State of Oregon
Department of Environmental Quality Memorandum

Date: February 14, 2024

To: FILE, ORMS LUST20-15-1269

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Subject: Properties Northwest, LUST #20-15-1269; Staff Memorandum in support of a No Further Action determination

This document presents the basis for the Oregon Department of Environmental Quality's (DEQ's) recommended No Further Action (NFA) determination for Properties Northwest in Eugene. As discussed in this report, contaminant concentrations in soils are below acceptable risk levels.

The proposed NFA determination meets the requirements of Oregon Administrative Rules Chapter 340, Division 122, Sections 0205 to 360.

The proposal is based on information documented in the administrative record for this site. A copy of the administrative record index is presented at the end of this report.

1. BACKGROUND

Site location.
The site's location can be described as follows (see Figure 1 for a vicinity map):

- Address: 1275 Bailey Hill Rd, Eugene, Lane County, Oregon
- Latitude 44.0245º North, longitude 123.0850º West
- Lane County map and tax lot 1704353200800, Township 20 South, Range 01 West, Section 35

Site setting.
This site spans approximately 3.97 acres and is located at 1275 Bailey Hill Road in west Eugene, just to the south of Amazon Creek. The site includes several structures: a paved parking lot, the Rexius corporate office and a truck shop on the northern side of the property, and a pump island and fuel station located on the southern end of the property. The pump island is adjacent to the truck shop, which has large bay doors for the truck service bays.

The adjacent properties include Third Generation Painting to the south, Cornerstone Storage to the southwest, The Bailey at Amazon Creek Apartments to the west, and Woodland Creek Apartments to the south and southeast. The site is zoned by the City of Eugene as Mixed Use Employment, with surrounding areas zoned as Community Commercial, Medium-Density Residential, and Low-Density Residential. Amazon Creek, located to the north of the site, has an overlay zone of Waterside Protection.

Physical setting.
The site is at an elevation of 400 feet and has a relatively flat topography, gently sloping northward towards Amazon Creek. The depth to groundwater is estimated to be less than 25 feet, and the soil tested during excavation falls in the category of clays, compact tills, shales, and unfractured metamorphic and igneous rocks. Groundwater flow direction has not been determined, but DEQ feels that it likely migrates northward with the surface topography, toward Amazon Creek, which is located approximately 140 feet north of the site. The average annual rainfall in Eugene is approximately 40 inches.

Site history.
Rexius has occupied the site since 1985. Four underground storage tanks (USTs) were installed at the site in 1985 to support business operations and equipment maintenance. Three of these tanks were decommissioned by removal in October 1999: one 1,000-gallon used oil UST, one 1,000-gallon motor oil UST and one 1,000-gallon hydraulic oil UST. A petroleum release was observed when the tanks were removed in 1999, and DEQ opened LUST #20-99-7072. Following cleanup of the 1999 release, LUST #20-99-7072 received a No Further Action determination in November 1999. The fourth tank, a 12,000-gallon gasoline tank continued to be used until 2015, when it was decommissioned and removed. During decommissioning activities, petroleum contaminated soil was observed near the tank's turbine pump, indicating that the pump failed at some point. DEQ was notified about the release on August 28, 2015, and opened LUST #20-15-1269.

2. BENEFICIAL LAND AND WATER USE DETERMINATIONS

Land use.
The site and south adjacent property are zoned by the City of Eugene as E-2 Mixed Use Employment. This zoning designation allows for light and medium industrial use and is intended to provide for a mixture of industrial, commercial and office employment opportunities. The property east of the site is zoned as R-1 Low-Density Residential, which is primarily designed for single-unit residences (multi-unit residences such as duplexes and townhomes are also permitted). Two properties are located west of the site. One is zoned as C-2 Community Commercial which permits various commercial uses. The other is zoned as R-2 Medium-Density Residential, which is allows for a variety of dwellings.

It is expected that land use at the site and the surrounding properties will remain the same in the future.

Groundwater use.
The City of Eugene provides water service to the site and surrounding properties. Groundwater is not currently used for a drinking water supply or other beneficial uses at the site, and future use of groundwater is unlikely due to the availability of city water. A search for water wells and well logs confirmed that few water wells have been installed in this part of west Eugene. Some shallow water table wells are present north of W. 11th in west Eugene, but shallow soils in the vicinity of the site consist mainly of clay to at least 20 feet based on soil observations at the site and a geotechnical hole log for work done at the intersection of Baily Hill and W. 11th Avenue. Based on this information, DEQ feels it is not reasonably likely that shallow groundwater would be used for domestic purposes in the future.

Surface water use.
There are no surface water bodies at the site. The nearest surface water body is Amazon Creek, located approximately 140 feet north of the site. The creek flows west and into Fern Ridge Reservoir, which is approximately 6.25 miles west of the site. Amazon Creek experiences very little recreation use of any kind upstream from Fern Ridge Reservoir. Unhoused campers may camp along the creek at the water's edge or under bridges in the creek corridor for short durations.[1]

Stormwater drains are located on the site, which is predominantly paved with asphalt. Stormwater directed to the drain flows into the municipal sewer system, which may discharge to Amazon Creek.

3. INVESTIGATION AND CLEANUP WORK

The 2015 LUST incident at the site involved petroleum contamination from the fourth tank in the former UST system, a 12,000-gallon gasoline tank. The tank reportedly was used to store diesel before switching to gasoline storage. The release was discovered in August 2015 during tank decommissioning. The tank was decommissioned in place and the associated fuel dispensers were removed. During decommissioning activities, petroleum contaminated soil was observed near the tank's turbine pump, indicating that the pump failed at some point. DEQ was notified about the release on August 28, 2015, and opened LUST #20-15-1269. The impacted soil appeared to be limited to a few cubic yards of soil near the top of the tank.

Soil samples were collected adjacent to the failed turbine pump and underneath the fuel dispensers. Elevated concentrations of total petroleum hydrocarbons as diesel and heavy oil were detected in soils adjacent to the pump at approximately 4 feet below ground surface (bgs). Diesel was detected at a concentration of 29,100 milligrams/kilograms (mg/Kg) and heavy oil was detected at a concentration of 17,300 mg/Kg. A significantly lower concentration of gasoline was detected at a concentration of 435 mg/Kg. Various volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs) were also detected in the sample. Concentrations of diesel were also detected in soils underneath the fuel dispensers at approximately 3 feet bgs,

[1] Email correspondence between DEQ and City of Eugene Parks and Open Space Division, dated December 22, 2023.

ranging from 2,300 mg/Kg to 2,630 mg/Kg. No VOCs were detected, and two PAHs (phenanthrene and pyrene) were detected at relatively low concentrations.

In September 2015, approximately 2.3 cubic yards of petroleum contaminated soils were excavated from the area of the turbine pump and disposed of at Coffin Butte Landfill. A confirmation sample from the bottom of the resulting excavation (approximately 7 feet bgs) did not detect any petroleum hydrocarbons, indicating that impacted soils were successfully removed.

Additional soil sampling was conducted in October 2015 to delineate the extent of contamination from the fuel dispensers. Five borings were advanced, and two samples were collected from each boring, with one sample from 8 feet bgs and another from 17 feet bgs (10 samples total). Gasoline, diesel, and oil were not detected in any of the samples.

Nature and extent of contamination.
Contaminants of interest in soil include:

- Gasoline range TPH
- Diesel range TPH
- Heavy oil range TPH
- VOCs
- PAHs

Disel and gasoline impacted soils were observed on top of the east end of the tank and down to approximately 4 feet bgs on the north side of the tank, coinciding with the location of the failed turbine pump. A confirmation sample from the bottom of the resulting excavation in this area (approximately 7 feet bgs) did not detect any petroleum hydrocarbons, indicating that impacted soils were successfully removed.

Concentrations of diesel were also detected in soils underneath the fuel dispensers at approximately 3 feet bgs, ranging from 2,300 mg/Kg to 2,630 mg/Kg. Phenanthrene and pyrene (PAHs) were detected at concentrations of 0.119 mg/Kg and 0.287 mg/Kg, respectively. Contamination was not observed in deeper subsurface soils (8 feet bgs and 17 feet bgs) at and surrounding the fuel dispensers. Soils were not excavated in the dispenser area and residual contamination remains at the site. It is estimated that the pocket of residual contamination in this area encompasses an area of 1,335 cubic feet (Figure 3).

Groundwater was not encountered during tank decommissioning or site investigation activities.

4. RISK EVALUATION

Conceptual site model.
To evaluate human exposure to residual chemical contamination requires an assessment of the type and extent of that exposure. This is based on current and reasonably likely future site use. DEQ publishes risk-based concentrations (RBCs) for contaminants commonly encountered, for different types of exposure scenarios. These RBCs are conservative estimates of protective levels

of contaminants in soil, groundwater, and air. Table 1 shows potential exposure pathways and receptors for this site. Based on this, applicable RBCs are identified and used for risk screening.

Pathways by which soil contamination at the site could reach human receptors include:

- Soil ingestion, dermal contact, and inhalation for occupational receptors
- Soil ingestion, dermal contact, and inhalation for construction and excavation worker receptors
- Volatilization to outdoor air for occupational receptors
- Volatilization to indoor air for occupational receptors

Groundwater pathways are not considered in the conceptual site model. Groundwater was not encountered at the site and evidence of subsurface soil contamination deeper than 3-4 feet bgs was not observed. This suggests that shallow groundwater at the site has not been impacted by the residual contamination in soil. Moreover, the site and vicinity are served by the municipal water supply and domestic groundwater use is unlikely for the foreseeable future.

Contaminant concentrations.
Samples were last collected in October of 2015. The highest concentration of diesel contamination remaining in shallow soils was 2,630 mg/Kg. Relatively low concentrations of pyrene and phenanthrene were also detected, although DEQ does not have an RBC for phenanthrene due to its low toxicity. The highest concentrations of diesel and pyrene for complete pathways are below the RBC thresholds.

Contaminant	Concentration	RBCss for occupational worker	RBCss for construction worker	RBCss for excavation worker	RBCso for occupational worker
Diesel	2,630 mg/Kg	14,000 mg/Kg	4,600 mg/Kg	>Max	>Max
Pyrene	0.287 mg/Kg	23,000 mg/Kg	75,000 mg/Kg	210 mg/Kg	>Csat

RBCss = RBC for soil ingestion, dermal contact, and inhalation.
RBCso = Volatilization from soil to outdoor air.
>Max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario.
>Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning. The detected concentration for pyrene is lower than its Csat value (70.88 mg/Kg).

DEQ no longer has RBCs to evaluate the soil to vapor intrusion to indoor air pathways. Generally, DEQ considers that concentrations of diesel-range hydrocarbons of 500 mg/Kg or above could result in possible vapor intrusion. The highest diesel concentration measure in soil at this site in 2015 was about five times greater than 500 mg/Kg. However, the contamination remaining at the site is limited in area, and it is likely that natural attenuation has reduced the concentrations of hydrocarbons in the soil. Further, the building nearest the dispenser area, where the contamination remains, is a shop building with large bay doors for working on trucks, and is not a traditional indoor air exposure situation, such as an office setting. For these reasons, DEQ does not believe that vapors from the remaining soil should present an unacceptable risk to workers in the shop building.

Human health risk. The highest concentrations of diesel TPH and pyrene do not exceed RBCs for soil ingestion, dermal contact, and inhalation or volatilization to outdoor air for occupational, construction, and excavation worker receptors. DEQ feels that the residual diesel contamination should not result in unacceptable vapor intrusion risk to workers in the shop building. Therefore, there is no unacceptable risk to current and future workers at the site.

Ecological risk.
Shallow groundwater at the site is estimated to flow to the north/northwest towards Amazon Creek. The extent of residual contaminated soil observed within 3 feet of ground surface has been delineated and is limited to the site. Clays observed in the subsurface geology from 1 feet bgs to 17 feet bgs have likely confined the contamination at the depth of the release. Based on this information, shallow groundwater, if present beneath the site, is likely limited, and is not reasonably likely to discharge to or otherwise impact surface water or aquatic sediments, or vegetation and wildlife supported by the creek. The site is entirely paved and there is no near-surface contamination remaining that could affect surface water runoff to the storm drain system (and Amazon Creek), and there is no ecological habitat at the site.

5. RECOMMENDATION

Following removal of contamination and based on sample results for soil, acceptable risk levels are not exceeded, and a No Further Action determination is recommended for this site. The No Further Action determination should be recorded in DEQ's underground storage tank database (Facility No. 8643 and LUST No. 20-15-1269).

6. ADMINISTRATIVE RECORD

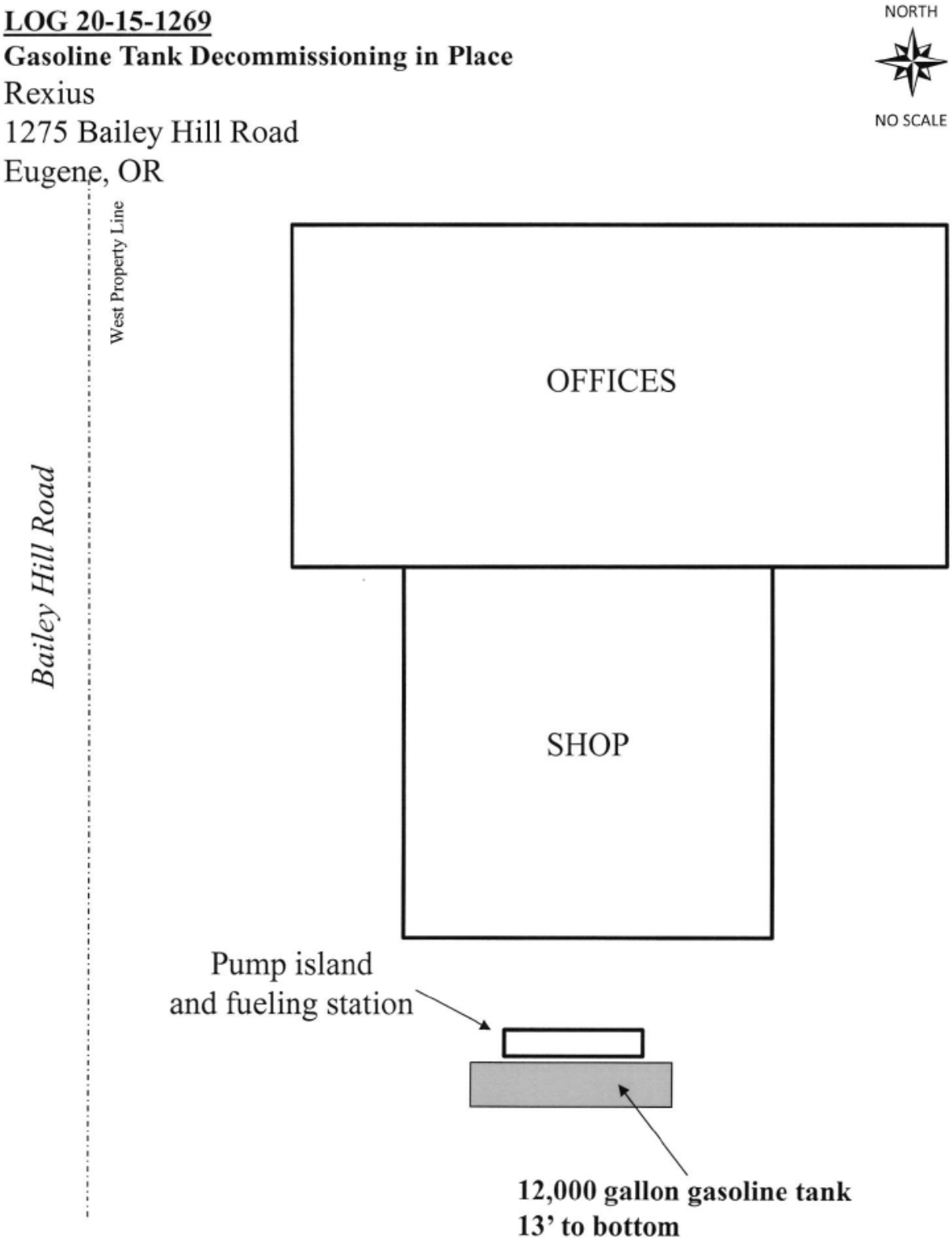
Generic Remedy Cleanup Report – LOG #20-15-1269, Staton Companies, November 25, 2015.

7. ATTACHMENTS

1. Figure 1. Vicinity map
2. Figure 2. Site map
3. Figure 3. Tank decommissioning soil sample locations
4. Figure 4. Estimated extent of residual soil contamination
5. Table 1. Identification of applicable RBCs, based on pertinent pathways and receptors

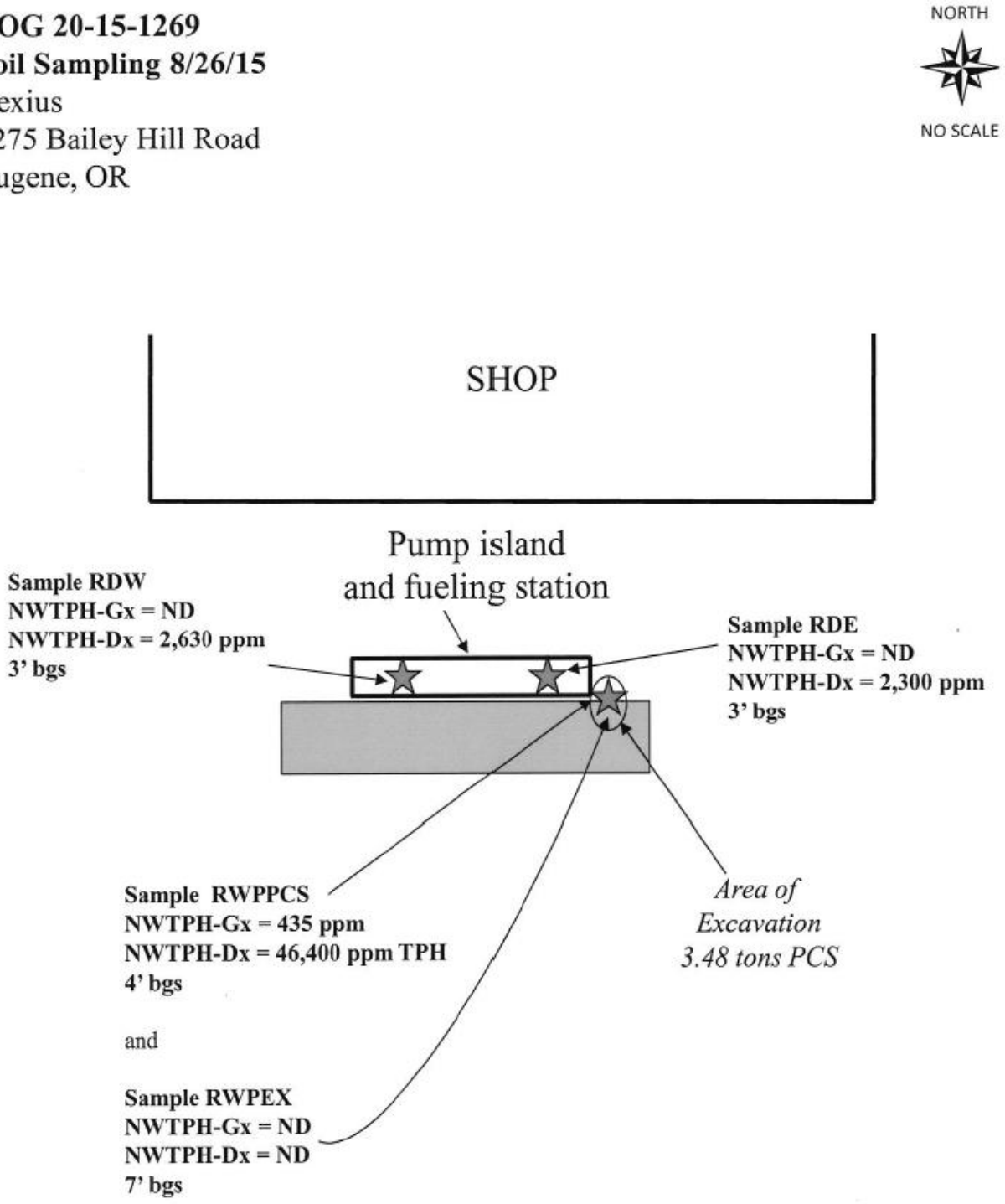
Figure 1. Vicinity map

Figure 2. Site map



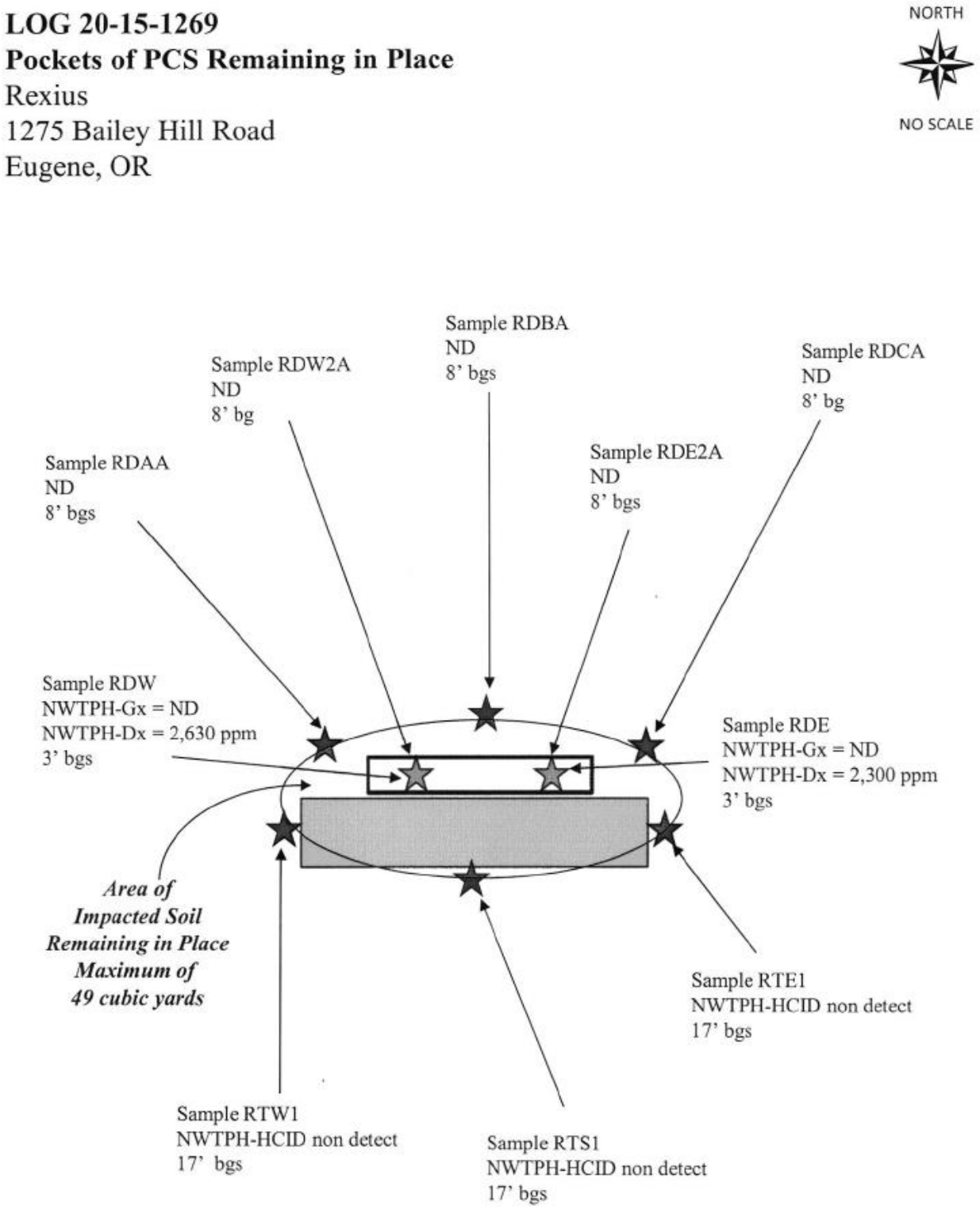
From *Generic Remedy Cleanup Report – LOG #20-15-1269*, Staton Companies, November 25, 2015.

Figure 3. Tank decommissioning soil sample locations



From *Generic Remedy Cleanup Report – LOG #20-15-1269*, Staton Companies, November 25, 2015.

Figure 3. Estimated extent of residual soil contamination



From *Generic Remedy Cleanup Report – LOG #20-15-1269*, Staton Companies, November 25, 2015.

Table 1. Identification of applicable RBCs, based on pertinent pathways and receptors

	Pathway	Receptor	Is Pathway Complete?	Is RBC Exceeded?	Comments
Soil	Ingestion, Dermal Contact, and Inhalation	Residential	No	Yes	See note 1.
		Urban Residential	No	Yes	
		Occupational	Yes	No	
		Construction Worker	Yes	No	
		Excavation Worker	Yes	No	
	Volatilization to Outdoor Air	Residential	No	No	
		Urban Residential	No	No	
		Occupational	Yes	No	
	Vapor Intrusion into Indoor Air	Residential	No	N/A	See note 2.
		Urban Residential	No	N/A	
		Occupational	Yes	N/A	
	Leaching to Groundwater	Residential	No	No	See note 3.
		Urban Residential	No	No	
		Occupational	No	No	
Groundwater	Ingestion & Inhalation from Tap Water	Residential	No	N/A	See note 4.
		Urban Residential	No	N/A	
		Occupational	No	N/A	
	Volatilization to Outdoor Air	Residential	No	N/A	See note 5.
		Urban Residential	No	N/A	
		Occupational	No	N/A	
	Vapor Intrusion into Indoor Air	Residential	No	N/A	
		Commercial	No	N/A	
	Groundwater in Excavation	Construction & Excavation Worker	No	N/A	
Ecological		Terrestrial & Surface Water	No	N/A	See note 6.

Notes:

1. Use of the site is currently occupational. Occupational use of the site is expected into the foreseeable future. The nearest potential residential receptors are over 450 feet away from the area of residual contamination. While RBCs were exceeded, the residential and urban residential exposure scenarios are incomplete.
2. DEQ no longer has RBCs to evaluate the soil to vapor intrusion to indoor air pathways. Generally, DEQ considers that concentrations of diesel-range hydrocarbons of 500 mg/Kg or above could result in possible vapor intrusion. The highest diesel concentration measure in soil at this site in 2015 was about five times greater than 500 mg/Kg. However, the contamination remaining at the site is limited in area, and it is likely that natural attenuation has reduced the concentrations of hydrocarbons in the soil.

3. Groundwater is not used for drinking. This pathway is therefore not considered, in accordance with Section B.3.2.4 of DEQ's RBDM guidance.
4. City water is provided. Local groundwater is not currently used for drinking water and is not likely to be used for this purpose in the future.
5. Groundwater was not encountered at the site and evidence of subsurface soil contamination deeper than 3-4 feet bgs was not observed. This suggests that groundwater at the site has not been impacted by the residual contamination in soil.
6. There is no surface water or terrestrial habitat at the site and the contamination is limited to the site. Clays observed in the subsurface geology from 1 feet bgs to 17 feet bgs have likely confined the contamination at the depth of the release (approximately 3 feet bgs to 4 feet bgs).