

## **Site Hazard Assessment Recommendation for No Further Action**

**Lucky's Service  
14579 Highway 97A  
Entiat, Chelan County, WA 998822  
NW1/4, NE1/4, Section 9 Township 25 N Range 21 E  
Latitude 47.68444, Longitude -120.20698  
Facility Site ID No. 62249282  
TCP Cleanup Site ID No. 9917  
January 28, 2014**

### **Background**

In December of 1990, four underground storage tanks (USTs) were removed from this site, known as Lucky's Texaco at that time. About 15 cubic yards of petroleum contaminated soil (PCS) were removed and stockpiled in a fenced area behind the building. Soil testing indicated all PCS was removed from the excavation.

In May of 1993, the fuel pumps and two registered tanks were removed. About 410 cubic yards of PCS was removed and land farmed on the adjacent vacant lot. Soil testing indicated all PCS was removed from the excavations. The land farmed PCS was tested in September 1993 and indicated 310 cubic yards was remediated and removed. The 100 cubic yards of PCS remained until testing in June 1994, showed it was remediated. It was removed from the site.

### **Site Description**

Lucky's Service has been a fuel and service station since it was built in 1968. The site was in agriculture before the service station.<sup>2</sup> Currently, the site houses BJ's of Entiat Mini Mart, a Shell Gas Station and Rusty's, a fast food takeout. The current owner is Lucky's Mini Mart LLC.

The site is in an area of mixed urban residential, commercial and light industrial uses. There are residences on the adjacent properties to the east and south. The lot on the north side is vacant and has a storm water containment pond on its southeast corner. There is an orchard across the highway to the west. Lake Entiat, part of the Columbia River, is about a ¼ mile east. The City of Entiat's Municipal Water and Sewer systems and Chelan County PUD power serve the property.

Currently asphalt covers the site of the 1990 UST excavations and asphalt and concrete cover the 1993 UST excavation. The building's footprint is larger than shown on the diagrams in the 1990 and 1993 reports. Asphalt pavement extends around the building to the edges of the north, south and west property boundaries. The pavement extends about 53 feet east from the back of the building. A grassy strip, about 50 feet wide, extends along the east edge of the property. The building is roughly 70'x45', the longest side running north/south, the front facing west, towards the highway. The fuel pumps are in front, between the building and highway, under a shelter roof. There is parking along the south edge of the property.

The soils at the site are Burch Loam, 3-8% and Peshastin loam 3-8%, as per the USDA, NRCS Soil Survey.<sup>7</sup> Well logs for wells within a mile radius of the area, list depth to ground water from 42 feet to 100 feet. Well log and water right records indicated there are no wells between the site and the Columbia River. The City's nearest domestic well is ¼ - ½ mile southeast.<sup>8</sup>

### 1990 UST removal and soil testing

In December of 1990, Forsgren Associates (Forsgren) completed a Site Assessment and Permanent Change of Service for this site, called Lucky's Texaco at that time. Petro Tech removed and decommissioned four USTs, located on the south side of the building. Three registered USTs, 2,000-, 3,000- and 8,000-gallons each, held regular gasoline and one unregistered 500-gallon UST held unleaded gasoline. The pump removal is not addressed in the Site Assessment.<sup>1</sup>

Forsgren took two soil samples from the bottom of the excavations of each large tank and one sample from the 500-gallon tank excavation. Precision Analytical tested the samples for TPH, benzene, toluene, E. benzene and xylene. TPH was detected in all seven samples. Forsgren's report states soil samples taken from the final excavation for the three larger tanks, tested under the MTCA Method A Soil Cleanup Levels for all contaminants tested.<sup>1</sup>

The soil sample from the stained soil in the 500-gallon tank excavation was only tested for TPH. The result is 480 mg/Kg, which is over the Method A Soil Cleanup Level for TPH, Gasoline Range Organics. Petro Tech removed 15 cubic yards of PCS. A second sample, taken 3 feet below the first sample, tested under the MTCA Method A Soil Cleanup Levels for TPH-GRO, indicating adequate PCS removal from the excavation. Petro Tech placed the PCS in a fenced area behind and east of the building.<sup>1</sup> Documentation about the handling and final destination of the 15 cubic yards of excavated PCS is not available.

Soil test results from 1990 UST removal from the April 14, 1992 Report by Forsgren Associates<sup>1</sup>

| Sample ID | Location         | TPH (EPA 418.1)  | Benzene | Toluene     | E. Benzene  | Xylene      |
|-----------|------------------|------------------|---------|-------------|-------------|-------------|
| 1E        | Tank 1 east end  | 30 mg/kg         | -       | -           | -           | -           |
| 1W        | Tank 1 west end  | 35 mg/kg         | ND      | ND          | ND          | ND          |
| 2E        | Tank 2 east end  | 60 mg/kg         | -       | -           | -           | -           |
| 2W        | Tank 2 west end  | 50 mg/kg         | ND      | 0.234 mg/kg | 0.140 mg/kg | 1.457 mg/kg |
| 3E        | Tank 3 east end  | 60 mg/kg         | -       | -           | -           | -           |
| 3W        | Tank 3 west end  | 40 mg/kg         | ND      | ND          | ND          | ND          |
| 4N        | Tank 4 north end | <b>480 mg/kg</b> | -       | -           | -           | -           |
| 2E (A)    | 3' below tank *  | 40 mg/kg         | -       | -           | -           | -           |

ND = non detect, - = not tested

\*There is a discrepancy in Forsgren's report on where this sample was taken. The report says a sample was taken from 3 feet below the area of elevated TPH under the 500 gal. tank (tank 4), after excavating the soil. The site map in the report shows sample 2E (A) located at the east end of tank 2.

### 1993 Underground Storage Tank removal and PCS remediation

On May 12, 1993, Joe Hall Construction removed and decommissioned a 10,000- and an 8,000-gallon UST north of the building, in preparation for installing a new UST system. These tanks reportedly held gasoline for the past 25 years. Chen-Northern, Inc. (Chen-Northern) performed the field evaluations for the UST site assessment (another report) then remained on site to oversee other excavation activities which are reported in the June 1993 Phase II/III Environmental Site Assessment and summarized below.<sup>2</sup>

Field observations indicated PCS was present at the former location of the two pump islands, west of the building. The contamination was possibly caused by leaking product from pipe couplings. The PCS was excavated over several days until field observations and volatile organic screening indicated there was no more PCS in the excavation bottom and sides. The excavator placed about 410 cubic yards of PCS on plastic on the adjacent vacant lot, north of the site, and fenced the area.<sup>2</sup>

Chen-Northern took representative subsurface soil samples from the final excavation boundaries and the excavated PCS for lab testing. The lab tested the all excavation samples for TPH-G and some for benzene, toluene, ethyl benzene, xylene, and lead. The stockpile samples were tested for TPH-G, BTEX, and lead. The lab test results for the excavation boundaries are all under the MTCA Method A Soil Cleanup Levels. Lab results for two of the eight samples from the excavated PCS are above the Method A Soil Cleanup Levels for TPH-G and xylene. Chen-Northern proposed land farming the PCS soils on the vacant lot with testing in 6-8 months to determine further action.<sup>2</sup>

Testing results from Table 4 Summary of Analytical Results, Stockpile Samples  
from Phase II/III ESA by Chen-Northern, Inc.<sup>2</sup>

| sample     | Gasoline    | Benzene | Ethylbenzene | Toluene | Xylene       | Lead |
|------------|-------------|---------|--------------|---------|--------------|------|
| 1205051293 | 2.2         | <0.006  | <0.006       | <0.006  | <0.017       | 132  |
| 1210051293 | <0.6        | <0.006  | <0.006       | <0.006  | <0.017       | 120  |
| 1215051293 | <0.6        | <0.006  | <0.006       | <0.006  | <0.017       | 110  |
| 0920051393 | <b>2700</b> | <0.380  | 6.20         | 0.950   | <b>190.0</b> | 38   |
| 1100051393 | 8.3         | <0.006  | <0.006       | <0.006  | <0.018       | 26   |
| 1450051293 | 3.2         | <0.006  | <0.006       | <0.006  | <0.006       | 38   |
| 1535051293 | <0.6        | <0.006  | <0.006       | <0.006  | <0.018       | 47   |
| 1730051293 | <b>1900</b> | <0.480  | 8.00         | <0.480  | <b>230.0</b> | 145  |

Test results reported as a dry weight basis in mg/kg

A < sign indicates concentrations were below practical detection limits calculated for the analytical method.

On September 3, 1993, Chen-Northern assessed and tested the land farmed PCS. Chen-Northern reported these activities in their Interim Remedial Action Report #1: Remediation of Petroleum Contaminated Soil, dated October 1993<sup>3</sup>, and their October 7, 1993 letter<sup>4</sup>. The sampler noted petroleum odors at the southwest corner of the pile and collected five samples from the pile. The lab tested the samples for TPH-G, lead, and BTEX. The test result from the southwest corner sample is above the MTCA Method A Soil Cleanup Level for TPH-G at 290 mg/kg. Joe Hall Construction removed the remediated portion of soil, leaving about 100 cubic yards of PCS for continued remediation. Chen-Northern recommended the land farming remediation for this PCS continue and retest in 6-8 months.<sup>3, 4</sup>

A letter from Don Geck, Joe Hall Construction, dated July 2, 1994, states test results from two soil samples taken from the remaining PCS, on June 10, 1994, are below the MTCA Method A Soil Cleanup Level for TPH-G, and concludes the soil is remediated. He stated he plans to use the soil for land filling.<sup>5</sup>

<sup>6</sup> There is no final remedial action report.

### Pathway Information

The **Surface Water** and **Air Pathways** are unlikely routes of potential exposure at this site. The soil contamination found in 1990 and 1993 was below the surface of the ground, covered with pavement when the leaking occurred. The land farmed 1993 PCS is no longer on site and therefore does not pose a risk to air or surface water on this site. The 1990 PCS was either removed or left on site. It is likely air and weather exposure over the last 23 years remediated any uncovered PCS. Any PCS remaining under pavement or buried, is not exposed to the surface or air pathways.

The **Groundwater Pathway** is an unlikely route of potential exposure at this site. None of the reports mentions finding any groundwater during either excavation. The test results of the soil left in the excavation during the 1990 and 1993 excavations are below the Model Toxics Control Act, Method A

Soil Cleanup Levels for Unrestricted Land Uses, for the contaminants tested. There is no evidence of groundwater contamination from the leaking UST systems.

The final disposal of the 1990 PCS remains unknown. The estimated distance to the nearest municipal domestic well is ½ mile to the south. The groundwater gradient is likely toward the Columbia River to the east. Considering the petroleum contamination is unlikely to move through the loam surface soils and the distance to the nearest well, it is highly unlikely any contamination from PCS remaining on site would reach a drinking water well.

### **Conclusions/Recommendation**

Both the 1990 and 1993 assessments and excavations discovered the presence of petroleum contaminants in the soil. Soil testing indicates none of the petroleum contaminants remaining in the excavations exceeds MTCA Method A Soil Cleanup Levels. There is no evidence to indicate any groundwater impacts from these leaking UST systems. The remediated 1993 excavated PCS was removed from the site. There is no information on what happened to the 15 cubic yards of PCS removed from the 1990 UST excavation. It may have been removed from the site, remediated by natural aeration, or covered by pavement. Removal or natural aeration eliminates site impacts. It is unlikely to be a significant threat if it remains under pavement on site.

It is recommended that this site receive no further action under MTCA, based on WAC 173-340-310(5)(d)(ii): that a hazardous release has occurred at some time in the past at this site, but does not pose a significant threat to human health or the environment.

### Sources Used in This Report

1. Forsgren Associates letter report dated April 14, 1992.
2. Chen-Northern Inc. Phase II/III Environmental Site Assessment for Lucky's Service. Prepared for Joe Hall Construction. June 1993.
3. Chen-Northern Inc. Interim Remedial Action Report #1: Remediation of Petroleum Contaminated Soil, for Lucky's Service. Prepared for Joe Hall Construction. October 1993.
4. Chen-Northern Inc.'s October 7, 1993 letter Re: Petroleum Contaminated Soil Aeration, Lucky's Service.
5. Lauck's Testing Laboratory, Inc.; June 10, 1994, Chain of custody and June 20, 1994, test result report.
6. Don Geck, Joe Hall Construction's July 2, 1994 letter to Ecology Re: On site remediation of 410 yds of petroleum contaminated soil-Lucky's Service 14579 Alt Highway 97, Entiat, WA
7. USDA, Natural Resource Conservation Service, Web Soil Survey, obtained on Jan. 17, 2014.
8. WS Department of Ecology Well Log search.



Photo of Lucky's Service,  
taken 1/23/2014. Photo view  
looks toward the south east.



Photo of Lucky's Service,  
taken 1/23/2014. Photo view  
looks toward the north east.