

State of Oregon
Department of Environmental Quality

Memorandum

Date: November 18, 2024

To: FILE

Through: Brad Shultz, Manager
Bruce Scherzinger, RG Lead Worker
Western Region Environmental Cleanup and Emergency Response

From: Sarah Kingery
Western Region

Subject: ARCO 4407, LUST24-01-4010;
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 the ARCO 4407 site, in Salem. As discussed in this report, contaminant concentrations in soil, groundwater, and soil vapor are below acceptable risk levels.

The proposed Conditional NFA determination meets the requirements of Oregon Administrative Rules Chapter 340, Division 122, Sections 0205 to 360 and ORS 465.200 through 465.455.

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 is shown on Figure 1 and can be described as follows:

- Address: 501 Lancaster Drive NE, Salem, Marion County, Oregon.
- Latitude 44.936834° North, longitude 122.983452° West (Figure 1)
- Tax lots 2200 and 2300, Township 07 South, Range 02 West, Section 30

Site setting.

The site is comprised of tax lots 2200 and 2300. Tax lot 2200 is a long thin rectangular plot of land at the north of the site and is 0.06 acres in size. Tax lot 2300 is a larger rectangular lot covering 0.43 acres and has a rounded southeast corner at the intersection of Lancaster Drive and Auburn Road. The main building on the site is an approximately 2,900 square foot convenience store situated in the northwest corner of the property and straddles both tax lots. In the eastern central portion of the site is a fueling area and canopy. Three underground storage tanks (USTs) are located in the south-central portion of the site adjacent to Auburn Drive (Figure 2). All three tanks are 12,000-gallon reinforced fiberglass and hold only gasoline. The remainder of the site is

paved with asphalt except for some small, landscaped areas along the streets. Parking spaces are located along the western property and at the convenience store.

The site is zoned Commercial Retail (CR). Immediately adjacent to the north of the convenience store is a Red Lobster, which is also zoned CR. East of the site is Lancaster Drive and a strip mall beyond to the east and northeast. In the strip mall property, the closest building is a Columbia Bank. The strip mall property is also zoned CR. Southeast of the site diagonally across the intersection of Lancaster Drive and Auburn Road is a small shopping which is zoned CR. Auburn Road borders the south side of the site. A church, parking lot, gravel lot, and a potential residence, all owned by the church are located on the south side of Auburn Road. The entire church property is zoned RM Multiple Family Residential. West of the site is the Red Lobster parking lot with residences beyond. The residences are zoned RS Single Family Residential.

Physical setting.

The site sits at an elevation of about 218 feet above mean sea level and is flat. Area topography is similar with a slight slope from east to west. Soils encountered during onsite investigations generally consist of silts and silt-sand-clay mixtures to approximately 15 feet below ground surface (bgs).

Groundwater at the site has been measured as shallow as 2 feet bgs and as deep as 14 feet. Typically, depth to groundwater ranges seasonally between 5 and 14 feet bgs. Shallow groundwater less than 5 feet bgs had been periodically measure in monitoring well MW-4 only. This well is located near buried utilities that may be impacting depth to water in this part of the site. Groundwater flow at the site appears relatively flat. The gradient fluctuates seasonally, typically flowing to the west during the winter and then to the east during the summer. The nearest surface water is Mill Creek located over a mile to the southwest and flows north.

Site history.

The site appears to have been first developed as a service station in 1966 when four USTs were installed (two 6,000-gallon and one 4,000-gallon gasoline tanks and a 300-gallon used oil tank). Available areal imagery supports this information. An additional 12,000-gallon UST was installed in 1983. Antea Group did not locate any records that indicate the station historically handled diesel fuel or waste oil. DEQ's UST database does not list a decommissioning date for any of these tanks, however, it is likely they were all removed by 1987 when the current tanks were installed. The current convenience store was also constructed in 1987 indicating the previous service station was likely demolished by then. Since 1987, the site has operated in its current configuration.

2. BENEFICIAL LAND AND WATER USE DETERMINATIONS

Land use.

Land use within about 75 feet of the impacted area is zoned solely CR, Commercial Retail. The purpose of the commercial retail zone is to provide areas suitable for professional and general commercial offices, retail sales within a building, eating and drinking places, commercial accommodations, and commercial services. This zoning allows for very limited residential type

uses such as bed and breakfasts, hotels, and other lodging associated with a commercial use. Given the site's long historical use as a fueling/service station and its location along a busy arterial roadway these future urban residential uses of the property are unlikely.

The church property south of the site and south of Auburn Road is zoned RM Multifamily Residential. The closest portion of the church property has been a paved parking lot since 1981. The church also owns a residential building. Current use of this building is unknown. The closest corner of that building is located about 140 feet away from the nearest edge of the contaminated area and is unlikely to be impacted.

Groundwater use.

Groundwater impacts are limited to the site. The City of Salem provides municipal water to the entire area. Salem draws its water from the North Santiam River approximately 15 miles southeast of the site.

Antea Group reviewed well logs through the Oregon Water Resources Division (OWRD) tools to identify supply wells within a ½ mile radius of the site. Sixty-five wells were located within the ½ mile radius. Seventeen of those wells were listed as being domestic, irrigation or industrial use wells. The investigation was reduced to a ¼ mile radius of the site and identified seven wells. Three of these wells were identified as having domestic use. The domestic wells were completed to depths of 68, 75 and 420 feet bgs and it is unlikely that they are connected to shallow groundwater.

Surface water use.

The nearest surface water is Mill Creek located over a mile to the southwest and flows north. Given Mill Creek's distance from the Site, it will not be impacted from this release. Stormwater on the site drains to two catch basins located north and south of the dispenser area. These catch basins drain into the City of Salem's storm sewer system where the water will be discharged to surface water, likely Mill Creek.

3. INVESTIGATION AND CLEANUP WORK

Petroleum hydrocarbon contamination was discovered in April 2001 during a product line and dispenser upgrade. The release was reported to DEQ on April 17, 2001, and the leaking underground storage tank (LUST) file 24-01-4010 was opened. Between 2001 and 2019 a series of investigations were conducted to delineate the extent of the contamination. Investigations included 14 borings onsite, 5 borings offsite, and two vapor points installed onsite. Approximately 101 soil samples were collected and analyzed during the investigations. The focus of the investigations was the fuel dispensers located beneath a canopy on the east side of the property along Lancaster Drive.

Initial soil sample analysis included total petroleum hydrocarbons (TPH) in the gasoline, diesel, and oil-range (TPH-G, TPH-D, TPH-O), volatile organic compounds (VOCs), and polycyclic aromatic compounds (PAHs). Initial soil analysis did not detect PAHs, and the analysis was discontinued for subsequent samples. Analysis of soil for TPH-D and TPH-O was also done on

initial assessment sampling. Detections of TPH-D and TPH-O were determined to be representative of aged gasoline. TPH-D and TPH-O analysis was discontinued for samples collected around the fuel dispensers once TPH-G was identified as the primary contaminant of concern (COC). Soil sample locations are shown on Figure 2.

Four monitoring wells (MW-1, MW-2, MW-3, and MW-4) were installed onsite, and two wells (MW-5 and MW-6) were installed offsite. Quarterly groundwater monitoring was conducted between 2003 and 2020 and then switched to twice a year through 2023. The offsite wells were abandoned in 2023 to accommodate a request by Marion County. Groundwater samples were typically analyzed for TPH-G and risk-based decision manual (RBDM) VOCs. RBDM VOCs consist of a shortened list of analytes that are typically associated with petroleum fueling stations and include: benzene, toluene, ethylbenzene, xylenes (BTEX), methyl t-butyl ether (MTBE), naphthalene, 1,2-Dichloroethane (EDC), 1,2-Dibromoethane (EDB), iso-propyl benzene (cumene), n-propyl benzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. In addition to groundwater monitoring, groundwater samples were obtained from borings in 2001, 2009, and 2019 and analyzed for TPH-G, RBDM VOCs and PAHs.

Two soil vapor points (SV-1 and SV-2) were installed in 2019. Vapor point SV-1 was installed just north of the dispenser islands and SV-2 was located next to the southeast corner of the station building. Soil vapor samples were collected two times (August 2019 and November 2020) and were analyzed for gasoline-range hydrocarbons and RBDM VOCs by EPA Method TO-15.

In 2017 soil remediation by excavation occurred around the fuel dispensers. Approximately 1,020 tons of soil were removed and disposed of at Coffin Butte Landfill. To maintain the integrity of the canopy footing some contaminated soil was left in place. Excavation samples were obtained to document the soil conditions (Figure 4). Soils samples obtained from the final excavation walls and floor were analyzed for gasoline-range hydrocarbons and BTEX.

Nature and extent of contamination.

Soil, groundwater, and soil vapor at the site have been impacted with petroleum hydrocarbons and associated constituents. The contaminants of concern are gasoline range hydrocarbons, BTEX, naphthalene, MTBE, iso-propyl benzene, n-propyl benzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.

Soil

The highest concentrations (7,350 mg/kg TPH-G) in soil were detected in samples collected from the dispenser islands. Approximately 1020 tons of contaminated soil was removed from the area around the former dispensers and disposed of offsite. Soil samples obtained from final limits of the remediation excavation had concentrations of TPH-G ranging from less than laboratory detection limits to 1,200 mg/kg. Higher concentrations were typically encountered at depths between 11 and 12 feet bgs. Remaining contamination between 3 and 7 feet bgs had TPH-G concentrations ranging from 200 mg/kg to not detected. The maximum concentration of TPH-G in remaining soil beneath the dispensers exceeds the risk-based concentrations (RBCs) for

leaching to groundwater. Concentrations of BTEX and RBDM VOCs in soil beneath the dispensers did not exceed RBCs for construction and excavation worker receptors.

Groundwater

The groundwater beneath the site has been contaminated with gasoline-range hydrocarbons and VOCs, specifically BTEX, naphthalene, and MTBE. Concentrations of these chemicals have decreased over time. During the last 4 groundwater sampling events no contaminants have been detected in MW-1 and MW-4. Concentrations of TPH-G were detected in MW-2 ranging from not detected to 522 µg/l; benzene at a maximum concentration of 5.82 µg/l; naphthalene at a maximum concentration of 5.71 µg/l. Other VOCs detected in MW-2 were at concentrations below applicable RBCs. Groundwater samples obtained from MW-3 had concentrations of TPH-G ranging from not detected to 213 µg/l (also in method blank) and MTBE ranging from 61.5 to 151 µg/l. Concentrations in groundwater are currently at or below the groundwater vapor intrusion RBCs for commercial receptors. Contamination has not been detected in groundwater samples from offsite monitoring wells (MW-5 and MW-6) during the duration of the groundwater monitoring. Groundwater grab samples (TW-1 and TW-2) obtained next to the station building did not contain contaminants. The groundwater plume of remaining contaminants is shown on figure 4.

Soil vapor

Soil vapor in the vicinity of the dispensers has been contaminated with petroleum hydrocarbons, specifically gasoline, naphthalene, and possibly benzene and ethylbenzene. Samples were collected during August 2019 and November 2020 to capture seasonal soil vapor fluctuations. Concentrations of total hydrocarbons as gas (THC-gas) and naphthalene were detected in August from soil vapor point SV-1 located next to the dispensers. Only THC-gas was detected at this location during the November sampling event. However, laboratory detection limits exceeded the RBCs for naphthalene, benzene and ethylbenzene, potentially obscuring the presence of these chemicals in soil vapor. Detected concentrations of THC-gas were 7,940,000 µg/m³ and 4,340,000 µg/m³; naphthalene was 3,310 µg/m³. These concentrations exceed the soil vapor RBCs for residential and commercial receptors. There are currently no buildings on this portion of the site.

Soil vapor point SV-2 is located next to the station building and MW-3. THC-gas was detected at concentrations of 485,000 and 3,120 µg/m³ during August 2019 and November 2020, respectively. Naphthalene was not detected at this location however issues with laboratory detection limits greater than the RBCs were present in the August data for this sample.

Groundwater samples collected in August of 2019 and in September of 2020 had concentrations of THC-gas and naphthalene above the groundwater vapor intrusion RBCs. This correlates with the high concentrations of THC-G and naphthalene detected in soil vapor samples obtained around the same time. Semi-annual groundwater sampling ~~in~~ during 2022 and 2024 has shown a decrease in concentrations of TPH-G to below the commercial vapor intrusion RBCs.

4. RISK EVALUATION

Conceptual site model.

The original source of the contamination was the fuel dispensers which were replaced with upgraded dispensers. Soil, groundwater, and soil vapor were all impacted by the release. Secondary sources of contamination are present in the soil, groundwater, and soil vapor in the vicinity of the fuel dispensers. The receptors for this site are occupational/commercial, and construction and excavation workers. Due to current use of the site, zoning, and no evidence of offsite migration of contamination, pathways for residential receptors are considered incomplete.

Some potential future uses of the site may require consideration pathways to human receptors include:

- Soil ingestion, dermal contact and inhalation to construction and excavation workers.
- Groundwater in excavations for construction and excavation workers.
- Vapor intrusion into buildings for commercial receptors.

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.

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 and/or Urban Residential	No	No	
		Occupational	No	No	
		Construction Worker	Yes	No	Source area contaminated soils were excavated in 2017. Low level soil contamination remains at concentrations below RBCs.
		Excavation Worker	Yes	No	
	Volatilization to Outdoor Air	Residential and/or Urban residential	No	No	
		Occupational	No	No	
	Volatilization to Indoor Air	Commercial	No	No	
	Leaching to Groundwater	Occupational	No	Yes	No current or reasonably likely future use of shallow groundwater for domestic purposes.

Groundwater	Ingestion & Inhalation from Tap Water	Residential and/or Urban residential	No	Yes	No current or reasonably likely future use of shallow groundwater for domestic purposes.
		Occupational	No	Yes	
	Vapor Intrusion into Buildings	Residential	No	Yes	Commercial Site
		Commercial	Yes	No	Concentrations of COIs in groundwater are below applicable RBCs.
	Groundwater in Excavation	Occupational	Yes	No	
Soil Vapor	Vapor Intrusion into Buildings	Residential	Yes	No	
		Commercial	No	Yes	Commercial buildings are at a lateral distance of 30 feet from the source.
Ecological		Terrestrial & Surface Water	No	No	

Contaminant concentrations.

Soil

Contaminant of Concern	Maximum Residual Concentration mg/kg	Are any applicable RBCs exceeded?
Gasoline-range hydrocarbons	1,200	No
Benzene	8.5	No
Toluene	18	No
Ethylbenzene	26	No
Xylenes	130	No

Groundwater

Contaminant of Concern	Maximum Concentration (most recent sample event) µg/l	Are any applicable RBCs exceeded?
Gasoline-range hydrocarbons	522	Yes
Benzene	5.35	No
Ethylbenzene	32.7	No

Soil Vapor

Contaminant of Concern	Maximum Concentration µg/m³	Are any applicable RBCs exceeded?
Gasoline-range hydrocarbons	7,940,000	Yes
Naphthalene	3,310	Yes
Benzene	Laboratory detection limit above the commercial RBC of 52 µg/l	

Human health risk.

Residual concentrations of gasoline and gasoline constituents remain in the soil and groundwater in the vicinity of the dispensers at Arco 4407. Groundwater is not used in the vicinity of the site for drinking water, and DEQ does not consider the perched aquifer a viable groundwater source, so ingestion is not considered an applicable pathway. The pathways that are applicable are soil

direct contact by construction and excavation workers, groundwater in excavations, and groundwater vapor intrusion.

Soil contamination remains beneath the fuel dispensers at depths ranging from 3 to 12 feet. The highest concentrations are at 12 feet bgs. Concentrations of contaminants remaining in the soil are below the applicable RBCs for ingestion, dermal contact, and inhalation for construction and excavation workers.

Groundwater contamination remains beneath the fuel dispensers. Contaminant concentrations are below the groundwater in excavation RBCs for construction and excavation workers. One groundwater sample from MW-2 had a concentration of TPH-G and ethylbenzene slightly above the 2023 vapor intrusion RBCs for commercial receptors, however the groundwater contamination is localized around the dispenser island and does not extend beneath the building and is located at a lateral distance of 30 feet or greater from any buildings. Concentrations of contaminants have decreased over time and are expected to continue to decrease through natural attenuation.

Soil vapor concentrations obtained near the current building initially exceeded the vapor intrusion RBCs and then dropped to concentrations below the RBCs in the second sampling in 2020. Additional lines of evidence that soil vapor conditions in this portion of the site are below acceptable risks are:

- Groundwater flow direction is east to northeast away from the service station building.
- Depth to groundwater is greater than 5 feet bgs which allows for attenuation in the subsurface.
- Groundwater contamination in this area is below the groundwater vapor intrusion RBCs for commercial receptors. The remaining contamination in ground water that exceeds the vapor intrusion RBCs is located more than 30 feet from the building.
- Utilities on site do not pass through the zone of contamination before entering the building eliminating utilities as potential vapor conduits.

Ecological risk.

The area is fully developed or is paved within 100 feet of the impacted area. Impacted groundwater does not discharge to surface water or contact aquatic sediments. There does not appear to be any habitable space within or near the contamination. There are, therefore, no unacceptable ecological risks identified for the site.

5. RECOMMENDATION

Based on the current site conditions, potential future uses of the site, and sample results for soil, groundwater and soil vapor, acceptable risk levels are not exceeded and DEQ recommends a no further action (NFA) determination for this site.

Because concentrations remaining are below the RBCs for construction and excavation workers a Contaminated Media Management Plan (CMMP) is not required, however one has been included in the Risk-Based Closure Report (Antea Group, 11/12/2023).

The No Further Action determination should be recorded in DEQ's environmental data management system also known as Your DEQ Online (YDO) under project number 24-01-4010.

6. ATTACHMENTS

Figure 1: Site Location Map

Figure 2: Site Map

Figure 4: Impacted Groundwater Boundary

7. ADMINISTRATIVE RECORD

Volume 1

Petroleum Release Report – 4/17/2001 – Chris Moul, ARCO
Report – 20 Day Report and Request No Further Action – May 7, 2001 – SECOR
Report – Workplan for Additional Investigation – September 18, 2001 – SECOR
Report – Subsurface Investigation Report – February 20, 2002 – SECOR
Report – Third Quarter 2003 Monitoring Report – October 2003 – URS
Report – Site Investigation and Groundwater Monitoring Well Installation Report – October 2003 – URS

Volume 2

Report – Fourth Quarter 2003 Monitoring Report – December 2003 – URS
Report – First Quarter 2004 Monitoring Report – March 2004 – URS
Report – Second Quarter 2004 Monitoring Report – July 2004 – URS
Report – Third Quarter 2004 Monitoring Report – October 2004 – URS
Report – Fourth Quarter 2004 Monitoring Report – December 2004 – URS

Volume 3

Report – First Quarter 2005 Monitoring Report – April 2005 – URS
Report – Second Quarter 2005 Monitoring Report – June 2005 – URS
Report – Work Plan Off-site Monitoring Well Installation – August 2005 - URS
Report – Third Quarter 2005 Monitoring Report – October 2005 – URS

Volume 4

Report – Off-site Monitoring Well Installation – December 2005 - URS
Report – Fourth Quarter 2005 Monitoring Report – December 2005 – URS
Report – First Quarter 2006 Monitoring Report – March 2006 – URS

Volume 5

Report – 2Q06 GW Monitoring Report – October 2, 2006 - Delta Environmental
Report – 3Q06 GW Monitoring Report – December 28, 2006 - Delta Environmental
Report – 4Q06 GW Monitoring Report – March 5, 2007 - Delta Environmental
Report – 1Q07 GW Monitoring Report – May 14, 2007 - Delta Environmental
Report – Work Plan for Offsite Groundwater – August 14, 2007 – Delta Environmental
Report – 2Q07 GW Monitoring Report – September 5, 2007 - Delta Environmental

Volume 6

Report – 3Q07 GW Monitoring Report – December 20, 2007 - Delta Environmental
Report – 4Q07 GW Monitoring Report – March 13, 2008 - Delta Environmental
Report – 1Q08 GW Monitoring Report – March 13, 2008 - Delta Environmental
Report – 2Q08 GW Monitoring Report – August 22, 2008 - Delta Environmental

Volume 7

Report – 3Q08 GW Monitoring Report – November 3, 2008 - Delta Environmental
Report – 4Q08 GW Monitoring Report – January 22, 2009 - Delta Environmental
Report – Offsite Investigation Report – March 10, 2009 – Delta Environmental

Volume 8

Report – 1Q09 GW Monitoring Report – April 9, 2009 - Delta Environmental
Report – 2Q09 GW Monitoring Report – June 17, 2009 - Delta Environmental
Report – 3Q09 GW Monitoring Report – November 4, 2009 - Delta Environmental
Report – 4Q09 GW Monitoring Report – January 8, 2010 - Delta Environmental

Volume 9

Report–1Q10 GW Monitoring Report – March 23, 2010 - Delta Environmental
Report–2Q10 GW Monitoring Report – August 2, 2010 - Delta Environmental
Report–3Q10 GW Monitoring Report – November 3, 2010 - Delta Environmental
Report–4Q10 GW Monitoring Report – January 18, 2011 – Antea Group

Volume 10

Report–1Q11 GW Monitoring Report – April 6, 2011 – Antea Group
Report–2Q11 GW Monitoring Report – August 18, 2011 – Antea Group
Report–3Q11 GW Monitoring Report – November 7, 2011 – Antea Group
Report–4Q11 GW Monitoring Report – January 4, 2012 – Antea Group

Volume 11

Report–1Q12 GW Monitoring Report – April 13, 2012 – Antea Group
Report–2Q12 GW Monitoring Report – August 8, 2012 – Antea Group
Report–3Q12 GW Monitoring Report – September, 2012 – Antea Group
Report–Soil Investigation Report – October 22, 2012 – Antea Group

Volume 12

Report–4Q12 GW Monitoring Report – January 28, 2013 – Antea Group
Report–1Q13 GW Monitoring Report – April 25, 2013 – Antea Group
Report–2Q13 GW Monitoring Report – August 8, 2013 – Antea Group
Report–3Q13 GW Monitoring Report – November 20, 2013 – Antea Group
Report–4Q13 GW Monitoring Report – January 15, 2014 – Antea Group

Volume 13

Report–1Q14 GW Monitoring Report – March 24, 2014 – Antea Group
Report–2Q14 GW Monitoring Report – August 11, 2014 – Antea Group
Report–3Q14 GW Monitoring Report – December 3, 2014 – Antea Group
Report–4Q14 GW Monitoring Report – January 30, 2015 – Antea Group

Volume 14

Report–1Q15 GW Monitoring Report – July 16, 2015 – Antea Group
Report–2Q15 GW Monitoring Report – October 19, 2015 – Antea Group
Report–3Q15 GW Monitoring Report – January 14, 2016 – Antea Group
Report–4Q15 GW Monitoring Report – February 12, 2016 – Antea Group

Volume 15

Report–1Q16 GW Monitoring Report – April 29, 2016 – Antea Group
Report–2Q16 GW Monitoring Report – June 17, 2016 – Antea Group
Report–3Q16 GW Monitoring Report – October 4, 2016 – Antea Group
Report–4Q16 GW Monitoring Report – February 22, 2017 – Antea Group
Report–1Q17 GW Monitoring Report – August 21, 2017 – Antea Group

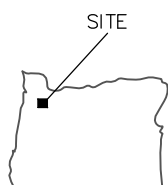
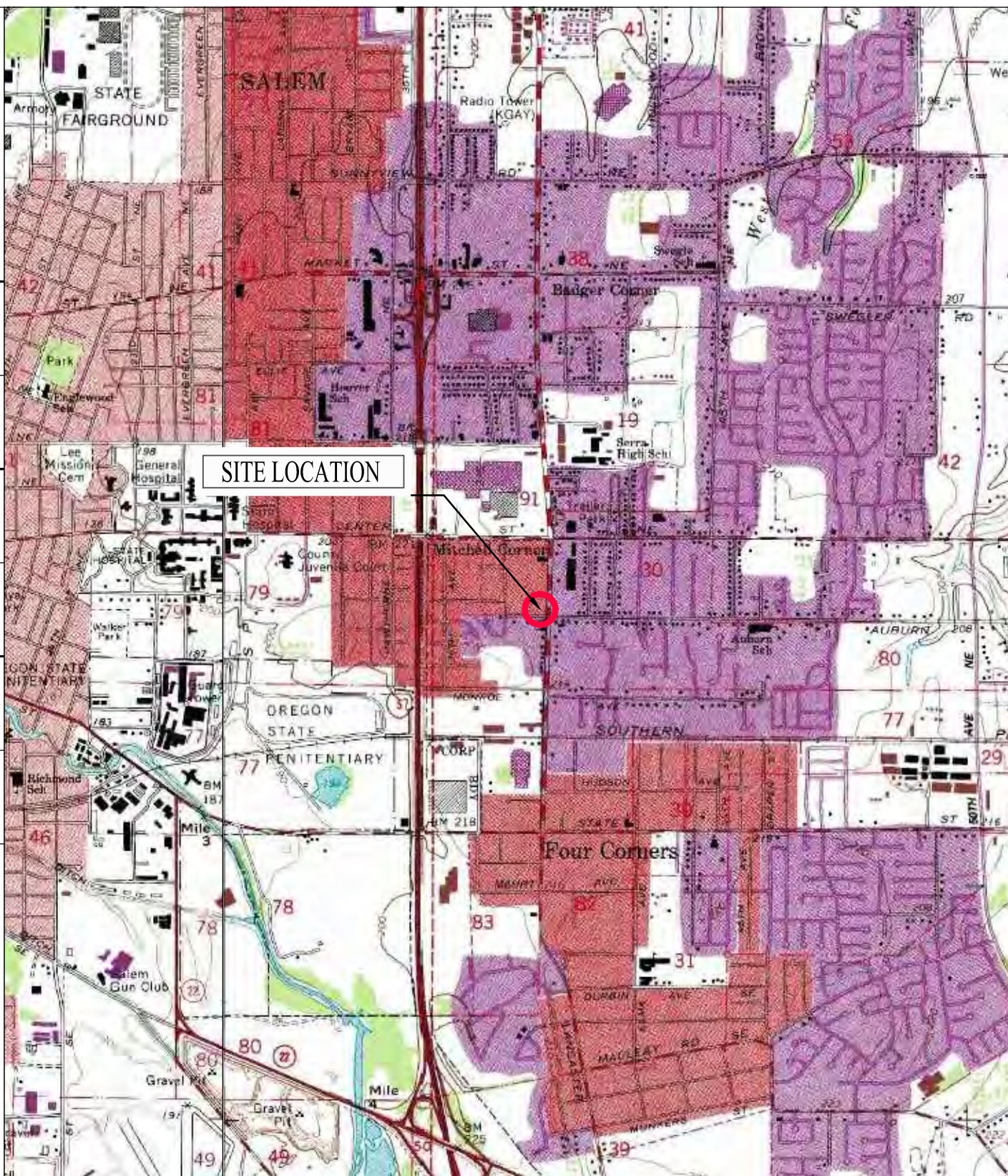
Volume 16

Report–2Q17 GW Monitoring Report – August 21, 2017 – Antea Group
Report–Soil Excavation Report – August 21, 2017 – Antea Group
Report–3Q17 GW Monitoring Report – February 1, 2018 – Antea Group
Report–4Q17 GW Monitoring Report – May 30, 2018 – Antea Group

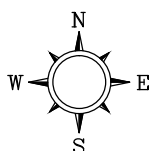
Volume 17

Report–1Q18 GW Monitoring Report – June 1, 2018 – Antea Group
Report–Revised 2Q18 GW Monitoring Report – October 1, 2018 – Antea Group
2019-08-28_24-01-4010_GW Monitoring Rpt
2019-10-11_24-01-4010_GW Monitoring Report
2018-12-10_24-01-4010_CSM
2019-10-21_24-01-4010_SiteAssessmentReport
2020-11-10_24-01-4010_GroundwaterMonitoring
2020-02-07_24-01-4010_GW Monitoring Rpt
2023-03-01_24-01-4010_groundwater_monitoring-rpt
2022-03-25_24-01-4010_SemiAnnualGWRpt
2023-12-11_24-01-4010_Risk Based Closure Report

A horizontal scale bar with alternating black and white segments. It is labeled with '0', '1000', and '2000' at the top. Below the bar, the text 'SCALE IN FEET' is written vertically.



LATITUDE 44D 56M 13S NORTH
LONGITUDE 122D 59M 00S WEST



ARCO FACILITY
No. 4407

FIGURE 1

SITE LOCATION MAP

501 LANCASTER DRIVE NE
SALEM, OREGON

