Work Plan No. 2 – Investigation of Former UST Area

Property Owner:
Mr. Jack Oakes

Project Site Location:
JD&L Industrial Rentals
31830 NW Commercial Street,
North Plains, OR 97133

Prepared for:
Oregon DEQ – NW Region
UST Cleanup Program
2020 SW 4th, Suite 400
Portland, OR 97201

Prepared by
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CEC Project No. Oakes-2003.01
UST Log No. 34-97-0442

December 2003

WORK PLAN NO. 2 - FINAL

JACK OAKES PROPERTY – DEQ FILE NO. 34-97-0442
31830 NW COMMERCIAL STREET, NORTH PLAINS, OREGON 97133
DECEMBER 29, 2003

1.0 INTRODUCTION

Work Plan No. 2 has been prepared for the Oregon Department of Environmental Quality on behalf of Mr. Jack Oakes, and is intended to be used as a guide for initiating additional soil investigation (Phase II Environmental Site Assessment) at the JD&L Industrial Rentals facility located at 31830 NW Commercial Street, North Plains, Oregon 97133 (see Figure 1). This work plan is consistent with DEQ's request to implement corrective measure No. 2 outlined in DEQ's Notice of Noncompliance (NON) letter to Mr. Oakes dated November 4, 2003 (Ref.: File No. 34-97-0442, NWR-UST-03-027). The NON was issued for failure to obtain a permit for a facility proposed to be used for petroleum contaminated soil remediation. Corrective measure No. 2 in the aforementioned NON requires that a work plan be written and submitted to DEQ for sampling and analysis of the "treated" area to ascertain the current status of the site with regard to residual petroleum contamination. This work plan is intended to satisfy that requirement.

2.0 SUMMARY OF PAST PROJECT ACTIVITIES & CORRESPONDENCE

April 29, 1997 DEQ letter to Jack Oakes:

- Property owner – JD&L Industrial Rentals, Inc.
- Petroleum release reported on April 18, 1997.
- 3 USTs were abandoned in place and paved over.
- No record that tanks were permitted or properly decommissioned.
- Site assessment @ adjacent property detected petroleum contamination in the NE corner
- Permit the USTs; pay registration fees and properly decom.
- Do site assessment (GW contamination down-gradient from the site).

May 27, 1997 letter from Michael Sahagian, Jack Oakes' attorney, to Steven Hooper, DEQ UST Cleanup Specialist

- Response to April 29 DEQ letter
- Site purchased in 1978 was previously an auto body shop from 1972 (owner Bob Brewer).
- Prior to date a gas station, went out of business in 1965
- Please advise

June 10, 1997 DEQ letter to Sahagian:

- If the USTs contain regulated substances, then considered regulated (subject to registration and fees).

- Site assessment required
- Properly decommission the tanks by removal or in-place

June 10, 1997 DEQ letter to Jack Oakes

- Enclosed an Initial Report to be completed within 20 days.

Sept 30, 1997 – 3 Kings Letter to Jack Oakes:

- On Sept. 22, 1997, 3 Kings removed one 8,000 gallon gasoline UST (partially in Commercial Street)
- Less than 2" product was present in tank – 120 gallons residual gas sent to Harbor Oil, tank was supposed to be sent to Mountain Oil, Walla Walla, WA to be used as an AST but appears to have actually been sent to Cliff Koppe Metals, Inc. for scrap recycling (6,040 lbs)
- No tank holes or integrity issues, leak must have occurred from pipes or other USTs
- East Bottom soil sample – 890 ppm TPH-Gx, West Bottom soil sample – 29 ppm TPH-Gx, TPH-contaminated groundwater was observed in excavation hole by DEQ

Sept 25, 1997 DEQ letter to Jack Oakes:

- Not yet received the complete Initial Report Form (IRF)
- At least one UST removed; free product on water entering tank excavation.
- Check all USTs for presence of regulated substances as initial abatement.
- Regulated substances must be removed and properly disposed
- Initial site characterization report due 45 days from date of release confirmation
- Submit a schedule and work plan by Oct 24, 1997

Dec 16, 1997 DEQ letter to Jack Oakes

- Failure to provide information is violation of OAR 340-122-255
- To avoid enforcement submit required information (completed IRF, documentation of cleanup activities conducted to date, initial site characterization report (45 day report), and results of soil and groundwater investigation by Jan 23, 1998

Dec 22, 1997 letter from M. Sahagian to S. Hooper (DEQ):

- Response to Dec 16, 97 DEQ letter
- Enclosed Sept 30, 97 documentation from 3 Kings Environmental, showing decom & cleanup

Note: 3 Kings report and backup documentation was then submitted to DEQ

February 4, 1998 – DEQ letter to Jack Oakes confirming that the UST was decommissioned and soil matrix standards were exceeded.

Oct 12, 1998 DEQ letter to Jack Oakes:

- Petroleum contamination of soil and water within excavation
- Investigate soil and groundwater and report to DEQ (OAR 122-240 & 122-242)
- Conduct full soil and groundwater investigation and provide required site investigation information by Nov. 13, 1998

August 11, 1999 – Proposal from 3 Kings to Jack Oakes to Decommission up to One 2,000 gallon UST

September 29, 1999 – 3 Kings decommissioned one 2,000 gasoline UST at the subject site, spread about 30 cubic yards of TPH-Gx impacted soils on a ¼ acre parking lot behind building, and collected 6 soil samples and two pit water samples in the excavation cavity. Test results indicated the following:

- TPH-Gx was not detected in the samples from the east and south sidewalls, and from one of the floor sample. The north sidewall sample (collected from 8' bgs) was 160 ppm TPH-Gx; the west sidewall sample (collected from 9' bgs) was 170 ppm TPH-Gx; and the second floor sample (collected from 12' bgs) was 6,500 ppm TPH-Gx. PCBs were not detected.

- Two pit water samples were collected from the excavation bottom at 12' bgs. Results from those samples were 28 ppm and 19.3 ppm TPH-Gx, respectively. Both had BTEX detections, but no elevated regulated metals.

Nov 23, 1999 DEQ letter To Jack Oakes

- Receipt of fax showing sample location and analytical results associated with decommissioning
- Additional site characterization is warranted (OAR-122-240)
- Contamination has affected adjacent property (Oregon Canadian Forest); install GW monitoring network
- Water well survey for all potable water wells within 0.25-mile radius; show on a 7.5- minute map
- Submit a work plan by Dec 31, 1999.
- Mail returned with forwarding address: Jack Oakes, PO Box 1094, Sherwood, OR 97140-1094

December 29, 1999 – Proposal/Work Plan from 3 Kings to DEQ to Conduct Soil & Groundwater Investigation; submitted to DEQ but rejected

January 25, 2000 DEQ letter to Jack Oakes:

- Receipt of work plan by 3 Kings Environmental

- Numerous water wells within the locality, cannot determine use - do a beneficial water well survey with ¼ mile radius denoted on a 7.5 min topographic map
- Provide a scale on the site map depicting borings and MWs.
- Do constituent and additive analysis on the highest TPH gasoline concentration
- 3 wells for GW monitoring system; additional if necessary
- Submit a work plan by Feb 29, 2000.

August 8, 2003 – NON Issued by DEQ

- Responsible Party (RP, Jack Oakes) has not completed beneficial water use survey or responded to DEQ's January 25, 2000 letter to reissue a revised work plan. Therefore,

    1. Violation 1 – Failure to complete investigation for the magnitude and extent of contamination
    2. Violation 2 – Failure to provide information to DEQ

August 22, 2003 – Letter from Jack Oakes Attorney (Michael Sahagian) to Bijan Pour

- All USTs have been removed, contaminated soils were spread out on parking lot and have been aerated 4 times per year for 3 years, no water wells within ¼ mile radius of the site.

September 15, 2003 – 2nd NON Letter from DEQ to Jack Oakes (JD&L Industrial Rentals)

- DEQ notes August 8 NON and still wants investigation to be initiated

    1. Violation 1 – A permit is required for petroleum contaminated soil remediation facilities and was not obtained

November 4, 2003 – 2nd NON Letter (again) from DEQ to Jack Oakes (JD&L Industrial Rentals)

- DEQ notes August 8 NON and still wants investigation to be initiated. Also reiterates Violation 1 – A permit is required for petroleum contaminated soil remediation facilities and was not obtained

- Corrective Measures – Provide work plan for sampling and analysis of treated soils, provide letter explaining site ownership, and excavate residual soils in parking lot, if necessary (pending test results from work plan implementation)

November 24, 2003 – Creekside hired by Jack Oakes & submits draft work plan to DEQ to address the parking lot issue only

November 25, 2003 – Final work plan for sampling the treated soils in the lot is approved by DEQ

December 3, 2003 – Creekside collected two shallow soil samples (2" and 12" bgs) from 9 hand augured borings in the parking lot. Test results, provided by Specialty Analytical, indicated that

no TPH-Gx was present. TPH-Dx was detected in 12 of the 18 samples; however, the highest result was still well below DEQ's Soil Matrix Level II cleanup standard of 500 ppm.

December 9, 2003 – DEQ notifies Creekside (by email) that no additional testing is required in the parking lot. DEQ requests that Creekside submit a letter report for the soils assessment and submit a work plan to conduct the additional investigation in the former UST area.

December 15, 2003 – Creekside submits report on parking lot investigation and work plan for the UST investigation to DEQ. This work plan includes the following tasks (refer to section 5):

- Complete a beneficial water use survey (¼ mile radius denoted on a 7.5 min topographic map) and include a description of the methodology used to complete the survey.

- Submit a proposed sampling map with an accurate scale that shows the horizontal distances of the drive points and wells from the excavation cavity, property boundaries, streets, utility lines, structures, etc.

- Soil and groundwater samples must be analyzed for BTEX, EDC, EDB, MTBE, naphthalene, and lead using appropriate USEPA analytical methods.

- Three groundwater monitoring wells must be installed; two hydraulically down gradient, and one up gradient from the source. The wells must be capable of characterizing site hydrogeology and vertical and horizontal magnitude and extent of groundwater contamination.

3.0 DETERMINATION OF AREA OF CONCERN

The area of known or suspected environmental concern is the former location of the USTs and adjacent and down gradient areas where gasoline-impacted soil and groundwater may be present (see Figure 2 attached). The boundaries of the area of concern will be checked and verified in the field, and will be used to define the limits of this phase of the assessment.

4.0 UTILITY LOCATE

To reduce the possibility that the proposed borings will encounter underground utilities, Creekside will contact a private locate service and the Oregon Utility Notification Center to have the locations of on-site utilities identified. Creekside will also ask DEQ and Mr. Oakes to approve the proposed boring locations. Although Creekside will make every effort to identify any subsurface obstruction, any liability incurred as the result of encountering unidentified underground utilities will be the responsibility of the companies conducting the locate service and the property owner.

5.0 SAMPLE COLLECTION ANDANALYSIS

A Creekside registered geologist will complete or oversee the completion of the following tasks:

Task 5.1 – Push Probe Soil Sample Collection

Using clean, truck mounted Geoprobe equipment, GeoTech Explorations, Inc., Creekside's drilling subcontractor for this project, will complete a total of five soil probes to groundwater (12 to 15' below ground surface [bgs]) in the locations shown in Figure 2. Continuous core soil samples will be collected, in four-foot long runs, from each boring. A minimum of one representative soil sample will be collected from each core run, and be field screened with an organic vapor meter (OVM). Samples with OVM readings in excess of 10 (equivalent to about 1,000 ppm gasoline) will be submitted to North Creek Analytical Laboratory for analysis. If none of the samples collected in a particular boring have OVM readings equal to or greater than 10, a soil sample collected from just above the level of groundwater in that boring will be submitted for analysis.

Task 5.2 - Install Monitoring Wells

Three monitoring wells will be installed; two hydraulically down gradient, and one up gradient from the gasoline impacted soils (refer to Figure 2). The wells will be installed to develop an understanding of ground water conditions in the shallow groundwater zone (SGWZ) beneath the subject property. These wells will be used to monitor groundwater elevation for determining groundwater gradient and flow direction, and to collect ground water quality samples.

Task 5.3 - Develop Monitoring Wells

The wells will be allowed to stabilize for a minimum of 48 hours and a maximum of seven days before development. Wells will be developed by surging, pumping, or swabbing techniques, consistent with procedures described in the DEQ's (1992) guidance document. Field parameters, including specific conductance, pH, temperature, and sediment content, will be monitored during development and recorded on well development field sheets. The wells will be considered developed when the discharge water is visibly free of sediment or when the field parameters have stabilized to within 10 percent of the previous measurements for at least three successive borehole volumes. Ground water that is recovered during development will be placed in 55-gallon steel drums, and stored on site until proper disposal is arranged.

Task 5.4 - Survey Monitoring Wells

The surface elevation at each well location and the top of each monitoring well casing (at an inscribed mark) will be surveyed to an accuracy of 0.01 foot relative to the local datum. Location coordinates for the new monitoring wells will be surveyed to an accuracy of 0.5 foot relative to the Oregon State Plane Coordinate System. A registered land surveyor will perform the survey.

Task 5.5 – Ground Water Monitoring

Ground water quality samples will be collected from each of the three monitoring wells completed in the SGWZ. Samples will be shipped, under chain of custody documentation, to North Creek Analytical Laboratory for analysis.

Task 5.6 – Laboratory Analysis

Creekside will arrange to have the soil and groundwater samples analyzed for total petroleum hydrocarbon identification, TPH-Gx, BTEX, EDC, EDB, MTBE, naphthalene, and total lead using appropriate USEPA analytical methods (i.e., NW TPH-Gx, 8260, and 6010, respectively). Additionally, Creekside will insure that Method 8260 will include the following volatile organic compounds: iso-propylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene for the soil and groundwater samples. The samples will be submitted using chain of custody documentation, and analyzed on a normal turnaround basis.

6.0 BENEFICIAL WATER USE SURVEY

Using well construction report (well log) information obtained from the Oregon Water Resources Department, Creekside will conduct a beneficial water use survey (¼ mile radius), and denote the locations of identified water supply wells on a 7.5-minute topographic quadrangle base map. A description of the methodology used to complete the survey will also be provided.

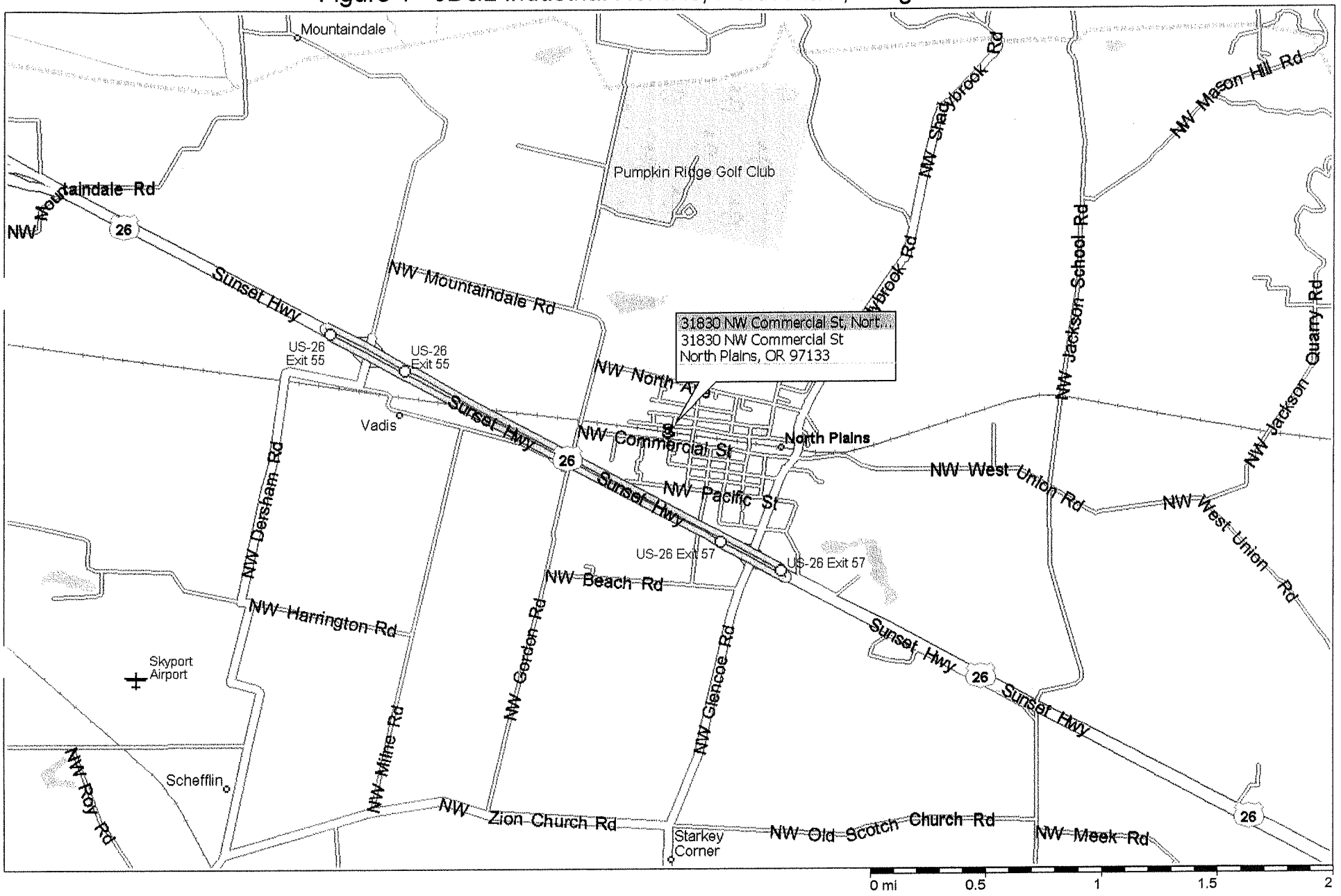
7.0 REPORTING

Using information obtained in Tasks 4 – 6 above, Creekside will prepare a letter report for DEQ that summarizes the project findings and provides conclusions and recommendations, as necessary. We will also provide a table that compares the laboratory analytical results to acceptable regulatory standards (e.g., DEQ Soil Matrix levels or Risk Based Cleanup standards).

6.0 SCHEDULE

Creekside can implement this work plan within one week of receiving DEQ approval. We anticipate that the field work can be planned and carried out in one to two weeks, and that we will be able to submit our findings to DEQ within about two weeks of obtaining the final test results from the laboratory.

Figure 1 - JD&L Industrial Rentals, North Plain, Oregon 97133



NW Kaybern Street

NW 318th Avenue

NW Commercial Street

Building

B - 1 B - 4 B - 7

B - 2 B - 5 B - 8

B - 3 B - 6 B - 9

SB-1, Proposed Soil Boring # 1

MW-3, Proposed Observation Well

MW-2 (Proposed Downgradient Well)

MW-1 (Proposed Upgradient Well)

Current Monitoring Well

SB-2, Proposed Soil Boring # 2

UST Excavation Area

Easement

Monitoring Well

Drainage Ditch

Property Line

New Soil Borings (SB-1)

Old Soil Borings (B-1)

Estimated Groundwater Flow Direction

N

Approximate Scale: 1" = 30'

Drawn by:
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Figure 2 - Site Sampling Plan

JD&L Industrial Rentals
31830 NW Commercial Street
North Plains, Oregon 97133