

State of Oregon

Department of Environmental Quality

Memorandum

Date: December 20, 2013

To: Northwest Region File

From: Kenneth Thiessen, NW Region Cleanup Section

Subject: No Further Action Recommendations
Former Sunset Fuels/Pacific Pride Sites
ECSI #4723 and #4772

Purpose

This memo provides the basis for a recommended No Further Action (NFA) determination for the two adjacent properties located at 6140 and 6230 SW Macadam Avenue in Portland, Oregon.

Background

Both the former Sunset Fuels Site (6140 SW Macadam Avenue, Environmental Cleanup Site Information (ECSI) #4723, Tax Lot 100) and Pacific Pride Site (6230 SW Macadam Avenue, ECSI #4772, Tax Lot 200) are located at the northeast corner of the intersection of SW Carolina Street and SW Macadam Avenue, in the John's Landing area of Portland, Multnomah County, Oregon (see Figures 1 and 2 included with this memo). The Willamette River is located approximately 300 feet east of the site.

The sites are the former location of an auto wrecking yard (Mesher/Union Auto Wrecking Co. 1930-35), and a former boat building facility (Willamette Boat & Manufacturing Co. 1936-41). The property was subsequently developed by Sunset Fuel Company from about 1950 to about 1967 for use as a retail fuel distribution facility including wood, coal, sawdust, fuel oil, and gasoline. The bulk fuel storage facility was demolished in the mid-1960s and replaced with a 22,400 square foot warehouse building in 1967. This building has been modified, and is currently used by the Grand + Benedicts for business fixture sales, business design services, and commercial product design services. The adjacent Pacific Pride site was developed by Sunset Fuel Company for the purposes of dispensing heating oil and motor fuels from at least 1967 to present. In 1983, the Pacific Pride franchise began leasing the property to dispense gasoline and diesel fuel as a card lock facility, which continues currently.

In 2007, Sunset Fuels requested that Department of Environmental (DEQ) assign two ECSI numbers to the two sites to better characterize the separate site operational histories, investigative requirements, and the different stages of site investigation. Subsequently, the subsurface contaminant plumes from the two sites merged, and have been characterized and evaluated in parallel.

Records from the City of Portland and DEQ indicate that up to 15 underground storage tanks (USTs) were installed at both sites, starting in 1954. There are currently three operational gasoline USTs and one diesel fuel UST in use at the Pacific Pride card lock fueling facility. UST records indicate that four tanks were installed at the Pacific Pride fueling facility in 1967 and that these tanks were replaced in 1982 and again in 1990.

The Locality of Facility affected by releases from the former Sunset Fuels sites includes: the Pacific Pride vehicle fueling station, an Oregon Department of Transportation easement east of the fueling station, the Grand + Benedicts' south parking lot, the TriMet/Metro railroad right-of-way, City of Portland roadways and sewers, the Willamette Sailing Club, River Point Condominiums, and the Willamette River (see Figure 2).

Site Investigations

In September 1994, a gasoline and diesel fuel release was discovered during UST system upgrades at the Pacific Pride vehicle fueling station. The release was reported to DEQ by Sunset Fuels at that time. From 1994 to 2013, multiple on-site and offsite subsurface investigations were performed to determine the nature and extent of contamination associated with the release, and to search for secondary contamination sources. Subsurface investigation sampling locations are shown on Figures 2 and 3.

Environmental investigation work at the combined sites included

- Installation of eight on-site and eight off-site monitoring wells,
- Installation and sampling of approximately 46 soil borings during multiple stages of site investigation,
- Multiple groundwater monitoring and sampling events,
- Laboratory analysis and reporting of analytical results,
- Geophysical testing to search for additional buried contaminant sources,
- Interim remedial measures including removal of petroleum-contaminated soil from a cathodic protection trench, removal of free product (diesel) in well MW-3, and use of sorbent socks to remove petroleum sheen from wells MW-7 and MW-8.
- Decommissioning and removal of three unused gasoline USTs, appurtenances, and limited contaminated soil west of Grand + Benedicts' building,
- Investigations on adjacent properties were performed to delineate the off-site extent of contaminant migration via groundwater, and to evaluate human health and ecological risk.

Contributing Site Investigations

- Chlorinated solvents, tetrachloroethene (PCE), trichloroethylene (TCE) and breakdown products have been detected in groundwater south (cross-gradient) of the Pacific Pride site, beneath SW Carolina Street, and at the former Sunset Fuels site. These detections resulted in a preliminary subsurface soil, groundwater, and storm sewer investigation of upgradient JC Cleaners, a former dry cleaning business located at 6141 SW Macadam Blvd., Suite 101 (ECSI# 4724). This investigation indicated that JC Cleaners had not released chlorinated solvents to the environment and is not the source of PCE and TCE at the Macadam Sunset sites. JC Cleaners was given a No Further Action letter by DEQ on September 15, 2009.
- In August 2010, a soil gas investigation was performed to evaluate if volatile organic compounds (VOCs) from Sunset Fuels Site present a vapor intrusion risk to the occupational workers within the 22,400 square foot warehouse building currently owned by Grand + Benedicts. Three soil gas sampling points were installed to a depth of five feet adjacent to the south side of the building. Soil vapor samples were collected and analyzed for VOCs using Method TO-15 modified for gasoline and dry cleaning solvents. Detected VOCs (tetrachloroethene and m, p-xylene) were found at concentrations well below their respective Risk Based Criteria for the Soil Gas Vapor Intrusion into Buildings pathway for occupational receptors (Soil gas (SG) sampling locations are shown on Figure 3).
- A 63-inch diameter, 100-year old, wooden municipal storm sewer pipe runs past both sites beneath SW Carolina Street within the LOF. Feige and Associates, Inc. (FAI) evaluated this storm sewer as a possible preferential pathway for PCE/TCE migration onto the sites from upslope source areas. Video inspection records indicated generally poor conditions of the storm sewer pipe beneath SW Carolina Street. The evaluation included comparing pipe elevation with water table levels. The water table elevation is generally about three feet above the inside elevation of the storm sewer pipe. Silty sand and silty gravel are present as pipe backfill. However, dry weather flow within the pipe was not observed in a manhole located downgradient of the site.

Shoreline monitoring well MW-12 is installed in storm sewer pipe backfill approximately 400 feet downgradient from the Pacific Pride site. The sole contaminant detected in groundwater from MW-12 is methyl tertiary butyl ether (MTBE) (maximum concentration 7 µg/l, April 2010). Other site data indicates that MTBE is moving with groundwater generally to offsite areas and is not restricted to the storm sewer backfill. These findings suggest that it is unlikely that the storm sewer pipe or surrounding backfill is providing a conduit for the downgradient movement of site contaminants.

Remedial Investigation

A **Remedial Investigation Report** was submitted for the combined former Sunset Fuels and Pacific Pride sites by FAI on August 22, 2012. A summary of remedial investigation findings is presented below.

Former Sunset Fuels Site

Two separate releases of diesel-range hydrocarbons have occurred at the former Sunset Fuels site. The releases have impacted onsite soil and onsite groundwater as well as off-site groundwater downgradient (east) of the site. Historic operations at the site suggest that the diesel-range hydrocarbons were from historic storage and handling of stove oil. Diesel-range contaminant plumes in groundwater have been delineated to areas near their apparent sources, and appear to have migrated only a short distance off-site. Diesel-range fuel atop groundwater has been observed seasonally in monitoring well MW-7 during periods of low water table conditions. Soil borings completed near MW-7 did not identify the source of the diesel-range fuel. Monitoring well MW-8 historically produced saturation-level concentrations of hydrocarbons (Figure 4), indicating that localized petroleum product may be present.

Pacific Pride Site

Historic releases of gasoline and diesel from the UST system at the Pacific Pride site have impacted soil and groundwater. Soil impacts from the releases are limited to the Pacific Pride site and the adjacent former Sunset Fuels site.

The dissolved gasoline-phase groundwater plume from the Pacific Pride site has migrated off-property. The plume has been delineated by detections of benzene, identified in groundwater monitoring wells in the area of the railroad tracks east of the Former Sunset Fuels site (MW-8, MW-9), and detections of MTBE, identified in groundwater monitoring wells near the shoreline of the Willamette River (MW-12). The diesel release has impacted groundwater in the vicinity of Pacific Pride site, and has combined with diesel plumes originating at the Former Sunset Fuels site.

Figures showing the nature and extent of fuel contamination associated with the site are presented as Figures 4 through 7 at the end of this memo.

Remedial Investigation and Risk Assessment Conclusions

- Up to three historic releases of diesel-range hydrocarbons have been identified at the combined sites. Groundwater impacts from the diesel releases co-mingle on the former Sunset Fuels site. The releases have impacted onsite groundwater in the area of monitoring wells MW-6, MW-7, MW-8 and MW-14, and off-site groundwater east of the site (MW-9, MW-15, and MW-16) as shown in Figure 4.
- Based on multiple lines of evidence, low-level detections of total PAHs, gasoline, diesel, and oil identified in Willamette River shoreline monitoring wells (MW-10, MW-11, and MW-12) do not appear to be related to releases at the former Sunset Fuels or Pacific Pride sites (see *Remedial Investigation Report*. FAI 2012, pp. 19– 22 for further discussion).
- Gasoline and gasoline constituents: benzene, toluene, ethylbenzene, xylenes, released from the former Sunset Fuels and Pacific Pride sites has been found in off-site groundwater wells MW-9 and MW-16, within in the railroad right-of-way downgradient of the site. This limited offsite extent may indicate the action of natural attenuation processes (see Figure 6 showing the benzene plume configuration)

- The gasoline oxygenate MTBE has been detected at offsite well MW-12 located on the river shoreline at the Willamette Sailing Club, approximately 400 feet downgradient from the Pacific Pride site. No other gasoline constituents have been detected in monitoring well MW-12. This greater (400 foot) extent of the MTBE plume is expected to be associated with the mobility of this compound and limited potential for biodegradation (see Figure 7 showing the MTBE plume).
- The Beneficial Land and Water Use Determination (BLWUD) indicates that there are no beneficial uses of groundwater within the LOF.
- An ecological risk assessment (ERS) completed by Kennedy/Jenks in 2012 indicated that the potential for current risks to aquatic ecological receptors from the groundwater contaminant plumes sourced from the site is minimal. No significant concentrations of site-related contaminants reach the Willamette River, and there are no other surface water bodies within the impacted area. The storm sewer beneath SW Carolina St. is not a preferential migration pathway concern.
- The results of the human health risk assessment (HHRA) completed by Kennedy/Jenks in 2012 indicates that there are no cumulative risk exceedances for construction or excavation worker exposure to groundwater within the vicinity of the sites. However, benzo(a)pyrene exceeded the target risk level for individual chemical exposure scenarios for groundwater in the Site vicinity. In addition, the HHRA concluded that groundwater contaminant concentrations for diesel-range hydrocarbons and heavy oil-range hydrocarbons in the Site vicinity are greater than the water solubility limits, indicating the potential presence of free product.
- The general Hot Spot evaluation for groundwater and soil indicated the following:
 - As there are no impacts to beneficial uses of water from the site, there are no groundwater hot spots.
 - Highly concentrated hot spot levels are not present in soil samples.
 - As soil and groundwater concentrations within the Locality of Facility do not exceed DEQ Risk-Based Criteria for reasonably likely exposures, there are no highly concentrated hot spots for media other than water.
 - As leaching of the contaminant mass to groundwater cannot impact beneficial use of groundwater, there are no highly mobile hot spots for media other than water.

DEQ Request for Hot Spot Evaluation

In a comment letter dated June 4, 2012, DEQ requested that a groundwater hot spot evaluation be performed and included in a Focused Feasibility Study for the two sites. DEQ had concerns that periodic measurable diesel-range hydrocarbons and dissolved concentrations of petroleum indicative of separate phase product may persist in MW-3 and MW-7. Based on DEQ's request, the wells were resampled using low flow purging and sampling techniques. Re-sampling identified concentrations of dissolved diesel-range hydrocarbons in the wells below (saturation) concentrations indicative of free product. Two sampling events were performed using the low flow purging and sampling techniques which provided a more reliable determination of dissolved concentrations of site Contaminants of Interest. The comparative groundwater data by sampling method are presented in Appendix A of this document.

This hot spot evaluation concluded that any diesel-range hydrocarbons on groundwater in the vicinity of MW-3 and MW-7 is residual and reliably contained based on the following factors:

- The age of the releases at both the Pacific Pride and former Sunset Fuel sites.
- Source releases have been stopped.
- The absence of a significant measurable product thickness head to drive lateral flow.
- Retaining capillary forces of site soils appear to be adequate to retard or stop lateral flow of residual fuel and oil.
- Fuel is no longer recoverable in MW-3 and only seasonally recoverable in MW-7.
- Dissolved concentrations of VOCs and Polycyclic Aromatic Hydrocarbons (PAHs) are below applicable risk-based criteria for groundwater at the site.

Focused Feasibility Study

A Focused Feasibility Study (FFS) dated August 8, 2013, prepared by FAI at DEQ's request identified Remedial Action Objectives (RAOs), presented and screened General Response Actions, and then developed three remedial action alternatives for detailed analysis to address petroleum product in the vicinity of wells MW-3 and -7. The alternatives were evaluated according to Oregon regulations for their ability to (1) protect public health, safety, welfare and the environment, (2) balance remedy selection factors (effectiveness, long-term reliability, practicality, implementation risk, reasonableness of cost), and (3) treat hot spots of contamination in media other than water by reducing their concentration, volume, or mobility to the extent practical. A numerical scoring system was used to rate each alternative. The alternatives were then compared with each other, using the same three evaluation criteria and the numerical scores.

Remedial options considered for the site included No Action (Alternative 1), Surfactant-Enhanced subsurface Remediation with Institutional Control (Alternative 2), and Excavation (Alternative 3). Based on the evaluation, Alternative 1 (No Action) was proposed by FAI.

The FFS was reviewed and approved by DEQ. The proposed remedial action to address free product in wells MW-3 and MW -7, was subsequently approved by DEQ. It was determined by DEQ that given the results of more recent sampling, significant (recoverable) free product is not present in site wells, and that subsurface contamination is stable and does not pose a significant risk to public health or the environment. This "alternative" is protective, meets the preference for treating hot spots of contamination criteria (i.e. residual light non-aqueous phase liquid is reliably contained), and has the highest remedy balancing factor average. Note that because a decision was made that no action is necessary, a Record of Decision was not completed by DEQ. A residual risk analysis was completed and is discussed below.

Residual Risk Assessment

In accordance with OAR 340-122-084(4), a Residual Risk Assessment (RRA) was prepared to evaluate residual petroleum product present at the site. The purpose of the RRA is to estimate

the risks to human health and the environment that may be present associated with the “no action” proposal.

As detailed in the FFS, the sampling methodology assessments, which were completed in December 2012 and May 2013, indicate that the previously used bailer-purge groundwater sampling method was the basis for reported high concentrations of diesel and PAHs historically observed in both monitoring wells MW-3 and MW-7.

The results of the additional sampling using the newer sampling methodology indicate that groundwater Contaminants of Potential Concern (COPCs) (i.e. benzo(a)pyrene) are below the applicable RBCs established for the site, and diesel concentrations are not indicative of “free product” in either monitoring well MW-3 or MW-7. In addition, any residual diesel-range contaminants in the vicinity of MW-3 and MW-7 are reliably contained and there is no continued lateral migration of residual diesel-range contaminants as the sources of contaminants in both areas are no longer active.

DEQ Conclusions and Closeout Activities

DEQ staff has concluded that no further action is necessary at the former Sunset Fuels Site (6140 SW Macadam Avenue, ECSI #4723) and the adjacent Pacific Pride Site (6230 SW Macadam Avenue, ECSI #4772). DEQ approves the August 2013 Focused Feasibility Study for these sites and accepts the conclusion that work is complete and that no additional site action is necessary. Since only limited, interim remedial actions were completed at the sites, no general public notice of this NFA determination is necessary. As a focused public outreach effort, DEQ presented a proposed NFA summary letter to site neighbors potentially affected by offsite trespass of contaminants from the Sunset Fuels/Pacific Pride sites. A copy of the NFA summary letter is attached to this document.

Through site investigations, Remedial Investigation, Risk Assessments and Focused Feasibility Study work, DEQ was able to determine that petroleum contamination remaining in the subsurface is residual, is reasonably contained, and does not present an unacceptable risk. No deed restrictions on property use are planned with this NFA conclusion.

DEQ also proposes removal of both sites from the Confirmed Release List (CRL) and Inventory. Public notice of DEQ’s intent to de-list the sites will be issued in January 2014 with a 30-day public comment period ending January 31, 2014. A final decision on this proposed NFA will be made by DEQ’s NWR Cleanup Section Manager pending review of public comments received. Following this final decision, ECSI will be updated to document that no further action is necessary at these two sites.

Attachments

- Figure 1. Site Location Map
- Figure 2. Site Features and Groundwater Monitoring Well Location Map
- Figure 3. Historic Features, Current Investigation Locations
- Figure 4. March 2011 Diesel Isoconcentration Map
- Figure 5. March 2011 Groundwater Analytical Results Map
- Figure 6. March 2011 Benzene Isoconcentration Map
- Figure 7. March 2011 MTBE Isoconcentration Map
- NFA summary letter to site neighbors
- Appendix A: Excerpt from June 3, 2013 Technical Memorandum by Feigi & Associates, Inc.

References

Feige and Associates, Inc. (FAI), August 8, 2013. *Focused Feasibility Study Report*, Former Sunset Fuel/Pacific Pride Site, 6140 and 6230 SW Macadam Avenue, Tax Lots 100, 200, Portland, Oregon 97239

Feige and Associates, Inc. (FAI), June 3, 2013. Technical Memorandum. *Methods and Results of Additional Sampling Methodology Assessment of Groundwater in Monitoring Wells MW-3 and MW-7 - Former Sunset Fuel/Pacific Pride Sites*.

Feige and Associates, Inc. (FAI), August 20, 2012. *Remedial Investigation Report*, Former Sunset Fuel/Pacific Pride Site.

Kennedy/Jenks Consultants, 2012 (a). *Ecological Risk Screening*, Former Sunset Fuel, Pacific Pride Fueling Station Site, ECSI #4723 (Former Sunset Fuel) and #4772 (Pacific Pride).

Kennedy/Jenks Consultants, 2012 (b). *Human Health Risk Assessment* for the Former Sunset Fuel and Pacific Pride Fueling Station, FINAL.

DEQ, 2012. *DEQ Comments on Draft Remedial Investigation and Risk Assessment Documents, Sunset Fuel/Pacific Pride 6130 & 6230 SW Macadam Ave. Portland, Oregon ECSI 4723 & 4772*. June 4.

Feige and Associates, Inc. (FAI), October 16, 2010. *Soil Gas Investigation Results*, Macadam Floor Design Property, 6140 SW Macadam Blvd. DEQ ECSI# 4723.

NWR Cleanup Files, ECSI 4723, 4772