

# CENTURY WEST ENGINEERING

May 23, 1990

Mr. John Becker   
Oregon Department of Environmental Quality  
201 West Main Street  
Medford, Oregon 97501

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
**RECEIVED**  
MAY 29 1990

RE: Lininger Tru-Mix Sites/Project No. 4014000101

**SOUTHWEST REGION OFFICE**

Dear Mr. Becker:

Enclosed please find a document entitled "Report of Findings," dated May 23, 1990. This report describes the results of an environmental investigation conducted at five Lininger-Tru Mix (LTM) sites in the Medford, Oregon area. The report describes the environmental work activities conducted and resulting analytical data. It identifies a number of areas where soil and ground water contamination (petroleum products) are present. We would appreciate your review of this report and assistance with cleanup activities.

These sites are no longer owned by LTM; they are currently owned by Inspiration Resources Corporation of New York, New York. It is LTM's and Inspiration's intention to perform cleanup of these properties. We would like to perform this cleanup with input and guidance from the DEQ.

After a review of the UST soil cleanup matrix, we believe that a cleanup standard of 1000 ppm (Level 3 for diesel fuel) is appropriate. Prior to implementation of remediation, we would like to meet with you and discuss the cleanup standard and remediation plans. Since it may not be feasible to achieve this standard in all cases, a Corrective Action Plan will be required.

After you have reviewed the report, please contact Mr. Colin Larsen of LTM at 779-6304 so that a meeting can be scheduled. We would like to proceed with the development of the CAP and remediation as soon as possible. We appreciate your assistance with this matter,

Very truly yours,

CENTURY WEST ENGINEERING CORPORATION

  
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Project Manager

Enclosure

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**REPORT OF FINDINGS**

**LININGER TRU-MIX  
Medford, Oregon**

State of Oregon  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
**RECEIVED**  
MAY 29 1990

**SOUTHWEST REGION OFFICE**

**Prepared for:**

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**May 23, 1990**

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# REPORT OF FINDINGS

## LININGER TRU-MIX Medford, Oregon

### 1.0 INTRODUCTION

Century West Engineering was retained by Lininger Tru-Mix (LTM) and Inspiration Resources Corporation to complete a Phase I environmental investigation of five parcels of property in the vicinity of Central Point, Oregon. The sites, currently owned by LTM, include asphalt plants, concrete plants, gravel pits, offices, and maintenance shops. The primary objective of the investigation was to evaluate potential subsurface soil and groundwater contamination on the five sites. The Scope of Work is presented in Appendix A.

### 2.0 FIELD INVESTIGATION

The primary tasks of the field investigation were to 1) observe the decommissioning of underground storage tanks, 2) observe soil conditions in test pits excavated in areas of surface staining and areas where products which could have potentially adversely impact the environment are used or stored, and 3) sample groundwater sumps. All of the test pits excavated during the field investigation were backfilled. The underground storage tank excavations were not backfilled.

The intent of the subsurface investigation was to excavate test pits to a depth at which soil was not visually contaminated. However, due to site conditions, most of the test pits were excavated to a depth at which groundwater or bedrock was intercepted. Test pit logs are presented in Appendix B.

A list storage tanks present on Lininger Tru-Mix sites investigated during this study is presented in Appendix C.

Samples collected during the field investigation were labeled using the following system:

site name abbreviation - task abbreviation - task number - depth

As an example, sample H-TP-1-6 indicates that the sample was collected on the Hamrick site, from test pit number one, six feet below grade. Laboratory data sheets are presented in Appendix D.

The Scope of Services divides the field investigation by site. Work performed at each site is discussed in the following sections:

- 2.1 Hamrick Site
- 2.2 Vilas Site
- 2.3 Kirtland Road Site
- 2.4 High Banks Site
- 2.5 140 Quarry Site

## **2.1 Hamrick Site**

The Hamrick site, located at 3959 Hamrick Road, includes a concrete pipe plant, asphalt plant, cement plant, several office buildings and maintenance shops, and other areas of potential environmental concern (Figure 1). The field investigation of the Hamrick Site is discussed in the following sections:

- 2.1.1 Maintenance Building
- 2.1.2 Underground Storage Tank Area
- 2.1.3 Pipe Plant
- 2.1.4 Muriatic Acid Area
- 2.1.5 Groundwater Sumps
- 2.1.6 Asphalt Plant
- 2.1.7 Smudge Pot Area
- 2.1.8 Haze Oil Tank Area
- 2.1.9 Lube Room Area

### 2.1.1 Maintenance Building

Three test pits were excavated in areas of surface staining in the vicinity of the maintenance building (Figure 2). Two soil samples, to be analyzed for total petroleum hydrocarbons (TPH), were collected from each test pit. The samples were collected at different depths to evaluate the vertical extent of contamination. The test pit numbers and sample depths are presented in Table 1.

The subsurface stratigraphy consisted of fill debris with a sand and gravel matrix (Appendix B). The debris fill in each test pit was stained and a petroleum odor was detected. A petroleum film was observed on groundwater which was intercepted at five feet below grade in test pit H-TP-3.

### 2.1.2 Underground Storage Tank Area

Two underground storage tanks (UST'S) were decommissioned during the field investigation. The UST's were located on the north and south sides of the maintenance building (Figure 1). The UST located to the north contained diesel, while the UST to the south contained waste oil. Both UST's had a 1,000 gallon capacity. Samples were collected and analyzed for TPH, benzene, toluene, xylenes, and ethylbenzene (BTXE), and lead (Table 1).

The diesel UST, labeled H-UST-1, did not show evidence of corrosion or tank failure (Figure 3). Soil samples were collected from both ends of the UST in the sand fill material at the base of the excavation, located five feet below grade. The soil at the fill end was stained and a strong petroleum odor was detected. The sample numbered H-UST-1-A was collected at the fill pipe end of the UST. Sample H-UST-1-B was collected at the end opposite the fill pipe. Groundwater was not encountered.

The waste oil UST, labeled H-UST-2, showed evidence of corrosion and was heavily stained on the fill end (Figure 4). Soil samples were collected from both ends of the UST in the sand fill material at the base of the excavation, located four feet below grade. The soil at the fill end was stained black and a petroleum odor was detected. The sample numbered H-UST-2-A was collected at the fill end of the UST. Sample H-UST-2-B was collected at the end opposite the fill line. Sample H-UST-2-GW represents groundwater which was encountered at four feet below grade.

### **2.1.3 Pipe Plant**

A test pit was excavated proximal to an above ground storage tank on the west side of the pipe plant (Figure 2). The pipe plant manufactures concrete sewer and water pipes. A sample was collected from the test pit to determine the presence of TPH contamination. The test pit and sample depth is presented in Table 1.

The subsurface stratigraphy includes debris fill with a gravelly sand matrix underlain by clayey silt (Appendix B). The subsurface soil was locally stained and a petroleum odor was detected.

### **2.1.4 Muriatic Acid Area**

Muriatic acid has been used on site to clean cement trucks. During past operations, acid may have been spilled to the north of the acid storage area (Figure 1). The surface soil consists of fill debris with a gravelly sand matrix. No surface staining was observed. A soil sample was collected for pH analysis (Table 1). Surface water was not present, thus no water sample was collected.

### **2.1.5 Groundwater Sumps**

Three sumps were sampled for TPH and BTXE during the field investigation to evaluate the possibility of groundwater contamination. The location of the sumps is shown on Figure 1. The sample numbers and collection depths are presented in Table 1.

The depth to groundwater in the sumps ranged from 5.0 feet below grade in H-GW-2 to 11.0 feet below grade in H-GW-1.

Globular masses of petroleum product were observed on the groundwater in the sump labeled H-GW-1 (Figure 5). A strong petroleum odor was also noted. The groundwater in sump H-GW-2 had a petroleum film and odor. The groundwater in H-GW-3 did not visually appear contaminated by petroleum product.

### **2.1.6 Asphalt Plant**

Sixteen test pits were excavated proximal to the asphalt plant, which has been in operation for approximately 45 years (personal communication, James Wright). The test pit locations were established to evaluate potential areas of contamination, with an emphasis on the: 1) above ground diesel fuel tanks, 2) above ground asphalt tanks, 3) slat conveyor of the asphalt plant, and 4) the asphalt storage silos (Figures 6 and 7). Diesel is sprayed onto

parts of the asphalt plant to remove asphalt during cleaning (personal communications). Two soil samples were collected from each test pit, to be used to evaluate the extent of subsurface TPH contamination. Several of the test pit locations were established to evaluate the lateral extent of contamination. Groundwater samples were collected from three of the test pits to identify potential TPH and BTXE contamination. The test pit numbers and sample depths are presented in Table 1.

The subsurface stratigraphy consisted of fill debris with a sand and gravel matrix underlain by alluvial sediments which include cobbles, gravel, sand, silt, and clay (Appendix B). The debris fill and alluvial sediments in all of the test pits, except H-TP-16, were stained to some degree and a strong petroleum odor was detected. The maximum observed depth of staining was approximately 13 feet in H-TP-18. Several of the test pits were stained from the surface to the groundwater level. The most extensive staining was observed in the area around the above ground storage tanks. Test pits H-TP-8 and H-TP-9, located proximal to the storage tanks, had petroleum-containing water flowing out of gravelly layers (Figure 8). These two test pits also had black asphalt-like layers which were extremely oily.

Test pits H-TP-16 and H-TP-20 were located proximal to Bear Creek to quantify potential soil contamination which could adversely impact the creek (Figure 2). The soil and groundwater in H-TP-16 did not appear visually contaminated. Staining was observed in H-TP-20 and a petroleum odor was detected.

The depth at which groundwater was encountered ranged from four to 12 feet below grade in the test pits. A petroleum film was observed on groundwater in all of the test pits except H-TP-16. The groundwater observed in test pits H-TP-8 and H-TP-9 contained heavy oil and a lighter petroleum product.

### **2.1.7 Smudge Pot Area**

Historically, smudge pot residue may have been dumped along the eastern edge of the property, which is shared with an orchard (Figure 1). The exact location of the residue dumping area could not be identified. Two test pits were excavated in this area to evaluate potential subsurface contamination (Figure 2). Two soil samples were collected from each test pit and analyzed for TPH. The samples were collected at different depths to evaluate the vertical extent of contamination. The test pit numbers and sample depths are presented in Table 1.

The subsurface stratigraphy consisted of fill debris with a sand and gravel matrix (Appendix B). The debris fill in test pit H-TP-21 was not stained and no petroleum odor was detected. The fill in test pit H-TP-22 was slightly stained from approximately one to two and one-half feet below grade and a slight petroleum odor was detected. A petroleum film was observed on the groundwater which was intercepted at five feet below grade in test pit H-TP-22.

### **2.1.8 Haze Oil Tank Area**

Two test pits were excavated in the area of this above ground diesel storage tank to evaluate potential subsurface contamination (Figure 2). Two soil samples were collected from each test pit and analyzed for TPH. The samples were collected at different depths to evaluate the vertical extent of contamination. The test pit numbers and sample depths are presented in Table 1.

The subsurface stratigraphy consisted of fill debris with a sand and gravel matrix (Appendix B). The debris fill in test pit H-TP-23 included large pieces of a cement slab which was used as fill material. The fill in H-TP-23 was stained and a strong petroleum odor was detected. Clean soil or groundwater was not reached due to cavitation of the test pit. The fill material in test pit H-TP-24 was not stained and no petroleum odor was detected. A petroleum film was observed on the groundwater which was intercepted at seven feet below grade in test pit H-TP-24.

### **2.1.9 Lube Room Area**

Four test pits were excavated in areas of surface staining on the north side of the lube room to evaluate the extent of subsurface contamination (Figure 2). There is an above ground waste oil tank and several 55 gallon drums in the area. Grease has been dumped on the ground near the Lube room doors. The test pits were excavated to a maximum depth of four feet below grade, where clean soil was reached. The subsurface consisted of debris fill with a sand and gravel matrix (Appendix B). The debris fill from approximately one and one-half to two and one-half feet below grade in H-TP-25 was heavily stained and leaking oil-containing water. The debris fill in test pit H-TP-25A was also oily from one-half to one and one-quarter feet below grade. Debris fill in test pits H-TP-25B and H-TP-25C had little or no staining and no petroleum odor was detected. A sample was collected for TPH analysis from test pit H-TP-25 (Table 1).

## **2.2 Vilas Site**

The Vilas site, located at 1111 E. Vilas Road, includes an asphalt plant, office, and maintenance shop (Figure 9). The field investigation of the Vilas Site is discussed in the following sections:

### **2.2.1 Asphalt Plant**

### **2.2.2 Tank Farm**

### 2.2.1 Asphalt Plant

Nine test pits were excavated proximal to the asphalt plant, which has been in operation for approximately 12 years (personal communication, James Wright). The test pit locations were established to evaluate potential areas of contamination, with an emphasis on the 1) above ground diesel fuel tanks, 2) above ground asphalt tanks, 3) slat conveyor of the asphalt plant, and 4) asphalt silos (Figure 10). Diesel is sprayed on areas of the asphalt plant to remove asphalt during cleaning. The presence of the Umpqua Formation at an approximate depth of three feet below grade limited the depth of test pit excavation. A single sample was collected from most of the test pits, to be used to evaluate the extent of subsurface TPH contamination. Groundwater was not encountered in any of the test pits. The test pit numbers and sample depths are presented in Table 2.

Test pits V-TP-1 through V-TP-7 were excavated proximal to the asphalt plant (Figure 11). The subsurface stratigraphy consisted of fill gravels and sands underlain by tan sandstone which is part of the Umpqua Formation. The thickness of the fill gravels and sands ranges to depths of approximately three feet. The fill material in the test pits was generally only stained at the surface and little or no petroleum odor was detected (Figure 12).

Test pit V-TP-6 was excavated proximal to the asphalt slat conveyor. This area has the most extensive surface staining. A shallow man-made hole was filled with a diesel/water mixture and used to clean hand shovels. There is no containment system around the hole (Figure 13).

Test pit V-TP-8 was excavated to the southwest of the asphalt plant in an area where waste asphalt is temporarily dumped (Figure 9). The pit was excavated approximately five feet below grade. The subsurface stratigraphy consists of one foot of waste asphalt underlain by blue-green clay.

Test pit V-TP-9 was excavated down gradient of the asphalt truck spray down area, located to the west of the asphalt plant (Figure 9). Interviews with plant personnel indicated that during past operations the truck beds were sprayed with diesel prior to loading. The stratigraphy consists of gravelly silt underlain by caliche and blue-green clay. The gravelly silt layer is black, oily, and has a petroleum odor (Figure 14). Shallow groundwater, which was filling the hole at two feet below grade, had a petroleum film and globular masses of oil.

### 2.2.2 Tank Farm

Two underground storage tanks (UST's) were decommissioned during the field investigation. The UST's were part of a tank farm located on the southwest corner of the office/maintenance building (Figure 9). The decommissioned UST's, located in a single excavation, included a 7,500 gallon diesel tank and a 1,000 gallon waste oil tank. The sample numbers and depths are presented in Table 2.

The UST's were located in a pit which was excavated after blasting the underlying sandstone. The fill material around the UST's consisted of gravelly sand with some cobbles. The pit was lined in some areas with blue-green clay.

Samples V-UST-1 and V-UST-2 were collected from the fill material beneath the decommissioned waste oil UST. The UST showed evidence of corrosion and a hole, approximately one inch diameter, at the base of the tank directly beneath the fill pipe. The fill material was stained in this area.

Samples V-UST-3 and V-UST-4 were collected from the fill material beneath the decommissioned diesel UST. The UST did not show evidence of corrosion or failure. The fill surrounding the UST was not heavily stained. Sample V-UST-GW represents groundwater which was encountered from approximately eight feet below grade.

The fill material beneath the UST's which were not decommissioned was not sampled. These UST's recently passed tank tightness tests (personal communication, Colin Larson).

## **2.3 Kirtland Road Site**

The Kirtland Road site includes an asphalt plant, a gravel operation, and an office building (Figure 15). The field investigation of the Kirtland Road site is discussed in the following sections:

### **2.3.1 Asphalt Plant**

### **2.3.2 Underground Storage Tank Area**

### **2.3.3 Waste Oil Sump**

#### **2.3.1 Asphalt Plant**

Five test pits were excavated proximal to the asphalt plant, which has been in operation for approximately six months (personal communications, James Wright). The test pit locations were established to evaluate potential areas of contamination, with an emphasis on the 1) above ground diesel fuel tanks, 2) above ground asphalt tanks, 3) slat conveyor of the asphalt plant, and 4) asphalt silos (Figure 15). The area of surface staining around the asphalt plant was relatively minor compared to the Hamrick and Vilas sites. A single sample was collected from most of the test pits, to be used to evaluate the extent of subsurface TPH contamination. Groundwater was not encountered in any of the test pits. The test pit numbers and sample depths are presented below in Table 3.

The test pits were excavated to a maximum depth of approximately three feet, where clean soil was reached. The subsurface stratigraphy consisted of fill sands and gravels underlain by brown clay (Appendix B). The fill material was stained at the surface of test pits, but petroleum odors were not detected.

### **2.3.2 Underground Storage Tank Area**

Two UST's were decommissioned during the field investigation. Both tanks were used to store diesel and had a 10,000 gallon capacity. The tanks were located together on the northwest side of the site (Figure 15). Soil and groundwater samples were collected from the base of the excavation for TPH, BTXE, and lead analysis. The sample numbers and depths are presented in Table 3.

The UST's showed some surfacial corrosion, but evidence of tank failure was not observed. The UST's were both heavily stained on the fill pipe end (Figure 16).

The subsurface stratigraphy consists of approximately 11 feet of brown sandy clay underlain by sandy gravel. The base of the excavation was approximately 13 feet below grade. The fill material was heavily stained in some areas and a strong petroleum odor was detected. The fill material around the UST's was removed from excavation and placed on plastic sheets.

During past operations approximately 5,000 gallons of diesel were released when a pump line failed near the UST area (personal communications, Colin Larson). Four test pits were excavated in this area to evaluate the extent of potential subsurface TPH contamination resulting from this release. The test pits were excavated to a maximum depth of approximately five feet, where clean soil was encountered. Groundwater was not encountered in any of the test pits. The test pit numbers and sample depths are presented in Table 3.

The subsurface stratigraphy consisted of fill sands and gravels underlain by brown clay. All of the test pits, except K-TP-8, were stained in the fill material and a petroleum odor was detected.

### **2.3.3 Waste Oil Sump**

A concrete pipe with a concrete base has been used during past operations as a waste oil sump (Figure 17). This sump was removed during the field work. Soil samples were collected in the sump excavation area to evaluate the vertical extent of contamination. Several test pits were also excavated proximal to the waste oil sump to determine the

lateral extent of contamination (Figure 15). The sample numbers and depths are presented in Table 3.

Samples labeled K-WOS were collected from the sump excavation. The subsurface stratigraphy in the excavation consisted of sandy clay underlain at 11 feet by gravel (Appendix B). The soil was stained and had a strong petroleum odor from the surface down to the base of the excavation at approximately 13 feet, where groundwater was intercepted. The groundwater, sample K-WOS-GW, had a visible petroleum film.

Test pits K-TP-10 through K-TP-11 were located five to six feet away from the waste oil sump and excavated to a maximum depth of four feet. The subsurface stratigraphy includes sandy gravel underlain by brown clay (Appendix B). The soil in the test pits did not appear visually contaminated and no petroleum odor was detected. Groundwater was not intercepted.

## **2.4 High Banks Site**

The High Banks site, located northwest of Central Point, includes two above ground storage tanks, several small shop buildings, and gravel yard equipment. A test pit was excavated proximal to the storage tanks in an area of surface staining to determine the extent of subsurface contamination. The 7,500 gallon storage tank had a small leak at one of the valves. Diesel leaking from this valve had overfilled a bucket and was dripping on to the soil surface. The soil under the tank is heavily stained at the surface. The sample number and depth is presented in Table 4.

The subsurface stratigraphy consisted of cobbly silt underlain at three feet below grade by volcanics. The cobbly silt was gray in color and had a petroleum odor from one and one-half to two and one-half feet below grade. Groundwater was not encountered.

## **2.5 140 Quarry Site**

The Quarry site, located along highway 140, provides LTM operations with a supply of rock and gravel. The rock is excavated or blasted from volcanic units. The site includes two above ground diesel storage tanks and piles of crushed rock (Figures 18 and 19).

Three test pits were excavated in areas of surface staining to determine the extent of subsurface contamination. The subsurface consisted of fine to coarse fill gravel. The test pits were excavated to a maximum depth of one foot. The observed surface staining extended to a maximum depth of six inches below grade. Samples were not collected for analysis.

### 3.0 ANALYTICAL RESULTS

Soil and groundwater samples collected during the field investigation were analyzed at Century Testing Laboratory in Bend, Oregon. Total petroleum hydrocarbon (TPH) analyses are reported in parts per million (ppm), benzene, toluene, xylenes, and ethylbenzene (BTXE) are reported in parts per billion (ppb), and lead (Pb) is reported in ppm.

The Department of Environmental Quality (DEQ) cleanup level for diesel based petroleum products in soil varies from 500 ppm to 51,000 ppm. TPH and BTXE concentrations in groundwater should not exceed the method detection limit.

The analytical results are discussed in the following sections:

- 3.1 Hamrick Site
- 3.2 Vilas Site
- 3.3 Kirtland Road Site
- 3.4 High Banks Site

#### 3.1 Hamrick Site

The analytical results for the Hamrick site is discussed in the following sections:

- 3.1.1 Maintenance Building
- 3.1.2 Underground Storage Tank Area
- 3.1.3 Pipe Plant
- 3.1.4 Muriatic Acid Area
- 3.1.5 Groundwater Sumps
- 3.1.6 Asphalt Plant
- 3.1.7 Smudge Pot Area
- 3.1.8 Haze Oil Tank Area
- 3.1.9 Lube Room Area

### 3.1.1 Maintenance Building

Samples were collected from three test pits proximal to the maintenance building and analyzed for TPH. The test pit numbers and analytical results are presented below.

#### MAINTENANCE BUILDING SAMPLES

<u>TEST PIT ID</u>	<u>SAMPLE LOCATION (Depth in Feet)</u>	<u>TPH (PPM)</u>
H-TP-1	2	7,504
	6	145
H-TP-2	1	54
	4	1,044
H-TP-3	1	2,598
	5	42

TPH concentrations ranged from 42 to 7,504 ppm in the test pits (Figure 20). The test pit locations were distributed around the building exterior, thus the actual extent of the soil which exceeds the cleanup level and should be remediated can not be currently accurately evaluated due to the building.

### 3.1.2 Underground Storage Tank Area

Soil and groundwater samples collected from the UST excavation pits were analyzed for TPH, BTXE, and lead. The sample numbers and analytical results are presented below.

#### UNDERGROUND STORAGE TANK SAMPLES

<u>UST ID</u>	<u>Sample Designation</u>	<u>TPH (PPM)</u>	<u>B (PPB)</u>	<u>T (PPB)</u>	<u>X (PPB)</u>	<u>E (PPB)</u>	<u>Lead (PPM)</u>
H-UST-1	A	49,725	ND	1,800	30,000	1,250	ND
H-UST-1	B	2,598	ND	ND	ND	ND	ND
H-UST-2	A	12,817	ND	ND	300	ND	22.9
H-UST-2	B	49	ND	ND	ND	ND	4.3
H-UST-2	GW	48	ND	ND	690	ND	ND

The UST labeled H-UST-1 was used to store diesel. The soil TPH concentrations, 49,725 and 2,598 ppm, exceed the DEQ cleanup level. The toluene, xylenes, and ethylbenzene concentrations for the sample designated A, collected below the location of the fill pipe, exceed background concentrations. The observed near surface contamination may be the result of overfills or a fill pipe which has failed. The extent of the contaminated soil which should be remediated is poorly evaluated with the available data, but the soil in and around the UST excavation should be included in a remediation plan.

The UST labeled H-UST-2 was used to store waste oil. The soil TPH concentration of 12,817 ppm for the sample designated A, collected below the fill end of the UST, exceeds the cleanup level. The xylenes concentration for this sample is elevated above background. The field observations and analytical data suggest that the contamination is the result of overfills. The contaminated soil which is heavily stained below the location of the fill screen should be remediated.

The groundwater sample collected from H-UST-2, sample designation GW, has a xylenes concentration which is elevated relative to background. The observed contamination in the groundwater is probably related to the soil contamination, thus the source of groundwater contamination should be removed once the soil is remediated.

### **3.1.3 Pipe Plant**

Sample number H-TP-4 was collected at three feet below grade on the west side of the pipe plant. TPH analysis of the soil indicated a concentration of 25 ppm. This concentration is below the DEQ cleanup limit and remediation is not necessary.

### **3.1.4 Muriatic Acid Area**

The soil sample collected from the muriatic acid area, labeled H-ACID, had a pH of seven. This pH is neutral and indicates that the surface soil has not been affected by acid which may have been spilled in this area.

### **3.1.5 Groundwater Sumps**

Three groundwater sumps were sampled and analyzed for TPH and BTXE (Figure 2). The sample numbers and analytical results are presented below.

## GROUNDWATER SUMP SAMPLES

<u>Sample ID</u>	<u>Sample Depth</u>	<u>TPH (PPM)</u>	<u>B (PPB)</u>	<u>T (PPB)</u>	<u>X (PPB)</u>	<u>E (PPB)</u>
H-GW-1	11.0	10,863	ND	ND	ND	ND
H-GW-2	5.0	1,187	ND	2.0	13	ND
H-GW-3	5.5	ND	ND	ND	ND	ND

The groundwater in H-GW-1 appears to have free product floating at the top of the water column, resulting in the extremely high TPH concentration of 10,863 ppm. The product coated the bottle used to sample the sump (Figure 5). The origin of the product in the sump can not be determined with the available data. The sump was placed in this area because of suspected contamination and water has been pumped from the sump in the past to attempt to remove petroleum product from the groundwater (personal communications, Colin Larson). The groundwater contamination in this sump needs to be addressed in a Remediation Plan.

The groundwater in sump H-GW-2 contained a petroleum film and odor. The high TPH concentration, 1,187 ppm, may be the result of a leaking underground storage tank which once existed near the sump location (personal communications, Richard Wright). The groundwater in the sump may also have been contaminated by diesel used to spray down the asphalt plant. The groundwater contamination needed to be addressed in a Remediation Plan.

The groundwater sample collected from sump H-GW-3 was not contaminated with TPH. This sump is located approximately 55 feet to the north of H-GW-2. Available data indicates that the groundwater flows in southwest to west direction, thus the contamination observed in H-GW-2 will be moved away from sump H-GW-3.

### 3.1.6 Asphalt Plant

Sixteen test pits were excavated proximal to the asphalt plant. Soil samples were analyzed for TPH, while groundwater samples were analyzed for TPH and BTXE. The analytical results are given below.

**HAMRICK SITE**  
**ASPHALT PLANT SAMPLES**

<u>TEST PIT ID</u>	<u>SAMPLE LOCATION (Depth in Feet)</u>	<u>TPH (PPM)</u>
H-TP-5	1	46
	4	338
H-TP-6	3	35
	6	1,300
H-TP-7	3	38
	6	5,510
H-TP-8	4	6,318
	7	4,166
H-TP-9	4	7,394
	6A	40,767
	6B	2,710
H-TP-10	2	3,273
	4	739
H-TP-11	3	35
	4	1,402
H-TP-12	3	181
	4	46
H-TP-13	2	1,859
	4	2,621
H-TP-14	4	17,741
	6	686
H-TP-15	5	673
	7	ND
H-TP-16	6	38
	8	ND
H-TP-17	3	38
	4	9,968

ASPHALT PLANT SAMPLES (continued)

<u>TEST PIT ID</u>	<u>SAMPLE LOCATION (Depth in Feet)</u>	<u>TPH (PPM)</u>
H-TP-18	6	34
	8	ND
H-TP-19	3	ND
	5	298
H-TP-20	5	16
	8	34

ASPHALT PLANT GROUNDWATER SAMPLES

<u>Sample ID</u>	<u>Sample Depth</u>	<u>TPH (PPM)</u>	<u>B (PPB)</u>	<u>T (PPB)</u>	<u>X (PPB)</u>	<u>E (PPB)</u>
H-TP-9	7.0	1.92	ND	1.0	4.0	ND
H-TP-17	5.05	9.1	ND	ND	ND	ND
H-TP-18	12.0	272.2	3.0	1.0	1.0	ND

The soil TPH concentrations range from ND to 40,767 ppm, with the highest concentrations occurring in test pits located near the above ground storage tanks (Figure 21). Most of the soil TPH concentrations near the asphalt plant exceed the possible DEQ cleanup levels and should be included in a remediation plan. The soil TPH concentrations decrease to levels below the required clean away from the plant (Figures 20 and 21).

The soil in test pits H-TP-8 and H-TP-9, located near the storage tanks, was stained heavily and petroleum-containing water was leaking out of gravelly layers. The high TPH concentrations in these test pits appears to be related to the tanks and the past practices of dumping asphalt material on the ground. The groundwater sample collected from test pit H-TP-9 does not show elevated levels of TPH and BTXE.

Test pit H-TP-14, located to the north of the asphalt storage silos, had a TPH concentration of 17,741 ppm at four feet below grade. The high concentration may be related to a diesel UST which was once located in this area. This test pit was excavated next to sump H-GW-2, which shows TPH groundwater contamination (Section 3.1.5).

Test pit H-TP-17, located down gradient from the storage tanks, had a TPH concentration of 9,968 ppm at four feet below grade. The soil sample collected at three feet only contained 38 ppm TPH. Groundwater, collected at four feet below grade, had a TPH concentration level of 59.1 ppm. This data may indicate that the soil is being contaminated by petroleum product on the groundwater, not from surface spills.

The groundwater sample collected from test pit H-TP-18, located west of the asphalt plant, contained 272.2 ppm TPH. The overlying soil contained only small amounts of TPH contamination. This may indicate that the TPH contamination on the groundwater is from a different source area, possibly the asphalt plant. The observed groundwater contamination is high enough that it should be considered in a remediation plan.

Test pits H-TP-16 and H-TP-20 were located along Bear Creek to determine if the creek is being impacted by the contaminated soil around the asphalt plant. The TPH concentrations in these test pits are very low, ND to 38 ppm, indicating that the contaminated soil from the asphalt plant which exceeds the DEQ cleanup level has not reached the Bear Creek area.

### 3.1.7 Smudge Pot Area

Soil samples were collected from two test pits in the area where smudge pot residue material was dumped during past operations. The test pit numbers and analytical results are presented below and Figure 20.

#### SMUDGE POT AREA SAMPLES

<u>TEST PIT ID</u>	<u>SAMPLE LOCATION (Depth in Feet)</u>	<u>TPH (PPM)</u>
H-TP-21	2	7
	4	ND
H-TP-22	2	38
	4	7

These soil TPH concentrations are well below potential DEQ cleanup levels. The exact location of the smudge pot residue dump could not be identified.

### 3.1.8 Haze Oil Tank Area

Soil samples were collected from two test pits located proximal to this above ground diesel storage tank. The test pit numbers and analytical results are presented below and Figure 20.

#### HAZE OIL TANK AREA SAMPLES

<u>TEST PIT ID</u>	<u>SAMPLE LOCATION (Depth in Feet)</u>	<u>TPH (PPM)</u>
H-TP-23	2	953
	4	1,680
H-TP-24	3	7
	7	69

The TPH concentration levels in test pit H-TP-23, located to the west of the tank, exceed the DEQ required cleanup level. The extent of the contamination on the west side of the tank was not completely characterized, so the volume of contaminated soil which should be remediated near the tank can not be accurately calculated.

### 3.1.9 Lube Room Area

Sample number H-TP-25 was collected at two feet below grade on the north side of the Lube Room. TPH analysis of the soil indicated a concentration of 28,559 ppm. This concentration exceeds the DEQ cleanup limit and soil should be removed. During the field investigation three additional test pits were excavated proximal to H-TP-25 to determine the visual extent of stained soil. The soil is stained to a depth of approximately four feet below grade. The area of contaminated soil which should be remediated is evaluated fairly closely by the location of the test pits around H-TP-25.

## 3.2 Vilas Site

The analytical results for the Vilas site will be discussed in the following sections:

### 3.2.1 Asphalt Plant

### 3.2.2 Tank Farm

### 3.2.1 Asphalt Plant

Nine test pits were excavated proximal to the asphalt plant. Soil samples were analyzed for TPH. The analytical results are presented below.

#### ASPHALT PLANT SAMPLES

<u>TEST PIT ID</u>	<u>SAMPLE LOCATION (Depth in Feet)</u>	<u>TPH (PPM)</u>
V-TP-1	1	2,240
	2	27
V-TP-2	1	143
	2	18
V-TP-3	1	83
V-TP-4	1	61
V-TP-5	1	231
V-TP-6	1	1,300
V-TP-7	1	93
V-TP-8	1	27
V-TP-9	1	717

V-TP-1, located proximal to an above ground asphalt tank, was the most highly contaminated test pit excavated at the Vilas site (Figure 22). The soil sample collected at one foot below grade had a TPH concentration of 2,240 ppm. The observed TPH contamination apparently is isolated to the shallow surface soils, as evidenced by the TPH concentration of 27 ppm detected at a depth of two feet.

Test pit V-TP-6, excavated proximal to the asphalt slat conveyor, exceeds potential DEQ cleanup levels for TPH. This contamination appears to be directly related to the use of diesel to spray down the slat conveyor and clean shovels (Figure 13).

The soil sample collected from test pit V-TP-8, located in the waste asphalt storage area, contained a TPH concentration of 27 ppm, well below the DEQ cleanup limit.

The TPH concentration in test pit V-TP-9, excavated down gradient of the asphalt truck spray down area, may also exceed the DEQ cleanup level. The observed contamination may be the result of the past practice of using diesel to spray the trucks.

The shallow surface soils around the asphalt plant which may exceed the DEQ required cleanup level for TPH should be included in a remediation plan.

### 3.2.2 Tank Farm

Five samples were collected from the UST excavation and analyzed for TPH, BTXE, and lead. The UST's are located in a pit blasted out of the underlying sandstone. The sample numbers and concentration levels are given below.

#### UNDERGROUND STORAGE TANK SAMPLES

<u>UST ID</u>	<u>Sample Depth</u>	<u>TPH (PPM)</u>	<u>B (PPB)</u>	<u>T (PPB)</u>	<u>X (PPB)</u>	<u>E (PPB)</u>	<u>Lead (PPM)</u>
V-UST-1	7	11	---	---	---	---	---
V-UST-2	6	11	---	---	---	---	---
V-UST-3	6	9	ND	ND	ND	ND	ND
V-UST-4	7	ND	ND	ND	ND	ND	ND
V-UST-GW	8	12.1	27	57	160	11	ND

Samples V-UST-1 and V-UST-2 were collected from the fill material below the decommissioned waste oil tank. The TPH levels for the fill material are near background levels and do not require remediation.

Samples V-UST-3 and V-UST-4 were collected from the fill material beneath the decommissioned diesel UST. The TPH concentrations are at or near background levels and do not require remediation.

The groundwater in the UST excavation is contaminated with low levels of TPH and BTXE. The observed contamination is believed to be the result of leaks associated with the two UST's which were decommissioned.

The UST's which were not decommissioned recently passed tank tightness tests and should not adversely impact the environment as long as UST maintenance regulations are followed.

### 3.3 Kirtland Road Site

The analytical results for samples collected from the Kirtland Road site are discussed in the following sections:

#### 3.3.1 Asphalt Plant

#### 3.3.2 Underground Storage Tank Area

#### 3.3.3 Waste Oil Sump

#### 3.3.1 Asphalt Plant

Five test pits were excavated proximal to the asphalt plant. Soil samples were analyzed for TPH. The analytical results are presented below.

#### ASPHALT PLANT SAMPLES

<u>TEST PIT ID</u>	<u>SAMPLE LOCATION (Depth in Feet)</u>	<u>TPH (PPM)</u>
K-TP-1	1	28
K-TP-2	1	31
K-TP-3	1 2	9 47
K-TP-4	1	23
K-TP-5	1	23

These TPH concentrations are all below the DEQ required cleanup level of 500 ppm.

#### 3.3.2 Underground Storage Tank Area

Soil and groundwater samples collected from the UST excavation pit were analyzed for TPH, BTXE, lead. The sample numbers and analytical results are presented below.

UNDERGROUND STORAGE TANK SAMPLES

<u>UST ID</u>	<u>Sample Depth</u>	<u>TPH (PPM)</u>	<u>B (PPB)</u>	<u>T (PPB)</u>	<u>X (PPB)</u>	<u>E (PPB)</u>	<u>Lead (PPM)</u>
K-UST-1	11	9,412	ND	ND	ND	ND	---
K-UST-2	11	26	ND	ND	ND	ND	---
K-UST-3	12	1,425	ND	ND	ND	ND	ND
K-UST-4	11	9,968	ND	ND	ND	ND	ND
K-UST-GW1		1.08	ND	ND	ND	ND	---
K-UST-GW2		0.84	ND	ND	ND	ND	ND

K-UST-1 was collected from the fill material located directly below the fill pipe on the diesel UST. K-UST-3 was collected one foot directly below K-UST-1. The TPH concentration in the soil decreases from 9,412 ppm to 1,425 ppm between these sample depths, indicating that the TPH soil contamination is highest directly under the UST. BTXE and lead were not detected in the soil.

K-UST-4 was collected from below the fill pipe end of the second diesel UST in the excavation. K-UST-2 was collected from the end opposite the fill pipe, parallel to K-UST-4 (Figure 23). The soil TPH concentrations are significantly higher below the fill pipe, indicating that the contamination is probably related to overflow problems or a poorly connected fill pipe.

Visually contaminated soil was removed from the excavation and placed on plastic sheets. The disposal of this soil should be part of a remediation plan.

The groundwater samples collected from the UST excavation, numbers K-UST-GW1 and K-UST-GW-2, contain very low concentrations of TPH and no BTXE or lead. The low TPH concentration are probably related to the UST overfill problems.

Four test pits were excavated proximal to the UST's to evaluate the subsurface soil in the area of a past diesel release. The sample numbers and analytical results are presented below.

### DIESEL RELEASE AREA SAMPLES

<u>Sample ID</u>	<u>Sample Depth</u>	<u>TPH (PPM)</u>	<u>B (PPB)</u>	<u>T (PPB)</u>	<u>X (PPB)</u>	<u>E (PPB)</u>
K-TP-6	5	35	ND	ND	ND	ND
K-TP-7	3	16	ND	ND	ND	ND
K-TP-8	3	13	ND	ND	ND	ND
K-TP-9	3	11	ND	ND	ND	ND

The TPH and BTXE concentrations are all at or near background levels.

### 3.3.3 Waste Oil Sump

Four soil samples and one groundwater sample were collected from the waste oil sump excavation. Four soil samples were also collected from test pits located proximal to the sump (Figure 23). The sample numbers and analytical results are presented below.

### WASTE OIL SUMP SAMPLES

<u>UST ID</u>	<u>Sample Depth</u>	<u>TPH (PPM)</u>	<u>B (PPB)</u>	<u>T (PPB)</u>	<u>X (PPB)</u>	<u>E (PPB)</u>	<u>Lead (PPM)</u>
K-WOS	3	27,777	ND	ND	ND	ND	---
K-WOS	12	17,027	ND	ND	ND	ND	---
K-WOS	14	2,553	ND	ND	ND	ND	ND
K-WOS	15	443	ND	ND	ND	ND	ND
K-WOS-GW		0.34	ND	ND	ND	ND	---
K-TP-10	4	16	ND	ND	ND	ND	---
K-TP-11	3	7	ND	ND	ND	ND	---
K-TP-12	3	ND	ND	ND	ND	ND	---
K-TP-13	3	7	ND	ND	ND	ND	---

The soil TPH concentrations in the waste oil sump excavation decrease with depth; but all of the soil from the surface to approximately 14 feet below grade exceeds the DEQ required cleanup level for TPH and needs to be remediated. During the field investigation much of the stained soil was removed from the excavation and placed on plastic sheets.

The groundwater sample collected from the waste oil sump, labeled K-WOS-GW, contains 0.34 ppm TPH and no BTXE. The low TPH contamination should not impact the local groundwater quality.

The soil in the four test pits located five to six feet from the sump contain little or no TPH and BTXE.

### 3.4 High Banks Site

A soil sample was collected near the above ground diesel tanks and analyzed for TPH. The sample was collected at two feet below grade. The soil TPH concentration was 1,613 ppm. This concentration exceeds the DEQ required cleanup level. The contamination appears to be at least partially related to leaking valves on the base of the 7,500 gallon diesel tank. The lateral extent of the shallow contamination is poorly evaluated. A volcanic unit encountered at three feet below grade should limit the vertical extent of the contamination.

## 4.0 CONCLUSIONS

The analytical data presented in section 3 shows evidence of varying degrees of contamination at the sites studied during this Phase I investigation. Based on the data, the various areas of the sites can be grouped together according to the level of remediation required. These groups, and the areas associated with each group, are presented below.

**Group One** areas are those which have relatively high concentrations of TPH and BTXE in soil and/or groundwater. In some cases the extent of contamination is not fully known. These areas will require remediation and/or further investigation and should be included in a Remediation Plan. Areas included in Group One are:

- Asphalt Plant - Hamrick Site
- Maintenance Shop UST's - Hamrick Site
- Haze Oil Tank - Hamrick Site
- Groundwater - Hamrick Site

**Group Two** areas are those which have limited contamination and require some level of remediation. Areas included in Group Two are:

Lube Room - Hamrick Site  
Maintenance Building - Hamrick Site  
Asphalt Plant - Vilas Site  
Tank Farm - Vilas Site  
UST Area - Kirkland Site  
Above Ground Tank - High Banks Site  
Waste Oil Sump - Kirkland Road

**Group Three** areas are those which have little or no contamination. These areas do not require additional investigation or remediation.

Pipe Plant - Hamrick Site  
Muriatic Acid Area - Hamrick Site  
Diesel Release Area - Kirkland Site  
Quarry Site  
Smudge Pot Area - Hamrick Site  
Asphalt Plant - Kirkland Road

## 5.0 RECOMMENDATIONS

Century West makes the following recommendations:

1. Inform the DEQ of the results of the investigations conducted at each of the UST sites.
2. Prepare a Remediation Plan addressing a) further work to fully characterize contamination at areas where the full extent is not known and b) remediation of soil and groundwater from Groups One and Two.
3. Inform DEQ of the results in the Report of Findings and submit Remediation Plan for DEQ review.
4. Request DEQ oversight of the soil and groundwater remediation and request closer letter after completion of remediation.

TABLE 1

HAMRICK SITE SAMPLES

<u>Area</u>	<u>Sample ID</u>	<u>Sample (Depth in Feet)</u>	<u>Parameter Analyzed</u>	
Maintenance Building	H-TP-1	2, 6 *	TPH	
	H-TP-2	1, 4	TPH	
	H-TP-3	1, 5	TPH	
Underground Storage Tank Samples	H-UST-1	A, B	TPH, BTXE, Lead	
	H-UST-2	A, B, GW	TPH, BTXE, Lead	
Pipe Plant	H-TP-4	3	TPH	
Muriatic Acid Area	H-ACID	1	pH	
Groundwater Sump	H-GW-1	11	TPH, BTXE	
	H-GW-2	5	TPH, BTXE	
	H-GW-3	5.5	TPH, BTXE	
Asphalt Plant Samples	H-TP-5	1, 4	TPH	
	H-TP-6	3, 6	TPH	
	H-TP-7	3, 6	TPH	
	H-TP-8	4, 7	TPH	
	H-TP-9	4, 6, GW	TPH, BTXE	
	H-TP-10	2, 4	TPH	
	H-TP-11	3, 4	TPH	
	H-TP-12	3, 4	TPH	
	H-TP-13	2, 4	TPH	
	H-TP-14	4, 6	TPH	
	H-TP-15	5, 7	TPH	
	H-TP-16	6, 8	TPH	
	H-TP-17	3, 4, GW	TPH, BTXE	
	H-TP-18	6, 8, GW	TPH, BTXE	
	H-TP-19	3, 5	TPH	
	H-TP-20	5, 8	TPH	
	Smudge Pot Area	H-TP-21	2, 4	TPH
		H-TP-22	2, 4	TPH
	Haze Oil Tank Area	H-TP-23	2, 4	TPH
		H-TP-24	3, 7	TPH
Lube Room Area	H-TP-25	2	TPH	

\* indicates samples collected at two depths.

TABLE 2

VILAS SITE SAMPLES

<u>Area</u>	<u>Sample ID</u>	<u>Sample (Depth in Feet)</u>	<u>Parameter Analyzed</u>
Asphalt Plant	V-TP-1	1, 2	TPH
	V-TP-2	1, 2	TPH
	V-TP-3	1	TPH
	V-TP-4	1	TPH
	V-TP-5	1	TPH
	V-TP-6	1	TPH
	V-TP-7	1	TPH
	V-TP-8	2	TPH
	V-TP-9	1	TPH
Underground Storage Tank Samples	V-UST-1	7	TPH, BTXE, Lead
	V-UST-2	6	TPH, BTXE, Lead
	V-UST-GW	8	TPH, BTXE, Lead
	V-UST-3	6	TPH, BTXE, Lead
	V-UST-4	7	TPH, BTXE, Lead

TABLE 3

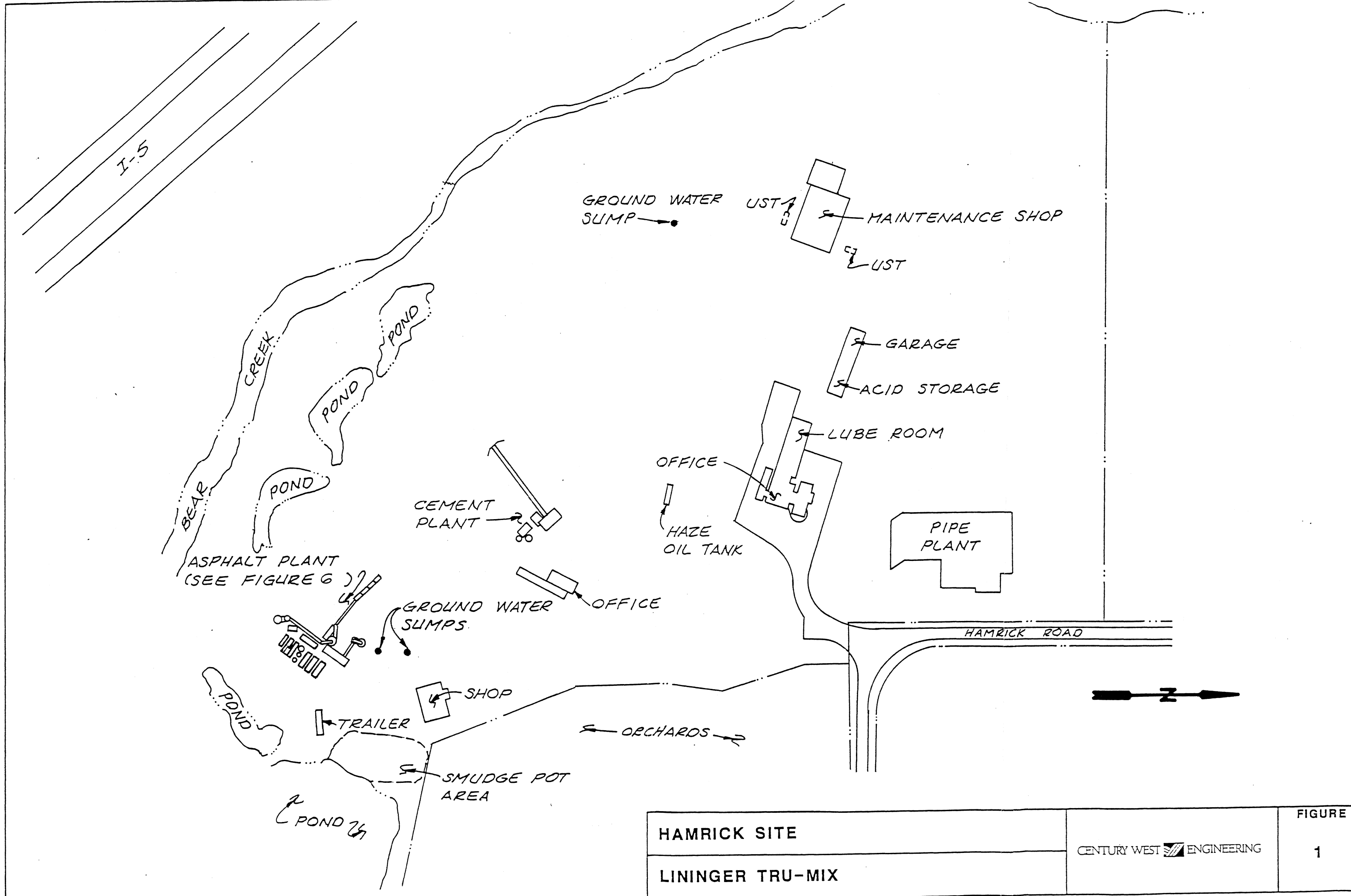
KIRTLAND ROAD SITE SAMPLES


<u>Area</u>	<u>Sample ID</u>	<u>Sample (Depth in Feet)</u>	<u>Parameter Analyzed</u>
Asphalt Plant	K-TP-1	1	TPH
	K-TP-2	1	TPH
	K-TP-3	1, 2	TPH
	K-TP-4	1	TPH
	K-TP-5	1	TPH
Underground Storage Tank Samples	K-UST-1	11	TPH, BTXE, Lead
	K-UST-2	11	TPH, BTXE, Lead
	K-UST-3	12	TPH, BTXE, Lead
	K-UST-4	11	TPH, BTXE, Lead
	K-UST-GW1		TPH, BTXE, Lead
	K-UST-GW2		TPH, BTXE, Lead
Diesel Release Area	K-TP-6	5	TPH, BTXE
	K-TP-7	3	TPH, BTXE
	K-TP-8	3	TPH, BTXE
	K-TP-9	3	TPH, BTXE
Waste Oil Sump Samples	K-WOS	3	TPH, BTXE
	K-WOS	12	TPH, BTXE
	K-WOS	14	TPH, BTXE
	K-WOS	15	TPH, BTXE
	K-WOS-GW		TPH, BTXE
	K-TP-10	4	TPH, BTXE
	K-TP-11	3	TPH, BTXE
	K-TP-12	3	TPH, BTXE
	K-TP-13	3	TPH, BTXE

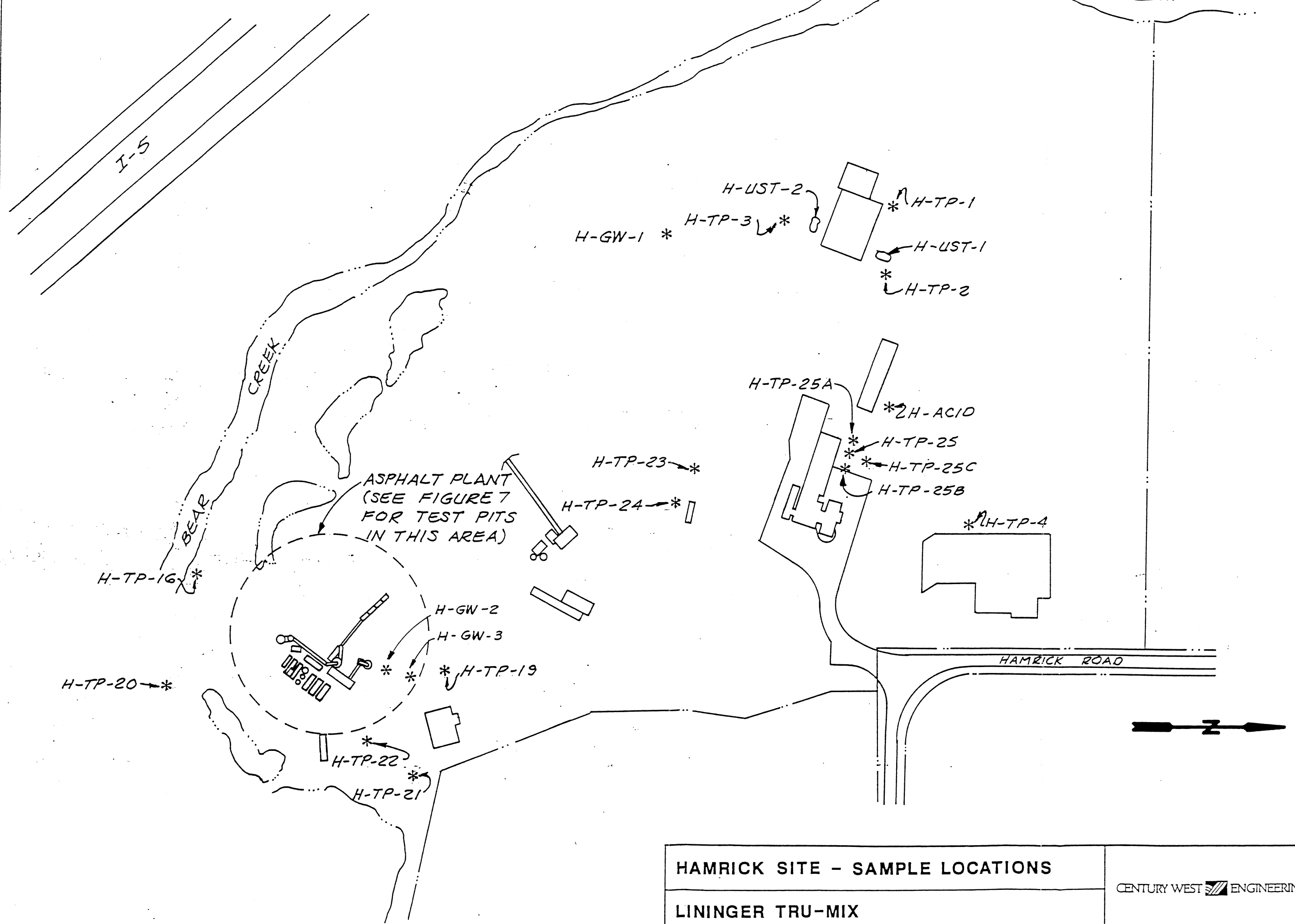
TABLE 4

HIGH BANKS SITE SAMPLE

<u>Sample ID</u>	<u>Sample (Depth in Feet)</u>	<u>Parameter Analyzed</u>
Hi-TP-1	2	TPH



<p><b>HAMRICK SITE</b></p>	<p>FIGURE</p>
<p><b>LININGER TRU-MIX</b></p>	<p>CENTURY WEST  ENGINEERING</p> <p>1</p>



<p><b>HAMRICK SITE - SAMPLE LOCATIONS</b></p>	<p>FIGURE</p>
<p>LININGER TRU-MIX</p>	<p>CENTURY WEST ENGINEERING</p> <p>2</p>



Figure 3: Hamrick site 1,000 gallon UST, labeled H-UST-1. The soil around the fill pipe, left of picture, is visually stained.



Figure 4: Hamrick site 1,000 gallon UST, labeled H-UST-2. The fill end of the UST is heavily stained.



Figure 5: Bottle coated with petroleum product after being used to sample groundwater sump H-GW-1 on the Hamrick site.



Figure 8: Hamrick site test pit H-TP-8. Petroleum-rich water is leaking out of the gravelly layer at the upper paint line. The paint lines are soil sample points. Groundwater, intercepted at 8.0 feet below grade, contains heavy oil and a lighter petroleum product.

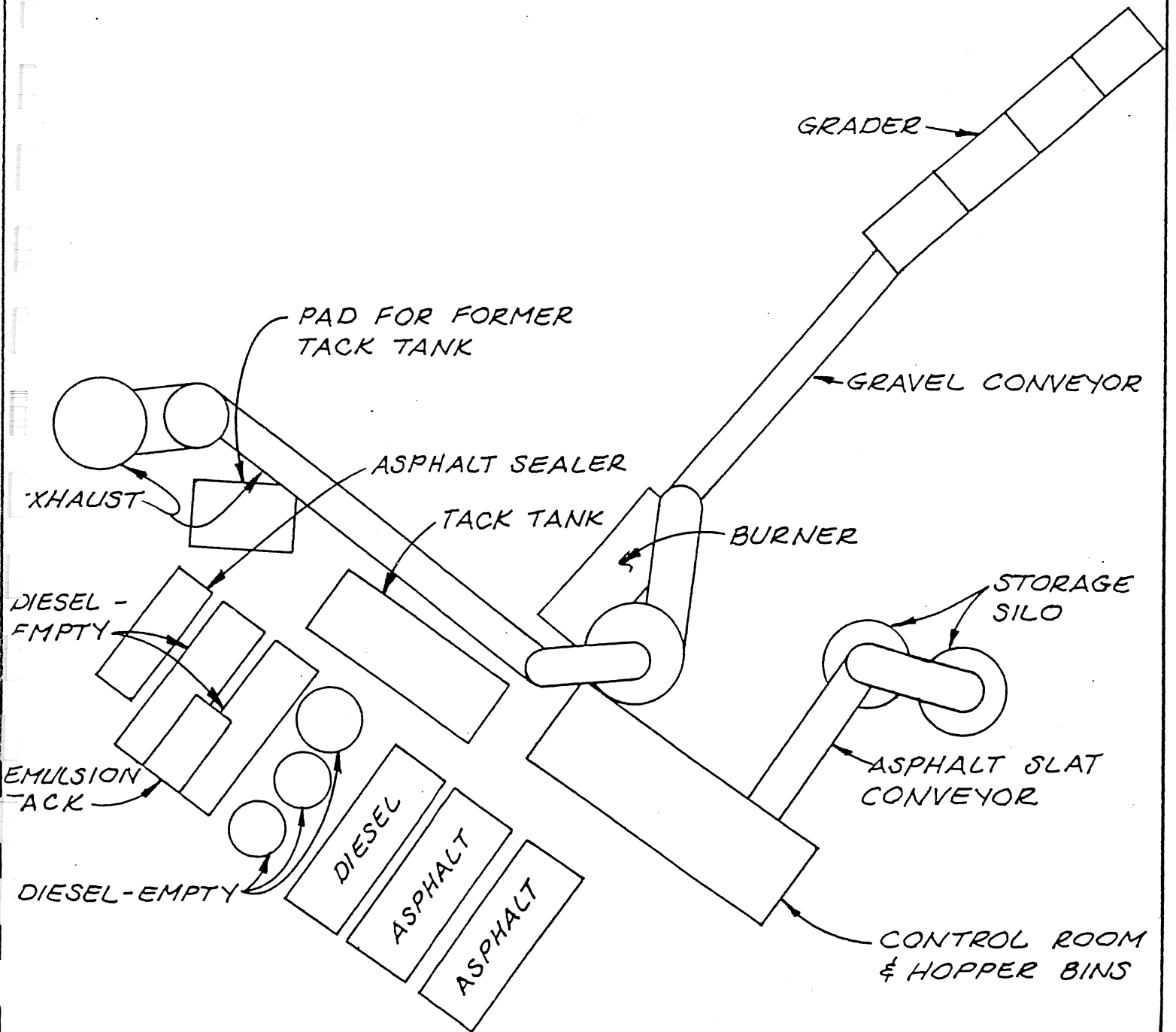


FIGURE 6

OGDEN SURVEYING EQUIPMENT CO. 94420

DESIGN BY	RLR	CHECKED BY	TEB	<b>HAMRICK SITE          ASPHALT PLANT          LININGER TRU-MIX</b>	APPROVED	
SURVEY BY		SCALE	NO SCALE		DATE	
DRAWN BY	RAW	DWG. NO.				

\*2H-TP-18

\*2H-TP-15

H-TP-17\*

\*2H-TP-7

\*2H-TP-6

H-TP-8\*

\*2H-TP-5

H-TP-9\*

\*2H-TP-14

H-TP-10\*

\*2H-TP-13

\*2H-TP-12

\*2H-TP-11



FIGURE 7

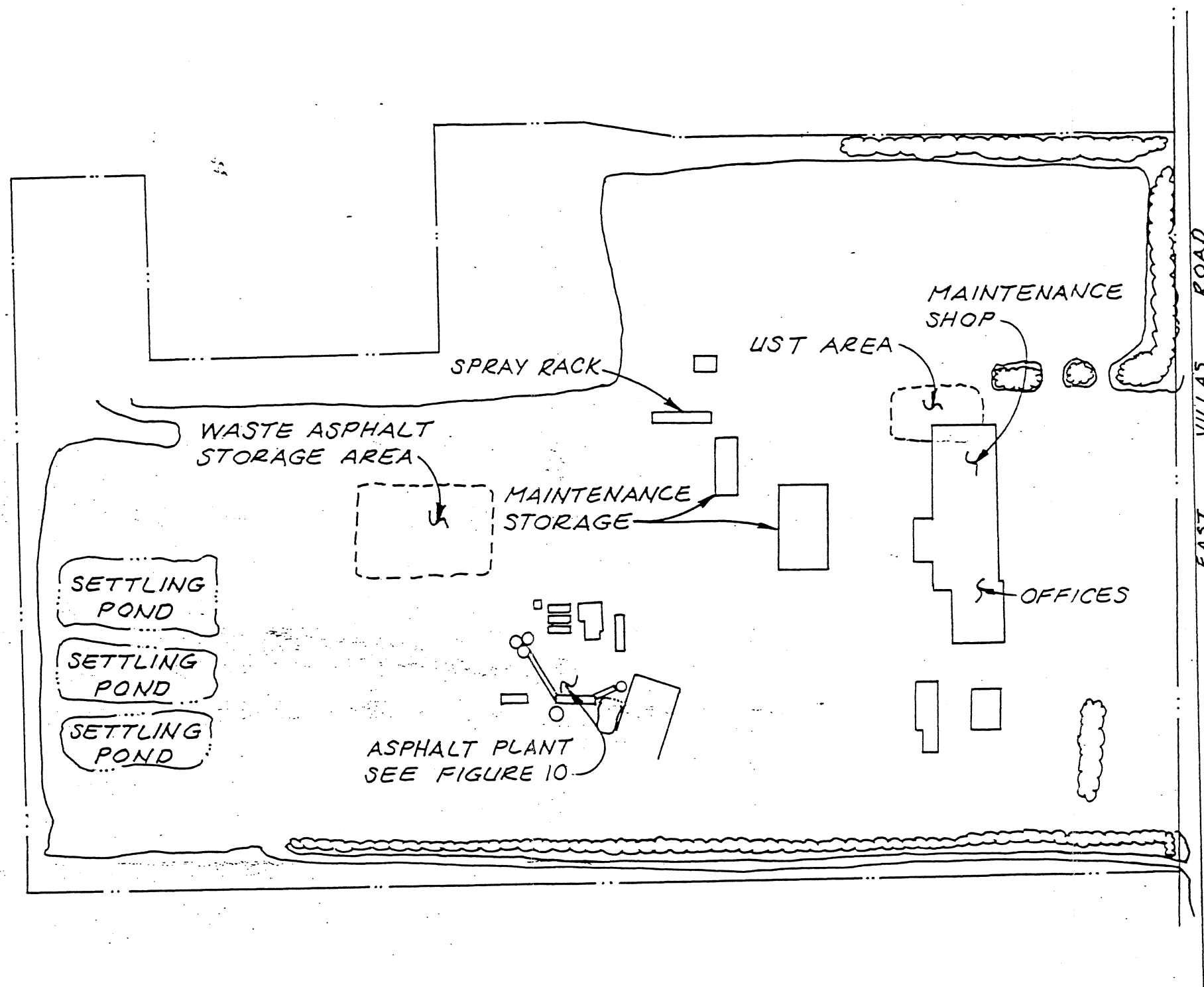
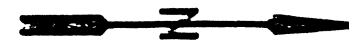
OGDF SURVEYING EQUIPMENT CO. 94420


DESIGN BY	RLR	CHECKED BY	TEB
SURVEY BY		SCALE	NO SCALE
DRAWN BY	RAW	DWG. NO.	

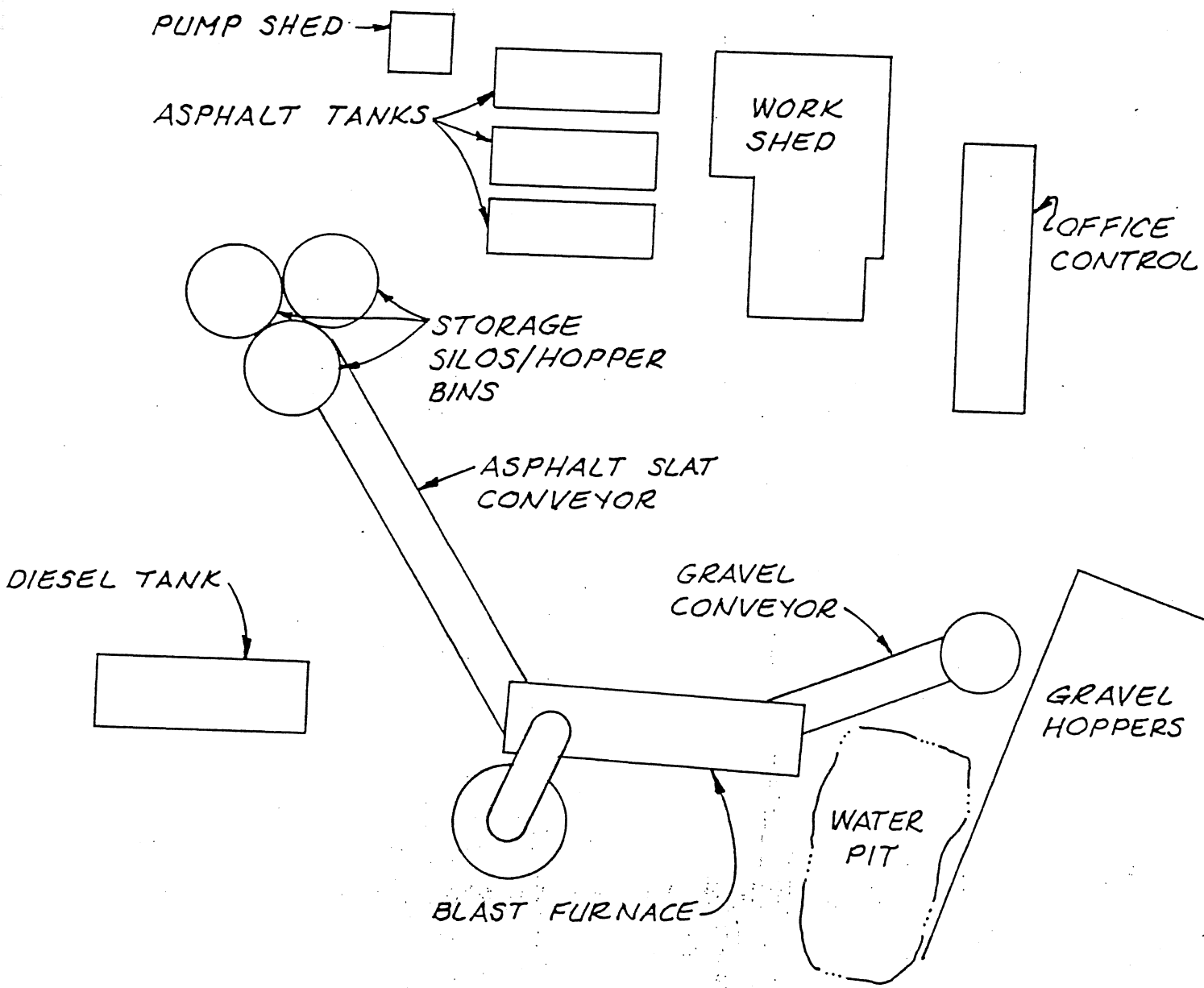
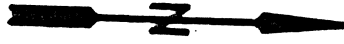
ASPHALT PLANT  
 TEST PIT LOCATIONS  
 LININGER TRU-MIX  
 HAMRICK SITE

APPROVED
DATE





VILLAS SITE	CENTURY WEST  ENGINEERING	FIGURE 9
LININGER TRU-MIX		



OGDEN SURVEYING EQUIPMENT CO 94420

DESIGN BY	RLR	CHECKED BY	TEB
SURVEY BY		SCALE	NO SCALE
DRAWN BY	RAW	DWG. NO.	

**VILLAS SITE  
ASPHALT PLANT  
LININGER TRU-MIX**

APPROVED  
DATE



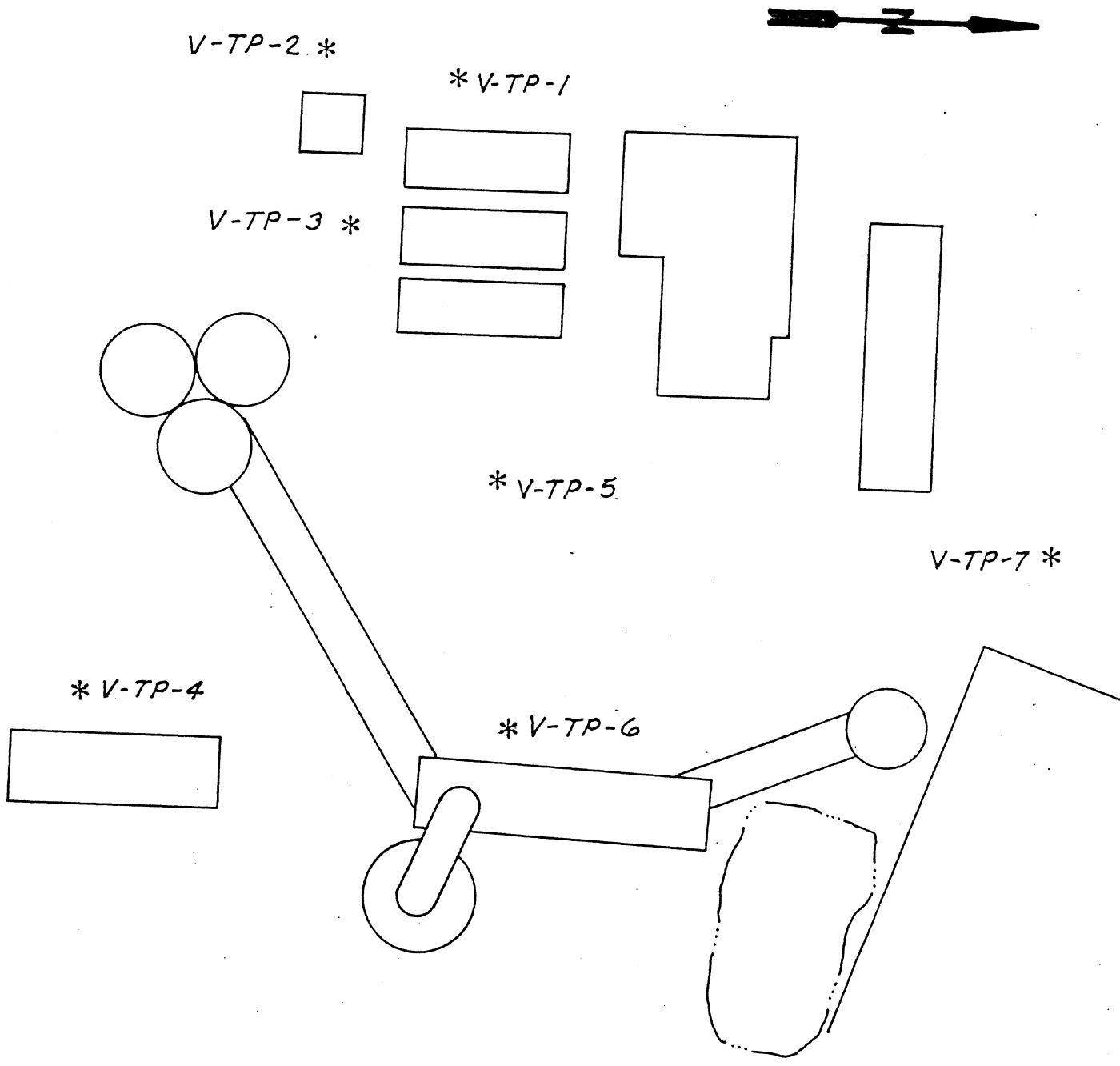


FIGURE 11

OGDEN SURVEYING EQUIPMENT CO. 94420

DESIGN BY	RLR	CHECKED BY	TEB	<b>ASPHALT PLANT TEST PIT LOCATIONS LININGER TRU-MIX VILLAS SITE</b>	APPROVED	
SURVEY BY		SCALE	NO SCALE		DATE	
DRAWN BY	RAW	DWG. NO.				



Figure 12: Villas site test pit V-TP-1. Sand and gravel fill material, stained at the surface, is underlain at 1.5 feet below grade by sandstone.



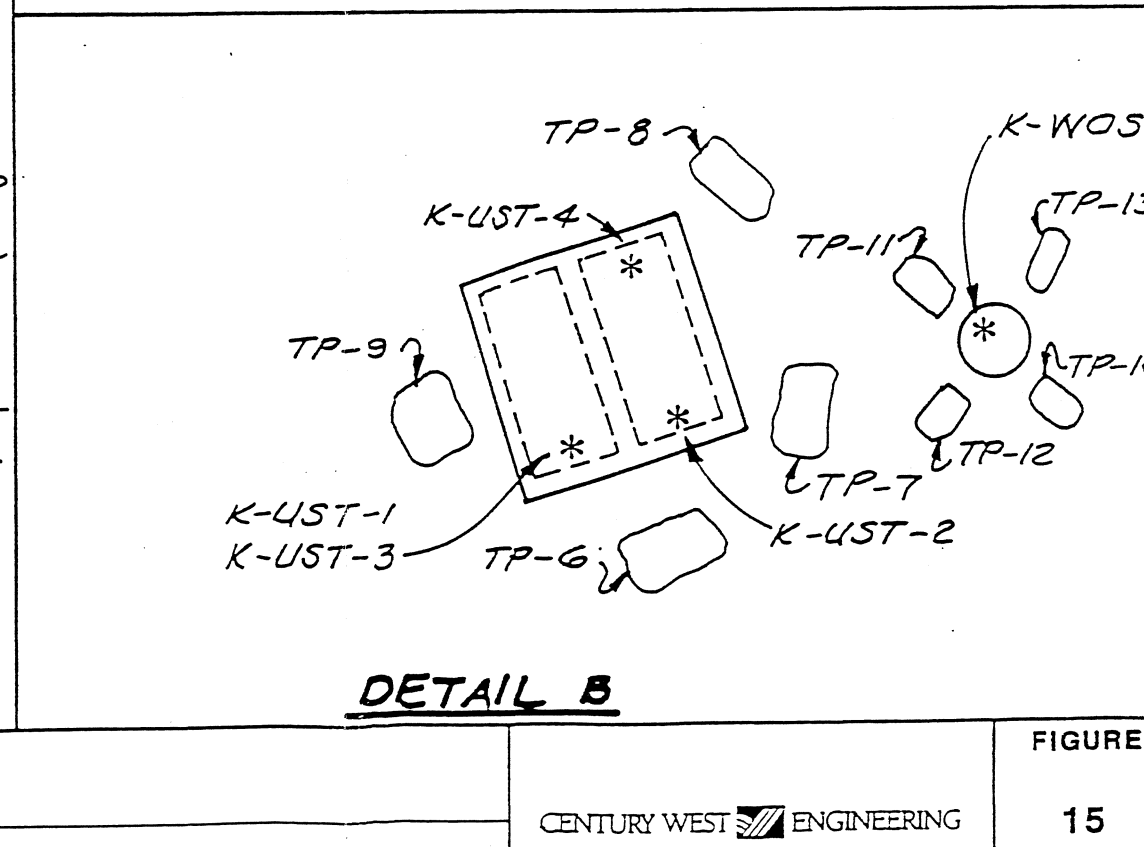
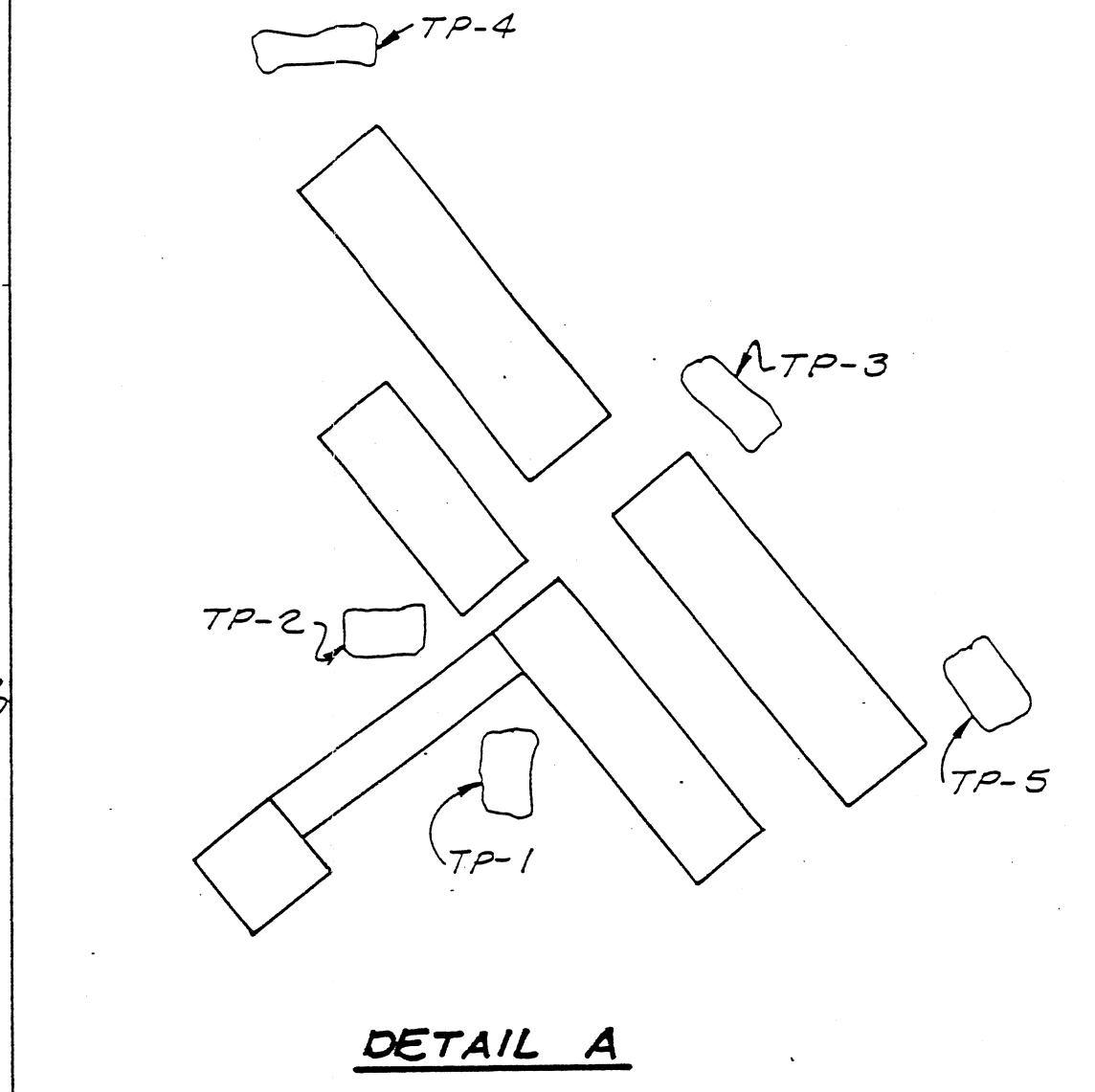
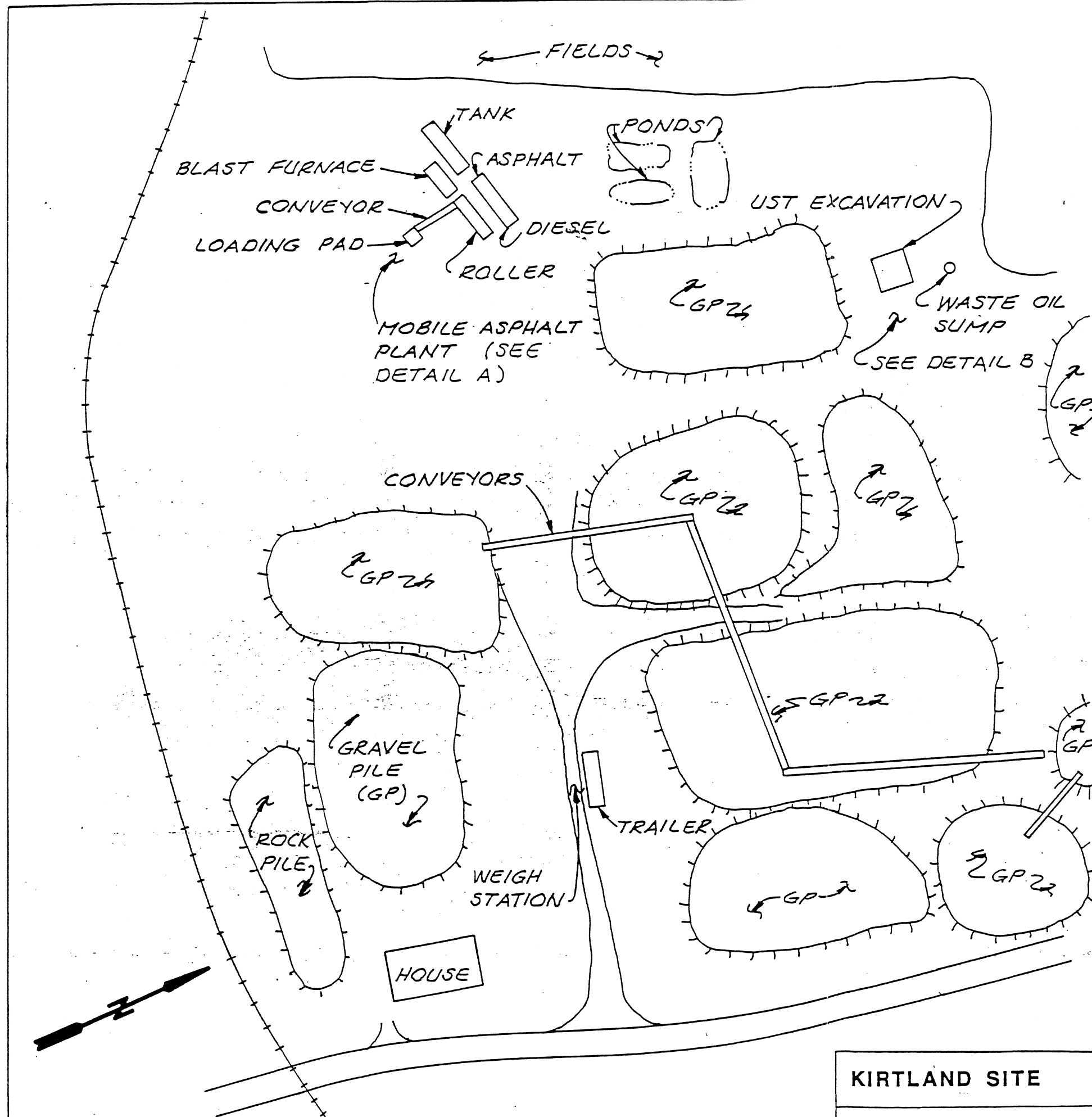
Figure 13: Hole, excavated and filled by Villas site personnel, containing a diesel/water mixture.



Figure 14: Visually contaminated gravelly silt layer on the Villas site.



Figure 16: Kirtland Road UST's. The tanks are visually stained on the fill pipe end.



KIRTLAND SITE	CENTURY WEST ENGINEERING	FIGURE 15
LININGER TRU-MIX		



Figure 17: Kirtland Road waste oil sump. View is from the base of the sump.



Figure 19: Above ground storage tanks at the 140 Quarry site. The surface soil around the distribution lines is heavily stained.

ABOVE GROUND  
DIESEL STORAGE  
TANKS

SURFACE STAINS

GRAVEL PILES

SURFACE STAIN



FIGURE 18

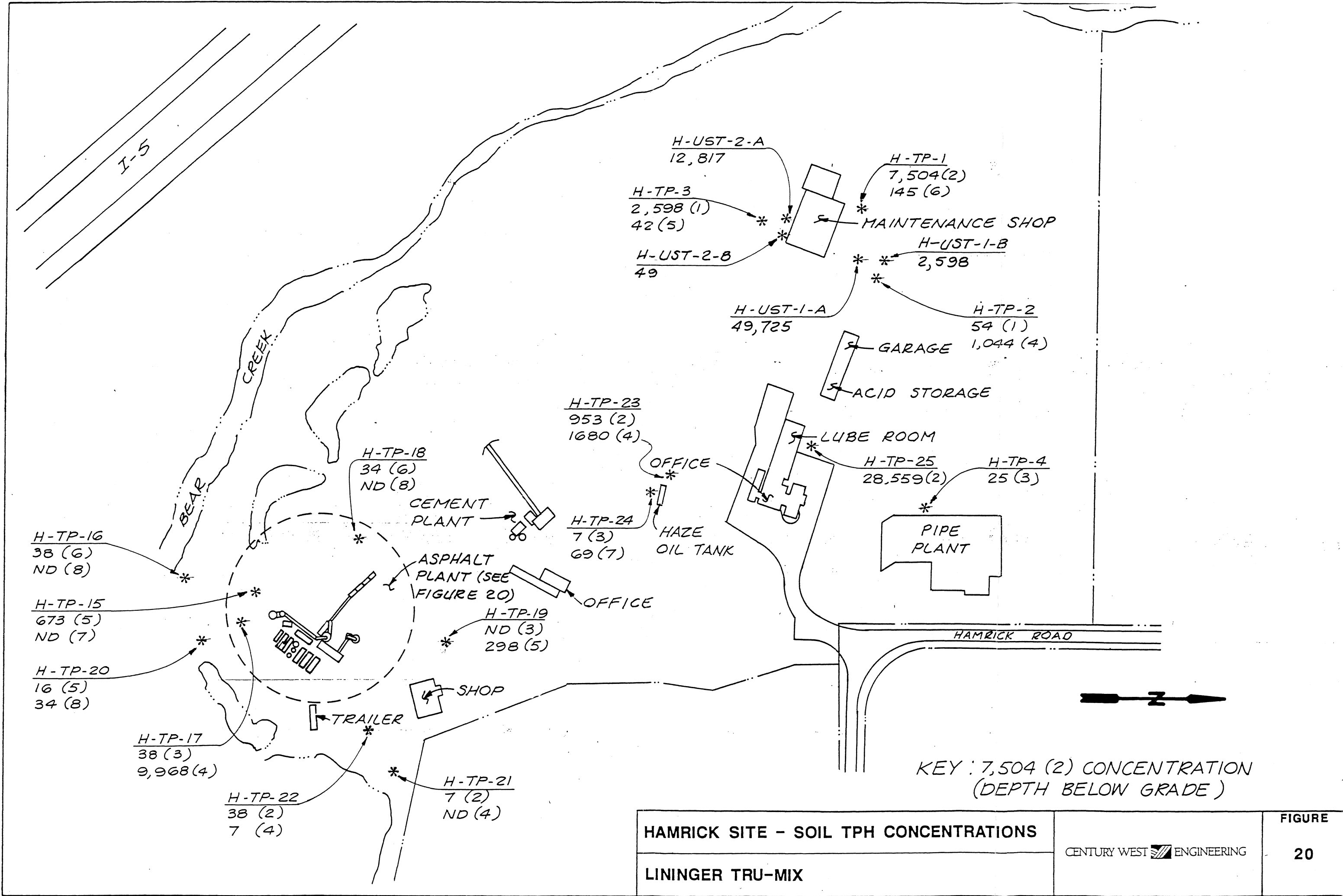
OGDEN SURVEYING EQUIPMENT CO. 94420

DESIGN BY	RLR	CHECKED BY	TEB
SURVEY BY		SCALE	NO SCALE
DRAWN BY	RAW	DWG. NO.	

140 QUARRY SITE  
LININGER TRU-MIX

APPROVED
DATE





<b>HAMRICK SITE - SOIL TPH CONCENTRATIONS</b>	CENTURY WEST ENGINEERING	<b>FIGURE</b>
<b>LININGER TRU-MIX</b>		<b>20</b>

# SOIL TPH CONCENTRATION (ppm)

KEY:

7,394 (4) CONCENTRATION (DEPTH BELOW GRADE)

\* H-TP-18  
34 (6)  
ND (8)

H-TP-15  
673 (3)  
ND (7) → \*

H-TP-17  
38 (3)  
1,968 (4) \*

H-TP-7  
38 (3)  
5,510 (6) \*

\* H-TP-6  
35 (3)  
1,300 (6)

H-TP-8  
6,318 (4)  
4,166 (7) \*

\* H-TP-5  
46 (1)  
338 (4)

H-TP-14  
17,741 (4)  
686 (6) \*

H-TP-9  
7,394 (4)  
40,767 (6A)  
2,710 (68) \*

H-TP-13  
1,859 (2)  
\* 2,621 (4)

H-TP-10  
3,273 (2)  
739 (4) \*

\* H-TP-12  
131 (3)  
46 (4)

H-TP-11  
35 (3)  
1,402 (4) \*

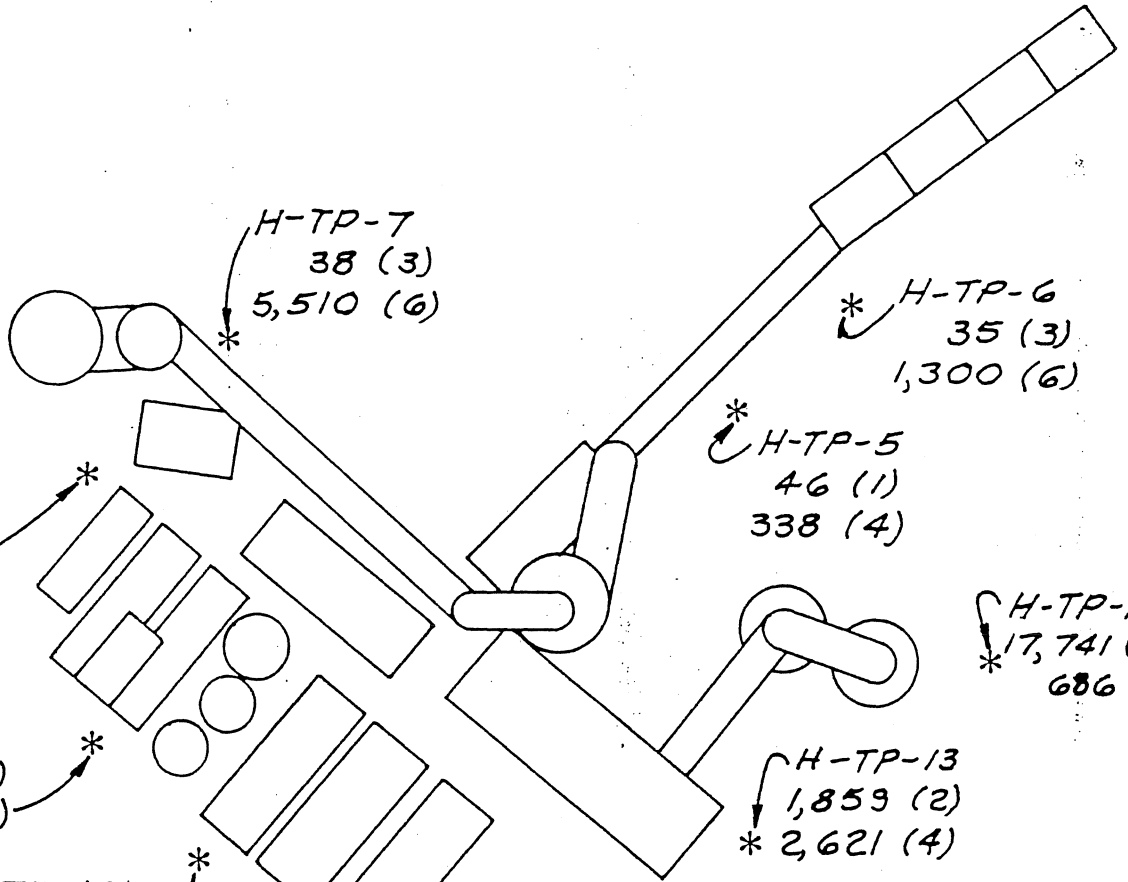
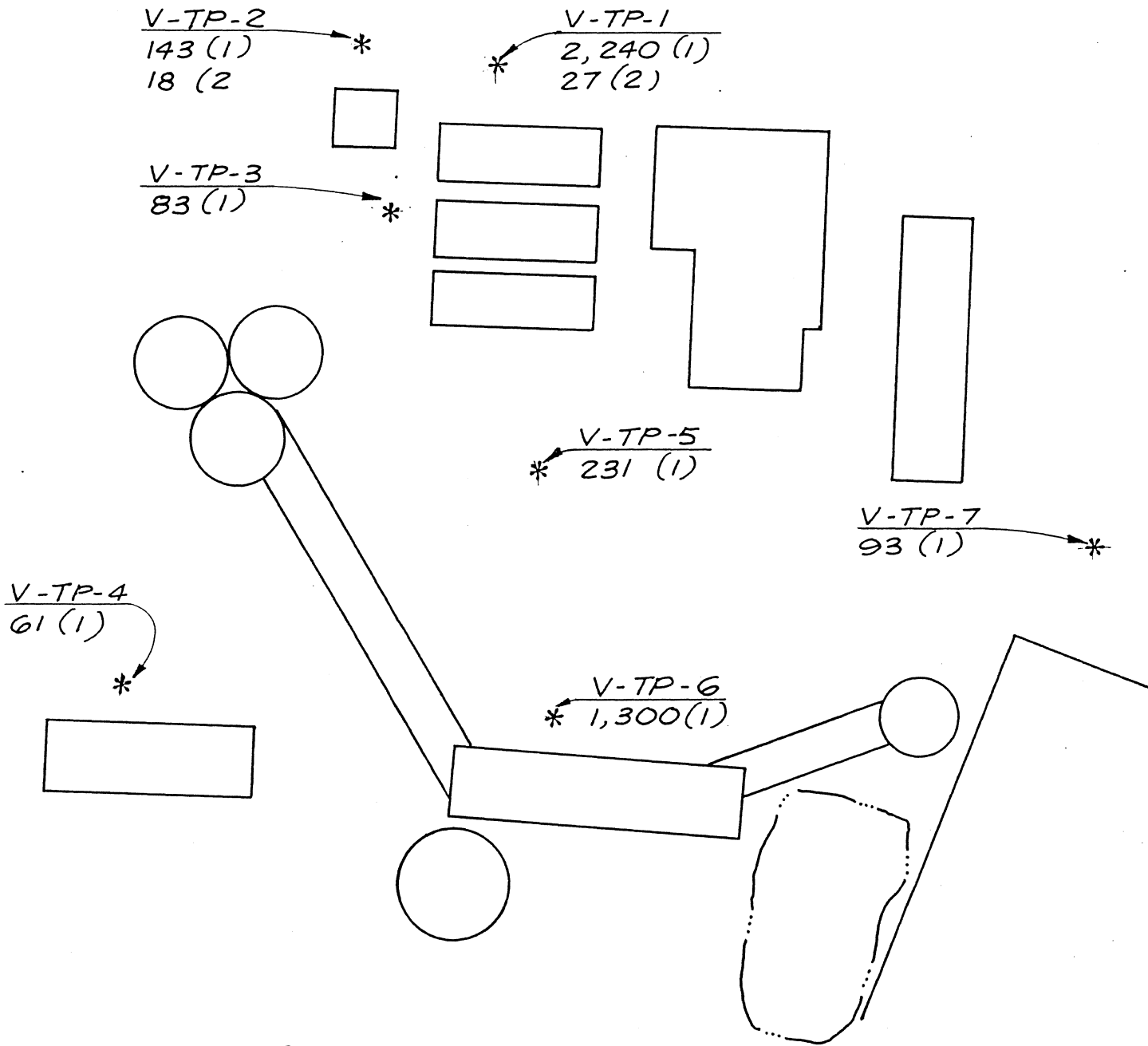


FIGURE 21

DESIGN BY	RLR	CHECKED BY	TEB	ASPHALT PLANT SOIL TPH CONCENTRATIONS LININGER TRU-MIX HAMRICK SITE	APPROVED	
SURVEY BY		SCALE	NO SCALE		DATE	
DRAWN BY	RAW	DWG. NO.				

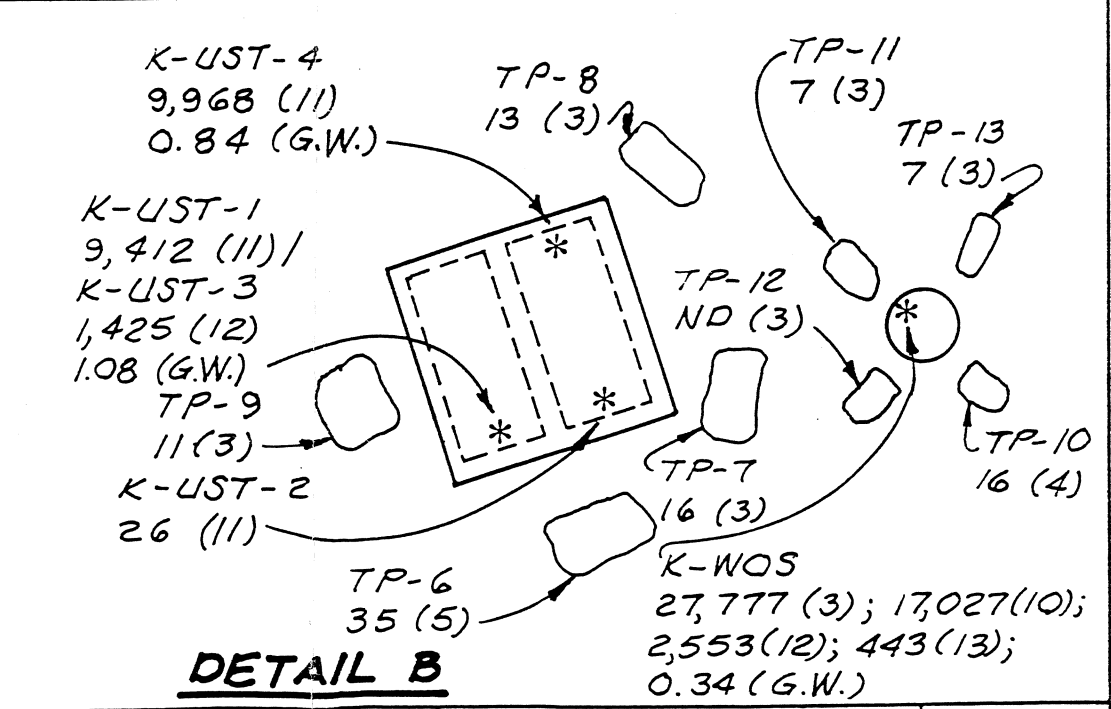
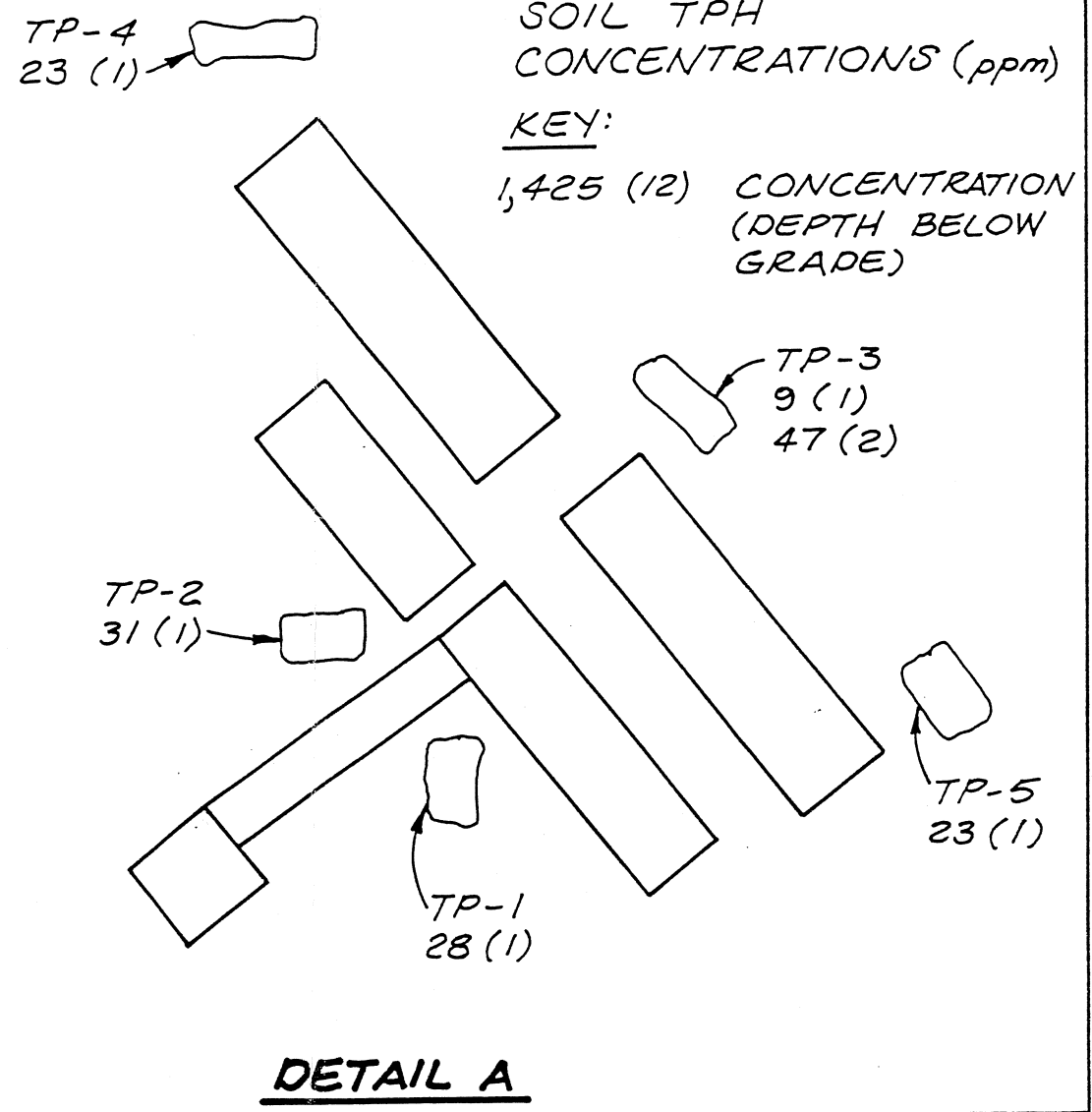
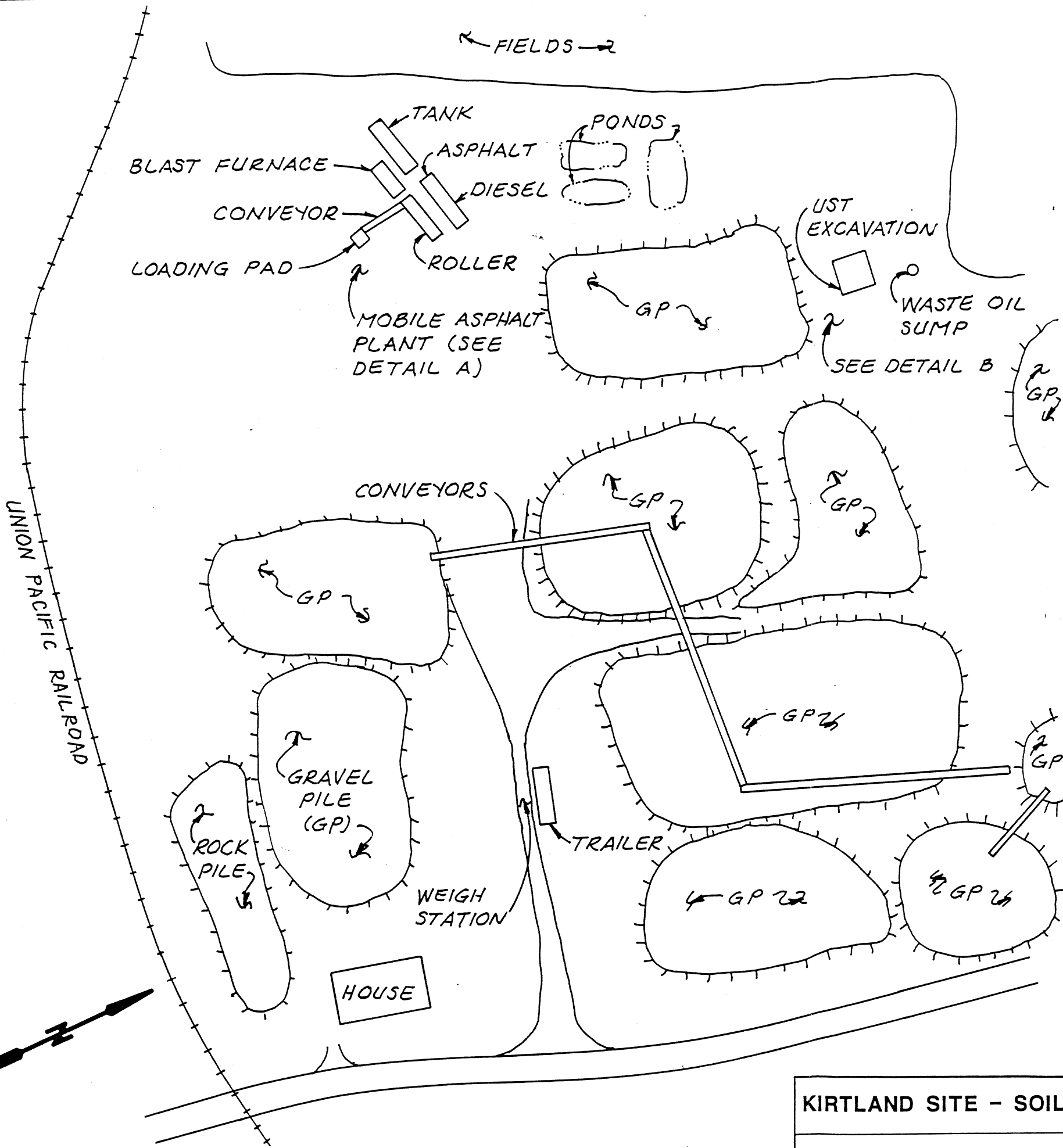
OGDEN SURVEYING EQUIPMENT CO 94420



KEY: 143 (1) CONCENTRATION  
(DEPTH BELOW GRADE)

FIGURE 22

DESIGN BY	RLR	CHECKED BY	TEB	<b>ASPHALT PLANT          SOIL TPH CONCENTRATIONS          LININGER TRU-MIX          VILLAS SITE</b>	APPROVED	
SURVEY BY		SCALE	NO SCALE		DATE	
DRAWN BY	TV	DWG. NO.				



KIRTLAND SITE - SOIL TPH CONCENTRATIONS	CENTURY WEST ENGINEERING	FIGURE
LININGER TRU-MIX		23

**APPENDIX A**  
**SCOPE OF SERVICES**

EXHIBIT A

SCOPE OF SERVICES

ENVIRONMENTAL INVESTIGATION  
PHASE I

Lininger Tru-Mix Sites  
Medford, Oregon

The objective of Phase I of this Environmental Investigation (PSI) is to evaluate the nature and extent of soil and/or groundwater contamination at various locations owned by Lininger Tru-Mix (LTM). The work to be performed at each of the sites is presented below.

HAMRICK SITE

**Task One: Evaluate Extent of Surface Staining**

Century West will observe the extent of surface soil staining and record the depth to clean soil in the vicinity of the Maintenance Building. Areas to be observed include: 1) the steam rack (Area A), stained soil (Area B) and 3) outside the doors (Area C). Figure 1 presents the location of these areas.

Depth of surface soil staining will be evaluated using a backhoe to excavate soil at each area. Stained soil will be excavated until visually clean soil is observed. Depth to clean soil will be recorded. A sample of visually clean soil from each excavation will be collected and analyzed for Total Petroleum Hydrocarbons (TPH).

**Task Two: Observe Underground Storage Tank Locations**

Century West will observe and record soil conditions during removal of underground storage tanks (USTs) from in front of, and behind, the Maintenance Building. Two soil samples from the bottom of each UST excavation (total of four) will be collected and analyzed for TPH, lead and benzene, toluene, xylene and ethylbenzene (BTXE). If groundwater is present in either or both of the excavations, a groundwater sample will be collected and analyzed for TPH, lead and BTXE.

HAMRICK SITE  
(Continued)

**Task Three: Soil Examination, Pipe Plant**

Century West will observe the extent of surface soil staining and record the depth to clean soil at the edge of the concrete slab in the vicinity of the 1,000 gallon above ground storage tank by the Pipe Plant. Soil will be excavated with a backhoe until visually clean soil is exposed. A sample of exposed soil will be analyzed for TPH.

**Task Four: Muriatic Acid Site**

Century West will measure the pH of soil and surface water at location D, Figure 1.

**Task Five: Groundwater Evaluation**

Century West will collect and analyze a groundwater sample from the sumps at locations E and F, Figure 1. The groundwater sample will be analyzed for TPH and BTXE.

**Task Six: Asphalt Plant Evaluation**

Century West will observe the extent of surface soil staining and record the depth to clean soil in up to ten test pits in the asphalt plant area. Test pits will be located in such a manner as to concentrate on soil conditions at: 1) the above ground diesel fuel tanks, 2) the above ground asphalt tanks, 3) the slat conveyor of the asphalt plant and 4) the asphalt plant. Test pits will be excavated to visually clean soil and a sample collected for TPH analysis. A sample of visually stained soil above the visually clean soil in each test pit will also be analyzed for TPH to evaluate disposal options.

If visually clean soil is not observed the test pits will be excavated as deep as possible and a sample collected for TPH analysis.

**Task Seven: Smudge Pot Area Evaluation**

Century West will observe the extent of surface soil staining and record the depth to clean soil in the area of suspected disposal of smudge pot residues (Area I, Figure

## HAMRICK SITE

(continued)

1). Two test pits will be excavated. Two soil samples will be collected from each test pit. One sample will be collected from visually stained soil and one from visually clean soil. All samples will be analyzed for TPH.

### **Task Eight: Haze Oil Tank Site Evaluation**

Century West will observe the extent of surface soil staining and record the depth to clean soil in the area of the Haze oil tank (Area H). Two test pits will be excavated until visually clean soil is noted; a clean soil sample will be collected from each test pit for analysis of TPH. One visually stained soil sample will also be collected from each test pit and analyzed for TPH to evaluate soil disposal options.

### **Task Nine: Lube Room Evaluation**

Century West will observe the extent of surface soil staining and record the depth to clean soil in the vicinity of the Lube Room, including the above ground tank area. Soil will be excavated with a backhoe until visually clean soil is exposed. A sample of exposed soil in the vicinity of the above ground tank will be analyzed for TPH.

## VILAS SITE

### **Task Ten: Asphalt Plant Evaluation**

Century West will observe the extent of surface soil staining and record the depth to clean soil in up to ten test pits in the asphalt plant area. Test pits will be located in such a manner as to concentrate on soil conditions at: 1) the above ground diesel fuel tank, 2) the above ground asphalt tanks, 3) the slat conveyor of the asphalt plant and 4) the asphalt plant. Test pits will be excavated to visually clean soil, and a sample collected for TPH analysis. A sample of visually stained soil above the visually clean soil will also be analyzed for TPH to evaluate soil disposal options.

VILAS SITE  
(continued)

If visually clean soil is not observed the test pits will be excavated as deep as possible and a sample collected for TPH analysis.

**Task Eleven: Tank Farm Evaluation**

Century West will observe and record soil conditions after removal of a 7,500 gallon ethyl gasoline UST. Two soil samples will be collected from the base of the excavation and analyzed for TPH, lead and BTXE analysis. If groundwater is encountered in the excavation a groundwater sample will be collected and analyzed for TPH, lead and BTXE.

Century West will observe and record soil conditions after removal of a 1,000 gallon waste oil UST. Two soil samples will be collected for TPH analysis. If groundwater is encountered in the excavation a groundwater sample will be collected and analyzed for TPH and BTXE.

If possible, Century West will attempt to collect two soil samples from under the remaining in-place tanks using a hand auger. The ability to collect this sample is dependent on the stability of the excavations side wall. Samples will be analyzed for TPH, lead and BTXE.

Century West will observe the lube pit and pipeline to evaluate whether lube pit is connected directly to the waste oil UST.

KIRTLAND ROAD SITE

**Task Twelve: Asphalt Plant Evaluation**

Century West will observe the extent of surface soil staining and record the depth to clean soil in up to ten test pits in the asphalt plant area (Area A, Figure 2). Test pits will be located in such a manner as to concentrate on soil conditions at: 1) the above ground diesel fuel tank, 2) the above ground asphalt tanks, 3) the slat conveyor of the asphalt plant and 4) the asphalt plant. Test pits will be excavated to visually clean soil and a sample collected for TPH analysis. A sample of visually stained soil above the visually clean soil will also be analyzed for TPH to evaluate soil disposal options.

## KIRTLAND ROAD SITE

(continued)

If visually clean soil is not observed the test pits will be excavated as deep as possible and a sample collected for TPH analysis.

### **Task Thirteen: Release Site Evaluation**

Century West will observe and record soil conditions after removal of two USTs from Area B, Figure 2. Two soil samples will be collected from each tank site and analyzed for TPH, lead and BTXE. If groundwater is encountered in the excavation a groundwater sample will be collected and analyzed for TPH, lead and BTXE.

Century West will observe soil conditions after removal of the UST to evaluate the extent of contamination by a past 5,000 gallon diesel release in Area B (Figure 2) (approximately 5,000 gallons) and record the depth to clean soil. Up to four samples will be analyzed for TPH and BTXE.

Two visually stained soils will also be collected and analyzed for TPH and BTXE. This data will be used to evaluate disposal options of the stained soil.

### **Task Fourteen: Waste Oil Sump Evaluation**

Century West will collect and analyze up to four soil samples after the sump at location C, Figure 2 is removed to evaluate the extent of contamination. Samples will be analyzed for TPH and BTXE. If groundwater is encountered a sample will be analyzed for TPH and BTXE. Century West will observe the extent of contamination and record the depth to clean soil. Two visually stained soil samples will be analyzed for TPH to evaluate disposal options.

## 140 QUARRY SITE

### **Task Fifteen: Surface Stain Evaluation**

Century West will observe the extent of surface soil staining and record the depth to clean soil at the area of surface soil stains. No samples will be analyzed.

HIGHBANKS SITE

**Task Sixteen: Above Ground Tank Site Evaluation**

Century West will observe the extent of surface soil staining and record the depth to clean soil vicinity of a 7,500 gallon above ground tank. Soil will be excavated until visually clean soil is observed. A sample of clean exposed soil will be analyzed for TPH.

Century West will also observe the extent of surface soil staining and record the depth to clean soil vicinity of a 1,000 gallon above ground tank. Soil will be excavated until visually clean soil is observed. No samples will be analyzed.

**APPENDIX B**  
**TEST PIT LOGS**

TEST PIT LOG

TEST PIT NO. H-TP-1		LOCATION Maintenance Building Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 4.0': Gravelly sand, fill, black to gray, coarse grained, coarse gravel, petroleum odor, several layers of clean coarse grained sand.
-2	H-TP-1-2	1530	TPH	4.0 - 6.0': Sand, brown, dark brown, coarse grained, some fine to coarse gravel, no petroleum odor.
-3				
-4				
-5				
-6	H-TP-1-6	1535	TPH	
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE 02-19-90
2. TEST PITS LOGGED BY		Roche		CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>

TEST PIT LOG

TEST PIT NO. H-TP-2		LOCATION Maintenance Building Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	H-TP-2-1	1625	TPH	0.0 - 5.0': Gravelly sand, gray, coarse grained, some cobbles, petroleum odor, damp, trace wood at 3.0', cement layer at 5.0'
-2				
-3				
-4	H-TP-2-4	1630	TPH	
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE 02-19-90
2. TEST PITS LOGGED BY		Roche		CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>

TEST PIT LOG

TEST PIT NO. H-TP-3		LOCATION Maintenance Building Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	H-TP-3-1	1555	TPH	0.0 - 0.2': Gravel, black, oily, coarse 0.2 - 2.0': Gravelly sand, brown coarse grained, fine to coarse gravel, damp, slight petroleum odor. 2.0 - 6.0': Gravelly sand, gray-green, coarse grained, fine-coarse gravel, wet, saturated at 6.0', no odor.
-2				
-3				
-4				
-5	H-TP-3-5	1600	TPH	Ground water filling hole at 6.0' - petroleum film on ground water.
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-19-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

TEST PIT LOG

TEST PIT NO. H-TP-4		LOCATION Pipe Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 2.0': Gravelly sand, brown, coarse grained, fine to coarse gravel, damp, no odor. 2.0 - 5.0': Clayey silt, black, fine grained, damp, oil, petroleum odor 5.0 - 7.0': Clayey silt, brown, damp, no odor.
-2				
-3	H-TP-4-3	1145	TPH	
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-21-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

TEST PIT LOG

TEST PIT NO. H-TP-5		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	H-TP-5-1	0750	TPH	0.0 - 2.0': Silty gravel fill, brown, fine grained gravel, damp, petroleum odor. 2.0 - 3.0': Silty gravel, gray, coarse gravel, some cobble, water running out of this layer into pit. 3.0 - 5.0': Clayey gravel, gray, coarse gravel, wet, petroleum odor.
-2				Ground water in hole has petroleum film.
-3				
-4	H-TP-5-4	0755	TPH	
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE 02-20-90
2. TEST PITS LOGGED BY		Roche		CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>

TEST PIT LOG

TEST PIT NO. H-TP-6		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 3.0': Debris fill, gravelly sand matrix, gray, petroleum odor, brick layer at 2.5 - 3.0', fine to coarse gravel. 3.0 - 6.0': Gravelly sand, black-gray, coarse grained, fine to coarse gravel, strong petroleum odor.
-2				Ground water in hole at 6.0' has petroleum film.
-3	H-TP-6-3	0820	TPH	
-4				
-5				
-6	H-TP-6-6	0830	TPH	
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE 02-20-90
2. TEST PITS LOGGED BY		Roche		CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>

## TEST PIT LOG

TEST PIT NO. H-TP-7		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 1.0': Silt, brown, medium grained, damp 1.0 - 6.0': Gravelly sand, gray-black, coarse grained, fine to coarse gravel, some cobbles, wet, saturated at 6.0', strong petroleum odor.  Soil black form 4.0 - 6.0'
-2				Ground water in hole has petroleum film.
-3	H-TP-7-3	0840	TPH	
-4				
-5				
-6	H-TP-7-6	0845	TPH	
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-20-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

## TEST PIT LOG

TEST PIT NO. H-TP-8		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 0.2': Asphalt layer. 0.2 - 3.5': Gravelly sand, brown coarse grained, fine gravel, damp. 3.5 - 3.8': Asphalt layer.
-2				3.8 - 5.0': Gravelly sand, black, coarse grained, fine gravel, oozing petroleum rich fluids. 5.0 - 8.0': Silty clay, gray to dark gray, trace gravel, cobbles, petroleum odor.
-3				Ground water contains petroleum film.
-4	H-TP-8-4	0915	TPH	
-5				
-6				
-7	H-TP-8-7	0920	TPH	
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-20-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

## TEST PIT LOG

TEST PIT NO. H-TP-9		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 3.5': Gravelly sand, brown, medium coarse grained, fine gravel, damp. 3.5 - 7.0': Gravelly sand and gravelly clay, black, dark gray, fine gravels, 3-4 layers (<6") asphalt-like material, petroleum-rich ooze; may be AR-2000 or AR-4000 type oil. Strong petroleum odor.
-2				Ground water has petroleum film and oil beads, sample H-TP-9-6W collected.
-3				
-4	H-TP-9-4		TPH	
-5				
-6	H-TP-9-6A	1000	TPH	
	H-TP-9-6B	1005	TPH	
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE 02-20-90
2. TEST PITS LOGGED BY		Roche		CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>

## TEST PIT LOG

TEST PIT NO. H-TP-10		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 1.0': Gravelly sand, brown, coarse grained, fine gravel, damp. 1.0 - 5.0': Gravelly sand, coarse grained, fine coarse gravel, black layers of asphalt material, strong petroleum odor.
-2	H-TP-10-2	1030	TPH	Ground water contains petroleum film.
-3				
-4	H-TP-10-4	1035	TPH	
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE 02-20-90
2. TEST PITS LOGGED BY		Roche		CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>

## TEST PIT LOG

TEST PIT NO. H-TP-11		LOCATION Asphalt Plant			
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION	
-1				0.0 - 2.5': Debris fill, gravelly sand, brown-gray, coarse grained, fine to coarse gravel, several layers of asphalt, damp.	
-2				2.5 - 5.0': Gravelly sand to cobbly silt, gray, coarse grained, fine to coarse gravel, wet, saturated at 5.0'.  Ground water has petroleum film.	
-3	H-TP-11-3	1050	TPH		
-4	H-TP-11-4	1055	TPH		
-5					
-6					
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE	
2. TEST PITS LOGGED BY		Roche		2-20-90	
				CENTURY WEST ENGINEERING	
				SHEET <u>1</u> OF <u>1</u>	

## TEST PIT LOG

TEST PIT NO. H-TP-12		LOCATION Asphalt Plant			
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION	
-1				0.0 - 3.0": Gravelly sand, gray-dark gray, medium coarse grained, fine gravel petroleum odor, damp.	
-2				3.0 - 5.0': Cobbly sand, gray-dark gray, wet-saturated, coarse grained, petroleum film on cobbles.	
-3	H-TP-12-3	1110	TPH	5.0': Ground water has petroleum film.	
-4	H-TP-12-4	1115	TPH		
-5					
-6					
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE	
2. TEST PITS LOGGED BY		Roche		02-20-90	
				CENTURY WEST ENGINEERING	
				SHEET <u>1</u> OF <u>1</u>	

## TEST PIT LOG

TEST PIT NO. H-TP-13		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 0.6': Asphalt 0.0 - 2.0': Gravelly sand, gray, medium coarse grained, fine to coarse gravel, some cobbles, dry, petroleum odor. 2.0 - 4.0': Cobbly clay, gray, wet, petroleum odor, saturated at 4.0'.
-2	H-TP-13-2	1130	TPH	Ground water has petroleum film.
-3				
-4	H-TP-13-4	1135	TPH	
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-20-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

## TEST PIT LOG

TEST PIT NO. H-TP-14		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 1.0': Gravelly silt, black, fine to coarse gravel, damp, trace cobbles. 1.0 - 2.0': Cobbly sand, gray, medium to coarse grained, some cobbles, damp, petroleum odor. 2.0 - 5.0': Gravelly silt, dark gray, fine grained, damp, petroleum odor. 5.0 - 6.0': Clay, gray, wet, petroleum odor.
-2				Ground water has petroleum film.
-3				
-4	H-TP-14-4	1150	TPH	
-5				
-6	H-TP-14-6	1155	TPH	
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-20-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

TEST PIT LOG

TEST PIT NO. H-TP-15		LOCATION South of Asphalt Plant			
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION	
-2				0.0 - 3.0': Silty gravel fill, brown-gray, fine gravel, damp. 3.0 - 6.0': Gravelly silt, gray to dark gray, fine to coarse gravel, wet at 5.0', petroleum odor. 6.0 - 8.0': Clay, gray-dark gray, saturated, trace coarse gravel. Ground water has petroleum film.	
*	H-TP-15-5	1325	TPH		
-6					
*	H-TP-15-7	1330	TPH		
-8					
-10					
-12					
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE 02-20-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY		Roche			SHEET <u>1</u> OF <u>1</u>

TEST PIT LOG

TEST PIT NO. H-TP-16		LOCATION Near Bear Creek - South of Asphalt Plant			
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION	
-2				0.0 - 5.0': Silt, brown, damp, fine grained, some clay, trace fine, coarse gravel. 5.0 - 5.5': Asphalt layer. 5.5 - 5.75': Shale layer, gray.	
-4				5.75 - 10.0': Cobbly sand, brown, coarse grained, no petroleum odor, damp. Ground water at 10.0', no petroleum film.	
-6	H-TP-16-6	1350	TPH		
-8	H-TP-16-8	1400	TPH		
-10					
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE 02-20-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY		Roche			SHEET <u>1</u> OF <u>1</u>

TEST PIT LOG

TEST PIT NO. H-TP-17		LOCATION South of Asphalt Plant		
DEPTH N FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
1				0.0 - 1.0': Gravel fill gray, fine grain, damp. 1.0 - 2.0': Gravelly sand, brown, coarse grained, fine to coarse gravel, some cobbles, damp, no petroleum odor.
2				2.0 - 3.5': Sand, brown, coarse grained, some coarse gravel, damp, no petroleum odor. 3.5 - 5.0': Sand, gray, coarse grained, contaminated, petroleum odor, saturated at 4.0'.
3	H-TP-17-3	1425	TPH	Ground water has petroleum film. Sample H-TP-17-GW collected.
4	H-TP-17-4	1430	TPH	
5				
6				
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-20-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET 1 OF 1	

TEST PIT LOG

TEST PIT NO. H-TP-18		LOCATION West of Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-2				0.0 - 2.0': Fill gravel, brown, fine gravel, damp. 2.0 - 7.0': Silty gravel, gray to dark gray, fine gravel, damp, petroleum odor. 7.0 - 13.0': Silt, dark gray, saturated at 12.0', petroleum odor.
-4				Ground water has petroleum film. Sample H-TP-18-GW collected.
-6	H-TP-18-6	1520	TPH	All samples collected out of shovel.
-8	H-TP-18-8	1530	TPH	
-10				
-12				
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-20-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET 1 OF 1	

TEST PIT LOG

TEST PIT NO. H-TP-19		LOCATION North of Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 1.0': Sand, brown, damp, coarse grained, no petroleum odor. 1.0 - 4.0': Cobbly sand, gray, coarse grained, wet, petroleum odor. 4.0 - 6.0': Sand, gray, coarse, some cobbles, petroleum odor, saturated at 5.0'. Ground water has petroleum film.
-2				
-3	H-TP-19-3	1555	TPH	
-4				
-5	H-TP-19-5	1600	TPH	
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE 02-20-90
2. TEST PITS LOGGED BY		Roche		CENTURY WEST ENGINEERING SHEET _____ OF _____

TEST PIT LOG

TEST PIT NO. H-TP-20		LOCATION South of Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-2				0.0 - 2.0': Silty gravel, gray-brown, fine to coarse gravel, damp. 2.0 - 7.0': Silt, brown, damp, some clay, no petroleum odor. 7.0 - 10.0': Cobbly, silt, gray, wet, saturated at 10.2', petroleum odor. Ground water has petroleum film.
-4				
*	H-TP-20-5	1620	TPH	
-6				
-8	H-TP-20-8	1635	TPH	
-10				
-12				
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE 02-20-90
2. TEST PITS LOGGED BY		Roche		CENTURY WEST ENGINEERING SHEET 1 OF 1

## TEST PIT LOG

TEST PIT NO. H-TP-21		LOCATION Smudge Pot Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 5.0': Sand, brown, coarse grained, damp, saturated at 5.0'. 6" thick cobbly sand layer at 2.0'. Some clay at 4.0". Ground water appears free of petroleum product.
-2	H-TP-21-2	0815	TPH	A second pit dug South of H-TP-21 was also clean - same discription.
-3				
-4	H-TP-21-4	0820	TPH	
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE 02-21-90
2. TEST PITS LOGGED BY		Roche		CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>

## TEST PIT LOG

TEST PIT NO. H-TP-22		LOCATION Smudge Pot Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 1.0': Gravelly sand, brown, fine grained, fine to coarse gravel, trace clay, damp.
-2	H-TP-22-2	0835	TPH	1.0 - 2.5': Gravelly silt, gray, damp, fine to coarse gravel, some wood, petroleum odor.
-3				2.5 - 5.0': Gravelly silt, brown to gray, damp, saturated at 5.0', some sand, fine to coarse gravel.
-4	H-TP-22-4	0840	TPH	Ground water has petroleum film.
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM		HAMRICK SITE 02-21-90
2. TEST PITS LOGGED BY		Roche		CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>

TEST PIT LOG

TEST PIT NO. H-TP-23		LOCATION Haze Oil Tank Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 6.0': Gravelly sand, brown to gray, coarse sand, fine to coarse gravel, damp, some cobbles, blocks of cement up to 1' thick.  Ground water not reached due to collapse of sidewalls; clean soil not reached - color of material is banded brown to gray, petroleum odor.
-2	H-TP-23-2	0950	TPH	
-3				
-4	H-TP-23-4	1000	TPH	
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-21-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET 1 OF 1	

TEST PIT LOG

TEST PIT NO. H-TP-24		LOCATION Haze Oil Tank Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-2				0.0 - 5.0': Sand, brown, coarse grained, some fine to coarse gravel, damp, no petroleum odor.
* -4	H-TP-24-3	1010	TPH	5.0 - 7.0': Gravelly sand, brown, coarse grained, fine to coarse gravel, wet, saturated at 7.0'.  Ground water has petroleum film.
* -6	H-TP-24-7	1015	TPH	
-8				
-10				
-12				
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-21-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET 1 OF 1	

TEST PIT LOG

TEST PIT NO. H-TP-25		LOCATION Lube Room Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	H-TP-25-2	1100	TPH	0.0 - 1.5': Silty gravel, brown, fine gravel, damp, petroleum odor.
-2				1.5 - 2.5': Cobbly silt gray-black, wet, oozing fluid with petroleum odor.
-3				2.5 - 4.0': Cobbly silt, brown, damp, no petroleum odor.
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-21-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

TEST PIT LOG

TEST PIT NO. H-TP-25A		LOCATION Lube Room Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 0.5': Gravel, brown to gray, dry.
-2				0.5 - 1.2': Gravelly silt, black, oily, damp, petroleum odor.
-3				1.2': Gravelly silt, brown, damp, no petroleum odor.
-4				No samples collected.
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-21-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

## TEST PIT LOG

TEST PIT NO. H-TP-25B		LOCATION Lube Room Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 2.0': Gravelly clay, gray, damp, no petroleum odor. 2.0': Gravelly silt, brown, damp. No samples collected.
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-21-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

## TEST PIT LOG

TEST PIT NO. H-TP-25C		LOCATION Lube Room Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 2.0': Gravelly clay, gray, damp, no petroleum odor. 2.0': Cobbly silt, brown, damp. No samples collected.
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM	HAMRICK SITE 02-21-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

## TEST PIT LOG

TEST PIT NO. V-TP-1		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	V-TP-1-1	1035	TPH	0.0 - 0.7': Asphalt, black. 0.7 - 1.1': Gravel, black, dry, stained. 1.1 - 1.5': Clay, black, oily, sticky, damp.
-2	V-TP-1-2	1035	TPH	1.5': Sandstone unit, tan, coarse grained.
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH Komatsu			VILLAS SITE 02-21-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY RSM				SHEET <u>1</u> OF <u>1</u>

## TEST PIT LOG

TEST PIT NO. V-TP-2		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	V-TP-2-1	1058	TPH	0.0 - 1.0': Gravelly sand, gray to tan, fine to coarse gravel, petroleum odor. 1.0- 1.2': Gravelly clay, brown, damp. 1.2 - 2.9': Sand, tan to white, coarse grained.
-2	V-TP-2-2	1058	TPH	2.9': Sandstone unit.
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH Komatsu			VILLAS SITE 02-21-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY RSM				SHEET <u>1</u> OF <u>1</u>

## TEST PIT LOG

TEST PIT NO. V-TP-3		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	V-TP-3-1	1131	TPH	0.0 - 0.1': Gravel fill, gray, fine grained, dry, no staining. 0.1 - 0.5': Silt, brown, dry. 0.5': Sandstone unit.
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH			VILLAS SITE 02-21-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY RSM				SHEET <u>1</u> OF <u>1</u>

## TEST PIT LOG

TEST PIT NO. V-TP-4		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	V-TP-4-1	1336	TPH	0.0 - 0.5': Gravelly sand, brown, dry, asphalt layer at top, slight petroleum odor. 0.5 - 1.5': Sand, tan, coarse grained, dry. 1.5': Sandstone unit.
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH Ron, LTM		VILLAS SITE 02-21-90		CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY Roche				SHEET <u>1</u> OF <u>1</u>

TEST PIT LOG

TEST PIT NO. V-TP-5		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	V-TP-5-1	1343	TPH	0.0 - 0.3': Asphalt. 0.3- 0.9': Sand, tan, coarse grained, some fine to coarse gravel, dry, no petroleum odor. 0.9': Sandstone unit.
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM	VILLAS SITE 0-21-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

TEST PIT LOG

TEST PIT NO. V-TP-6		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	V-TP-6-1	1353	TPH	0.0 - 1.0': Gravel, gray-black, some asphalt, wet, fine gravel, petroleum odor. 1.0 - 1.2': Sand, tan, coarse grained, dry, stiff, slight petroleum odor. 1.2': Sandstone unit.
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM	VILLAS SITE 02-21-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

TEST PIT LOG

TEST PIT NO. V-TP-7		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	V-TP-7-1	1424	TPH	0.0 - 0.1': Asphalt. 0.1 - 0.3': Gravelly sand, gray to brown, coarse grained, coarse gravel, no visible staining. 0.3': Sandstone unit.
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM	VILLAS SITE 02-21-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

TEST PIT LOG

TEST PIT NO. V-TP-8		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 0.1': Scrap asphalt from dump/reject pile. 1.0 - 5.0': Clay, blue/green, damp, brecciated appearance, soft. Clay is same as used in UST pit as a liner.
-2	V-TP-8-2	1450	TPH	
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM	VILLAS SITE 02-21-90	
2. TEST PITS LOGGED BY		Roche	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

TEST PIT LOG

TEST PIT NO. V-TP-9		LOCATION Truck Wash Down Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	V-TP-9-1	1510	TPH	0.0 - 1.0': Gravelly silt, black, fine to coarse gravel, oily, wet/saturated, oil layer on gravel. 1.0 - 1.1': Caliche layer, white, powdery. 1.1 - 2.0': Blue/green clay layer, wet.
-2				Shallow water filling hole, petroleum film present, oil beads also present.
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM		VILLAS SITE 02-21-90
2. TEST PITS LOGGED BY		Roche		CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>

TEST PIT LOG

TEST PIT NO.		LOCATION		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH				CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY				SHEET _____ OF _____

## TEST PIT LOG

TEST PIT NO. K-TP-1		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	K-TP-1-1	1354	TPH	0.0 - 0.2': Asphalt. 0.2-1.9': Fill, gravelly sand matrix, gray, no petroleum odor. 1.9 - 2.2': Gravel, fill layer, fine grained. 2.2 - 2.8': Gravelly sand, fine gravel. 2.8': Clay, brown, damp, some gravel.
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH			KIRTLAND ROAD SITE 02-20-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY RSM				SHEET <u>1</u> OF <u>1</u>

## TEST PIT LOG

TEST PIT NO. K-TP-2		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	K-TP-2-1	1401	TPH	0.0 - 0.9': Gravelly sand, gray, medium to coarse grained, fine gravel, no petroleum odor. 0.9 - 1.3': Sand, gray, coarse grained, some fine gravel. 1.3 - 1.5': Gravel, gray, coarse grained. 1.5 - 1.9': Gravel. 1.9': Clay, brown, damp, some gravel.
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH			KIRTLAND ROAD SITE 02-20-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY RSM				SHEET <u>1</u> OF <u>1</u>

## TEST PIT LOG

TEST PIT NO. K-TP-3		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	K-TP-3-1	1422	TPH	0.0 - 0.5': Gravelly sand, gray, coarse grained, fine to coarse gravel, damp, no petroleum odor. 0.5 - 1.7': Sandy gravel, damp, fine to coarse gravel, no staining or petroleum odor.
-2	K-TP-3-2	1428	TPH	1.7': Clay, brown, dense, damp, some gravel.
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH			KIRTLAND ROAD SITE 02-20-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY RSM				SHEET 1 OF 1

## TEST PIT LOG

TEST PIT NO. K-TP-4		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	K-TP-4-1	1440	TPH	0.0 - 1.3': Gravelly sand, gray, fine gravel, damp, no petroleum odor or staining. 1.3 - 2.3': Gravelly sand, brown, fine gravel, no petroleum odor or staining. 2.3': Clay, brown, dense, some gravel.
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH			KIRTLAND ROAD SITE 02-20-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY RSM				SHEET 1 OF 1

TEST PIT LOG

TEST PIT NO. K-TP-5		LOCATION Asphalt Plant		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1	K-TP-5-1	1509	TPH	0.0 - 0.4': Gravelly sand, fine to coarse gravel. 0.4': Clay, brown, damp, some rock fragments, no petroleum odor or staining.
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH			KIRTLAND ROAD SITE 02-20-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY RSM				SHEET 1 OF 1

TEST PIT LOG

TEST PIT NO. K-TP-6		LOCATION East of UST Pit		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 2.0': Sandy gravel matrix, dry. 2.0 - 4.0': Gravel, black, poorly sorted, heavily stained, petroleum odor. 4.0': Clay, brown, some gravel, damp, stained at contact with gravel.
-2				
-3				
-4				
-5	K-TP-6-5	1042	TPH	
-6				
1. EXCAVATIONS MADE WITH		Komatsu	KIRTLAND ROAD SITE 0-20-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY		RSM		SHEET 1 OF 1

TEST PIT LOG

TEST PIT NO. K-TP-7		LOCATION Northwest Side of UST Pit			
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION	
-1				0.0 - 2.5': Fill, gravel matrix, gray, dry, asphalt/tar lense at 1.8'. 2.5': Clay, brown, gray at interface with gravel, damp.	
-2					
-3	K-TP-7-3	1050	TPH		
-4					
-5					
-6					
1. EXCAVATIONS MADE WITH		Komatsu		KIRTLAND ROAD SITE 02-20-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY		RSM			SHEET 1 OF 1

TEST PIT LOG

TEST PIT NO. K-TP-8		LOCATION North Side of UST Pit			
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION	
-1				0.0 - 2.5': Fill, sandy gravel matarix, wet at 2.0', no petroleum odor or film. 2.5': Clay, gray at top, brown at 3.0', damp, some coarse sand.	
-2					
-3	K-TP-8-3	1102	TPH		
-4					
-5					
-6					
1. EXCAVATIONS MADE WITH				KIRTLAND ROAD SITE 02-20-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY		RSM			SHEET 1 OF 1

TEST PIT LOG

TEST PIT NO. K-TP-9		LOCATION South Side of UST Pit		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 1.0': Fill gravel, fine grained, stained, petroleum odor. 1.0': Clay, dark brown, some coarse sand, damp.
-2				
-3	K-TP-9-3	1122	TPH	
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH			KIRTLAND ROAD SITE 02-20-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY RSM				SHEET 1 OF 1

TEST PIT LOG

TEST PIT NO. K-TP-10		LOCATION Waste Oil Sump		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 0.3': Sandy gravel, gray, loose. 0.3 - 1.0': Cobbles and gravel in a sand/silt, matrix brown. 1.0 - 4.0': Sandy clay, brown, medium dense plastic not sticky.
-2				
-3				
-4	K-TP-10-4	0840	TPH	
-5				
-6				
1. EXCAVATIONS MADE WITH		Kumatsu	KIRTLAND ROAD SITE 02/20/90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY		RSM		SHEET 1 OF 1

## TEST PIT LOG

TEST PIT NO. K-TP-11		LOCATION Waste Oil Sump		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 0.3': Sandy gravel, gray, loose. 0.3 - 0.9': Gravel in a sand/silt matrix, brown. 0.9 - 3.5': Sandy clay, trace of pebbles, brown, plastic.
-2				
-3	K-TP-11-3	0851	TPH	
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH		Kumatsu	KIRTLAND ROAD SITE 02-20-90	
2. TEST PITS LOGGED BY		RSM	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

## TEST PIT LOG

TEST PIT NO. K-TP-12		LOCATION Waste Oil Sump Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 2.0': Fill, gravelly sand matrix, gray to brown, some cobbles, dry. 2.0': Clay, dark gray to brown, some weathered rock fragments, damp, no petroleum odor.
-2				
-3	K-TP-12-3	0937	TPH	
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH			KIRTLAND ROAD SITE 02-20-90	
2. TEST PITS LOGGED BY		RSM	CENTURY WEST ENGINEERING SHEET <u>1</u> OF <u>1</u>	

TEST PIT LOG

TEST PIT NO. K-TP-13		LOCATION Waste Oil Sump Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 2.0': Fill, sandy gravel, gray, fill, dry. 2.0': Clay, dark brown, damp, some coarse sand, no petroleum odor.
-2				
-3	H-TP-13-3	1005	TPH	
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH			KIRTLAND ROAD SITE 02-20-90	CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY RSM				SHEET <u>1</u> OF <u>1</u>

TEST PIT LOG

TEST PIT NO.		LOCATION		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH				CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY				SHEET _____ OF _____

TEST PIT LOG

TEST PIT NO. Hi-TP-1		LOCATION Above Ground Storage Tank Area		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				0.0 - 3.0': Cobbly silt, brown, some clay, gray layer from 1.5 - 2.2', no petroleum odor. 3.0': Basaltic unit.
-2	Hi-TP-1-2	1600	TPH	
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH		Ron, LTM		HIGH BANKS SITE 02-21-90
2. TEST PITS LOGGED BY		Roche		CENTURY WEST ENGINEERING SHEET 1 OF 1

TEST PIT LOG

TEST PIT NO.		LOCATION		
DEPTH IN FT	SAMPLE NUMBER	TIME	ANALYSIS	DESCRIPTION
-1				
-2				
-3				
-4				
-5				
-6				
1. EXCAVATIONS MADE WITH				CENTURY WEST ENGINEERING
2. TEST PITS LOGGED BY				SHEET _____ OF _____

**APPENDIX C**  
**UNDERGROUND STORAGE TANK LIST**

01/26/89

## TANK PERMIT LIST

LOCATION: Kirtland Road Properties ✓  
Facility # 7416

<u>Capacity</u>	<u>Product</u>	<u>Above or Underground?</u>	<u>Permit Required</u>	<u>Permit Number</u>
10,000	Diesel	Underground	Yes	CAEK
10,000	Diesel	Underground	Yes	CADH
10,000	Diesel	Above Ground	No	N/A
12,000	Asphalt	Above Ground	No	N/A
1,000	Gasoline	Above Ground	No	N/A
1,000	Used Oil	Underground	Yes	CADJ
1,000	Diesel	Above Ground	No	N/A

LOCATION: Highbanks Road Properties

<u>Capacity</u>	<u>Product</u>	<u>Above or Underground?</u>	<u>Permit Required</u>	<u>Permit Number</u>
7,500	Diesel	Above Ground	No	N/A
1,000	Gasoline	Above Ground	No	N/A

LOCATION: Highway 140 Quarry

<u>Capacity</u>	<u>Product</u>	<u>Above or Underground?</u>	<u>Permit Required</u>	<u>Permit Number</u>
2,000	Diesel	Above Ground	No	N/A
1,000	Diesel	Above Ground	No	N/A

## TANK PERMIT LIST

LOCATION: Hamrick Road Properties  
Facility # 7418

<u>Capacity</u>	<u>Product</u>	<u>Above or Underground?</u>	<u>Permit Required</u>	<u>Permit Number</u>
11,800	Diesel	Above Ground	No	N/A
3,000	Diesel	Above Ground	No	N/A
3,000	Diesel	Above Ground	No	N/A
8,000	Diesel	Above Ground	No	N/A
11,800	Diesel	Above Ground	No	N/A
11,800	Diesel	Above Ground	No	N/A
12,000	Diesel	Above Ground	No	N/A
1,000	Diesel	Above Ground	No	N/A
8,200	Gilsonite	Above Ground	No	N/A
6,000	Dura-Seal	Above Ground	No	N/A
15,000	Asphalt	Above Ground	No	N/A
12,500	Asphalt	Above Ground	No	N/A
12,000	Asphalt	Above Ground	No	N/A
5,000	CSS - 1	Above Ground	No	N/A
* 500	Used Oil	Above Ground	No	N/A
1,000	Used Oil	Underground	Yes	Applied
* 1,000	Used Oil	Underground	Yes	Applied

2/11

## TANK PERMIT LIST

LOCATION: Vilas Road Properties  
Facility # 7098

<u>Capacity</u>	<u>Product</u>	<u>Above or Underground?</u>	<u>Permit Required</u>	<u>Permit Number</u>
10,000	Diesel	Underground	Yes	DFJC
10,000	Diesel	Underground	Yes	DFJD
800	Diesel	Above Ground	No	N/A
10,000	Gasoline	Underground	Yes	DFJE
7,500	Empty	Underground	Yes	DFJF
10,000	Diesel	Above Ground	No	N/A
1,000	Used Oil	Underground	Yes	DFJH
10,000	Asphalt	Above Ground	No	N/A
10,000	Asphalt	Above Ground	No	N/A
7,500	Asphalt	Above Ground	No	N/A
* 1,300	Bulk Oil	Above Ground	No	N/A

LOCATION: Ashland Batch Plant Property  
Mistletoe Road

<u>Capacity</u>	<u>Product</u>	<u>Above or Underground?</u>	<u>Permit Required</u>	<u>Permit Number</u>
2,500	Diesel	Above Ground	No	N/A

\* These tanks were not previously listed on the Possible Hazardous Waste Exposures list.

**APPENDIX D**  
**LABORATORY DATA**



LABORATORY ANALYSIS

TOTAL PETROLEUM HYDROCARBONS

OWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

ANALYSIS METHOD: EPA 418.1\*  
CONSTITUENT: TPH  
DATE SUBMITTED: 2/20/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: CLIENT  
METHOD DETECTION LIMIT: 2.5 mg/kg SOIL  
METHOD DETECTION LIMIT: 0.04 mg/l WATER

LAB SAMPLE NUMBER	SAMPLE DESCRIPTION	DATE EXTRACTED	DATE ANALYZED	SAMPLE CONC.**	UNITS	PERCENT RECOVERY***
4937-1	<del>K-TP-1-3</del> ①	2/21/90	2/21/90	27777	mg/kg	93%
4937-2	<del>K-TP-2-12</del> ②	2/21/90	2/21/90	17027	mg/kg	93%
4937-3	<del>K-TP-3-14</del> ③	2/21/90	2/21/90	2553	mg/kg	93%
4937-4	<del>K-TP-4-15</del> ④	2/21/90	2/21/90	443	mg/kg	93%
4937-5	<del>K-TP-5-15</del> ⑤	2/21/90	2/21/90	0.34	mg/l	93%
4937-6	<del>K-TP-6-11</del> ⑥	2/21/90	2/21/90	9412	mg/kg	93%
4937-7	<del>K-TP-7-11</del> ⑦	2/21/90	2/21/90	26	mg/kg	93%
4937-8	<del>K-TP-8-12</del> ⑧	2/21/90	2/21/90	1425	mg/kg	93%
4937-9	<del>K-TP-9</del> ⑨	2/21/90	2/21/90	1.08	mg/l	93%
4937-10	<del>K-TP-10-11</del> ⑩	2/21/90	2/21/90	9968	mg/kg	93%
4937-11	<del>K-TP-11</del> ⑪	2/21/90	2/21/90	0.84	mg/l	93%
4937-12	H-UST-1-A	2/21/90	2/21/90	49725	mg/kg	93%
4937-13	H-UST-1-B	2/21/90	2/21/90	2598	mg/kg	93%
4937-14	H-UST-2-A	2/21/90	2/21/90	12817	mg/kg	93%
4937-15	H-UST-2-B	2/21/90	2/21/90	49	mg/kg	93%
4937-16	H-UST-2-6W	2/21/90	2/21/90	47.71	mg/l	93%
4937-17	H-TP-1-2	2/21/90	2/21/90	7504	mg/kg	93%
4937-18	H-TP-1-6	2/21/90	2/21/90	145	mg/kg	93%

\*Modified for soil

\*\*N.D. means "not detected."

① SAMPLE ID  
K-WOS-3

⑧ K-UST-3

② K-WOS-12

⑨ K-UST-GW1

③ K-WOS-14

⑩ K-UST-4

④ K-WOS-15

⑪ K-UST-GW2

⑤ K-WOS-GW

⑥ K-UST-1

⑦ K-UST-2

CHANGED BY

*Richard B.*



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CTL 4937  
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LAB SAMPLE NUMBER =====	SAMPLE DESCRIPTION =====	DATE EXTRACTED =====	DATE ANALYZED =====	SAMPLE CONC.** =====	UNITS =====	PERCENT RECOVERY*** =====
4937-19	H-TP-2-1	2/21/90	2/21/90	54	mg/kg	93%
4937-20	H-TP-2-4	2/21/90	2/21/90	1044	mg/kg	93%
4937-21	H-TP-3-1	2/21/90	2/21/90	2598	mg/kg	93%
4937-22	H-TP-3-5	2/21/90	2/21/90	42	mg/kg	93%

\*\*N.D. means "not detected."

\*\*\*Percent Recovery values were within established control limits. \_\_\_\_\_

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

  
John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

03/08/90



LABORATORY ANALYSIS

TOTAL PETROLEUM HYDROCARBONS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

ANALYSIS METHOD: EPA 418.1\*  
CONSTITUENT: TPH  
DATE SUBMITTED: 2/21/90  
DISCARD DATE: 4/21/90  
COLLECTED BY: CLIENT  
METHOD DETECTION LIMIT: 2.5 mg/kg SOIL  
METHOD DETECTION LIMIT: 0.04 mg/l WATER

LAB SAMPLE NUMBER =====	SAMPLE DESCRIPTION =====	DATE EXTRACTED =====	DATE ANALYZED =====	SAMPLE CONC.** UNITS =====	PERCENT RECOVERY*** =====
4937-23	H-TP-5-1	2/23/90	2/23/90	46 mg/kg	93%
4937-24	H-TP-5-4	2/23/90	2/23/90	338 mg/kg	93%
4937-25	H-TP-6-3	2/23/90	2/23/90	35 mg/kg	93%
4937-26	H-TP-6-6	2/23/90	2/23/90	1300 mg/kg	93%
4937-27	H-TP-7-3	2/23/90	2/23/90	38 mg/kg	93%
4937-28	H-TP-7-6	2/23/90	2/23/90	5510 mg/kg	93%
4937-29	H-TP-8-4	2/23/90	2/23/90	6318 mg/kg	93%
4937-30	H-TP-8-7	2/23/90	2/23/90	4166 mg/kg	93%
4937-31	H-TP-9-4	2/23/90	2/23/90	7394 mg/kg	93%
4937-32	H-TP-9-6A	2/23/90	2/23/90	40767 mg/kg	93%
4937-33	H-TP-9-6B	2/23/90	2/23/90	2710 mg/kg	93%
4937-34	H-TP-9-GW	2/23/90	2/23/90	1.92 mg/l	93%
4937-35	H-TP-10-2	2/23/90	2/23/90	3273 mg/kg	93%
4937-36	H-TP-10-4	2/23/90	2/23/90	739 mg/kg	93%
4937-37	H-TP-11-3	2/23/90	2/23/90	35 mg/kg	93%
4937-38	H-TP-11-4	2/23/90	2/23/90	1402 mg/kg	93%
4937-39	H-TP-12-3	2/23/90	2/23/90	181 mg/kg	93%
4937-40	H-TP-12-4	2/23/90	2/23/90	46 mg/kg	93%
4937-41	H-TP-13-2	2/23/90	2/23/90	1859 mg/kg	93%
4937-42	H-TP-13-4	2/23/90	2/23/90	2621 mg/kg	93%
4937-43	H-TP-14-4	2/23/90	2/23/90	17741 mg/kg	93%
4937-44	H-TP-14-6	2/26/90	2/26/90	686 mg/kg	90%
4937-45	H-TP-15-5	2/26/90	2/26/90	673 mg/kg	90%
4937-46	H-TP-15-7	2/26/90	2/26/90	N.D. mg/kg	90%
4937-47	H-TP-16-6	2/26/90	2/26/90	38 mg/kg	90%
4937-48	H-TP-16-8	2/26/90	2/26/90	N.D. mg/kg	90%
4937-49	H-TP-17-3	2/26/90	2/26/90	38 mg/kg	90%
4937-50	H-TP-17-4	2/26/90	2/26/90	9968 mg/kg	90%

\*Modified for soil

\*\*N.D. means "not detected."



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LAB SAMPLE NUMBER	SAMPLE DESCRIPTION	DATE EXTRACTED	DATE ANALYZED	SAMPLE CONC.**	UNITS	PERCENT RECOVERY***
=====	=====	=====	=====	=====	=====	=====
4937-51	H-TP-17-GW	2/26/90	2/26/90	59.13	mg/l	90%
4937-52	H-TP-18-6	2/26/90	2/26/90	34	mg/kg	90%
4937-53	H-TP-18-GW	2/26/90	2/26/90	272.16	mg/l	90%
4937-54	H-TP-18-8	2/26/90	2/26/90	N.D.	mg/kg	90%
4937-55	H-TP-19-3	2/26/90	2/26/90	N.D.	mg/kg	90%
4937-56	H-TP-19-5	2/26/90	2/26/90	298	mg/kg	90%
4937-57	H-TP-20-5	2/26/90	2/26/90	16	mg/kg	90%
4937-58	H-TP-20-8	2/26/90	2/26/90	34	mg/kg	90%
4937-59	K-TP- <del>11-4</del> 10-4	2/26/90	2/26/90	16	mg/kg	90%
4937-60	K-TP- <del>11-3</del> 11-3	2/26/90	2/26/90	7	mg/kg	90%
4937-61	K-TP- <del>11-3</del> 11-3	2/26/90	2/26/90	N.D.	mg/kg	90%
4937-62	K-TP- <del>11-3</del> 11-3	2/26/90	2/26/90	7	mg/kg	90%
4937-63	K-TP- <del>11-5</del> 11-5	2/26/90	2/26/90	35	mg/kg	90%
4937-64	K-TP- <del>11-3</del> 11-3	2/26/90	2/26/90	16	mg/kg	90%
4937-65	K-TP- <del>11-3</del> 11-3	2/26/90	2/26/90	13	mg/kg	90%
4937-66	K-TP- <del>11-3</del> 11-3	2/27/90	2/27/90	11	mg/kg	100%
4937-67	K-TP- <del>21-1</del> 21-1	2/27/90	2/27/90	28	mg/kg	100%
4937-68	K-TP- <del>21-1</del> 21-1	2/27/90	2/27/90	31	mg/kg	100%
4937-69	K-TP- <del>21-1</del> 21-1	2/27/90	2/27/90	9	mg/kg	100%
4937-70	K-TP- <del>21-1</del> 21-1	2/27/90	2/27/90	47	mg/kg	100%
4937-71	K-TP- <del>21-1</del> 21-1	2/27/90	2/27/90	23	mg/kg	100%
4937-72	K-TP- <del>21-1</del> 21-1	2/27/90	2/27/90	23	mg/kg	100%
4937-73	V-TP-1-6 V-UST-1	2/27/90	2/27/90	11	mg/kg	100%
4937-74	V-TP-2-7 V-UST-2	2/27/90	2/27/90	11	mg/kg	100%
4937-75	V-TP-3 V-UST-6W	2/23/90	2/23/90	12.10	mg/l	93%

\*\*N.D. means "not detected."

\*\*\*Percent Recovery values were within established control limits. JMR2

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

HT/gs

03/01/90



LABORATORY ANALYSIS

TOTAL PETROLEUM HYDROCARBONS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

ANALYSIS METHOD: EPA 418.1\*  
CONSTITUENT: TPH  
DATE SUBMITTED: 2/22/90  
DISCARD DATE: 4/22/90  
COLLECTED BY: CLIENT  
METHOD DETECTION LIMIT: 2.5 mg/kg SOIL  
METHOD DETECTION LIMIT: 0.04 mg/l WATER

LAB SAMPLE NUMBER	SAMPLE DESCRIPTION	DATE EXTRACTED	DATE ANALYZED	SAMPLE CONC.**	UNITS	PERCENT RECOVERY***
=====	=====	=====	=====	=====	=====	=====
4937-76	H-TP-21-2	2/27/90	2/27/90	7	mg/kg	99%
4937-77	H-TP-21-4	2/27/90	2/27/90	N.D.	mg/kg	99%
4937-78	H-TP-22-2	2/27/90	2/27/90	38	mg/kg	99%
4937-79	H-TP-22-4	2/27/90	2/27/90	7	mg/kg	99%
4937-80	H-TP-23-2	2/27/90	2/27/90	953	mg/kg	99%
4937-81	H-TP-23-4	2/27/90	2/27/90	1680	mg/kg	99%
4937-82	H-TP-24-3	2/27/90	2/27/90	7	mg/kg	99%
4937-83	H-TP-24-7	2/27/90	2/27/90	69	mg/kg	99%
4937-84	H-TP-25-2	2/27/90	2/27/90	28559	mg/kg	99%
4937-85	H-TP-25-3	2/27/90	2/27/90	25	mg/kg	99%
4937-88	<del>VH-TP-5-6</del>	2/28/90	2/28/90	9	mg/kg	99%
4937-89	<del>VH-TP-6-7</del>	2/28/90	2/28/90	N.D.	mg/kg	99%
4937-90	VH-TP-7-1	2/28/90	2/28/90	2240	mg/kg	99%
4937-91	V-TP-7-2	2/28/90	2/28/90	27	mg/kg	99%
4937-92	V-TP-8-1	2/28/90	2/28/90	143	mg/kg	99%
4937-93	V-TP-8-2	2/28/90	2/28/90	18	mg/kg	99%
4937-94	V-TP-8-1	2/28/90	2/28/90	83	mg/kg	99%
4937-95	V-TP-104	2/28/90	2/28/90	61	mg/kg	99%
4937-96	V-TP-115	2/28/90	2/28/90	231	mg/kg	99%
4937-97	V-TP-126	2/28/90	2/28/90	1300	mg/kg	99%
4937-98	V-TP-137	2/28/90	2/28/90	93	mg/kg	99%
4937-99	V-TP-148	2/28/90	2/28/90	27	mg/kg	99%
4937-100	V-TP-159	2/28/90	2/28/90	717	mg/kg	99%

\*Modified for soil *RLR*

\*\*N.D. means "not detected."



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LAB SAMPLE NUMBER =====	SAMPLE DESCRIPTION =====	DATE EXTRACTED =====	DATE ANALYZED =====	SAMPLE CONC.** =====	UNITS =====	PERCENT RECOVERY*** =====
4937-101	HI-TP-1	2/28/90	2/28/90	1613	mg/kg	99%
4937-102	HGW-1	2/27/90	2/27/90	10863.49	mg/l	90%
4937-104	HGW-2	2/27/90	2/27/90	1187.29	mg/l	90%
4937-105	HGW-3	2/27/90	2/27/90	N.D.	mg/l	90%

\*\*N.D. means "not detected."

\*\*\*Percent Recovery values were within established control limits. *MAR*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

03/01/90



LABORATORY ANALYSIS

LEAD ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

ANALYSIS METHOD: EPA 7421  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/22/90  
DISCARD DATE: 4/20/90  
COLLECTED BY : CLIENT

LAB SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE CONC.*	METHOD DETECTION LIMIT	UNITS	PERCENT RECOVERY**
=====	=====	=====	=====	=====	=====
4937-8	<del>K-TP-8-12</del> UST-3-12	N.D.	0.05	mg/kg	103%
4937-10	<del>K-TP-10-11</del> UST-4-11	N.D.	0.05	mg/kg	103%
4937-11	<del>K-TP-11</del> UST-6W2	N.D.	0.0009	mg/l	103%
4937-12	H-UST-1-A	N.D.	0.05	mg/kg	103%
4937-13	H-UST-1-B	N.D.	0.05	mg/kg	103%
4937-14	H-UST-2-A	22.9	0.05	mg/kg	103%
4937-15	H-UST-2-B	4.30	0.05	mg/kg	103%
4937-16	H-UST-2-6W	N.D.	0.0009	mg/l	103%

\*N.D. means "not detected."

\*\*Percent Recovery value is within established control limits. *JHT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

*John H. Tillman*

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/27/90



LABORATORY ANALYSIS

LEAD ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

ANALYSIS METHOD: EPA 7421  
DATE SUBMITTED: 2/22/90  
DATE ANALYZED: 3/1/90  
DISCARD DATE: 4/22/90  
COLLECTED BY : R. ROCHE'

LAB SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE CONC.*	METHOD DETECTION LIMIT	UNITS	PERCENT RECOVERY**
=====	=====	=====	=====	=====	=====
4937-87	<del>V-TP-4</del> <i>RUR</i> V-UST-6W	N.D.	0.0009	mg/l	100%
4937-88	<del>V-TP-5-6</del> V-UST-3	N.D.	0.05	mg/kg	100%
4937-89	<del>V-TP-6-7</del> V-UST-4	N.D.	0.05	mg/kg	100%

\*N.D. means "not detected."

\*\*Percent Recovery value is within established control limits. *MRT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

*John H. Tillman*

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

March 1, 1990



LABORATORY ANALYSIS

pH ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

ANALYSIS METHOD: EPA 150.1  
CONSTITUENT: pH  
MATRIX: WATER  
DATE SUBMITTED: 2/22/90  
DATE ANALYZED: 2/26/90  
DISCARD DATE: 4/22/90  
COLLECTED BY: R. ROCHE'

LAB  
SAMPLE  
NUMBER  
=====  
4937-86

SAMPLE  
DESCRIPTION  
=====  
H-ACID

pH  
=====  
7.0

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

March 1, 1990

LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-34  
SAMPLE DESCIP.: H-TP-9-GW  
MATRIX: WATER  
DATE SUBMITTED: 2/21/90  
DATE ANALYZED: 2/27/90  
DISCARD DATE: 4/21/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	1	ug/l
EPA 624	Toluene	1	1	ug/l
EPA 624	Xylenes	4	1	ug/l
EPA 624	Ethylbenzene	N.D.	1	ug/l

COMPOUNDS ADDED FOR RECOVERY TESTING

PERCENT RECOVERY\*\*

1,2-DICHLOROETHANE-D4	93%
TOLUENE-D8	97%
BROMOFLUOROBENZENE	98%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *MNZ*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:



John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/28/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-51  
SAMPLE DESCIP.: H-TP-17-GW  
MATRIX: WATER  
DATE SUBMITTED: 2/21/90  
DATE ANALYZED: 2/27/90  
DISCARD DATE: 4/21/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
=====	=====	=====	=====	=====
EPA 624	Benzene	N.D.	1	ug/l
EPA 624	Toluene	N.D.	1	ug/l
EPA 624	Xylenes	N.D.	1	ug/l
EPA 624	Ethylbenzene	N.D.	1	ug/l

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
=====	=====
1,2-DICHLOROETHANE-D4	100%
TOLUENE-D8	99%
BROMOFLUOROBENZENE	101%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *MAZ*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

*John N. Tillman*

John N. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/28/90

LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-53  
SAMPLE DESCIP.: H-TP-18-GW  
MATRIX: WATER  
DATE SUBMITTED: 2/21/90  
DATE ANALYZED: 2/27/90  
DISCARD DATE: 4/21/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	3	1	ug/l
EPA 624	Toluene	1	1	ug/l
EPA 624	Xylenes	1	1	ug/l
EPA 624	Ethylbenzene	N.D.	1	ug/l

COMPOUNDS ADDED FOR RECOVERY TESTING

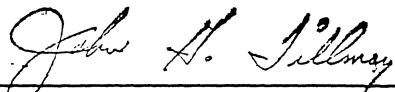
COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	100%
TOLUENE-D8	100%
BROMOFLUOROBENZENE	99%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JHT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:



John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/28/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-12  
SAMPLE DESCIP.: H-UST-1-A  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/26/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	1800	50	ug/kg
EPA 624	Xylenes	30000	50	ug/kg
EPA 624	Ethylbenzene	1250	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	102%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	112%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *MR. J*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

*John H. Tillman*

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/27/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-13  
SAMPLE DESCIP.: H-UST-1-B  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/23/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
=====	=====	=====	=====	=====
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
=====	=====
1,2-DICHLOROETHANE-D4	86%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	96%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JHT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

*John H. Tillman*

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/27/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-14  
SAMPLE DESCIP.: H-UST-2-A  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/26/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
=====	=====	=====	=====	=====
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	300	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
=====	=====
1,2-DICHLOROETHANE-D4	118%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	104%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *EMRA*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/27/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-15  
SAMPLE DESCIP.: H-UST-2-B  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/20/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	78%
TOLUENE-D8	106%
BROMOFLUOROBENZENE	92%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JHT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

*John H. Tillman*  
John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/23/90

LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-16  
SAMPLE DESCIP.: H-UST-2-6W  
MATRIX: WATER  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/27/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	1	ug/l
EPA 624	Toluene	N.D.	1	ug/l
EPA 624	Xylenes	690	1	ug/l
EPA 624	Ethylbenzene	N.D.	1	ug/l

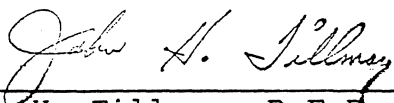
COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	96%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	106%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *MRA*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:



John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/27/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-102  
SAMPLE DESCRIPT.: HGW-1  
MATRIX: WATER  
DATE SUBMITTED: 2/26/90  
DATE ANALYZED: 2/28/90  
DISCARD DATE: 4/26/90  
COLLECTED BY: ROCHE'/MALIN

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	1	ug/l
EPA 624	Toluene	N.D.	1	ug/l
EPA 624	Xylenes	N.D.	1	ug/l
EPA 624	Ethylbenzene	N.D.	1	ug/l

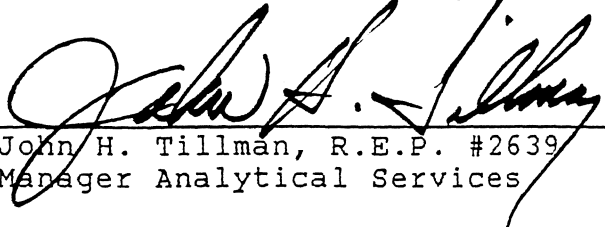
COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	94%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	102%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. \_\_\_\_\_

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

  
John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

March 2, 1990



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-103  
SAMPLE DESCRIPT.: HGW-1A  
MATRIX: WATER  
DATE SUBMITTED: 2/26/90  
DATE ANALYZED: 2/28/90  
DISCARD DATE: 4/26/90  
COLLECTED BY: ROCHE'/MALIN

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	1	ug/l
EPA 624	Toluene	N.D.	1	ug/l
EPA 624	Xylenes	N.D.	1	ug/l
EPA 624	Ethylbenzene	N.D.	1	ug/l

COMPOUNDS ADDED FOR RECOVERY TESTING

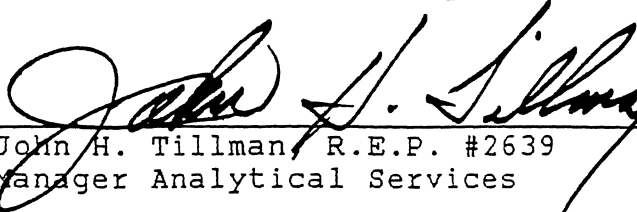
COMPOUND	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	94%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	96%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. \_\_\_\_\_

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

  
John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

March 2, 1990

LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-104  
SAMPLE DESCRIP.: HGW-2  
MATRIX: WATER  
DATE SUBMITTED: 2/26/90  
DATE ANALYZED: 2/28/90  
DISCARD DATE: 4/26/90  
COLLECTED BY: ROCHE'/MALIN

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	1	ug/l
EPA 624	Toluene	2	1	ug/l
EPA 624	Xylenes	13	1	ug/l
EPA 624	Ethylbenzene	N.D.	1	ug/l

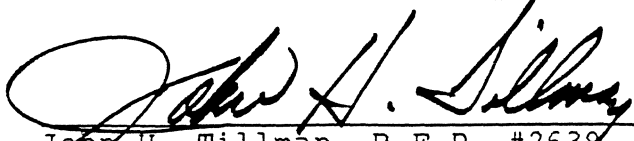
COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	102%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	96%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits.\_\_\_\_\_

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:



John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

March 2, 1990



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-105  
SAMPLE DESCRIPT.: H-GW-3  
MATRIX: WATER  
DATE SUBMITTED: 2/26/90  
DATE ANALYZED: 2/27/90  
DISCARD DATE: 4/26/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	1	ug/l
EPA 624	Toluene	N.D.	1	ug/l
EPA 624	Xylenes	N.D.	1	ug/l
EPA 624	Ethylbenzene	N.D.	1	ug/l

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	94%
TOLUENE-D8	100%
BROMOFLUOROBENZENE	100%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JHT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/28/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-106  
SAMPLE DESCIP.: H-GW-3A  
MATRIX: WATER  
DATE SUBMITTED: 2/26/90  
DATE ANALYZED: 2/27/90  
DISCARD DATE: 4/26/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	1	ug/l
EPA 624	Toluene	N.D.	1	ug/l
EPA 624	Xylenes	N.D.	1	ug/l
EPA 624	Ethylbenzene	N.D.	1	ug/l

COMPOUNDS ADDED FOR RECOVERY TESTING

PERCENT RECOVERY\*\*

1,2-DICHLOROETHANE-D4	98%
TOLUENE-D8	102%
BROMOFLUOROBENZENE	104%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *MR2*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/28/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-88  
SAMPLE DESCIP.: ~~V-TP-5-6~~ V-UST-3  
MATRIX: SOIL  
DATE SUBMITTED: 2/22/90  
DATE ANALYZED: 2/28/90  
DISCARD DATE: 4/22/90  
COLLECTED BY: ROCHE'/MALIN

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

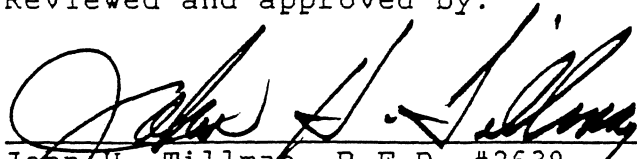
COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	92%
TOLUENE-D8	100%
BROMOFLUOROBENZENE	98%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. \_\_\_\_\_

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

  
John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

March 8, 1990



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-89  
SAMPLE DESCIP.: ~~V-TP-67~~ V-UST-4  
MATRIX: SOIL  
DATE SUBMITTED: 2/22/90  
DATE ANALYZED: 2/28/90  
DISCARD DATE: 4/22/90  
COLLECTED BY: ROCHE'/MALIN

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

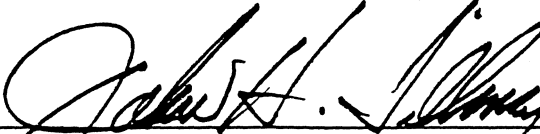
COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	102%
TOLUENE-D8	96%
BROMOFLUOROBENZENE	100%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. \_\_\_\_\_

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

  
John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

March 8, 1990



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-75  
SAMPLE DESCIP.: ~~V-TP-3~~ V-UST-6W  
MATRIX: WATER  
DATE SUBMITTED: 2/21/90  
DATE ANALYZED: 2/27/90  
DISCARD DATE: 4/21/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	27	1	ug/l
EPA 624	Toluene	57	1	ug/l
EPA 624	Xylenes	160	1	ug/l
EPA 624	Ethylbenzene	11	1	ug/l

COMPOUNDS ADDED FOR RECOVERY TESTING

PERCENT RECOVERY\*\*

1,2-DICHLOROETHANE-D4	94%
TOLUENE-D8	102%
BROMOFLUOROBENZENE	101%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *MRA*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

*John H. Tillman*

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

03/01/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-1  
SAMPLE DESCIP.: ~~K-TP-1~~ K-WOS-3  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/23/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
=====	=====	=====	=====	=====
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
=====	=====
1,2-DICHLOROETHANE-D4	96%
TOLUENE-D8	100%
BROMOFLUOROBENZENE	98%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JHT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

*John H. Tillman*

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/27/90



Century Testing  
Laboratories, Inc.

Mail: Post Office Box 1174  
Bend, Oregon 97709  
503-382-6432

LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-2  
SAMPLE DESCIP.: ~~K-TP-2-12~~ K-WOS-12  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/23/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	100%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	98%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits *JHT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

*John H. Tillman*

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/27/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-3  
SAMPLE DESCRIPT.: ~~K-TP-3-14~~ K-WOS-14  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/23/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	96%
TOLUENE-D8	102%
BROMOFLUOROBENZENE	98%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JMT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

*John H. Tillman*

John H. Tillman, R.E.P. #2639  
Manager Analytical Services

JHT/gs

02/27/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-4  
SAMPLE DESCIP.: ~~K-TP-4-15~~ K-WOS-15  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/20/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

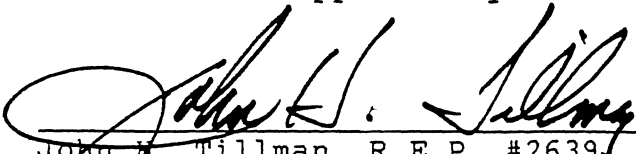
COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	92%
TOLUENE-D8	110%
BROMOFLUOROBENZENE	92%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits JMT

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

  
John W. Tillman, R.E.P. #2639  
Manager Analytical Services  
JHT/gs

02/23/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-5  
SAMPLE DESCIP.: ~~K-TP-5-15~~ K-WOS-GW  
MATRIX: WATER  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/23/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	1	ug/l
EPA 624	Toluene	N.D.	1	ug/l
EPA 624	Xylenes	N.D.	1	ug/l
EPA 624	Ethylbenzene	N.D.	1	ug/l

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	102%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	96%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JMT*

CENTURY TESTING LABORATORIES, INC.

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Manager Analytical Services

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02/27/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-6  
SAMPLE DESCRIPT.: ~~K-TP-6-11~~ K-UST-1-11  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/23/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING

PERCENT RECOVERY\*\*

1,2-DICHLOROETHANE-D4	90%
TOLUENE-D8	102%
BROMOFLUOROBENZENE	98%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JHT*

CENTURY TESTING LABORATORIES, INC.

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LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-7  
SAMPLE DESCIP.: ~~K-TP-7-11~~ K-UST-2-11  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/20/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	86%
TOLUENE-D8	108%
BROMOFLUOROBENZENE	92%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits *JMR2*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

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Manager Analytical Services

JHT/gs

02/23/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-8  
SAMPLE DESCIP.: ~~K-TP-8-12~~ K-UST-3-12  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/23/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING

PERCENT RECOVERY\*\*

1,2-DICHLOROETHANE-D4	94%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	102%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JMR*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

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Manager Analytical Services

JHT/gs

02/27/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-9  
SAMPLE DESCIP.: ~~K-TP-9~~ K-UST-6W1  
MATRIX: WATER  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/27/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	1	ug/l
EPA 624	Toluene	N.D.	1	ug/l
EPA 624	Xylenes	N.D.	1	ug/l
EPA 624	Ethylbenzene	N.D.	1	ug/l

COMPOUNDS ADDED FOR RECOVERY TESTING

PERCENT RECOVERY\*\*

1,2-DICHLOROETHANE-D4	92%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	100%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JMR*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

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02/27/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-10  
SAMPLE DESCRIPT.: ~~K-TP-10-11~~ K-UST-4-11  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/23/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	94%
TOLUENE-D8	100%
BROMOFLUOROBENZENE	100%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JHT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

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02/27/90



Century Testing  
Laboratories, Inc.

Mail: Post Office Box 1174  
Bend, Oregon 97709  
503-382-6432

LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-11  
SAMPLE DESCIP.: ~~K-TP-11~~  
MATRIX: WATER  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/20/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

K-UST-GW2

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	1	ug/l
EPA 624	Toluene	N.D.	1	ug/l
EPA 624	Xylenes	N.D.	1	ug/l
EPA 624	Ethylbenzene	N.D.	1	ug/l

COMPOUNDS ADDED FOR RECOVERY TESTING

PERCENT RECOVERY\*\*

1,2-DICHLOROETHANE-D4	98%
TOLUENE-D8	106%
BROMOFLUOROBENZENE	96%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JMRZ*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

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Manager Analytical Services

JHT/gs

02/23/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-63  
SAMPLE DESCIP.: ~~K-TP-16-5~~ K-TP-6-5  
MATRIX: SOIL  
DATE SUBMITTED: 2/21/90  
DATE ANALYZED: 2/27/90  
DISCARD DATE: 4/21/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	108%
TOLUENE-D8	100%
BROMOFLUOROBENZENE	98%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *MRT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

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Manager Analytical Services

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LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-64  
SAMPLE DESCIP.: K-TP-~~173~~ 7-3  
MATRIX: SOIL  
DATE SUBMITTED: 2/21/90  
DATE ANALYZED: 2/27/90  
DISCARD DATE: 4/21/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	94%
TOLUENE-D8	100%
BROMOFLUOROBENZENE	98%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JHT*

CENTURY TESTING LABORATORIES, INC.

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LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-65  
SAMPLE DESCIP.: K-TP-~~18~~ 38-3  
MATRIX: SOIL  
DATE SUBMITTED: 2/21/90  
DATE ANALYZED: 2/27/90  
DISCARD DATE: 4/21/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
=====	=====	=====	=====	=====
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
=====	=====
1,2-DICHLOROETHANE-D4	90%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	102%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JMT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

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Manager Analytical Services

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02/28/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-66  
SAMPLE DESCRIPT.: K-TP-~~18~~ 9-3  
MATRIX: SOIL  
DATE SUBMITTED: 2/21/90  
DATE ANALYZED: 2/27/90  
DISCARD DATE: 4/21/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1,2-DICHLOROETHANE-D4	98%
TOLUENE-D8	102%
BROMOFLUOROBENZENE	104%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *MRL*

CENTURY TESTING LABORATORIES, INC.

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LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-59  
SAMPLE DESCIP.: ~~K-TP-12-4~~ K-TP-10-4  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/20/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
1, 2-DICHLOROETHANE-D4	86%
TOLUENE-D8	106%
BROMOFLUOROBENZENE	88%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JHT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

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LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-60  
SAMPLE DESCIP.: ~~K-TP-13-3~~ K-TP-11-3  
MATRIX: SOIL  
DATE SUBMITTED: 2/20/90  
DATE ANALYZED: 2/22/90  
DISCARD DATE: 4/20/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
=====	=====	=====	=====	=====
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
=====	=====
1,2-DICHLOROETHANE-D4	90%
TOLUENE-D8	114%
BROMOFLUOROBENZENE	92%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JHT*

CENTURY TESTING LABORATORIES, INC.

Reviewed and approved by:

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02/27/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-61  
SAMPLE DESCIP.: ~~K-TP-14-3~~ K-TP-12-3  
MATRIX: SOIL  
DATE SUBMITTED: 2/21/90  
DATE ANALYZED: 2/26/90  
DISCARD DATE: 4/21/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
=====	=====	=====	=====	=====
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING	PERCENT RECOVERY**
=====	=====
1,2-DICHLOROETHANE-D4	104%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	98%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JHT*

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Manager Analytical Services

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02/28/90



LABORATORY ANALYSIS

BTXE ANALYSIS

CWEC - PORTLAND  
LTM MEDFORD  
PROJECT #4014000101

LAB SAMPLE NO.: 4937-62  
SAMPLE DESCIP.: ~~K-TP-15-3~~ K-TP-13-3  
MATRIX: SOIL  
DATE SUBMITTED: 2/21/90  
DATE ANALYZED: 2/26/90  
DISCARD DATE: 4/21/90  
COLLECTED BY: R. ROCHE'

ANALYSIS

METHOD NUMBER	CONSTITUENT	SAMPLE CONC.*	DETECTION LIMIT	UNITS
EPA 624	Benzene	N.D.	50	ug/kg
EPA 624	Toluene	N.D.	50	ug/kg
EPA 624	Xylenes	N.D.	50	ug/kg
EPA 624	Ethylbenzene	N.D.	50	ug/kg

COMPOUNDS ADDED FOR RECOVERY TESTING

PERCENT RECOVERY\*\*

1,2-DICHLOROETHANE-D4	102%
TOLUENE-D8	98%
BROMOFLUOROBENZENE	98%

\*N.D. means "not detected."

\*\*Percent Recovery values were within established control limits. *JHT*

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