

FILE NAME:

Alpenrose Dairy

LOG NO.

26-98-0933

Q# 20550

NWR'S NFA TRACKING CHECKLIST

ROUTE TO	ACTIVITY	RESPONSIBLE PERSON	DATE COMPLETED
RAH	UST database checked by Project Manager (PM) to make sure fees paid and tanks closed. Verify w/ Greg or Bob that any UST compliance issues have been resolved.	RAH	8/22/2013
RAH	Update LUST database COMMENTS field with soil disposal, public notice, and site status.	RAH	8/22/2013
RAH	Draft NFA prepared by PM and submitted to NRS-4 Hydro for review.	RAH	9/13/2013
Bill HOL	Draft NFA approved by NRS-4 Hydro and returned to PM.	ALD	7/25/2014
RAH	PM makes final revisions and submits to Manager for approval.	RAH	7/29/2014
Kevin Parrett	Approved by Manager and returned to PM.	KP	8/8/14
RAH	PM forwards NFA to Gerald and instructs him to request a final invoice.	RAH	8/18/2014
Gerald	Contact staff to verify all billable time entered in Qtime. Request business office submit a final invoice to the responsible party (RP).	GMG	8/18/2014
Gerald	OPTIONAL STEP: If RP requests an expedited invoice, inform the business office.	—	—
Gerald	Update the LUST database and LUST release form or green sheet with the date that the final invoice was requested.	GMG	8/18/2014
Gerald	Inform the PM after Business Office notifies Gerald that the final invoice has been paid.		10/28/14
RAH	PM finalizes NFA, obtains manager signature, and forwards final NFA to Gerald.	RAH	10/28/14
Gerald	Verify SITE TYPE/STATUS is updated and correct and update LUST database and LUST release form or green sheet in file with closure information.	GMG	10/29/14
Gerald	NFA and, if applicable, EES and attachments scanned to webdocs in LUST database then forward NFA to BJ.	GMG	10/29/14
BJ	File copies of the LUST release form, NFA and attachments in the project folder. Mail NFA to recipients. Mark file with red dot and move entire file to "closed" file.	BJ	10/30/14

NFA PROCESS COMPLETE



Oregon

John A. Kitzhaber, MD, Governor

Department of Environmental Quality

Northwest Region Portland Office

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October 28, 2014

GEOFF MILLER
FACILITIES MANAGER
6149 SW SHATTUCK RD
PORTLAND OR 97221

Re: Alpenrose Dairy
No Further Action Determination
UST Cleanup File No. 26-98-0933
UST Facility ID. No. 3415

Dear Mr. Miller:

The Department of Environmental Quality (DEQ) completed its review of the information submitted to date, regarding the underground storage tank (UST) investigation and cleanup conducted at 6149 SW Shattuck Road in Portland, Oregon. DEQ determined that the cleanup appears to have met the requirements of Oregon Administrative Rules (OAR) 340-122-0205 through 340-122-0360 and that no further action is required at this time subject to any conditions described below.

This determination is a result of our evaluation and judgment based on the regulations and facts as we now understand them:

SITE HISTORY/BACKGROUND

The property is owned by Alpenrose Dairy and the tank area is in the vicinity of the Maintenance Shop and bungalow 6. The attached aerial photo shows the Dairy property and source area. The release was reported in October 1998, during decommissioning activities that were completed by SilverSun Construction. One 2,000-gallon gasoline tank was decommissioned by removal and replaced with a new fiberglass tank. Additionally, one 200-gallon UST was discovered under the dispenser and it was determined to be decommissioned in-place. This tank was removed. The tanks were transported to Schnitzer Steel Products in Portland, Oregon for recycling. Approximately 54 tons of soil were removed and transported to USR in Woodburn, Oregon for treatment. Approximately 380 gallons of pit water were removed during the decommissioning activities and transported to Fuel Processors in Portland, Oregon for recycling.

Elevated gasoline-range petroleum hydrocarbons and gasoline constituents were detected in both soil and the pit water. Pit water was first encountered at eight feet below ground surface (bgs), but settled at approximately 10 feet bgs.



In February 1999, four borings were installed three of which were completed as monitoring wells (A1-A3). Soils encountered during the investigation were described to be fine grained silts and clay. Quarterly groundwater monitoring was initiated. Groundwater at the site has ranged between three and nine feet below top of the well casing (btc). Groundwater flow has been toward the north-northeast. Groundwater monitoring continued through 2006 (semi-annual basis from 2002 through 2006).

In June 2003, six borings were installed to further delineate and determine the magnitude of the contaminant plumes and an indoor air sample was collected inside Bungalow 6. Air sample results indicated that benzene concentrations were above acceptable air inhalation levels for benzene of which there may have been multiple contributing factors such as new wall paint and truck traffic from the Dairy's daily operations. In 2004, one additional boring was installed northeast of Maintenance Shop. With this investigation, delineation was completed.

The attached Figure labeled Plume, from the K&S Environmental, Inc., shows the extent of subsurface contamination.

LAND AND GROUNDWATER USE DETERMINATIONS

Zoning at the site is residential R10 and allows one residential unit per 10,000 square feet. With the existence of Bungalow 6 adjacent to the release area, the residential receptor applies for this cleanup.

A ¼-mile search of the Oregon Water Resources Department's (OWRD) database of wells was completed. Three wells were identified within the search radius. One well is located on this property and is approximately 85 feet up/cross-gradient of the plume. The well is 400 feet deep. It is used for stock and industry. The Dairy uses public water for human consumption, which is provided by the City of Portland. The design of the well was not provided on the well record. Based on the extent of contamination being well defined and no known impacts to the water well, there appears to be no unacceptable risk to the well. While water is actively used on the property, which is acceptable, any proposed new wells must be discussed with DEQ prior to installation.

CONTAMINANTS OF INTEREST (COIs)

The COIs at the site are constituents of total gasoline, total diesel and heavy oil and are restricted to constituents of interest in petroleum products as shown on Table 2.1 in the document entitled, *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites*, dated September 22, 2003.

CONCEPTUAL SITE MODEL (CSM) AND RISK-BASED DETERMINATION

K&S completed the CSM and risk evaluation for residential receptors.

The following exposure pathways were included: soil: *Soil ingestion, dermal contact, and inhalation* (future); groundwater: *vapor intrusion into buildings, volatilization to outdoor air, and groundwater in excavation*.

The following exposure pathways were excluded: soil: *leaching to groundwater, vapor intrusion into buildings, and volatilization to outdoor air*; groundwater: *ingestion and inhalation from tap water*. The *Leaching to groundwater* and *ingestion and inhalation from tap water* exposure pathways were eliminated based on the water use determination.

Note: For the soil *vapor intrusion into buildings* exposure pathway, DEQ considers it applicable to the conceptual site model since petroleum concentrations exceed screening levels at a depth of six feet (boring B-3), which appears above the water table during a majority of the water measurement periods. However, soil gas sampling was completed since some concentrations showed unacceptable risk in groundwater.

CONTAMINANTS OF POTENTIAL CONCERN (COPCs)

Based on the risk evaluation, the following are COPCs:

For the soil *vapor intrusion into buildings* exposure pathway: benzene, ethylbenzene. Note, at the time of evaluation, ethylbenzene was not a COPC. However, since then, it was reclassified as a carcinogen and the screening level became more stringent.

For the groundwater *vapor intrusion into buildings* exposure pathway: benzene and ethylbenzene. It should be noted that data from the monitoring wells showed no unacceptable risk for the applicable pathways. The data that showed unacceptable risk from groundwater was from temporary well points, which can be biased high due to sediment interference. Typically this data would not be used in the risk evaluation, but because no source area monitoring well was installed, the temporary data was evaluated.

For the *groundwater in excavation* exposure pathway: total gasoline, benzene, and 1,2,4 trimethylbenzene.

The attached Table 1 shows maximum concentrations as compared to applicable screening levels.

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Based on the potentially unacceptable risk due to benzene at the time, soil gas points were installed in 2007 and three sampling events were completed (analyzed for benzene only as agreed at the time). As shown on the attached table 2, the maximum concentration of benzene during the four events was 5.1 ug/m^3 (at V-1). This is below the residential screening level of 62 ug/m^3 . While ethylbenzene was not analyzed during the soil gas sampling, earlier indoor air sampling was completed. Up to 14 ug/m^3 were detected (the screening level is 0.97 ug/m^3). Given the size of the petroleum release is limited, fueling operations are within 20 feet of the bungalow, and heavy truck traffic flows past the bungalow, it cannot be concluded that subsurface petroleum is the primary cause of the detections inside and appears to be related to outdoor localized background activities.

CONTAMINANTS OF CONCERN

Based on the further evaluation completed, the COCs at the site are the following:

Total gasoline and 1,2,4 TMB for the groundwater in excavation exposure pathway.

RISK MANAGEMENT

If excavation occurs in the area of contamination, all media should be sampled, managed and disposed according to DEQ regulations.

Given active fueling still occurs, it is expected there will be elevated petroleum concentrations in the vicinity. If and when fueling is to cease, further evaluation for new releases and for ethylbenzene should occur.

ECOLOGICAL RISK EVALUATION

Based on the absence of surface waters in the vicinity and there is no surface soil exposure, no ecological exposures were identified.

PUBLIC NOTICE

On September 13, 2013, DEQ completed public notice through its website. No comments were received.

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NFA DETERMINATION

Contamination remains on the Alpenrose Dairy site. DEQ approves leaving this contamination, in-place, because the contamination does not present an unacceptable risk to human health, safety, welfare or the environment with the controls described above. DEQ's approval to leave contamination on the site was based upon present conditions, as described in documents in DEQ's files.

Any future work in the contaminated areas of the property, including any sampling, management, and disposal of contaminated soil and groundwater must be performed in accordance with DEQ regulations and policies.

For groundwater sites with monitoring wells: DEQ recommends that monitoring wells be properly decommissioned, since construction deficiencies can develop in monitoring wells, thereby creating a liability and a possible conduit for contaminant migration. Monitoring wells that are not maintained according to Oregon Water Resources Department (OWRD) standards must either be repaired or decommissioned in accordance with OWRD regulations. Please coordinate with an OWRD Regional Well Inspector regarding proper abandonment procedures and submit a copy of any monitoring well decommissioning reports to DEQ.

This determination will not apply if new or undisclosed facts show that the cleanup does not comply with the referenced rules. Specifically, this letter only applies to the UST release discussed above (unless otherwise noted) and does not apply to contamination that may have originated from Underground Injection Control systems (UICs), i.e. motor vehicle drains, septic systems, drain fields, cesspools, seepage pits, drywells, seepage trenches, and abandoned wells. It also does not apply to former pump islands or UST locations, hydraulic hoists, or other sources of contamination not addressed by this letter. If this facility has unregistered UICs you must register them with the DEQ and obtain from DEQ either Rule Authorization or a permit to operate the UIC. Please visit DEQ's website at www.deq.state.or.us/wq/groundwa/uichome.htm or call (503) 229-5945 for more information.

DEQ recommends keeping a copy of all of the documentation associated with this remedial action with the permanent facility records.

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Your efforts to comply with the regulations to ensure that your facility has been adequately cleaned up have been appreciated. If you have any questions, please contact Rob Hood at (503) 229-5617.

Respectfully,



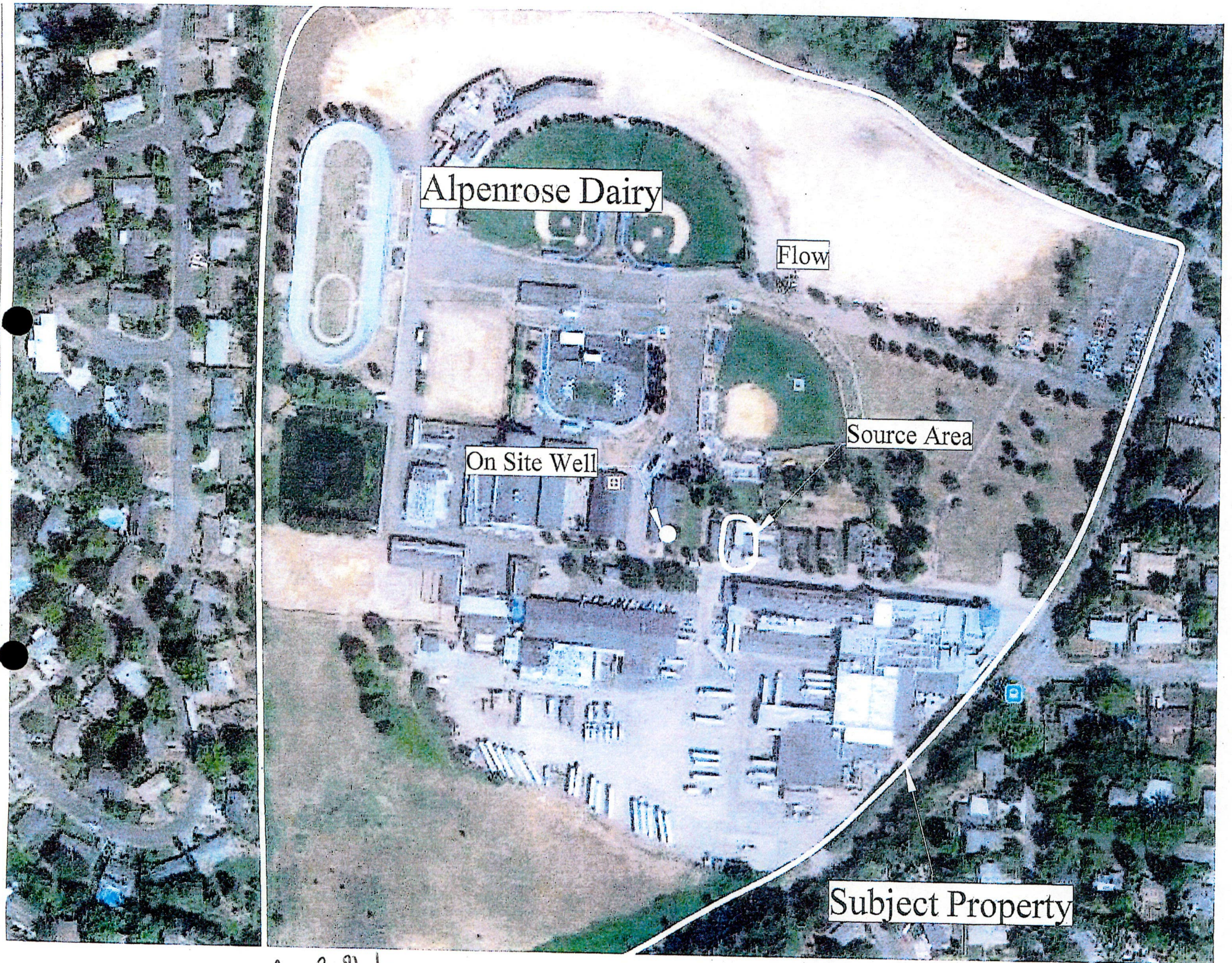
Kevin Parrett, Manager
NW Region Cleanup and Tanks

enclosures: -Attached Aerial Photo
- Figure Labeled Plume
- Table 1

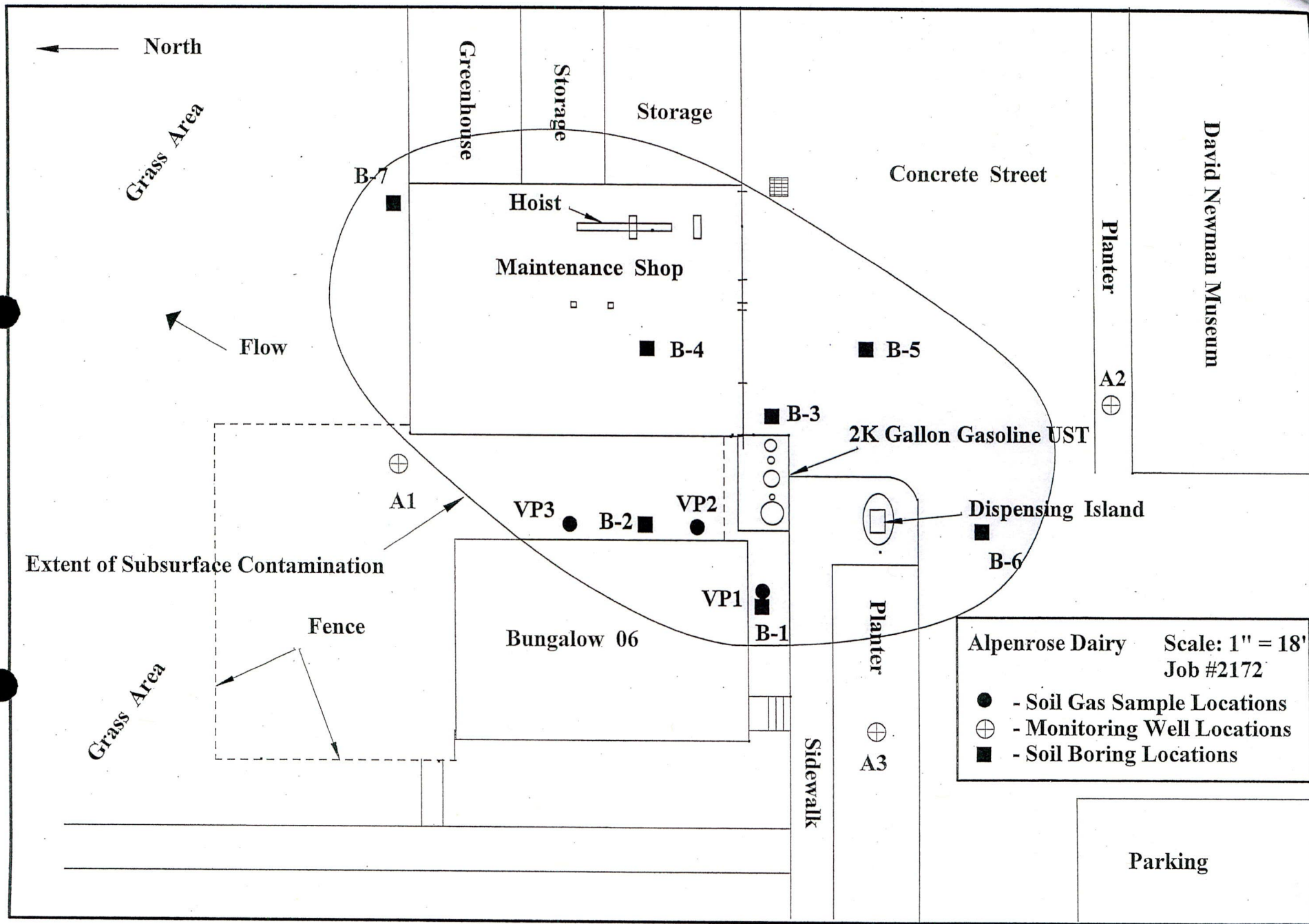
cc: NWR Monitoring Well Inspector
Oregon Water Resources Dept.
725 Summer St. NE, Ste. A
Salem, OR 97301-1270

Bill Knutson
K&S Environmental, Inc.
4475 SW Scholls Ferry Rd., #256
Portland, OR 97225

(rah:RAH)



Aerial Photo



Alpenrose Dairy Scale: 1" = 18'

Job #2172

- - Soil Gas Sample Locations
- ⊕ - Monitoring Well Locations
- - Soil Boring Locations

Table 1. -1

Medium	COPC	Maximum Concentration	Residential Indoor Air	Residential Outdoor Air	Groundwater in Excavation
Groundwater	TPH as Gasoline	21,200	22,000	>S	14,000
	Benzene	2,500	190	2800	1700
	Toluene	309	>S	>S	210,000
	Ethylbenzene	641	490	8200	4400
	Xylenes	2450	58,000	>S	23,000
	Naphthalene	243	670	16,000	500
	1,2,4Trimethylbenzene	1720	5000	>S	1700
	1,3,5Trimethylbenzene	535	>S	>S	23,000
	Isopropylbenzene	77.7	>S	>S	>S
	n-Propylbenzene	312	N/A	N/A	N/A

RBCs exceeded are in Bold Numerals

Table 2 – Soil Gas RBCs (ug/m³) Compared to Sample SG1 Collected on February 2, 2007

Medium	COPC	Maximum Concentration	Residential Soil Gas	Urban Residential Soil Gas
Soil Gas	Benzene	5.1	62	170