 50 S NW 60, Helens Rd	Bob Schwarz	ICP	IP	11/28/06	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alexander and Rogers	3J6	8	2NW NW Front Ave	EPA and Andrew Kadi	RCRA Order	IP	12/18/06	Overland Transport/Wind Flow	N/A	N/A	N/A	N/A	None		N/A									
Alexander and Rogers	3J6	8	3NW NW Front Ave	EPA and Andrew Kadi	RCRA Order	IP	12/18/06	Bank Erosion	N/A	N/A	N/A	N/A	None		N/A									
Alexander and Rogers	3J6	8	3NW NW Front Ave	EPA and Andrew Kadi	RCRA Order	IP	12/18/06	Groundwater	Ongoing	low current schedule	No current schedule	Waiting on SCP to be completed	to be determined		N/A									

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Confirmed or suspected Sources of contamination to the river									Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed													
Site name	RCSI #	River mile	Address	DEQ PM	Type of agreement directing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE conclusion	Source control alternatives evaluated (or are scheduled to do so)	Selected SCDs	Status of EPA review of SCDs selection decision	SCM activities completed to date (to-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (to-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Comment and maintenance requirements
Vanmeter and Rogers	[illegible]	[illegible]	[illegible] Ave	DEQ, WQ, Joanne Roth	NOAA Order	[illegible]	[illegible]	Stormwater	Ongoing	No current scheduled tasks	No current schedule	Waiting on SCE to be completed	To be determined		N/A										
Vanmeter and Rogers	[illegible]	[illegible]	[illegible] Ave	DEQ, WQ, Joanne Roth	NOAA Order	[illegible]	[illegible]	Overwater activities	N/A	N/A	N/A	N/A	None		N/A										
Vanmeter and Rogers	[illegible]	[illegible]	[illegible] Ave	DEQ, WQ, Joanne Roth	NOAA Order	[illegible]	[illegible]	Other																	
Gunn Lake Sill Yard	[illegible]	[illegible]	[illegible] Ave	Mark Bowden	PA Agr for RCRA (1989)	[illegible]	[illegible]	Overland Transportation Flow	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gunn Lake Sill Yard	[illegible]	[illegible]	[illegible] Ave	Mark Bowden	PA Agr for RCRA (1989)	[illegible]	[illegible]	Soils (Upland)	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gunn Lake Sill Yard	[illegible]	[illegible]	[illegible] Ave	Mark Bowden	PA Agr for RCRA (1989)	[illegible]	[illegible]	Groundwater	Ongoing	Soil investigation ongoing in early stages	[illegible] Phase III report identified some sources, but SCE schedule to be determined later	Waiting on RCSI to be completed	Low	Low	Waiting on RCSI to be completed										
Gunn Lake Sill Yard	[illegible]	[illegible]	[illegible] Ave	Mark Bowden	PA Agr for RCRA (1989)	[illegible]	[illegible]	Stormwater	Ongoing	Site investigation ongoing in early stages	[illegible] Phase III report identified some sources, but evaluation to begin fall 07	Waiting on RCSI to be completed	To be determined		Waiting on RCSI to be completed										
Gunn Lake Sill Yard	[illegible]	[illegible]	[illegible] Ave	Mark Bowden	PA Agr for RCRA (1989)	[illegible]	[illegible]	Overwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gunn Lake Sill Yard	[illegible]	[illegible]	[illegible] Ave	Mark Bowden	PA Agr for RCRA (1989)	[illegible]	[illegible]	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasoline	[illegible]	[illegible]	[illegible]	Dave Bayne	PA Agr for RCRA (1989)	[illegible]	[illegible]	Overland Transportation Flow - Area 1	N/A	Soil - analysis results pending Jan/August	N/A	N/A	Low	High	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasoline	[illegible]	[illegible]	[illegible]	Dave Bayne	PA Agr for RCRA (1989)	[illegible]	[illegible]	Overland Transportation Flow - Area 2	Ongoing	Previous 'R' report of source control completed, additional [illegible]	TBD pending EPA review of 'R' report	Relevant to complete	High		Waiting on RCSI to be completed										
Gasoline	[illegible]	[illegible]	[illegible]	Dave Bayne	PA Agr for RCRA (1989)	[illegible]	[illegible]	Overland Transportation Flow - Area 3	Ongoing	Previous 'R' report of source control completed, additional [illegible]	TBD pending EPA review of Portland 'R' report	Pathway incomplete	High		Waiting on RCSI completion										
Gasoline	[illegible]	[illegible]	[illegible]	Dave Bayne	PA Agr for RCRA (1989)	[illegible]	[illegible]	North Stream Area 1	Ongoing	Survey of available data, Ecotox screening	No current schedule	Waiting on RCSI to be completed	To be determined		Waiting on RCSI completion										
					PA Agr for RCRA (1989)	[illegible]	[illegible]	Side Stream Area 1	Completed			Pathway incomplete	High			TBD pending EPA review of 'R' report & Corrective measures study	[illegible]		[illegible]						
Gasoline	[illegible]	[illegible]	[illegible]	Dave Bayne	PA Agr for RCRA (1989)	[illegible]	[illegible]	Main Stream Area 2	Completed			Pathway incomplete	High			TBD pending RCSI, review of 'R' report & Corrective measures study	[illegible]								
Gasoline	[illegible]	[illegible]	[illegible]	Dave Bayne	PA Agr for RCRA (1989)	[illegible]	[illegible]	Overwater Activities - Area 3	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasoline	[illegible]	[illegible]	[illegible]	Dave Bayne	PA Agr for RCRA (1989)	[illegible]	[illegible]	Groundwater Area 1	Completed	Perc. RCSI submitted to EPA February 2003. SCMs implemented	N/A	Site evaluated to be complete pathway, RCSI source control and reduction met	Allow		EPA concurrently waiting RCS	Alternatives analyzed in Feasibility Study (FS) (Ecology 2003)	Technologies: containment and active removal	RCSI submitted 12/31/03. EPA approved conceptual RCSI (2003)	PNC electrical bonding replaced and tested operating	~4 cu.yd. of NAPL recovered as of 2007	Aquifer investigation results of VOC plume on Lakeside Industries property. Schedule TBD			Quarterly performance monitoring and reporting
Gasoline	[illegible]	[illegible]	[illegible]	Dave Bayne	PA Agr for RCRA (1989)	[illegible]	[illegible]	Stormwater Area 2	Ongoing	Preliminary 'R' report of source control completed, additional [illegible]	Continuous monitoring	Waiting on RCSI to be completed	To be determined		Waiting on RCSI to be completed										

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status																			
Site name	ECSI #	Site priority	Address	DEQ PM	Type of agreement (cleanup source control)	Project status	Date last modified (YY-MM)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Basis for determination that source control is needed: Pathway determination	Basis for determination that source control is needed: Pathway priority level	Basis for determination that source control is needed: Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluated and schedule (key)	Related SCDs	Status of EPA review of SCD selection decision	SCM activities completed to date (key)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (key)	Date SCM completed (YY-MM)	Status of EPA review of completed SCM	Operation and maintenance requirements
Guardian	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater - Area 1	Ongoing	[illegible]	Complete by [illegible]	Pathway is complete	High		Waiting on SCD to be completed									
Guardian	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Stormwater - Area 1	Ongoing	[illegible]	[illegible]	Waiting on SCD to be completed	Medium		Waiting on SCD to be completed									
Guardian	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater - Area 2	Ongoing	[illegible]	[illegible]	Pathway is complete	High		Waiting on SCD to be completed									
Guardian	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Groundwater - Area 3	Completed			Pathway is complete	High			[illegible]	[illegible]		[illegible]					
Guardian	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Other	n/a	N/A	N/A	Site	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner (Parts Wg. Plant)	[illegible]	[illegible]	[illegible]	Mike Reynolds	[illegible]	[illegible]	[illegible]	Overland transport/Sediment flow	n/a	N/A	N/A	N/A	None	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner (Parts Wg. Plant)	[illegible]	[illegible]	[illegible]	Mike Dionisio	[illegible]	[illegible]	[illegible]	Back Eddies	n/a	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner (Parts Wg. Plant)	[illegible]	[illegible]	[illegible]	Mike Remson	[illegible]	[illegible]	[illegible]	Groundwater	Ongoing	Groundwater sampling completion	2007	Waiting on SCD to be completed	Low											
Freightliner (Parts Wg. Plant)	[illegible]	[illegible]	[illegible]	Mike Kenyon	[illegible]	[illegible]	[illegible]	Stormwater	Ongoing	Additional stormwater sampling needed	SCM approved SCD	Waiting on SCD to be completed	In the near future				SCM selected; decision on alternative known prior to completing screening							
Freightliner (Parts Wg. Plant)	[illegible]	[illegible]	[illegible]	Mike Remson	[illegible]	[illegible]	[illegible]	Overwater sediment	n/a	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Freightliner (Parts Wg. Plant)	[illegible]	[illegible]	[illegible]	Mike Remson	[illegible]	[illegible]	[illegible]	Other	n/a	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Columbia American Plating	39	[illegible]	[illegible]	Mark Pugh	Negotiating PPA	Negotiating PPA	[illegible]	Overland transport/Sediment flow	n/a	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Columbia American Plating	39	[illegible]	[illegible]	Mark Pugh	Negotiating PPA	Negotiating PPA	[illegible]	Back Eddies	n/a	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Columbia American Plating	39	[illegible]	[illegible]	Mark Pugh	Negotiating PPA	Negotiating PPA	[illegible]	Groundwater	Not Started		We submit all notes pending PPA development	Waiting on SCD to be completed	Low	Low	N/A									
Columbia American Plating	39	[illegible]	[illegible]	Mark Pugh	Negotiating PPA	Negotiating PPA	[illegible]	Stormwater	Not Started	Wastewater and sampling of stormwater	We submit all notes pending PPA development	Waiting on SCD to be completed	Low		N/A									
Columbia American Plating	39	[illegible]	[illegible]	Mark Pugh	Negotiating PPA	Negotiating PPA	[illegible]	Overwater sediment	n/a	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Columbia American Plating	39	[illegible]	[illegible]	Mark Pugh	Negotiating PPA	Negotiating PPA	[illegible]	Other	n/a	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GE Decommissioning	4900	[illegible]	2727 NW 29th	Tom Gainer	PA Alg for RPA (VCA)	RPA	[illegible]	Guaranty Transport/Sediment flow	n/a	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GE Decommissioning	4900	[illegible]	2727 NW 29th	Tom Gainer	PA Alg for RPA (VCA)	RPA	[illegible]	Back Eddies	n/a	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 1: DEQ Milestone Report
Controlling Confirmed or Suspected Upland Sources of Contamination to Portland Harbor

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	SCS #	River mile	Address	DEQ PM	Type of agreement providing source control	Project status	Date last modified (m-d-y)	Potential problematic migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCDs	Status of EPA review of SCD selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-d)	Status of EPA review of completed SCM	Operation and maintenance requirements
GE Decommissioning	4003	8.5 W	2727 NW 24th	Tom Dietter	PA Agr for XPA (UA)	X/A	03/06/02	Groundwater	N/A	N/A	N/A	N/A	none	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GE Decommissioning	4003	8.5 W	2727 NW 24th	Tom Dietter	PA Agr W XPA (UA)	X/A	06/02/07	Stormwater	Pending EPA Review		2008 (CS) report submitted	Pathway is complete	High		To be determined	SCM implementation report summer 2007	Removal of PCB contaminated soil/sediment from onsite storm drains and sewer lines. Tax Chatham; new cross points		To be 2007					Stormwater testing evaluation ongoing; lump site by winter 2007
GE Decommissioning	4003	8.5 W	2727 NW 24th	Tom Dietter	PA Agr for XPA (UA)	X/A	03/06/02	Overwater Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasholders Company	1108	8.6 W	2408 NW 30th	Dana Beyak	PA Agr for XPA (UGS)	X/A	03/06/07	Overland Transport/Sewer Flow	N/A	N/A, site located ~4,500 feet from river	N/A	N/A	None	To be determined	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasholders Company	1108	8.6 W	2408 NW 30th	Dana Beyak	PA Agr for XPA (UGS)	X/A	03/06/07	Back Siphon	N/A	N/A, site located ~4,500 feet from river	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasholders Company	1108	8.6 W	2408 NW 30th	Dana Beyak	PA Agr for XPA (UGS)	X/A	03/06/07	Groundwater	Ongoing	Continued monitoring	No current schedule (current focus is storm water pathway)	Pathway is complete	to be determined		Waiting on SCS to be completed									
Gasholders Company	1108	8.6 W	2408 NW 30th	Dana Beyak	PA Agr for XPA (UGS)	X/A	03/06/07	Stormwater	Ongoing	Follow-up storm water monitoring per JCCS (Sth Ave. wing) and access connections, discharge, and potential impacts in Cully (28th Ave. line)	Fall 2007	Pathway is complete	to be determined		Waiting on SCS to be completed		First SCM TBD interim SCMs include BMPs (yard sweeping, catch-basin filter inserts, yard pan/gardening, improving operations and reducing connections to City lines)		Collecting roof run-off/storm water from lower Yard canopy for use in gardening process (2007).		Sealing unused/unnecessary connections to City piping, site paving and parcel/yard sealing (Fall 2007).			
Gasholders Company	1108	8.6 W	2408 NW 30th	Dana Beyak	PA Agr for XPA (UGS)	X/A	03/06/07	Overwater Activities	N/A	N/A, site located ~4,500 feet from river	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasholders Company	1108	8.6 W	2408 NW 30th	Dana Beyak	PA Agr for XPA (UGS)	X/A	03/06/07	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fecia Pumper	1140	8.6	2021 NW 30th	Tom Raeck	IGP Agreement (01/02/07)	Site investigation	02/1/2007	Overland Transport/Sewer Flow	N/A	N/A	N/A	N/A	none	3/Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fecia Pumper	1140	8.6	2021 NW 30th	Tom Raeck	IGP Agreement (01/02/07)	Site investigation	09/1/2007	Back Siphon	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fecia Pumper	1140	8.6	2021 NW 30th	Tom Raeck	IGP Agreement (01/02/07)	Site investigation	09/1/2007	Groundwater	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fecia Pumper	1140	8.6	2021 NW 30th	Tom Raeck	IGP Agreement (01/02/07)	Site investigation	09/1/2007	Stormwater	Ongoing	Biotic sampling and low detection analysis	TCHN wood development due 2007	No current pathways; apply decision tree if risk to be investigated	3/Low		Waiting on SCS completion									
Fecia Pumper	1140	8.6	2021 NW 30th	Tom Raeck	IGP Agreement (01/02/07)	Site investigation	09/1/2007	Overwater Activities	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fecia Pumper	1140	8.6	2021 NW 30th	Tom Raeck	IGP Agreement (01/02/07)	Site investigation	09/1/2007	Other	N/A	N/A	N/A	N/A	None		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Basis for determination that source control is needed												
Site name	ECSI #	River mile	Address	DEQ PM	Type of agreement providing source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decisions	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection decision	SCM activities completed to date (m-y)	Status or volume of contaminants controlled	Proposed SCM activities in the near and schedule (m-y)	Date SCM completed (m-y)	Basis of EPA review of completed SCM	Operation and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Port of Portland Terminal 5	2790	10.0 W	5000 NW Front	Tom Gainer	IGA	3/14	03/08/05	Overland Transport/Wind Pile	n/a	N/A	N/A	N/A	none	[illegible]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal 5	2790	10.0 W	5000 NW Front	Tom Gainer	IGA	3/14	04/08/05	Bank Erosion	n/a	N/A	N/A	N/A	none	[illegible]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal 2	2790	10.0 W	5000 NW Front	Tom Gainer	IGA	3/14	03/08/05	Site Activity	Completed			Highest/Best Pathway not at this recommended	p Low	p Low	Waiting on SCE to be completed 2007									
Port of Portland Terminal 2	2790	10.0 W	5000 NW Front	Tom Gainer	IGA	3/14	04/08/05	Stormwater	Ongoing	Evaluate stormwater system	Winter 2007	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed 2007									
Port of Portland Terminal 2	2790	10.0 W	5000 NW Front	Tom Gainer	IGA	3/14	03/08/05	Grit/Litter Activities	n/a	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Port of Portland Terminal 2	2790	10.0 W	5000 NW Front	Tom Gainer	IGA	3/14	03/08/05	Other	n/a	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LPNW Albany	172	12.0 E	2740 N Interstate	Mike Rosman	No Agr for RI/FS (SC2)	30	09/14/07	Overland Transport/Wind Pile	Ongoing	SCE ongoing	12/07	Waiting on SCE to be completed	p Low	p Low	Waiting on SCE to be completed									
LPNW Albany	176	12.0 E	2740 N Interstate	Mike Rosman	No Agr for RI/FS (SC2)	30	09/14/07	Bank Erosion	Ongoing	SCE ongoing	12/07	Waiting on SCE to be completed	p Low		Waiting on SCE to be completed									
LPNW Albany	172	12.0 E	2740 N Interstate	Mike Rosman	No Agr for RI/FS (SC2)	30	09/14/07	Groundwater	Ongoing	SCE ongoing, additional monitoring wells completed 2006	12/07	Waiting on SCE to be completed	to be determined		Waiting on SCE to be completed									
LPNW Albany	172	12.0 E	2740 N Interstate	Mike Rosman	No Agr for RI/FS (SC2)	30	09/14/07	Stormwater	Ongoing	SCE ongoing, second leg in latest 2006	12/07	Waiting on SCE to be completed	to be determined	p Low	Waiting on SCE to be completed		RP presented a stormwater analysis prior to completion of remedial investigation; SCMs may be needed							
LPNW Albany	174	30.0 E	2740 N Interstate	Mike Rosman	No Agr for RI/FS (SC2)	30	09/14/07	Overland Activities	n/a	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LPNW Albany	174	12.0 E	2740 N Interstate	Mike Rosman	No Agr for RI/FS (SC2)	30	09/14/07	Other	n/a	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)									Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site Information					Project status							Basis for determination that source control is needed													
Site name	SCD #	River mile	Address	DEQ PM	Type of upland sheeting source control	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of SCE	Major SCE tasks to be completed	Schedule for completing SCE	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of SCE decision	Source control alternatives evaluation and schedule (m-y)	Selected SCDs	Status of EPA review of SCE selection decision	SCM activities completed to date (m-y)	Mass or volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Basis of EPA review of completed SCM	Operation and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]								
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gasoline Plant	1200	10.4 W	2800 NW Front	Mark Pugh	Pr Agr for EPA (WQ)	A/R	06/07/07	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	Medium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasoline Plant	1200	10.4 W	2800 NW Front	Mark Pugh	Pr Agr for EPA (WQ)	A/R	06/07/07	Storm Sewer	Ongoing	RI is conducting a SCE	Spring 2008	Waiting on SCE to be completed	p Low		N/A	Schedule for completing draft evaluation report (none 2008)		SCE evaluation pending						
Gasoline Plant	1200	10.4 W	2800 NW Front	Mark Pugh	Pr Agr for EPA (WQ)	A/R	06/07/07	Groundwater	Ongoing	RI is conducting a SCE	Spring 2008	Waiting on SCE to be completed	p Low		N/A	Schedule for completing draft evaluation report (none 2008)		SCE evaluation pending						
Gasoline Plant	1200	10.4 W	2800 NW Front	Mark Pugh	Pr Agr for EPA (WQ)	A/R	06/07/07	Stormwater	Ongoing	RI is conducting a SCE	Spring 2008	Waiting on SCE to be completed	Med Uncl		N/A	Schedule for completing draft evaluation report (none 2008)	Storm line was clean basin cleaned	SCE evaluation pending	Cleaned completely 11 Oct 2006	15 tons of sludge	Twice annual reports of basin cleans		N/A	periodic inspection and maintenance, twice annual basin cleans
Gasoline Plant	1200	10.4 W	2800 NW Front	Mark Pugh	Pr Agr for EPA (WQ)	A/R	06/07/07	Overbank Activities	N/A	N/A	N/A	No known current sources (data needed to CLEAR)	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasoline Plant	1200	10.4 W	2800 NW Front	Mark Pugh	Pr Agr for EPA (WQ)	A/R	06/07/07	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portal Parkland Terrace 1 North	1277	[illegible]	[illegible]	Tom Gainer	Pr Agr for RI/FS	W	[illegible]	Overland Transport/Sheet Flow	N/A	N/A	N/A	N/A	none	p Low	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portal Parkland Terrace 1 North	1277	[illegible]	[illegible]	Tom Gainer	Pr Agr for RI/FS	W	[illegible]	Sheet Flooding	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portal Parkland Terrace 1 North	1277	[illegible]	[illegible]	Tom Gainer	Pr Agr for RI/FS	W	[illegible]	Groundwater	Pending EPA Review		Summer 2007	Waiting on SCE to be completed	p Low		Waiting on SCE to be completed Summer 2007									
Portal Parkland Terrace 1 North	1277	[illegible]	[illegible]	Tom Gainer	Pr Agr for RI/FS	W	[illegible]	Stormwater	Ongoing	Winter 2006 video basin sediment cleans	Summer 2007	Waiting on SCE to be completed	p Low		Waiting on SCE to be completed Summer 2007									
Portal Parkland Terrace 1 North	1277	[illegible]	[illegible]	Tom Gainer	Pr Agr for RI/FS	W	[illegible]	Overbank Activities	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Portal Parkland Terrace 1 North	1277	[illegible]	[illegible]	Tom Gainer	Pr Agr for RI/FS	W	[illegible]	Other	N/A	N/A	N/A	N/A	none		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]		[illegible]	[illegible]								

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- = Shading indicates that upland source control work has been completed at the site.
- = Orange indicates that the site is a high priority, or potentially high priority for source control.
- = Yellow indicates that the site is medium priority, or potentially medium priority for source control.
- = Green indicates that the site is a low priority, or potentially low priority for source control.

Confirmed or suspected Sources of contamination to the river								Source Control Evaluation (SCE)								Source Control Decisions (SCDs) and Status of Source Control Measures (SCMs)								
Site information					Project status							Reasons for determination that source control is needed												
Site name	ECSI #	River mile	Address	DEQ PM	Type of suspected releasing source(s)	Project status	Date last modified (m-d-y)	Potential contaminant migration pathway	Status of ECI	Major ECI tasks to be completed	Schedule for completing ECI	Pathway determination	Pathway priority level	Site priority level	Status of EPA review of ECI decision	Source control alternatives evaluation and schedule (m-y)	Selected SCMs	Status of EPA review of SCM selection/ratifiers	SCM activities completed to date (m-y)	Estimated volume of contaminants controlled	Proposed SCM activities to be done and schedule (m-y)	Date SCM completed (m-y)	Status of EPA review of completed SCM	Operation and maintenance requirements
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Note: DEQ determined the following sites and determined that they are not potential sources of contamination to the Willamette River: Alder Creek Lumber, Sidebeach Land Company, LLC; City of Portland Bureau of Environmental Services Water Lab; Hamlet Lumber Sales/CASTRAV; Hexacorr Tire Sales; Lane Star MW; RV Storage; Santa Fe Pacific Pipeline; Transitwater Intersource (Ceramic Clarification Co.).

DEQ Milestone Report
Information about the Source Control Table

Use Of This Sheet

This spreadsheet is intended to track and share information regarding the status of current and potential future upland source control measures. Information is logged by the status of the evaluation in each pathway. The following pathways are included: overland transport, back erosion, groundwater, stormwater, overwater activities, and other (see definitions below). Site included in this spreadsheet are currently being investigated under DEQ oversight or a recent source control decision made for the facility. For more information on these sites please visit DEQ's Environment Cleanup System Information (ECSI) database at http://www.deq.state.or.us/wmc/ECSI/ecsiquery.htm

Definitions

Potential contaminant migration pathways

Overland Transport = Uncontrolled sheet flow of water and other material to the river from a site.

Bank Erosion = Erosion of material within the sloping bank areas of the site to the river.

Groundwater = Groundwater plumes or discharges to the river either via seeps or through preferential pathways.

Stormwater = Stormwater discharges to the River that originates from a pipe (permitted or unpermitted).

Overwater Activities = The storage or use of hazardous substances over the water (i.e., storage tanks on docks, permanent work activities conducted over water), that if released would be a ptotential current or future source of contamination to the river. Pipelines and other conveyance systems are not considered in this category. Releases from these types of systems need to be reported to the state Oregon Emergency Response System (OERS) system.

Other = Pathway examples: wastewater discharges, air deposition, direct discharges.

Priority levels for pathways and sites

High = High priority pathways and sites are those where a complete contaminant migration pathway exists and the upland source is significantly impacting the river or poses a significant and imminent threat to the river based on initial evaluation of key source control prioritization factors (listed on p. 4-3 JSCS). A primary consideration is that one or more media (soil, water, air) significantly exceed applicable Screening Level Values (SLVs) at the point of discharge to the river (e.g., water at the end of a discharge pipe, or soil or material at the riverbank) or the most reliable and cost-effective data point (e.g., groundwater measured at the shoreline), or where a bioaccumulative chemical is detected at concentrations significantly above the SLV. In addition, if an upland source is violating DEQ narrative water quality criteria for the Willamette River, the site may be considered a high priority. High priority sites are expected to move forward with aggressive source control measures without delay or be subject to enforcement action.

Medium = Medium priority pathways and sites are those where a complete contaminant migration pathway exists and the upland source is impacting the river or poses a significant and/or imminent threat to the river based on an initial evaluation of key source control prioritization factors (listed on p. 4-3 JSCS). A primary consideration is that one or more media exceed applicable SLVs, but not significantly, at the point of discharge to the river, or where a bioaccumulative chemical is detected at concentrations above the SLV. Although exceedance of SLVs does not necessarily indicate a site poses a significant and/or imminent threat or needs to immediately implement source control measures, it does indicate that the site may pose a threat to human health or the environment and that additional evaluation may be needed to determine if source control measures are required to prevent, minimize or mitigate the migration of hazardous substances to the river. If the site exceeds one or more SLVs, the need for further characterization or for implementation of source control measures will be based on a site-specific weight-of-evidence determination. Medium priority sites are expected to perform a

Low = Low priority pathways and sites are those where upland data indicate, based on an initial evaluation of key source control prioritization factors (listed on p. 4-3 JSCS), that the site likely poses a low threat to the river (e.g., concentrations are near or below SLVs) or where DEQ, in consultation with EPA, may issue an upland "No Further Action" (NFA) determination or lower the State's priority of the site for further upland investigation or remedial action under DEQ's cleanup authority. Source control measures will not be required at low priority sites unless determined necessary by the results of the Portland Harbor RIFS or ROD.

p High = DEQ's preliminary determination is that this is likely a high priority pathway or site based on available information; pending formal source control evaluation determination.

p Med = DEQ's preliminary determination is that this is likely a medium priority pathway or site based on available information; pending formal source control evaluation determination.

p Low = DEQ's preliminary determination is that this is likely a low priority pathway or site based on available information; pending formal source control evaluation determination.

Shading

= Upland Source Control Decision has been completed for the specified pathway at this site.

DEQ Milestone Report
Information about the Source Control Table

Pick Lists

Pick lists are used to faciliate the addition of information to the spreadsheet. A pick list is a list that can be used by the project manager to select an entry from a group of designated choices. Pick lists will appear as a pull down menus in the lower right corner for the following fields: *Project status, Status of SCE, Schedule for Completing SCE, Completeness of pathway to the river, Pathway priority level, Site priority level, Source control alternatives evaluation and schedule, Selected SCMs, Mass or volume of contaminants controlled,* and *Operation and maintenance requirements*. The pick lists for these fields are shown below.

Project Status
PA
XPA
RI
FS
RD / RA
NFA
PPA

Status of SCE
Ongoing
Not Started
Pending EPA Review
Completed
N/A

Schedule for completing SCE
No current schedule.
SOW under development, due (type date).
SOW currently being implemented.
(PM description of schedule)
N/A

Pathway determination
Pathway is complete
Insignifcant pathway, no actions recommended
Waiting on SCE to be completed
No known current sources (spills will be reported to OERS)
(PM description of source and pathway)
N/A (use when the pathway does not exist at the site)

Alternatives evaluation and schedule
no alternatives evaluation needed
draft evaluation report: (m/y)
schedule for completing final evaluation report: (m/y)
evaluation to be part of upland FS, schedule for completing draft/final: (m/y)
alternatives evaluation completed (m/y)

Priority level
High
Medium
Low
p High
p Med
p Low
to be determined
none (use if SCE determined the pathway to be incomplete)

Status of EPA "Partners" Review of SCA Decision
EPA reviewed and commented.
Review Pending. SCA submitted (type date).
SCA to be submitted on (type date).
Public Comment period (type date) to (type date).
SCA submitted to EPA (type date). No comments.
N/A

Selected SCMs
No SCM needed
(PM description of SCMs)
N/A

Mass/Volume of contaminants controlled
cubic yards of soil removed
square feet of area capped
linear feet of plume controlled at riverbank
linear feet of riverbank stabilized
gallons of product recovered
(PM description of mass/volume/area controlled)

Operation and Maintenance requirements
periodic inspection and maintenance
effectiveness monitoring
site use restrictions
(PM description of operation/maintenance requirements)
none

Status of EPA review of SCE decision
Review pending, SCE submitted (m-y)
Waiting on SCE completion (m-y)
SCE to be submitted to EPA on (m-y)
To be determined
SCE submitted to EPA (m-y), no comments

DEQ Milestone Report
Information about the Source Control Table

N/A

DEQ Milestone Report
Information about the Source Control Table

Acronyms & Abbreviations

Agr	Agreement
AOC	Administrative Order on Consent
AS/SVE	Air sparge soil vapor extraction
AST	Above ground Storage Tank
BMPs	Best Management Practices
BRA	Baseline Risk Assessment
ECSI	Environmental Cleanup Site Information
FS	Feasibility Study
GW	Groundwater
IGA	Inter-Governmental Agreement
JSCS	Joint Source Control Strategy
NA	Not Applicable
NFA	No Further Action
OF	Outfall
p&t	Pump & Treat
PA	Preliminary Assessment
PH	Portland Harbor
PH Agr	Portland Harbor Agreement - a formal agreement for a RI and SC
PH Ltr Agr	Portland Harbor Letter Agreement - an initial contract covering DEQ oversight costs and limited investigation and cleanup activities
PM	Project Manager
PPA	Prospective Purchaser Agreement
RD/RA	Remedial Design/Remedial Action
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
SC	Source Control
SCD	Source Control Decision
SCM	Source Control Measure
SLV	Screening Level Value
SOW	Scope of Work
SVE	Soil Vapor Extraction
TCA	Trichloroethane
UST	Underground Storage Tank
WO	Waiting on
XPA	Expanded Preliminary Assessment

DEQ Project Managers' Phone Numbers

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Mike Romero	(503) 229-6148

DEQ Milestone Report
Information about the Source Control Table

Jennifer Sutter (503) 229-6843
Bill Robertson

DEQ Source Control Decisions
Current and Potential Upland Sources to the River

Site Location Key

Link to map of sites:
http://www.deq.state.or.us/nwr/PortlandHarbor/phmap.pdf

Site Name	AKA - alternate site names	ECSI # (primary)	ECSI # (secondary)	River Mile	Address
ACF Industries	American Car Foundry, EMC Industries - ACF Car, Pacific Metal Substations, Inc., Richmond Tank Car and Manufacturing Co.	794		3.6	12160 NW St Helens
Atofina	Arkema, Elf Atochem North America, Pennwalt Chemical Corp.	398		7.2	6400 NW Front
BP Terminal 22T	ARCO, ARCO Linnton Terminal, BP Atlantic Richfield Company	1528	2373, 2351	5.3	9930 NW St Helens
Brix Maritime	Foss Maritime Co., Knappton Corp.	2364		5.7	9030 NW St Helens
Calbag Metals	ACME Trading and Supply	2454	2425	8.5	4927 NW Front
Chevron Asphalt		1281		8	5501 NW Front
Christensen Oil	HAJ, Incorporated	2426		8.9	3821 NW St Helens
City of Portland Outfalls		2425		3.5 to 9.2	various
Con-Metco		3295		2.8	3940 N Rivergate
Crawford Street Corp	Columbia Forge & Machine Works, Lampros Steel - 8524 N Crawford, TLS Steel - 8514 N Crawford	2363		6.3	84248 N Crawford
Exxon Mobil	ExxonMobil Bulk Plant, ExxonMobil Terminal, Mobil Oil Bulk Plant - St. Helens RD, Shore Terminals, ST Services, Olympic Pipeline	137		5.1	9420 NW St Helens
Fred Devine	Pacific Coast Environmental, The Marine Salvage Consortium Inc	2365		8.3	6211 N Ensign
Freightliner (Parts Manufacturing Plant)	a.k.a. Freightliner Truck Manufacturing Plant II	115		9.2	5400 N Basin
Front Ave LP	CMI Northwest, Hampton Lumber Sales, Glacier NW (former Lone Star), Tube Forgings of America,	1239	2378	8.1	4950, 5034 & 5200 NW Front
Galvanizers Company		1196	2425	9.6	2406 NW 30th Ave.
Gasco	NW Natural, Koppers Co. - Portland, Pacific Northern Oil Co.,	84	183	6.4	7900 NW St Helens
Gasco/Siltronic Corp.	Siltronic Corporation, Walker Siltronic	183	84	6.6	7700 NW Front
GE Decommissioning		4003	2425	9.5	2727 NW 29th Ave.
Georgia Pacific Linnton	Georgia-Pacific / Western Wood Prods Manuf Divn, Georgia-Pacific West, Morge Bros.	2370		3.9	12222 NW Marina
Goldendale Aluminum	Ash Grove Cement, Columbia Aluminum, Martin Marietta, Golden NW Aluminum	2440		9.8	2600 N River
GS Roofing	Bird & Son, Certainteed Corporation, Fibreboard Corporation	117		7.5	6350 NW Front
Guilds Lake RR Yard	Burlington Northern Santa Fe Railroad Lake Yard, Guilds Lake Railyard, Kleen Blast Abrasives, Lake Yard, Portland Terminal Railroad Guilds Lake Yard	100		9	3500 NW Yeon
Gunderson		1155	2372, 2425	9.0	4350 SW Front
Jefferson Smurfit	Burgard Industrial Park	2371		3.7	9930 N Burgard

DEQ Source Control Decisions
Current and Potential Upland Sources to the River

Site Location Key

Link to map of sites:
http://www.deq.state.or.us/nwr/PortlandHarbor/phmap.pdf

Site Name	AKA - alternate site names	ECSI # (primary)	ECSI # (secondary)	River Mile	Address
Kinder Morgan	GATX, GATX Linnton Terminal, GATX St. Helens Road Facility	1096		4.2	11400 NW St Helens
Lakeside Industries		2372	1155	8.4	4850 NW Front
Linnton Plywood		2373		4.6	10504 NW St Helens
Mar Com Marine (N Parcel)	L & S Marine, Mar Com Marine Ways, Marine Machine Works (Former), Nichols Marine Ways Inc., Riverside Lumber Co. (Former)	2350		5.6	8790 N Burgard
Mar Com (S Parcel)	St. Johns Langley LLP, Brix (current owner), L & S Marine, Mar Com Marine Ways (former owner), Marine Machine Works (Former), Nichols Marine Ways Inc., Riverside Lumber Co. (Former)	2350		5.8	8790 N Burgard
Marine Finance	Hendren Tow Boat, REH Inc., Riverside Industrial Park, Advanced American	2352		5.8	8444 NW St Helens
McCall Oil	Great Western Chemical, Quadra Chemicals	134		7.4	5550 NW Front
NW Pipe	Northwest Pipe Company	138		3.9	12005 N Burgard
Oregon Steel Mills	Gilmore Steel Corp. - Rivergate	141		2.2	14400 N Rivergate
Owens-Corning Fiberglass	Trumbull Asp, Kingsley Park, Linnton Planing Mill, Paramount Petroleum Site	1036		3.8	11444 NW St Helens
PGE Harborton		2353		3.2	NW Marina Way
Port of Portland Auto Storage Area (ASA)	Toyota	2642		5.0	10400 Lombard
Portland Shipyard	Cascade General, Swan Island Upland Facility, North Channel Ave Fabrication, Berth 311	271		8.4	Swan Island
Premier Edible Oils	C & T Quincy Foods (SEE ECSI 2355), Schnitzer Investment Corp.	2013	2355	3.6	10400 N Burgard
Riverscape	Port of Portland T1S	2642		10.9	2100 NW Front
Schnitzer Burgard	International Terminals, North Burgard Industrial Park, Schnitzer Steel	2355		4.1	12005 N Burgard
Schnitzer Kittridge	Asset Recovery, Schnitzer Investment Corp	2442		8.3	4959 NW Front
Shaver Transportation		2377		8.4	4900 NW Front
Siltronic Corp. TCE Investigation	Siltronic Corporation, Walker Siltronic	183		6.6	7200 NW Front

DEQ Source Control Decisions
Current and Potential Upland Sources to the River

Site Location Key

Link to map of sites:
http://www.deq.state.or.us/nwr/PortlandHarbor/phmap.pdf

Site Name	AKA - alternate site names	ECSI # (primary)	ECSI # (secondary)	River Mile	Address
Sulzer Pump	Bingham International, Bingham Willamette, Sulzer Pumps, Inc.	1235		10.4	2800 NW Front
Terminal 1 North	BES- Nicolai Shaff	3377		10.6	2200 NW Front
Terminal 2		2769		10	3556 NW Front
Terminal 4 Slip 1	IRM, Cargill	2356		4.3	11040 N Lombard
Port of Portland - Terminal 4 Slip 3	Hall-Buck Marine Inc., Oregon Terminal Company (OTC), OTC Gearlock Maintenance Facility (Former), Quaker State Oil Co., UPRR - Product Transfer Pipeline (Former)	272		4.6	10400 Lombard
Terminal 5	Oregon Steel Mills Slag Pile, Port of Portland - Terminal 5, Blue Lagoon	1686		1.5	15540, 15550, & 15560 N Lombard
Texaco Terminal	Equilon, Shell	169		8.9	3800 NW St Helens
Time Oil (Northwest Terminal)	Bell Terminal	170		3.4	10350 Time Oil Rd
Triangle Park (N PDX Yard)	North Portland Yard, Riedel Environmental Services - N Portland Yard, Sakrete of the Pacific Northwest, Inc., Western Pacific Dredging/Drilling/Piledriving/etc., Willamette-Western Company, World Security Services Company	277		7.5	5828 N Van Houten
UPRR Albina	Albina Rail Yard, Union Pacific RR - Albina Yard	178		10.3	2745 N Interstate
UPRR St Johns Tank Farm	Union Pacific RR - St. Johns Tank Farm, UPRR - Product Transfer Pipeline (Former), UPRR Fuel Loading Facility (Former), Port of Portland Terminal 4 Slip3	2017		4.6	6908 N Roberts
USCG	US Coast Guard - Portland Station	1338		8.2	6767 N Basin Ave.
Willamette Cove		2066		6.8	Foot of N Edgewater
Willbridge	Kinder Morgan, Chevron, ConocoPhillips, GATX - Willbridge Terminal, Tosco - Willbridge Terminal, Unocal - Willbridge Terminal	1549		7.7	Front Ave & NW Doane
Rhone Poulenc	East Doane Lake, Aventis Crop Science, Rhone Poulenc Agricultural Company	155		6.9	6200 NW St Helens
Triangle Park (N PDX Yard)		277	7.5	5828 N Van Houten	
UPRR Albina		178	10.3	2745 N Interstate	
UPRR St Johns Tank Farm		2017	4.6	6908 N Roberts	
USCG		1338	8.2	6767 N Basin Ave.	
Willamette Cove		2066	6.8	Foot of N Edgewater	
Willbridge	Kinder Morgan, Chevron, ConocoPhillips	1549	7.7	Front Ave & NW Doane	
Rhone Poulenc		155	6.9	6200 NW St Helens	

Status of High Priority Sites
Table 2

Site	River Mile	High Priority Pathway	Source Control Evaluation	Selection of Source Control Measure	Implementation of Source Control Measure	Remarks
Oregon Steel Mills	2.2	Bank erosion	Complete	-Revised alternative eval due 7/07	-Summer 2008	
		Stormwater	Complete	-Complete	-Full scale pilot operating since 3/07	
City Stormwater Outfalls	Various	Stormwater	Ongoing (2008)			
Premier Edible Oil	3.6	Groundwater	Ongoing (12/07)			
Schnitzer Steel	4.0	Stormwater	Ongoing (1/08)			-New High Priority site based on LWG stormwater data
Kinder Morgan (former GATX)	4.2	Groundwater	Ongoing (10/07)			-GW SCM in-place
Terminal 4 Slip 1	4.3	Bank erosion	-Coordinate with Early Action			-Riverbank soil removal & capping likely
		Stormwater	-Ongoing (3/07)			
Exxon/Mobil	5.1	Groundwater	Complete	Complete	Complete	-SCM selected in 1997 DEQ ROD onging. -Further SCMs are being studied & enhanced
BP/Arco	5.3	Groundwater	Ongoing (Fall 2007)			-Interim GW SCMs in-place -Construction of new sea wall & beach sand revoval in summer 2008
MarCom South	5.8	Overland runoff	Ongoing (10/107)			-RP considering limited sand blast grit removal
Gasco	6.4	Groundwater	Complete	-SCM Eval report due 10/07		-RP currently conducting field work for SCE & to support selection of SCM
		Bank erosion	Complete	-Coordinate with upland GW SCMs		
Gasco (Siltronics)	6.5	Groundwater	Complete	-SCM Eval report due 10/07		-RP currently conducting field work for SCE & to support selection of SCM
Siltronics	6.5	Groundwater	Complete	-RP implemented pilot SCM		
Rhone Poulenc	6.9	Groundwater	Ongoing (early-2008)			-RP has implemented pilot SCM
Koppers	7.0	Groundwater	Complete			-Included as High Priority as part of Gasco site
Arkema	7.2	Groundwater	Complete	-FFS for barrier wall due 10/07		-RP implemented series of pilot & full-scale SCMs
		Stormwater	Ongoing (12/07)			
		Bank erosion	Ongoing (12/07)			
Gould	7.5	Groundwater				-EPA lead
		Stormwater				-EPA lead
Willbridge	7.7	Groundwater	Complete	Complete	Complete	-Ongoing GW pump & treat SCMs -Further SCMs are being studied & enhanced
Gunderson	9.0	Groundwater	-TDB, pending DEQ review of RI Report			-Ongoing GW pump & treat SCM in Area 1
		Stormwater	-TBD, pending DEQ review of RI Report			
		Bank erosion	-TBD, pending DEQ review of RI Report			
		Overland runoff	-TDB, pending DEQ review of RI Report			

Notes: 1) Date in parentheses is expected date of completion
2) Source Control Evalaution (SCE)

Gradient
CORPORATION

October 8, 2007

Mr. Mike Romero
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Response to June 25, 2007 DEQ Comments on August 2006 Work Plan for Additional Characterization

Dear Mike:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this response to the June 25, 2007 comments of the Oregon Department of Environmental Quality (DEQ) on the August 2006 *Work Plan for Additional Characterization of the Premier Edible Oils Property*, prepared by Gradient. The August 2006 Work Plan reflected SIC's responses to DEQ's May 25, 2005 and May 10, 2006 written comments on the March 2005 draft version of the Work Plan, as well as DEQ comments transmitted in other communications. Following the structure of DEQ's June 25, 2007 comments, this letter responds to each of DEQ's specific comments on the Work Plan. Proposed modifications to the August 2006 Work Plan that are consistent with SIC's responses to DEQ's latest comments are summarized in the Attachment to this letter.

General Comments

1. Data evaluation and presentation: *This comment has been addressed in previous submittals; no additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ states that the Work Plan does not provide sufficient information regarding how the data generated by the Work Plan efforts will be "evaluated and presented." SIC notes that the August 2006 Work Plan is not a stand-alone document, but instead reflects a limited-scope sampling effort that builds upon and supplements the more comprehensive sampling program described in the *Remedial Investigation/Feasibility Study, Scope of Work, Premier Edible Oils Site, 10400 North Burgard Way, Portland, Oregon* (RI/FS SOW, Bridgewater Group, April 2001). The RI/FS SOW includes discussions of a range of analyses that will be conducted using the full suite of available site data (*e.g.*, RI, FS, and risk assessment evaluations), while the August 2006 Work Plan indicates that the site data will also be applied to support a source control evaluation (SCE) for the site. As reflected in Section 2.2.6 of the August 2006 Work Plan (*Additional Source Control Evaluations*) and agreed to in communications with DEQ, specific elements of the analyses to support the SCE are identified in the August 2006 Work Plan (*e.g.*, evaluations of relevant Screening Level Values) and the full scope of the SCE analyses will be determined following evaluation of the data collected pursuant to the August 2006 Work Plan as well as other data previously collected at and in the vicinity of the PEO site by SIC and others.

Suite 803, 600 Stewart Street, Seattle, WA 98101 • (206) 267-2920 • fax: (206) 267-2921 • www.gradientcorp.com

2. Applications of collected data: *This comment has been addressed in previous submittals; no additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ specifically requests that the data collection and presentation support SCE analyses and "recovery alternatives" for non-aqueous phase liquid (NAPL). As reflected in the RI/FS SOW, August 2006 Work Plan, and numerous other communications with DEQ, supporting SCE analyses and evaluations of potential remedial alternatives are recognized as key goals of data collection and evaluation at the site.

3. Presentation of site lithology: *The topic of this comment has been addressed in previous submittals; no additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ requests specific elements of presentation for the collected data, *e.g.*, specific site cross-sections. The types of elements that have been specifically requested are components of the evaluations that will be undertaken in the efforts discussed in Section 2.2.6 of the August 2006 Work Plan DEQ's requested elements will be incorporated into the efforts to develop the outline and scope for these evaluations.

4 Sheen testing frequency: *The Work Plan will be modified as discussed below to address this comment, i.e., to incorporate additional locations for sheen testing in the field investigation procedures.*

In this comment, DEQ requests that sheen testing be conducted at 1 foot intervals for soil obtained from proposed soil boring and monitoring well locations. As reflected in the August 2006 Work Plan, SIC has previously incorporated sheen testing into the field screening approaches for the site investigations in response to a May 20, 2006 DEQ request.

In a September 12, 2007 conversation, we discussed several SIC concerns regarding the request in DEQ's June 25 comments. First, because the sampling effort described in the August 2006 Work Plan represents only a relatively small supplemental component of a more comprehensive sampling program at the site, SIC prefers to minimize changes to the sampling approaches to maximize consistency of the newly collected data to the substantial set of data previously collected at the site. Second, SIC questions whether the requested 1-foot sampling frequency will provide useful supplemental information relative to the additional effort that will be required when compared with a slightly less frequent sheen testing frequency. Moreover, SIC questions whether the 1-foot sampling frequency will give a greater appearance of data precision than will actually be provided by the field sampling technique. In addition, because the former operations at the site included the refining of vegetable oil, SIC is concerned that sheen testing results may be affected by the presence of vegetable oil and may, therefore, be of more limited usefulness at this site. As a result, as discussed in more detail in the response to the Specific Comment on Section 2.2.1 presented below, sheen testing results should be evaluated in the context of the full range of field data and other site information.

Based on our September 12 conversation, you agreed that the sampling frequency specified in the August 2006 Work Plan ("at regular intervals") is acceptable to DEQ. Field personnel for the previous PEO site investigations have indicated that, in practice, depth-specific field evaluations performed in accordance with this criterion (*e.g.*, photoionization detector (PID) readings under certain conditions) have been conducted approximately 1-2 times per soil core (or at a frequency of approximately every 2-5 feet). Other field observations that are not depth-specific (*e.g.*, visual

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observations and logging of geological conditions) have been and will continue to be made on a continuous basis.

Based on our conversations, the procedures specified in the Work Plan will be modified so that sheen testing will be included in the field observations of soil from soil boring and monitoring well locations included in the August 2006 Work Plan. The sampling frequency will be kept consistent with previously used field investigation practice at the site, *i.e.*, "at regular intervals" of approximately every 2-5 feet of sample depth.

5 Sampling Coordination with Time Oil: *The topic of this comment has been addressed in previous submittals; no additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ states its support for SIC to conduct coordinated sampling with Time Oil. SIC acknowledges and appreciates DEQ's offer of assistance with this sampling.

Specific Comments

Section 2.2.1 Monitoring Well Installation and Sampling: *The Work Plan will be modified as noted below to address specific aspects of this comment, i.e., to incorporate additional DEQ requests for changes to specific sampling locations.*

In this comment, DEQ raises questions regarding certain sampling location decisions DEQ previously approved in a May 26, 2005 letter. First, DEQ seeks further clarification of the choice not to install a monitoring well at a location previously considered for sampling (identified as PW-B on Figure 5 of the August 2006 Work Plan). As summarized in the Work Plan, following discussions and agreement with DEQ, Location PW-B was not included as a location for monitoring well installation because available data characterized the eastern extent of residual petroleum product in this portion of the site. In particular, available information illustrated a generally decreasing trend in the presence of residual petroleum product from locations to the west of PW-B such as MW-02 and MW-11 (where the greatest depth and most consistent presence of NAPL have been observed) to SHL-22 located directly to the east of PW-B (where no indications of residual petroleum product have been observed). Information reviewed in making this determination included not only the PID readings and odor observations illustrated in Figure 5 of the Work Plan, but also product observations and other site data. As noted below, however, based on a request presented in DEQ's June 25 comments, a soil boring (and potentially a monitoring well) may be installed in the general vicinity of Location PW-B based on field observations made during installation of a soil boring and monitoring well at Location PB-13.

Second, DEQ requests that SIC identify a quantitative "combined measured and observed threshold field screening level for 'elevated' TPH levels" to be used in identifying specific soil boring locations that will be completed as monitoring wells. As discussed in our September 12, 2007 conversation, this requested modification to the field investigation approaches used in the existing extensive sampling at the site raises a similar issue to that discussed in General Comment #4 for the sheen testing request. In particular, SIC is concerned about introducing changes to the sampling approaches applied in this relatively small supplemental component of a more comprehensive sampling program and the potential implications of such changes on the consistency of the newly collected data (and their interpretation) relative to the extensive data previously collected at the site.

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Based on our September 12 conversation, you agreed that the general field investigation procedures identified in the August 2006 Work Plan (and previously applied at the site) are acceptable to DEQ and that a specific numerical field screening level is not required. Instead, SIC will continue to use field investigation procedures and decision-making processes that are consistent with those applied previously at the site. Such procedures have included continuous logging of soil samples, visual and odor observations of soil removed from soil borings (including visual observations of sheen on soil particles), and PID readings. As requested by DEQ and reflected in the August 2006 Work Plan, sheen testing will also be included in the field observations. The use of a more holistic approach (rather than a specific quantitative threshold) also allows monitoring well siting decisions to reflect factors such as geographic and transport considerations. It should be noted that not all monitoring wells at the PEO site have been sited based solely on field observations. Instead, some well locations have been selected based on other criteria, *e.g.*, geographic distribution of well locations, historical petroleum product source areas, and identified product locations.

In past investigations in which field observations were used to identify locations for monitoring well installation, the full suite of field observations was considered for each location in making monitoring well decisions. Observations of sheen, odor, elevated PID readings, and/or large soil intervals with staining have led to monitoring well installation. PID readings collected from locations selected for monitoring well installation have been greater than those observed at locations that were not selected for monitoring well installation, and generally were greater than approximately 150 ppm for maximum reported PID readings for a given location and in the range of 75-100 ppm for average detected PID values for a given location. Other relevant information considered in selecting specific monitoring well locations included chemical distribution information, groundwater flow direction, and field observations from proximate borings. Similar criteria and experience with site conditions will guide decision-making in the current field investigations as well.

Third, DEQ requests additional changes to specific sampling location decisions DEQ previously approved in a May 26, 2005 letter. These changes include requesting that: 1) a monitoring well automatically be installed at soil boring location PB-13, 2) soil borings PB-12 and PB-11 be installed after installation of the monitoring well at soil boring location PB-13, and 3) soil boring location PB-11 be moved to the east of soil boring location PB-13, if information obtained during installation of PB-13 indicates that such a modification would yield better information regarding the eastern extent of residual petroleum product in the southern portion of the site. These modifications will be made to the procedures specified in the Work Plan.

<u>Section 2.2.5 Supplemental Sewer Flow Characterization</u>: *No additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ seeks additional information regarding the sewer flow characterizations that will be undertaken as part of the PEO site investigations. As discussed in the August 2006 Work Plan, the PEO site investigations will focus on evaluating the potential contributions of discharges from Time Oil's Bell Terminal facility to PEO site sewer piping (*e.g.*, by using sewer locating techniques to identify the path and inflows to such piping). Any questions regarding any broader characterization of stormwater discharges associated with the Burgard Industrial Park should be directed to SIC's Project Manager for that site.

<u>Section 2.2.6 Additional Source Control Evaluations</u>: *The topic of this comment has been addressed in previous submittals; no additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ reiterates previous comments regarding the analyses to be conducted using the data that will be collected based on the Work Plan, particularly their use in a Source Control Evaluation. As reflected in the August 2006 Work Plan and discussed in the responses to General Comments numbers 1, 2, and 3 above, SIC recognizes the importance of developing the Source Control Evaluation and, as indicated in the August 2006 Work Plan, will determine the full scope of the SCE analyses following evaluation of the data collected based on the August 2006 Work Plan as well as evaluation of other data previously collected at and in the vicinity of the PEO site by SIC and others.

Section 2.3.1 Technical Considerations in Collecting and Interpreting TPH Data: *No additional changes to the Work Plan are required to address this comment.*

In this comment, DEQ discusses a section of the Work Plan that addressed technical limitations in using groundwater data to evaluate chemical distribution for petroleum hydrocarbons. In particular, DEQ discusses approaches that can be taken to address some of the difficulties in collecting and interpreting such data. SIC notes that its primary concern with limitations in TPH data is not with the data collected consistent with the August 2006 Work Plan, but rather with the quality of other TPH data that have been historically collected in the vicinity of the PEO site by others and that are likely to be considered by DEQ in evaluating conditions at the PEO site.

In particular, as detailed in several previous SIC submittals to DEQ and the U.S. Environmental Protection Agency,[1] several important reports presenting petroleum hydrocarbon data collected by Time Oil for the upgradient Bell Terminal have not reflected the type of comprehensive synthesis of available petroleum hydrocarbon data that is necessary to accurately characterize conditions at petroleum-contaminated sites. These reports have been prepared directly by Time Oil (*e.g.*, Landau, 2004, 2005)[2] and by other groups relying upon Time Oil's reports (*e.g.*, Lower Willamette Group [LWG], 2004).[3] As discussed in the previous SIC submittals, the Time Oil and LWG reports discussing Time Oil's Bell Terminal facility and the downgradient PEO site have presented misleading, deficient, and erroneous characterizations of the conditions and potential contaminant sources at and in the vicinity of the PEO and Bell Terminal properties. Many of these deficiencies have arisen because these reports failed to address the types of considerations discussed in Section 2.3.1 of the Work Plan. Thus, the material presented in Section 2.3.1 of the Work Plan has been included to encourage a more comprehensive and technically sound application of the full suite of available data when evaluating conditions at the PEO site.

As noted above, the necessary modifications to the Work Plan based on DEQ's June 25 comments are summarized in the Attachment to this letter. Once DEQ has approved these final modifications to the Work Plan, SIC will proceed with implementing the work described in the Work Plan and collecting the additional data for the PEO site.

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[1] Previous submittals include: Gradient Corporation. 2004. Memorandum from C. Petito Boyce to A. Voss (Oregon Department of Environmental Quality) re: Comments on Time Oil's Phase III Remedial Investigation Report. Prepared for Schnitzer Investment Corp. September 10; and Gradient Corporation. 2006. Memorandum from C. Petito Boyce and E. Butler in collaboration with D Coberley (URS Corporation) to C. Humphrey and E. Blischke (U.S. Environmental Protection Agency) re: Comments on the Lower Willamette Group's Draft Conceptual Model for the Premier Edible Oils Site. Prepared for Schnitzer Investment Corp. March 1

[2] Landau Associates, Inc. 2004. Draft Phase III Remedial Investigation Report, Time Oil Northwest Terminal, Portland, Oregon. April 30; and Landau Associates, Inc. 2005. Final Phase III Remedial Investigation Report, Time Oil Northwest Terminal, Portland, Oregon. July 19.

[3] Lower Willamette Group. 2004. Premier Edible Oils CSM Site Summary – Appendix A-15.

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Please contact me (at 206-267-2920) or Jim Jakubiak of SIC (at 503-286-6976) if you have any questions regarding these comments or need any additional information.

Sincerely,

GRADIENT CORPORATION

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
T. Zelenka/SIC

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Attachment

Modifications to August 2006 Work Plan:

1. Sheen testing will be conducted at regular intervals for soil collected from soil borings and monitoring well locations in the August 2006 Work Plan. (In response to General Comment #4.)

2. Soil boring PB-13 will be completed as a monitoring well, regardless of the results of the field observations at this location. Soil boring PB-13 will be completed prior to installation of soil borings at locations PB-12 and PB-11. If field observations at location PB-13 indicate that additional investigations to the east of location PB-13 would provide a better determination of the eastern extent of residual petroleum product in the southern portion of the site (*e.g.*, due to observations of elevated residual petroleum product at location PB-13), soil boring PB-11 will be relocated to a location to the east of PB-13, *i.e.*, midway between the locations of soil borings SHL-21 and SHL-22. (In response to Specific Comment on Section 2.2.1.)

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Gradient
CORPORATION

October 15, 2007

Mr. Mike Romero
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Mike:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter, describes activities planned for the next quarter, and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between July 1 and September 30, 2007, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- Worked with DEQ to resolve issues presented in DEQ's June 25, 2007 letter presenting its comments on the final version of SIC's *Work Plan for Additional Characterization of the Premier Edible Oils (PEO) Property*, which was submitted to DEQ on August 2, 2006. Prepared a letter summarizing SIC's responses to DEQ's comments and submitted the response letter to DEQ on October 8, 2007.
- Ongoing review of reports prepared by others (*e.g.*, DEQ or the Lower Willamette Group [LWG]) that are related to the Portland Harbor Superfund Site and discuss or impact the PEO site. Includes review of data collected during field sampling programs conducted by the LWG and evaluation of implications of data for assessing conditions in the vicinity of the PEO site.

Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between October 1 and December 31, 2007:

- Upon receiving DEQ approval of the Work Plan modifications described in SIC's October 8, 2007 response letter, proceed with additional investigations at the PEO site.
- Respond to DEQ's June 28, 2007 letter regarding SIC's March 6, 2006 White Paper submittal and other DEQ documentation reflecting DEQ's failure to be consistent in

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its determinations and reporting of the sources of the residual petroleum hydrocarbon contamination at the PEO site and the role of Time Oil and/or its predecessor with regard to that contamination.

- Continue efforts to address site issues identified by DEQ during the May 3, 2006 site visit and prepare additional documentation of findings for submittal to DEQ.
- Continue communications with DEQ regarding proposed future efforts at the PEO site and Time Oil's Bell Terminal site, including proposed joint efforts between SIC and Time Oil. As available, obtain additional information from DEQ regarding any efforts at Time Oil's site.
- Continue reviewing statements made regarding the PEO site and contamination sources at the PEO site in documentation prepared by the LWG, Time Oil, and/or DEQ and, as necessary, providing written information correcting errors and misrepresentations included in such documentation.
- Continue reviewing data from the LWG field sampling program as data become available.

Issues to be Resolved/Recommended Actions

In previous quarterly reports (submitted on August 2, 2006; October 12, 2006; January 16, 2007; April 5, 2007, and July 12, 2007), SIC noted two unresolved issues for the PEO site:

- Delays in DEQ's review of several SIC submittals from March and August 2006:
- Mischaracterization of the PEO site in DEQ's Portland Harbor Milestone Reports

These issues were discussed with DEQ during a June 25, 2007 meeting. As indicated above, DEQ issued its written comments on the Work Plan on that date (and SIC submitted responses to those comments on October 8, 2007). On June 28, 2007, DEQ issued a second letter providing its official response to a March 2006 White Paper submittal[1].

DEQ's most recent Portland Harbor Milestone Report was submitted to the U.S. Environmental Protection Agency (EPA) on July 30, 2007. Although this report partially addresses SIC's concerns, it retains language that mischaracterizes the PEO site and SIC's activities at the site. Moreover, it fails to incorporate certain findings that DEQ has acknowledged in other direct communications with SIC and elsewhere. Because the Milestone Reports receive far greater distribution than DEQ's direct communications with SIC regarding the PEO site, SIC remains concerned that the Milestone Report presents misleading information regarding the PEO site, SIC's activities, and DEQ's findings regarding the site. These misrepresentations persist despite DEQ's assurances that it would correct the mischaracterizations presented in prior Milestone Reports.

Specifically, in the July 2007 Milestone Report (pp. 8-9), DEQ continues to include the PEO site within a listing of sites encountering "problems" in proceeding through the source control process, and describes the "problem" in the following way:

[1] James C. Brown & Associates. 2006. White Paper – Contaminant Sources at the Premier Edible Oil Site ESCI #2013 Located Within the Portland Harbor Superfund Site. March 6.

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> Schnitzer Investment Corp (SIC) is the owner and a responsible party of the PEO site. SIC claims that their neighboring site, Time Oil, has contributed to contamination at the PEO site by either former Time Oil operations at the PEO site or by trespass of contaminants from the Time Oil site adjacent to PEO. SIC has been resistant to move forward with source control work at the PEO site that SIC claims is, at least partially, Time Oil's responsibility. SIC strongly contests DEQ's characterization of SIC actions, position, and intent at the PEO site and states the actual source of delay in progressing through the source control process is DEQ's inaction in responding to SIC submittals. Regardless of who's at fault, additional important site characterization work needs to be completed to support the Source Control Evaluation at the site.

The first three sentences of this write-up are unchanged from the version previously presented in the December 2006 Milestone Report.

SIC remains concerned regarding the following three aspects of this description:

- The description presents the potential role of Time Oil at the PEO site as an SIC "claim;" however, the likely contributions of Time Oil's activities to contamination found at the PEO site are supported by substantial data (see, *e.g.*, Gradient Corporation, 2006;[2] James C. Brown & Associates, 2006) and have been recognized by DEQ in a number of documents. Most recently, DEQ's June 28, 2007 letter responding to SIC's White Paper submittal states that "It appears that the Time Oil Bell Terminal and its associated operations is a historic source of petroleum hydrocarbon contamination. Because the Bell Terminal is hydraulically up gradient of the PEO site, Bell Terminal groundwater likely has an ongoing contribution to petroleum hydrocarbon contamination at the PEO site. Additionally, the former Northwest Oil Company, a predecessor to Time Oil, was located in what is now the southwest corner of the PEO site and is a likely historic source of petroleum hydrocarbon contamination to this area of the PEO site."
- The description persists in characterizing SIC as "resistant to move forward" with action at the site. By contrast with the erroneous statements presented in the Milestone Reports, SIC has cooperated with DEQ in investigating the PEO site. As detailed in previous quarterly reports for the PEO site (*e.g.*, the April 5, 2007 report), SIC's efforts include entering into a voluntary agreement with DEQ in 2001 to investigate the site and responding to all DEQ comments and requests for site investigation elements.
- The Milestone Report suggests that any DEQ role in the delays encountered at the PEO site is again an SIC claim. By contrast, in other direct communications with SIC, DEQ has been more forthright in acknowledging the role of DEQ resource limitations in delays at the PEO site. For example, in DEQ's June 28, 2007 letter responding to SIC's March 2006 White Paper submittal, DEQ recognizes "the length of time it has taken to review and [sic] this submittal" and further states that "Staffing resources were not available until recently to complete the review." Similar DEQ resource shortages apparently impacted DEQ's review of SIC's Work

[2] Gradient Corporation. 2006. Memorandum from C. Petito Boyce and E. Butler in collaboration with D. Coberley (URS) to C. Humphrey (U.S. Environmental Protection Agency) and E. Blischke (Oregon Department of Environmental Quality) re: Comments on the Lower Willamette Group's Draft Conceptual Site Model for the Premier Edible Oils Site. March 1.

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Plan submittals as, for example, DEQ's June 25, 2007 letter provided comments on a Work Plan that SIC submitted in August 2006. Moreover, as has been noted in other quarterly reports for the PEO site, DEQ's Milestone Reports – including the July 2007 Milestone Report – have also directly acknowledged the role of DEQ staffing limitations in impeding progress at many Portland Harbor sites. For example, Section 6.0 of the most recent July 2007 Milestone report (*Issues Encountered in Source Control Work*), identifies "DEQ staff resource limitations" as one of the key issues hampering progress in completing the source control effort for the Portland Harbor site.

Thus, while SIC appreciates the partial response to its concerns with the text presented in the Milestone Reports, it remains concerned with the mischaracterizations that persist in the July 2007 report. In particular, SIC requests that any DEQ comments on the PEO site presented in future Milestone Reports accurately portray DEQ's findings regarding Time Oil and its predecessor regarding the residual petroleum hydrocarbon contamination at the PEO site, *e.g.*, as reflected in DEQ's June 28, 2007 letter to SIC. Moreover, SIC requests that DEQ present a consistent message regarding these issues and not present varying determinations in documents that will reach different audiences.

SIC agrees, however, with the importance of collecting additional site characterization information at the PEO site and, following timely DEQ approval of SIC's October 8, 2007 letter responding to DEQ's comments on the August 2006 Work Plan, SIC stands ready to proceed with its additional investigations and characterization efforts for the PEO site.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

GRADIENT CORPORATION

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
K. Johnson/DEQ
T. Zelenka/SIC

Submittal/Activity	Schedule
Draft Source Control Evaluation Report	If more data collection is needed, draft SCE report will be provided within 90 days after completion of necessary field work If no additional data collection is needed, draft SCE report will be provided within 90 days after receipt of DEQ comments on Scope of Work Outline verifying that no additional data are needed
Final Source Control Evaluation Report	Within 30 days after receipt of DEQ comments on draft SCE report
Draft Remedial Investigation Report	If more data collection is needed, draft RI report will be provided within 90 days after completion of necessary field work If no additional data collection is needed, draft RI report will be provided within 90 days after receipt of DEQ comments on Scope of Work Outline verifying that no additional data is needed
Final Remedial Investigation Report	Within 30 days after receipt of DEQ comments on draft RI report

In accordance with the schedule provided in the Work Plan for additional site characterization, SIC has initiated site activities to support the field investigations included in the Work Plan within 30 days of DEQ's approval of the Work Plan. Planning for these field investigations is currently underway. It is currently anticipated that initial site reconnaissance efforts will begin on December 14, 2007 and that the bulk of the sampling efforts will take place during January and February 2008. SIC has also initiated efforts to arrange for the coordinated sampling with Time Oil that is described in the Work Plan. SIC's counsel has contacted Time Oil's counsel about coordinating groundwater sampling events and obtainng access to the Time Oil property site to complete the needed borings. If an Access Agreement is not forthcoming, SIC will contact DEQ for assistance in gaining access.

Please contact me if you have any questions regarding this letter or need any additional information.

Sincerely,

GRADIENT CORPORATION

Cathy Petito Boyce

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00382140

Gradient
CORPORATION

December 13 2007

Mr. Mike Romero
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Response to DEQ Approval of Work Plan for Additional Characterization (ECSI# 2013)

Dear Mike:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this response to your letter of November 14, 2007, approving SIC's *Work Plan for Additional Characterization of the Premier Edible Oils Property*.[1] As you requested, this letter provides a schedule for conducting the Work Plan investigations, the Source Control Evaluation, and the Remedial Investigation for this site. The schedule information provided in this letter is in accordance with the schedule elements identified in the *Remedial Investigation/Feasibility Study Scope of Work*,[2] the Work Plan for additional site characterization, and Attachment B of the *Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures* between SIC and the Oregon Department of Environmental Quality (DEQ; effective date March 6, 2001).

The proposed schedule for the identified elements of the additional efforts at the site includes:

Submittal/Activity	Schedule
Field Investigations	
Initial investigations	January/February 2008
Quarterly GW monitoring	February 2008, May 2008, August 2008, November 2008
Product thickness testing	February 2008, October 2008
Draft Data Report	Within 90 days after completion of field work included in Work Plan for additional site characterization
Final Data Report	Within 45 days after receipt of DEQ comments on the draft data report
Scope of Work Outline for Additional Source Control Evaluations	Within 90 days after completion of field work included in Work Plan for additional site characterization

[1] Gradient Corporation. 2006. Work Plan for Additional Characterization of the Premier Edible Oils Property. Prepared for Schnitzer Investment Corp. August 2; as modified in: Gradient Corporation. 2007. Letter from C. Petito Boyce to M. Romero (Oregon DEQ) re: Schnitzer/Premier Edible Oils (PEO) Site – Response to June 25, 2007 DEQ Comments on August 2006 Work Plan for Additional Characterization.
[2] Bridgewater Group Inc. 2001. Remedial Investigation/Feasibility Study Scope of Work, Premier Edible Oils Site, 10400 North Burgard Way, Portland, Oregon. Prepared for Schnitzer Investment Corp. April.

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Oregon
Theodore Kulongoski, Governor

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November 14, 2007

Mr. Jim Jakubiak
Schnitzer Investment Corp.
P.O. Box 10047
Portland, Oregon 97296-0047

Re: Approval of Schnitzer/Premier Edible Oils (PEO) Workplan for Additional Characterization, ECSI # 2013

Dear Mr. Jakubiak:

Thank you for the October 8, 2007 response to DEQ's comments prepared by Gradient Corporation on behalf of Schnitzer Investment Corporation (SIC). Based upon the response and the agreement by SIC to incorporate most of the requested changes, DEQ approves the workplan with the understanding that groundwater samples will be collected in the three borings/wells to be located at the top of bank in the southern portion of the site. The assessment of ground water in this area is a necessary component of a complete Source Control Evaluation.

In accordance with Attachment B "Scope of Work for Remedial Investigation/Feasibilty Study and Source Control Measures" to the Voluntary Portland Harbor Agreement, please provide a schedule for the proposed field work and a revised schedule for the completion of the Source Control Evaluation and Remedial Investigation within 30 days of receiving this letter. Please do not hesitate to contact me with any questions regarding this workplan approval.

Sincerely,

Michael Romero
NWR Cleanup Program

Cc: Cathy Petito Boyce, Gradient Corporation
Tom Zelenka, Schnitzer Investment Corporation
Mavis Kent, ODEQ
Ken Theissen, ODEQ
Keith Johnson, ODEQ
ECSI file #2013

Gradient
CORPORATION

January 11, 2008

Mr. Mike Romero
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Anticipated Schedule for Upcoming Field Investigations

Dear Mike:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this letter providing the additional information that you requested in your December 13, 2007 e-mail regarding scheduling of the upcoming field investigations at the Premier Edible Oils (PEO) Site. As you know, these investigations will be conducted consistent with previous field work at the site, and in accordance with the August 2006 *Work Plan for Additional Characterization of the Premier Edible Oils Property* (as amended in Gradient's October 8, 2007 letter to you), which was approved by the Oregon Department of Environmental Quality (DEQ) on November 14, 2007.

Based on current communications with the subcontractors that will be conducting the field investigations, the anticipated schedule for the upcoming efforts in January and February 2007 is as follows:

Wednesday January 9 through Friday January 11:

- URS review of the existing site Health and Safety Plan to identify any necessary updates
- Staking of boring locations
- Completion of utility location survey

Thursday January 17 and Friday January 18:

- Completion of soil borings in the southern portion of the PEO site (PB-9 through PB-13) and selected soil borings in the central portion of the site (PB-6 and PB-8; also PB-7 if field evidence of elevated total petroleum hydrocarbon [TPH] compounds is observed at location PB-6).

Note: The sampling of soil borings located adjacent to Time Oil's Bell Terminal facility will most effectively be completed at the same time as the other soil borings identified for the coordinated sampling on the Bell Terminal property (as shown on Figure 7 of the Work Plan). As a result, installation of the remaining soil borings (PB-1 through PB-5) will be deferred until issues related to Time Oil property access and timing for the coordinated sampling with Time Oil are resolved.

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Wednesday January 23 through Friday January 25 (or Wednesday January 30 through Friday February 1, depending on final discussions with subcontractor):

- Completion of sewer line evaluation.

Monday January 28 through Friday February 1:

- Installation, development, and sampling of monitoring wells, *i.e.*, MW-18 through MW-21, and additional locations (if any) required due to presence of elevated TPH (as reflected in both field evidence and analytical laboratory results). Collection of product samples, if present, from monitoring wells MW-02 and MW-04.

Note: The timing of the coordinated sampling of all monitoring wells on the PEO and Bell Terminal properties will be determined based on communications with Time Oil. SIC's counsel has contacted Time Oil's counsel regarding Bell Oil Terminal site access and the coordinated sampling of the monitoring wells, and will interface with Time Oil's counsel to coordinate that work.

Tuesday February 12 and Wednesday February 13:

- Completion of first round of product thickness monitoring survey.

If you wish to coordinate a DEQ site visit during the field investigations, please contact Jim Jakubiak of Schnitzer (at 503-286-6976). Please contact me if you have any questions regarding this letter or need any additional information.

Sincerely,

GRADIENT CORPORATION

Cathy Petito Boyce

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
T. Zelenka/SIC

SCHN00382267

Gradient
CORPORATION

January 14, 2008

Mr. Mike Romero
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Mike:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between October 1 and December 31, 2007, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- Prepared a letter summarizing SIC's responses to DEQ's June 25, 2007 letter presenting its comments on SIC's August 2, 2006 *Work Plan for Additional Characterization of the Premier Edible Oils (PEO) Property.* Submitted SIC's response to DEQ's June 25 comments on October 8, 2007.
- Received DEQ approval of the Work Plan for additional characterization on November 14, 2007. As requested by DEQ, prepared and submitted a letter providing a schedule for conducting the Work Plan investigations, the Source Control Evaluation, and the Remedial Investigation for this site. Letter was submitted to DEQ on December 13, 2007. In accordance with the Work Plan requirements, initiated field investigation efforts, including an initial site reconnaissance on December 14, 2007. As requested by DEQ in a December 13, 2007 e-mail, prepared a more detailed schedule for the upcoming sampling efforts and submitted the schedule to DEQ on January 11, 2008.
- Initiated efforts to arrange for the coordinated sampling with Time Oil that is described in the Work Plan
- Ongoing review of reports prepared by others (*e.g.*, DEQ or the Lower Willamette Group [LWG]) that are related to the Portland Harbor Superfund Site and discuss or impact the PEO site. Includes review of data collected during field sampling programs conducted by the LWG and evaluation of implications of data for assessing conditions in the vicinity of the PEO site.

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Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between January 1 and March 31, 2008:

- Proceed with field investigations described in Work Plan for additional site characterization.
- Continue reviewing statements made regarding the PEO site and contamination sources at the PEO site in documentation prepared by the LWG, Time Oil, and/or DEQ and, as necessary, providing written information correcting errors and misrepresentations included in such documentation. In particular, in light of DEQ's June 28, 2007 letter providing an "official response" to SIC's March 6, 2006 White Paper submittal regarding contaminant sources at the PEO site[1], continue to review and bring to DEQ's attention the inconsistent, misleading, and sometimes false statements that DEQ provides to other parties in other DEQ documentation, *e.g.*, regarding the residual petroleum contaminant sources at the PEO site.
- Continue efforts to address site issues identified by DEQ during the May 3, 2006 site visit and prepare additional documentation of findings for submittal to DEQ.
- Continue communications with DEQ regarding proposed future efforts at the PEO site and Time Oil's Bell Terminal site, including proposed coordinated sampling efforts on the PEO and Bell Terminal sites. As available, obtain additional information from DEQ regarding any efforts at Time Oil's site.
- Continue reviewing data from the LWG field sampling program as data become available.
- Work with DEQ during impending transition to new DEQ project management.

Issues to be Resolved/Recommended Actions

As indicated in previous quarterly reports (submitted on August 2, 2006; October 12, 2006; January 16, 2007; April 5, 2007, July 12, 2007; and October 15, 2007) and noted above, SIC is very concerned with an ongoing and unresolved issue regarding inconsistent, misleading, and false statements that DEQ provides to third parties in non-SIC-specific DEQ documentation regarding PEO site activities and the sources of the residual petroleum contamination at the PEO site. In particular, SIC is concerned with the inconsistencies between DEQ conclusions presented in DEQ's June 28, 2007 "official response" to SIC regarding SIC's White Paper submittal and statements DEQ has presented in other documentation. DEQ's failure to be consistent in reporting its "official" determinations regarding the site investigation process and the residual petroleum hydrocarbon contaminant sources at the PEO site – and the role of Time Oil and/or its predecessor with regard to that contamination – places SIC in a false light. These problematic statements appear in documentation that includes, but is not limited to, DEQ's Portland Harbor Milestone Reports.

As discussed in the October 15, 2007 quarterly report, these mischaracterizations persisted in DEQ's most recent, publicly available Portland Harbor Milestone Report, which was submitted to the U.S. Environmental Protection Agency (EPA) on July 30, 2007. Although this report partially addressed

[1] James C. Brown & Associates. 2006. White Paper – Contaminant Sources at the Premier Edible Oil Site ESCI #2013 Located Within the Portland Harbor Superfund Site. March 6

SCHN00382269

SIC's concerns, it retained language that mischaracterized the PEO site and SIC's activities at the site. Moreover, it failed to incorporate certain findings that DEQ had acknowledged as the Department's "official response" in other direct communications with SIC. The Milestone Reports are submitted to EPA and are disseminated for ready public review, thereby receiving far greater distribution than DEQ's direct communications with SIC regarding the PEO site. As a result, SIC remains very concerned that the Milestone Reports present misleading and false information regarding the PEO site, SIC's activities, and DEQ's actual findings regarding the site. These misrepresentations have persisted despite DEQ's assurances that it would correct the mischaracterizations presented in subsequent Milestone Reports.

As of the date that this current quarterly report letter was prepared, DEQ's Milestone Report for the Portland Harbor Superfund Site – scheduled for issuance in December 2007 – was not yet publicly available. Moreover, since the submittal of SIC's October 15, 2007 quarterly report, SIC has received no response from DEQ regarding this concern and, thus, has no indication whether this issue has been or will be resolved in the December 2007 Milestone Report by presenting a more accurate characterization of the conditions and activities at the PEO site that is consistent with DEQ's June 25, 2007 "official response." If the erroneous information (including information regarding contaminant sources at the PEO site) remains in the December 2007 Milestone Report, SIC will reluctantly be forced to presume that DEQ has made a knowing decision to continue to publish false information regarding the PEO site.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

GRADIENT CORPORATION

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
K. Johnson/DEQ
T. Zelenka/SIC

SCHN00382270

Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
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(503) 229-5263
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TTY (503) 229-5471

January 25, 2008

Mr. Jim Jakubiak
Schnitzer Investment Corp.
P.O. Box 10047
Portland, Oregon 97296-0047

Re: Schnitzer/Premier Edible Oils (PEO) Remedial Investigation and Portland Harbor Source Control Evaluation, ECSI # 2013

Dear Mr. Jakubiak:

The purpose of this letter is to notify Schnitzer Investment Co. that the new DEQ project manager for the Schnitzer/Premier Edible Oils site ECSI #2013 is Ken Thiessen. Ken can be reached at (503)-229-6015 and Thiessen.Kenneth@deq.state.or.us . Please make the change in your records and send all future site correspondence directly to Ken. I will remain on the project in a peer role in order to facilitate the transition and to help ensure the completion of the Portland Harbor Source Control Evaluation and the upland Remedial Investigation and Feasibility Study for the site. If you have any questions regarding the transition, feel free to contact Keith Johnson, NWR Cleanup Section Manager at (503) 229-6431.

Also, the DEQ project team looks forward to receiving the field screening and sampling data in conjunction with the lithologic logs from the soil borings that were completed this week. Please submit the requested information prior to the installation of the scheduled monitor wells. DEQ's participation in the interpretation of this preliminary data will help Schnitzer decide which borings to complete as groundwater monitor wells. Once the monitor wells are completed and the initial data is received, DEQ would like to meet with Schnitzer to scope out a clear path for completing the Source Control Evaluation for the site.

Sincerely,

Michael Romero, Project Manager
NWR Cleanup Section
Oregon Department of Environmental Quality

Cc: Ken Theissen, ODEQ
ECSI File # 2013

Gradient
CORPORATION

February 1, 2008

Mr. Kenneth Thiessen
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Selection of Locations for Monitoring Wells

Dear Ken:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this information regarding installation of monitoring wells at the Premier Edible Oils (PEO) site. In accordance with the Work Plan for the current investigations (which was approved by the Oregon Department of Environmental Quality [DEQ] on November 14, 2007)[1], the following soil boring locations were identified for possible completion as monitoring wells:

- Locations PB-6 and PB-8 (in the central portion of the PEO site) and
- Locations PB-11, PB-12, and PB-13 (in the southern portion of the site)[2]

As specified in the Work Plan, a monitoring well would be completed at any of these locations where elevated presence of total petroleum hydrocarbon (TPH) compounds was observed, based on the results of field observations (including sheen testing and photoionization detector [PID] readings) and analytical data. Summaries of the field observations and analytical results for these five locations are attached to this letter, together with copies of relevant figures from the Work Plan. As discussed in Footnote 2 below, in accordance with modifications requested by DEQ, soil boring PB-11 was installed at a location between previous soil borings SHL-21 and SHL-22 rather than at the location shown in the attached Figure 5.

As shown in the attached summaries, no evidence of residual TPH was observed at locations PB-6, PB-8, or PB-11, while some evidence of TPH was observed at locations PB-12 and PB-13. Therefore, following the procedures set out in the approved Work Plan, locations PB-12 and PB-13 are selected for installation of monitoring wells.

In light of the density of monitoring well locations along the southern border of the PEO site, SIC suggests a slight modification to the approach identified following the Work Plan procedures, *i.e.*, replacing one of the two locations identified for monitoring well installation (either PB-12 or PB-13) with a monitoring well at location PB-11. Although the procedures specified in the approved Work Plan would not require installation of a monitoring well at location PB-11, SIC suggests this

[1] The August 2, 2006 *Work Plan for Additional Characterization of the Premier Edible Oils (PEO) Property* (prepared by Gradient on behalf of SIC), as modified in an October 8, 2007 letter prepared by Gradient.

[2] With the exception of location PB-11, these locations are shown on Figures 5 and 6 of the Work Plan. As specified in the October 8, 2007 approved modifications to the Work Plan, soil boring PB-11 was installed at a location to the east of location PB-13 (midway between previously installed soil borings SHL-21 and SHL-22) based on field observations during installation of soil boring PB-13.

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modification because quarterly groundwater sampling at this clean location will provide a more useful information source than may be provided by the other two locations, which share more similar conditions with each other and with other previously installed monitoring wells in the near vicinity.

Installation of monitoring wells at the PEO site is currently scheduled to begin next Monday, February 4, 2008. These efforts will begin with installation of the 4 monitoring wells included in the Work Plan (MW-18, MW-19, MW-20, and MW-21). To ensure timely and efficient completion of the well installation efforts at the site, we will need DEQ's concurrence with the proposed approach no later than Monday afternoon.

Please contact me if you have any questions regarding the information presented in this letter.

Sincerely,

GRADIENT CORPORATION

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
M. Romero/DEQ
T. Zelenka/SIC

Premier Edible Oils site
Portland, Oregon

Preliminary Summary

Boring ID PB-6

Depth (feet bgs)	Field Observations: Lithology	Stain/ Odor	PID (ppm)	Petroleum Sheen	Soil Analytical Results (units = mg/kg): TPH-HCID Gasoline	TPH-HCID Diesel	TPH-HCID Heavy Oil	TPH-Gx Gasoline	TPH-Dx Diesel	TPH-Dx Heavy Oil	Water Analytical Results (units = mg/L): TPH-HCID Gasoline	TPH-HCID Diesel	TPH-HCID Heavy Oil	TPH-Gx Gasoline	TPH-Dx Diesel	TPH-Dx Heavy Oil
0.0	gravel	ns / no	-	-												
2.5	poorly-graded sand	ns / no	bkgd	nps												
5.0	as above	ns / no	bkgd	nps												
7.5	as above	ns / no	bkgd	nps												
10.0	as above	ns / no	bkgd	nps												
12.5	as above	ns / no	bkgd	nps	ND	ND	ND	ND (<4.38)	ND (<13.7)	ND (<27.3)						
15.0	as above	ns / no	bkgd	nps							ND	ND	ND	ND (<0.080)	ND (<0.238)	ND (<0.476)
17.5	gray silt	ns / no	bkgd	nps												
20.0	as above	ns / no	-	nps												

Notes:

bkgd = background concentration
ppm = parts per million
mg/kg = milligrams per kilogram or ppm
- = no observation (e.g., because below groundwater table, or at ground surface)
HC = hydrocarbon
DET = detection
ND = non-detect

Staining / Odor:

ns = no HC staining
no = no HC odor
o = HC odor present
so = strong HC odor
faint o = faint HC odor

Sheen:

nps = no sheen visible
wps = weak sheen visible
sps = stong sheen visible
sc = scum
fo = free oil
b = bleb

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Premier Edible Oils site
Portland, Oregon

Preliminary Summary

Boring ID PB-8

Depth (feet bgs)	Field Observations: Lithology	Stain/ Odor	PID (ppm)	Petroleum Sheen	Soil Analytical Results (units = mg/kg): TPH-HCID Gasoline	TPH-HCID Diesel	TPH-HCID Heavy Oil	TPH-Gx Gasoline	TPH-Dx Diesel	TPH-Dx Heavy Oil	Water Analytical Results (units = mg/L): TPH-HCID Gasoline	TPH-HCID Diesel	TPH-HCID Heavy Oil	TPH-Gx Gasoline	TPH-Dx Diesel	TPH-Dx Heavy Oil
0.0	topsoil	ns / no	-	-												
2.5	poorly-graded sand	ns / no	bkgd	nps												
5.0	as above	ns / no	bkgd	nps												
7.5	as above	ns / no	bkgd	nps												
10.0	as above	ns / no	bkgd	nps												
12.5	as above	ns / no	bkgd	nps												
15.0	as above	ns / no	bkgd	nps	ND	ND	ND	ND (<4.26)	ND (<13.8)	ND (<27.5)						
17.5	as above	ns / no	-	nps							ND	ND	ND	ND (<0.080)	ND (<0.236)	ND (<0.472)
20.0	as above	ns / no	-	nps												
22.5	as above	ns / no	-	nps												
25.0	as above	ns / no	-	nps												

Notes:

bkgd = background concentration
ppm = parts per million
mg/kg = milligrams per kilogram or ppm
- = no observation (e.g., because below groundwater table, or at ground surface)
HC = hydrocarbon
DET = detection
ND = non-detect

Staining / Odor:

ns = no HC staining
no = no HC odor
o = HC odor present
so = strong HC odor
faint o = faint HC odor

Sheen:

nps = no sheen visible
wps = weak sheen visible
sps = stong sheen visible
sc = scum
fo = free oil
b = bleb

SCHN00382304

Premier Edible Oils site
Portland, Oregon

Preliminary Summary

Boring ID PB-11

Depth (feet bgs)	Field Observations: Lithology	Stain/ Odor	PID (ppm)	Petroleum Sheen	Soil Analytical Results (units = mg/kg): TPH-HCID Gasoline	TPH-HCID Diesel	TPH-HCID Heavy Oil	TPH-Gx Gasoline	TPH-Dx Diesel	TPH-Dx Heavy Oil	Water Analytical Results (units = mg/L): TPH-HCID Gasoline	TPH-HCID Diesel	TPH-HCID Heavy Oil	TPH-Gx Gasoline	TPH-Dx Diesel	TPH-Dx Heavy Oil
0.0	silty gravel/concrete	ns / no	-	nps												
2.5	poorly-graded sand	ns / no	bkgd	nps												
5.0	as above	ns / no	bkgd	nps												
7.5	as above	ns / no	bkgd	nps												
10.0	as above	ns / no	bkgd	nps												
12.5	as above	ns / no	bkgd	nps												
15.0	as above	ns / no	bkgd	nps	ND	ND	ND	ND (<4.82)	ND (<15.5)	ND (<31.1)						
17.5	as above	ns / no	bkgd	nps												
20.0	as above	ns / no	-	nps							ND	ND	ND	ND (<0.080)	ND (<0.238)	ND (<0.476)
22.5	gray silt	ns / no	-	nps												
25.0	poorly-graded sand	ns / no	-	nps												

Notes:

bkgd = background concentration
ppm = parts per million
mg/kg = milligrams per kilogram or ppm
- = no observation (e.g., because below groundwater table, or at ground surface)
HC = hydrocarbon
DET = detection
ND = non-detect

Staining / Odor:

ns = no HC staining
no = no HC odor
o = HC odor present
so = strong HC odor
faint o = faint HC odor

Sheen:

nps = no sheen visible
wps = weak sheen visible
sps = stong sheen visible
sc = scum
fo = free oil
b = bleb

SCHN00382305

Premier Edible Oils site
Portland, Oregon

Preliminary Summary

Boring ID PB-12

Depth (feet bgs)	Field Observations: Lithology	Stain/ Odor	PID (ppm)	Petroleum Sheen	Soil Analytical Results (units = mg/kg): TPH-HCID Gasoline	TPH-HCID Diesel	TPH-HCID Heavy Oil	TPH-Gx Gasoline	TPH-Dx Diesel	TPH-Dx Heavy Oil	Water Analytical Results (units = mg/L): TPH-HCID Gasoline	TPH-HCID Diesel	TPH-HCID Heavy Oil	TPH-Gx Gasoline	TPH-Dx Diesel	TPH-Dx Heavy Oil
0.0	silty gravel	ns / no	-	nps												
2.5	poorly-graded sand	ns / no	bkgd	nps												
5.0	as above	ns / no	bkgd	nps												
7.5	as above	ns / no	bkgd	nps												
10.0	as above	ns / no	bkgd	nps												
12.5	as above	ns / no	bkgd	nps												
15.0	as above	ns / no	bkgd	nps												
17.5	as above	ns / no	bkgd	nps												
20.0	as above	o	bkgd	-	DET	DET	DET	1020	6500	ND (<289)						
22.5	as above	o	-	sps, sc, fob							DET	DET	ND	5.66	8.27	ND (<0.476)
25.0	as above	o	-	fob												
27.5	as above	o	-	sc												

Notes:

bkgd = background concentration
ppm = parts per million
mg/kg = milligrams per kilogram or ppm
- = no observation (e.g., because below groundwater table, or at ground surface)
HC = hydrocarbon
DET = detection
ND = non-detect

Staining / Odor:

ns = no HC staining
no = no HC odor
o = HC odor present
so = strong HC odor
faint o = faint HC odor

Sheen:

nps = no sheen visible
wps = weak sheen visible
sps = stong sheen visible
sc = scum
fo = free oil
b = bleb

SCHN00382306

Premier Edible Oils site
Portland, Oregon

Preliminary Summary

Boring ID PB-13

Depth (feet bgs)	Field Observations: Lithology	Stain/ Odor	PID (ppm)	Petroleum Sheen	Soil Analytical Results (units = mg/kg): TPH-HCID Gasoline	TPH-HCID Diesel	TPH-HCID Heavy Oil	TPH-Gx Gasoline	TPH-Dx Diesel	TPH-Dx Heavy Oil	Water Analytical Results (units = mg/L): TPH-HCID Gasoline	TPH-HCID Diesel	TPH-HCID Heavy Oil	TPH-Gx Gasoline	TPH-Dx Diesel	TPH-Dx Heavy Oil
0.0	silty gravel	ns / no	-	nps												
2.5	poorly-graded sand	ns / no	bkgd	nps												
5.0	as above	ns / no	bkgd	nps												
7.5	as above	ns / no	bkgd	nps												
10.0	as above	ns / no	bkgd	nps												
12.5	as above	ns / no	bkgd	nps												
15.0	as above	ns / no	bkgd	nps												
17.5	as above	o	1	nps												
20.0	as above	o	1	nps	DET	DET	ND	61.8	1080	ND (<27.7)						
22.5	as above	o	-	sps							DET	DET	DET	8.52	27.2	ND (<0.476)
25.0	as above	o	-	nps												
27.5	as above	o	-	nps												

Notes:

bkgd = background concentration
ppm = parts per million
mg/kg = milligrams per kilogram or ppm
- = no observation (e.g., because below groundwater table, or at ground surface)
HC = hydrocarbon
DET = detection
ND = non-detect

Staining / Odor:

ns = no HC staining
no = no HC odor
o = HC odor present
so = strong HC odor
faint o = faint HC odor

Sheen:

nps = no sheen visible
wps = weak sheen visible
sps = stong sheen visible
sc = scum
fo = free oil
b = bleb

SCHN00382307

Gradient
CORPORATION

April 15, 2008

Mr. Ken Thiessen
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site – Quarterly Report

Dear Ken:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this Quarterly Report for the Premier Edible Oils (PEO) Site, as required by Section II, H of the Voluntary Agreement for Upland Remedial Investigation/Feasibility Study and Source Control Measures between SIC and the Oregon Department of Environmental Quality (DEQ). This Quarterly Report summarizes activities conducted during the time period quarter; describes activities planned for the next quarter; and discusses problems encountered during the quarter, if any, and actions taken to resolve those problems.

Summary of Project Activities

Between January 1 and March 31, 2008, SIC and its consultants, Gradient Corporation and URS, completed the following work at the PEO site:

- During January and February, conducted initial field investigation efforts in accordance with SIC's August 2, 2006 *Work Plan for Additional Characterization of the Premier Edible Oils (PEO) Property*, which was approved by DEQ on November 14, 2007. These efforts included installing 11 soil borings and 7 monitoring wells, collecting soil and groundwater samples, and completing the first round of the product thickness monitoring survey.
- Communicated with DEQ regarding sampling activities. As requested by DEQ in a December 13, 2007 e-mail, prepared a more detailed schedule for the upcoming sampling efforts and submitted the schedule to DEQ on January 11, 2008. In accordance with the Work Plan, provided DEQ with information supporting selection of certain monitoring well locations based on observations of elevated presence of total petroleum hydrocarbon (TPH) compounds. This information (including relevant initial field investigation results and conclusions regarding selected well locations) was provided to DEQ in a February 1, 2008 letter. DEQ approved the selected monitoring well locations in a February 4, 2008 e-mail.
- Continued efforts associated with the coordinated sampling with Time Oil that is described in the Work Plan.
- Notified of transition in DEQ project manager for the PEO site in a January 25, 2008 DEQ letter. Initiated interactions with new project manager.
- Ongoing review of reports prepared by others (*e.g.*, DEQ or the Lower Willamette Group [LWG]) that are related to the Portland Harbor Superfund Site and that

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discuss or impact the PEO site. Includes review of data collected during field sampling programs conducted by the LWG and evaluation of implications of data for assessing conditions in the vicinity of the PEO site.

Activities to be Conducted Next Quarter

The following activities are planned for the PEO site between April 1 and June 30, 2008:

- Continue with field investigations described in Work Plan for additional site characterization.
- Continue reviewing statements made regarding the PEO site and contamination sources at the PEO site in documentation prepared by the LWG, Time Oil, and/or DEQ and, as necessary, providing written information correcting errors and misrepresentations included in such documentation.
- Continue efforts to address site issues identified by DEQ during the May 3, 2006 site visit and prepare additional documentation of findings for submittal to DEQ.
- Continue communications with DEQ regarding efforts at the PEO site and Time Oil's Bell Terminal site, including proposed coordinated sampling efforts on the PEO and Bell Terminal sites. As available, obtain additional information from DEQ regarding any efforts at Time Oil's site.
- Continue reviewing data from the LWG field sampling program as data become available.

Issues to be Resolved/Recommended Actions

As indicated in each of the quarterly reports SIC has prepared since August 2, 2006, SIC remains concerned with the longstanding issues associated with the inconsistent, misleading, and false statements that DEQ provides to the public and third parties in non-SIC-specific DEQ documentation discussing the PEO site. In SIC's January 2008 quarterly report, SIC informed DEQ that SIC would consider DEQ's continued misrepresentations in DEQ's Portland Harbor Milestone Reports alleging SIC's unwillingness to undertake source control investigation activities at the PEO site – as well as misrepresentations regarding the sources of the residual petroleum contamination at the PEO site – as a knowing decision by DEQ to continue to publish false information regarding SIC and the PEO site. These misrepresentations have persisted despite DEQ's assurances that it would correct the mischaracterizations in subsequent Milestone Reports.

In particular, SIC remains concerned with the knowing inconsistencies between DEQ findings and conclusions presented in DEQ's June 28, 2007 "Official Response" to SIC regarding SIC's White Paper submittal[1] and contaminant sources at the PEO site; and public statements DEQ continues to make in other relevant documentation, which includes – but is not limited to – the Portland Harbor Milestone Reports. These concerns include DEQ's knowing failure to be consistent in reporting its "official" determinations regarding the PEO site investigation process and the residual petroleum

[1] James C. Brown & Associates. 2006. White Paper – Contaminant Sources at the Premier Edible Oil Site ESCI #2013 Located Within the Portland Harbor Superfund Site. March 6.

SCHN00382310

hydrocarbon contaminant sources at the PEO site, as well as the role of Time Oil and/or its predecessor (Northwest Oil Company) in causing that contamination. DEQ's continued inconsistencies and misrepresentations place SIC in a false light.

DEQ's most recent, publicly available Portland Harbor Milestone Report was submitted to the U.S. Environmental Protection Agency (EPA) on January 31, 2008. In the January report, DEQ acknowledges the role of its staffing problems in delaying its approval of the Work Plan for additional site characterization efforts at the PEO site; however, DEQ appears to dismiss the significance of that 2 ½ year delay in SIC's ability to complete the source control work. Specifically, the Work Plan was submitted to DEQ in draft form in March 2005 but was not approved by DEQ until November 14, 2007.

While DEQ partially addresses SIC's concerns in the January 2008 Milestone Report, certain critical mischaracterizations persist. In particular, the January 2008 Milestone Report retains language that mischaracterizes the PEO site and SIC's activities at the site. Moreover, the Milestone Report fails to incorporate relevant findings of DEQ's Official Response for the PEO site. This issue is particularly important because the Milestone Reports are submitted to EPA, are posted on DEQ's Portland Harbor website, and are broadly disseminated for ready public review. Therefore, they receive far greater distribution than DEQ's direct communications with SIC regarding the PEO site. Consequently, SIC remains concerned regarding the potentially far-reaching, adverse effects of the Milestone Reports as they relate to SIC and the PEO site.

Given DEQ's statement that "the major issues [impeding progress at the PEO site; including DEQ staffing challenges] have been resolved and the PEO site will be dropped from this list of 'Issue I' sites in the next Milestone Report," it is important that SIC take this opportunity to re-state – for the PEO site administrative record – DEQ's Official Responses regarding the PEO site. Specifically, SIC remains concerned regarding the following issues:

- DEQ's Milestone Report description presents the role of Time Oil as a contaminating source at the PEO site as merely an SIC "claim," placing at issue the validity of SIC's position. However, in DEQ's Official Response, DEQ found that SIC provided "an extensive body of information supporting an assertion that some of the contamination found on the PEO site appears to be due to past releases of hazardous substances that occurred on property either currently or formerly owned by Time Oil, and its predecessors. ... It appears that the Time Oil Bell Terminal and its associated operations is a historic source petroleum hydrocarbon contamination. Because the Bell Terminal is hydraulically up gradient of the PEO site, Bell Terminal groundwater likely has an ongoing contribution to petroleum contamination at the PEO site. Additionally, the former Northwest Oil Co., a predecessor to Time Oil, was located on what is now the southwest corner of the PEO site and is a likely historic source of petroleum hydrocarbon contamination to this area of the PEO site."

- DEQ persists in stating that "SIC has been resistant to move forward with source control work at the PEO Site that SIC claims is, at least partially, Time Oil's responsibility." While SIC has continued to assert that Time Oil's operations at the Bell Terminal and the former Northwest Oil Company tank farm are contaminant sources at the PEO site, at no time has SIC refused or resisted undertaking the source control work.

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In fact, SIC was unable to proceed with the source control work because it was waiting for DEQ to approve the Work Plan for more than two and one-half (2½) years (and had been working with DEQ to define the nature of the necessary additional investigations for more than a year prior to submittal of the draft Work Plan). Under the terms of the 2001 VCP Agreement between DEQ and SIC, SIC agreed to investigate the PEO site and respond to all of DEQ's comments and requests for site investigation work. However, the VCP Agreement also specifically precludes SIC from undertaking any work at the PEO site until after DEQ has approved the work. In its efforts at the PEO site, SIC has fully cooperated with DEQ in a timely way in investigating the PEO site, once SIC has received the necessary approvals from DEQ of the applicable Work Plan.

In its June 2007 Official Response, DEQ recognizes "the length of time it has taken to review and [sic] this submittal" and further states that "Staffing resources were not available until recently to complete the review. With the PEO site identified as a high priority side for source control within Portland Harbor, DEQ is now taking the steps to assign the resources needed to move the site forward." Four and one-half (4½) months later, the Work Plan was finally approved and the source control investigatory work is proceeding. An unbiased review of the PEO site administrative record clearly demonstrates that any delays that have occurred in completing the source control work at the PEO site are attributable primarily to DEQ's staffing limitations and not to any hindrance or resistance by SIC.

SIC looks forward to the PEO site being "dropped from this list of 'Issue 1' sites in the next Milestone Report," as indicated on p. 10 of the January 2008 Milestone Report. As a result, SIC anticipates that this particular source of misleading information regarding the PEO site will cease to be an issue in future Milestone Reports and that SIC can discontinue presenting these factual corrections to the administrative record in these quarterly reports.

Please contact me if you have any questions regarding this report or any of the completed or proposed activities.

Sincerely,

GRADIENT CORPORATION

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
K. Johnson/DEQ
M. Romero/DEQ
T. Zelenka/SIC

SCHN00382312

Gradient
CORPORATION

April 30, 2008

Mr. Ken Thiessen
Oregon Department of Environmental Quality
Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, OR 97201

Subject: Schnitzer/Premier Edible Oils (PEO) Site (ECSI #2013) – Requested Information Regarding Field Investigation Schedule

Dear Ken:

On behalf of Schnitzer Investment Corp. (SIC), Gradient Corporation is submitting this letter providing schedule information requested in an April 23, 2008 telephone call to Gradient by Mike Romero of the Oregon Department of Environmental Quality (DEQ). Specifically, Mike requested information regarding the field investigations conducted at the Premier Edible Oils (PEO) Site during January and February of this year in accordance with the August 2, 2006 *Work Plan for Additional Characterization of the Premier Edible Oils (PEO) Property*, as amended, which was approved by DEQ on November 14, 2007.

As discussed with DEQ in previous communications and described in SIC's April 15, 2008 Quarterly Report, the January and February field efforts included installing 11 soil borings and 7 monitoring wells, collecting soil and groundwater samples, and completing the first round of the product thickness monitoring survey. Based on documentation prepared by SIC's field investigation subcontractor (URS Corporation), the last day of field efforts in this phase of the site work was Friday, February 22, 2008, when several groundwater samples were collected and submitted for laboratory analyses. We are currently in the process of compiling and reviewing the documentation of the January and February work, and are evaluating the implications of these results as part of the source control evaluations for the site.

As reflected in the approved Work Plan and the April 2008 Quarterly Report and as discussed with Mike in our recent call, the field investigation efforts conducted in January and February are only one component of the additional site characterization efforts identified in the approved Work Plan. Several additional field work components that are described in the Work Plan remain to be completed. These efforts – and the anticipated schedule for completing these efforts – include the following:

- Conducting 3 additional quarterly rounds of groundwater monitoring sampling at the newly installed wells (*i.e.*, MW-18 through MW-24). The first round of groundwater sampling was conducted in February 2008. The remaining 3 rounds of sampling will be conducted at approximately 3 month intervals subsequent to the initial round (*i.e.*, approximately May, August, and November 2008).
- Collecting one round of groundwater samples and water level measurements from all wells on the PEO site, as part of coordinated sampling with Time Oil. The timing for this sampling depends on the outcome of discussions with Time Oil regarding coordinated sampling. SIC expects to schedule the coordinated

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SCHN00382313

groundwater sampling to occur simultaneously with one of the scheduled quarterly sampling events for the new wells at the PEO site.

- Collecting a coordinated set of capillary fringe samples (and product samples, if available), conducting fingerprinting analyses, and conducting other sampling of Time Oil's Bell Terminal facility, as part of coordinated sampling with Time Oil. Again, the timing for this sampling depends on the outcome of discussions with Time Oil regarding coordinated sampling.
- Installing the remaining 5 soil borings located adjacent to Time Oil's Bell Terminal facility (soil borings PB-1 through PB-5). In our January 11, 2008 letter to Mike Romero regarding the anticipated schedule for upcoming field investigations at the PEO site, SIC noted that the sampling of these borings had been deferred pending further evaluation of issues related to Time Oil property access and timing for the coordinated sampling with Time Oil. The coordinated sampling described in the approved Work Plan includes sampling of additional locations on the Bell Terminal facility. Anticipating resistance from Time Oil regarding the proposed additional soil borings identified for the coordinated sampling that are located on the Bell Terminal property, SIC currently expects to move forward with the 5 remaining borings on the PEO property (soil borings PB-1 through PB-5) in the near future (*i.e.*, this sampling may be scheduled to coordinate with the quarterly groundwater monitoring event to occur in spring 2008). SIC will continue to work to arrange for data collection from the additional soil borings identified for the coordinated sampling on the Bell Terminal property and to address timing for the coordinated sampling with Time Oil.
- Conducting the supplemental sewer flow characterization. Depending on the outcome of scheduling discussions with the investigation subcontractor, it is anticipated that this component of the field investigations will be scheduled to coordinate with the quarterly groundwater monitoring event to occur in spring 2008.
- Completing the second half of the product thickness monitoring survey. As specified in the Work Plan, the product thickness survey is to be undertaken at two points during the year, to capture seasonally low and high river stages. The initial component of the survey was undertaken in February, while the second component of the survey is anticipated to be undertaken in the fall (*i.e.*, October or November).

Based on the information presented above, it is anticipated that the field investigations described in the approved Work Plan will be completed in approximately November 2008. SIC notes, however, that the timing for completion of the coordinated sampling with Time Oil remains uncertain, pending the outcome of discussions with Time Oil regarding the coordinated efforts.

SCHN00382314

Please contact me (at 206-267-2920) or Jim Jakubiak (at 503-286-6976) if you have any questions regarding this letter or the PEO site investigation activities.

Sincerely,

GRADIENT CORPORATION

Catherine Petito Boyce, S.M.
Principal Scientist

cc: J. Brown/James C. Brown & Associates
D. Coberley/URS
J. Jakubiak/SIC
M. Romero/DEQ
T. Zelenka/SIC

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Oregon
Theodore Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

June 18, 2008

Mr. Jim Jakubiak, RG
Schnitzer Investment Corp.
P.O. Box 10047
Portland, Oregon 97296-0047

Re: Request for January and February 2008 Subsurface Investigation Data Premier Edible Oils (PEO), Schnitzer Investment Corp., ECSI # 2013

Dear Mr. Jakubiak:

Thank you for your recent correspondence including the April 30, 2008 letter discussing requested information collected by Gradient Corporation on behalf of Schnitzer Investment Corporation (SIC). Your April 30, 2008 letter indicates that 11 soil borings were completed and 7 monitoring wells were installed in January 2008, with groundwater gaging and sampling, and product thickness monitoring performed by February 22, 2008.

The DEQ considers the prompt delivery of field and laboratory data collected from the activities listed above to be of prime importance to our understanding of the fate and transfer of contaminants from the Premier Edible Oils site to the Willamette River via groundwater. These data are fundamental to evaluating source control options that may be necessary for the site.

From the DEQ-approved supplemental Remedial Investigation (RI) investigation workplan schedule (Gradient 2006), SIC states that it plans to prepare a draft report within 90 days following completion of fieldwork. From your April 30, 2008 letter, SIC appears to consider the completion of fieldwork to include the many tasks listed in the six bulleted paragraphs. Adherence to this definition of "fieldwork" means that the DEQ will not receive data regarding January 2008 drilling work until February 2009 or later due to the need to the include four quarters of 2008 groundwater monitoring data, Bell Terminal findings, and sewer flow characterization in the composite document. These early 2008 data are too time-sensitive and important for this delivery schedule to be acceptable. Consideration of source control measures should be able to proceed using initial site characterization findings. It is customary and important to DEQ decision making that subsurface investigation reports and subsequent phase investigation reports are presented as timely, stand-alone documents.

From the Voluntary Cleanup Agreement signed for this project in 2001, (p.7, Section G. Records, (2)) the DEQ therefore requests the delivery of preliminary field and laboratory data collected in January and February 2008, within ten working days of receipt of this letter. Data to deliver will include:

- Well and boring lithologic logs with geological field observations such as odor, color, sheen, penetration rate, texture, and moisture content.
- Field notes as recorded during fieldwork.

- Signed analytical laboratory reports and Chain of Custody documentation for soil and groundwater samples.
- Survey data of wellhead elevations and calculated water table elevations from gage data.
- Observations of LNAPL on groundwater in wells and borings.
- Tabulated data summaries, if available.
- Data conclusions and interpretations as available from the Oregon Registered Geologist in responsible charge of the project.

We also request that SIC submit a draft findings report by August 15, 2008, covering January and February 2008 fieldwork. A key concern for the DEQ at the Premier Edible Oil site remains the lack of hydrogeological data to determination if LNAPL and dissolved-phase hydrocarbons previously observed from the southern portion of the property are migrating to the Willamette River. The completion of the additional investigation activities outlined in SIC's 4/30/08 letter can continue to proceed, and will continue to add to the characterization of the PEO property.

A request for January 2008 subsurface investigation data was made to you on January 25, 2008, in a letter from Mike Romero, and again in my email to you on February 4, 2008. These correspondences also requested planning for a project meeting with SIC project representatives in early 2008 to plan the path forward on the Premier Edible Oil site. No direct responses have been received to these data requests or meeting plans.

I reiterate my request to meet with SIC project managers to determine a clear path and schedule for completion of the source control evaluation for the Premier Edible Oils site. I recommend that this meeting take place immediately following DEQ's review of the early 2008 subsurface investigation field and laboratory data.

Please do not hesitate to contact me with any questions regarding this letter.
Sincerely,

Kenneth Thiessen, RG
NWR Cleanup Program

Reference cited:
2006, Gradient Corporation, Workplan for Additional Characterization of the Premier Edible Oils Property, Portland Oregon. August 2, 2006

Distribution:

Cathy Petito Boyce, Gradient Corporation
Don Coberley, RG, URS Corporation
Tom Zelenka, Schnitzer Investment Corporation
Christina Koch, EPA Region 10
Mike Romero, ODEQ
Keith Johnson, ODEQ
Charlie Landman, ODEQ
ECSI file #2013

James C. Brown & Associates, P.C.

Law Offices

Post Office Box 31
Marylhurst, Oregon 97036
Telephone: (503) 557-2245
FAX: (503) 557-0377
E-mail: (b) (6)

VIA E-MAIL
July 7, 2008
Original by US Mail

Kenneth Thiessen, RG
Project Manager
NW Region Cleanup Program
Oregon Department of Environmental Quality
2020 SW 4th Ave, Suite 400
Portland, OR 97201-4987

Re: SIC/PEO Site – Response to DEQ's June 18, 2008 Request for January and February 2008 Subsurface Investigation Data

Dear Mr. Thiessen:

On behalf of our client, Schnitzer Investment Corp. (SIC), we thank you for taking time to speak with Cathy Petito Boyce, Jim Jakubiak and me on June 19, 2008 regarding your letter to Mr. Jakubiak of June 18, 2008. We believe that discussion was helpful in placing the Department's June 18th request in context with the larger Portland Harbor CERCLA §104(e) Information Request to which SIC, as well as numerous other property owners within the Portland Harbor Superfund Site, is currently responding.

As we discussed, given the significant civil and potential criminal CERCLA sanctions associated with the §104 (e) response, by mutual agreement and necessity the §104 (e) response takes priority over the Department's June 18th request. EPA has granted SIC a time extension of until August 15, 2008 to respond to the Information Request.

During the conference call, we requested and it was agreed that a time extension of until August 29, 2008 was granted to respond to the DEQ's June 18th subsurface investigation data information request for the PEO Site. In addition to the specifically requested information, SIC agreed to provide the Department a report that analyzed the data and drew appropriate technical conclusions regarding the data.

Notwithstanding the agreement we reached with the Department regarding the August 29, 2008 time extension for submitting the requested data, we respectfully object to the Department's assertion that Section G. 2. of the March 6, 2001 Voluntary Cleanup Agreement between SIC and DEQ was applicable to the request. Further, we contested whether the DEQ was authorized to

request the data within 10 working days of SIC's receipt of the Department's June 18th letter. As we discussed, Section G.2. only allows the Department to make such a request; upon the Department's first making a *finding* that such information is *necessary in order to ensure protection of public health, safety, and welfare and the environment.* Given the extended nature of the Portland Harbor Superfund Site's investigative process and the historic nature of the TPH contamination near the SW corner of the PEO Site from the former NW Oil Company's 1941-1944 tank farm operations, we doubt the Department can reasonably assert that such a *finding* is necessary to ensure *protection of public health, safety, and welfare and the environment.* Therefore, SIC reserves its rights to contest the asserted 10-day submission requirement for the requested information, should that become necessary.

In addition, given the scheduled vacations for Gradient and SIC personnel, you were kind enough to extend the submission of the next Quarterly Report, until August 8, 2008. Further, SIC and its representatives are tentatively scheduled to meet with you on September 10, 2008 to discuss the current status of the PEO Site Investigatory work. We will confirm the time and place of the meeting with you on or before September 8, 2008.

Lastly, on behalf of SIC, we again reiterate our long-standing request that I be copied on all correspondence between the Department and SIC or Gradient.

Thank you for the courtesies you have extended to SIC and it representatives. We look forward to working with you in completing the uplands investigations at the PEO Site.

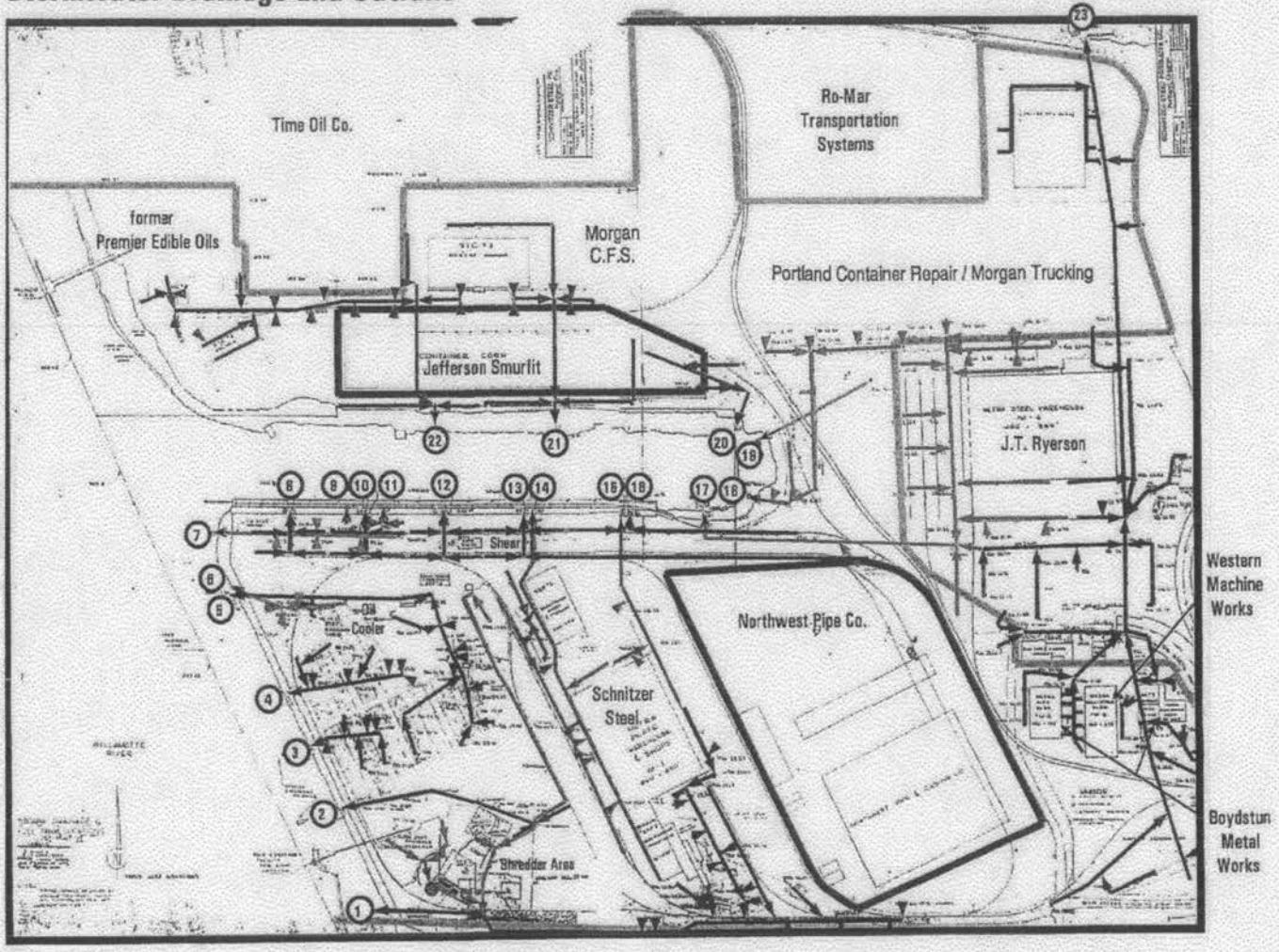
Sincerely,

James C. Brown

C: Mike Romero, ODEQ
Keith Johnson, ODEQ
Charlie Landman, ODEQ
Christina Koch, EPA Region 10
Jim Jakubiak, SIC
Cathy Petito Boyce, Gradient Corporation
Don Coberley, RG, URS Corporation

Figure 7

Stormwater Drainage and Outfalls



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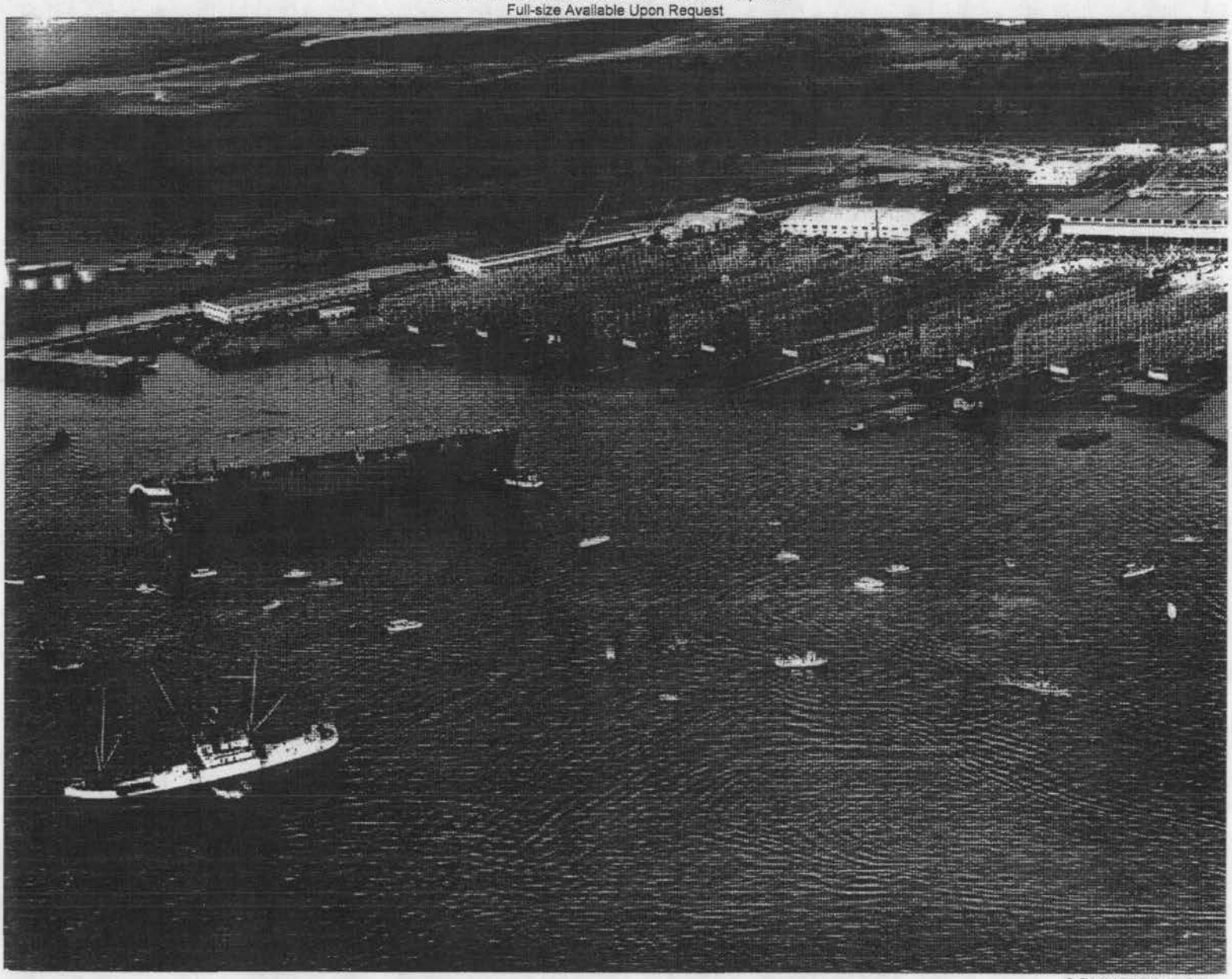

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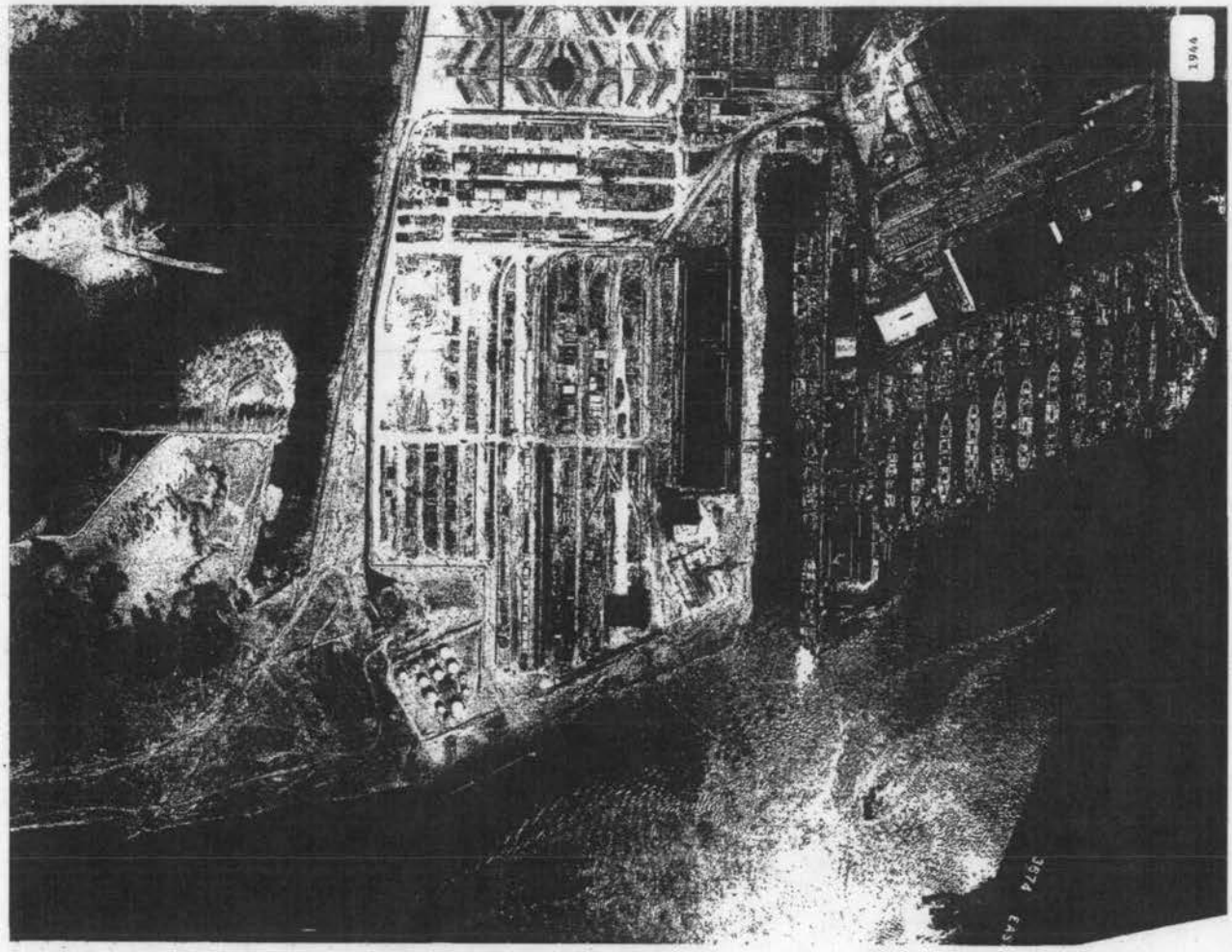

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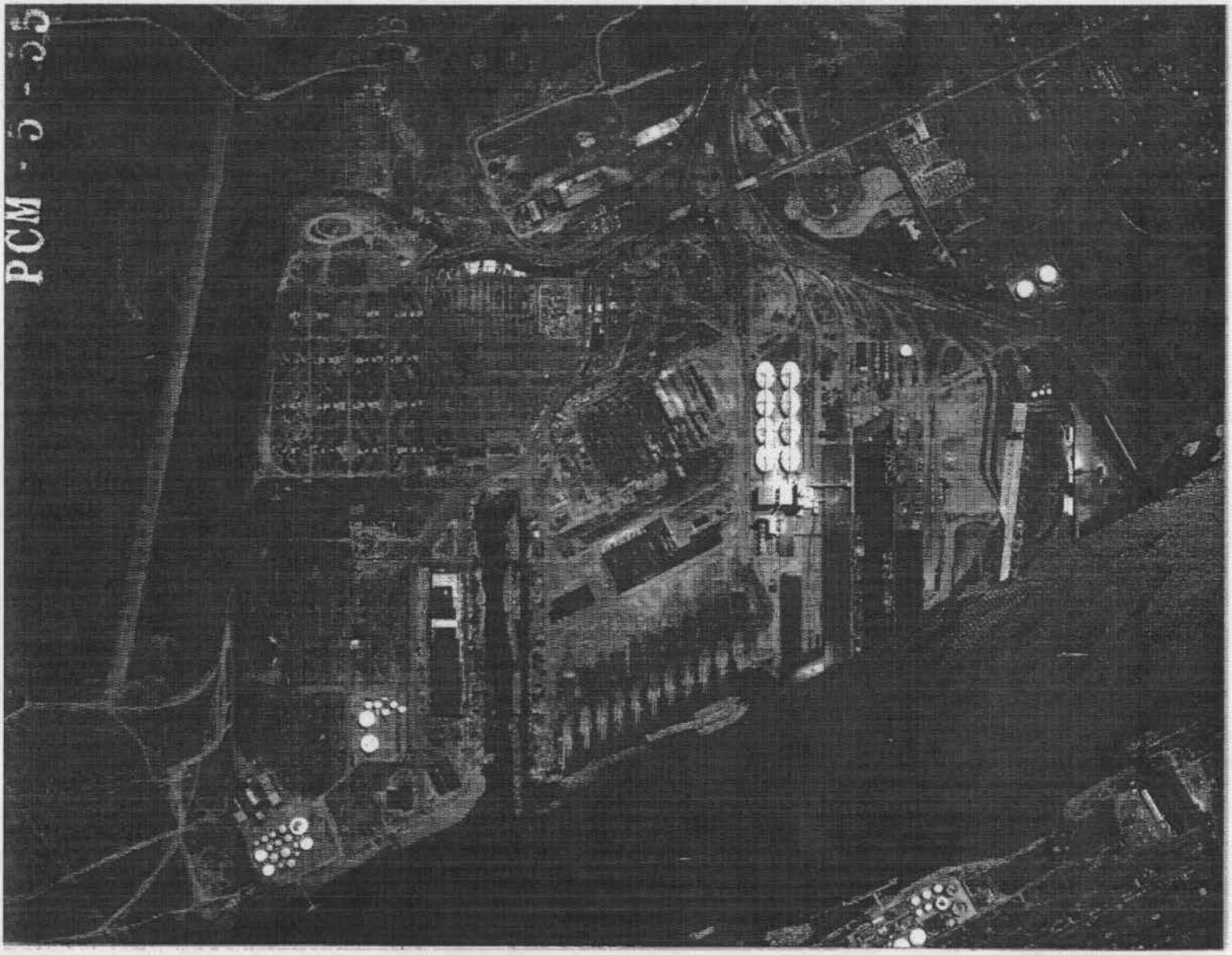

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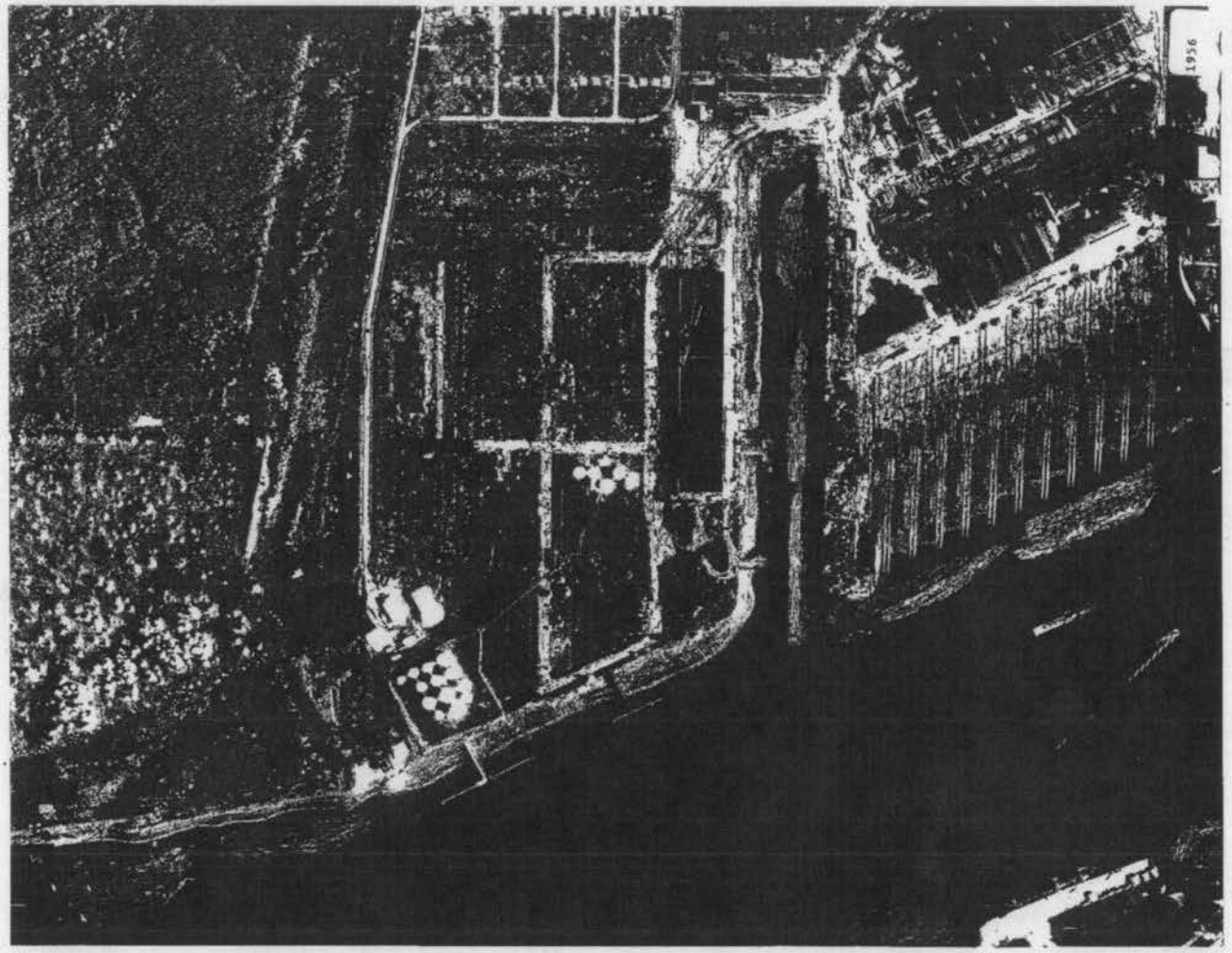

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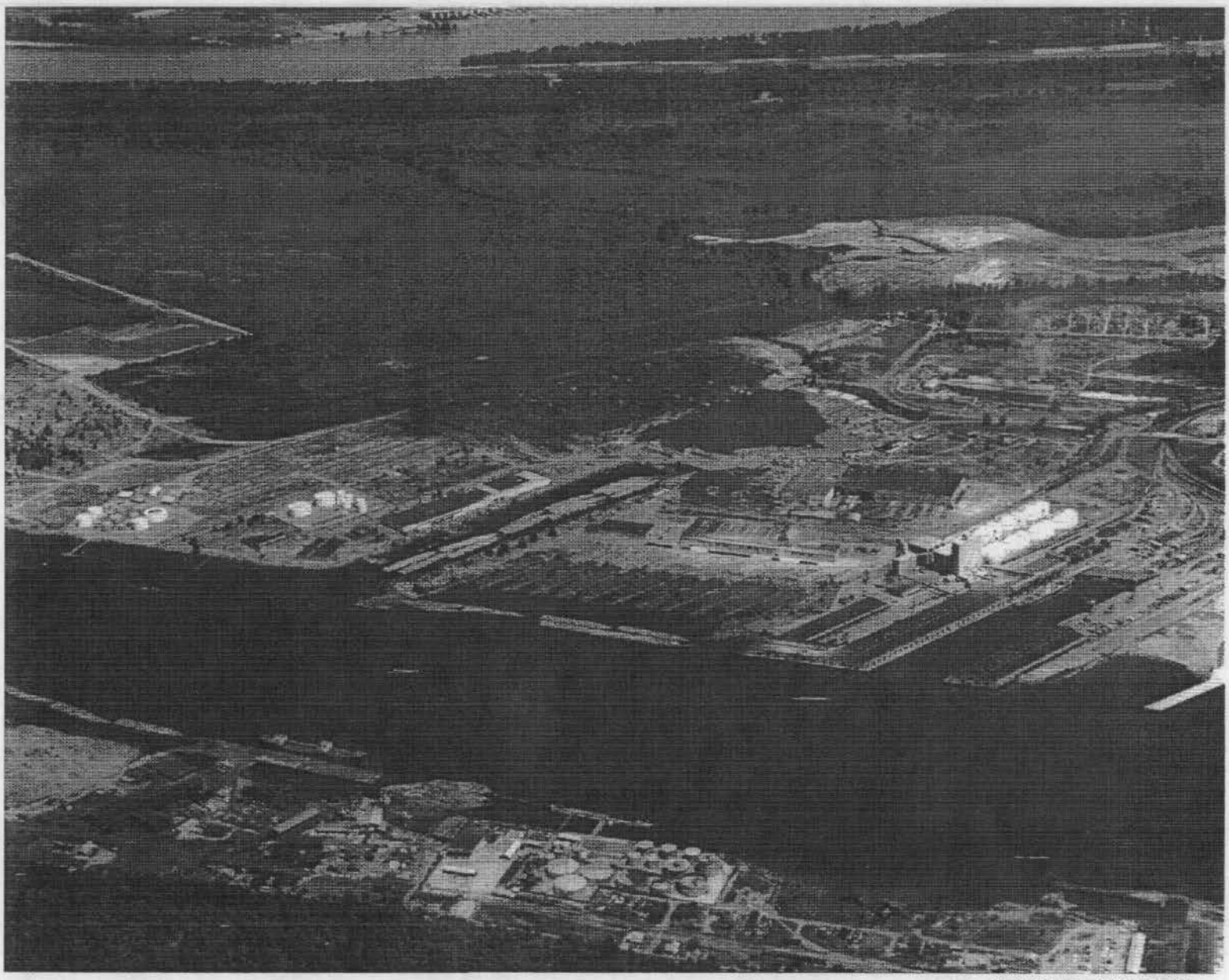

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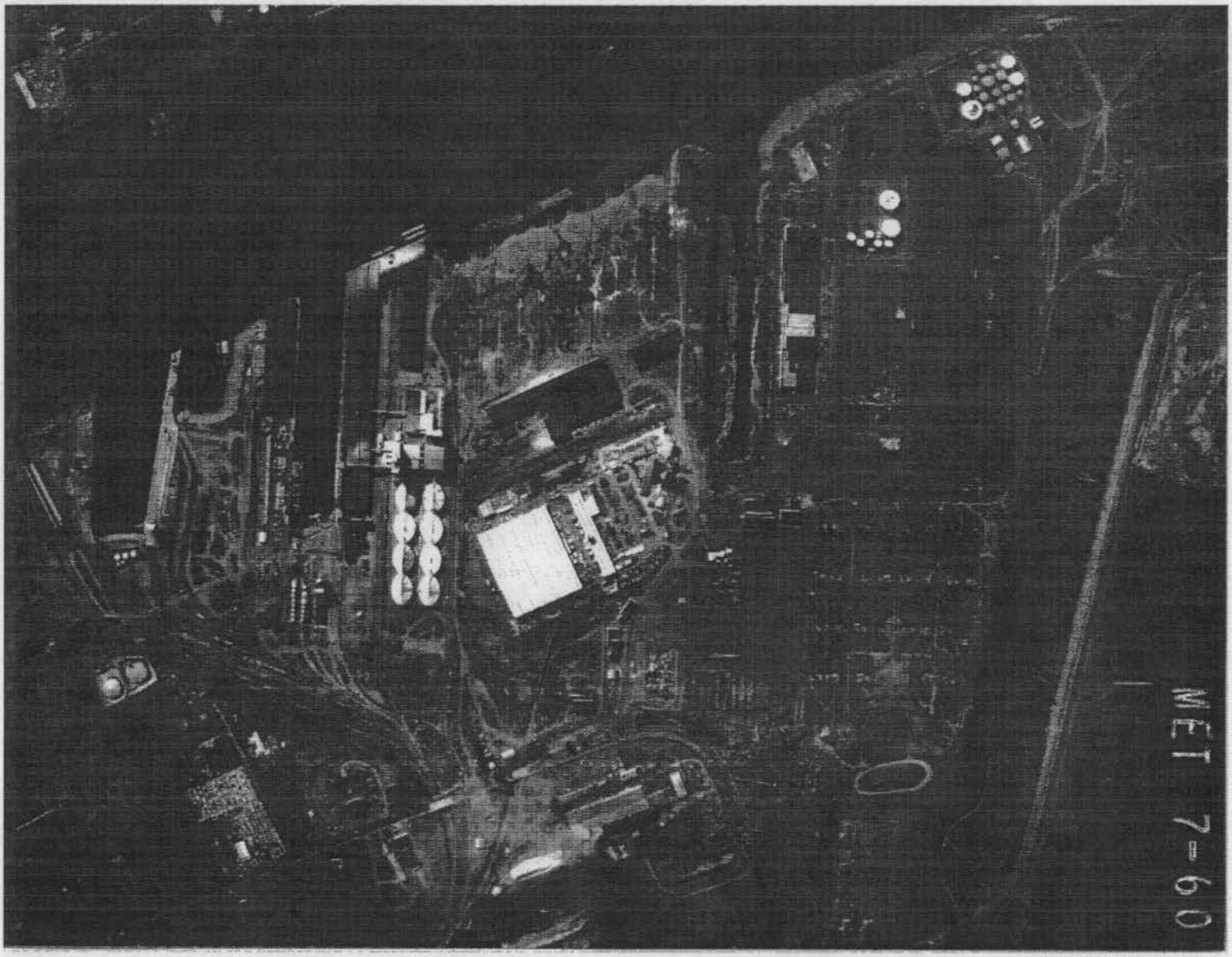

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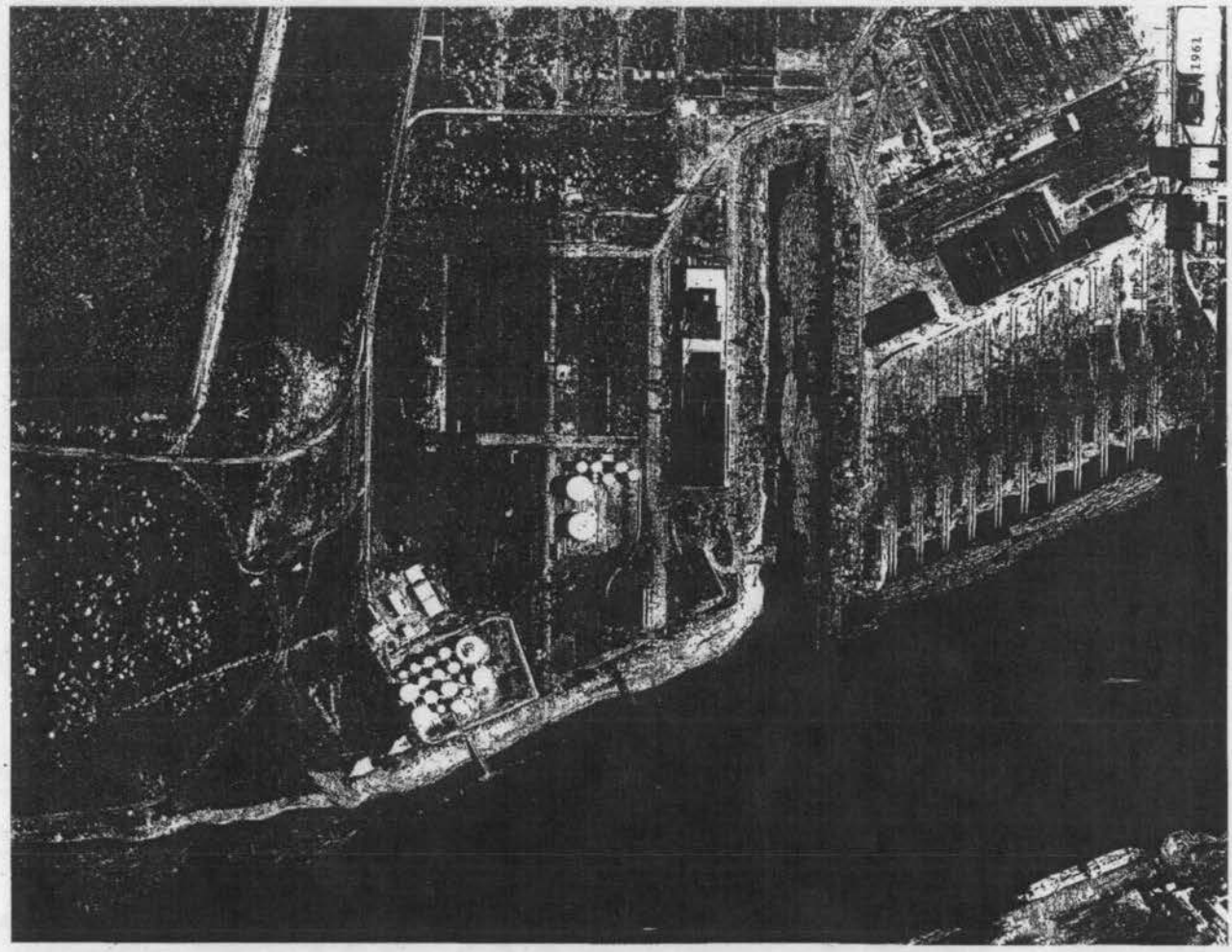

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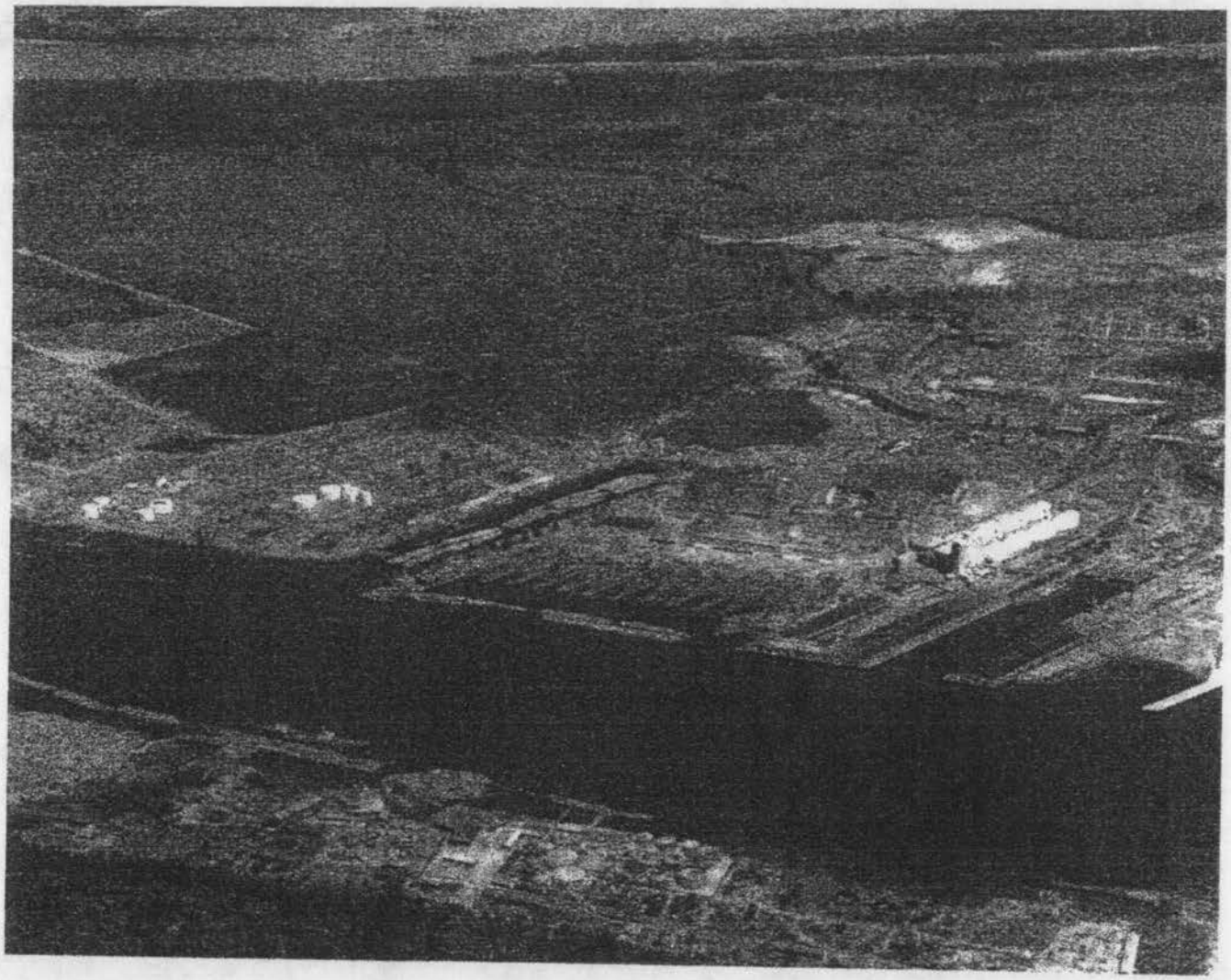

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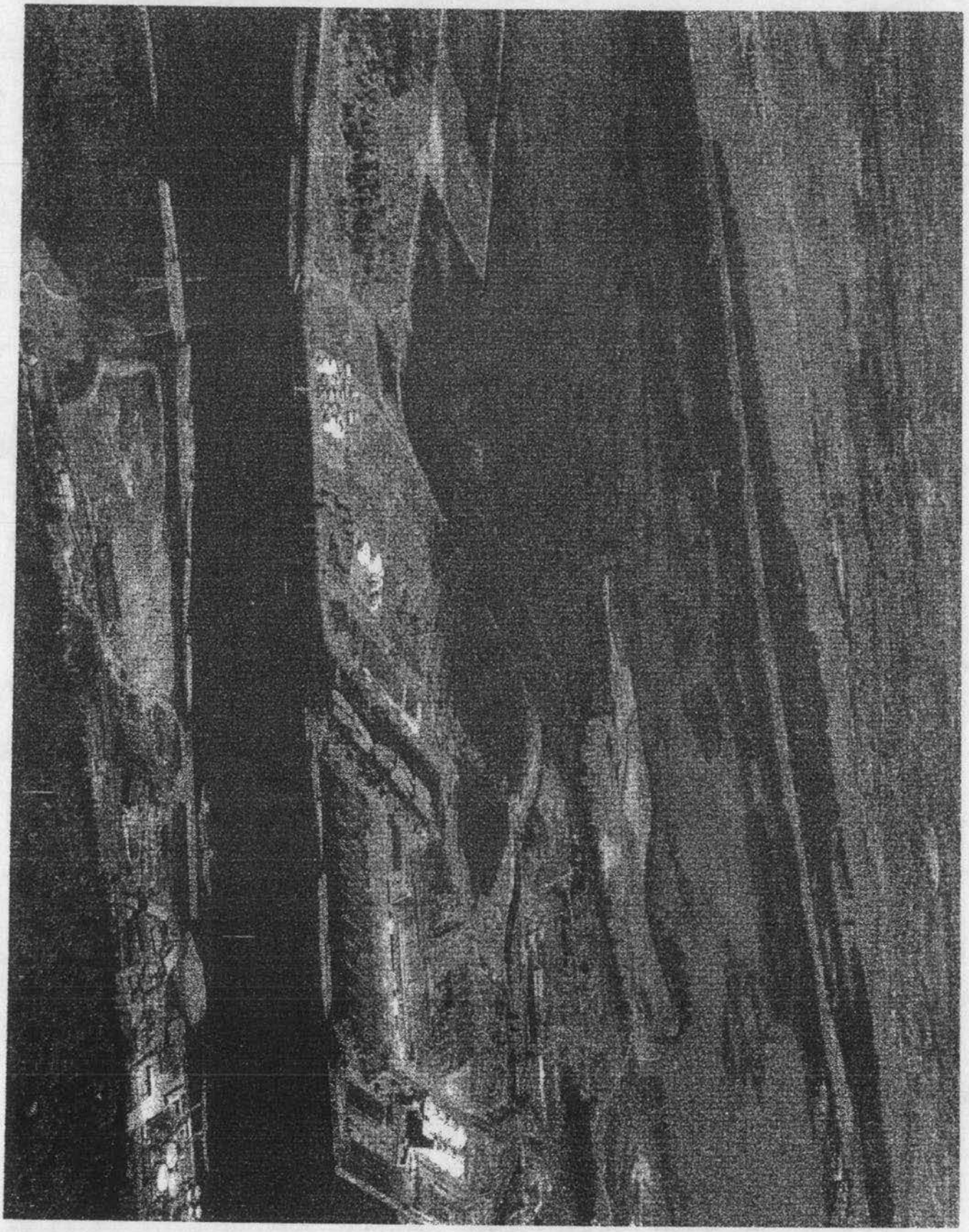

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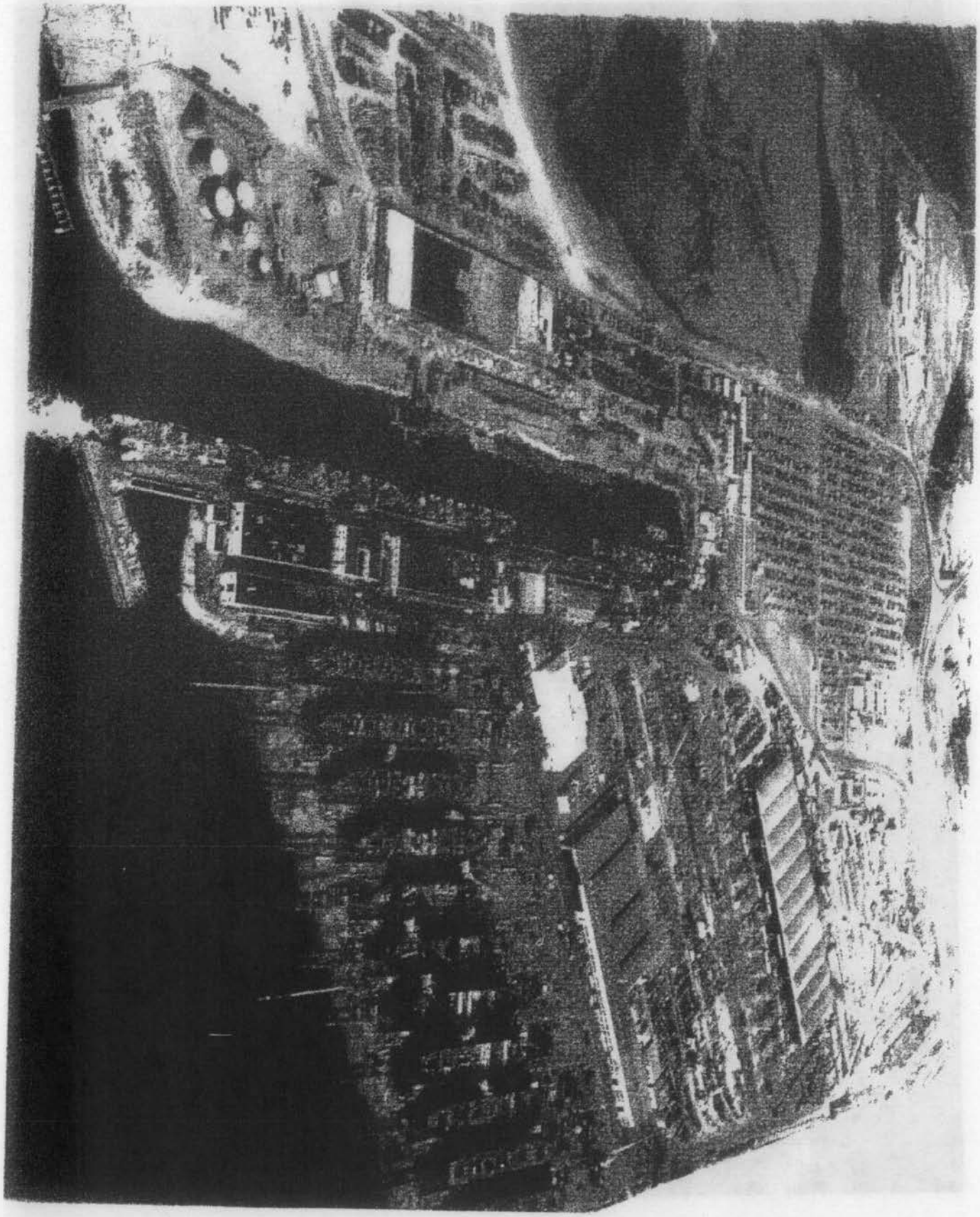

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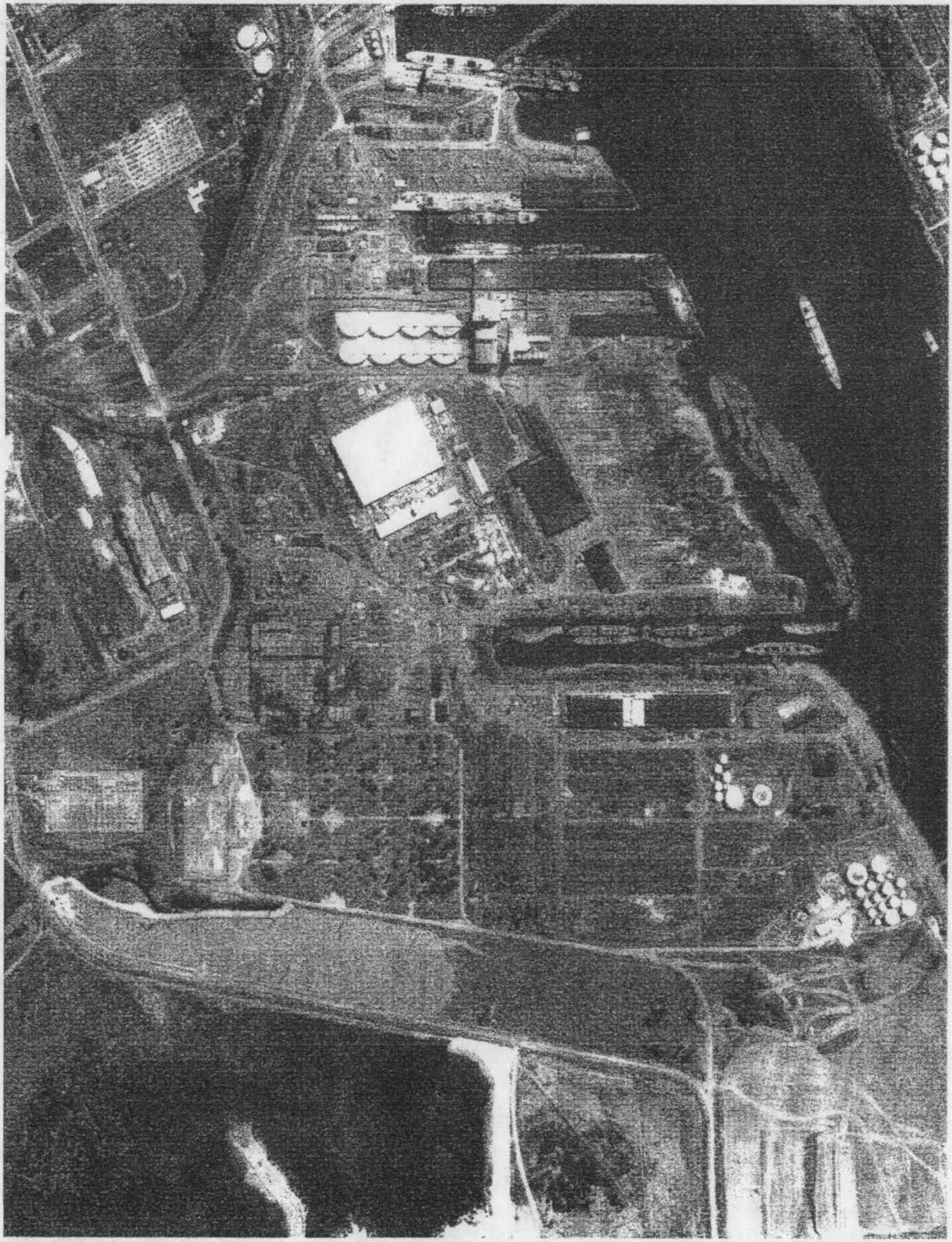

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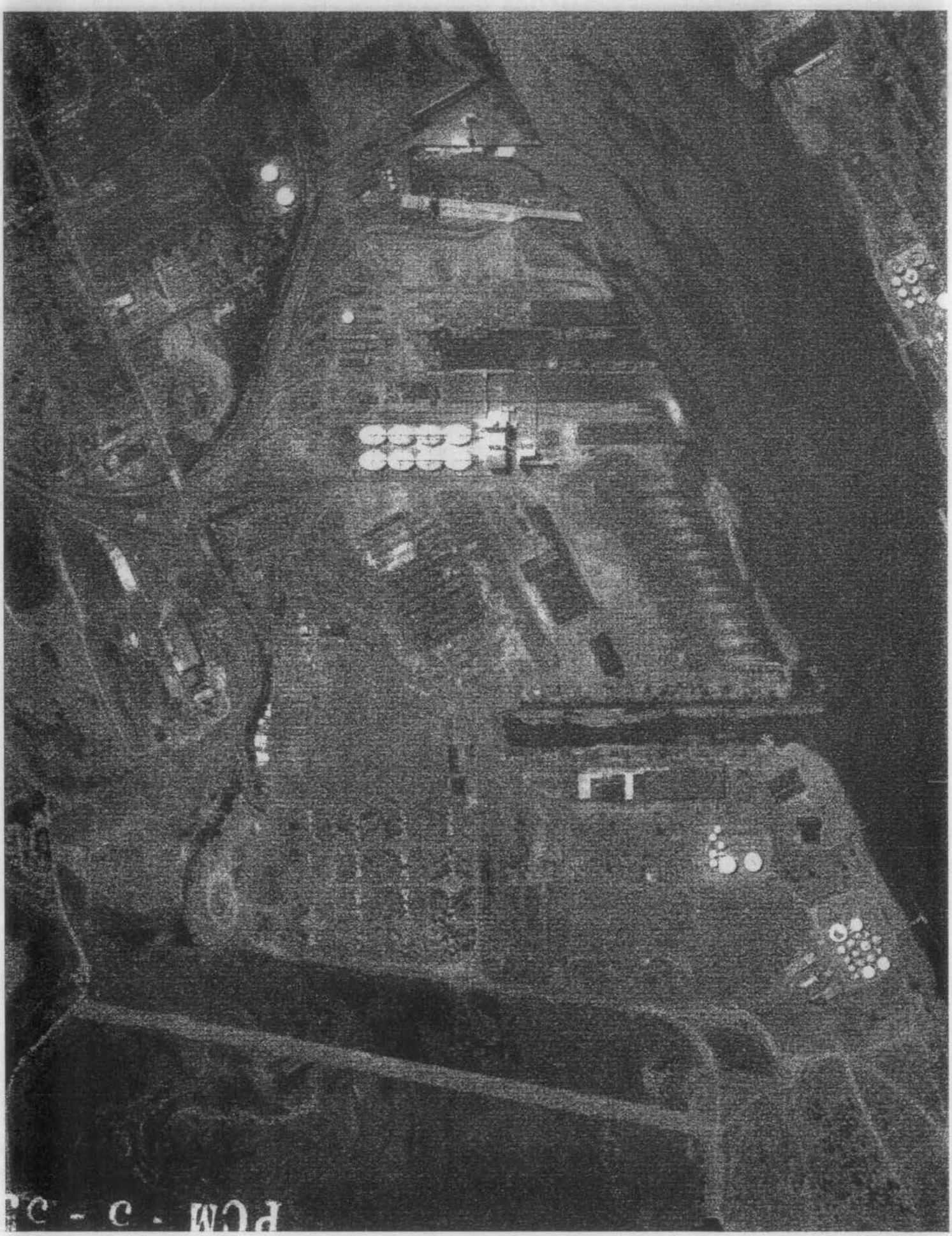

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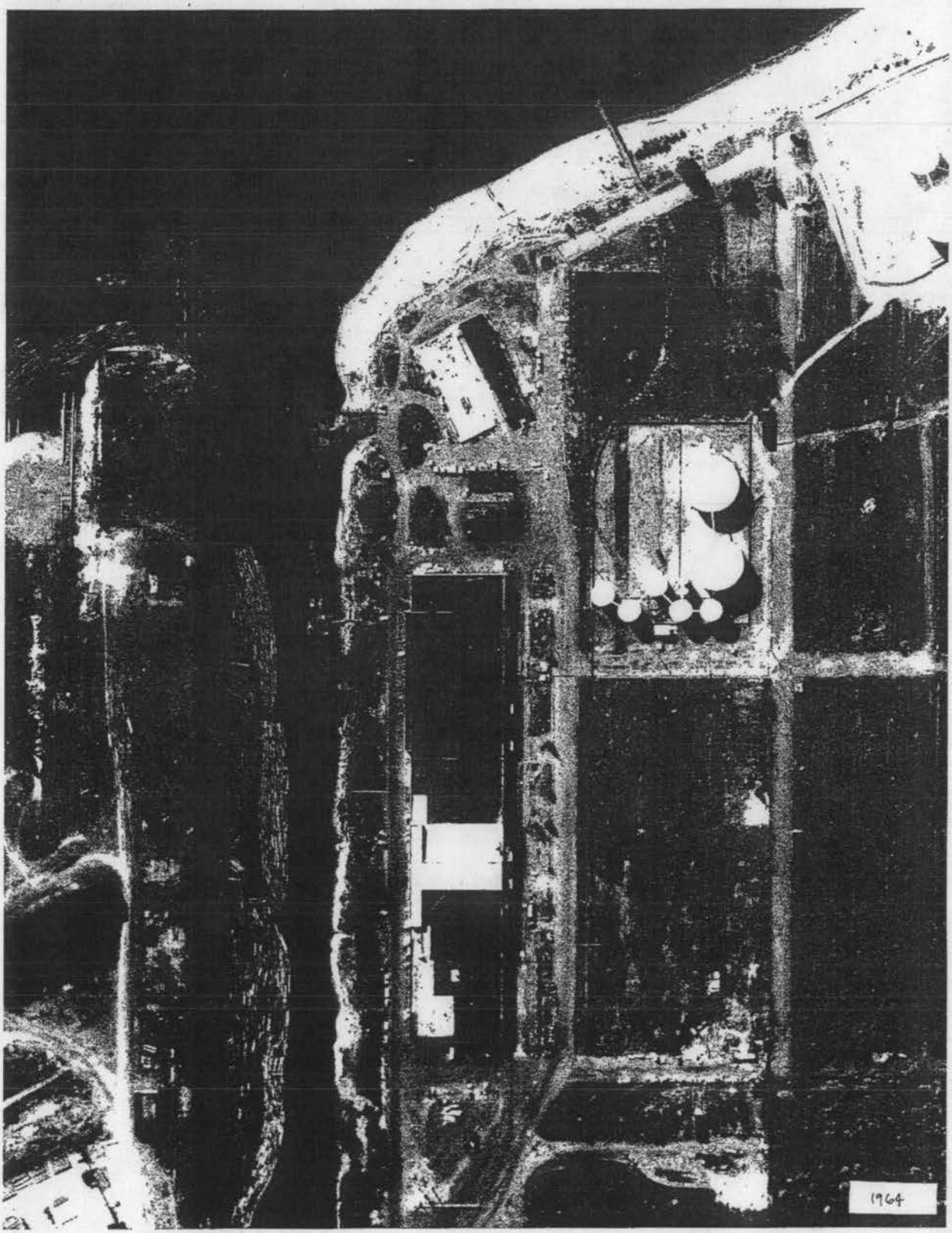

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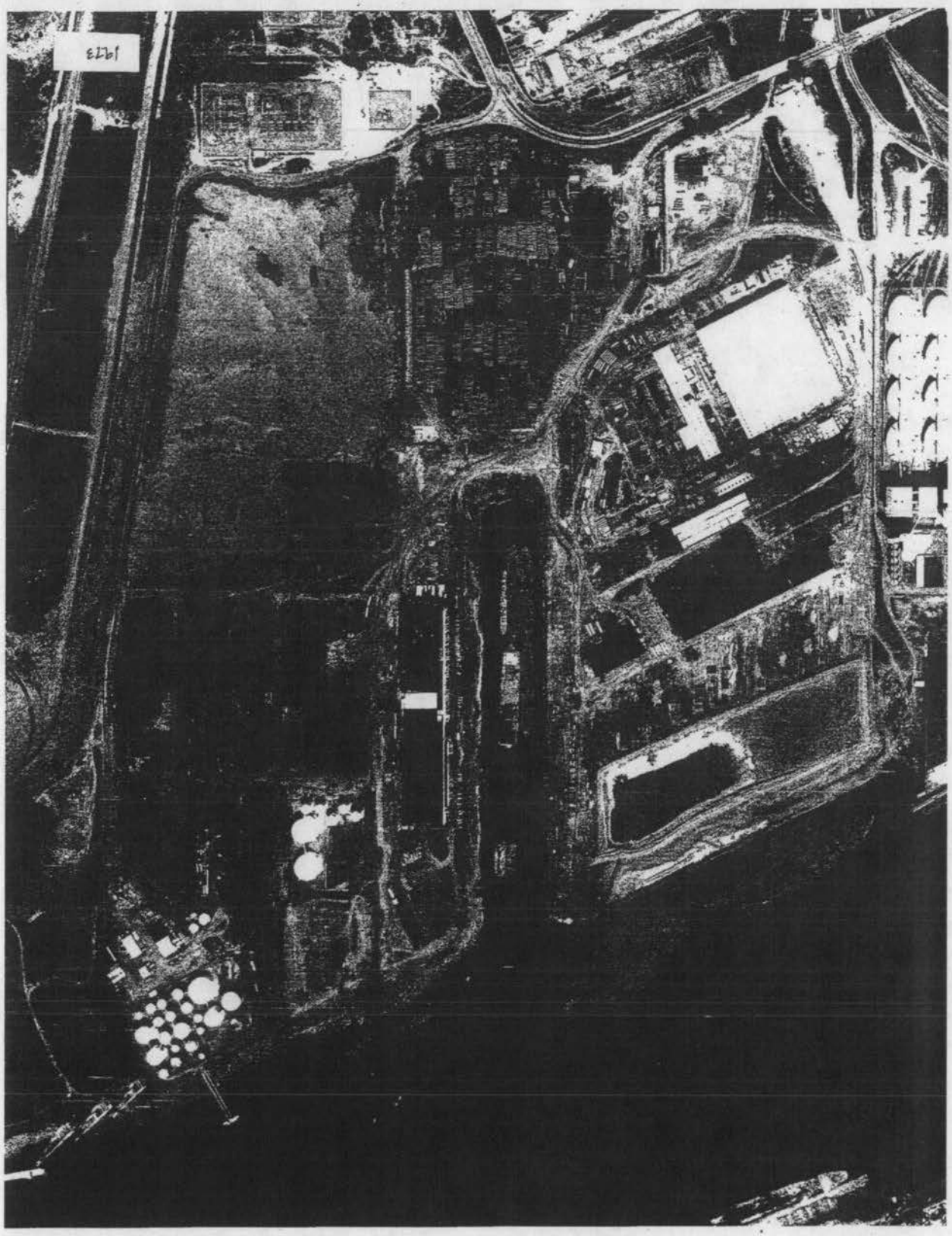

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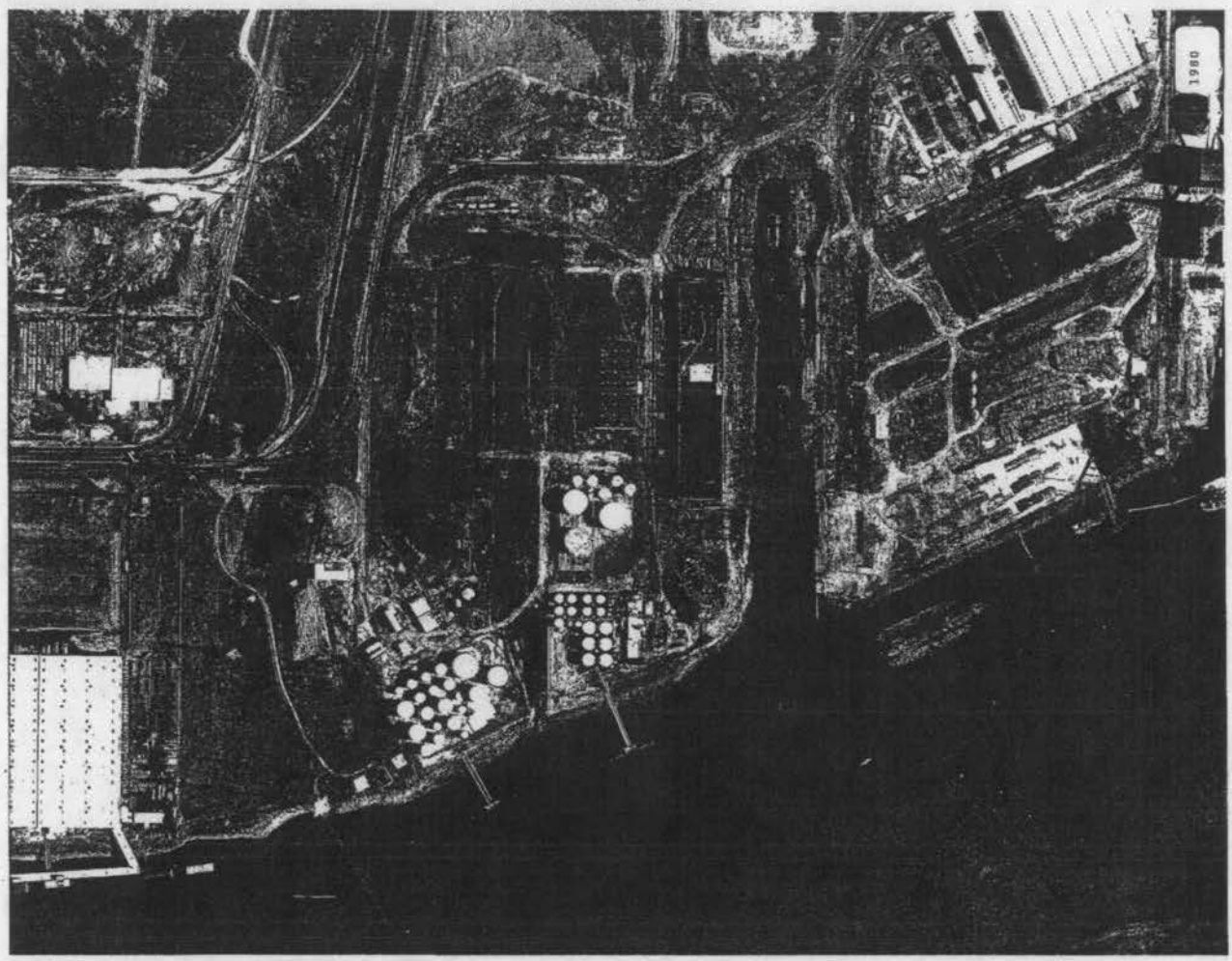

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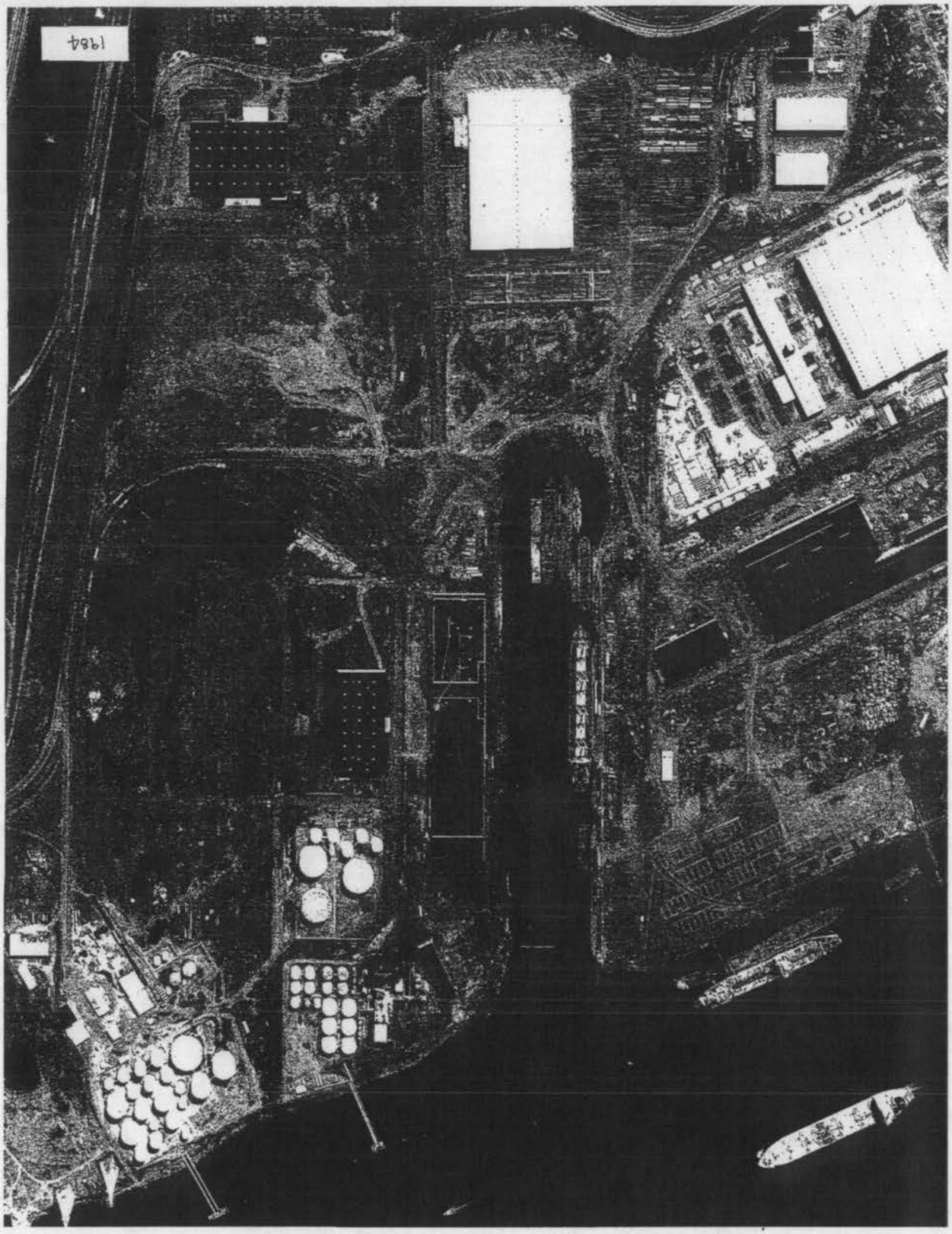

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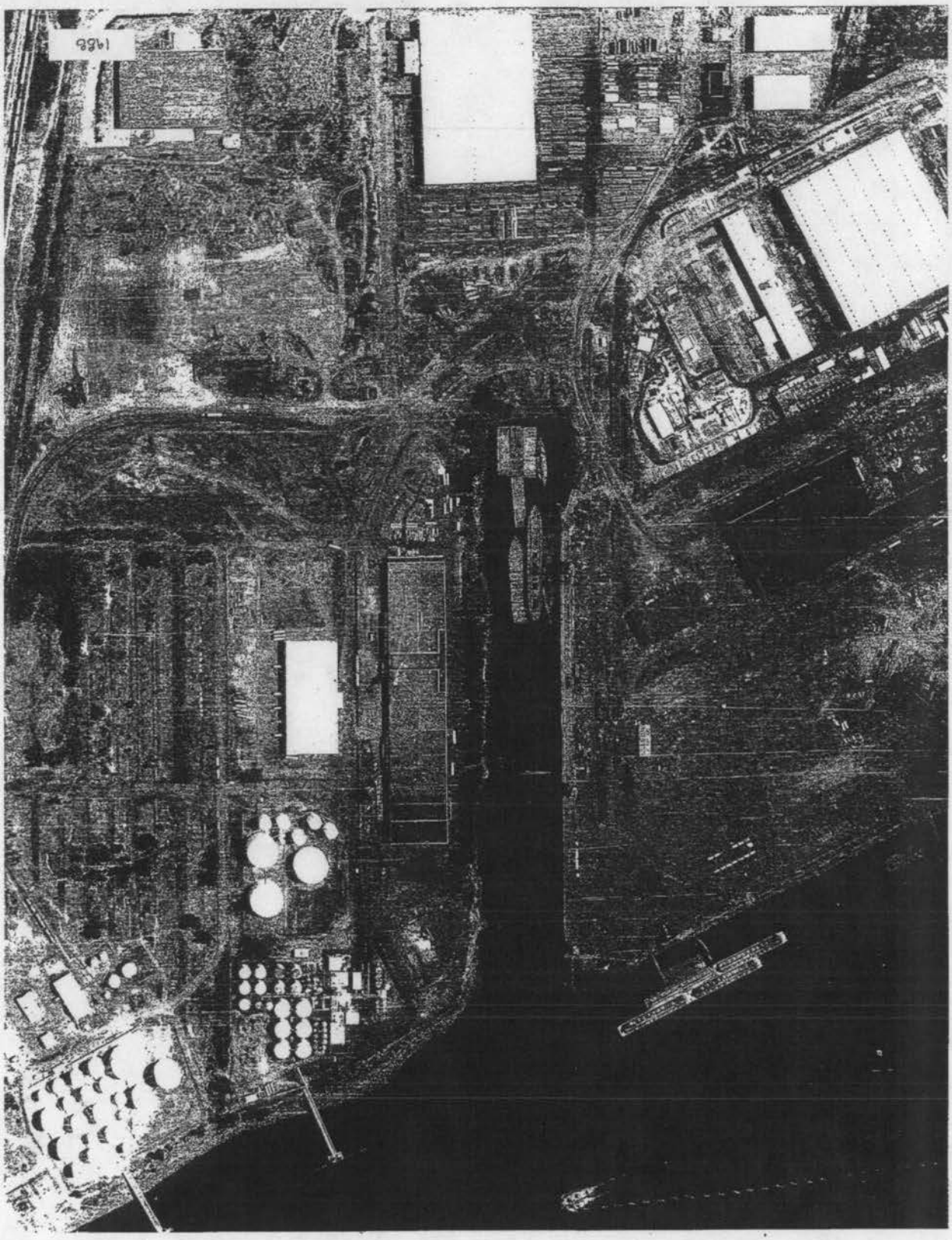

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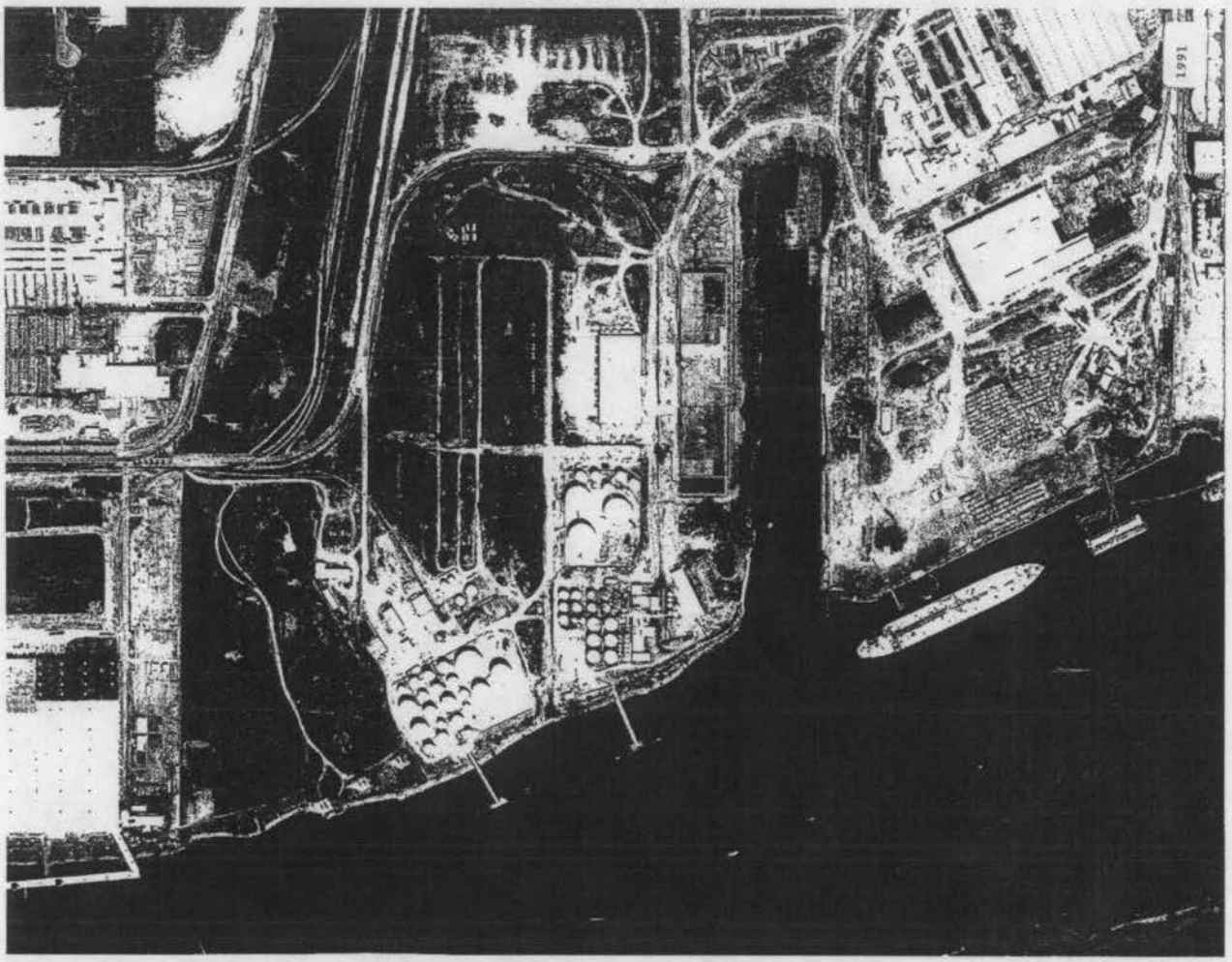

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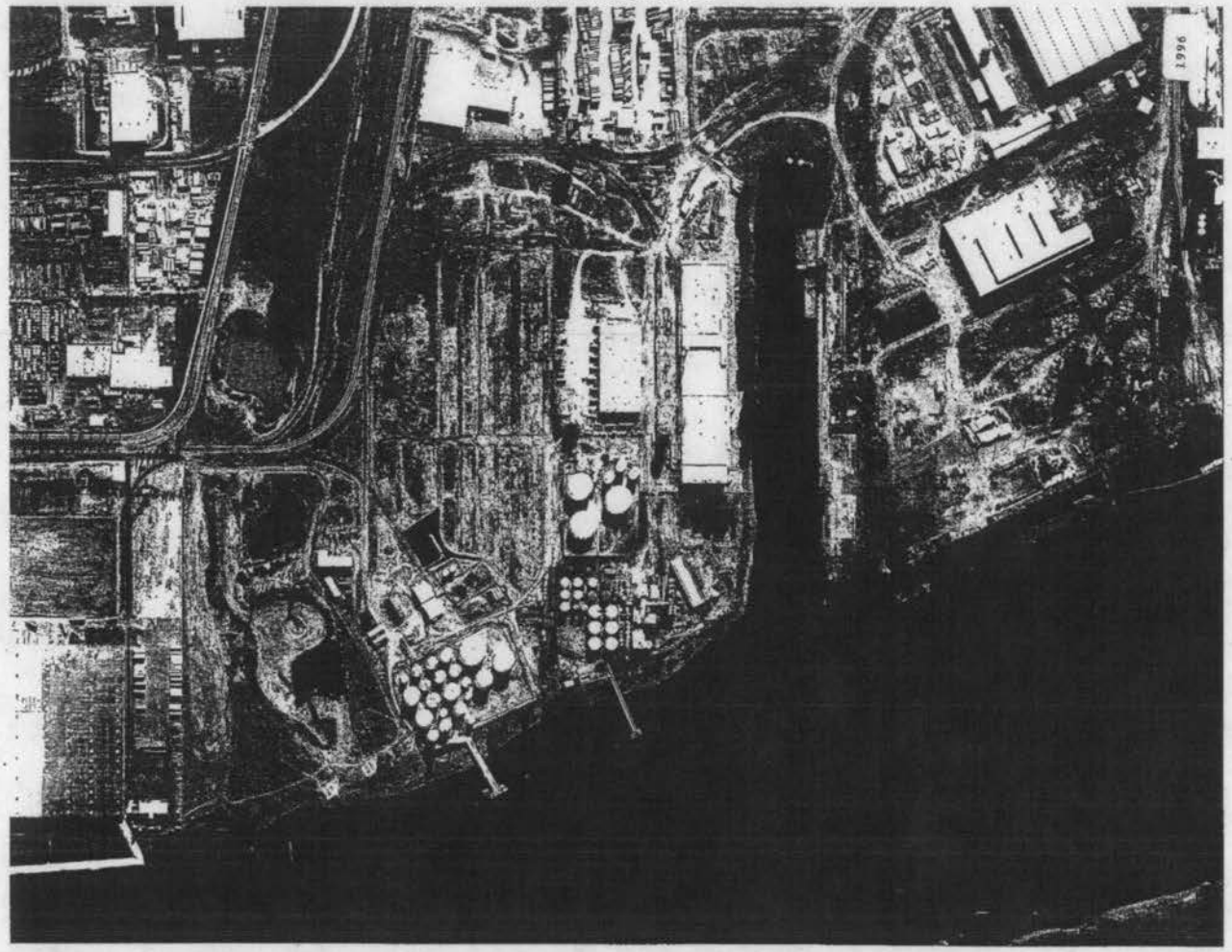

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SCHN00382707

Transmittal Memorandum

Gradient
CORPORATION

To: Jim Brown

Company: James C. Brown and Associates

Address: 2923 Hunter Way
West Linn, OR 97068-2223

Date: November 1, 2005

Project:

Subject: Requested documents

Prepared by: CJF for C. Petito-Boyce

We are sending:
- [x] Enclosed
- [ ] Under separate cover *via* _____

Transmittal of:
- [ ] CDs
- [ ] Diskettes
- [ ] Drawings
- [ ] Literature
- [ ] Report
- [x] Other Figures _____

These are transmitted as indicated:
- [x] As requested
- [ ] For approval
- [ ] For review and comment
- [ ] For your information
- [ ] Returned for corrections
- [ ] Approved as submitted
- [ ] Approved as noted

Quantity	Date	Description
7		Figures 4-10, Time Oil NW Aerial Photographs

Remarks:

Sent *via*: [x] Express [ ] First Class [ ] Courier Other: _____

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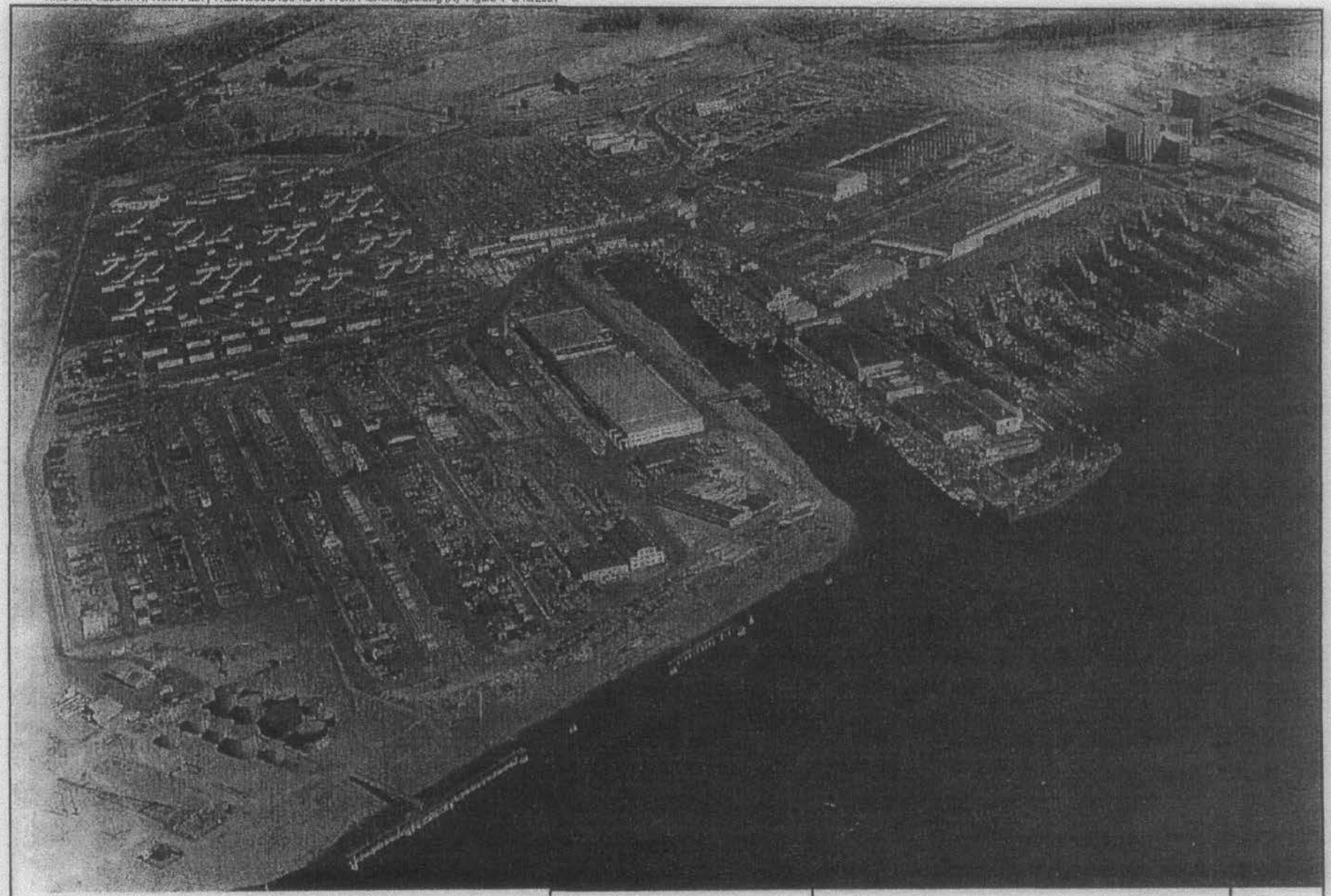
Time Oil/Phase III RI Work Plan | T:\231\009\013\Ph3 RI Work Plan\Images.dwg (A) "Figure 4" 8/19/2001



Landau Associates

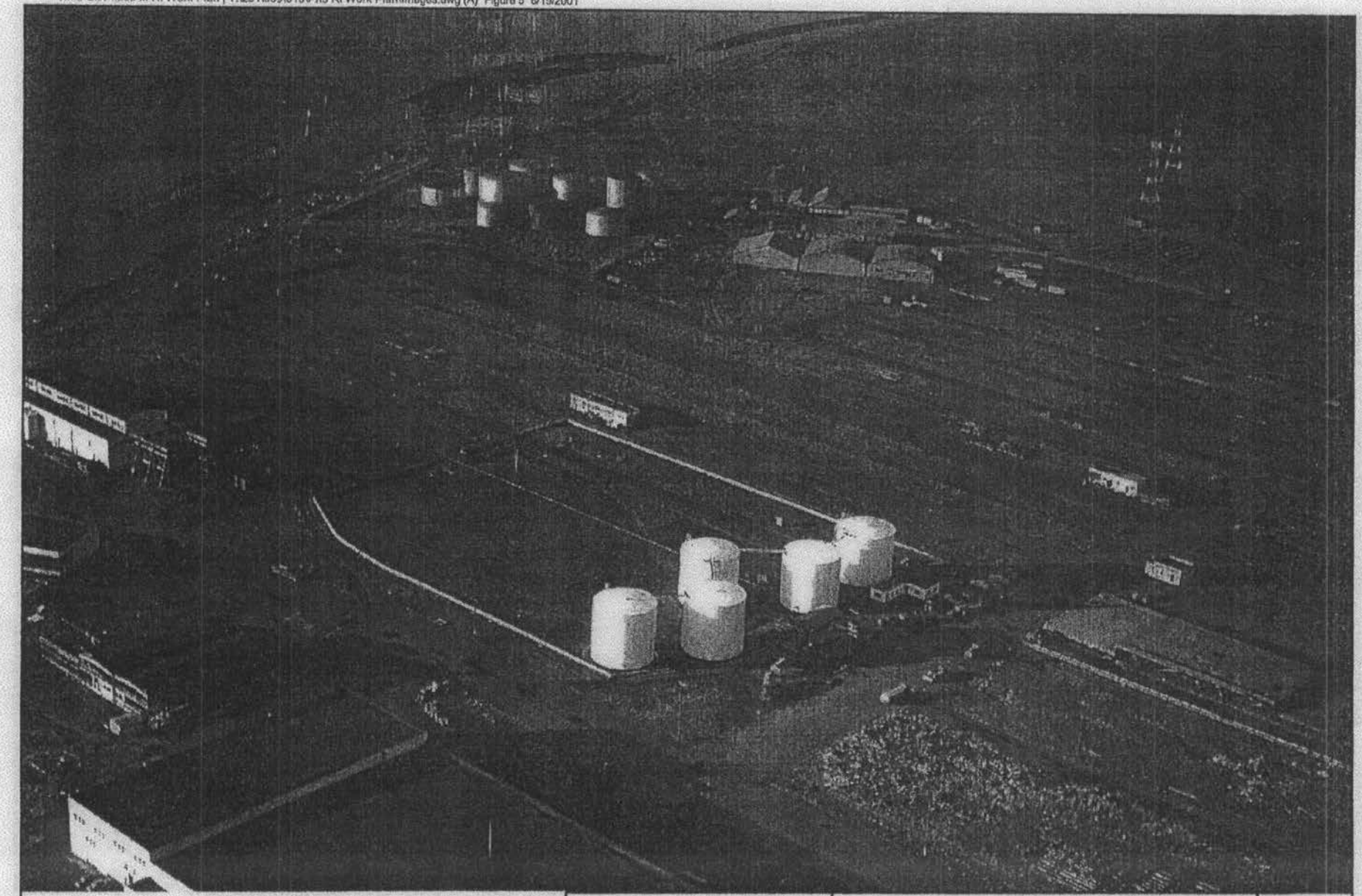
Time Oil NW Terminal
Portland, Oregon

1945 Aerial Photograph

Figure
4

SCHN00382709

Time Oil/Phase III RI Work Plan | T:\231\009\013\Ph3 RI Work Plan\Images.dwg (A) "Figure 5" 6/19/2001



Landau Associates

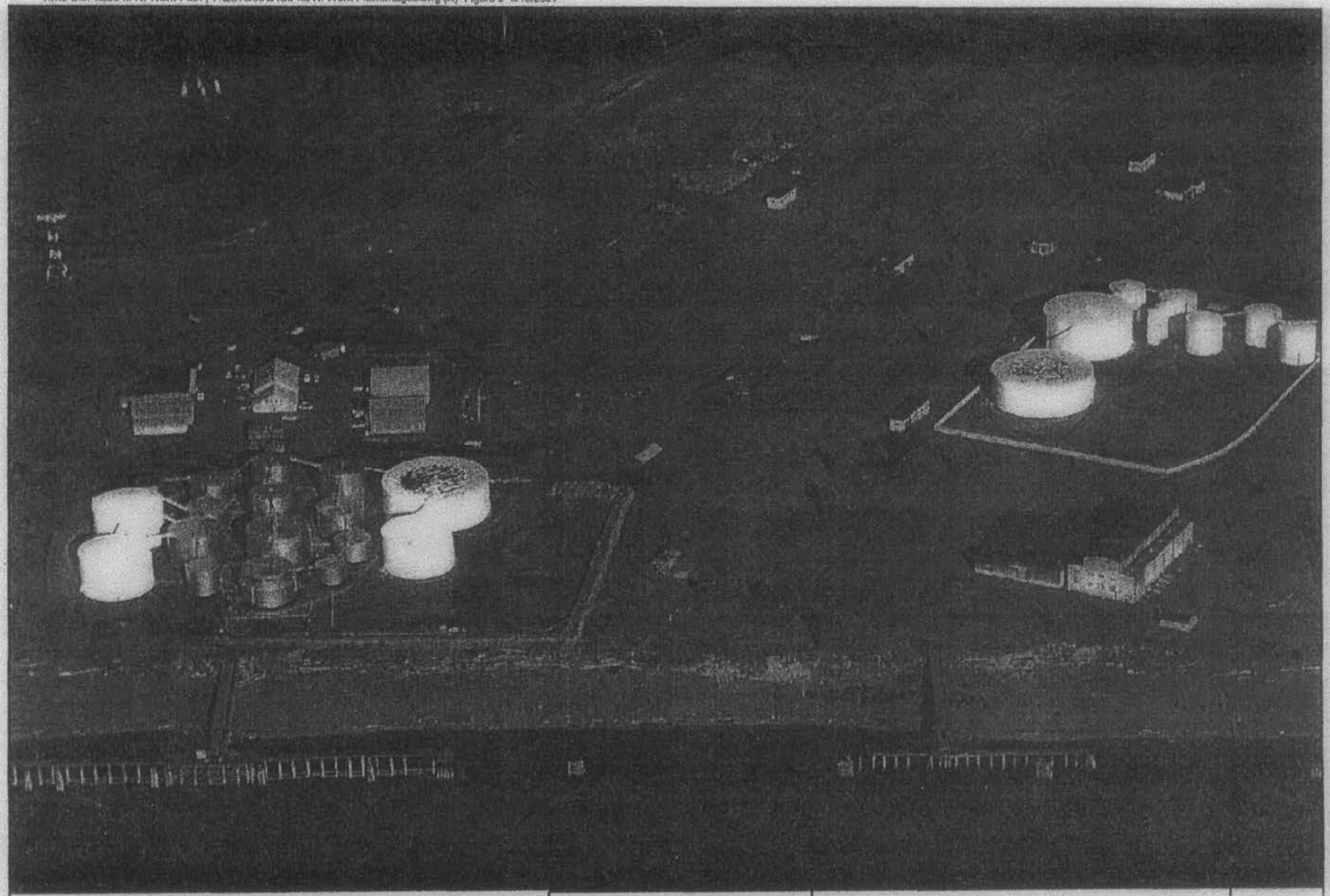
Time Oil NW Terminal
Portland, Oregon

Mid-1950s Aerial Photograph

Figure
5

SCHN00382710

Time Oil/Phase III RI Work Plan | T:\231\009\013\Ph3 RI Work Plan\Images.dwg (A) "Figure 6" 6/18/2001



Landau Associates

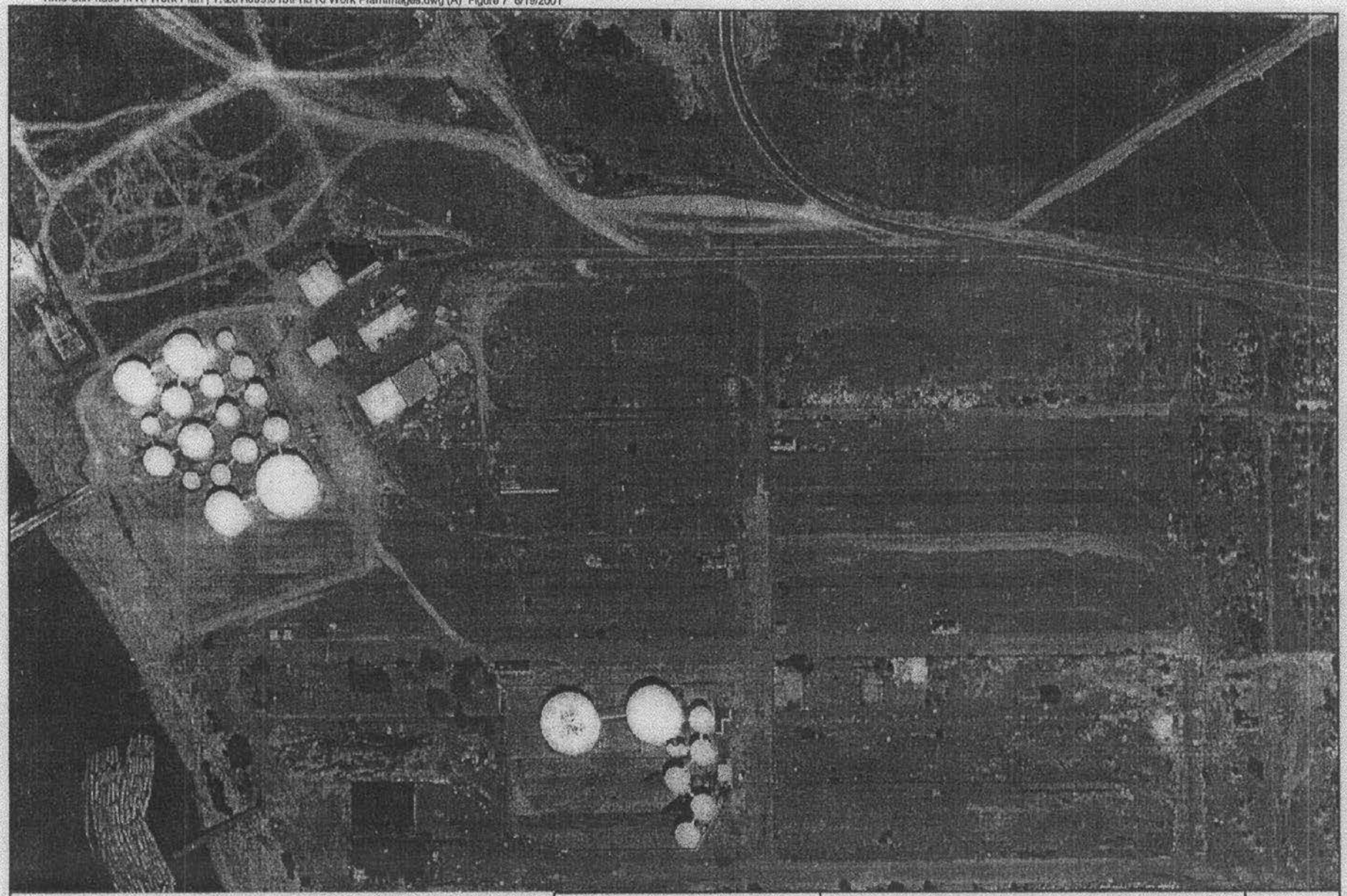
Time Oil NW Terminal
Portland, Oregon

1958 Aerial Photograph

Figure
6

SCHN00382711

Time Oil/Phase III RI Work Plan | T:\231\009\013\Ph3 RI Work Plan\Images.dwg (A) "Figure 7" 6/19/2001



Landau Associates

Time Oil NW Terminal
Portland, Oregon

1966 Aerial Photograph

Figure
7

SCHN00382712

Time Oil/Phase III RI Work Plan | T:\231\009\013\Ph3 RI Work Plan\Images.dwg (A) "Figure 8" 6/19/2001

Landau Associates

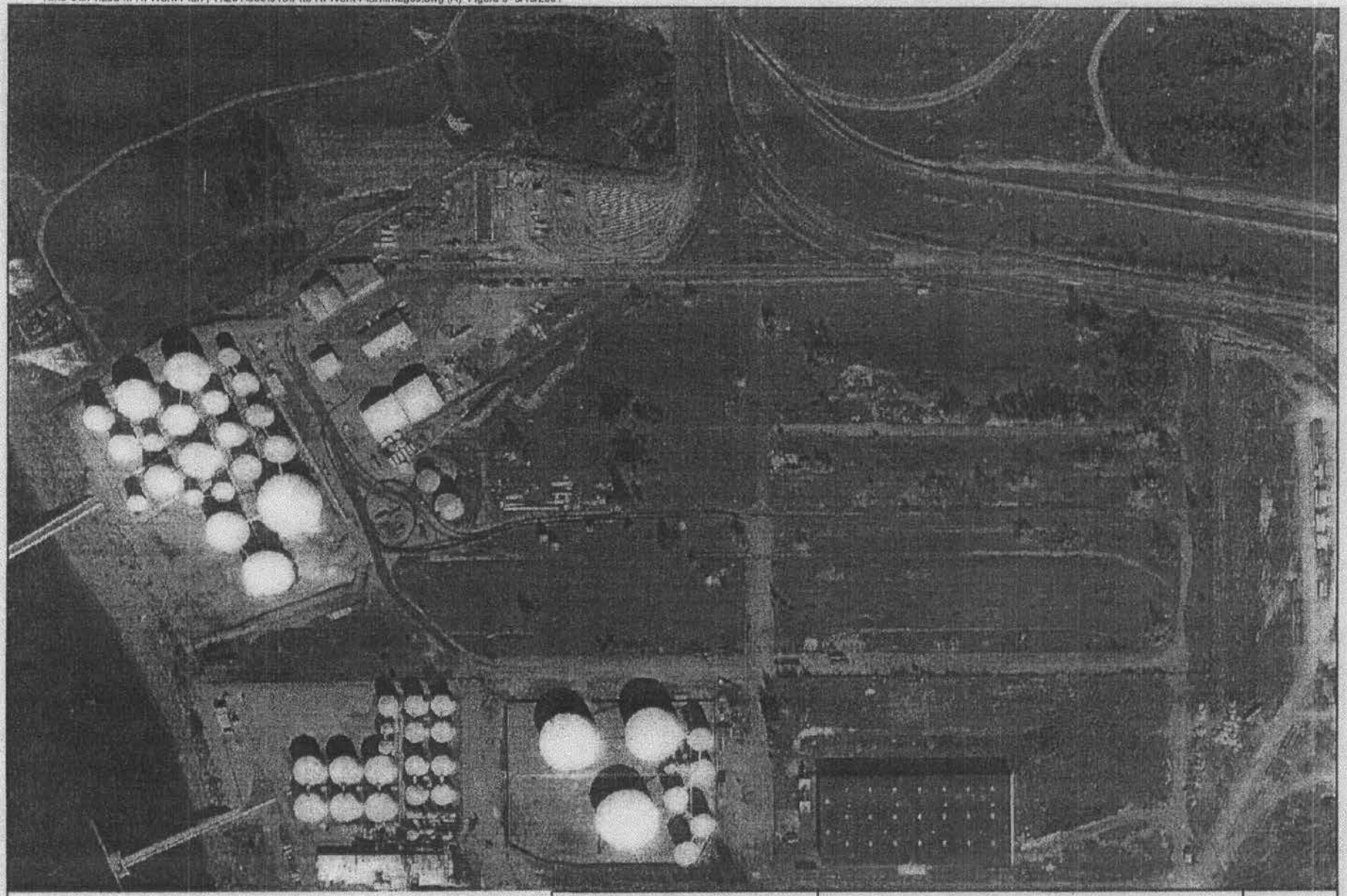
Time Oil NW Terminal
Portland, Oregon

1971 Aerial Photograph

Figure
8

SCHN00382713

Time Oil/Phase III RI Work Plan | T:\231\009\013\Ph3 RI Work Plan\Images.dwg (A) "Figure 9" 6/19/2001



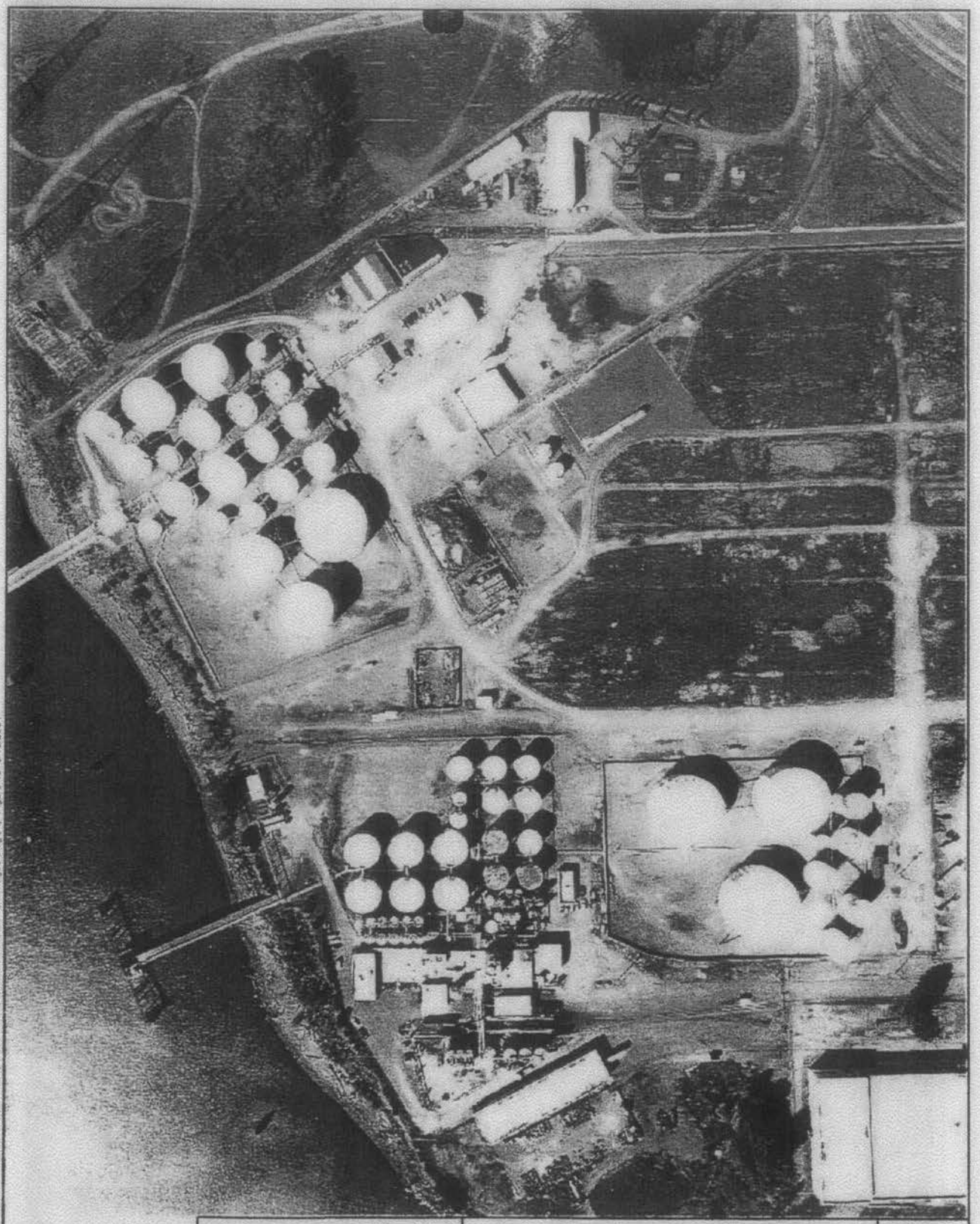
Landau Associates

Time Oil NW Terminal
Portland, Oregon

1979 Aerial Photograph

Figure
9

SCHN00382714



Time Oil/Phase III RI Work Plan; T:\231\009\013\Ph3 RI Work Plan\Images.dwg (A) "Figure 10" 6/19/2001

Landau Associates

Time Oil NW Terminal Portland, Oregon	**1995 Aerial Photograph**	Figure 10

SCHN00382715

Schnitzer / agency

Oregon
John A. Kitzhaber, M.D., Governor

Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-5696
TTY (503) 229-6993

To: Tom W.
From: Jim J.
Pages: 3

April 17, 2002

Schnitzer Steel Industries Inc
3200 NW Yeon Ave
Portland OR 97210

RE: New Federal Standards and Information Request on Secondary Aluminum Smelting and Recycling Operations

To Owner or Operator:

Your business, and others like yours that process aluminum scrap, may be subject to new standards recently adopted by the Environmental Protection Agency (EPA).

What type of equipment will be affected by these new secondary aluminum standards?

- Thermal chip dryers;
- Scrap dryers/delacquering kilns/decoating kilns;
- Sweat furnaces;
- Other furnaces processing other than clean charge.

What will affected sources have to do to comply?

- Install and operate an afterburner with a residence time of 0.8 seconds or greater and an operating temperature of 1600 °F or greater; **or**
- Demonstrate through an initial compliance test that dioxin/furan emissions are below levels established by EPA.

How much will it cost for an affected source to comply?

- EPA estimates that cost for adding an afterburner to control dioxin/furan emissions range from $8,000 to $58,000, depending on the size of the equipment that the afterburner will control.
- The cost of an initial compliance test for dioxin/furan is estimated to be between $15,000 to $25,000.

DEQ-1

SCRAP ALUMINUM RECYCLING QUESTIONNAIRE

Company Name_____
Address_____
Mailing Address_____
Phone Number_____ **Fax Number**_____

A. Does your company buy, sell, melt, or process aluminum scrap?

☐ yes ☐ no If you answered yes, please check all of the following that apply:

☐ buy aluminum scrap ☐ sell aluminum scrap
☐ melt aluminum scrap ☐ process aluminum scrap

If your company does not buy, sell, melt, or process aluminum scrap, please ignore questions B through I and return this questionnaire to the DEQ Regional Office listed at the bottom of this questionnaire.

B. If your company buys aluminum scrap, who supplies your scrap?

C. If your company sells aluminum scrap, who buys your scrap?

D. How many pounds of aluminum scrap do you buy, sell, melt, or process per year?

E. What type of aluminum scrap does your company buy, sell, melt or process?

☐ clean aluminum scrap ☐ auto parts ☐ aluminum wire ☐ aluminum cans
☐ miscellaneous aluminum scrap ☐ other _____

F. If you melt or process aluminum scrap, how is the scrap prepared or used?

☐ die casting ☐ extrusion ☐ foundry ☐ decoating (cleaning) ☐ shredding
☐ make ingots ☐ other _____

☐ aluminum scrap is not melted or processed

G. If you melt or process aluminum scrap, what type of equipment is used?

☐ sweat furnace ☐ thermal chip dryer ☐ scrap dyer ☐ delacquering kiln
☐ decoating kiln ☐ scrap shredder ☐ other_____

☐ aluminum scrap is not melted or processed

H. If you operate a sweat furnace is it equipped with an afterburner?

☐ yes ☐ no If you answered yes, what is the minimum temperature of the afterburner?
_____degrees Fahrenheit.

I. Does your company use reactive flux to process aluminum?

☐ yes ☐ no If yes, what type of flux do you use? ☐ chlorine gas ☐ magnesium chloride
☐ argon ☐ nitrogen ☐ other _____

Thank you for completing this questionnaire. Please return the questionnaire in the enclosed yellow envelope or fax this questionnaire to Gregg Dahmen, DEQ Northwest Region Office, Fax #: (503) 229-5265. If you have further questions, call (503) 229-5108.

The Department of Environmental Quality (DEQ) is in the process of implementing these new regulations.

What will Oregon DEQ have to do to implement these new standards?

1. Educate the public and industry about the new Secondary Aluminum Production NESHAP standards and how they will be implemented.

2. Help you determine if your business will be affected by the new standards, what that effect will be, and what changes in aluminum processing you may need to make in order to comply with the new standards.

3. Collect information on the secondary aluminum industry that will enable DEQ to identify all known or businesses potentially subject to the new standards.

Enclosed you will find a short questionnaire aimed at gathering information on aluminum recycling, recovery and smelting operations in Oregon. We would appreciate you taking a few minutes out of your busy schedule to fill out the attached questionnaire and **return it in the enclosed self addressed stamped envelop by May 15th.**.

If you have business associates that may be subject to the new rules, please let them know of our survey and the availability of DEQ technical assistance.

Copies of the survey and technical assistance may be obtained by calling Gregg Dahmen –Northwest Region office, (503) 229-5108 or call toll-free 1-800-452-4011.

Thank you for your cooperation.

Sincerely,

Gregg Dahmen

Greg Dahmen
DEQ- Northwest Region Office

Enclosure

No. 10—WARRANTY DEED—CORPORATION. BOOK 883 PAGE 791

KNOW ALL MEN BY THESE PRESENTS, That BROADWAY HOLDING COMPANY a corporation duly organized and existing under the laws of the State of Idaho, hereinafter called grantor, for the consideration hereinafter stated, does hereby grant, bargain, sell and convey unto SCHNITZER INVESTMENT CORP., an Oregon corporation, hereinafter called grantee and grantee's heirs, successors and assigns, that certain real property, with the tenements, hereditaments and appurtenances thereunto belonging or appertaining, situated in the County of Multnomah, and State of Oregon, described as follows, to-wit:

See Exhibit "A" attached hereto and

incorporated herein by this reference.

To Have and to Hold the same unto the said grantee and grantee's heirs, successors and assigns forever.

And said grantor hereby covenants to and with said grantee and grantee's heirs, successors and assigns, that grantor is lawfully seized in fee simple of the above granted premises, free from all encumbrances except current taxes and any and all matters of record including but not limited to those matters set forth in Transamerica Title Insurance Preliminary Report #41-33411 dated August 1, 1972, as supplemented by those certain First and Second Supplemental Reports, both dated September 20, 1972, and that grantor will warrant and forever defend the above granted premises and every part and parcel thereof against the lawful claims and demands of all persons whomsoever, except those claiming under the above described encumbrances.

The true and actual consideration paid for this transfer, stated in terms of dollars, is $ 2,750,000.00 ~~However, the actual consideration consists of or includes other property or value given or promised which is part of the consideration (indicate which).~~

In construing this deed and where the context so requires, the singular includes the plural.

Done by order of the grantor's board of directors, with its corporate seal affixed, this 22 day of September, 19 72.

(SEAL)

BROADWAY HOLDING COMPANY

By [signature] President
Robert A. Alleborn

By [signature] Asst. Secretary
Robert J. Kopke

STATE OF OREGON, County of Multnomah) ss: September 22, 19 72

Personally appeared Robert A. Alleborn and Robert J. Kopke who, being duly sworn, each for himself and not one for the other, did say that the former is the president and that the latter is the Assistant secretary of BROADWAY HOLDING COMPANY, a corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors; and each of them acknowledged said instrument to be its voluntary act and deed.

Before me: [signature]

(OFFICIAL SEAL)

Notary Public for Oregon
My commission expires: 2/2/75

NOTE—The sentence between the symbols ⊙, if not applicable, should be deleted. See Chapter 462, Oregon Laws 1967, as amended by the 19th Special Session.

WARRANTY DEED
CORPORATION

TO

AFTER RECORDING RETURN TO

STATE OF OREGON,

15570

SCHN00383439

Shipways
liberty ships

First American Title Insurance Company of Oregon
An assumed business name of TITLE INSURANCE COMPANY OF OREGON
1700 SW Fourth Ave, Suite 102 * Portland, OR 97201-5515
Phone: (503) 219-8746 * Fax: (503) 790-7872

JENNIE BRICKER
STOEL, RIVES, ATTORNEYS AT LAW
900 SW FIFTH SUITE 2600
PORTLAND, OR 97204

Preferred Client No:	***13542***
Order No:	***194670***
Date:	
Delivery Type:	***Fax***
Standard Orders Total:	***1***
Phone No:	***(503)294-9631***
Email:	***JLBRICKER@stoel.com***

NOTE

We appreciate this opportunity to be of service to you. If you have any questions regarding this report, please call:
Kevin Day
Phone No: (503) 219-8746
Fax No: (503) 790-7872
kday@firstam.com

This title information has been furnished, without charge, in conformance with the guidelines approved by the State of Oregon Insurance Commissioner. The Insurance Division cautions intermediaries that this service is designed to benefit the ultimate insureds. indiscriminate use only benefiting intermediaries will not be permitted. Said services may be discontinued. No liability is assumed for any errors in this report.

Fax: (503)220-2480

Oregon
Theodore R. Kulongoski, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 378-3805
FAX (503) 378-4844
www.oregonstatelands.us.

State Land Board

Theodore R. Kulongoski
Governor

Bill Bradbury
Secretary of State

Randall Edwards
State Treasurer

January 28, 2004

JV02
MR MAT CUSMA
SCHNITZER STEEL PRODUCTS COMPANY
PO BOX 10047
PORTLAND OR 97296

RE: Site on Lower Willamette, previously Premier Edible Oils

Dear Mat:

I've been reviewing our inventory of sites on the Lower Willamette. I've attached an aerial photo showing a structure in front of Tax Lot 300 that I believe was previously occupied by Premier Edible Oils. Tax assessor records show Schnitzer Investment Corporation as the current owner of the upland adjacent to the structure, which I circled. Pursuant to OAR 141-082-0040 any structure occupying state owned submerged and submersible lands and not exclusively engaged in wharfing activities, must be authorized by the Department of State Lands (DSL) through the issuance of a waterway lease. The structure may have been classified as a wharf from past activities but if it is not being currently used as a wharf, it requires a waterway lease to be in compliance with state statutes and DSL rules.

I am enclosing a waterway lease application along with a copy of our Waterway Leasing rules. A $750 application fee should accompany your waterway lease application along with the required documentation as itemized in the application.

If you have any questions, please call me at 503-378-3805, extension 245, or my assistant Jenni Vickers, extension 242.

Sincerely,

Cyril J. Young
Property Manager

Enclosed Aerial photo
Waterway Lease application packet

J:\Property Manager Cy\Leases\Letters\Schnitzer dock_TxLt 300_Prem Oil.doc

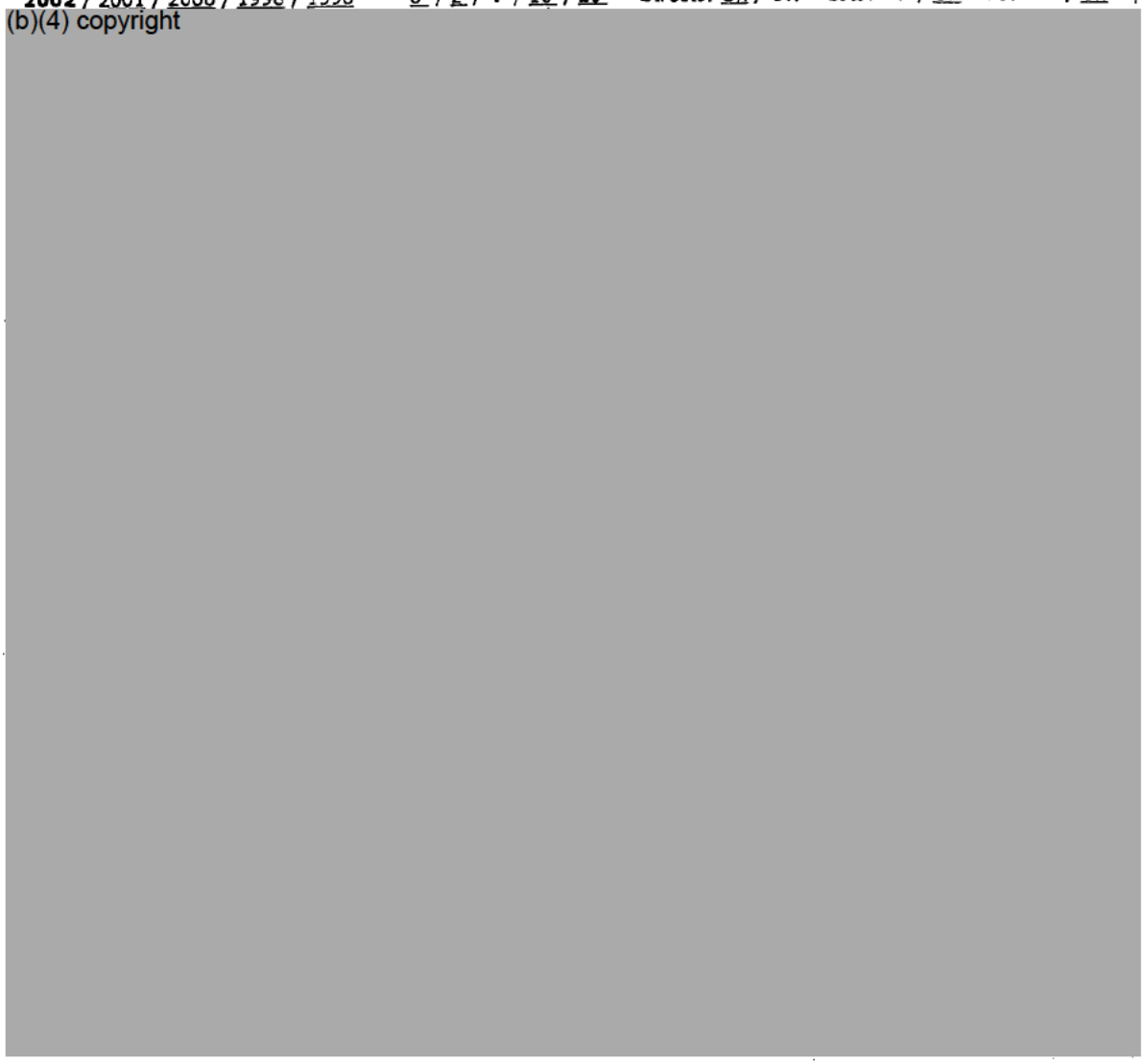
PortlandMaps

10400 N BURGARD WAY - ST. JOHNS - PORTLAND

Aerial Photo

2002 / 2001 / 2000 / 1998 / 1996 6" / 2' / **4'** / 10' / 20' Streets: On / **Off** Lots: **On** / Off Dot: **On** / Off

(b)(4) copyright



0 ——— 434 FT

City of Portland, Corporate GIS 1/28/2004

THE GIS APPLICATIONS ACCESSED THROUGH THIS WEB SITE PROVIDE A VISUAL DISPLAY OF DATA FOR YOUR CONVENIENCE. EVERY REASONABLE EFFORT HAS BEEN MADE TO ASSURE THE ACCURACY OF THE MAPS AND ASSOCIATED DATA. THE CITY OF PORTLAND MAKES NO WARRANTY, REPRESENTATION OR GUARANTY AS TO THE CONTENT, SEQUENCE, ACCURACY, TIMELINESS OR COMPLETENESS OF ANY OF THE DATA PROVIDED HEREIN. THE USER OF THESE APPLICATIONS SHOULD NOT RELY ON THE DATA PROVIDED HEREIN FOR ANY REASON. THE CITY OF PORTLAND EXPLICITLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE CITY OF PORTLAND SHALL ASSUME NO LIABILITY FOR ANY ERRORS, OMISSIONS, OR INACCURACIES IN THE INFORMATION PROVIDED REGARDLESS OF HOW CAUSED. THE CITY OF PORTLAND SHALL ASSUME NO LIABILITY FOR ANY DECISIONS MADE OR ACTIONS TAKEN OR NOT TAKEN BY THE USER OF THE APPLICATIONS IN RELIANCE UPON ANY INFORMATION OR DATA FURNISHED HEREUNDER. TO BE SURE OF COMPLETE ACCURACY, PLEASE CHECK WITH CITY STAFF FOR UPDATED INFORMATION.

PortlandMaps © 2004 City of Portland

SCHN00383456

Waterway Lease Application Form

AGENCY WILL ASSIGN NUMBER
Oregon Department of State Lands Application No. _____

SEND ONE SIGNED COPY OF YOUR APPLICATION TO:

(If your project is West of the Cascade Crest)	(If your project is East of the Cascade Crest)
WESTERN REGION	**EASTERN REGION**
Department of State Lands	Department of State Lands
775 Summer Street NE, Suite 100	20300 Empire Avenue
Salem, OR 97301-1279	Bend, OR 97701
503-378-3805	541-388-6112

❶ Applicant Name and Address — Business Phone # / Home Phone# / FAX #

O Co-Applicant
O Authorized Agent
O Contractor
Name and Address — Business Phone # / Home Phone # / FAX #

Riparian Property Owner (vested title); if different than applicant
Name and Address — Business Phone # / Home Phone # / FAX #

❷ **PROJECT LOCATION**

Street, Road or other descriptive location		Legal Description			
		Quarter	Section	Township	Range
In or Near (City or Town)	County	Tax Map #		Tax Lot #	
Waterway	River Mile	County Property Tax Account Number			

Is consent to enter property granted to the Department of State Lands? O Yes O No

❸ **PROPOSED PROJECT INFORMATION**

Activity Type (Check all that apply): — Area requested (length x width)

1. O Log rafts/log storage areas _____
2. O Commercial marina and floating home moorages _____
3. O Noncommercial marina and owner-oriented floating home moorages _____
4. O Marine industrial; marine services; fish processing facilities _____
5. O Non-marine uses (restaurant, retail sales, offices, motel, residences, etc.) _____
6. O Historical vessel moorage _____

Are you aware of any Endangered Species on the project site?	O Yes	O No	If yes, please explain in the project description (on page 2, block 4)
Are you aware of any Cultural Resources on the project site?	O Yes	O No	
Is the project site near a Wild and Scenic River?	O Yes	O No	

SCHN00383457

❹ PROPOSED PROJECT PURPOSE & DESCRIPTION

O Existing Facility O Proposed for Construction

Project Purpose and Need:

Project Description:

Estimated Start Date _____ Estimated Completion Date _____

❺ ADDITIONAL INFORMATION

All Adjoining Property Owners and their Addresses and Phone Numbers

Has the proposed activity or any related activity received the attention of the Corps of Engineers or the State of Oregon in the past, e.g., wetland delineation, violation, permit, lease request, etc.? O Yes O No

If yes, what identification number(s) were assigned by the respective agencies:

State of Oregon # _____

❻ CITY / COUNTY PLANNING DEPARTMENT AFFIDAVIT (to be completed by local planning official)

O This project is not regulated by the local comprehensive plan and zoning ordinance.

O This project has been reviewed and is consistent with the local comprehensive plan and zoning ordinance.

O This project has been reviewed and is **not** consistent with the local comprehensive plan and zone ordinance.

O Consistency of this project with the local planning ordinance cannot be determined until the following local approval(s) are obtained:

O Conditional Use Approval O Development Permit
O Plan Amendment O Zone Change
O Other_____

An application O has O has not been made for local approvals checked above.

Signature of local planning official	Title	City / County	Date

❼ ATTACH ALL OF THE FOLLOWING:

_____ A. Full size assessor map (16 inches x 16 inches), scale: 1 inch = 100 feet, that contains the riparian uplands. Do not mark on this map.

_____ B. A copy of the current year's property tax statement which identifies the present owner's name(s), land values, land size and tax account numbers of the riparian uplands.

_____ C. A separate drawing to a scale of 1 inch = 100 feet of all existing and proposed structures for the lease area. Label each separate activity type stated in Section 3 and show the dimensions of each area by length and width, as stated in Section 3.

_____ D. A street or highway location map with road directions to the site from the nearest main highway or road.

_____ E. Enclose a non-refundable application fee of $750.00

❽ LIMITED LIABILITY INFORMATION

LIMITED LIABILITY COMPANY: Complete the following:

a. Do you have authority from the Oregon Secretary of State to do business in the State of Oregon? O Yes O No
b. Is the LLC presently in good standing with the Oregon Secretary of State? O Yes O No
c. In what state is the LLC primarily domiciled?_____
d. Is the LLC name and the Oregon business address the same as stated in this application? O Yes O No

If no, state the legal Name: _____

Address:_____ _____ _____ _____
Street or Box Number City State Zip Code

Additionally, a LIMITED LIABILITY COMPANY must submit the following with the application:

a. A certified copy of the company's Articles of Organization
b. A copy of the company's operating agreement
c. A resolution that the individual designated to sign the lease is authorized to act on behalf of the company in this matter.

PARTNERSHIP OR JOINT VENTURE: Complete the following:

NAME	BUSINESS ADDRESS	%SHARE	DIVISION

TRUST: Complete the following for each beneficiary of the Trust:

NAME	BUSINESS ADDRESS

OR identify the Trust document by title, document number, and county where document is recorded:

TITLE	DOCUMENT NUMBER	COUNTY

❾ SIGNATURE FOR JOINT APPLICATION

I hereby request a state authorization for _____ (number) years.

Application is hereby made for the activities described herein. I certify that I am familiar with the information contained in the application, and, to the best of my knowledge and belief, this information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I understand that the granting of other permits by local, county, state or federal agencies does not release me from the requirement of obtaining the permits requested before commencing the project. I understand that payment of the required state application fee does not guarantee permit issuance.

Print /Type Name	Title
Applicant Signature	Date

I appoint the person named below to act as my duly authorized agent.

Print /Type Name	Title
Authorized Agent Signature	Date

Revised 1/5/04
J:_Forms\Applicat\Waterway Lease Application.doc

Filed June 14, 2002. Certified Effective July 1, 2002.

DIVISION OF STATE LANDS

DIVISION 82

RULES GOVERNING THE MANAGEMENT OF, AND ISSUING OF LEASES, LICENSES, TEMPORARY USE PERMITS AND REGISTRATIONS FOR STRUCTURES ON, AND USES OF STATE-OWNED SUBMERGED AND SUBMERSIBLE LAND

141-082-0000 Purpose and Applicability

These rules:

(1) Govern the management of state-owned submerged and/or submersible land for a wide variety of commercial and non-commercial uses and structures such as, but not limited to:
   - (a) Aquaculture facilities;
   - (b) Marine industrial facilities;
   - (c) Marine service facilities;
   - (d) Floating homes and floating home moorages;
   - (e) Fish processing facilities;
   - (f) Log raft and log storage booming areas;
   - (g) Log salvage;
   - (h) Wharves;
   - (i) Navigation aids;
   - (j) Combination structures;
   - (k) Marinas, including owner-oriented facilities; boat ramps; docks; floats; boat houses; and
   - (l) Non-marine uses (for example, restaurants, warehouses, offices, motels, and dwellings).

(2) Establish procedures for authorizing structures on, and uses of state-owned submerged and/or submersible land by lease, registration, temporary use permit or public facility license.

(3) Do not pertain to the management of state-owned submerged and/or submersible land for the removal of sand and gravel, mineral exploration, granting of easements, or leasing of upland created from state-owned submerged and/or submersible land. These uses/activities are covered under separate Division rules.

141-082-0010 Policies

(1) Pursuant to Oregon law as defined in ORS 274, all tidally influenced and title navigable waterways (referred to as state-owned submerged and/or submersible land) have been placed by the Legislature under the jurisdiction of the State Land Board and the Division, as the administrative arm of the State Land Board.

(2) The State Land Board, through the Division, has a constitutional responsibility to manage "the lands under its jurisdiction with the object of obtaining the greatest benefit for the people of this state, consistent with the conservation of this resource under sound techniques of land management" pursuant to Article 8, Section 5(2) of the Oregon Constitution.

(3) State-owned submerged and/or submersible land is managed to ensure the collective rights of the public, including riparian owners, to fully use and enjoy this resource for commerce, navigation, fishing, recreation and other public trust values.

(4) No person shall place a structure on, or make use of state-owned submerged and/or submersible land without the required authorization described in these rules unless the structure or use is exempt from such authorization by law or these rules. Ownership of state-owned submerged and/or submersible land cannot be obtained by adverse possession regardless of the length of time the use or development has been in existence.

(5) All uses of state-owned submerged and/or submersible land shall conform to local (including local comprehensive land use planning and zoning ordinance requirements), state, or federal laws.

(6) An applicant shall be ineligible for an authorization under the provisions of these rules if the proposed use:
   - (a) Is inconsistent with local, state, or federal laws;
   - (b) Is not in compliance with these rules;
   - (c) Would result in an unreasonable interference with the public trust values of commerce, navigation, fishing and recreation;
   - (d) Would have unacceptable impacts on public health, safety or welfare, or natural resource values; and
   - (e) Is prohibited by a State Land Board or Division adopted area closure, use restriction, or waterway management plan.
   - (f) Is inconsistent with any endangered species management plan adopted by the Division under the Oregon Endangered Species Act (ORS 496.171 – 496.192).

(7) The Division shall administer these rules to ensure to the extent possible that:
   - (a) The people of Oregon receive fair compensation for the use of state-owned submerged and/or submersible land reflective of local market conditions;

(b) Persons applying for, and holding an authorization to use state-owned submerged and/or submersible land receive consistent, predictable, and fair treatment; and

(c) Public trust values (commerce, navigation, fishing, and recreation) are supported, protected, and enhanced.

(8) The Division may, at its discretion, deny a lease application or lease renewal to use state-owned submerged and/or submersible land if the applicant's financial status and/or past business/management practices indicate that s/he may not:

(a) Be able to fully meet the terms and conditions of a lease or other form of authorization offered by the Division, or

(b) Use the land applied for in a way that meets the provisions of OAR 141-082-0010(2) and (3).

(9) No person or lessee shall request from any government agency a change in the zoning or approved uses of a parcel of state-owned submerged and/or submersible land without first applying to, and receiving written approval from the Division to request such a change.

141-082-0020 Definitions

(1) "Actual Annual Slip" or "Boat Rental Income" means the gross revenue received by a lessee during the prior year from the rental or subleasing of slips, boat rental, or similar activities within the authorized area.

(2) "Adjacent Riparian Owner" or "Riparian Owner" means a person holding recorded title to property that fronts or abuts state-owned submerged and/or submersible land.

(3) "Adjacent Riparian Tax Lot" means the non-Division-owned portion of a tax lot that fronts or abuts state-owned submerged and/or submersible land.

(4) "Annual Lease Rental Payment" means the amount of money a lessee pays each year to the Division of State Lands for the use of a specific area of state-owned submerged and/or submersible land for an authorized use under specific terms and conditions.

(5) "Applicant" is any person applying for authorization to use state-owned submerged and/or submersible land.

(6) "Appraised Value" means an estimate of current fair market value of property (expressed in dollars per square foot) derived by disinterested persons of suitable qualifications, for example, a licensed independent appraiser.

(7) "Aquaculture" means the culture and/or farming of food fish, shellfish, and other aquatic plants and animals in fresh or salt-water areas. Aquaculture practices include the hatching, seeding or planting, cultivating, feeding, raising, and/or harvesting of planted or natural crops so as to maintain an optimum yield, and the processing of aquatic plants or animals.

(8) "Assessed Value" means the current value in dollars per square foot assigned to the land within the adjacent riparian tax lot or comparable tax lot by the county tax assessor.

(9) "Assignment" means a transfer by the lessee of the rights of use and occupancy of the leasehold to another legal entity, including for benefit of creditors (for example, mortgages).

(10) "Authorization" means a lease, registration, temporary use permit, or public facility license issued to an applicant by the Division conveying a right to limited use of state-owned submerged and/or submersible land for a specific and defined purpose for a fixed period of time. All uses of state-owned land other than transient uses must be authorized by the Division through a written authorization.

(11) "Authorized Area" is the area of state-owned submerged and/or submersible land which the Division allows a structure to occupy or person to use through a lease, registration, temporary permit or public use facility license. The authorized area shall encompass, at a minimum, all structures and directly associated uses of the water surface area.

(12) "Boat House" means a covered or enclosed structure used exclusively to store, shelter, or protect a boat or boats and boating equipment. A structure used in part, or only occasionally for any purpose other than to shelter or protect a boat or boats and boating equipment shall be considered a combination structure.

(13) "Combination Structure or "Combo" means a structure which is used for more than one (1) exclusive use, for example, the combination of a boathouse with a floating home, shelter, dwelling, recreation room, or any other structure or use.

(14) "Commercial Use" means an activity conducted on, within, or over state-owned submerged and/or submersible land for business purposes, including but not limited to: offices, stores, hotels, banks, marinas, restaurants, or retail service outlets.

(15) "Comparable Annual Slip Rental" means the estimated annual slip rental income from a non-commercial marina or moorage based upon the market value of the slips and taking into account location and condition of the facility and the actual or estimated occupancy.

(16) "Director" means the Director of the Division of State Lands or designee.

(17) "Division" means the Division of State Lands.

(18) "Dock/Float" means an individual secured and stationary or floating structure (other than a mooring buoy) used exclusively for mooring boats and for similar uses.

(19) "Dolphin" is a cluster of piles or piling which is bound together.

(20) "Dwelling" means a structure designed or occupied as the permanent or temporary living quarters of one or more households which is usually equipped with cooking, bathing, toilet and heating facilities.

(21) "Fish Processing Facility" means a stationary structure where the cleaning, freezing, canning, preserving and/or storing of aquatic animal life are conducted.

(22) "Flat Rate Method" means a manner of calculating annual lease rental payment based on a fixed dollar amount per square foot of leasehold area that varies by use classification.

(23) "Floating Home" means a moored floating structure that is secured and stationary and is used primarily as a dwelling and not as a boat or floating recreational cabin.

(24) "Floating Recreational Cabin" is a moored floating structure, accessible only by boat, used wholly or in part as a dwelling, not physically connected to any upland utility services (for example, water, sewer, or electricity), and used only periodically or seasonally.

(25) "Gangway" means a walkway or access ramp which connects, and is used exclusively for the purpose of traversing from the upland to a dock/float, marina, floating home, boat house, or other structure

(26) "Goods and Merchandise" means products and raw materials transported in pursuit of trade, business, and/or economic gain. Goods and merchandise does not include materials used by a vessel for its maintenance, alteration, or operation.

(27) "Government Functions" are activities federal, state or local government agencies are assigned to perform to protect the health and safety of the public they serve. A ship, boat or vessel exclusively engaged in helping to maintain public health and safety is said to be performing a government function. Examples of ships, boats or vessels exclusively engaged in the performance of a government function on Oregon's waterways are those of the United States Navy, United States Coast Guard, United States Army Corps of Engineers, and various fire, police and sheriffs departments.

(28) "Historical Vessel" means a vessel listed or eligible for listing on the National Register of Historic Places.

(29) "Industrial Use" means an activity conducted on, within, or over state-owned submerged and/or submersible land for business purposes that involves the assembly, processing, or manufacture of products from raw materials or fabricated parts, or that renders services such as, but not limited to: storage warehouses, factories, or shipyards.

(30) "Lease" for the purposes of these rules, is a valid, enforceable contract executed by the Division and signed by the lessee allowing the use of a specific area of state-owned submerged and/or submersible land for a specific use under the terms and conditions of the lease and these rules.

(31) "Lease Anniversary Date" means the month and date the lease was initially entered into and on which, in subsequent years, the annual lease rental payment is due.

(32) "Leasehold" means the same as "Authorized Area."

(33) "Line of Ordinary High Water" means the line on the bank or shore to which the high water ordinarily rises annually in season.

(34) "Limited Service Restaurant" means a restaurant serving only pre-wrapped sandwiches, or a single dish or food product, and nonperishable beverages as defined in ORS 624.010(4).

(35) "Line of Ordinary Low Water" means the line on the bank or shore to which the low water ordinarily recedes annually in season.

(36) "Log Boom Area" means a water surface area bounded by floating, connected logs or other devices, used for confining loose logs, grading and sorting logs, making log rafts, or to feed whole or partially processed wood products to a mill.

(37) "Log Raft" means a group of loose or bundled logs which can be stored or moved on water.

(38) "Log Raft Storage Area" means the unbounded water surface area used for mooring and storing log rafts, usually marked by piles and dolphins to which the rafts are fastened.

(39) "Marina" means a small harbor, boat basin, or moorage facility providing boat berthing, docking and mooring, and incidental services for recreational, commercial and/or charter fishing, or tour boats. Incidental services include, but are not limited to the following: restrooms, showers, minor boat and motor repair; mooring buoys; refueling facilities; boat hoists/lifts; boat launch ramp; small office for marina management; club house and/or meeting room; vending machines; small retail area for marine, fishing and other outdoor supplies and equipment; ice, packaged beverages and foods; limited service restaurants; and temporary restaurants.

(40) "Marine Industrial/Marine Service" means structures or uses which are commercial or industrial in nature and which need to be located in or adjacent to water areas because the use requires water access. Such uses include, but are not limited to: ship, tug barge and workboat moorage and storage; vessel repair facilities; aquaculture facilities; and fish processing facilities.

(41) "Mooring Buoy" means a floating device anchored to the bed of a waterway to which a boat is fastened through the use of lines or ropes for the purpose of maintaining the boat in a stationary position in the water.

(42) "Multi-Family Dock" means a non-commercial dock, maintained and owned in common by several families, and situated nearby their residences, and where no dues or fees are required to be paid to use the dock. A multi-family dock is not an ownership oriented facility.

(43) "Navigation Aids" are structures or devices such as buoys, channel markers, beacons, approach and landing lights, and radio navigation and landing aids, etc., placed in or along a waterway, by or with the consent of appropriate public agencies, to aid persons engaged in navigation of a waterway or aviation.

(44) "Non-Marine Uses" means structures or uses, typically commercial or residential, which do not need to be located in or adjacent to water areas. Such structures and uses include, but are not limited to: apartments, hotels, motels, residences, restaurants, offices, retail stores, manufacturing plants, and warehouses.

(45) "Non-Commercial" means a use which does not result in and/or is not associated with any monetary consideration or gain. For example, a use

which includes the renting, leasing, or sale of space would not qualify as "non-commercial."

(46) "Ownership-Oriented Facility" means non-commercial facilities where the access and privilege to use is limited to a membership group of persons who pay dues or fees of some type to maintain membership and to operate the facility.

(47) "Person" is an individual at least eighteen (18) years old, a political subdivision or public agency, or any corporation, association, firm, partnership, joint stock company, or quasi-public corporation registered to do business in the State of Oregon.

(48) "Pile" or "Piling" is a wood, steel, or concrete beam driven or jetted into the bed or bank of a waterway to secure a floating structure, log raft, or boat.

(49) "Preference Right" means a riparian property owner's statutory privilege, as found in ORS 274.040(1), to obtain a lease without advertisement or competitive bid for the state-owned submerged and/or submersible land that fronts and abuts the riparian owner's property. The Division will not recognize a claim of lease preference right from a non-riparian owner. A person claiming the right of occupancy to submerged and submersible land under a conveyance recorded before January 1, 1981, shall have a preference right to the requested lease area.

(50) "Preference Right Holder" means the person holding the preference right to lease as defined in these rules and ORS 274.040(1).

(51) "Protective Boom" or "Shear Boom" refers to logs or similar floating devices attached to each other to protect a structure or bank from floating debris, erosion or wave action.

(52) "Public Agency" means an agency of the Federal Government, the State of Oregon, and every political subdivision thereof.

(53) "Public Facility License" is a form of authorization issued by the Division to public agency owned, operated, and maintained transient use docks/floats, boat ramps, boat landings and/or viewing structures where no or minimal entry or use fees are charged; and navigation aids.

(54) "Public Trust Use(s)" means activities that support, protect, and enhance public trust values (commerce, navigation, fishing and recreation) including but not limited to short term moorage, camping, bank fishing, picnicking, and boating.

(55) "Redetermination" or "Redetermine" means, for the purposes of this rule, a revision, conducted in accordance with the administrative rulemaking process (ORS 183), of lease rental methods, formulas, classification or other factors as specified in OAR 141-082-0100.

(56) "Registration" is a form of authorization issued by the Division allowing a qualifying structure or use to occupy state-owned submerged and/or submersible land.

(57) "Residential Use" means an activity conducted on, within, or over state-owned submerged and/or submersible land devoted to, or available for single or multiple dwelling units, single-family homes, floating homes, apartments or condominiums.

(58) "Restaurant" means any establishment where food or drink is prepared for consumption by the public or any establishment where the public obtains food or drink so prepared in form or quantity consumable then and there, whether or not it is consumed within the confines of the premises where prepared, and also includes establishments that prepare food or drink in consumable form for service outside the premises where prepared, but does not include railroad dining cars, bed and breakfast facilities or temporary restaurants as defined in ORS 624.010(5).

(59) "Riparian Land Owner" or "Riparian Owner" is a person who owns riparian property.

(60) "Riparian Land Value Method" means a manner of calculating the annual lease rental payment by multiplying the assessed value times five (5) percent times the area of the leasehold for each use classification.

(61) "Riparian Property" means a parcel of land that fronts or abuts on state-owned submerged and/or submersible land.

(62) "State Land Board" means the constitutionally created body consisting of the Governor, Secretary of State, and State Treasurer that is responsible for managing the assets of the Common School Fund as well as for additional functions placed under its jurisdiction by law. The Division of State Lands (Division) is the administrative arm to the State Land Board.

(63) "Structure" means anything placed, constructed, or erected over state-owned submerged and/or submersible land that is associated with a use that requires a lease, registration, temporary use permit, or public facility license.

(64) "Sublease" means a subordinate lease between the lessee and a third party of all or part of the leasehold, where the lessee remains contractually and primarily liable under the lease with the Division. A subordinate lease of part of the entire premises for a term less than one (1) year for the use authorized under the lease shall not require prior approval of the Division.

(65) "Submerged Land" means land lying below the line of ordinary low water of all title navigable and tidally influenced water within the boundaries of the State of Oregon.

(66) "Submersible Land" means land lying between the line of ordinary high water and the line of ordinary low water of all title navigable and tidally influenced water within the boundaries of the State of Oregon.

(67) "Temporary Use Permit" is an authorization issued by the Division to a person allowing the short term use, usually less than one (1) year, of a specific area of state-owned submerged and/or submersible land for a specific use under specific terms and conditions.

(68) "Temporary Restaurant" means the same as ORS 624.010(6), that is, any establishment operating temporarily in connection with any fair, carnival, circus or similar public gathering or entertainment, food product promotion or any other event where food is prepared or served for consumption by the public. A temporary restaurant does not include:

(a) An establishment where food is prepared and served by a fraternal, social or religious organization only to its own members and guests.
(b) An approved school lunchroom where food is prepared and served for school and community activities, where the preparation and services are under the direction of the school lunchroom supervisor.
(c) A food product promotion where only samples of a food or foods are offered to demonstrate the characteristics of the food product. For the purposes of this paragraph, a sample shall not include a meal, an individual hot dish or a whole sandwich.
(d) A private residence, or part thereof, including the grounds, areas and facilities held out for the use of the occupants generally, for which a special retail beer or special retail wine license is issued under ORS 471.311 for a period not exceeding one day.

(69) "Transient Use" means any public trust use of state-owned submerged and/or submersible land which is of a short or intermittent duration, and not more than fourteen (14) consecutive days in any one (1) location or area.

(70) "Use" means an activity with or without associated structures on state-owned submerged and/or submersible land that requires a lease, temporary use permit, public facility license or registration under these rules.

(71) "Use Classification" means the specific category of similar uses and structures subject to authorization described in OAR 141-082-0100.

(72) "Water Sport Structures" means water ski buoys, jumps and ramps, kayak race gates, and other such devices used in association with a water recreational sport. Such devices are typically temporary in nature, and not permanently attached to a piling, dolphin, or other fixed object.

(73) "Wharf" or "Wharves" as used in ORS 780.040 and these rules mean a structure placed on state-owned submerged and/or submersible land that is actively and exclusively used to accommodate ships, boats, or vessels engaged exclusively in the receipt and discharge of goods or merchandise, or in the performance of active government functions on the waterway.

141-082-0030 Types of Uses and Required Authorizations

(1) All uses of, and structures occupying state-owned submerged and/or submersible land require prior written approval of the Division by a lease, temporary use permit, public facility license, or registration pursuant to these rules. Uses and structures requiring leases or temporary use permits include, but are not limited to:
(a) Aquaculture facilities;
(b) Marine industrial/marine service uses;
(c) Floating homes and floating home moorages;

(d) Fish processing facilities;
(e) Log raft, log storage or log booming areas;
(f) Historical vessel moorages;
(g) Combination structures;
(h) Commercial and non-commercial marinas including owner-oriented facilities;
(i) Multi-family docks not qualifying for registration;
(j) Non-marine uses (for example, restaurants, warehouses, offices, motels, etc.);
(k) Individual non-commercial docks/floats, boathouses, and floating recreational cabins not qualifying for registration or public use facility license;
(l) Wharfs (when outside of cities or port districts);
(m) Log salvage;
(n) Commercial, industrial or residential uses; and
(o) Other similar non-transient uses and structures not exempted by statute or these administrative rules, and determined by the Director to be subject to lease or temporary use permit.

(2) Uses and structures that are eligible for registration are:
(a) Non-commercial structures including docks/floats, multi-family docks, and/or boat houses of two-thousand five hundred (2,500) square feet or less excluding associated gangways, pilings, dolphins, mooring buoys, and protective booms;
(b) Floating recreational cabins of one-thousand five hundred (1,500) square feet or less excluding associated, pilings, dolphins, mooring buoys, and protective booms;
(c) Water sport structures (pursuant to OAR 141-082-0140 through OAR 141-082-0200);
(d) Wharfs used to accommodate any ships, boats or vessels engaged exclusively in the receipt and discharge of goods or merchandise or in the performance of governmental functions upon the waterway (pursuant to the exemption provided in ORS 780.040); and
(e) Other similar structures determined by the Director to be eligible for registration.

(3) Uses and structures that are eligible for public facility licenses are:
(a) Boat ramps/landings;
(b) Viewing structures;
(c) Fishing piers;
(d) Recreational boating "short-term stay" docks/floats;
(e) Structures, piers, docks/floats owned, operated by, or under contract to a government agency as long as they are in active service and used exclusively by the government agency to perform the function of that agency; and
(f) Navigation aids placed by public agencies including approach and landing lights, and radio navigation and landing aids for aviation.

(4) Uses and structures that are exempt from lease are:
   (a) Wharves (except as noted in OAR 141-082-0030(1) and (2));
   (b) Transient uses;
   (c) Uses/structures eligible for registration or public facility license.

141-082-0040 Lease, Public Facility License, or Temporary Use Permit Application Requirements

(1) If a use of, or structure upon state-owned submerged and/or submersible land requires a lease, public facility license, or temporary use permit, no person may begin to use such land, or erect such structure(s) without first having applied for, and been granted either a lease, public facility license, or temporary use permit pursuant to these rules.
(2) Persons needing to obtain a lease, public facility license, or temporary use permit for a structure on, or use of state-owned submerged and/or submersible land must apply to the Division on a form provided by the Division.
(3) All applications for a lease or public facility license must be fully completed and accompanied by a non-refundable fee payable to the Division in the amount of seven hundred and fifty dollars ($750) for a lease, and two hundred and fifty dollars ($250) for a public facility license. There is no application fee for a temporary use permit. The Division shall review applications in a timely manner.
(4) To be accepted by the Division for consideration, an application for a lease, public facility license, or temporary use permit shall be:
   (a) Fully completed; and
   (b) For an area initially determined by the Division to be available for use. Applications which fail to meet these requirements shall be returned to the applicant with an explanation of the reason(s) for rejection.
(5) If a rejected application is resubmitted within one hundred and twenty (120) calendar days from the date the Division returned the application, no additional application fee will be assessed.

141-082-0046 Lease Application

(1) Any person engaged in an other than transient use of state-owned submerged and/or submersible land subject to these rules must obtain a lease, public facility license, temporary use permit, or registration from the Division.
(2) Each complete application for lease shall be submitted on a form provided by the Division and contain the following information:
   (a) Name, address, and telephone number of the applicant, each fronting and abutting landowner, and any and all persons having a legal interest in the lease;

(b) Name of waterway;
(c) County and city;
(d) Township, Range, Section, and Tax Lot number(s) of lease area and adjacent uplands; and
(e) A description of the purpose for which the lease area will be used.

(3) Each complete application shall include:
(a) A location map showing the proposed lease area relative to its surroundings. Note: Aerial photographs, U.S.G.S. Quadrangle maps, and Coast Survey Charts are all suitable for this purpose.
(b) A map from the County Assessor that shows the location of the proposed lease area.
(c) A description of the area to be leased sufficient to permit the Division to identify its boundaries, corners, and acreage with reasonable accuracy and to preclude the granting of conflicting leases.
(d) A plot plan (suggested scale 1" = 100') showing the lease area, proposed or existing facilities, the adjacent lands and property boundaries, the location of the Ordinary High and Ordinary Low Water lines, and the direction of water flow.
(e) A non-refundable seven hundred and fifty dollar ($750) application fee payable by check to the Division of State Lands.
(f) Evidence satisfactory to the Division that the proposed use is in conformance with the local comprehensive land use plan and zoning ordinance.

(4) The Division may request additional information regarding the applicant's financial status and business/management practices prior to authorizing a lease.

141-082-0049 Lease, Public Facility License, and Temporary Use Permit Application Review Process

(1) The appropriate city or county planning department, pertinent state and federal agencies, and all lessees and riparian property owners (as available from the local county assessor's office records) within two hundred (200) feet of the proposed or existing use shall be notified by the Division of the opportunity to review and comment on the accepted applications.

(2) Based on the evaluation of the application and the comments received, the Division shall:
(a) Approve the application and continue to process the lease, public facility license, or temporary use permit;
(b) Require that the applicant modify and resubmit the application; or
(c) Deny the application.

(3) If the Division determines that the proposed or existing use meets the policies set forth in these rules in OAR 141-082-0010, the Division shall

determine the area needed to fully encompass the perimeter of the use as well as any additional water surface area needed to support the use. The Division shall also determine the method to describe the boundary of the authorized area.

(4) In the event the Division cannot readily determine the authorized area description from the applicant's information or, if in the judgment of the Division, a dispute may arise concerning the description, the Division may require the applicant to have a survey of the requested area conducted by a licensed professional engineer or surveyor. The Division shall provide survey instructions as well as specify the information required in the survey and accompanying notes. Generally the applicant will be responsible for any costs of the survey.

(5) If more than one (1) application for a specific area is received by the Division, the Division shall determine which proposed use best fulfills the policies specified in OAR 141-082-0010, and accept and proceed with that application and deny the others.

(6) The Division shall offer a preference right to lease to the eligible party as defined in OAR 141-082-0020 (49) and (50), hereafter referred to as the preference right holder. When a lease application has been approved, the Division shall:

(a) If the proposed lease area consists of parcels having different owners, subdivide the requested lease area into smaller parcels by extending lines perpendicular to the thread of the stream from the boundaries of, or within the boundaries of adjacent riparian tax lot so that there is a separate lease parcel for each parcel of property that fronts and abuts the lease area.

(b) If the proposed lease area consists of a single parcel, or two or more contiguous parcels owned by the same person, the Division will extend the boundaries of the single parcel or combined group of single-ownership parcels perpendicular to the thread of the stream as in OAR 141-082-0049(6)(a) above.

(c) In accordance with the proposed use(s), calculate in a manner consistent with OAR 141-082-0100 a minimum annual lease rental payment for each lease parcel; and

(d) Notify each preference right holder in writing that a lease application has been approved by the Division, and provide thirty (30) calendar days from the date that the letter is postmarked for the preference right holder to exercise the preference right to take the lease at the established minimum annual lease rental payment.

(7) The Division shall consider that the preference right holder has accepted the offer of a preference right to lease by executing the lease form and all other documents and remitting the required minimum annual lease rental payment within the required thirty (30) calendar day period.

(8) If the preference right holder does not exercise the preference right to take a lease applied for by another person, the Division shall prepare and publish an advertisement for bids pursuant to the requirements of ORS

274.040. The highest qualified bidder shall be awarded the lease. The minimum bid amount shall be set by the Division.

(9) The fee for structures and uses authorized under a temporary use permit shall be determined by the Director, utilizing these rules as guidance, on a case-by-case basis, and shall not be less than one hundred dollars ($100).

141-082-0060 General Lease Conditions and Form

(1) The lease form contained in Exhibit A shall be the principal lease form used by the Division to authorize the use of state-owned submerged and/or submersible land. However, the Division in its good faith discretion may determine that the size and/or nature of a proposed use, or the risks associated therewith, make it advisable to require a lease with terms other than those contained in Exhibit A. In such event, the Division may condition acceptance of the proposed use upon acceptance of a lease form proposed by the Division and, if requested by the Division or otherwise required by law, approved by the Department of Justice.

(2) The maximum lease term for state-owned submerged and/or submersible land shall be fifteen (15) years. Renewal provisions shall allow for additional periods of up to the maximum of fifteen (15) years after the original and each renewal lease term as specified in OAR 141-082-0070. The length of a lease offered by the Division shall depend on:
   (a) Whether the proposed use is reasonably expected to exist for the time period requested by the applicant; and
   (b) The policies contained in these rules.

(3) State-owned submerged and/or submersible land, regardless of whether or not it is included in authorized areas, shall remain available and open to the public for commerce, navigation, fishing, and recreation unless restricted or closed to public entry by the State Land Board or Division. The lessee may request the Division to close the authorized area to public entry or restrict recreational use by the public on all or portions of the authorized area to protect persons or property from harm arising from, or in connection with the authorized use or activity, or for any other purpose consistent with the policies of OAR 141-082-0010.

(4) The lessee may restrict public use of lessee-owned property or structures authorized under the lease.

(5) The Division or its authorized representative(s) shall have the right to enter into and upon the authorized area at any time for the purposes of inspection or management.

(6) The lessee shall dispose of all waste in a proper manner and shall not permit debris, garbage or other refuse to either accumulate within the authorized area or be discharged into the waterway. A lessee's failure to comply with this provision shall be considered a material default since a violation of this obligation may harm the public trust values in the

waterway. As such, the Division shall have both the right to terminate the lease upon a substantial or repeated violation of this obligation, as well as the right to remove the debris and collect the cost of such removal from the lessee.

(7) The lessee shall not cut, destroy or remove, or permit to be cut, destroyed or removed any vegetation (except for noxious weeds) that may be upon the authorized area except with the written permission of the Division. The lessee shall promptly report to the Division the cutting or removal of vegetation by other persons.

(8) The lessee shall conduct all operations within the authorized area in a manner which conserves fish and wildlife habitat, protects water quality, and does not contribute to soil erosion or growth of noxious weeds.

(9) The lessee shall maintain all buildings, docks, pilings, floats, gangways, similar structures, and other improvements located within the authorized area in a good state of repair as determined by the Division in consultation with other government agencies such as the local building inspection authority or fire service agency.

(10) The Division may require the lessee to obtain a surety bond to ensure that the lessee will perform in accordance with all terms and conditions of the lease. The surety bond amount shall be determined by the Division and shall be reasonable and within generally accepted business practices. A cash deposit or certificate of deposit in an amount equal to the amount required for a surety bond and which names the State of Oregon as co-owner may be substituted in lieu of a bond.

141-082-0070 Lease Renewal

(1) A lessee shall have an option to renew a lease entered into after the effective date of this rule for additional terms but not more than fifteen (15) years, provided that the lessee has submitted a completed lease renewal application form to the Division not less than one hundred eighty (180) calendar days prior to the lease expiration date. Upon receipt of such application, the lease shall be renewed by the Division unless:

(a) The Division determines, in its sole discretion, that the lessee has not complied with the terms of this lease, the applicable statutes, or Oregon Administrative Rules; or

(b) The lessee is no longer the preference right holder; or

(c) The Division determines that the renewal of this lease for all or portions of the authorized area would be contrary to local, state, or federal law, or would be inconsistent with the policies set forth in OAR 141-082-0010. In the event that the Division determines that the lessee is not entitled to renew the lease pursuant to the standards described above, the Division shall give the lessee two (2) years written notice that the lease will be allowed to expire. If less than two (2) years remain in the lease term at the time the written notice is given, the Division shall allow the lessee time

beyond the lease expiration date to complete the two (2) year notice period to allow the lessee sufficient time to vacate the authorized area and relocate any sublessees in an orderly fashion. Temporary use permits may also be issued in the event that a final decision with regard to a lease renewal has not occurred by the expiration of the lease term. The Division shall report to the State Land Board for review all leases that the Division proposes not to renew pursuant to this subsection (OAR 141-082-0070(1)).

(2) All lease renewal applications shall be on a form provided by the Division. Completed applications must be received by the Division not less than one hundred eighty (180) calendar days prior to the expiration of the lease term.

(3) If an application to renew a lease is not timely received by the Division, the Division at its option may elect to either let the lease expire without renewal, or assess a late fee of two hundred and fifty dollars ($250) payable to the Division.

(4) An application for renewal shall be accompanied by a non-refundable fee in the amount of seven hundred and fifty dollars ($750) payable to the Division. Any late fees, as required under OAR 141-082-0070(3) shall also be included with the application fee for lease renewal.

141-082-0080 Lease Modifications for Size and Use

(1) Lessees shall notify the Division in writing using a form provided by the Division prior to expanding or reducing the size, use, or internal arrangement of use within their authorized area. No such changes or modifications shall be made without prior written authorization from the Division.

(2) The Division may amend a lease to reduce the authorized area as requested if the portion of the lease area is not in use, and does not contain any leasable structures.

(3) Requests to change an authorized use, or increase an authorized area shall be processed and reviewed in the same manner as a new lease application as specified in OAR 141-082-0040 and OAR 141-082-0049 of these rules.

141-082-0090 Subleasing and Assignment of Leases

(1) Any lessee desiring to sublease in a manner not permitted outright by the lease or these rules, or assign a lease shall:
   (a) Apply to the Division on a form provided by the Division; and
   (b) Submit a non-refundable application fee of seven hundred and fifty dollars ($750) payable to the Division.

(2) The Division shall make a good faith effort to complete its review of such applications within thirty (30) calendar days of receipt. If the application is incomplete, or if the Division requests additional information concerning

the proposed assignment or sublease, the time period for reviewing applications shall be extended.

(3) Except as authorized in the lease or these rules, in no event shall the lessee assign or sublease any portion of the authorized area prior to receipt of written approval from the Division. Violation of this provision may be grounds for termination of the lease.

(4) Sublessees and assignees shall meet all applicable requirements set forth in these rules and the lease.

(5) Subleases permitted outright, that is, without prior approval of the Division, include only the following:

(a) Subleases of less than the entire leasehold area entered into (for example, rental of boat slips) in the ordinary course of business as authorized by the lease; or

(b) Subleases of the entire leasehold area for a term that is less than one (1) year and for a use authorized in the lease.

(6) Upon the sale of the lessee's interest in the lease, the lessee (seller) shall submit an application to the Division requesting an assignment of the lease to the purchaser.

(7) The transfer of ownership of the lease caused by the death of the lessee shall be considered an assignment requiring the Division's approval. A transfer of ownership to a spouse or immediate family member is an assignment that does not require the Division's prior approval.

(8) The lessee shall not grant a mortgage or security interest in the lease without prior written consent of the Division which shall not be unreasonably withheld. Any subsequent assignment by the creditor shall require the prior written approval of the Division.

(9) The Division may request additional information on the assignee's financial status and/or past business/management practices. The Division may, at its discretion, deny the assignment request if the assignee's financial status and/or past business/management practices indicate that s/he may not:

(a) Be able to fully meet the terms and conditions of a lease or other form of authorization offered by the Division, or

(b) Use the land applied for in a way that meets the provisions of OAR 141-082-0010(2) and (3).

(10) The Division shall require that the assignee, if approved by the Division, complete and submit to the Division a new lease application at the time of the assignment.

141-082-0100 Lease Rental Formulas, Methods and Annual Lease Rental Payment Adjustments

(1) The base minimum annual lease rental payment for any lease shall be the greater of:

(a) $0.0056 per square foot times the lease area or two hundred and seventy five dollars ($275);

(b) Subject to the base minimum annual lease rental payment established in OAR 141-082-0100(1), lease applicants (including lease renewal applicants) may select the method of annual lease rental payment calculation for their authorized use classification as described in OAR 141-082-0100(4)(a) through (h) below that results in the lowest annual lease rental payment, except for leases awarded through competitive bidding for which the annual lease rental payment shall be based on the bid award. The lessee or lease applicant shall provide all pertinent information to the Division to assist in calculating the annual lease rental payment. The method of annual lease rental payment calculation shall remain in effect for the term of the lease, unless changed pursuant to a redetermination made through the administrative rulemaking process (ORS 183) and approved by the State Land Board.

(2) In the event the lessee and the Division cannot agree on the method of calculating the annual lease rental payment or any aspect of the method, the annual lease rental payment shall be determined by the Division using the flat rate method until such time as the dispute is resolved and implemented at the next lease anniversary date.

(3) The annual lease rental payment for individual non-commercial docks, boat houses, and floating recreational cabins not eligible for registration and that are not contained within marinas or moorages shall be calculated based on the area encompassed by the perimeter of the structures, and shall exclude gangways, protective booms, pilings, and dolphins from the annual lease rent payment calculation.

(4) The following eight (8) use classifications and related lease rental formulas (OAR 141-082-0100(4)(a) through (h)) shall be used to establish annual lease rental payments or minimum bid, whichever is applicable, subject to the base minimum annual lease rental payment established in OAR 141-082-0100(1). For the riparian land value method described below, utility, railroad or publicly-owned land shall not be used for establishing the AV unless the assessed value is readily available and reflective of comparable similarly situated tax lots. If not, the AV of privately owned comparable tax lots shall be substituted. In cases where the adjacent riparian tax lot is less than one hundred (100) feet deep, the Division will assume the adjacent riparian tax lot has a depth of one hundred (100) feet and apportion the AV based on this derived area.

NOTE: Formula Explanation

AV= Assessed value or appraised value (as defined in OAR 141-082-0020(6) and (8) of these rules) whichever is less except as stated in OAR 141-082-0100(11) and (12).

LA= Authorized lease area in square feet of state-owned submerged and submersible land.

AR= Annual lease rental payment.

(a) Commercial marinas and docks, and commercial floating home moorages. The annual lease rental payment calculation is the lesser of the:
   (A) Flat rate method of $0.0191 per square foot (which shall be increased each year on June 1st by three (3) percent) x LA; or
   (B) 3 percent of actual annual slip or boat rental income; or
   (C) Riparian land value method of AV x LA x 5 percent = AR.

(b) Non-commercial marinas and docks, including all types of ownership oriented marinas and docks and excluding those structures qualified for registration and exempt from lease (e.g., docks and boat houses less than 2,500 square feet). The annual lease rental payment calculation is the lesser of the:
   (A) Flat rate method of $0.0191 per square foot (which shall be increased each year on June 1st by three (3) percent) x LA; or
   (B) 3 percent of the comparable annual slip rentals; or
   (C) Riparian land value method of AV x LA x 5 percent = AR.

(c) Non-commercial floating home moorages including those operated by ownership-oriented organizations. The annual lease rental payment calculation is the lesser of the:
   (A) Flat rate method of $0.0191 per square foot (which shall be increased each year on June 1st by three (3) percent) x LA; or
   (B) 3 percent of comparable annual slip rentals; or
   (C) Riparian land value method of AV x LA x 5 percent = AR.

(d) Individual floating homes and similar structures and uses such as, but not limited to, a combination structure/floating home or any structures connected to utilities and associated with residential use not eligible for registration. The annual lease rental payment calculation is the lesser of the:
   (A) Flat rate method of $0.0191 per square foot (which shall be increased each year on June 1st by three (3) percent) x LA; or
   (B) Riparian land value method of AV x LA x 5 percent = AR.

(e) Historical vessels, moorages, docks or similar structures not eligible for registration and owned by charitable organizations (limited to youth-oriented, historical, educational, or scientific organizations). The annual lease rental payment is two hundred and seventy five dollars ($275) per year per structure or combination of structures at a single location or facility (e.g., youth camp). OAR 141-082-0100 (5) and (9) shall not apply.

(f) Log boom areas, log raft storage areas. The annual lease rental payment calculation is the lesser of the:

(A) Flat rate method of $.00956 per square foot (which shall be increased each year on June 1st by three (3) percent) x LA; or

(B) Riparian land value method of AV x LA x 5 percent = AR.

(g) Marine industrial and marine service commercial uses/structures including fish processing facilities. The annual lease rental payment calculation is the lesser of the:

(A) Flat rate method of $0.328 per square foot (which shall be increased each year on June 1st by three (3) percent) x LA; or

(B) Riparian land value method of AV x LA x 5 percent = AR.

(h) Non-Marine Uses (except as identified in these rules, for example, floating homes). The annual lease rental payment calculation is the lesser of the:

(A) Flat rate method of $0.383 per square foot (which shall be increased each year on June 1st by three (3) percent) x LA; or

(B) Riparian land value method of AV x LA x 5 percent = AR.

(5) The above described flat rate method factors (OAR 141-082-0100 (a) through (h)) shall be increased by three (3) percent every year on June 1st. The AV factor for the above-described riparian land value method shall have the meaning defined in OAR 141-082-0020(8). Annual lease rental payments shall be billed on the basis of the adjustments described in OAR 141-082-0100(4).

(6) Rates for uses within each authorized area shall be calculated by the Division on a square foot basis of state-owned submerged and/or submersible land as applicable for each use classification (for example, non-commercial marina), and based on the lessee's choice of rate calculation methods except as noted in OAR 141-082-0100(2) above. More than one use (known as a mixed use) may be permitted by the Division within an authorized lease area. Rates will be calculated for each use area based on the most applicable use classification, as specified in OAR 141-082-0100(4)(a) through (h), and summed to derive the total annual lease rental payment or minimum bid for the entire leasehold.

(7) Annual lease rental payments based on three (3) percent of actual or comparable annual slip or boat rental shall be supported by documentation provided by the lessee or lease applicant. The Division, based on consultation with the lessee, shall establish and identify in the lease the reporting schedule and the form of documentation required for the Division and lessee to perform the due diligence necessary to verify the actual or comparable income. Lessees using this method shall make their records available for periodic audit by the Division.

(8) Wharf areas or areas occupied by uses or structures exempt from authorization by law or these rules from payment of annual lease rental may be included within the authorized area, but are not included in the calculation of the annual lease rent payment.

(9) The annual lease rental payment for executed leases shall be adjusted annually on each lease anniversary date by increasing the annual lease rental payment by three (3) percent rounded to the nearest dollar. This annual lease rental payment adjustment for executed leases shall not apply to those calculated based on actual or comparable annual slip or boat rental income.

(10) The Division shall notify lessees in writing of the new annual lease rental payment not less than sixty (60) calendar days in advance of the lessee's lease anniversary date.

(11) In calculating the initial annual lease rental payment using the riparian land value method, lessees or lease applicants may substitute an appraised value of the adjacent riparian tax lot or as determined by the Division, a comparable tax lot in place of the assessed value. The Division reserves the right to evaluate, review, and challenge the appraisal. The appraisal shall be conducted at the lessee or lease applicant's expense. If the appraisal is used by the Division to calculate the initial annual lease rental payment, the Division will credit one-half of the cost of the appraisal to the lessee's annual lease rental payment. In the event of a dispute between the Division and the lessee or lease applicant, the value shall be determined through the three-appraiser method specified in ORS 274.929(3).

(12) If in the process of using the riparian land value method for calculating the initial annual lease rental payment, the AV is found to be artificially depressed due to the presence of hazardous materials or some other extenuating circumstance(s) as determined by the Division, another comparable upland tax lot shall be selected by the Division as the basis for calculating the initial annual lease rental payment. The lease applicant may suggest a comparable tax lot or may appeal the Division's selection as allowed in OAR 141-082-0200.

(13) For all other structures/uses not listed in OAR 141-082-0100(4)(a) through (h) and determined by the Director pursuant to OAR 141-082-0030(1) to be eligible for lease, the annual lease rental payments shall be determined on a case-by-case basis and be not less than the base minimum annual lease rental payment as defined by OAR 141-082-0100(1).

(14) The State Land Board shall periodically review and decide whether to maintain or redetermine the lease rental formulas, methods, annual lease rental payment adjustments, classifications or other factors as specified in these rules. Any redetermination, change or amendment to OAR 141-082-0100 must be done according to the administrative rulemaking process (ORS 183).

141-082-0101 Suspended Use Lease Rental Rate

(1) A lessee may request that the Director grant a suspended use lease rental rate of not less than the base minimum annual lease rental

payment if all or a portion of the lease premises are severely damaged or destroyed by natural disaster or other means such that the use(s) authorized by the lease must cease or be significantly interrupted.

(2) The lessee shall make a request for a suspended use lease rental rate to the Director in writing stating the reasons for the request and including sufficient documentation to demonstrate that the request meets the requirements of OAR 141-082-0101(1). No application fee will be required.

(3) The Director, within thirty (30) calendar days of receiving a completed request, shall either: deny the request; ask for additional information; or approve the request and initiate a lease amendment. The Director shall have sole discretion as to the terms and conditions of the lease amendment under this section (OAR 141-082-0101) subject to the appeal provisions of OAR 141-082-0200.

(4) Any suspended use lease rental rate granted by the Director shall not exceed one (1) year and shall not be in effect until a lease amendment has been executed by the Division and the lessee, or otherwise authorized in writing by the Director. The suspended use lease rental rate shall supersede the annual lease rental payment identified in the lease contract agreement for the period the reduced rental rate is in effect.

(5) A suspended use lease rental rate is renewable annually for up to three (3) consecutive years based on the lessee's resubmittal of a request; verification by the Division of the circumstances; and Director's approval. Renewal requests must be submitted in writing not less than sixty (60) calendar days prior to the expiration of suspended use lease rental rate.

(6) The lessee shall immediately notify the Division upon any resumption of any of the uses authorized in the lease that are subject to the suspended use lease rental rate lease amendment. The lessee shall fully comply with any notification requirements and conditions of use resumption as stipulated in the Director's authorization and lease amendment.

(7) Failure to notify the Director of resumption of any use authorized in the lease may result in immediate cancellation of the suspended use lease rental rate and reinstatement of the original rate effective on the date the allowed use resumed.

(8) Changes in the leasehold area and/or authorized uses shall be processed in accordance with OAR 141-082-0080.

141-082-0105 Public Facility Licenses

(1) Public agencies shall apply for on a form provided by the Division, and renew a public facility license for all eligible facilities in the same manner as described in OAR 141-082-0040 and OAR 141-082-0070(1) to (5).

(2) All applications for a public facility license shall be accompanied by a non-refundable fee in the amount of two hundred and fifty dollars ($250) payable to the Division.

(3) The maximum term for a public facility license shall be fifteen (15) years and shall be renewable for additional terms of fifteen (15) years upon application.

(4) Existing public facility licenses shall remain in effect until expiration, at which time they shall be reviewed for renewal in accord with these rules.

(5) Modifications for size and use of a public facility license shall be processed and reviewed in the same manner as a new application as specified in OAR 141-082-0040 and OAR 141-082-0049 of these rules.

141-082-0110 Removal of Unauthorized Structures

(1) The Division may require the owner of an unauthorized structure on state-owned submerged and/or submersible land to remove it at his/her own expense.

(2) If the owner refuses to remove the unauthorized structure, or if no owner can be located, the Division may, at its own expense, remove the structure from state-owned submerged and/or submersible land.

(3) The Division shall pursue whatever legal options are available to recover such removal costs from the owner, including placing a lien on the assets of that owner.

(4) If the owner does not pay the costs incurred in the removal of the unauthorized structure by the Division, the Division may impose a civil penalty pursuant to OAR 141-082-0130.

141-082-0120 Submerged and Submersible Land Closures and Use Restrictions

(1) The Land Board may, based upon a request from any person, including a public agency, declare that certain state-owned submerged and/or submersible lands shall not be available for lease, registration, temporary use permit, public facility license, or that any such lease, registration, temporary use permit, or public facility license shall be limited to certain designated uses, or that any such authorizations must meet certain specific conditions designed to protect public trust values in a specific area.

(2) The Land Board may approve all or a portion of such a request upon a finding that the requested limitation is necessary to prevent unreasonable interference with the public's right to use the waterway for commerce, navigation, fishing and recreation or to carry out the policies set out in these rules at OAR 141-082-0010.

(3) Any such limitation of use shall be adopted by administrative rule by the State Land Board in accordance with ORS 183. There shall be at least one (1) public hearing in the subject area. Prior notice of public hearings shall be given to riparian property owners within the immediately affected area as provided by the local county tax assessor's office, other affected public agencies (for example, Oregon State Marine Board, U.S. Coast

Guard, U.S. Army Corps of Engineers, and local government), and other public interests.

141-082-0130 Civil Penalties

(1) In addition to any other penalty or sanction provided by law, the Director may assess a civil penalty of not more than one thousand dollars ($1,000) per day of violation for the following:
   (a) Violations of any administrative rule adopted under ORS 274.040; or
   (b) Violations of any term or condition of a written authorization granted by the Division under ORS 274.040.

(2) The Director shall give written notice of a civil penalty by registered or certified mail to the person incurring the penalty. The notice shall include, but not be limited to the following:
   (a) The particular section of the statute, rule, or written authorization involved;
   (b) A short and clear statement of the matter asserted or charged;
   (c) A statement of the party's right to request a hearing within twenty (20) calendar days of the notice;
   (d) The time allowed to correct a violation; and
   (e) A statement of the amount of civil penalty which may be assessed and terms and conditions of payment if the violation is not corrected within the time period stated.

(3) The person incurring the penalty may request a hearing within twenty (20) calendar days of the date of service of the notice provided in OAR 141-082-0130(2). Such a request must be in writing. If no written request for a hearing is made within the time allowed, or if the party requesting a hearing fails to appear, the Director may make a final order imposing the penalty.

(4) The amount of a civil penalty shall be not less than fifty dollars ($50) per day, or more than one thousand dollars ($1,000) per day for violation of an authorization issued under ORS 274.040 or violation of any administrative rule adopted under ORS 274.040.

(5) In imposing a penalty under OAR 141-082-0130 of these rules, the Director shall consider the following factors as specified in ORS 274.994:
   (a) The past history of the person incurring a penalty in taking all feasible steps or procedures necessary or appropriate to correct any violation;
   (b) Any prior violations of statutes, rules, orders and authorizations pertaining to submerged and submersible lands;
   (c) The impact of the violation on public trust uses of commerce, navigation, fishing and recreation; and
   (d) Any other factors determined by the Director to be relevant and consistent with the policy of these rules.

(6) Pursuant to ORS 183.090(2), a civil penalty imposed under OAR 141-082-0130 shall become due and payable ten (10) calendar days after the order imposing the civil penalty becomes final by operation of law or on appeal.

(7) If a civil penalty is not paid as required by OAR 141-082-0130, interest shall accrue at the maximum rate allowed by law.

141-082-0140 Registration Of Structures

(1) Qualifying structures subject to registration under this section include non-commercial:
   (a) Docks/floats and/or boat houses and associated or individual pilings, dolphins, mooring buoys, and protective booms;
   (b) Floating recreational cabins; and
   (c) Water sport structures unless authorized by the Oregon State Marine Board in compliance with OAR 250-010-0097 (Application For Special Use Device Permits).

(2) The Director may determine that other structures similar to those specified in OAR 141-082-0140(1) are also subject to registration and the rules governing registrable structures. If the Director determines that a structure is registrable, s/he shall assign an appropriate fee.

(3) Public non-commercial docks/floats, boathouses, and similar structures are not subject to registration. A public facility license or other form of authorization is required.

141-082-0150 Registration Requirements and Provisions

(1) All persons:
   (a) Owning structures subject to registration which were in existence on April 14, 1998 shall register the structure with the Division.
   (b) Owning a wharf subject to the exemption from lease provided by ORS 780.040 shall register the structure with the Division.
   (c) Placing a new structure subject to these rules, or changing the location of a registered structure after the effective date of these rules shall notify the Division in writing ninety (90) calendar days prior to such placement, or change in location.
   (d) Making modifications to a registered structure which changes the fee category or eligibility of the structure for registration shall notify the Division ninety (90) calendar days prior to making such a modification.

(2) Registration shall be made on a form provided by the Division.

(3) A separate registration form and accompanying payment shall be submitted for each individual dock/float, boat house, or other registrable structure.

(4) Each registration, except for those for wharfs and government function facilities, shall be accompanied by a fee payment in the amount indicated in OAR 141-082-0170 of these rules. All registrations, including those for a wharf, shall also be accompanied by:

(a) A location map showing the location of the registrable structure relative to its surroundings. Note: Aerial photographs, U.S.G.S. Quadrangle maps, and Coast Survey Charts are all suitable for this purpose.

(b) A map from the County Assessor that shows the location of the requested registrable structure.

(c) A plot plan (suggested scale 1" = 100') showing the location of the registrable structure, proposed or existing facilities, the adjacent lands and property boundaries, the location of the Ordinary High and Ordinary Low Water lines, and the direction of water flow.

(5) For structures constructed, placed, or modified (pursuant to OAR 141-082-0150(1)(d) after April 14, 1998 the applicant shall provide on the registration form the name(s), address(es), and telephone number(s) of the owner(s) of any adjacent riparian upland within two hundred (200) feet of the structure for which registration is requested.

(6) The applicant shall contact each adjacent upland riparian owner indicated on the registration form to determine if there are any concerns associated with the placement or modification of the structure, or if it would unreasonably interfere with the rights of the public to use the waterway for fishing, navigation, commerce, and recreation. The Division shall consider any information provided by the adjacent riparian upland owner(s) in deciding whether to register or condition the registration of the structure.

(7) In the event an applicant's proposed structure will not be situated adjacent to riparian property owned by the applicant, that riparian property owner shall have an option to register a structure at the same site. The Division shall send a copy of the application to the riparian property owner identified in the application. The riparian property owner shall have thirty (30) calendar days from the date the application is postmarked to object to the issuance of the registration or to submit a registration application for a structure at the same site as the original application. Any such registration application shall be submitted by the riparian property owner and processed by the Division in a manner consistent with these rules. The written objection must state the reasons why the original application does not meet the qualifications for registration as stated in OAR 141-082-0150(8). If no riparian property owner registration application or written objection is received by the Division within the required thirty (30) calendar day period, the Division may issue the registration to the original applicant. The original applicant as well as the involved riparian property owner shall have all rights of appeal as stated in OAR 141-082-0200.

(8) To qualify for registration, each structure shall:
   (a) Not unreasonably interfere with the public's right to use the waterway and state-owned submerged and submersible land for fishing, navigation, commerce, and recreation;
   (b) Comply with all applicable local, state, and federal laws including the local comprehensive plan and zoning requirements; and
   (c) Comply with the size limitations specified in OAR 141-082-0030(2).

141-082-0160 Registration Terms and Conditions

(1) A registration issued by the Division shall be valid for a term of five (5) years for all structures except government function facilities which shall be ten (10) years.
(2) A structure, when properly registered with the Division is not subject to lease as long as it continues to fully meet all the requirements to be registrable as provided in these rules.
(3) Unless otherwise prohibited by law, any registered structure in compliance with these rules may be repaired or replaced in a manner consistent with the requirements of OAR 141-082-0150, and remain authorized under the original registration issued by the Division.
(4) The Division shall be notified in writing of any:
   (a) Change in the location of a registered structure ninety (90) calendar days prior to such change;
   (b) Change in ownership of a registered structure within ninety (90) calendar days of the transfer of ownership. If the transfer is part of a legal transaction but not a sale (for example, bankruptcy, foreclosure, estate settlement), the Division shall be notified within thirty (30) calendar days of the final settlement or decision.
(5) Registrations must be renewed every five (5) years. The Division shall notify all registrants by mail, and provide a form to renew their registration ninety (90) calendar days prior to the expiration date of each registration(s).
(6) The Division may place conditions on a registration to address concerns of adjacent riparian upland owners and/or ensure that the continuance or placement of the use does not unreasonably interfere with the rights of the public to use the waterway for fishing, navigation, commerce, and recreation.
(7) The Division shall provide a copy of the registration to the appropriate county official (for example, county recorder) in the county where the registered structure is located.
(8) The Division may reject a registration application, modify the conditions of a registration, or cancel a registration if the subject structure does not conform with applicable local, state, and federal laws or these rules.

141-082-0170 Fees

Except for wharfs and government function facilities (which are exempt from payment of a registration fee), the five (5) year fee for each registration or renewal for shall be as follows:

(1) One hundred and twenty five dollars ($125) for a dock/float or boat house one thousand (1,000) square feet or less in size (excluding associated gangways, dolphins, pilings and protective booms).

(2) Two hundred and fifty dollars ($250) for a dock/float or boat house from one thousand and one (1,001) square feet to two thousand (2,000) square feet in size (excluding associated gangways, dolphins, pilings and protective booms).

(3) Three hundred dollars ($300) for a dock/float or boat house from two thousand and one (2,001) square feet to two thousand five hundred (2,500) square feet in size.

(4) Three hundred and fifty dollars ($350) for a floating recreational cabin.

(5) One hundred and twenty-five dollars $125 for a water sport structure.

(6) The fee for structures determined to be registrable by the Director pursuant to OAR 141-082-0030(2) shall be determined on a case by case basis and be not less than one hundred twenty-five dollars ($125).

141-082-0190 Penalties

In addition to any other penalties provided by law, the placement or use of any structure subject to authorization on state-owned submerged and/or submersible land without authorization or otherwise not in compliance with these rules shall constitute a trespass.

141-082-0200 Appeals

(1) An applicant for an authorization, or any other person adversely affected by a decision by the Division concerning an authorization, closure or restriction to the use of state-owned submerged and/or submersible land may appeal the decision to the Director.

   (a) Such an appeal shall be received by the Director no later than thirty (30) calendar days after the delivery of the decision.

   (b) The Director shall decide the appeal within sixty (60) calendar days after the date of delivery of the appeal.

   (c) The Director may affirm the decision, issue a new or modified decision, or request the appellant to submit additional information to support the appeal.

(2) If following the completion of the Director's review in OAR 141-082-0200(1) above an applicant wants to informally continue an appeal, s/he may request that the Director enter into an alternative dispute resolution process. The Director and the appellant shall select a trained

facilitator/mediator from a list of pre-qualified individuals. The Division shall pay the costs of the facilitator/mediator. The appellant shall retain the right of formal appeal as described in OAR 141-082-0200(3).

(3) When an applicant for an authorization to use state-owned submerged and submersible land or any other person adversely affected by a decision of the Division concerning an authorization has exhausted the informal appeal process before the Director, s/he may submit an appeal to a contested case hearing. If the person is legally entitled to a contested case hearing, the Land Board shall select a hearing officer and proceed pursuant to ORS 183.413 through 183.470. Otherwise, the appeal before the Land Board shall proceed informally.

141-082-0210 Waterway Management Program, Redetermination and Rule Review

The Division shall provide an annual report to the Land Board discussing the status of the waterway management program and the implementation of these rules.

July 12, 2002

DIVISION OF STATE LANDS

WATERWAY LEASING

Information About Leasing State-Owned Submerged And Submersible Land

This brochure discusses the leasing of publicly-owned submerged and submersible land, and answers questions you may have concerning what uses are subject to lease and how you might obtain one. It is not intended as legal analysis or advice.

For additional information concerning the authorization of uses on publicly-owned submerged and submersible land, the statutes and administrative rules governing waterway leasing, the State Land Board, or the Division, please contact us or go to our website: http://statelands.dsl.state.or.us/index.htm. Division contact information is given on the last page of this brochure.

INTRODUCTION

The bed and banks of a number of Oregon's waterways are held and managed by the State Land Board, which consists of the Governor, Secretary of State, and State Treasurer. As the Land Board's administrative arm, the Division of State Lands (Division) is responsible for much of the day-to-day administration of this publicly-owned submerged and submersible waterway land.*

Presently, the State of Oregon owns and manages the submerged and submersible waterway land under the Territorial Sea (that is oceanward to the Three Mile Limit), tidally influenced land, and the non-tidally influenced bed and banks of eleven waterways and a number of lakes in the state. In administering this land, the Division must consider Constitutional and statutory requirements, Land Board directives, and the public trust interests of all Oregonians.

In many places throughout Oregon, marinas, wharves, docks, houseboats, log rafts, and ship repair facilities have been constructed on publicly-owned submerged and submersible waterway land. Often, because of its desirability, restaurants, hotels, and tourist facilities are situated next to or on submerged and submersible land. This land is also sometimes dredged by privately owned companies to produce commercial grade sand and gravel. Given the high public demand for the state's submerged and submersible land, it is critical that this resource be carefully managed and the citizens of Oregon be fairly compensated for its use.

To regulate the placement of, and ensure that the public is compensated fairly for these uses of state-owned submerged and submersible land, the Division issues a variety of authorizations ranging from leases and registrations to easements and temporary use permits. The Division currently has about 500 waterway leases and over 1,300 registrations on over 30 waterways.

*Other public agencies may also have responsibility for water quality, safety, and public access for a particular parcel (for example the Oregon Department of Environmental Quality and the Oregon State Marine Board). There may also be local, state, or federal recreation areas along publicly-owned submerged and submersible land.

QUESTIONS AND ANSWERS

Q. How did the State of Oregon become the owner of submerged and submersible land?

A. There are two separate legal doctrines under which Oregon gained ownership of waterway land: one is called "navigability," the other "tidality." Under the Equal Footing Doctrine, federal courts have held that states entering the Union have the same rights as did the original thirteen states. When the original thirteen states took sovereignty of their land from the British after the American Revolution, those states became owners of the land underlying what are termed "navigable" waters as well as the land underlying tidal waters. Therefore, when Oregon was admitted to the Union in 1859, it became the owner of all land underlying both the navigable waterways and tidal waters within its borders as a part of its sovereignty.

Q. What waterway areas do the people of Oregon own?

A. The Division manages segments of the following navigable waterways: Chetco, Columbia, Coos, Coquille, Klamath, McKenzie, Rogue, Sandy, Snake, Umpqua, and Willamette. In addition, the Division manages the land underlying the Territorial Sea, tidal lands of numerous rivers along the Pacific Coast, and a number of lakes such as Devils, Klamath, Mercer, North Tenmile, Siltcoos, Tenmile, Upper Klamath, and Woahink. State law ORS 274.430 declares that all meandered lakes are "public waters." For more information on state ownership of meandered lakes, please read the brochure entitled "*Ownership Of Lakes In Oregon*" which is available from the Division upon request.

The Division has also prepared a memorandum entitled "*State Ownership Of Navigable Waterways*" which provides more specific information concerning the state's current submersible and submerged land ownership. This memorandum is available upon request to the Division. State law (ORS 274.400) establishes a process the Land Board must follow in making new public ownership claims to other waterways in Oregon.

Q. How does the Land Board and the Division manage this publicly-owned, submerged and submersible land?

A. The Land Board and the Division hold these lands in trust for the public (under the "Public Trust Doctrine"). The Division works to clarify title and manage uses of these lands in the public's best interests to ensure that any uses (for example, marinas, docks, sand and gravel mining, and log rafts) are authorized and pay their fair share as compensation to the public for the use of public land.

Q. What is the Public Trust Doctrine?

A. This doctrine of law provides that the State of Oregon holds submerged and submersible land in trust for the benefit of all the people. The general public has a right to fully enjoy these resources for a wide variety of public uses including commerce, navigation, fishing, and recreation.

Q. Did the state ever grant any of its submerged and submersible land to private owners?

A. Yes. In the late 1870s, the Oregon State Legislature granted parcels of submersible land (between ordinary low and high water) to the upland owners along the Willamette, Umpqua, Coquille, and Coos Rivers. This program ceased in 1878. As a result of the grants, some present upland owners along these particular rivers do have ownership down to ordinary low water. In addition, along some other rivers, the state sold tidelands and other submersible land to private owners. Even where the state granted or sold title to its submerged and submersible land to private individuals, the courts say that the granted lands are still subject to some public use rights under the Public Trust Doctrine. However, it is not legally clear what these rights may be in practice or whether later state action may limit such rights.

Q. When must I obtain a lease or other form of authorization from the Division to use or occupy state-owned submerged and submersible land?

A. You must obtain a lease from the Division to undertake the following activities on state-owned submerged and submersible land:

- Aquaculture activities involving the cultivation of aquatic plants (for example, kelp) for domestic or commercial purposes;
- Industrial and/or commercial business areas;
- Floating home and floating home moorage;
- Some residential uses; commercial and workboat moorages;
- Wharves located outside of cities or port districts; and
- Log storage and booming areas.

If you own non-commercial, private use dock, float and or boat house; floating recreational cabin; water sport structure, or wharf located on state-owned submerged and submersible land, you may not have to obtain a lease from the Division. Instead, the structure may qualify for a registration with the Division. To determine whether your structure is eligible for registration, please read the brochure entitled "*Waterway Structure Registration*" which is available from the Division.

Q. What is a wharf?

A. A wharf is defined by statute (ORS 780.040) as a structure placed on state-owned submerged and/or submersible land that is actively and exclusively used to accommodate ships, boats, or vessels engaged exclusively in the receipt and discharge of goods or merchandise, or in the performance of active government functions on the waterway.

Q. What about other uses of waterway lands (e.g. pipelines, sand and gravel mining, land reclamation)?

A. Fiber optic and other types of cables, conduits, pipelines, overhead crossings and bridges constructed or placed on state-owned submerged and submersible land are generally authorized under an easement and are governed by law and rule. In some instances, compensation is required for the placement of these uses on state-owned land.

Sand, gravel and other materials removed from state-owned waterways and used for commercial purposes is subject to authorization through a lease and payment of royalty to the Division. Current royalty rates were set in 1991 by the Land Board based on the results of a survey of Oregon aggregate producers conducted in that year. Annual revisions are made to the 1991 base lease rates commensurate with changes in the Consumer Price Index for construction grade aggregates. Hydroelectric facilities on state-owned land are also subject to Division authorization.

Q. Are there any exceptions or exemptions to leasing?

A. Yes, there are a number of exceptions or exemptions to leasing. You do not have to obtain a lease for publicly-owned submerged and submersible land for the following uses. However, another form of authorization is often required. For example:

- Non-commercial structures occupying an area of 2,500 square feet or less (under certain circumstances); floating recreational cabins of 1,500 square feet or less; water sport structures, and wharfs within a city or port district are subject to registration.
- Structures, piers, docks/floats, owned, operated by or under contract to a government agency, and certain other uses and structures are eligible for a public facility license.
- Transient uses occupying an area for 14 days or less.

Q. How do I obtain a lease for submerged and submersible land in front of my property and how long does it take?

A. The first step is to apply for the lease. The Division will review the application to determine if a lease is required, or if the structure/use may be eligible for some other form of authorization such as a registration. If a lease is required, the Division will ask other natural resource agencies, local governments, and interested persons to review the application for public trust concerns. Generally, the Division allows 30 days for comments to be submitted on a lease application. At the end of the comment period, the Division will review any input received, and decide whether to issue the lease as requested, or require modifications to the proposed activity. Leases involving large or unusual facilities, or for which many comments are received, or which are requested by someone other than the adjacent property owner may take longer to process than routine applications. Hydroelectric facility and sand and gravel leases are processed differently.

Q. Is there any cost to apply for a lease?

A. Yes, the Division charges a non-refundable application fee of $750.

Q. Is the process any different if I want to obtain a lease for submerged and submersible land in front of another person's property?

A. Yes, the process is somewhat different if you are applying for a lease area in front of property which you do not own. In this case, after the Division determines that your application is complete, it will notify the "upland" property owner to ask whether they want to exercise their preference right to lease the subject submerged and submersible land. Under Oregon law (ORS 274.040), every owner of upland property

has the first right of refusal to obtain a lease for that area in front of their property for which another person has applied to lease. The upland owner has 30 days from the date the Division notifies them to "exercise" their preference right.

If the upland owner exercises the preference right to lease, the Division will notify the applicant that the lease application has been rejected. If the upland owner decides to not exercise the preference right, the Division will place a public notice twice over a 14 day period in the local newspaper indicating that the lease parcel is available for competitive bidding. If the only person submitting a bid is the original applicant, the Division will then proceed to process the application as already described. If two or more bids are received, the Division will determine which proposed requested use best fulfills the Division's waterway leasing policies as presented in OAR 141-082-0010, and accept and proceed with processing that application.

Q. Why do some people along the same waterway have to obtain a lease and others do not?

A. There are several reasons why you or your neighbors may have to obtain a lease and other persons living along the same waterway may not be required to do so. As already mentioned, not all submerged and submersible land is state-owned, even along the same waterway. In some areas, the state may have granted or sold its ownership; in others, the state may own only to the ordinary low water line. In some areas dredging has created privately-owned submerged land.

As already mentioned, the type of use and size of structure also affect whether a lease or other form of authorization is required. Oregon law and/or Land Board rules exempt from lease, for example, a number of uses such as wharf use, public boat ramps, and certain privately owned floats or docks.

Q. What will a lease cost me?

A. The rent charged for a waterway lease varies depending primarily upon the use. For example, the current administrative rules adopted by the Land Board in June 2002 provide eight use classifications ranging from commercial marinas and docks to log boom areas. For most of these use classifications, several methods of rent calculation are available. A person applying for a lease may chose the method of calculation within the applicable use classification that gives them the lowest annual rent. However, because there is a minimum annual rental payment of $275 per year, a person may end up paying that amount if all of the methods within their use classification "pencil out" at less than $275 per year.

As just one example of using the methodology set out in the current (2002), rules a person owning a commercial marina may select one of three ways of determining their annual rent:

- A ***"Flat Rate"*** method – based on $0.0191 per square foot *times* the leased area in square feet, or
- A ***"Percent Of Gross"*** method – based on 3% of the annual actual slip or boat rental income derived from the facility on state-owned land, or
- A ***"Riparian Land Value"*** method – based on the per square foot assessed or appraised land-only value of the adjacent riparian tax lot *times* the number of square feet in the area to be leased from the state *times* 5%.

Q. How often will you change my lease rate?

A. If you select a method of rent determination which is based on the ***Flat Rate Method*** or ***Riparian Land Value Method***, your rent will be increased each year on June 1st. by 3%. If you select the ***Percent of Gross Method***, your annual actual rent will increase or decrease dependent upon the prior year's slip or boat rental activity.

Of course, if you change the size or the area you want to lease, or the way in which you are using the area, you may also be subject to a change in your lease rate.

Q. Where does the money go which the Division receives from leasing state-owned submerged and submersible land?

A. The Division receives about $1.5 to 1.8 million (including sand and gravel) annually from its waterway leases, which is deposited into the Common School Fund as "statutory funds" and used to manage the state's waterway management programs. The costs to operate the leasing program are about 1/3 of the revenue.

Q. Does the Division have any policies, goals, or objectives for managing state-owned submerged and submersible land?

A. Yes, in 1995, the Land Board adopted an Asset Management Plan to guide the Division's land management activities. With regard to state-owned submerged and submersible land, the principal management objective is to:

"ensure the collective rights of the public to fully use and enjoy them for commerce, navigation, fishing, recreation and other related public purposes."

Secondary objectives are to:

"Actively pursue leases for unauthorized uses and for unleased lands, with a focus on the potential leasing of higher rent activities on major waterways in urban areas."

"Evaluate methods for calculating lease rates for submerged and submersible lands and resources to ensure that the state receives fair compensation reflective of local market conditions."

In addition to the Asset Management Plan, the Division is also guided in its management of state-owned submerged and submersible land by Article VIII, Section 5 of the Oregon Constitution which provided:

"The board shall manage lands under its jurisdiction with the object of obtaining the greatest benefit for the people of this state, consistent with the conservation of this resource under sound techniques of land management."

Other land management guidance is contained in Chapter 274 of the Oregon State Statutes (Submerged and Submersible Lands).

Copies of the *Asset Management Plan, Article VIII, Section 5 of the Oregon Constitution,* and *ORS Chapter 274* are available upon request from the Division.

Q. If I obtain a lease from the state, can I keep people out of the lease area?

A. A waterway lease only allows you to use the area for the purpose(s) indicated on the lease. It is "exclusive" only to the extent that as long as you are in full compliance with all the terms and conditions of your lease, it prevents the Division from offering the area under lease to another person. It does not allow you to "exclude" the public from the entire lease area

With permission from the Division, a lessee may prohibit or restrict people from entering into unsafe portions of the lease area in order to prevent injury to them. Lessees may also prohibit the public's use of your personal private property (docks, ramps, etc.) located within the lease area.

Q. Can the Land Board restrict waterway development or discourage certain uses that are inappropriate or damaging to the waterway?

A. The Land Board can, by rule, close or restrict development on state-owned submerged and submersible land in order to prevent unreasonable interference with the public's right to use the waterway for commerce, navigation, fishing and recreation. The rule could also set limits on the size, location and type of use.

The Division does not offer leases for the purpose of preventing public use of state-owned submerged and submersible land, or the waters overlying such property.

Q. How do I contact the Division?

A. You can contact the Division at the following addresses or numbers:

Oregon Division of State Lands
775 Summer Street N.E.
Salem, Oregon 97301-1279
(503) 378-3805
(503) 378-4844 (FAX)
website: http://statelands.dsl.state.or.us

DEPARTMENT OF ENVIRONMENTAL QUALITY
SEWAGE DISPOSAL REGULATIONS FOR FLOATING RECREATIONAL CABINS AND OTHER FLOATING STRUCTURES

Background

Oregon state law requires that an existing or new structure or building that contains any installed plumbing fixtures needs to be connected to an approved means of sewage disposal, such as a septic system, or to a sanitary sewer system as authorized by a DEQ permit. It is illegal for any person to cause pollution of waters of the State or to place waste in a location where is likely to escape or be carried into waters of the State by any means (see statutory references on other side).

Who Needs a DEQ Permit?

Any plumbing fixtures that are installed in a building or structure, such as a sink, toilet, shower, etc. (whether or not they are currently connected to a water supply) must be connected to a State approved means of sewage disposal. The owner of a building or structure that has plumbing fixtures is the responsible party for obtaining the required DEQ permit.

What are the Potential Sewage Disposal Options for Floating Recreational Cabins or Other Floating Structures?

1. An on-site septic system may be built under permit and connected to a floating structure if there is an available upland location, provided the site is suitable for the on-site disposal of sewage.

2. If the structure is pre-existing and used only occasionally, it may be authorized to be connected under DEQ permit to a land-based holding tank, which would be pumped periodically when full.
3. A group of owners could investigate the feasibility of obtaining a surface water discharge permit. The owners would form a Sanitary District in order to obtain the DEQ permit and to construct and operate the treatment system. The District would be required to have a Certified Sewage Treatment Plant Operator to manage the system. DEQ cannot make a determination that this option is feasible until agency staff receives and reviews the discharge permit application materials.

4. If there are no plumbing fixtures, the owner of the floating structure must make arrangements for the handling and disposal of any generated human waste. Portable toilets could be used for these situations (no DEQ permit needed). Small amounts of wastewater created through the use of packed-in drinking water could likewise be transported back to an approved sewage disposal site on land, such as an RV dump station.

What is the DEQ Permit Process?

Permit applications and information can be obtained from the local DEQ office for your area. A Land Use Compatibility Statement form is included in the application and must be reviewed and approved by the appropriate local government, and submitted to DEQ with the Permit application.

For Further Information

DEQ headquarters can be reached at 1-800-452-4011. The Northwest Region office at 503-229-5263 covers Tillamook, Clatsop, Columbia, Washington, Multnomah, and Clackamas counties.

Relevant State Law for Regulation of Sewage Treatment/Disposal:

ORS 164.785 prohibits the placement of an offensive material (specifically includes excrement) into any water body (Class A misdemeanor.)

ORS 454.655 requires that a DEQ permit be obtained before constructing a septic system.

ORS 468B.025 prohibits any person to cause pollution of waters of the state or to place waste in a location where it is likely to escape or be carried into waters of the state by any means.

ORS 468B.080 requires any installed plumbing fixtures in a building or structure to be connected to an approved means of sewage disposal, such as a septic system, or to a sanitary sewer system as authorized by the DEQ by permit.

Relevant DEQ Administrative Rules for Regulation of Sewage Treatment/Disposal:

Oregon Administrative Rules Chapter 340, Division 14, 45, 49, 52, 71, 73

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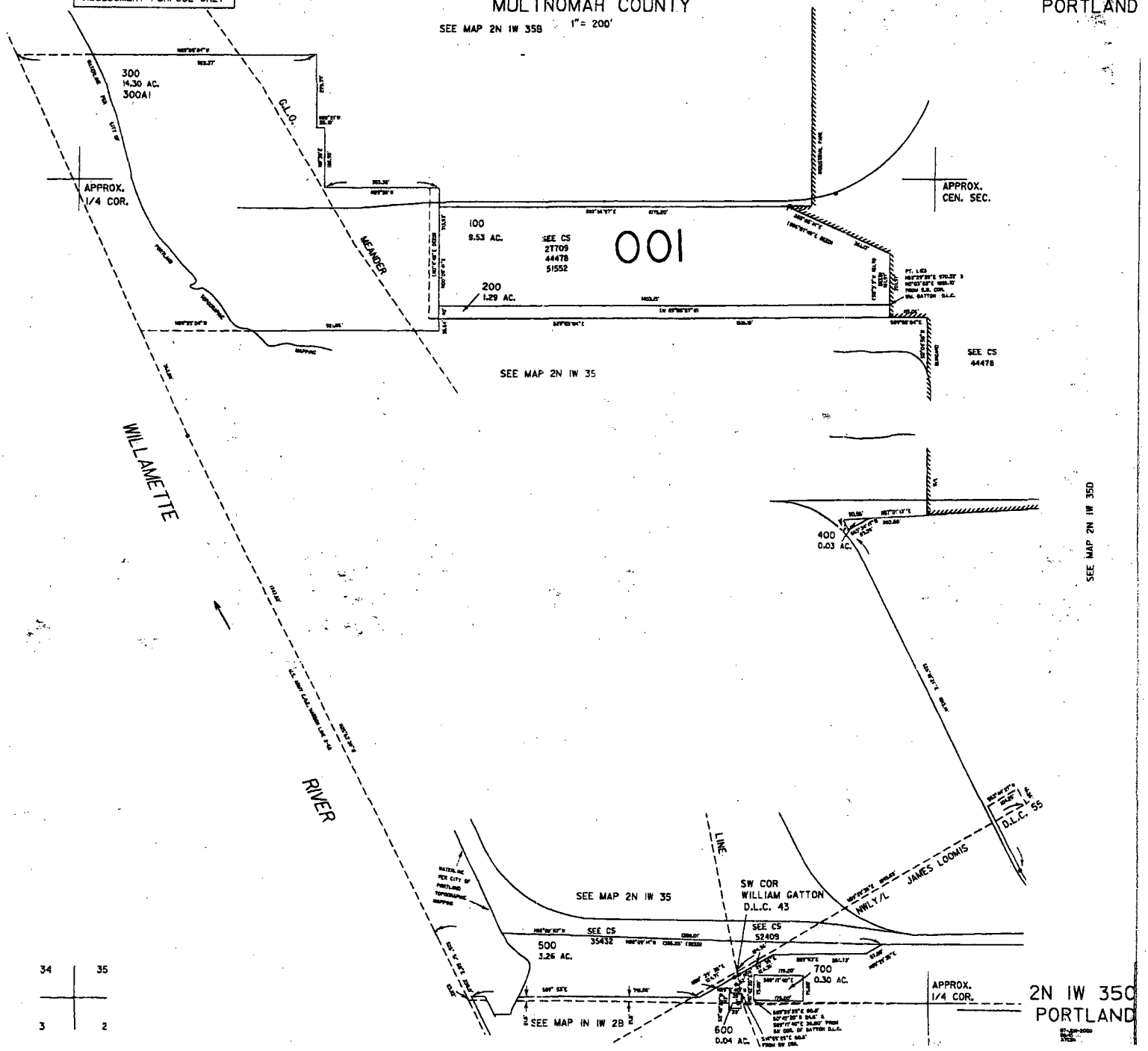
THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY

SW1/4 SEC. 35 T.2N. R.1W. W.M.
MULTNOMAH COUNTY
1" = 200'

2N 1W 35C
PORTLAND



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PORTLAND

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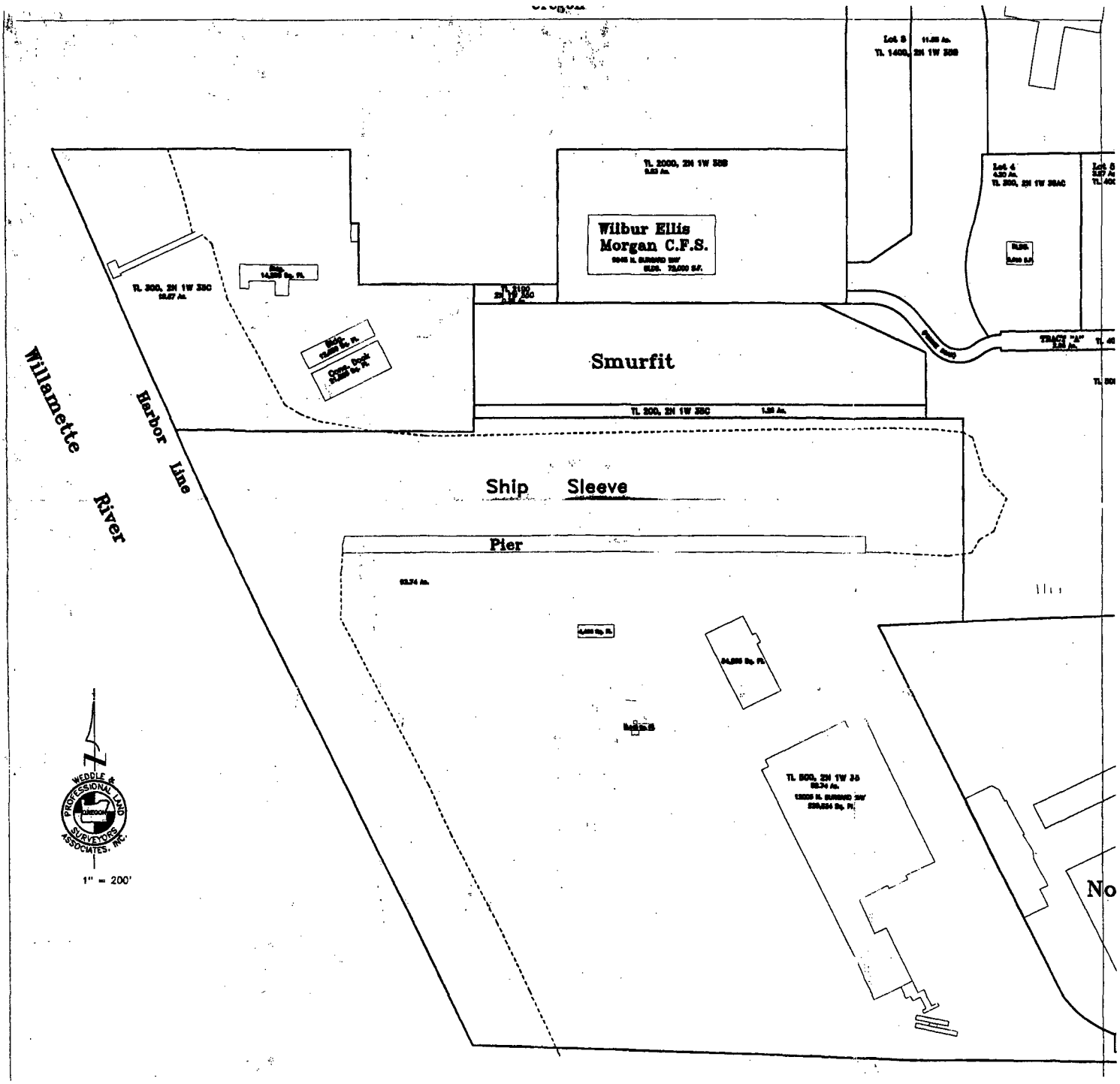

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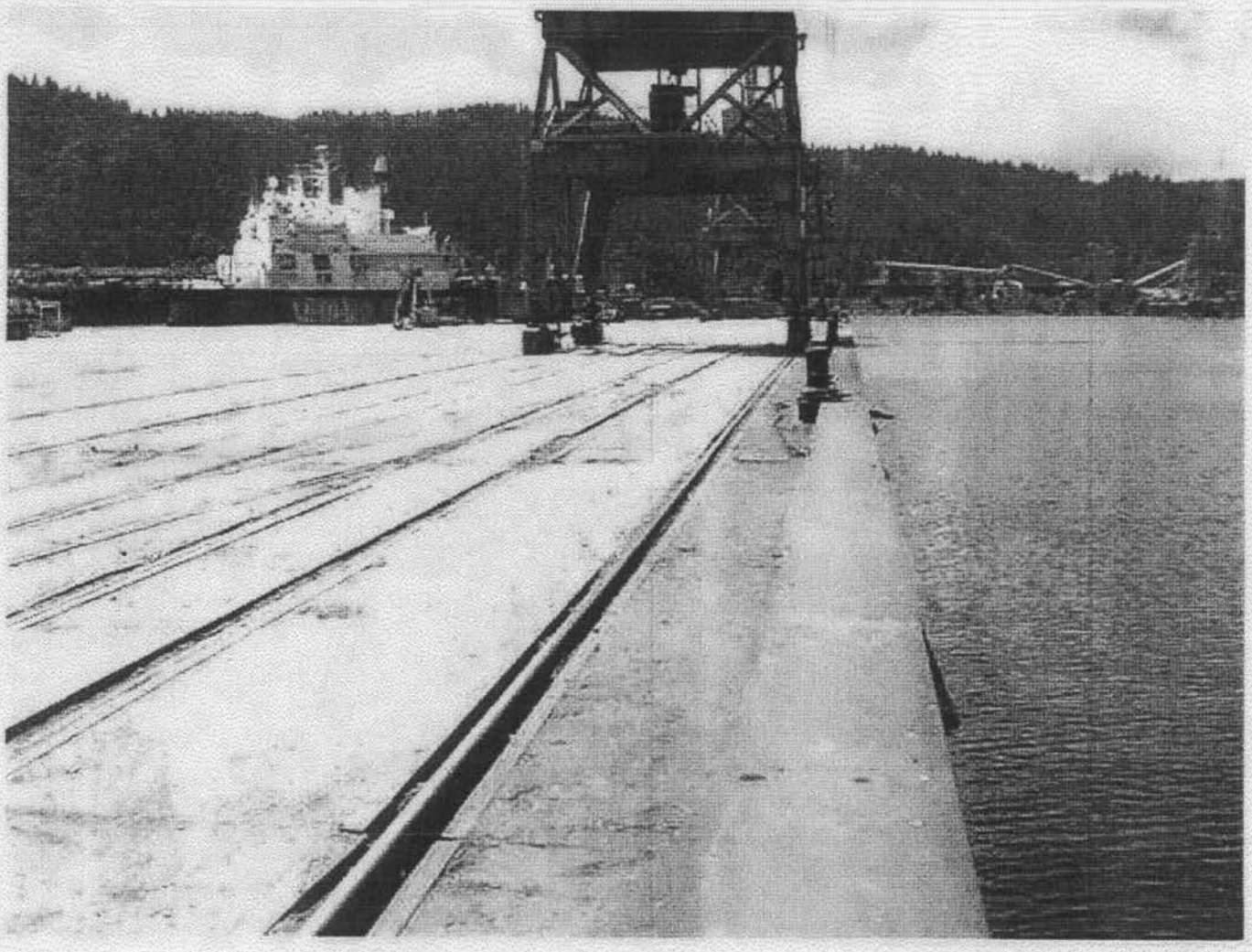

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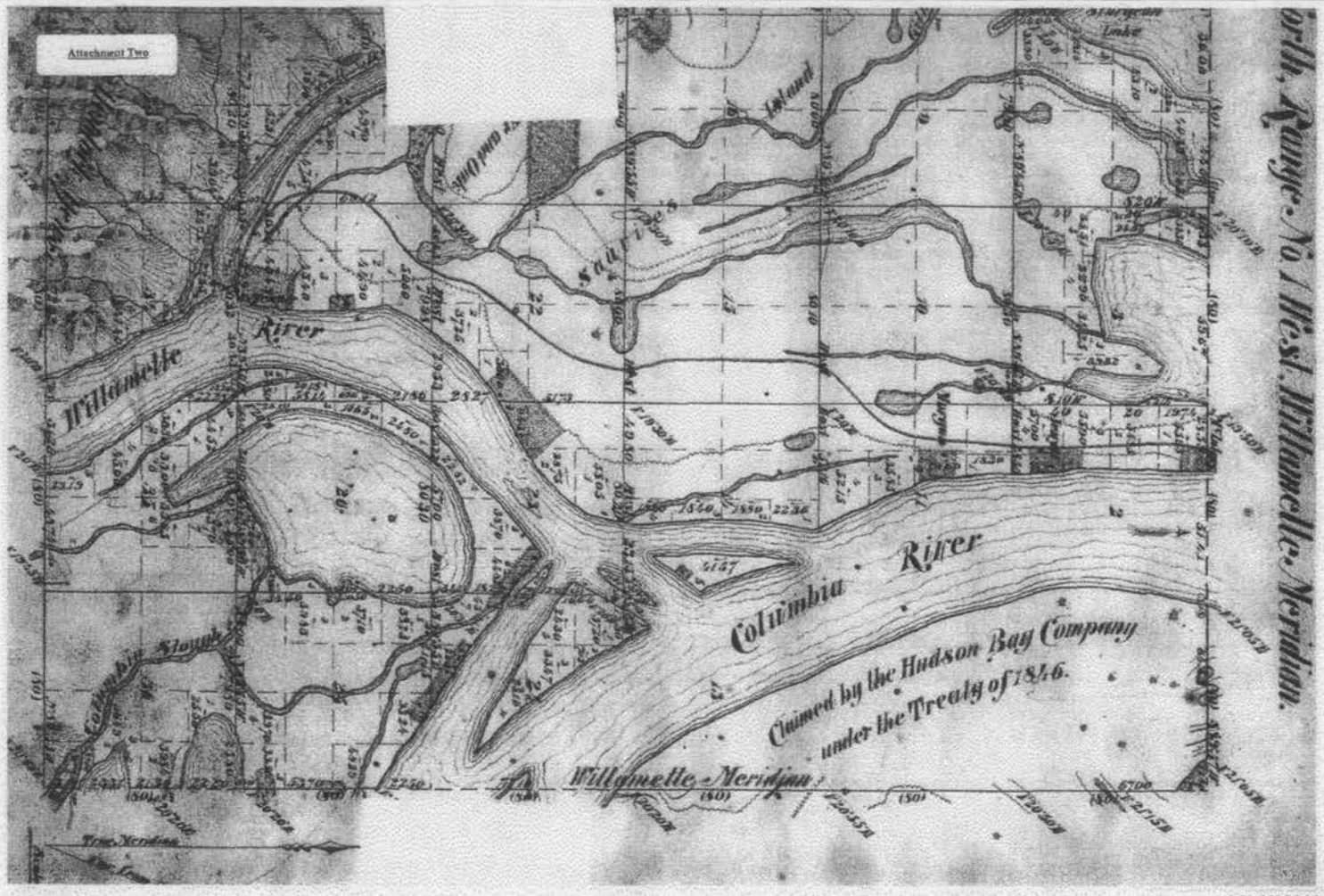

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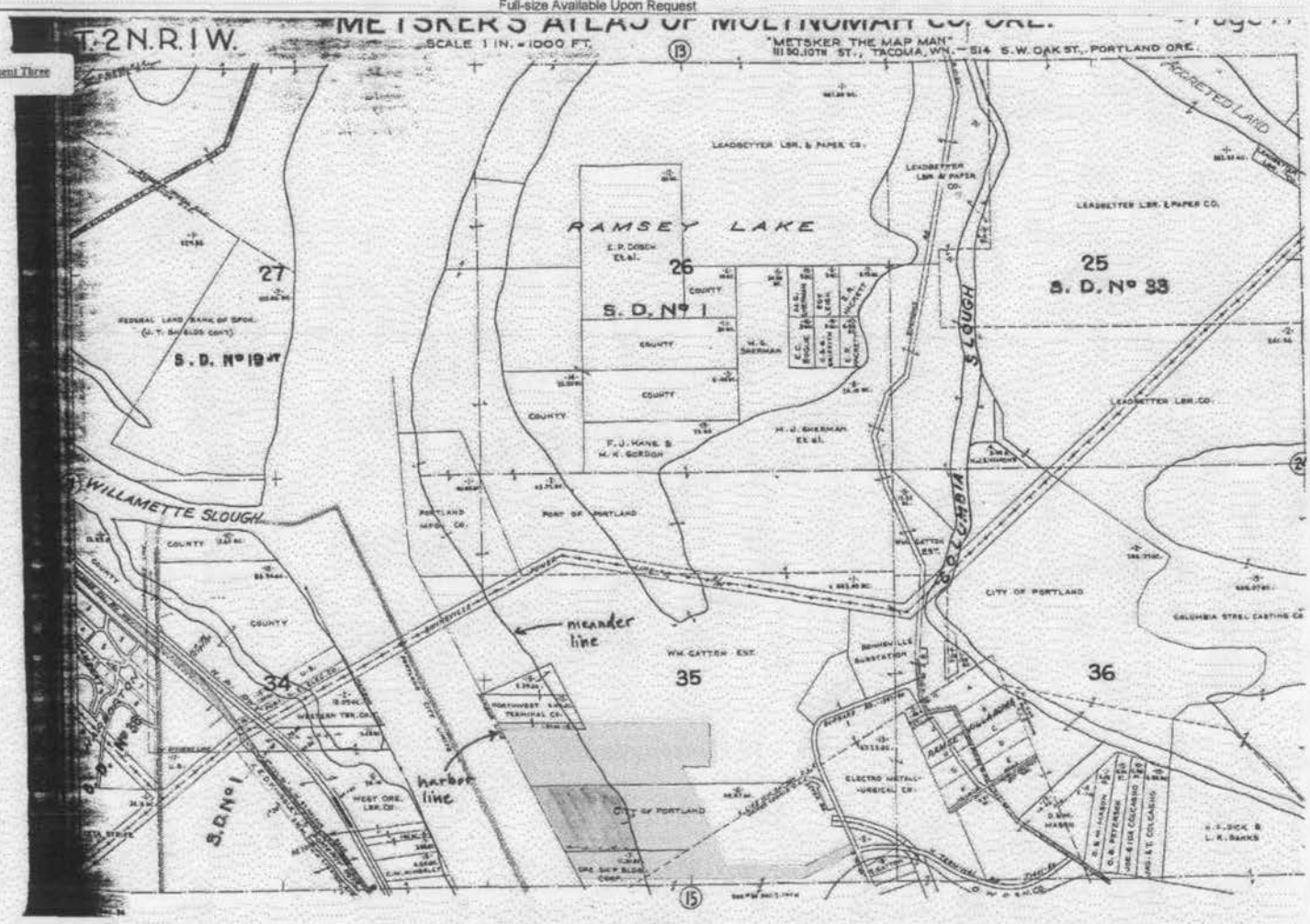
Attachment Three



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Oregon
Theodore R. Kulongoski, Governor

COPY

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 378-3805
FAX (503) 378-4844
www.oregonstatelands.us.

February 23, 2004

State Land Board

Theodore R. Kulongoski
Governor

Bill Bradbury
Secretary of State

Randall Edwards
State Treasurer

JV02
MR MAT CUSMA
SCHNITZER STEEL PRODUCTS COMPANY
PO BOX 10047
PORTLAND OR 97296

RE: Site at 12005 N Burgard Road

Dear Mat:

In a continuing effort to inventory docks and wharf structures on the Willamette River I've noticed that the Schnitzer operation at 12005 North Burgard Road, will periodically have ships berthed adjacent to your facility. In the berthing of these ships they extend substantially beyond Schnitzer's property line into the Portland Harbor. Please note the attached aerial photo showing several ships at dock next to the Schnitzer facility. The berthing of these ships and /or barges are not by definition or rule a part of the Schnitzer wharfing operation currently registered with the Department of State Lands. Pursuant to OAR 141-082-0040 any structure occupying state owned submerged and submersible lands, including ships, tug, barges, and work boat moorages is by definition a marine industrial usage and must be authorized by the Department of State Lands (DSL) through the issuance of a waterway lease.

On the attached aerial photo I have shown the approximate location of the property line on the western side of Tax Lot 500 as Schnitzer has shown it in engineering drawings previously submitted to the Corps of Engineers and DSL as a part of the permit application for dock maintenance. I am also enclosing a property map as shown by the tax assessor's office on Portland Maps. There is a discrepancy as to where that line is located. State records show that at this site the State owns to Ordinary High Water. When you submit your application for a waterway lease to allow berthing and/or moorage of ships and barges at this location you will need to clarify that ownership line so DSL can establish the proper lease boundaries for your lease. A $750 application fee should accompany your waterway lease application along with the required documentation as itemized in the application.

I encourage you to submit the required application as soon as possible. If you have any questions, please call me at 503-378-3805, extension 245, or my assistant Jenni Vickers, extension 242.

Sincerely,

Cyril J. Young
Property Manager

Enclosed Aerial photos and Drawings
Waterway Lease application packet

J:\Property Manager Cy\Leases\Letters\Schnitzer dock_TxLt 500l.doc

RECEIVED
STOEL RIVES LLP
By cl 2/27/04
(from Schnitzer)
cc: Jennie Bricher

SCHN00383547

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REVISIONS				
NO.	DESCRIPTION	BY	APPR.	DATE
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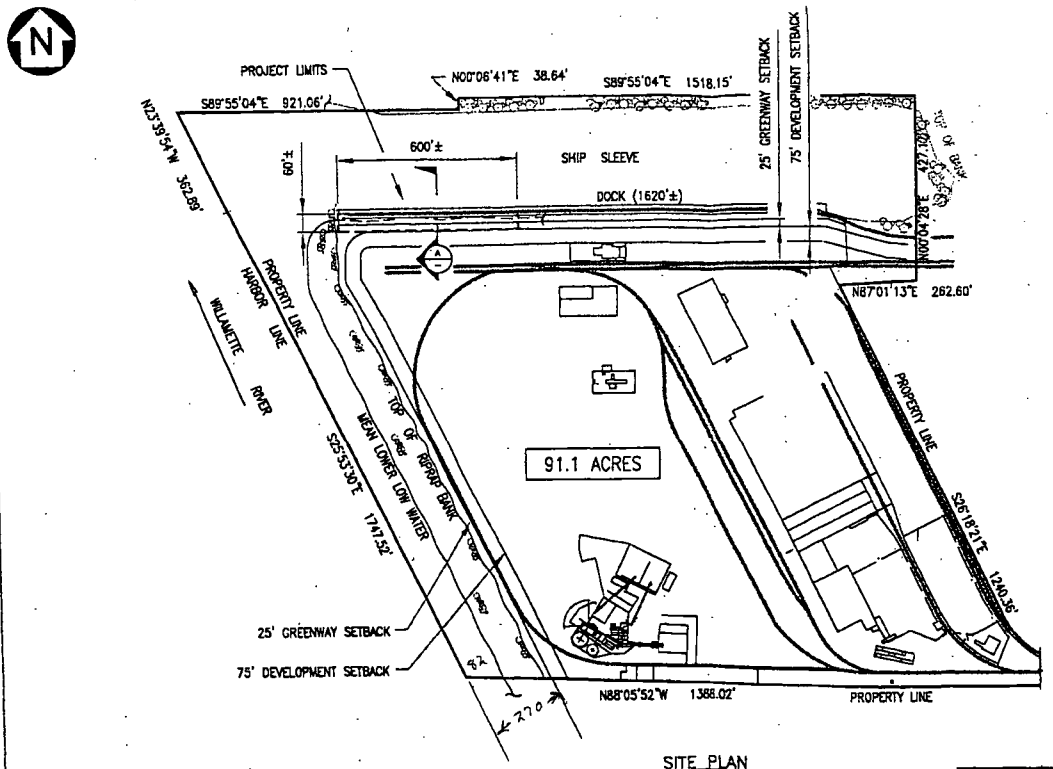

SITE PLAN
1"=300'-0"

BIOLOGICAL EVALUATION

DRAWING INDEX	
DRAWING NO.	DESCRIPTION
B 2839-01BE	EXISTING CONDITIONS PLAN
B 2839-02BE	PROSPOSED DEVELOPMENT PLAN
B 2839-03BE	SECTION & PLAN
B 2839-04BE	SITE PLAN

PROPOSED DOCK MODIFICATIONS FOR CRANEWAY ADDITION, SCHNITZER STEEL PRODUCTS COMPANY, INTERNATIONAL TERMINALS, 12005 NORTH BURGARD RD., PORTLAND, OR. 97203 COUNTY: MULTNOMAH, STATE: OREGON, APPLICATION BY: NORWEST ENGINEERING.

SCHNITZER STEEL PRODUCTS INTERNATIONAL TERMINALS
PORTLAND, OREGON

NORWEST ENGINEERING
CONSULTING ENGINEERS PORTLAND, OREGON

DRAWN BY	LFN
DATE	06/20/00
PROJ. #	2839

DOCK CRANE
SITE PLAN

DRAWING NUMBER	REV.
B 2839-04BE	A

SCHN00383551

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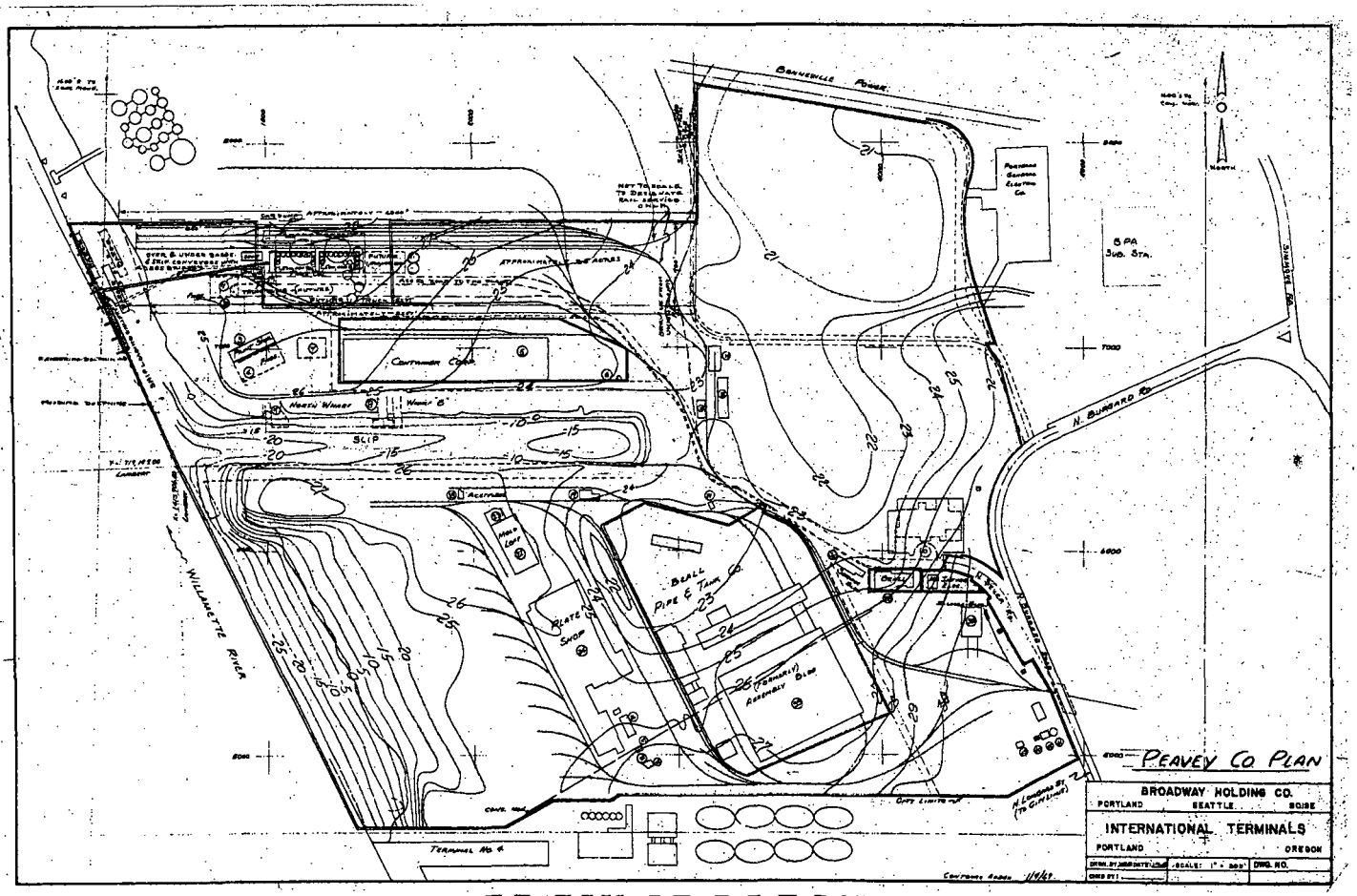

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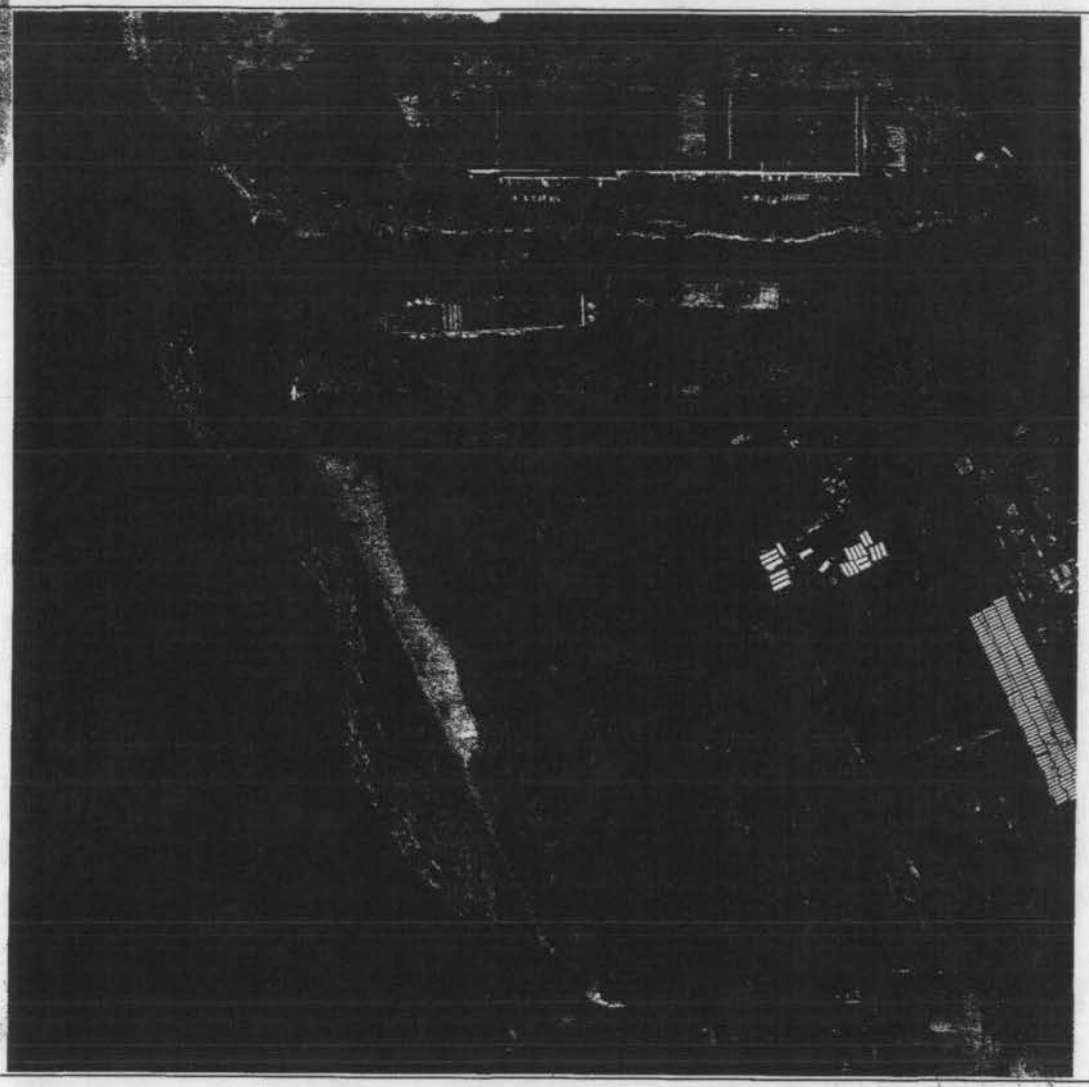


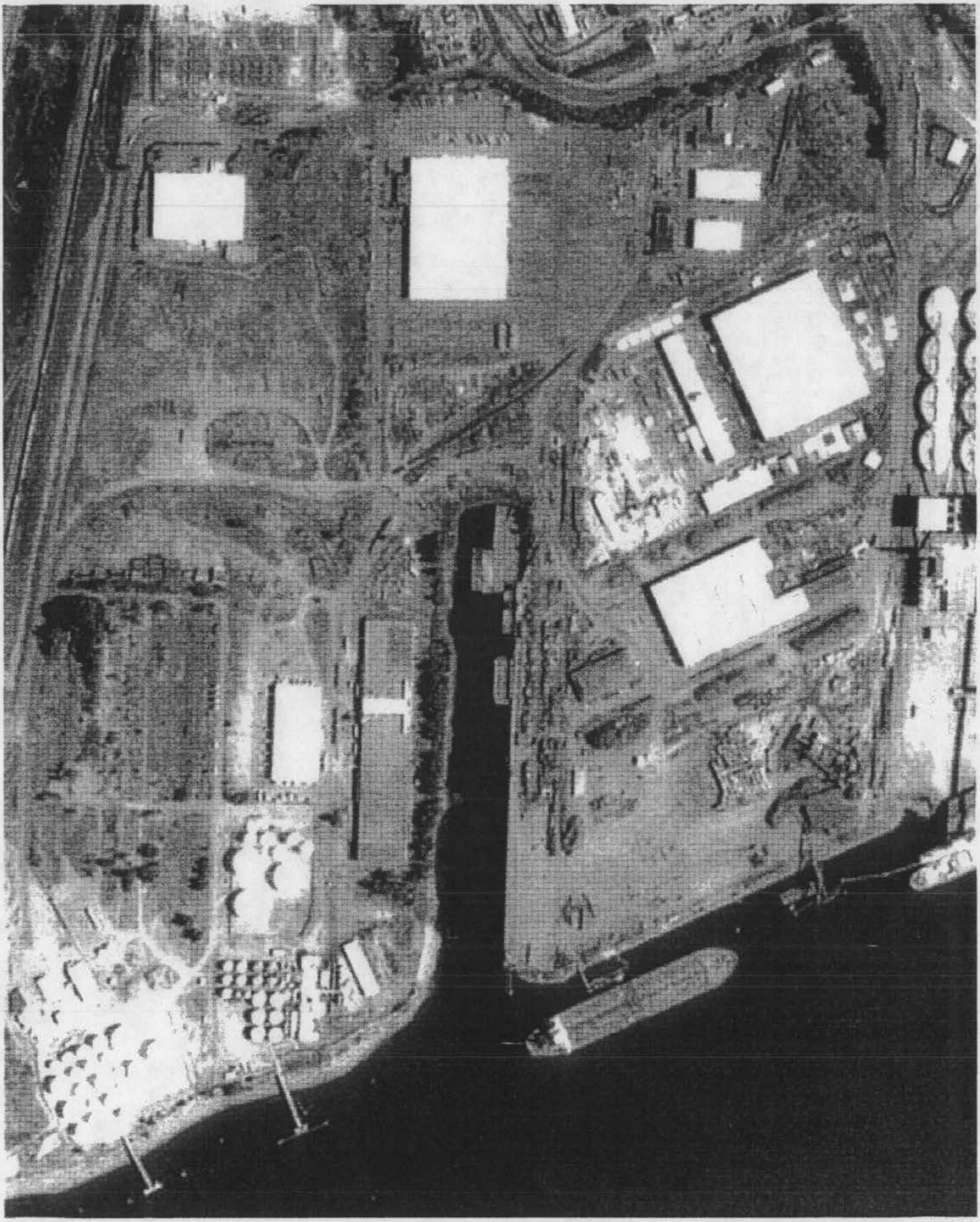
SW 1/4 OF SECTION 35
T.2N.,R.1W.

WILLAMETTE RIVER OREGON

TOPOGRAPHIC SURVEY
OREGON CITY TO THE MOUTH

U. S. ARMY ENGINEER DISTRICT, PORTLAND

WS-2-12/20



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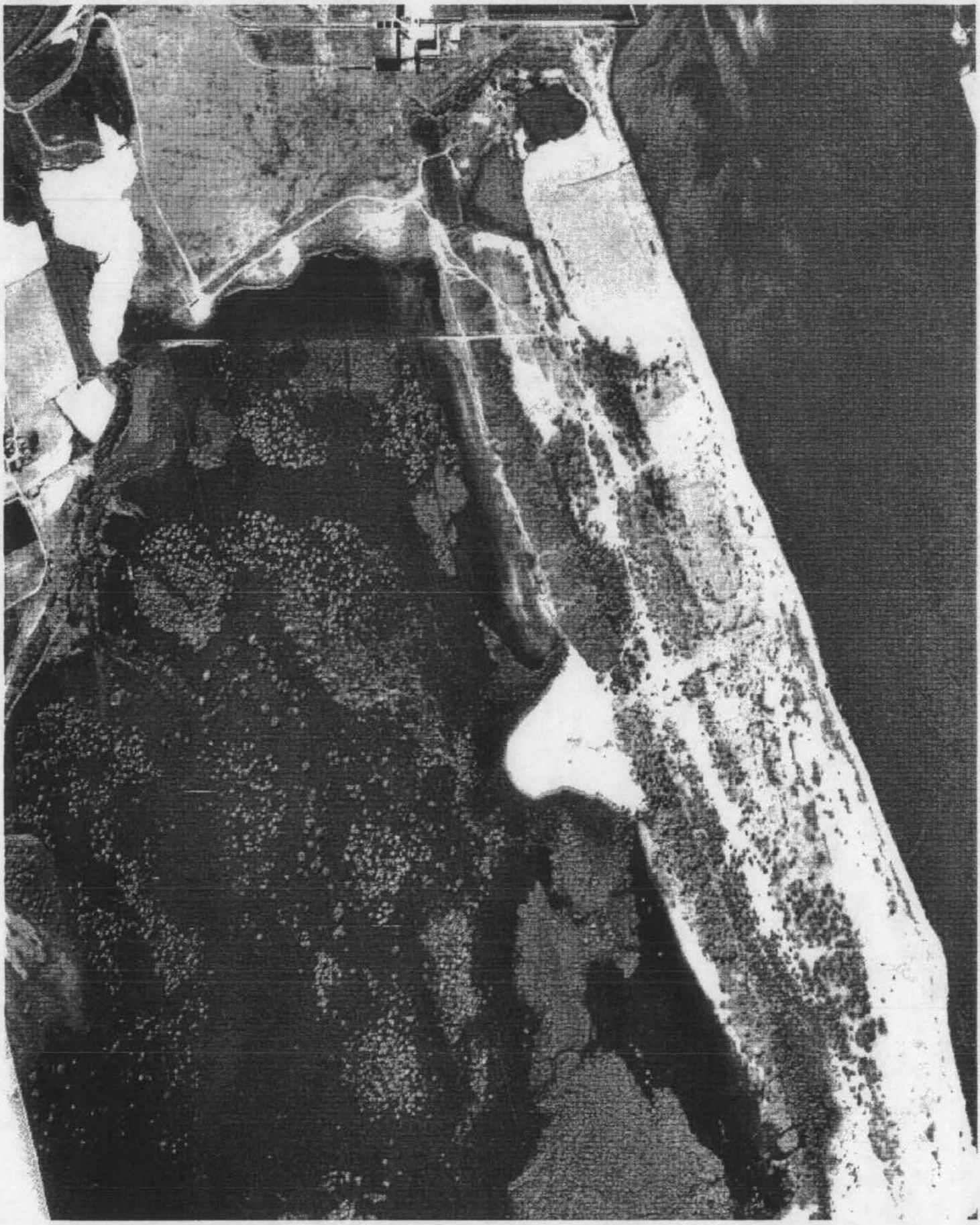

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1940

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1980

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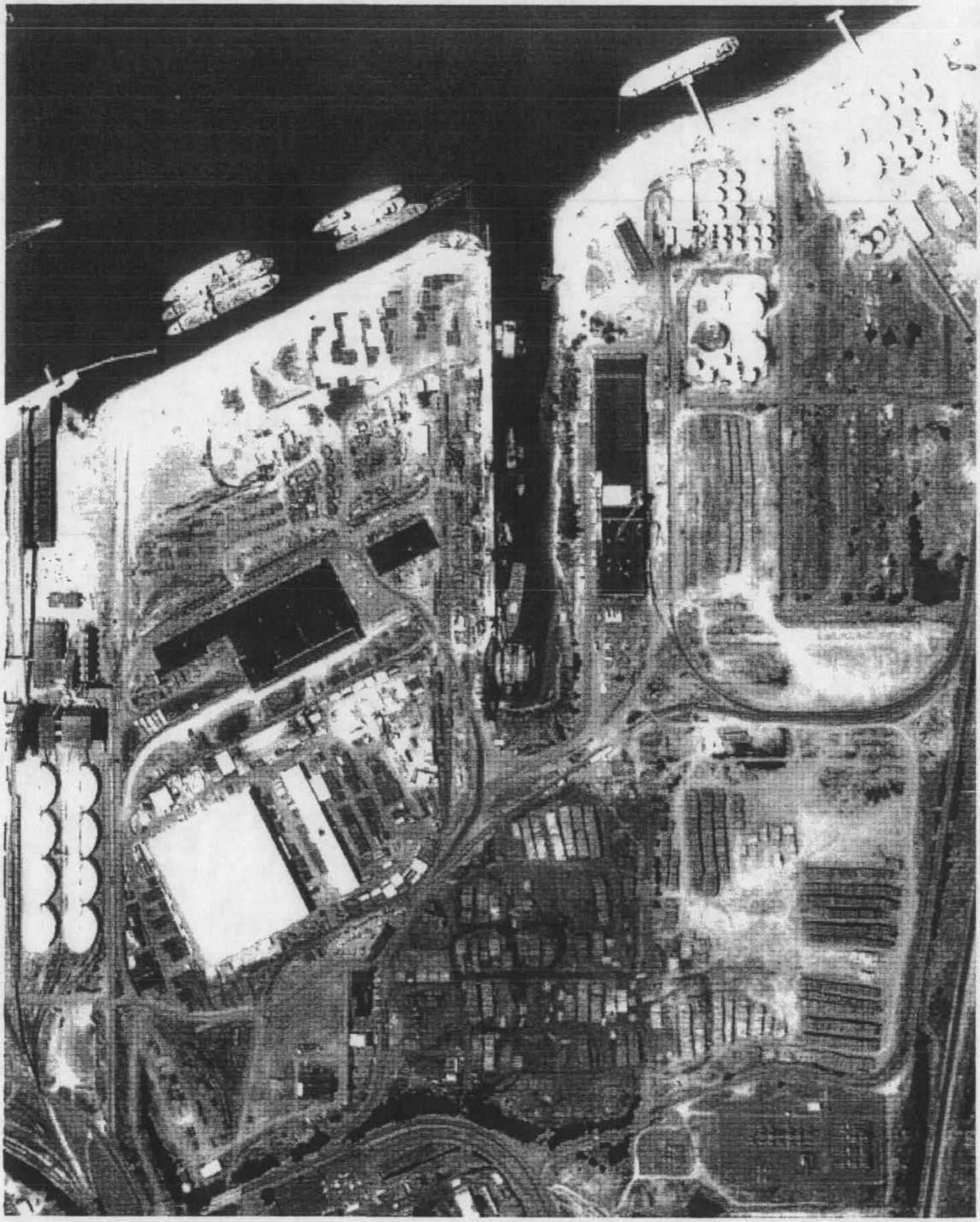

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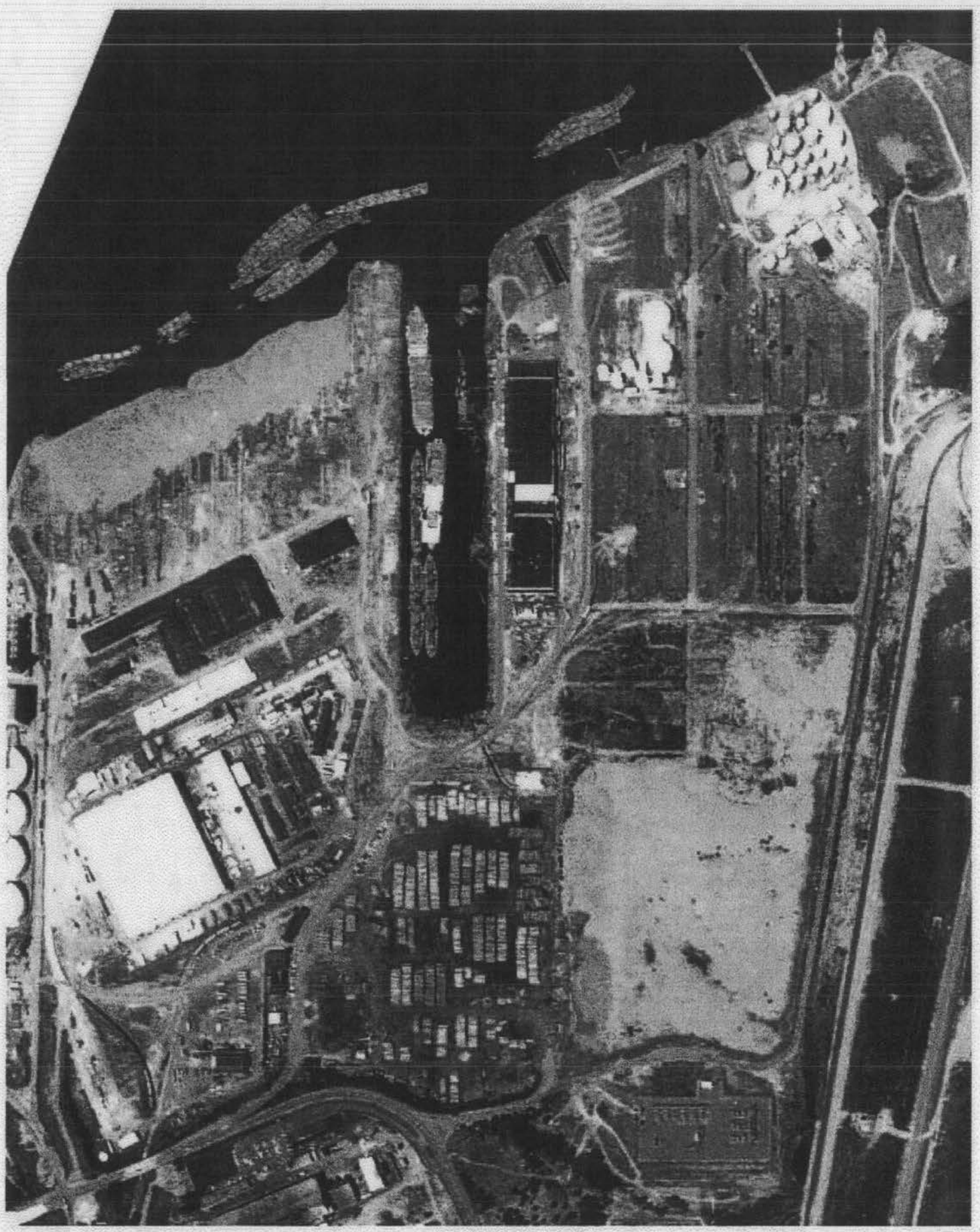

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1967

SCHN00383594

1963

SCHN00383595

1961

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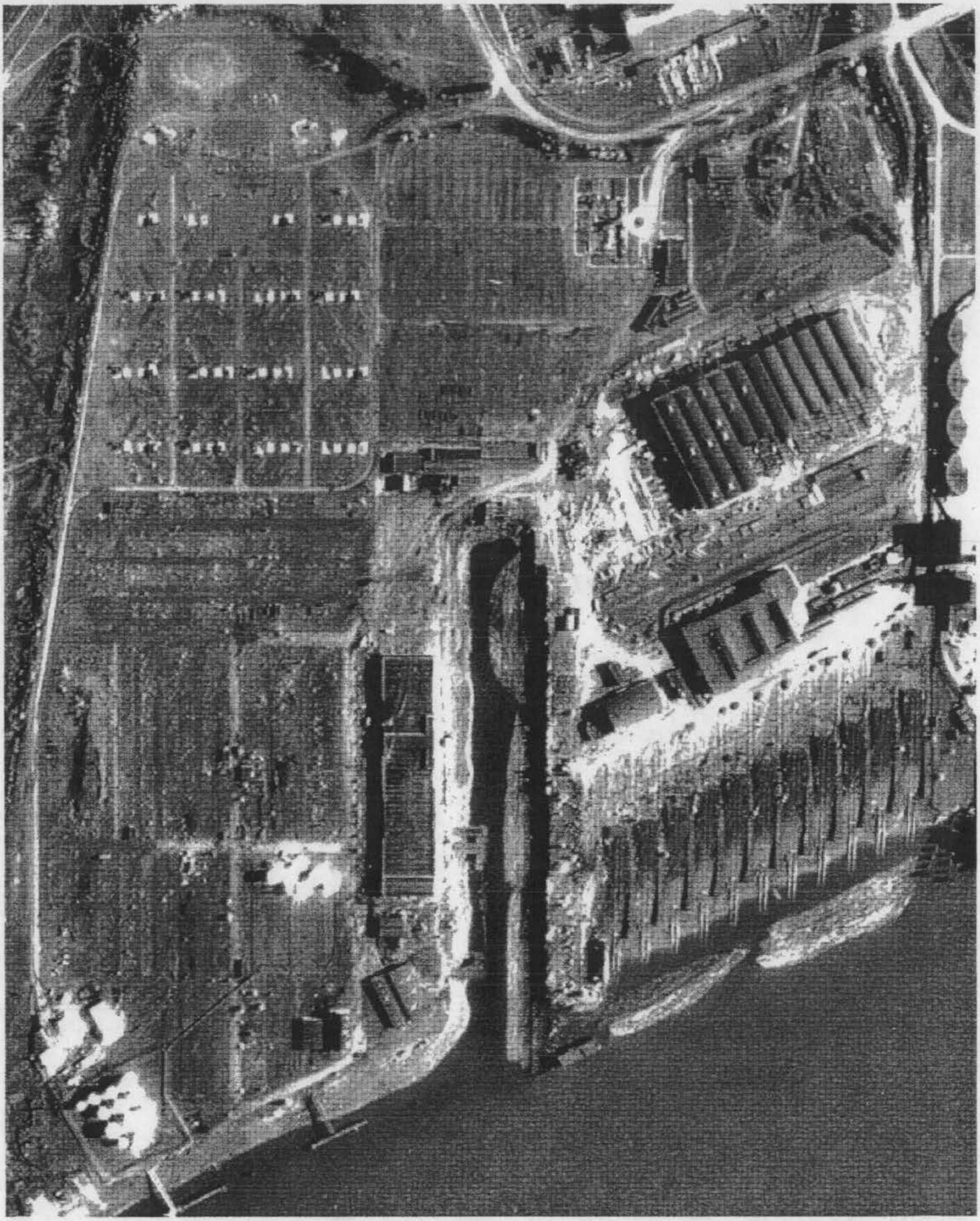

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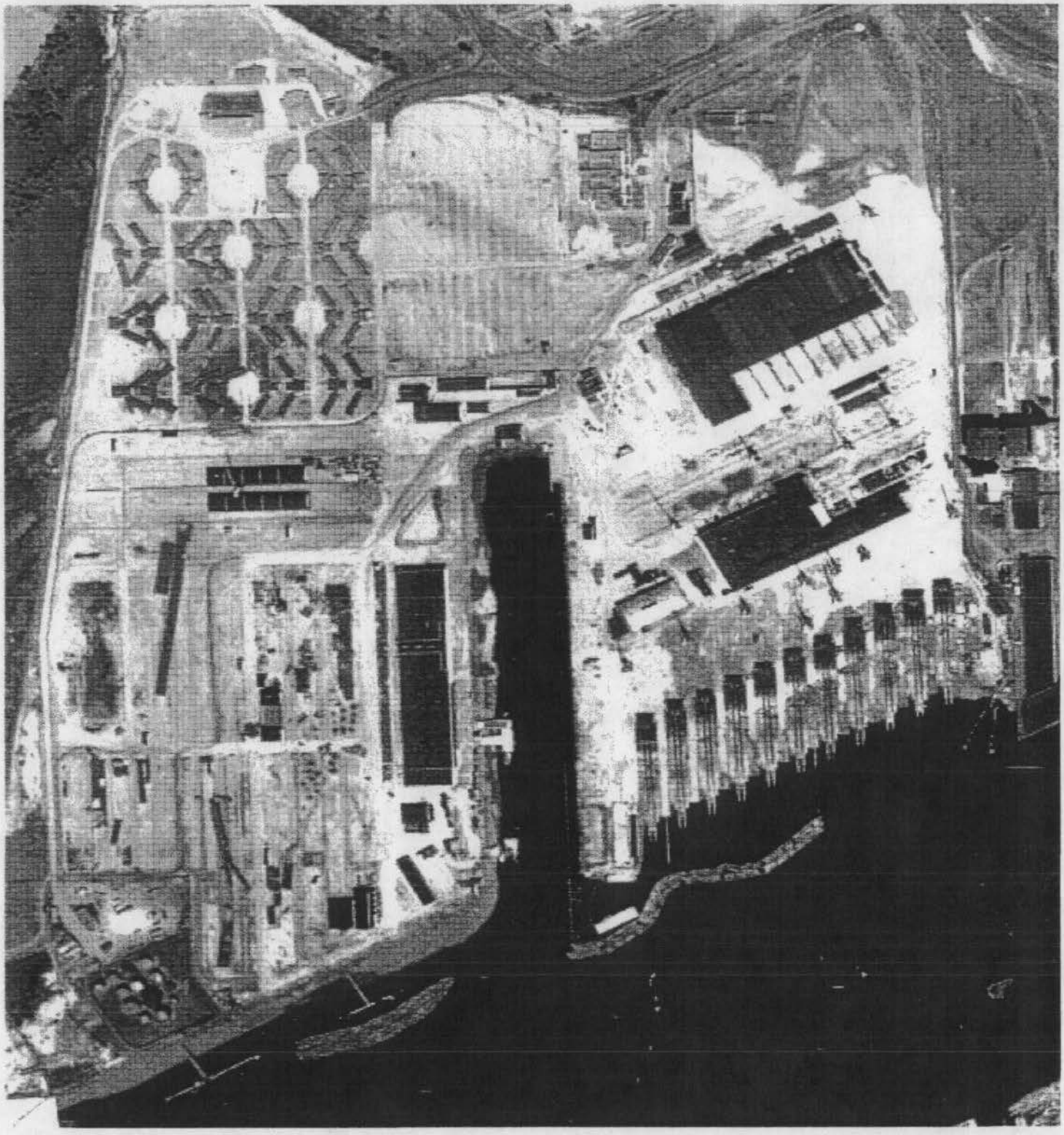

1948

SCHN00383598

1944

SCHN00383599

Schnitzer Investment Corp.
Burgard Industrial Park
Portland, Oregon

Stormwater Management Plan

Appendix B
Drainage Basin 18

December 2005

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Figure B.1 Drainage Basin 18

Drainage Basin 18

Drainage Basin 18, which discharges through Outfall 18, is the largest and most heavily industrialized drainage basin at the Burgard Industrial Park. Figure B.1 focuses on the Drainage Basin 18 stormwater system. The area that contributes stormwater to Outfall 18 consists of the following lots, tracts, and/or properties:

- Lot 1
- N. Sever Court
- Lots 20 and 23
- Lots 21 and 22
- N. Sever Road
- Lot 18
- Lot 19
- Tract A / N. Burgard Way
- Northwest Container (off-site property)
- N. Burgard Road (public roadway)
- N. Terminal Road

B.1 LOT 1

Stormwater runoff from the paved areas of Lot 1 is captured by numerous catch basins and conveyed in a northerly direction through a 36-inch diameter pipe, where it commingles with stormwater from other properties and eventually discharges through Outfall 18. Of approximately 23 active catch basins located in Lot 1, most are located in the paved northern portion of the lot. According to Schnitzer Investment Corp. (SIC) personnel, approximately nine catch basins are equipped with inverted outfall piping, which acts to trap oil inside the catch basin. The Lot 1 stormwater system has two oil/water separators both located in the northeast area of the lot. Roof drainage is also conveyed through the stormwater system, by direct connection from downspout to buried stormwater lines or by direct discharge to ground surface.

Lot 1 stormwater system features (i.e., catch basins and associated subsurface piping) is tied into a major 36-inch diameter conveyance pipe that traverses Lot 18, Lot 2, and Lot 17, before discharging through Outfall 18 (located on Lot 17). There are existing easements governing maintenance responsibilities with the adjacent properties owned by Schnitzer Steel Industries, Inc. (SSI) and Lampros Steel.

The eastern edge of Lot 1 slopes steeply down from N. Burgard Road. Near the southeast corner of Lot 1, a 12-inch corrugated metal pipe descends from the hillside and discharges above ground at an elevation of nearly 36 feet (refer to Figure B.1). A catch basin that is part of the Lot 1 stormwater system is located approximately 1 foot beneath this corrugated metal pipe.

The corrugated metal pipe carries stormwater from off-site sources, discussed further in Sections B.9 and B.10 (below).

The northern portion of Lot 1 includes the western extent of N. Sever Road, which is discussed in Section B.5 (below).

There are currently four tenants on Lot 1. Northwest Pipe leases the southern unpaved portion of Lot 1 for storage of pipes and equipment. Most catch basins located in the area of Lot 1 that is leased by Northwest Pipe are plugged. IRC Aluminum and Stainless, Western Machine Works, and Boydstun Metal Works lease the three tilt up buildings in the northern paved portions of Lot 1. IRC Aluminum and Stainless performs steel and aluminum plate cutting using water jet technology, and is a distributor of related products. IRC Aluminum and Stainless discharges their water jet table water to the sanitary sewer in accordance with BES discharge authorization number DABD-2005-001.

Western Machine Works' current Standard Industry Classification Code (3499-Fabricated Metal Products) only requires a National Pollutant Discharge Elimination System (NPDES) permit if stormwater is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery. Western Machine Works has a steam cleaning wash pad equipped with a sump pump that can be activated to prevent wash pad runoff from reaching storm drains. Western Machine Works also stores equipment and materials outdoors. Western Machine Works is currently working with the City of Portland to get a No Exposure Certification (NEC), which, if obtained, exempts them from applying for a NPDES permit.

Boydstun Metal Works, a structural metal fabrication, maintenance and repair facility, leases the eastern most tilt-up building and surrounding paved area (approximately 1.5 acres) in Lot 1. Stormwater discharges from Boydstun Metal Works' facility on Lot 1 are regulated by an active 1200-Z NPDES permit (File No. 1113956). The catch basin located near the Boydstun Metal Works equipment washing pad has been intentionally blocked in order to prevent wash water from entering the stormwater system (Columbia West Engineering 2001). Boydstun Metal Works monitors stormwater in one catch basin location, shown on Figure B.1. Available monitoring results since 2002 show only two NPDES benchmark exceedances: one for Total Suspended Solids (TSS) and one for a slightly low pH (City of Portland 2005).

B.2 N. SEVER COURT

N. Sever Court is a dedicated public right-of-way owned by the City of Portland and located in the northerly portion of Lot 1. This right-of-way does not contain a roadway and is only partially paved. There is a public water line within the right-of-way (Group Mackenzie 2003). There are no catch basins located within the N. Sever Court right-of-way, however nearby catch basins are assumed to collect stormwater from the paved portions of this area.

B.3 LOTS 20 AND 23—NORTHWEST PIPE COMPANY

Lots 20 and 23 are owned and operated by Northwest Pipe Company (Northwest Pipe). Northwest Pipe manufactures potable water transmission pipe and steel pipe for various

industrial, mining, and water utility facilities. Lot 20 is used for offices/administration. Northwest Pipe's Lot 23 facility of approximately 26.3 acres discharges stormwater to surface waters under an active 1200-Z NPDES permit (File No. 6739). Approximately 90 percent of this facility is impervious (CH2MHILL 2005). Most of the impervious area drains to roughly 53 active catch basins. The Northwest Pipe stormwater system flows generally in a northerly direction and connects to the Outfall 18 conveyance pipe at two locations. A schematic layout of the active Lot 23 stormwater system is included in Figure B.1 and is based on the facility's SWPCP (CH2MHILL 2003). Although some catch basins located within the main plant building have been sealed, eleven indoor catch basins are still active (refer to Figure B.1). The northern portion of the facility, which is 26 percent impervious, does not contribute stormwater to an outfall (CH2MHILL 2005).

For NPDES compliance, Northwest Pipe currently monitors stormwater quality at two sampling ports, shown on Figure B.1, which are located near the northern property line. Based on information provided by the City of Portland, Northwest Pipe installed the sampling ports in 2001 or early 2002 (City of Portland 2002).

Northwest Pipe is undertaking a remedial investigation, under a voluntary agreement with the Oregon Department of Environmental Quality (ODEQ), to evaluate the nature and extent of soil and groundwater contamination on Lot 23. As part of the investigation, Northwest Pipe is acquiring stormwater quality data for an expanded list of analytes.

Northwest Pipe also discharges industrial process water, specifically non-contact cooling water, under the NPDES 100-J permit for industrial wastewater (CH2MHILL 2005). The non-contact cooling water is from process pump cooling in the cement plant lining and coating area. This discharge is to the Slip via the stormwater system connected to Outfall 18. The 100-J permit requires monthly monitoring for flow volume, temperature, total residual chlorine and pH. Northwest Pipe plans to replace the facilities non-contact cooling water systems with closed-loop systems in 2005, which will eliminate this industrial wastewater discharge to the stormwater system (CH2MHILL 2005).

B.4 LOTS 21 AND 22—DUNKIN AND BUSH

Dunkin and Bush owns Lots 21 and 22. Dunkin and Bush is an industrial painting contractor that performs industrial coating and lining applications, industrial painting, ceramic insulation, vacuum excavation, fireproofing, and lead abatement and other hazardous paint removal. One catch basin, which discharges via Outfall 18, is located within Lot 22. Additional catch basins that discharge via Outfall 18 are located along N. Sever Road in front of the Dunkin and Bush facility. Dunkin and Bush does not have a NPDES permit for this facility.

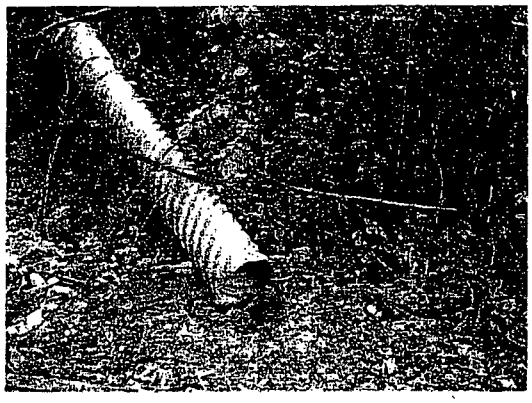
B.5 N. SEVER ROAD

N. Sever Road lies to the north of Lots 20, 21, and 22, and to the south of Lot 18. Stormwater that eventually discharges through Outfall 18 is collected in approximately 8 catch basins located in the roadway. Only the eastern portion of this roadway is publicly-owned, while the western portion is part of Lot 1. Historical maps of the former shipyard suggest that a storm system manhole is buried under the pavement of the publicly-owned portion of N. Sever Road

just north of Lot 22 (refer to Figure B.1). If it exists, this manhole is the first significant downgradient location where Lot 1 stormwater commingles and so may provide an opportunity to manage and quantify stormwater inputs from N. Sever Road, Lot 1 and off-site properties east of the Burgard Industrial Park (refer to Sections B.9 and B.10).

B.6 LOT 18—LAMPROS STEEL

Lampros Steel (formerly Ryerson) owns Lot 18. This facility has a Standard Industry Classification Code of 5051 (Metal Service Center and Distributor), which does not require an NPDES permit for stormwater discharges. Only finished steel products, such as beams, are stored outdoors. SSI leases a portion of Lot 18 for their vehicle fueling station. Fuel is stored in three modern underground storage tanks with overfill protection and leak monitoring. An oil water separator and automatic cutoff valve are installed near the tanks to prevent releases of fuel to the storm system in the event of a spill.



Catch basins on Lot 18, as well as the building's downspouts, discharge through Outfall 18. The eastern edge of Lot 18 is steeply sloped down from N. Burgard Road. As shown in Figure B.1 and the photograph at right, a pipe carrying stormwater down from the roadway protrudes from the hillside and presumably discharges onto ground surface at Lot 18. According to SIC personnel, additional flows are present, as only a small amount of water has been observed to discharge here, while significant flowing water has been heard near the pipe. There is a possibility that this pipe represents an overflow line, and that additional buried piping may be present that connects to other subsurface pipes in the vicinity. In either case, stormwater from this pipe likely discharges through Outfall 18. The origin of this off-site stormwater is identified and discussed in Sections B.9 and B.10.

B.7 LOT 19—PORTLAND GENERAL ELECTRIC

Lot 19 is located east of Lot 18 and is owned by Portland General Electric. It primarily consists of a portion of Time Oil Road. There are no catch basins associated with this piece of roadway, although grading indicates that surface runoff sheet flows onto the steep slope located along the eastern edge of Lot 18.

B.8 TRACT A / N. BURGARD WAY

Tract A, or N. Burgard Way, is currently jointly owned by SIC, Portland Container and SSI, and provides access to multiple lots within the Burgard Industrial Park. N. Burgard Way is subject to the terms of an easement declaration (Tract A Declaration), which dictates ownership, use, utility easements, management responsibilities, and cost sharing for repairs and maintenance. Lots 2, 3, 4 and 5 are "ownership lots", allowing that 25 percent common interest in Tract A be

deeded to each of the four ownership lots. A "managing owner" is designated as the owner of Lot 3 and is responsible for administration of the roadway's repair and maintenance. These responsibilities include regular inspection and maintenance of the stormwater system so that it is in proper operating condition.

The alignment of buried piping that connects catch basins located along the straight portion of N. Burgard Way is unclear. Stormwater from the eastern portion of N. Burgard Way is collected and conveyed to the subsurface piping that discharges via Outfall 18. Pre-existing storm system mapping by Bridgewater, however, suggest some catch basins drain through Outfall 19 (refer to Appendix A).

B.9 NORTHWEST CONTAINER SERVICES, INC.

The western portion of the Northwest Container Services, Inc. property is included in Drainage Basin 18 because three culverts discharge facility stormwater onto N. Burgard Road, which, in turn, discharges to Outfall 18 after commingling with stormwater originating from Burgard Industrial Park lots. Northwest Container Services provides containerized rail transportation, storage, handling, repair and maintenance of sea-going containers and container chassis (Northwest Container Services Inc. 2001). This property, formerly owned by Union Carbide, is located east of Lot 1 across N. Burgard Road. The facility is associated with a significant volume of container truck traffic.

A portion of stormwater from Northwest Container is discharged to the Columbia Slough (located north of the property) and a portion to the Willamette River (via Outfall 18). Northwest Container holds a 1200-COLS NPDES permit for discharges to the Columbia Slough (File No. 109793/A). According to the facility's SWPCP, at one time, Northwest Container monitored 1200-Z NPDES permit parameters in one location near their office building and the southern property line. This location received discharge from a stormwater treatment pond that services runoff from the office parking lot (Northwest Container Services Inc. 2001).

A former railroad ravine lies in the south of Northwest Container's facility. From 1998 to 1999, Northwest Container filled this ravine under permit in order to match their facility grade. Stormwater drainage associated with this fill area flows onto Lot 1 under the N. Burgard Road railroad bridge (Burgard Bridge). According to conversations with the City of Portland, plans to replace the Burgard Bridge involve maintaining existing drainage patterns, including surface runoff and piped drainage from the former railroad ravine.

Three stormwater discharge points from Northwest Container are visible along the eastern shoulder of North Burgard Road. Each discharge point is an open-ended pipe co-located with City of Portland roadway catch basins (refer to Figure B.1). The means by which Northwest Container's stormwater reaches Outfall 18 is discussed in the next section (Section B.10).

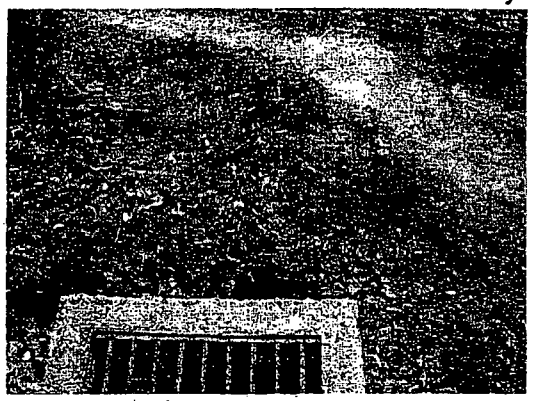
B.10 N. BURGARD ROAD

N. Burgard Road is a public roadway located along the eastern boundary of the Burgard Industrial Park. This roadway separates the Burgard Industrial Park from Northwest Container Services. Stormwater runoff from this stretch of N. Burgard Road is collected in catch basins or

ditches and culverts, and discharged in at least three locations to the Outfall 18 stormwater system (refer to Figure B.1).

The northernmost relevant stormwater collection feature of N. Burgard Road consists of a buried 12-inch corrugated metal pipe that traverses the roadway, as shown on Figure B.1. Stormwater is collected in a roadside ditch that drains to this pipe. One of Northwest Container's discharge points is to this ditch and associated pipe. This pipe can be seen protruding from the hillside on the eastern edge of Lot 18 (refer to Section B.6).

The second set of relevant N. Burgard Road storm drain features consists of three relatively new City-installed catch basins connected in series (refer to Figure B.1). Stormwater entering these catch basins flows southward to the intersection of N. Burgard Road and N. Sever Road, where a buried pipe conveys the water northwesterly, apparently following the N. Sever Road right-of-way onto the Burgard Industrial Park. This pipe may connect to a historically documented manhole under N. Sever Road in front of Lot 22 (discussed in Section B.5). As illustrated in the photograph at right, the middle catch basin in this system is co-located with one of Northwest Container's discharge points (refer to Figure B.1).



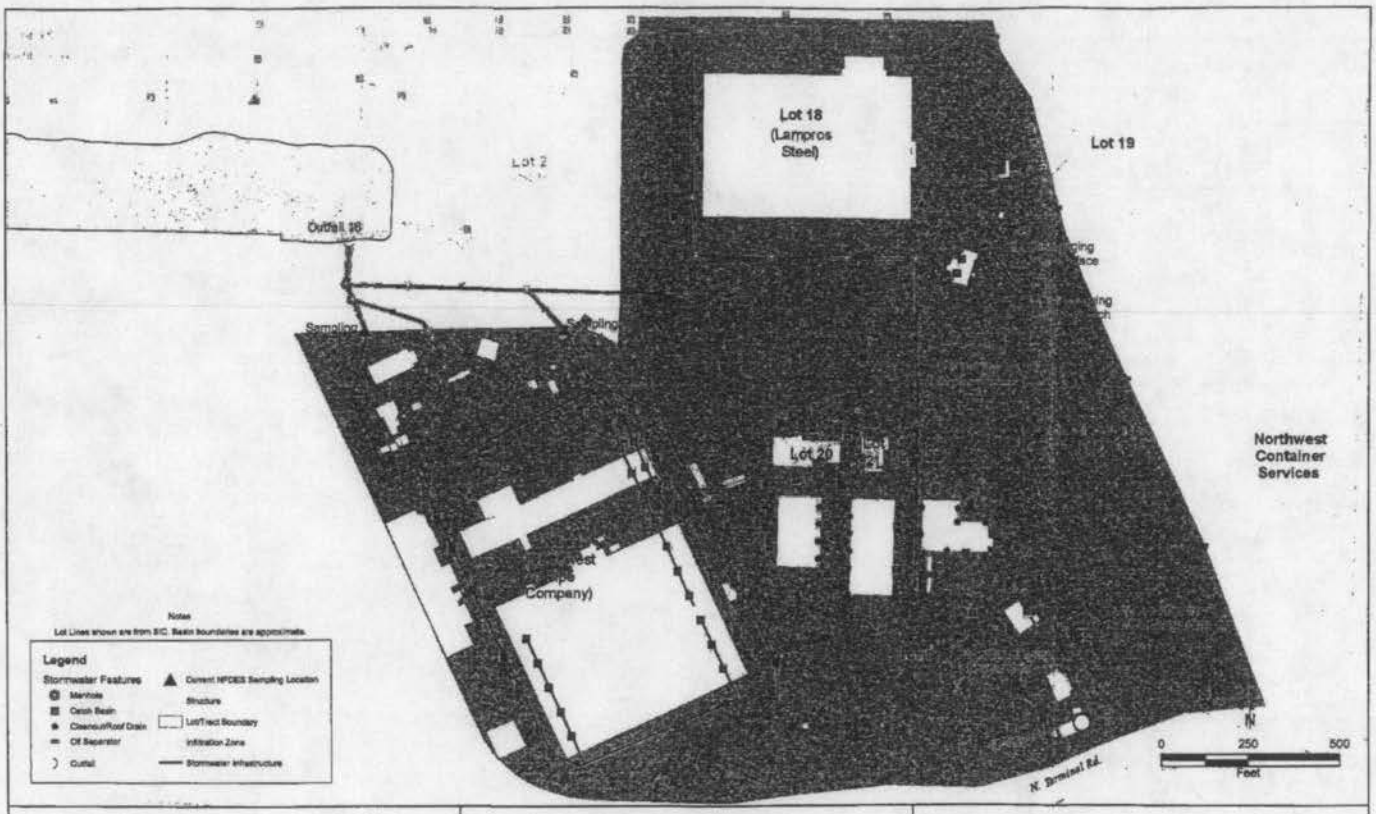
The southernmost roadway stormwater collection features consist of two catch basins connected by buried 8-inch steel pipes. Water in these pipes is conveyed to the 12-inch corrugated metal pipe that discharges onto Lot 1, as discussed in Section B.1. These catch basins collect water discharged to the roadway from the Northwest Container property, N. Burgard Road and the Burgard Bridge.

In addition to providing roadway runoff from these point sources, N. Burgard Road may also contribute stormwater in the form of sheet flows onto Lot 1 due to the grade difference between the roadway and the significantly lower Burgard Industrial Park.

B.11 N. TERMINAL ROAD

The privately-owned N. Terminal Road is located along the southern boundary of Lot 1 and serves as an access road to Lot 17. Stormwater that falls on the eastern section of this roadway may flow onto the southern part of Lot 1. Catch basins on Lot 1 in this area, however, are plugged. Current stormwater contributions from N. Terminal Road to Outfall 18 are therefore considered insignificant.

Appendix B
Figures



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Schnitzer Investment Corp.
Burgard Industrial Park
Stormwater Management Plan

Figure B.1
Drainage Basin 18

SCHN00383646