



PERIODIC REVIEW

**Oso General Store
Facility Site ID#: 64597933**

**30230 Oso Loop Road,
Oso, Washington**

Northwest Region Office

TOXICS CLEANUP PROGRAM

August 2011

1.0 INTRODUCTION.....	1
2.0 SUMMARY OF SITE CONDITIONS	2
2.1 Site Description and History	2
2.2 Site Investigations and Sample Results	3
2.3 Cleanup Actions.....	3
2.4 Cleanup Levels.....	5
2.5 Restrictive Covenant.....	5
3.0 PERIODIC REVIEW.....	7
3.1 Effectiveness of completed cleanup actions	7
3.2 New scientific information for individual hazardous substances for mixtures present at the Site	7
3.3 New applicable state and federal laws for hazardous substances present at the Site	7
3.4 Current and projected Site use	8
3.5 Availability and practicability of higher preference technologies	8
3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels	8
4.0 CONCLUSIONS.....	9
4.1 Next Review.....	9
5.0 REFERENCES.....	10
6.0 APPENDICES.....	11
6.1 Vicinity Map	12
6.2 Site Plan	13
6.3 TPH-Dx Concentration Map.....	14
6.4 Environmental Covenant	15
6.5 Photo log	19

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 Oso General Store (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 the Voluntary Cleanup Program. The cleanup actions resulted in concentrations of petroleum hydrocarbons remaining at the Site which exceed MTCA cleanup levels. The MTCA cleanup levels for soil are established under WAC 173-340-740. The MTCA cleanup levels for groundwater are established under WAC 173-340-720. 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, 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; or
 - 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, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the Site;
- (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; and
- (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 Description and History

The Oso Store at 30230 Oso Loop Rd., Oso (near Arlington), Washington, was an active gasoline station and convenience store until foreclosure on property in January 2006. The Site abuts the North Fork Stillaguamish River. The store and gasoline station has since reopened.

According to available information, the current Site building was constructed in 1925 and has been used as a general store and fueling facility since at least 1930. The first underground storage tanks (USTs) at the Site were reportedly installed in the 1930s and operated until the 1970s. The number and type of these USTs is unknown but they were reportedly located near the northwest corner of the building and were abandoned in place. The USTs were reportedly later removed from the ground. The second generation of USTs, consisting of two 2,000-gallon gasoline USTs and a 1,500-gallon diesel fuel UST, was installed on the east side of the building in 1972. These USTs required extensive upgrades to remain in compliance and they were removed from the ground in 1998. The current generation of USTs, consisting of a 20,000-gallon UST and a 3,000-gallon UST, was installed just south of the second generation USTs on the south side of the dispenser canopy in 1998. The Underground Storage Tank Compliance Tag (A4330) for the current USTs is mounted on the exterior southeast corner of the store building.

A water supply well was installed on the west side of the Oso General Store property in January 1996. This well appears to have been installed to replace a previous water supply well that was installed too close to the existing septic tank drain field on the west side of the driveway on the west side of the store building and the old well was decommissioned in June 1998. The wooden housing for the replacement wellhead is visible on the west end of the open area approximately 10 feet from the tree line marking the western boundary of the subject property. The Water Well Report for the former well and the replacement (new) well were obtained from the on-line Ecology well database. The report indicates that the old well was decommissioned by pressure grouting it in place.

The replacement well is 60 feet deep and screened from 55 to 60 feet. It was installed over 100 feet from the septic tank drain field upon direction for the Snohomish County Health District. The well is connected to a spigot located near the southwest corner of the store building. The well water was sampled on April 28, 2008 for Total Coliform and E. Coli. The water was found to be "Satisfactory, Coliforms Absent" with E. Coli also absent. Environmental Partners, Inc. (EPI) personnel sampled the water from the water supply well on May 23, 2008. The water was analyzed for gasoline-range petroleum hydrocarbon (GRPH), diesel-range petroleum hydrocarbons (DRPH), oil-range petroleum hydrocarbons (ORPH) and benzene, toluene, ethylbenzene, and xylenes (BTEX). No petroleum hydrocarbons or BTEX constituents were detected.

2.2 Site Investigations and Sample Results

Oso General Store was an active gasoline station and convenience store until January 2006. The Site is again operational. The former owners received a letter from Ecology entitled “Partial Sufficiency and Further Action Determination” on January 4, 2006. The letter indicated that the facility met the requirements for an NFA determination for soil with a restrictive covenant but had not yet met the requirements for an NFA for ground water. Ecology required installation of a monitoring well and collection of a ground water sample before a full NFA covering both soil and ground water could be considered for the Site.

An attempt was made on March 13, 2006 to install a soil boring and complete it as a ground water monitoring well near the in-situ treatment area at the southeast corner of the store building. Large cobbles beneath the asphalt pavement caused auger refusal and prevented the installation of a permanent monitoring well. On September 1, 2006, EPI personnel supervised the installation of a permanent two-inch diameter PVC monitoring well (MW-1) within three feet of the previous boring attempt. The well was placed approximately eight feet east-northeast of the southeast corner of the building to a depth of 14 feet below ground surface (bgs). This is the approximate area of the west sidewall of an excavation completed in July 1998 to remove soil impacted by the gasoline release. At that time, soil excavation was stopped approximately six feet from the east wall of the building to avoid undermining the concrete foundation of the building. The remaining soil along the west sidewall of the excavation was treated with a biocatalyst material to accelerate the in-situ biodegradation of the GRPH.

During the initial sampling of MW-1 in September 2006, the ground water had no detectable concentrations of either DRPH or ORPH. The sample had a GRPH concentration of 700 micrograms per liter (ug/L) with detectable BTEX concentrations. The benzene concentration was 20 ug/L, the toluene concentration was 4.9 ug/L, the ethylbenzene concentration was 3.7 ug/L, and the xylene concentration was 6.1 ug/L. Only the benzene concentration was in excess of its MTCA Method A Cleanup Level for ground water of 5 ug/L.

Contaminants of Concern (COCs) concentrations, including GRPH, DRPH, ORPH, and BTEX compounds, in the April 24, 2007 sampling round, were all below their respective MTCA Method A Cleanup Levels.

The GRPH concentrations in the July 25, 2007 sampling round increased to 1,000 ug/L and the benzene concentration increased to 9.6 ug/L. The GRPH concentration was at the MTCA cleanup level with the benzene concentration in excess of the cleanup level. However, concentrations of DRPH, ORPH, toluene, ethylbenzene, and total xylenes, were below their respective MTCA cleanup levels or were not detected in the sample.

The GRPH concentration in the November 22, 2007 sampling round increased to 1,400 ug/L, although no DRPH, ORPH, or significant BTEX concentrations were detected.

The GRPH concentration in the February 25, 2008 sampling round increased to 1,700 ug/L with no DRPH, ORPH, or BTEX detections in concentrations greater than their respective MTCA

cleanup levels. No GRPH or BTEX concentrations in excess of the MTCA Method A cleanup levels were detected in the four subsequent sampling rounds since February 2008.

2.3 Cleanup Actions

Approximately 800 cubic yards of impacted soil were removed from the area on the east side of the store and placed in a plastic-lined treatment stockpile on the west side of the building in June 1998. Some impacted material within 6 feet of the east exterior wall of the building was left in place to avoid causing structural damage to the building. The impacted soil in this area was treated with a biocatalyst material to accelerate the natural biodegradation of the hydrocarbons on July 1 and 2, 1998. The consultant's report from Cole Environmental recommended that the area be re-sampled in 6 to 12 months to "verify that full mitigation has occurred". It is unclear whether this re-sampling occurred as recommended since EPI personnel could find no follow-up report or laboratory data. Regardless, the accepted remedy considers that soil left in place.

The stockpiled soil was "landfarmed" on the west side of the building by periodically tilling the soil to expose fresh surfaces to the open air and facilitate the breakdown of the hydrocarbons. The soil was re-sampled after a month to determine if the concentrations had decreased to within the applicable cleanup levels, according to the Cole Environmental reports. All five samples collected were below the MTCA Method A cleanup level for unrestricted land use. The soil was determined to be suitable for backfill or road grade material. However, the available reports do not indicate the final use of the treated soil.

In-situ and ex-situ soil remediation was conducted but the ground water impact remained after the soil excavation and treatment. The ground water monitoring program was begun in March 2006 after the Washington State Department of Ecology (Ecology) issued a "Partial Sufficiency and Further Action Determination" in January 2006. The letter stated that the independent remedial actions conducted at the Site in 1998 were sufficient to meet the requirements of the Model Toxics Control Act (MTCA) for soil but were not sufficient for ground water. To address the ground water monitoring requirements, a temporary monitoring well was installed in March 2006 and EPI oversaw installation of a permanent monitoring well (MW-1) in September 2006. Petroleum hydrocarbon concentrations in the ground water exhibited seasonal fluctuations, especially for benzene, during the following two years but generally showed a significant reduction.

In the letter of Further Action Determination dated April 15, 2008 and in subsequent telephone conversations, Ecology requested that an additional ground water monitoring well be installed on the west side of the Oso General Store building to determine if there is a petroleum hydrocarbon plume hydraulically downgradient from the UST area. Another permanent monitoring well (MW-2) was installed in December 2008 to demonstrate that there was no evidence of a hydrocarbon plume on the west side of the store building toward North Fork of the Stilligumish River. The new well, designated MW-2 was installed on the west side of the driveway west of the building on December 5, 2008. MW-2 was developed, allowed to recharge, gauged, and sampled upon completion. The water level was 6.16 feet and no GRPH, DRPH, or ORPH was identified in the water sample. A benzene concentration of 2.8 ug/L was detected but no other

BTEX compounds were identified. The 2.8 ug/L concentration is below the MTCA Method A cleanup level of 5 ug/L.

The sampling continued. Sampled ground water from MW-1 had a GRPH concentration of 160 ug/L with no BTEX compounds detected. The GRPH concentration is below the 800 ug/L MTCA Method A cleanup level. No GRPH, DRPH, ORPH, or BTEX was detected in MW-2. This represents the fourth consecutive sampling round in which none of the COCs in MW-1 exceeded the cleanup levels and the third round in which no COCs exceeded the cleanup levels in the ground water sample from MW-2. As of the May 2009 sampling round, four quarters of sampling results below the MTCA Method A cleanup levels had been achieved in MW-1.

800 cubic yards of contaminated soils were removed and treated on Site; the excavation pit was backfilled with non-contaminated soils. Petroleum contaminated soil remains along and under the front of the building extending from the building entry to the southeastern corner of the building. Soils beneath this eastern portion of the store exceed MTCA cleanup standards. The Oso Store has a Restrictive Covenant in place for these soils.

Concentrations of GRPH and BTEX in MW-1 have remained below their respective MTCA Method A cleanup levels for the past four quarters or one calendar year. No petroleum hydrocarbons were detected in the past two sampling rounds collected from MW-2 demonstrating the lack of a contaminant plume downgradient of the UST area. Accordingly, EPI requested a 'No Further Action' (NFA) opinion letter indicating that the Oso General Store Site is in compliance with the MTCA.

Ecology agreed and issued an NFA letter July 29, 2009. The restrictive covenant which had been recorded in 2005 for the remaining soil contamination remained in effect.

2.4 Cleanup Levels

MTCA Method A Cleanup Standards were used to set cleanup levels at the conditional points of compliance and to evaluate protectiveness throughout the Site.

2.5 Restrictive Covenant

Based on the Site use, surface cover and cleanup levels, it was determined that the Site was eligible for a 'No Further Action' determination if a Restrictive Covenant was recorded for the property. A Restrictive Covenant was recorded for the Site in 2005 which imposed the following limitations:

Section 1. A portion of the Property contains Petroleum contaminated soil located from the main entrance of the Oso Store extending to the southeast corner of the building. The Owner shall not alter, modify, or remove the existing structure(s) in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology.

Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited. Some examples of activities that are prohibited in the capped areas include drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action: to take samples, to inspect remedial actions conducted at the property, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs

The Restrictive Covenant is available as Appendix 6.4.

3.0 PERIODIC REVIEW

3.1 Effectiveness of completed cleanup actions

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 at the Site without Ecology's approval, and prohibits any use of the property that is inconsistent with the Covenant. This Restrictive Covenant serves to ensure the long term integrity of the remedy.

Based upon the Site visit conducted on September 21, 2011, the remedy at the Site continues to eliminate exposure to contaminated soils by ingestion and contact. The remedy appears in satisfactory condition and no repair, maintenance, or contingency actions have been required. The Site is still operating as a convenience store and gasoline station. A photo log is available as Appendix 6.5.

Soils with petroleum concentrations higher than MTCA cleanup levels are still present at the Site. However, the remedy prevents human exposure to this contamination by ingestion and direct contact with soils. The Restrictive Covenant for the property will ensure that the contamination remaining is contained and controlled.

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

There is no new scientific information for the contaminants related to the Site.

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. 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.”

Although cleanup levels changed for petroleum hydrocarbon compounds as a result of modifications to MTCA in 2001, this change does not appear to affect this cleanup. Contamination remains at the Site above the new MTCA Method A and B cleanup levels. Even so, the cleanup action is still protective of human health and the environment. A table comparing MTCA cleanup levels from 1991 to 2001 is available below.

Analyte	1991 MTCA Method A Soil Cleanup Level (ppm)	2001 MTCA Method A Soil Cleanup Level (ppm)	1991 MTCA Method A Groundwater Cleanup level (ppb)	2001 MTCA Method A Groundwater Cleanup Level (ppb)
Cadmium	2	2	5	5
Lead	250	250	5	15
TPH	NL	NL	1000	NL
TPH-Gas	100	100/30	NL	1000/800
TPH-Diesel	200	2000	NL	500
TPH-Oil	200	2000	NL	500

NL = None listed

3.4 Current and projected Site use

The Site is currently used for commercial purposes. There have been no changes in current or projected future Site or resource uses.

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 selected Site cleanup levels. The presence of improved analytical techniques would not affect decisions or recommendations made for the Site.

4.0 CONCLUSIONS

The following conclusions have been made as a result of this periodic review:

- 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 standard point of compliance for the Site; however, the cleanup action has been determined to comply with cleanup standards since the long-term integrity of the containment system is ensured, and the requirements for containment technologies are being met.
- The Restrictive Covenant for the property is in place and continues to be effective in protecting public health and the environment from exposure to hazardous substances and protecting the integrity of the cleanup action.

Based on this periodic review, the Department of Ecology has determined that the requirements of the Restrictive Covenant continue to be met. No additional cleanup actions are required by the property owner. It is the property owner's responsibility to continue to inspect the Site to assure that the integrity of the remedy is maintained.

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

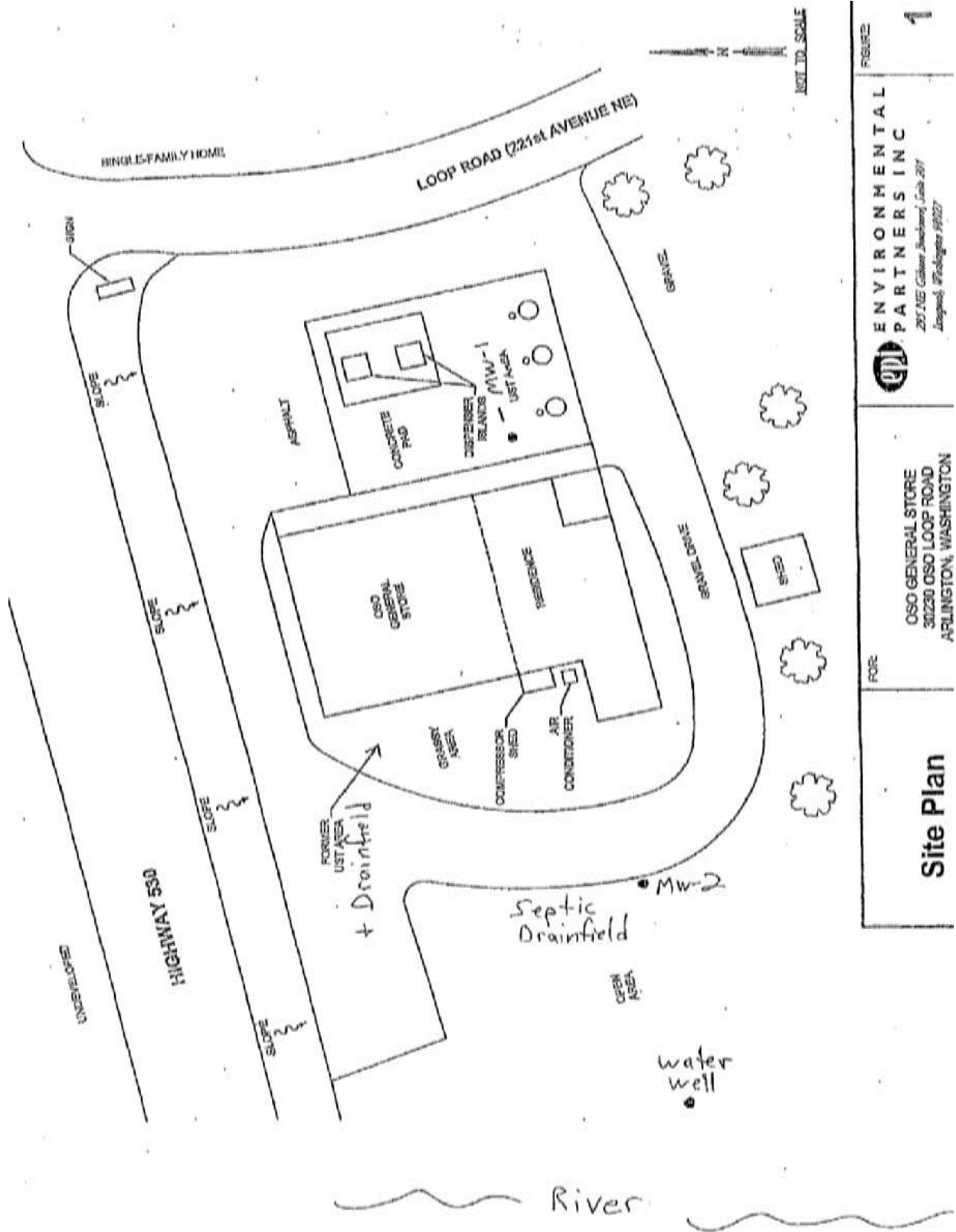
1. Quarterly Groundwater Monitoring Report — Q2 2009, dated June 3rd 2009, prepared by Environmental Partners, Inc.;
2. Final Closure Report, dated July 8th 2009, prepared by Environmental Partners;
3. 2005 Restrictive Covenant;
4. Ecology, 2011 Site Visit.

6.0 APPENDICES

6.1 Vicinity Map



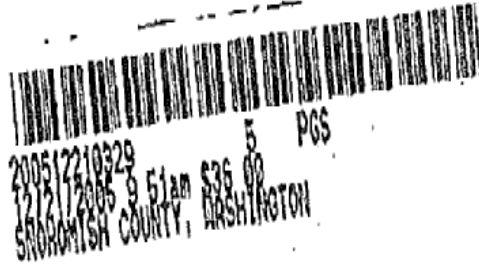
6.2 Site Plan



6.3 TPH-Dx Concentration Map (not available)

6.4 Environmental Covenant

Thomas B Williams
Michelle D Williams
30230 Oso Loop Road
Arlington, WA 98223



RESTRICTIVE COVENANT

This declaration of Restrictive Covenant is made pursuant to RCW 70 105D 030(1)(f and g), and WAC 173-340-440 Name of Property Owner, it successors and assigns, and the Washington State Department of Ecology, its successors and assigns

Legal description Ptn SW SE 8-32-7

Tax parcel no 083207-4-020-005, 4798-004-012-0006

Grantor Thomas B. Williams
Michelle D Williams

Grantee Oso General Store

RESTRICTIVE COVENANT
THOMAS B WILLIAMS and MICHELLE D WILLIAMS
OSO STORE

This Declaration of Restrictive Covenant is made pursuant to RCW 70 105D 030(1)(f) and (g) and WAC 173-340-440 by THOMAS B WILLIAMS and MICHELLE D WILLIAMS, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology")

An independent remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Restrictive Covenant. The Remedial Action conducted at the property is described in the following documents: Report prepared by Cole Geotechnical and Environmental Services, signed by its principal, John F Cole, dated _____ This document is on file at Ecology's NWRO

This Restrictive Covenant is required because the Remedial Action resulted in residual concentrations of Petroleum Hydrocarbons which exceed the Model Toxics Control Act Method A Residential Cleanup Level(s) for SOIL, established under Chapter 173-340 WAC

The undersigned, THOMAS B WILLIAMS and MICHELLE D WILLIAMS are the fee owner of real property (hereafter "Property") in the County of Snohomish, State of Washington, that is subject to this Restrictive Covenant. The Property is legally described as follows: SEE LEGAL ATTACHED HERETO AND BY THIS REFERENCE INCORPORATED HEREIN

THOMAS B WILLIAMS and MICHELLE D WILLIAMS make the following declaration as to limitations, restrictions, and uses to which the Property 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, including all current and future owners of any portion of or interest in the Property (hereafter "Owner")

Section 1 A portion of the Property contains Petroleum contaminated soil located from the main entrance of the Oso Store extending to the southeast corner of the building. The Owner shall not alter, modify, or remove the existing structure[s] in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology "

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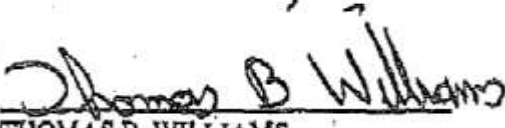
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Section 5 The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property

Section 6 The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment

Section 7 The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action, to take samples, to inspect remedial actions conducted at the property, and to inspect records that are related to the Remedial Action

Section 8 The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs


THOMAS B WILLIAMS

Date 12/20/05


MICHELLE D WILLIAMS

Date 12-15-05

6.5 Photo log

Photo 1: Front of store - from the east



Photo 2: Close-up of store front



Photo 3: Rear of store building - from the west



Photo 4: Monitoring well MW-2

