

Statement of Basis for No Further Environmental Investigation or Cleanup Required Under
Current Land Use at Former Smitty's Conoco #140
EPA UST Facility ID No. 4260087 – Yakama Indian Reservation

The U.S. Environmental Protection Agency (EPA) has reviewed the March 2021 report titled *Human Health Risk-Based Assessment and Closure Request* prepared on your behalf by the Associated Environmental Group (AEG) supporting a risk-based closure of the above referenced site. Based on our review of this document, the EPA has determined that no further environmental investigation or cleanup of petroleum releases from the underground storage tanks (USTs) previously located on the property is required under the current land use. However, this letter serves as notification that petroleum contaminated soil (PCS) remains in the subsurface beneath portions of the site between the depths of 15 and 20 feet. Should future land use include construction of residential dwellings or excavation activities advanced to these depths, then additional cleanup or institutional controls may be necessary to limit human exposure to petroleum related contaminants. This determination is made in a manner consistent with the site evaluation and risk assessment procedures described in the EPA's guidance document *Risk Assessment Guidance for Superfund* (1991, updated 2009) and the Oregon Department of Environmental Quality (DEQ) *Risk-Based Decision Making for the Remediation of Petroleum Contaminated Sites* (2003, revised 2015).

The EPA's cleanup rules for leaking underground storage tanks (LUSTs) require corrective actions to be protective of human health and the environment but do not include specific cleanup criteria or action levels. The EPA uses the Model Toxics Control Act (MTCA) cleanup levels established by the Washington State Department of Ecology (Ecology) as a guide for determining appropriate cleanup levels for petroleum releases in Indian Country in Washington State. The MTCA Method A (MTCA A) is designed for cleanups that are relatively straight-forward or involve only a few hazardous substances, thereby supporting a No Further Action (clean closure) determination by the EPA when corresponding cleanup levels are readily achieved. MTCA A clean closures are those in which the concentrations of contaminants remaining on site are below the most restrictive level for unconditional current or future land use, typically a residential scenario. In situations where a clean closure determination is not possible or practical, the EPA may utilize a risk-based closure which may include institutional controls or similar restrictions. In this case, RH Smith Distributing was allowed to use the DEQ risk-based decision making (RBDM) guide for addressing petroleum related contamination at this site. In addition to the above referenced report and guidance documents, the following documents were reviewed in support of this determination:

1. *2018 Supplemental Corrective Action Plan*. Prepared for RH Smith Distributing by AEG. Smitty's Conoco #140, 102 East Toppenish Avenue, Toppenish, Washington.
2. *2018 Final Remedial Action Work Plan*. Prepared for RH Smith Distributing by AEG. Smitty's Conoco #140, 102 East Toppenish Avenue, Toppenish, Washington.
3. *2015. Final Feasibility Study Report*. Prepared for RH Smith Distributing by AEG. Smitty's Conoco #140, 102 East Toppenish Avenue, Toppenish, Washington.

4. 2015. *Supplemental Site Characterization Report*. Prepared for RH Smith Distributing by AEG. Smitty's Conoco #140, 102 East Toppenish Avenue, Toppenish, Washington.
5. 2015. *Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites*. U.S. EPA Publication 510-R-15-001. June 2015.
6. 2013. *Model Toxic Control Act Statute and Regulation – Chapter 173-340 WAC*. Washington State Department of Ecology. Publication No. 94-06.
7. 2010. *Revised Proposed Supplemental Remedial Investigation Work Plan – 2nd Phase*. Prepared for RH Smith Distributing by AEG. Smitty's Conoco #140, 102 East Toppenish Avenue, Toppenish, Washington.
8. 2010. *Interim Site Remediation Report*. Prepared for RH Smith Distributing by AEG. Smitty's Conoco #140, 102 East Toppenish Avenue, Toppenish, Washington.
9. 2010. *Administrative Order on Consent*. Administrative Order between the U.S. Environmental Protection Agency and RH Smith Distributing. EPA Docket No. RCRA-10-2010-0136. April 19, 2010.

Background Summary

The approximately half-acre, triangular shaped property is located on the southeast corner of East Toppenish Avenue and Asotin Avenue in downtown Toppenish. The gasoline station and convenience store ceased operation in November 2009 and all building structures were demolished in 2016. To the east of the former Smitty's Conoco property is a community garden and a restaurant with an associated asphalt parking area. Together, these four areas comprise the site study area. The former Smitty's Conoco has also been known as Pik-A-Pop, Smitty's Store and the Old Western Market.

A petroleum release occurred at the property prior to 2004 when it was a former Spirit-brand retail fueling station. Between 2004 and 2020, soil and groundwater sample results from numerous phases of subsurface investigations conducted across the site were used to select cleanup remedies that have included excavation and removal of PCS followed by a staged approach to in-situ bioremediation comprising chemical oxidation and granular activated carbon. Chemicals of concern (COCs) at the site include gasoline range total petroleum hydrocarbon (TPH) as well as benzene, toluene, ethylbenzene, and xylene (BTEX) compounds. Site remediation is currently required in accordance with an Administrative Order on Consent (AOC) between the EPA and RH Smith Distributing.

Previous Investigations

Provided below is a summary of the historical facts regarding the Smitty's Conoco site as they are currently known. A petroleum release from the UST system was first discovered during a 2004 Phase II site assessment when samples of subsurface soil and groundwater were collected and found to contain concentrations of gasoline range TPH and BTEX above MTCA A cleanup

levels. Later in 2004, a follow-up study was conducted in which three monitoring wells were installed to a depth of 19 feet below ground surface (bgs). Groundwater samples collected from these wells confirmed the presence of gasoline and BTEX above MTCA A cleanup levels. In May 2009, a tank tightness test was performed on the UST system, and the results indicated a leak in the vicinity of the southern dispenser of the eastern dispenser island. Later in 2009, AEG performed additional site assessment activities including collecting groundwater samples from the three monitoring wells on site and subsurface soil samples from beneath the fuel dispensers. Results of this sampling indicated concentrations of COCs in both soil and groundwater above MTCA A levels. Based on this sampling, AEG recommended the decommissioning and removal of the three USTs and associated product lines from the property.

In November 2009, the UST system including five tanks, associated piping and dispensers was decommissioned by removing: 1) a 8,000-gallon gasoline UST; 2) a 6,000-gallon gasoline UST; 3) a 4,000-gallon diesel UST; 4) a 1,000 gallon UST of unknown contents; and, 5) a 500-gallon waste oil UST. A total of 1,535 tons of PCS was removed from the excavation that extended to the depth of groundwater at 12 feet bgs. On April 19, 2010, the AOC went into effect which required R.H. Smith to develop and implement a site assessment and corrective action plan and submit quarterly progress reports. The AOC was modified on March 14, 2011 to accommodate a schedule change for the work to be performed.

In 2010 and 2011 AEG performed groundwater investigations that included the collection of samples from direct push borings and newly installed monitoring wells that defined a dissolved phase plume of gasoline range TPH that extended east from the former tank basin for a distance of approximately 300 feet towards B Street. In December 2011 AEG injected 4,590 pounds (lbs) of the insitu chemical oxidation product RegenOx[®] through 24 injection points to depths of approximately 4-15 feet bgs to reduce sorbed petroleum compounds in the vadose and saturated zones and treat the dissolved phase plume. In March 2012, a second stage of insitu treatment was conducted by injecting 1,400 lbs of the oxygen releasing compound ORC-Advanced[®]. In February 2015, additional site characterization work was completed including the installation and sampling of seven new groundwater monitoring wells at the site. Sample results indicated that all COC concentrations were either non-detect or below MTCA Method A cleanup levels.

In May 2016 AEG oversaw the demolition and removal of the building structure that contained the convenience store. The excavation was advanced to a total depth of 18 feet bgs and 2,274 tons of PCS were excavated and removed for disposal. Thirteen soil confirmation samples were collected from the perimeter of the excavation. Two samples contained concentrations of gasoline range TPH and benzene at concentrations slightly exceeding MTCA A cleanup limits of 30 mg/kg and 0.03 mg/kg, respectively. Prior to backfilling, 480 lbs of RegenOx[®] and 495 pounds of ORC-Advanced[®] were placed in the bottom of the excavation. In April 2019 AEG oversaw another insitu treatment event that included the injection of 5,900 lbs of Bos-200[®], 54 liters of bacteria and 195 gallons of potable flush water through 38 injection points to depths of 25 feet bgs in areas of the site with residual soil and groundwater contamination. This technology traps the contaminants through carbon adsorption with subsequent treatment via biological degradation. To evaluate the performance of the remedy, quarterly groundwater monitoring was conducted between June 2019 and March 2020 in seven monitoring wells across

the site. No COCs were detected above MTCA A cleanup levels in any of the monitoring wells for four consecutive quarterly sampling events.

In April 2020, a total of 17 subsurface soil samples were collected from seven borings to depths of 30 feet bgs to evaluate the residual impacts of the petroleum release. A total of five samples collected from three of the borings contained concentrations of COCs exceeding MTCA A cleanup levels. These samples were collected from depths between 15 and 20 feet bgs in the saturated zone from the east side of the property (Boring B-21) and from the restaurant parking lot on the east side of the site (Borings B-22 and B-23). Maximum concentrations of COCs detected included gasoline range TPH (2,590 mg/kg), ethylbenzene (25 mg/kg) and xylenes (43 mg/kg) as compared to MTCA A cleanup levels of 30 mg/kg, 6 mg/kg, and 9 mg/kg, respectively.

Geology and Hydrogeology

Unconsolidated subsurface materials were investigated at the site to a total depth of 30 feet bgs and generally consist of poorly sorted sands and gravels with some silt and cobbles. Shallow groundwater is present under unconfined conditions and flows towards the east/southeast. Due to the presence of open irrigation ditches in the Toppenish valley, the seasonal fluctuation in the water table is approximately 2 feet, with high levels occurring in the early fall when groundwater is typically encountered at depths of around 10 feet bgs. Historically, the depth to groundwater measured in monitoring wells throughout the site has ranged from approximately 9 to 14 feet bgs.

The City of Toppenish operates three municipal supply wells within a half-mile of the site, all of which are in the upgradient direction. Well #3 is located 0.2 miles to the northwest and Well #6 and Well #8 are located 0.5 miles to the southwest. Well #3 is screened from 150 to 226 feet bgs and is pumped at 495 gallons/minute (gpm). Well #6 is open to 60 feet of the Ellensburg aquifer between 863 and 803 feet bgs. This well is under flowing artesian conditions and continuously discharges at approximately 200 gpm. Well #8 is open to 76 feet of the aquifer between 228 and 150 feet bgs and is pumped continuously at 336 gpm. Drilling logs of these deep wells indicate the presence of confining clay layers separating the lower supply aquifer from the shallow unconfined system. In addition, the results of aquifer pumping tests, together with the measured upward component of hydraulic gradient between the deep and shallow aquifers, all indicate that the deep supply wells are open to hydrogeologic units that are isolated and distinct from the near surface water table aquifer. There are no surface water bodies in proximity to the site.

Risk Evaluation

The DEQ RBDM guide was designed to provide property owners and responsible parties with a means to apply a conservative risk-based approach to cleanup sites where the nature and extent of petroleum contamination is well understood. The framework of this RBDM process is based on current and potential future land use scenarios and likely human receptors including residents, urban residents, occupational workers, construction workers and excavation workers. Ecological exposures were not evaluated as part of the risk assessment as there are no receptors present in this urban setting.

As part of the risk assessment, AEG developed a conceptual site model (CSM) that summarized the relationship between contaminant sources, release mechanisms, transport pathways and exposure routes for current and potential future human receptors. According to the City of Toppenish 2017 Comprehensive Plan Update, the site is currently zoned for light industrial (M-1) which allows for a variety of commercial and light industrial uses. Residential dwellings are currently prohibited in the M-1 zone. Adjacent to the site to the east (hydraulically downgradient), current zoning is identified as commercial (B-2) and this property is currently occupied by the restaurant. The nearest residential property to the site is located at 22 North B Street which is 470 feet to the northeast (cross-gradient).

A beneficial groundwater use survey was also conducted which included a review of local water well records on file with the Washington Department of Ecology and municipal drinking water sources identified by the City of Toppenish within a 1-mile radius of the site. In addition to the three municipal water supply wells described above that are located within 0.5 miles of the site, eight irrigation wells and four industrial wells were identified between ½ and 1 mile of the site. Residual petroleum contamination in soils at the former Smitty's Conoco site is not considered a threat to any of these off-site wells as they are either upgradient, cross-gradient or in a hydraulically isolated aquifer section. Furthermore, the past four groundwater monitoring events did not detect any COCs above MTCA A cleanup levels indicating that site groundwater is not a media of concern, nor is off-site groundwater flow an active pathway for contaminant transport. Shallow groundwater at the site in the unconfined water table aquifer is not being used as a potable drinking source, nor is it used for this purpose anywhere within the City of Toppenish. This situation is not expected to change in the future. Water services within the City of Toppenish do not have separate irrigation systems so domestic water is used for irrigation.

Based on the results of the risk assessment, residual concentrations of petroleum related compounds in subsurface soil do not present an unacceptable risk to any human receptors where there is a potentially complete exposure pathway. This includes future onsite occupational workers, future onsite excavation and construction workers, and future off-site occupational workers and urban residents. Remaining soil contamination at the site does exceed the 94 mg/kg cleanup level established for the vapor intrusion pathway into residential buildings (see table below), but current zoning laws do not allow for residential buildings on this property. Furthermore, the EPA guidance document titled *Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites* screens out such exceedances where the vertical separation distance between the contamination and surface is 15 feet or greater. As such, no institutional control or land use restriction is needed to protect potential future urban residents from adverse exposures to the vapor intrusion pathway. While no COCs have been detected in groundwater during the past four monitoring events, residual gasoline concentrations in subsurface soil still exceeds cleanup levels for the leaching to groundwater pathway. However, these sample exceedances were collected from depths between 15 and 20 feet bgs in the saturated zone while groundwater samples are still below MTCA A cleanup levels.

Soil Risk-Based Screening Concentrations for Gasoline for Various Exposure Pathways and Receptors

Max Remaining [Onsite]	Soil Leaching to Groundwater	Soil Ingestion, Dermal Contact & Inhalation			Volatilization to Outdoor Air		Vapor Intrusion into Buildings	
	Occupational	Residential	Occupational	Construction	Residential	Occupational	Residential	Occupational
2,590*	130***	1,200	20,000	9,700	5,900	69,000	94**	>Max

Notes:

All concentrations in mg/kg

>Max indicates the risk-based screening concentration exceeds 100% of the concentrations as reported in Table 1 of the *Human Health Risk-Based Assessment and Closure Request* Report

* Concentration measured at 20 feet bgs in the saturated zone.

** Exceedances of this cleanup level screen out in accordance with the EPA guidance document *Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites* where the vertical separation distance between the contamination and surface is 15 feet or greater.

*** Exceedances of this screening level were samples collected between 15 and 20 feet bgs in the saturated zone.

Determination

After evaluating this risk-based approach, the EPA has determined that no further environmental site assessment or cleanup is necessary at the former Smitty's Conoco #140 in order to protect human health or the environment under current or plausible future land use scenarios. However, PCS remains in the subsurface at depths between 15 and 20 feet bgs in portions of the site that may present an unacceptable risk to future excavation or construction workers should they come into direct contact with these soils. Similarly, if zoning laws change and a future urban residential development of the site were to occur which removes enough surface soil to bring the contamination to within less than 15 feet of depth, then additional cleanup or institutional controls will be necessary to protect future residents from unacceptable risk to the petroleum vapor intrusion pathway.