PERIODIC REVIEW
FINAL

Cascade Timber 3
Facility Site ID#: 1206

Thorne Road and Maxwell Way
Tacoma, Washington 98421

Southwest Region Office

TOXICS CLEANUP PROGRAM

February 2012

TABLE OF CONTENTS

1.0 INTRODUCTION

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup site conditions and monitoring data to ensure that human health and the environment are being protected at the former Cascade Timber 3 site (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 Washington Administrative Code (WAC).

Cleanup activities at this Site were completed under Consent Decree No. 94TC-S167 entered into with Ecology on April 11, 1994. The cleanup actions resulted in concentrations of metals in soil and groundwater exceeding MTCA Method A cleanup levels remaining at the Site. The MTCA Method A cleanup levels for soil are established under WAC 173-340-745(2). The groundwater cleanup levels are established under US EPA Chronic Marine Water Quality Criteria (WAC 173-201A). WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a site every five years under the following conditions:

(a) Whenever the department conducts a cleanup action.
(b) Whenever the department approves a cleanup action under an order, agreed order or consent decree.
(c) Or, as resources permit, whenever the department issues a No Further Action opinion
(d) And one of the following conditions exists:

    1. Institutional controls or financial assurance are required as part of the cleanup.
    2. Where the cleanup level is based on a practical quantitation limit.
    3. Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

(a) The effectiveness of ongoing or completed cleanup actions.
(b) New scientific information for individual hazardous substances of mixtures present at the site.
(c) New applicable state and federal laws for hazardous substances present at the Site.
(d) Current and projected site use.
(e) Availability and practicability of higher preference technologies.
(f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The department shall publish a notice of all periodic reviews in the site register and provide an opportunity for public comment.

2.0 SUMMARY OF SITE CONDITIONS

2.1 Site History

The former Cascade Timber 3 property is located along Maxwell Way between Port of Tacoma Road and Thorne Road in the City of Tacoma in Pierce County, Washington (Vicinity Map - Appendix 6.1). The Port of Tacoma (Port) entered into a Consent Decree (CD) No. 94TC-S167 with Ecology on April 11, 1994. On August 2, 1994, a Restrictive Covenant was recorded for the property.

From 1967 through June 1978, Nichiman America, Inc. leased the southern 10.73 acres of the property for use as a log sort yard. From 1978 through 1984, Cascade Timber Company leased the southern 10.73 acres of the property for use as a log sort yard. Between January and March of 1982, approximately 500 tons of slag generated by ASARCO was placed on the southern 10.73 acres of the property by Cascade Timber Company for use as ballast material. In 1984, the northern 7.84 acres of the property was developed. From 1984 through 1987, Cascade Timber Company leased the property for use as a log sort yard. The property was not used after 1987, prior to the remedial activity at the Site. Currently the Port of Tacoma is using the property as a storage area for parking imported new cars.

2.2 Site Investigations

In 1983, EPA identified Commencement Bay, where the site is located, as a federal Superfund site. In February 1985, Ecology issued a report assessing storm-water runoff from numerous log-sort yards, including the Cascade Timber No.3 Site. The report concluded that heavy metals in excess of state and federal water quality standards were leaving log-sort yards via stormwater runoff. In the 1989 Record of Decision for the Commencement Bay Nearshore/Tideflats Superfund Site, the Cascade Log Yard No.3 Site is identified as a source of metals (arsenic, copper, zinc, and lead) discharging to Sitcum Waterway. In 1991, Ecology and the Port entered into an Agreed Order to complete a Remedial Investigation/Feasibility Study to investigate the extent of metals on the site and to evaluate possible remedies.

2.2.1 Remedial Investigation

Harding Lawson Associates (HLA) conducted the Remedial Investigation (RI) between February 1992 and March 1993. The purpose of the investigation was to evaluate metals associated with ASARCO slag at the Site and their extent in the soils, groundwater and surface water (stormwater runoff) on and adjacent to the Site. Soil in the southeast parcel of the log yard was found to contain metals of concern with the highest detected concentrations found in surface soil (arsenic: 2,650 mg/kg, copper: 2,760 mg/kg, lead: 1,180 mg/kg and zinc: 3,870 mg/kg). Subsurface soil 3 feet below ground surface had concentrations of metals of concern 1 to 2 orders of magnitude less than those detected at the surface.

There are two water bearing zones beneath the Site that are hydraulically separated by an approximately nine-foot thick clay layer. The shallow groundwater is present at about four feet below ground level and flows in northerly direction.

Groundwater at the site is not a current or potential source of drinking water since both water-bearing zones would be expected to produce small quantities of poor-quality water. Results of groundwater sampling from both zones indicate that groundwater is not currently a pathway for the migration of the metals of concern.

Analytical results of storm-water sampling conducted during several different sampling events indicated that runoff is the primary pathway by which metals are transported from the log yard via storm drains to the Sitcum Waterway. The maximum detected concentrations of arsenic (1,750 µg/L), copper (8 µg/L), lead (600 µg/L), and zinc (510 µg/L) exceeded the federal Marine Water Quality Standards for both acute and chronic conditions.

2.2.2 Feasibility Study

The feasibility study (FS) was completed by HLA following the remedial investigation. The FS considered several alternatives which would immobilize metals of concern in the slag and surface soils, and keep them from migrating into the surface waters with storm-water runoff. The remedial action selected for implementation was the construction of a low-permeable asphalt cap for covering the Site with the slag and contaminated soils remaining in place. The feasibility study recommended that, after grading the Site, the entire southwest parcel be covered with a layer of aggregate base and topped with a layer of dense grade asphalt concrete (DGAC) pavement. Additionally, groundwater would be monitored, and a Restrictive Covenant requiring post closure site limitations and restrictions on uses would be placed on the property.

2.3 Remedial Activities

Following the preparation of the soil/bark, subgrade, an aggregate base material was spread over the site in 4- to 6-inch lifts. The aggregate base was placed to provide a more structural foundation layer over the soft subgrade material, upon which to place the low permeable cap and pavement section. The resulting average aggregate base thickness is approximately 24 inches.

During construction, the low permeable cap and pavement section were modified to consist of the following section: a 3-inch lift of a DGAC, a geotextile fabric, and 13-1/2 inches of additional DGAC. The DGAC material was placed with paving equipment in 2 to 3 inch lifts. The total asphalt section thickness is approximately 16-1/2 inches.

Following cap construction, four new ground water monitoring wells (MW-l, MW-2, MW-3-shallow and MW-3-deep) were installed in accordance with WAC 173-160, Minimum Standards for Construction and Maintenance of Wells.

2.4 Cleanup Levels

Cleanup levels for the Site were established in the Final Cleanup Action Plan, which was submitted to Ecology in 1993. These cleanup levels (CULs) are available in the table below:

Table 2: Site Cleanup Levels

Contaminant	Groundwater	Soil
	(ug/l)	(mg/kg)
Arsenic	36	200
Copper	2.9	N/A
Lead	8.5	1000
Zinc	86	N/A

Cleanup standards were developed for this Site based on Chapter 173-340 WAC. The use of Method A industrial soil cleanup standards per WAC 173-340-745 was justified for the following reasons: the Site cleanup may be defined as a routine cleanup per WAC 173-340-130; the Site is located in a heavy industrial area adjacent to other industrial properties; the site is zoned for industrial use; and. deed restrictions will limit the use of the Site to industrial activities in the future. Since the groundwater is not a current and potential source of drinking water, groundwater cleanup levels were established based United States Environmental Protection Agency Water Quality Marine Chronic Criteria.

2.5 Groundwater Monitoring

As required by the Final Cleanup Action Plan, annual groundwater monitoring is being conducted at the Site from 1994. The latest round of groundwater monitoring was conducted in February 2010. During the last five rounds of monitoring from 2005 to 2010, arsenic and copper concentrations exceeded their Site cleanup levels of 36 µg/l and 2.9 µg/l respectively. However, arsenic concentrations exceeded the CUL consistently in the upgradient monitoring well MW-1 where as only copper exceeded the CUL in the downgradient monitoring well MW-2 during 2010 sampling event. Between 2005 and 2010, no other contaminants were detected above the Site CUL in MW-1. Between 1994 and 2010, arsenic showed a general decreasing trend in MW-1, but other contaminants of concern were detected inconsistently.

Table 3: Groundwater Monitoring Results

Well Number	Date Sampled	Arsenic (µg/l)	Copper (µg/l)	Lead (µg/l)	Zinc (µg/l)
MW-1	11/28/1994	**940**	**8**	<3	<20
	12/9/1994	**220**	**4**	<3	<20
	12/1/1995	**132**	**4**	<1	53
	12/13/1996	**93**	**6**	<1	9
	12/9/1997	**60**	2.1	2.4	12
	12/7/1998	9.7	**11**	3.6	**510**
	12/22/1999	21	2.5	<1	**99**
	10/11/2000	**73**	<1.0	<0.5	4.7
	11/3/2000	14	NA	NA	NA
	11/16/2001	7.02	**8.73**	<0.5	<4
	11/26/2002	13.4	<2.5	<0.5	<2.5
	11/14/2003	18.4	<1.0	<0.5	5.2
	10/29/2004	32.4	<2.5	<2.5	12.2
	10/26/2005	**46**	<2.5	<2.5	<2.5
	1/29/2007	**93**	<2.0	<2.0	<5.0
	2/8/2008	**140**	<0.55	).22	5.2J
	2/27/2009	**57.2**	<0.5	<1.0	6
	2/4/2010	**50.3**	0.6	<1.0	<4.0
MW-2	11/28/1994	**10**	**3**	<3	<20
	12/1/1995	NA	NA	NA	NA
	12/13/1996	3	**5**	<1.0	<83
	12/16/1997	5	<2.0	<1.0	6
	12/7/1998	**2.3**	1.8	5.1	**360**
	12/22/1999	**4.4**	<2	**23**	6.9
	10/11/2000	<1	<1	<1	**99**
	11/3/2000	2	<1	**600**	8.3
	11/13/2000	NA	NA	**600**	NA
	11/19/2001	1.19	<1	3.74	38.6
	11/26/2002	<2.5	<2.5	**180**	3.36
	11/14/2003	8.91	<1	<0.5	4.64
	10/29/2004	25.4	<2.5	<2.5	<5
	10/26/2005	**39**	<2.5	<2.5	<2.5
	1/29/2007	34	<2	<2	<5
	2/8/2008	24	0.78**J**	<0.22	5.1**J**
	2/27/2009	32.6	1.6	<1	6
	2/4/2010	8.1	**4.1**	<1	<4
MW-3S	11/28/1994	25	**28**	<3	<20
	12/1/1995	**54**	**3**	2	65
	12/13/1996	**190**	<2	3	9
	12/9/1997	**63**	2	4.2	**330**
	12/7/1998	**50**	2.9	2.2	<5
MW-3D	11/28/1994	20	**7**	<3	<20
	12/1/1995	3	**4**	<1	35
	12/9/1996	**4**	**14**	<5	18
	12/9/1997	27	2.2	2	17
	12/7/1998	3	<2	<1	7.8
CLEANUP LEVELS		**36**	**2.9**	**8.5**	**86**

Note: 940 above cleanup level
J estimate

The Port of Tacoma (Port) is conducting the groundwater monitoring and cap maintenance as required by an Agreed Order or a Consent Decree with similar contaminants at five sites. To standardize the groundwater monitoring frequency and cap inspection amongst all these sites, the Department of Ecology (Ecology) and the Port of Tacoma entered into a Memorandum of Understanding (MOU) on September 1, 2011. As per this MOU, at this Site, the Port is required to conduct the groundwater monitoring on a 18-month frequency and cap inspection on a 30-months frequency. A copy of the MOU is included as Appendix 6.4.

2.6 Restrictive Covenant

Following remediation, a Restrictive Covenant was recorded for the Site on August 2, 1994. The Restrictive Covenant imposes the following limitations:

1. The Site may be used only for Industrial uses.
2. Any activity on the Site that may interfere with or reduce the effectiveness of the Cleanup Action or any other activity required by the CD is prohibited.
3. The owner of the Site must give written notice to Ecology of the owner's intent to convey any interest in the Site.
4. The owner shall allow Ecology the right to enter the Site at reasonable times for the purpose of evaluating compliance with the CAP and the CD.
5. The owner or successor owner reserves the right to remove this Covenant with Ecology's approval.

The Restrictive Covenant is available as Appendix 6.3.

3.0 PERIODIC REVIEW

3.1 Effectiveness of completed cleanup actions

Based upon the site visit conducted on October 19, 2011, the DGAC cover at the Site is intact and in excellent condition except a small pot hole and minor damage at two locations. The Port of Tacoma is in the process of repairing this pot hole and minor damage as the weather permits. Nonetheless, the overall integrity of the cap seems to be in satisfactory condition. The Site is currently used to store new vehicles that have been imported to the Port. The DGAC cap at the Site continues to eliminate direct exposure pathways (ingestion, contact) to contaminated soils. It also appears to be effective in eliminating storm water percolation into contaminated soils below the cap. A photo log is available as Appendix 6.5.

The Restrictive Covenant for the Site was recorded and is in place. This Restrictive Covenant prohibits activities that will result in the release of contaminants contained as part of the cleanup without Ecology's approval, and prohibits any use of the property that is inconsistent with the Covenant.

Since 1994, groundwater sampling was being conducted on an annual basis. However, as per the requirements of the 2011 MOU, future groundwater sampling will be conducted at the Site on a 18-month schedule. Due to the sporadic detection of contaminants of concern in ground water at the Site, continued ground water monitoring is recommended.

3.2 New scientific information for individual hazardous substances for mixtures present at the Site

Cleanup levels at the site were based on regulatory standards rather than calculated risk for chemicals and/or media. These standards continue to be protective of site-specific conditions.

3.3 New applicable state and federal laws for hazardous substances present at the Site

The cleanup at the site was governed by Chapter 173-340 WAC (1996 ed.). WAC 173-340-702(12) (c) [2001 ed.] provides that,

"A release cleaned up under the cleanup levels determined in (a) or (b) of this subsection shall not be subject to further cleanup action due solely to subsequent amendments to the provision in this chapter on cleanup levels, unless the department determines, on a case-by-case basis, that the previous cleanup action is no longer sufficiently protective of human health and the environment."

The current MTCA Method A Industrial soil cleanup standard for arsenic has been reduced from 200 mg/kg to 20 mg/kg since the final Consent Decree was issued. Because contaminated soils at the Site have been capped, the modification to the MTCA cleanup standard does not represent an increase in risk to human health or the environment. Several of the state marine chronic surface water quality criteria have also `changed since the Consent Decree was issued. Values for lead and zinc have been reduced to 8.1 and 81 µg/L, respectively. Overall, the changes to the original standards have not resulted in the need for additional remedial actions at the site.

3.4 Current and projected site use

The Site is currently used for industrial purposes. The Site continues to be used for new imported vehicle storage. Future uses are likely to remain related to shipping and receiving from the Port of Tacoma. These uses are not likely to have a negative impact on the integrity of the Site cap.

3.5 Availability and practicability of higher preference technologies

The remedy implemented included containment of hazardous substances, and it continues to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the remedial action were capable of detection below MTCA Method A cleanup levels. The presence of improved analytical techniques would not affect decisions or recommendations made for the Site.

4.0 CONCLUSIONS

- The cleanup actions completed at the Site appear to be protective of human health and the environment.

- Soils cleanup levels have not been met at the Site; however, under WAC 173-340-740(6)(f), the cleanup action is determined to comply with cleanup standards since the long-term integrity of the containment system is ensured, and the requirements for containment technologies have been met.

- The Restrictive Covenant for the property is in place and will be effective in protecting public health and the environment from exposure to hazardous substances and protecting the integrity of the cleanup action.

- Ground water monitoring has been conducted on an annual basis at the Site since 2004. However, as per the MOU, continued ground water monitoring on a 18-months frequency is recommended for the Site.

- Continued cap inspection every 30-months and maintenance are required. Cap maintenance appears to be adequate at this time.

Based on this periodic review, the Department of Ecology has determined that the requirements of the Restrictive Covenant are being met. The cap is currently in satisfactory condition, and the conditions set forth in the Restrictive Covenant are being followed. It is the property owner's responsibility to continue to inspect the site to ensure that the integrity of the cap is maintained and to continue groundwater monitoring.

4.1 Next Review

The next review for the site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

5.0 REFERENCES

Ecology and Environment. 1987. Volume 1. Site Inspection Report for Commencement Bay Nearshore/Tideflats, Tacoma, Washington. Prepared for U.S. EPA.

Harding Lawson Associates. 1993. Remedial Investigation/Feasibility Study, Cascade Timber No. 3 Log Sort Yard, Tacoma, Washington.

Norton. D. and A. Johnson. 1985. Completion Report on WQIS Project 1 for the Commencement Bay Nearshore/Tideflats Remedial Investigation: Assessment of Log Sort Uards as Metal Sources to Commencement Bay Waterways, November 1983 to June 1984.

U.S. Environmental Protection Agency. 1998. Commencement Bay Nearshore/Tidefliats Record of Decision.

Ecology. Consent Decree No. 94TC-S167 and Cleanup Action Plan. December 27, 1993. Cascade Timber No. 3 Log Yard.

Harding Lawson Associates. April 29, 1994. Engineering Design Report Remedial Action– Cascade Timber Log Yard No. 3, Port of Tacoma, Tacoma, Washington.

Restrictive Covenant. August 2, 1994. Cascade Log Yard No. 3.

Kennedy/Jenks Consultants. May 4, 2010. Annual Groundwater Monitoring Summary Report for 4 February 2010, Former Cascade Timber #3 Log Yard.

Kennedy/Jenks Consultants. August 2, 2009. Annual Operations and Maintenance (O&M) for 27 February 2009, Cap Inspection Summary Report for Former Cascade Timber #3 Log Yard.

Kennedy/Jenks Consultants. August 7, 2009. Annual Operation and Maintenance (O&M) for 8 February 2008 Cap Inspection Summary Report for Former Cascade Timber Log Yard No.3, Port of Tacoma, Washington.

Kennedy/Jenks Consultants. 21 December 2001. Annual Groundwater Monitoring/ O&M Cap Inspection Summary Report, Former Cascade timber #3 Log Yard.

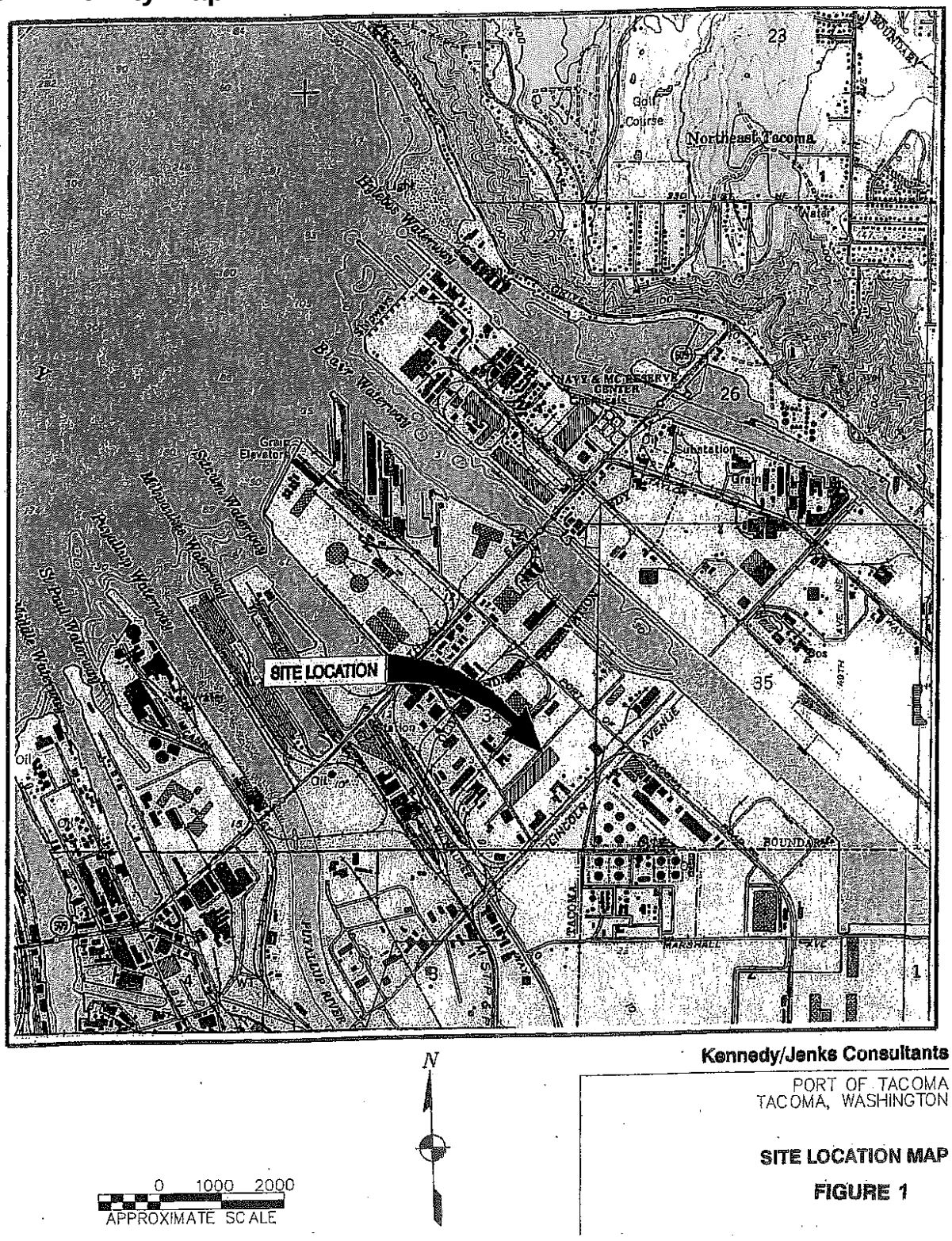
Kennedy/Jenks Consultants. 14 January 2003. 2002 Annual Ground Water Monitoring/O&M Inspection Summary Report, Former Cascade Timber #3 Log Yard.

Kennedy/Jenks Consultants. 8 February 2005. 2004 Annual Ground Water Monitoring/O&M Inspection Summary Report, Former Cascade Timber #3 Log Yard.

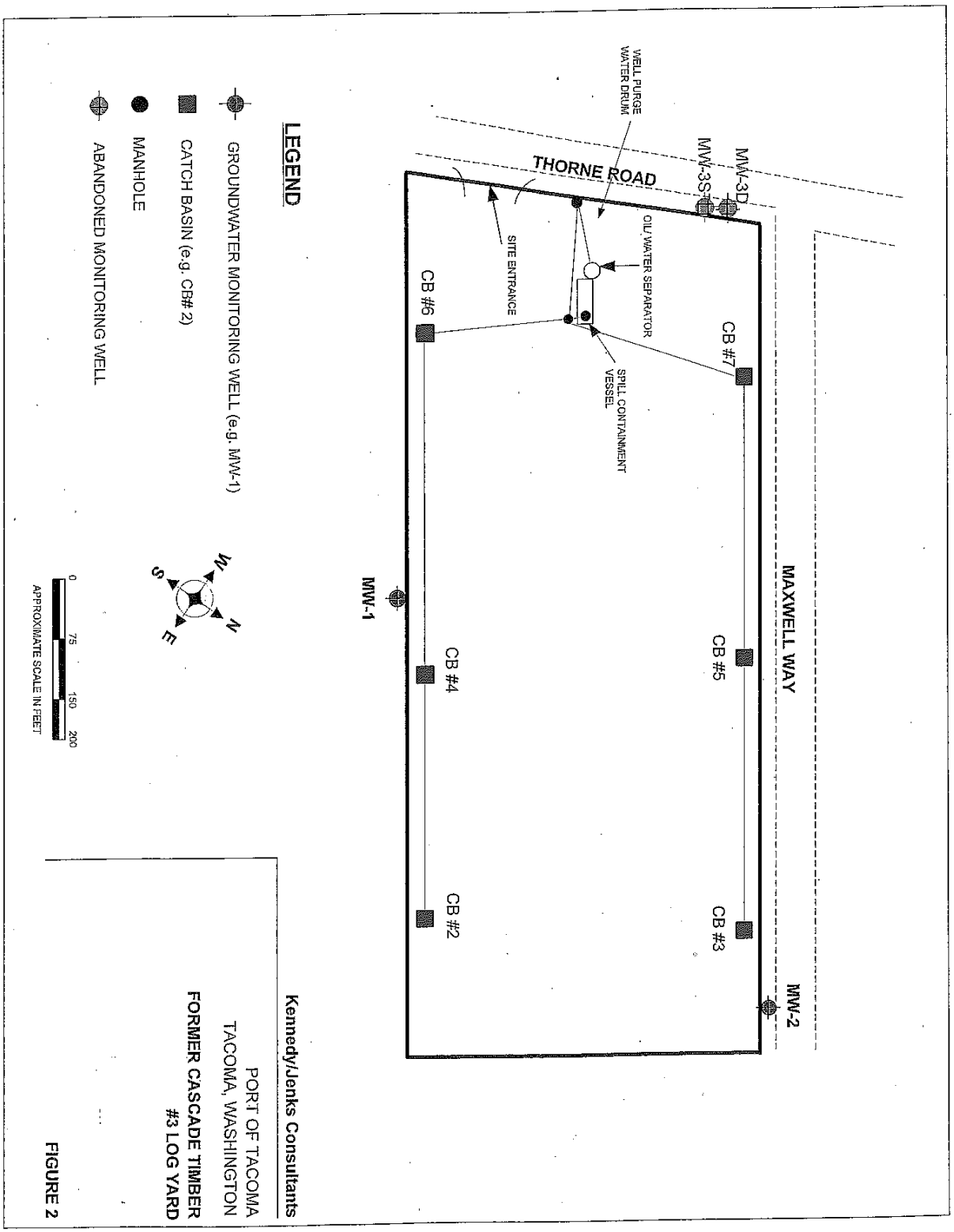
Ecology. October 19, 2011 Site Visit.

6.0 APPENDICES

6.1 Vicinity Map



6.2 Site Plan


THORNE ROAD
MAXWELL WAY
MW-3D
MW-3S
MW-2
MW-1
WELL PURGE WATER DRUM
SITE ENTRANCE
OIL/WATER SEPARATOR
SPILL CONTAINMENT VESSEL
CB #6
CB #7
CB #5
CB #4
CB #3
CB #2
LEGEND
GROUNDWATER MONITORING WELL (e.g. MW-1)
CATCH BASIN (e.g. CB# 2)
MANHOLE
ABANDONED MONITORING WELL
W
S
N
E
0
75
150
200
APPROXIMATE SCALE IN FEET
Kennedy/Jenks Consultants
PORT OF TACOMA
TACOMA, WASHINGTON
FORMER CASCADE TIMBER
#3 LOG YARD
FIGURE 2

6.2 Environmental Covenant

BK 1048PG 1971

9408020435

94 AUG -2 PM 3:05

RECORDED
CATHY PEARSALL-STIPEK
AUDITOR PIERCE CO. WASH

DECLARATION OF RESTRICTIVE COVENANT

The property that is the subject of this Restrictive Covenant is the subject of remedial action under Chapter 70.105D RCW. The work done to clean up the property (hereafter the "Cleanup Action") is described in Washington State Department of Ecology Consent Decree No. 94TC-S167, and in attachments to the Decree. This Restrictive Covenant is required by WAC 173-340-440 because the Cleanup Action at the Site will result in residual concentrations of arsenic and lead which exceed Ecology's Method A cleanup levels for Industrial soil established under WAC 173-340-745.

The Port of Tacoma is the fee owner of real property known as the Cascade Timber No. 3 log sort yard in the County of Pierce, State of Washington of which 10.7 acres are referred to as the "Site" (legal description attached in Exhibit B of Consent Decree No. 94TC-S167).

As a result of the Cleanup Action, the Site will include a woodwaste, soil, and slag mixture which will be covered with a cap system equipped with a surface water collection system. The Site will also include monitoring wells.

The Port of Tacoma makes the following declaration as to limitations, restrictions, and uses to which the Site may be put, and specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under them,

9408020435

13

BK 1048PG 1972

including all current and future owners of any portion of or interest in the Site.

Section 1 The Site may be used only for Industrial uses as defined in and allowed under the City of Tacoma's Zoning Regulations codified in the Tacoma City Code as of the date of this Restrictive Covenant.

Section 2 Any activity on the Site that interferes with or reduces the effectiveness of the Cleanup Action or any operation, maintenance, monitoring, or other activity required by the Order (or any Ecology-approved modification or amendment to the Order) is prohibited. Any activity that would threaten the structural integrity of the cap is prohibited. Any activity on the Site that would result in the release of a hazardous substance that was contained as a part of the Cleanup Action is prohibited. It is understood that disturbance of the cap may be required in the future for installation of utilities or other activities associated with future industrial use of the site. The Port shall obtain approval from Ecology prior to initiating any disturbance of the cap stormwater drainage and/or monitoring system. Ecology shall not deny approval if the Port can show (1) that no releases of hazardous materials will occur; (2) integrity of the cap and stormwater drainage and monitoring systems will be restored to their original condition in a timely manner; and (3) that material will be handled and disposed of in accordance with State law.

9408020435

BK 1048 PG 1973

Section 3 The owner of the Site must give written notice to the Department of Ecology, or to a successor agency, of the owner's intent to convey any interest in the Site. No conveyance of title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance and monitoring of the Cleanup Action.

Section 4 The owner shall allow authorized representatives of the Department of Ecology, or of a successor agency, the right to enter the Site at reasonable times for the purpose of evaluating compliance with the Cleanup Action Plan and the Order, to take samples, to inspect Cleanup Actions conducted at the Site, and to inspect records that are related to the Cleanup Action.

Section 5 The owner of the Site and owner's assigns and successors in interest reserve the right under WAC 173-340-730 and WAC 173-340-440 to record an instrument which provides that this Restrictive Covenant shall no longer limit the use of the Site or be of any further force or effect. However, such an instrument may be recorded only with the consent of the Department of Ecology or of a successor agency. The Department of Ecology or a successor agency may consent to the recording of such an instrument only after public notice and comment.
The Port of Tacoma agrees to file this Restrictive Covenant in

9408020435

BK 1048PG 1974

the Site property deed with the Pierce County Auditor and provide the Department of Ecology with a filed copy.

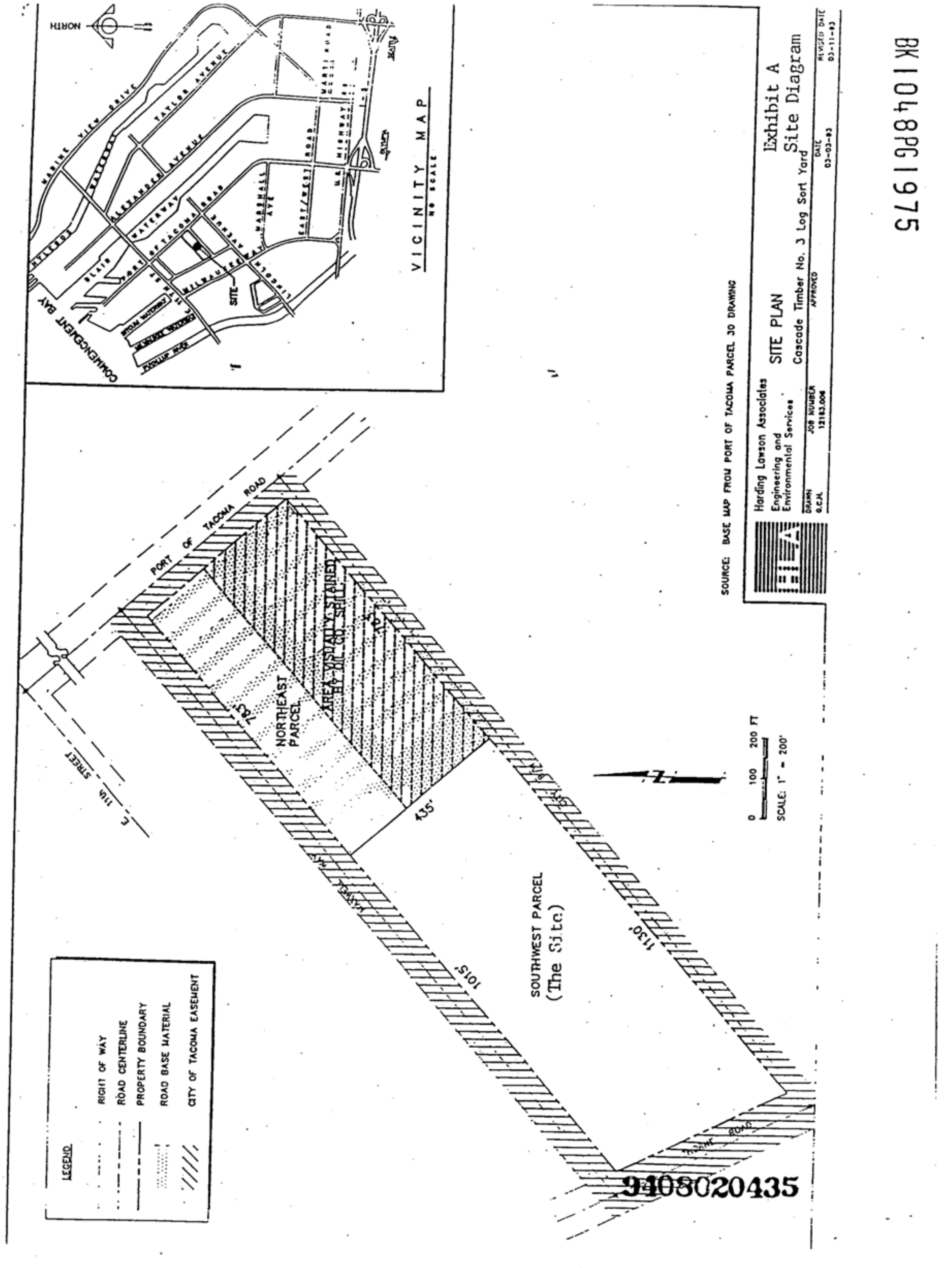
Port of Tacoma

Date 8/2/94

210/cas-doc2.doc

Jeffrey A. Lincoln
Sr. Dir. Facility Development

9408020435


VICINITY MAP
NO SCALE
NORTH
COMMENCEMENT BAY
SITE
PORT OF TACOMA ROAD
E. 11th STREET
NORTHEAST PARCEL
AREA VISUALLY STAINED BY OIL CO. SPILL
SOUTHWEST PARCEL
(The Site)
435'
1015'
1130'
LEGEND
RIGHT OF WAY
ROAD CENTERLINE
PROPERTY BOUNDARY
ROAD BASE MATERIAL
CITY OF TACOMA EASEMENT
0 100 200 FT
SCALE: 1" = 200'
SOURCE: BASE MAP FROM PORT OF TACOMA PARCEL 30 DRAWING
Harding Lawson Associates
Engineering and Environmental Services
SITE PLAN
Cascade Timber No. 3 Log Sort Yard
Exhibit A
Site Diagram
BK1048PG1975
9408020435

BK 1048PG 1976

EXHIBIT B

Description - Consent Decree
Cascade Timber No. 3 Log Yard

A parcel of land situate in the Southeast Quarter of Section 34, Township 21 North, Range 3 East of the Willamette Meridian, County of Pierce, State of Washington and being more particularly described as follows:

Lots 8 through 18 inclusive of Block 12 of the Port of Tacoma Industrial District First Addition as recorded in Volume 18 of Plats at Page 18.

Containing 10.73 acres, more or less.

Robert N. Erb

Robert N. Erb, P.L.S.
Washington State Registration No. 18082

December 27, 1993
Project No. 7763

Sitts & Hill Engineers, Inc.
2901 South 40th Street
Tacoma, Washington 98409
(206) 474-9449

ROBERT N. ERB
STATE OF WASHINGTON
18082
REGISTERED
PROFESSIONAL LAND SURVEYOR
EXPIRES 5/12/95

9408020435

EXHIBIT B - PAGE 1 of 2

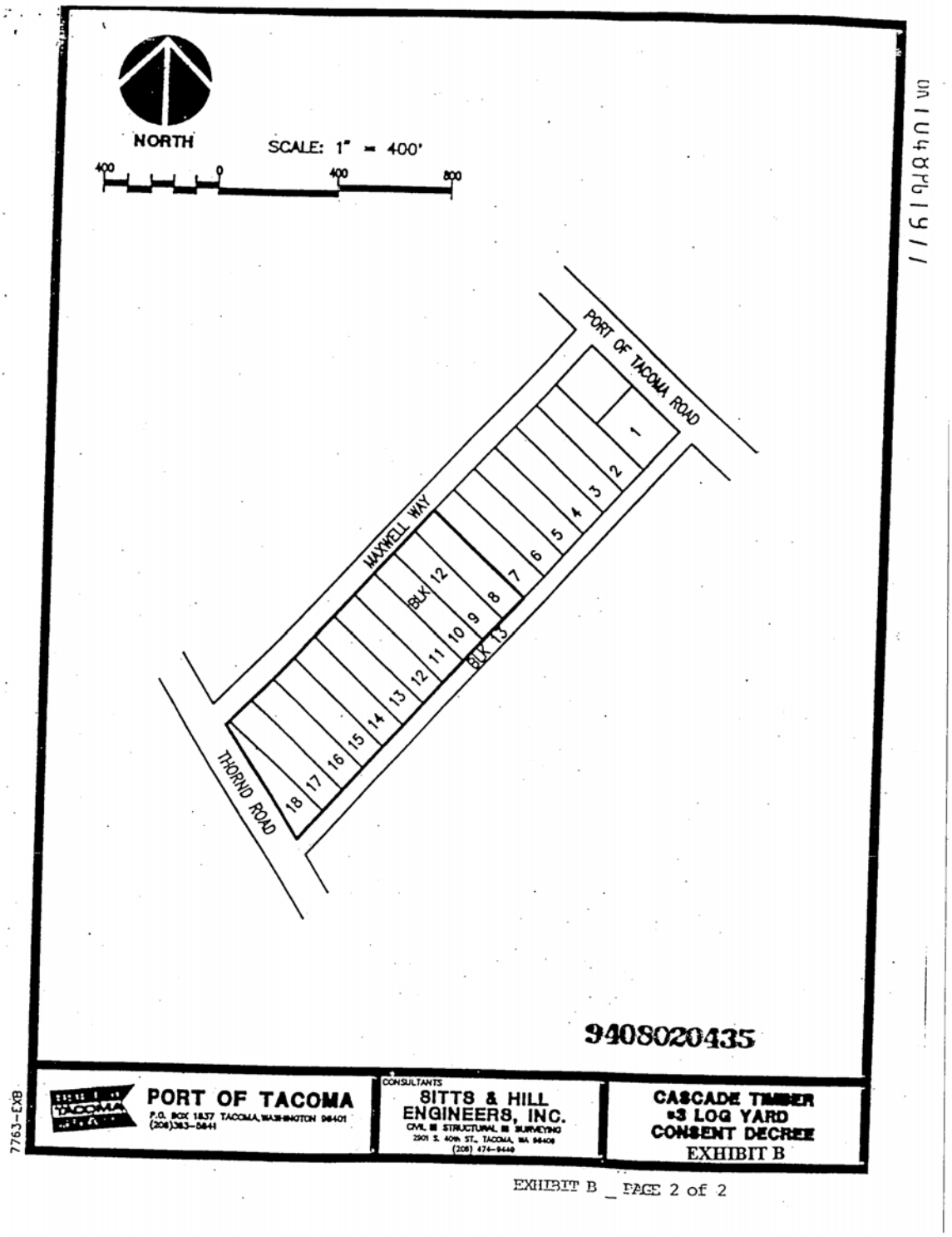


EXHIBIT B _ PAGE 2 of 2

6.4 Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING

Former Log Yard Groundwater Monitoring and
Cap Inspection

This Memorandum of Understanding (MOU) is entered into this 13 day of September 2011 between the Washington State Department of Ecology ("Ecology") and the Port of Tacoma ("Port") (collectively the "Parties") to memorialize the Parties' agreement to modify the requirements for future groundwater monitoring and cap inspection frequencies for five Port sites, as set forth below.

These sites affected by this agreement are Cascade Timber No. 3, Murray Pacific No. 2, Wasser Winters, Portac, and Louisiana-Pacific (aka Pony Lumber) ("Monitored Sites").

Each Monitored Site was cleaned up under an administrative agreement between Ecology and the Port, either as an original party or successor interest, as follows: Cascade Timber No. 3, Murray Pacific No. 2, and Wasser Winters were cleaned up under Consent Decrees, Louisiana-Pacific under an Enforcement Order, and Portac under a pre-Model Toxics Control Act (MTCA) Order On Consent (cumulatively referred to as: "Ecology Orders"). Portac, Inc. was also a respondent to the Portac Order on Consent along with the Port.

Each Monitored Site addressed similar contaminants of concern (COCs), which included arsenic, copper, lead, and zinc. However, each Ecology Order had site-specific requirements with respect to cleanup levels, and cap and groundwater monitoring frequencies.

In Spring 2010, the Port initiated a request to Ecology to standardize the monitoring requirements for the Monitored Sites in an effort to align the timing of the periodic monitoring/ inspections at the sites so that the Port may better align a contractor to do the work all at once, as required.

In August 2010, to supplement the information already provided to Ecology, the Port provided Ecology with a tour of the Monitored Sites. As part of the tour, Ecology inspected the type and condition of the caps; the current site uses, specifically on the capped areas, and the locations and conditions of existing monitoring wells and stormwater basins.

Ecology has reviewed the information provided by the Port, as well as observations made during the site tour, and has chosen to provide a response in the form of this MOU.

This MOU was created for the Parties to understand and agree upon the requirements associated with Ecology's response, and to memorialize the decisions made with respect to each of the Port's requests.

In preparing this MOU, Ecology took into account, for each site, the type and condition of the cap and stormwater collection system, the adequacy of the groundwater monitoring system, and the recent groundwater compliance history.

Based on the above, Ecology and the Port agree as follows:

A. CAP MONITORING FREQUENCY

1. The Port may standardize the cap monitoring (inspection and reporting) frequency for the Monitored Sites to 30 months as requested. However, the following shall also occur:

   - During the site tours, Ecology noted that some of the stormwater basins were in better condition than others. Stormwater basins at each of the Monitored Sites should be inspected quarterly and cleaned out as needed, such that they are continuously operational.

   - Any unanticipated breaches of the cap for any of the Monitored Sites shall be reported to Ecology and repaired as soon as practicable. As per the respective Ecology Orders, the Port shall provide Ecology with a plan for each of the sites that summarizes intended action and reporting by the Port for unanticipated cap breaches.

   - Advance notice shall be provided and prior approval shall be obtained from Ecology for any planned cap breaches and repairs that are not otherwise permitted under the respective Ecology Order for each Monitored Site.

   - Minor cracking and normal wear and tear shall be repaired and reported as anticipated by and according to each Monitored Site's Ecology Order.

   - The appropriate Ecology Site Manager shall be informed, in writing, of any changes in site use on capped areas.

2. The next cap monitoring for the Monitored Sites based on this new 30-month frequency shall be February 2012, which corresponds to the next 30-month groundwater monitoring event for Wasser Winters described below. Unless changed by Ecology, all future cap monitoring for the Monitored Sites shall occur every 30 months beginning February 2012 to coincide with the groundwater monitoring that is intended to target alternating wet and dry seasons.

B. GROUNDWATER MONITORING FREQUENCY

1. The Port may standardize the groundwater monitoring frequency for each of the Monitored Sites as requested, which included the following:

   - Cascade Timber No. 3 – 18 months (formerly 12 months).
   - Murray Pacific No. 2 – 18 months (formerly 6 months).
   - Wasser Winters – No change (currently 30 months).
   - Portac – No change (currently discontinued).
   - Louisiana-Pacific – 30 months (formerly 24 months wet/dry).

2. The next groundwater monitoring for the Monitored Sites shall be conducted in February 2012. Unless changed by Ecology, all future groundwater monitoring for the Monitored Sites shall occur according to the frequency identified above beginning February 2012.

C. EFFECT OF MODIFICATION

1. Except as modified herein, all provisions of the Original Ecology Orders for each Monitored Site as existing and as may have been amended, including addressing any potential data compliance issues, remain in full force and effect.

2. A copy of this MOU shall be filed with the Ecology Project Manager for each of the Monitored Sites.

John Wolfe
Chief Executive Officer
Port of Tacoma

9.1.11
Date

Rebecca S. Lawson, P.E., LHG
Section Manager, Toxics Cleanup Program
Southwest Regional Office
Washington State Department of Ecology

9/12/2011
Date

cc:
Jason Jordan – Port of Tacoma
Mark Rettmann – Port of Tacoma
William Evans – Port of Tacoma
Leslee Connor – Port of Tacoma
Scott Hooton – Port of Tacoma
Dom Reale – Ecology
Marv Coleman – Ecology
Guy Barrett – Ecology
James DeMay – Ecology
Scott Rose – Ecology
Rebecca Lawson – Ecology

6.5 Photo log

Photo 1: Cap Area - from the north

Photo 2: Cap Area – from the east

Photo 3: Pot Hole

Photo 4: Minor Cap Damage