Second Periodic Review

Pacific Detroit Diesel Allison
6615 East Mallon Avenue
Spokane Valley, Washington 99212

Facility Site ID#: 739
Cleanup Site ID#: 914

Prepared by:
Washington State Department of Ecology
Eastern Region Office
Toxics Cleanup Program

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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 assure human health and the environment are being protected at the Pacific Detroit Diesel Allison site (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 Washington Administrative Code (WAC). This is the second periodic review conducted for this Site. The first periodic review was completed in November 2008. This periodic review will evaluate the period from November 2008 through November 2013.

Cleanup activities at this Site were completed under the Independent Remedial Action Program. The cleanup actions resulted in concentrations of heavy oil-range petroleum hydrocarbons (TPH-O) in soil that exceed MTCA Method A cleanup levels established under WAC 173-340-740(2). As a result of residual contamination, institutional controls were required for the Site to be eligible for a no further action (NFA) determination. WAC 173-340-420(2) requires Ecology conduct a periodic review of a site every five years under the following conditions:

1. Whenever Ecology conducts a cleanup action.
2. Whenever Ecology approves a cleanup action under an order, agreed order or consent decree.
3. Or, as resources permit, whenever Ecology issues an NFA opinion.
4. And one of the following conditions exists:

    (a) Institutional controls or financial assurance are required as part of the cleanup.
    (b) Where the cleanup level is based on a practical quantitation limit.
    (c) Where, in Ecology'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 Ecology 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.

Ecology 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 Pacific Detroit Diesel Allison facility is located in the City of Spokane Valley in Spokane County, Washington. The Site currently operates as a diesel engine and transmission repair facility under the name Pacific Detroit Diesel. It began operation as a vehicle repair facility in 1968. Prior to 1968, the property and surrounding area were residential. Currently, the facility is located in a heavily industrialized area. A vicinity map is available as Appendix 6.1 and a Site plan is available as Appendix 6.2.

2.2 Site Investigations and Remedial Activities

In October 1993, Ecology conducted an initial investigation at the Site and identified several areas at the Site that needed to be investigated further. Consequently, Phase I and II environmental site investigations were conducted at the Site. Results of the investigations identified several areas on the Site where soil contamination exceeded cleanup levels. Contamination at most of the areas was a result of past waste management practices. Wastes included used crankcase oil and engine steam cleaning/degreasing rinsates.

Contamination at the Site was identified at seven different locations. The locations were not contiguous, and were remediated as individual areas. They include:

1. Dry wells DW-1 and DW-2 infiltration system
2. Drywells DW-3, DW-4 and DW-5 infiltration system
3. Dry well DW-8 infiltration system
4. Drain field infiltration system
5. Surface spills
6. Waste oil Underground Storage Tank (UST) system
7. Closed-loop parts washing holding tank

Below is a more detailed description of the contamination and remedial action at each area.

2.2.1 Dry Wells DW-1 and DW-2

These dry wells were connected in series at the northwest corner of the building. The dry wells received water that exited the Site oil/water separator. Samples collected from the sediments in both dry wells indicated the presence of TPH-O at concentrations up to 26,000 parts per million (ppm). Samples collected from additional soil borings indicated contaminants did not exist beneath 22 feet below ground surface (bgs). Remediation in this area included removing DW-1 and DW-2 as well as 275 cubic yards of petroleum contaminated soils (PCS). Confirmation samples indicated no contaminated soils remained after excavation.

2.2.2 Dry Wells DW-3, DW-4 and DW-5

These wells were connected in series at the north central portion of the Site. These dry wells received steam cleaning water, rinsate water and stormwater runoff that originated from the service area. Samples collected from the sediments in these dry wells indicated waste oil-range hydrocarbons were present at concentrations up to 65,000 ppm and lead was detected up to 3,500 ppm. Samples collected from additional soil borings indicated contaminant concentrations were below MTCA Method A cleanup levels at 22 feet bgs. Approximately 600 cubic yards of PCS were removed from this area. Confirmation samples indicated contamination remained in this area at concentrations exceeding MTCA Method A cleanup levels [1,200 ppm total petroleum hydrocarbons (TPH) at 37 feet and 15,000 ppm TPH at 16.5 feet], but could not be removed without risking damage to Site structures. Two monitoring wells were installed to groundwater at 59 feet bgs to evaluate potential impacts to groundwater. No groundwater contamination was detected in either monitoring well.

2.2.3 Drain Field Infiltration System

The drain field infiltration system was located west of the building, parallel to the west wall. The system consisted of perforated drain pipes that received floor washing rinsate from the building's southern floor drains. Soil samples indicated the presence of TPH at a concentration of 650 ppm at a depth of 8 feet bgs. The drain field and all associated impacted soils were removed by excavation. Confirmation samples collected from the limits of the excavation did not detect contamination above cleanup levels.

2.2.4 Dry Well DW-8 Infiltration System

DW-8 was located near the west wall of the building. This dry well received water from the north central floor drain and the sink in the service area. Sediment samples collected from the dry well indicated the presence of waste-oil range petroleum hydrocarbons. Additional soil borings did not detect contamination below 22.5 feet bgs. All accessible impacted soil was excavated from the area. A soil sample collected from the center of DW-8 at 22 feet bgs indicated TPH remained at 400 ppm.

2.2.5 Surface Spills and Stains

During site investigations, four areas of apparent petroleum hydrocarbon surface staining were observed. Samples indicated the presence of waste oil-range petroleum hydrocarbons at concentrations between 1,700 and 120,000 ppm. Each spill area was remediated by excavating contaminated soils. Confirmation samples collected from the limits of the excavations did not detect contamination above cleanup levels.

2.2.6 Leaking Underground Storage Tank Sites

Pacific Detroit Diesel closed five USTs at the Site in 1989. One gasoline UST was removed, and four other USTs were closed in place. The tanks that were closed in place were cleaned, the bottoms were cut open, and soil samples were collected below each tank. The tanks were filled with pea gravel and buried. No indication of a release was noted during closure or sampling activities in 1989.

During additional investigations, contamination was discovered below two of the closed USTs. Three soil borings were installed to determine the extent of contamination. Samples indicated TPH levels ranging from 15,000 ppm at 8 feet bgs, to 250 ppm at 55 feet bgs. One soil boring was advanced to groundwater at 67 feet and was completed as a monitoring well. Groundwater samples collected from this well did not detect the presence of petroleum hydrocarbon contamination. Approximately 30 cubic yards of PCS were removed from the vicinity of these USTs, but an additional 130 cubic yards was left in place due to the proximity to the building. At the conclusion of the additional investigation in 1994, all abandoned USTs were excavated and removed.

2.2.7 Closed-Loop Parts Washing Holding Tank

During removal of the USTs, a leak was discovered in a closed-loop parts washing system holding tank. Soil samples identified a small area of contamination as a result of this leaking tank. The leak was repaired, and the contamination was left in place. It was determined that removal of the contamination could damage the structural integrity of the tank.

2.2.8 Summary

Following remedial activities, limited amounts of PCS remained in the areas of the DW-3, DW-4 and DW-5 infiltration system; the DW-8 infiltration system; the UST system; and the closed loop system. Since the extent of the contamination is limited, and there is no apparent threat to groundwater, no additional remedial action was taken.

2.3 Groundwater Monitoring

Three monitoring wells (MW-1, MW-2 and MW-3) were installed on-site. Groundwater samples were collected from MW-1 and 2 in July 1994, and from MW-3 in November 1994. Sample results indicated that groundwater was not impacted. Additional groundwater samples were collected from all three monitoring wells in July and November 1995. No contaminants were detected at concentrations above laboratory detection limits. Since the extent of remaining contaminated soil is limited and groundwater occurs at 60 feet bgs, it was determined that the remaining contaminated soil does not pose a risk to groundwater quality.

2.4 Institutional Controls

It was determined the Site would be eligible for an NFA determination if institutional controls were implemented in the form of a Restrictive (Environmental) Covenant (Covenant). A Covenant would restrict activities that might expose contaminated soils, and would serve to notify future property owners of contamination remaining at the Site. A Covenant was recorded for the Site in February 1996, and in March 1996 an NFA determination was issued.

The restrictions found in the Covenant are listed below:

1. Portions of the property designated as Area A, Area B, Area C and Area D respectively, in Exhibit A contain petroleum contaminated soil located beneath the north and west wall of the steam/dyno room, beneath a portion of the equipment wash pad and beneath a portion of the western side of the main building foundation. Remediation or removal of the contaminated soil must be addressed before the owner or a successor owner alters, modifies or removes the existing structures or buildings. Any plans for alteration, modification or removal shall be submitted to Ecology for approval.
2. The owner or successor owner of the Site must give written notice to Ecology, or to a successor agency, of the owner's or successor owner's intent to convey any interest in the Site, and shall, prior to conveyance of title, easement, lease or other interest in the Site, provide to the new owner or lessee of any interest in the Site a copy of the Spokane Detroit Diesel Allison Remedial Investigation and Cleanup Report. Copies of this Covenant shall be furnished to any transferee of such real property.
3. The owner or successor owner must notify and obtain approval from Ecology, or from a successor agency, prior to any use of the Site that is inconsistent with the terms of this Covenant. Ecology or its successor agency may approve such a use only after public notice and consent.
4. The owner or a successor owner shall grant Ecology, or a successor agency, and its designated representatives the right to enter the Site at reasonable times for the purpose of carrying out its duties under Chapter 70.105D RCW, including the right to take samples, inspect any remedial actions taken at the Site, and inspect records.
5. The owner of the Site and any successor owners reserve the right under WAC 173-340-440 to record an instrument which provides that this Covenant shall no longer limit use of the Site or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology, or of a successor agency. Ecology or a successor agency may consent to the recording of such an instrument only after appropriate public notice and consent if a Covenant is no longer required by law at this Site.

A copy of the Covenant is available as Appendix 6.3.

3.0 Periodic Review

3.1 Effectiveness of completed cleanup actions

3.1.1 Soil Direct Contact

Based upon the Site visit conducted on July 24, 2013, the building and asphalt cover at the Site continue to eliminate direct contact exposure pathways (ingestion, contact) to contaminated soils. The asphalt appears in satisfactory condition and no repair, maintenance or contingency actions have been required. The Site is still operating as a diesel engine and transmission repair business. A photo log is available as Appendix 6.4.

3.1.2 Institutional Controls

The Covenant for the Site was recorded and is in place. This 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. This Covenant serves to assure the long term integrity of the cap.

3.1.3 Residual Saturation

WAC 173-340-747(10) provides that, "the soil concentrations must not result in the accumulation of non-aqueous phase liquid in groundwater. To determine if this criterion is met....residual saturation screening levels must be established and compared with the soil concentrations".

A residual saturation screening level of 2,000 mg/kg has been established for both middle distillates [which include diesel-range petroleum hydrocarbons (TPH-D) and heavy fuel oils (which includes TPH-O)]. Based on these screening levels, soil concentrations at the Site may not be protective of groundwater; however, WAC 173-340-747 (10)(c) allows for empirical demonstration to be used to show soil concentrations measured at the Site will not result in the accumulation of non-aqueous phase liquid on or in groundwater.

WAC 173-340-747 (10)(c)(i) states that, to demonstrate empirically that measured soil concentrations will not result in the accumulation of non-aqueous phase liquid on or in groundwater, the following shall be demonstrated:

(A) Non-aqueous phase liquid has not accumulated on or in groundwater; and

(B) The measured soil concentration will not result in non-aqueous phase liquid accumulating on or in groundwater at any time in the future. Specifically, it must be demonstrated that a sufficient amount of time has elapsed for migration of hazardous substances from soil into groundwater to occur and that the characteristics of the Site (e.g., depth to groundwater and infiltration) are representative of future Site conditions.

For this Site, sufficient groundwater monitoring exists to demonstrate that TPH-D and TPH-O concentrations in soil are not resulting in the accumulation of non-aqueous phase liquids at the Site. Groundwater monitoring data has been collected over a sufficient time period to allow for migration of contaminants from soil to groundwater. Monitoring data has demonstrated that groundwater has not been contaminated with TPH; gasoline-range petroleum hydrocarbons (TPH-G) concentrations in soil do not appear to be contributing to additional groundwater contamination at the Site.

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

There is no new relevant scientific information for the petroleum 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 (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."

Although cleanup levels changed for gasoline, diesel, and volatile organic compounds as a result of modifications to MTCA in 2001, contamination remains at the Site above MTCA Method A cleanup levels.

3.4 Current and projected Site use

The Site is currently used for commercial and industrial 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 MTCA Method A cleanup levels. The presence of improved analytical techniques would not effect 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.
- Soil 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 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.

Based on this periodic review, Ecology has determined that the requirements of the Covenant are being observed. No additional remedial 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 cap 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

Bison Environmental Resources, Inc. *Spokane Detroit Diesel-Allison Independent Remedial Investigation and Cleanup Report.* 1995.

Ecology. *Independent Remedial Action Review.* 1995.

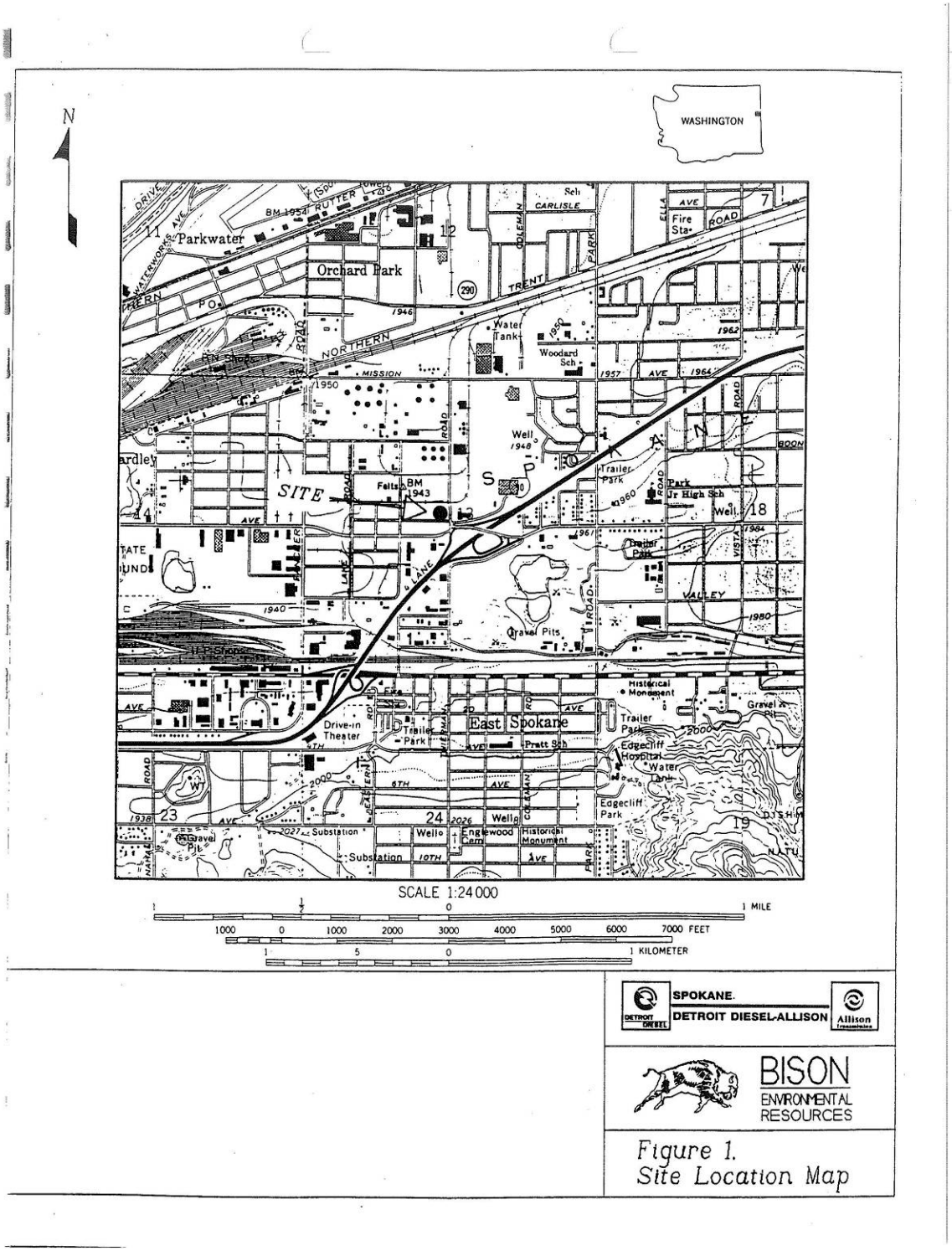
Ecology. *No Further Action Letter.* 1995.

Ecology. *Restrictive Covenant*. 1996

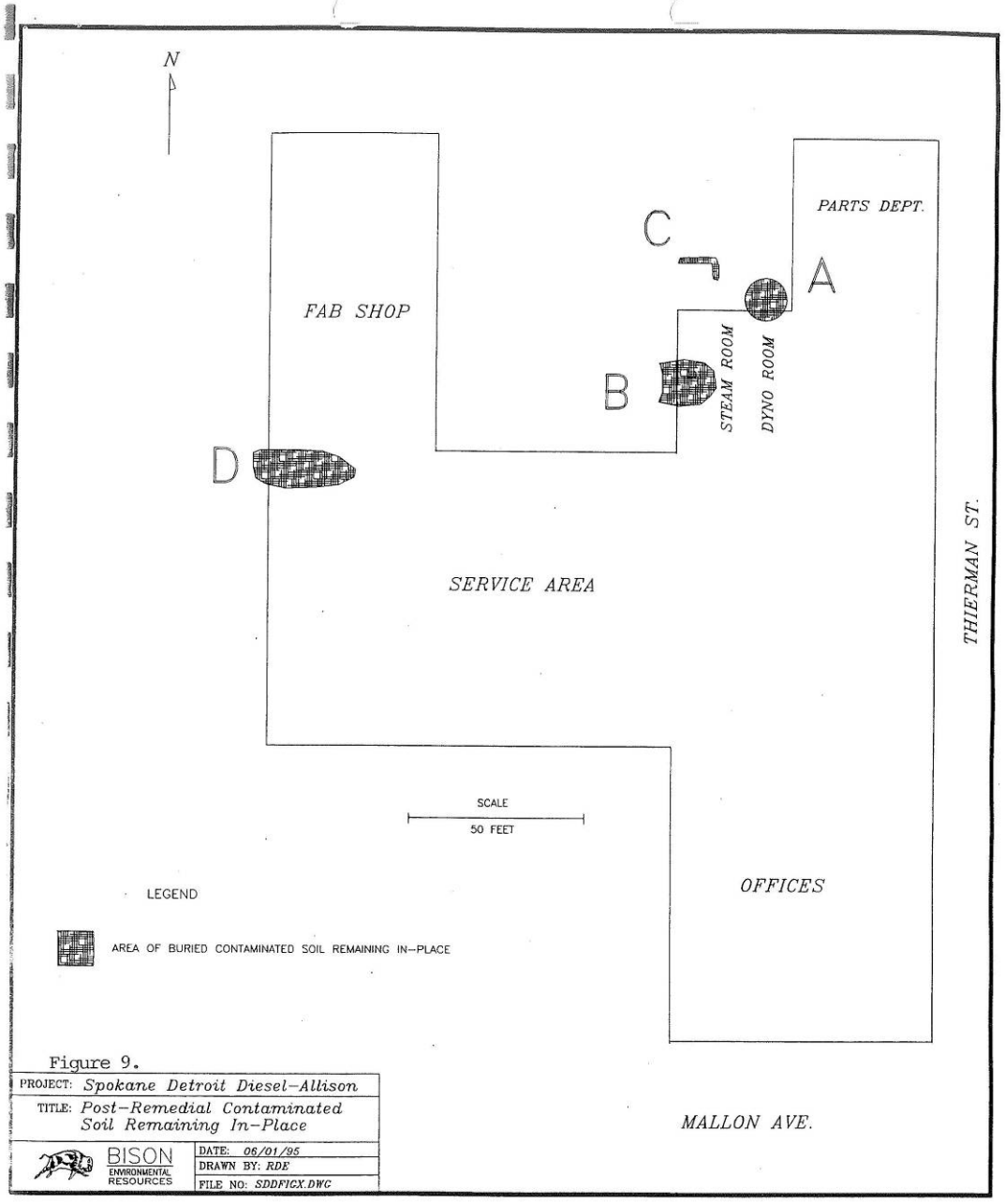
Ecology. *Site Visit.* June 2013

6.0 APPENDICES

6.1 Vicinity Map



6.2 Site Plan


N
PARTS DEPT.
C
A
FAB SHOP
B
STEAM ROOM
DYNO ROOM
D
THIERMAN ST.
SERVICE AREA
SCALE
50 FEET
OFFICES
LEGEND
AREA OF BURIED CONTAMINATED SOIL REMAINING IN-PLACE
MALLON AVE.
Figure 9.
PROJECT: Spokane Detroit Diesel-Allison
TITLE: Post-Remedial Contaminated Soil Remaining In-Place
BISON ENVIRONMENTAL RESOURCES
DATE: 06/01/95
DRAWN BY: RDE
FILE NO: SDDFICX.DWG

6.3 Environmental Covenant

RESTRICTIVE COVENANT VOL. 1826 PAGE 1901
Affecting the Spokane Detroit Diesel - Allison Site
6615 E. Mallon
Spokane, Washington

9602160276

The property that is the subject of this Restrictive Covenant has been the subject of remedial action under Chapter 70.105D RCW and is legally described as follows:

> Lots 1 through 9 and 11 through 18, Block 4, EXCEPTING Highway from Lots 1 and 18 and including all that portion of vacated strip lying between Lot 1 to Lots 8 and 11 to 18 and including South half of vacated strip North of and adjacent to Lot 9; all lying in Pipers Subdivision of Block 13 of East Spokane, according to plat recorded in Volume "M" of Plats, page 7, in Spokane County, Washington.

The remedial actions undertaken to clean up the property (hereafter the "Cleanup Action") are described in Spokane Detroit Diesel - Allison Remedial Investigation and Cleanup Report dated June 9, 1995. These documents are on file at the State of Washington Department of Ecology ("Ecology") Eastern Regional Office. This Restrictive Covenant is required under the Department of Ecology's (Ecology) rule WAC 173-340-440 because the cleanup action on the Site resulted in residual concentrations of petroleum contaminated soil which exceed Ecology's method A cleanup levels for soil established under WAC 173-340-740(3)(ii)(A), (4)(b)(ii), and WAC 173-340-745(4)(a)(ii)(A) of the Model Toxics Control Act.

The undersigned, Donald B. Burpee, is the fee owner of real property in Spokane County, State of Washington, hereafter referred to as the "Site." The Property owner 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, including all current and future owners of any portion of or interest in the Site.

Section 1. Portions of the property designated as Area A, Area B, Area C and Area D respectively, in Exhibit A contain petroleum contaminated soil located beneath the north and west wall of the steam/dyno room, beneath a portion of the equipment washpad and beneath a portion of the western side of the main building foundation. Remediation or removal of the contaminated soil must be addressed before the owner or a successor owner alters, modifies or removes the existing structures or buildings. Any plans for alteration, modification or removal shall be submitted to Ecology for approval.

Section 2. The owner or successor owner of the Site must give written notice to Ecology, or to a successor agency, of the owner's or successor owner's intent to convey any interest in the Site, and shall, prior to conveyance of title, easement, lease or other interest

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in the Site, provide to the new owner or lessee of any interest in the Site a copy of the Spokane Detroit Diesel - Allison Remedial Investigation and Cleanup Report. Copies of this Restrictive Covenant shall be furnished to any transferee of such real property.

Section 3. The owner or successor owner must notify and obtain approval from Ecology, or from a successor agency, prior to any use of the Site that is inconsistent with the terms of this restrictive covenant. Ecology or its successor agency may approve such a use only after public notice and comment.

Section 4. The owner or a successor owner shall grant Ecology, or a successor agency, and its designated representatives the right to enter the site at reasonable times for the purpose of carrying out its duties under Chapter 70.105D RCW, including the right to take samples, inspect any remedial actions taken at the site, and inspect records.

Section 5. The owner of the Site and any successor owners reserve the right under WAC 173-340-440 to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the Site or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology, or of a successor agency. Ecology, or a successor agency may consent to the recording of such an instrument only after appropriate public notice and comment if a restrictive covenant is no longer required by law at this site.

DATED: February 13, 1996.

DOUGLAS B. BURPEE

State of Washington)
: ss.
County of Spokane)

I CERTIFY that I know or have satisfactory evidence that DOUGLAS B. BURPEE is the person who appeared before me, and said person acknowledged that he signed this instrument and acknowledged it to be his free and voluntary act for the uses and purposes mentioned in the instrument.

DATED this 13th day of February, 1996.

NOTARY PUBLIC in and for the State of Washington, residing at Spokane
My Commission Expires March 1, 1998

6.4 Photo Log

Photo 1: Pacific Detroit Diesel Allison Site - from the southeast



Photo 2: North side of building - from the northeast



Photo 3: Monitoring Well on South Side of Building - from the west



Photo 4: West Side of the Building – from the northwest

