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October 17, 2000

Mr. Dick Storey
Washington State Department of Ecology
Northwest Regional Office
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Bellevue, Washington 98008

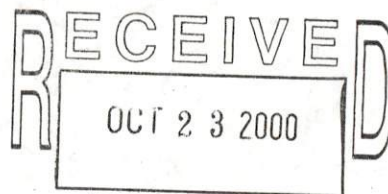
Subject: Underground Storage Tank Closure Assessment
East and West Fuel Farms
Paine Field
Everett, Washington

Dear Mr. Storey:

Camp Dresser & McKee Inc. (CDM) is submitting required information for closure of three underground storage tanks (USTs) on behalf of Snohomish County Airport (SCA)-Paine Field. SCA is requesting that the status of registered USTs at the east and west fuel farms to be changed from temporary closure to permanent closure (change-in-service). One registered UST (ID No. 93) is at the east fuel farm. Two registered USTs are at the west fuel farm (ID Nos. 96 and 97). This letter summarizes the results of a petroleum hydrocarbon assessment that was previously conducted for the USTs. Washington State Department of Ecology's (Ecology) "Underground Storage Tank Closure and Site Assessment Notice" form accompanies this letter.

Background

The east and west fuel farms are located at the southeast end of SCA near BF Goodrich Hangar 1 (Tramco). The east fuel farm is about 300 feet east of Hangar 1 and the west fuel farm is about 45 feet west of Hangar 1 as shown on Figure 1. USTs at these fuel farms were temporarily abandoned in 1996. Fliteline Services had most recently been using the USTs for storage of Jet A and Jp8 fuels. Coastal Tank Cleaning, Inc. was subcontracted to empty and rinse the tanks. A copy of their certification from UST cleaning dated June 26, 1996 is included in Attachment A. These USTs will no longer be used for storage of regulated substances. Although SCA intends to remove the USTs, it is currently not logistically or economically feasible to remove them. Recently, the SCA fire department requested to use the two USTs at the west fuel farm as a draft pit. A draft pit is used to certify fire pumps as per the Washington Administrative Code and National Fire Protection Code 1911. The UST is filled with water, the fire pump draws the water out of the tank then pumps it back into the UST. In preparation for this use by the fire department, one of the 50,000-gallon USTs was again triple rinsed by CEcon Corporation. A copy of the certification from this UST cleaning dated August 28, 2000 is also included in Attachment A. The UST at the east



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NW Snohomish
UST 350

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PAINE FIELD
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fuel farm will not be used by the fire department. A letter from SCA documenting the fire department's proposed use of the USTs at the west fuel farm and permanent closure of the UST at the east fuel farm is included in **Attachment A**.

In August 1994, CDM, formerly AGI Technologies, completed a contamination assessment of the east and west fuel farms, the results of which were documented in a report entitled *Final Report, Contamination Assessment, Paine Field Fuel Farms and Old Mike Soil Stockpile, Snohomish County Airport, Snohomish County, Washington*. The scope of work related to the UST investigation included the following:

- Reviewing Corps of Engineers (Corps) records regarding historical activities at each fuel farm.
- Performing a geophysical survey to locate and identify USTs at each fuel farm.
- Drilling a total of 23 soil borings at the east and west fuel farms.
- Field screening soil samples collected during drilling and submitting selected soil samples for laboratory analysis.
- Installing and developing four groundwater monitoring wells at the east fuel farm.
- Collecting groundwater samples from each monitoring well and submitting them for laboratory analysis.
- Evaluating the nature and extent of contamination.

The following sections summarize the results of our investigation as documented in the 1994 report. The tables, figures, and boring logs generated from this investigation are also attached with this letter.

East Fuel Farm

The historical research and geophysical survey confirmed the presence of the 25,000-gallon registered UST (No. 93) at the east fuel farm. Two additional potential USTs were also identified in the immediate vicinity of UST No. 93. One of the USTs is estimated to have a capacity of 12,000 gallons and the second is estimated to have a capacity of 5,000 to 10,000 gallons. **Figure 2** shows a plan view of known and suspected USTs and other underground features as identified during the geophysical survey. SCA intends to explore and remove these USTs at the same time that UST No. 93 is removed.

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USTs at the east fuel farm were reportedly used by the U.S. Army Air Corps during World War II, and by Alaska and Revolution Airlines after World War II to store aviation fuel. In 1967, the 25,000-gallon UST was upgraded to store jet fuel. Later, Fliteline Services used it to store Jet A fuel.

Soil Investigation

Between April 15 and 20, 1994, subsurface conditions were explored by drilling 10 soil borings (B14 through B23). Boring locations are shown on Figure 3. Boring logs are included in Attachment B.

Soil samples were collected, logged, and field screened during drilling. Soils were field screened for volatile organic compounds (VOCs) using an organic vapor meter equipped with a photoionization detector (OVM-PID) and for high-molecular-weight organic compounds using a field IR. Selected samples were submitted to CDM's in-house laboratory for analysis and to Analytical Technologies, Inc. (ATI) in Renton, Washington.

Soils encountered during drilling included 2 to 17 feet of fill, consisting of medium dense to dense silty sand with occasional concrete debris. The fill is mainly backfill associated with the tank cavities. Vashon Till was encountered beneath the fill; Vashon Till underlying this tank farm consists of very dense silty sand, medium stiff to hard sandy silt, and lenses of very dense gravelly sand and sand. Subsurface conditions are depicted on Cross Sections A-A' and B-B,' Figures 4 and 5, respectively.

Groundwater Investigation

Perched, semi-confined water occurs in discontinuous sand and sandy silt lenses within the Vashon Till; semi-confined water was encountered in B16 (22.5' bgs), B20 (15' bgs), and B21 (15' below ground surface [bgs]). Subsequently, B16, B20, and B23 were completed as groundwater monitoring wells MW1 through MW3, respectively. Perched water located at 7.5 feet bgs in fill within the UST cavity was also encountered during drilling of B23. B23 was completed as groundwater monitoring well MW4. Our observations during the field investigation confirm that perched water occurs in limited, discontinuous zones. Water occurrence within these zones likely varies with seasonal precipitation.

Depth to water was measured in each monitoring well to the nearest 0.01 foot using a calibrated water level sounder, and converted to elevations. Groundwater elevations are summarized in Table 1. On April 27, 1994, CDM performed groundwater sampling.

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Analytical Results

Tables 2 and 3 summarize soil chemical results. Table 2 presents field IR results. Table 3 presents AGI and ATI chemical analytical results. Table 4 summarizes groundwater chemical analytical results. Model Toxics Control Act (MTCA) Method A cleanup levels are presented for each parameter in Tables 3 and 4. Figure 6 maps fuel hydrocarbon and benzene, ethylbenzene, toluene, and xylene (BETX) results for soil and water.

Soil

Field IR results showed total petroleum hydrocarbons (TPH) in soil samples collected from B14 at 6 feet, B18 at 8 feet, and B22 at 6-1/4 feet. These samples were submitted to CDM's laboratory for fuel hydrocarbon analysis by EPA Method 8015M and were subsequently submitted to ATI for confirmatory fuel hydrocarbon analysis by the same method. Laboratory analytical results showed TPH-G (gasoline-range hydrocarbons) and TPH-Jp8 (Jp8 range hydrocarbons) concentrations exceeding Method A cleanup levels in samples from B14 and B22. No Method A cleanup level exceedances for BETX were detected.

Groundwater

Groundwater analytical results showed concentrations at or exceeding MTCA Method A Cleanup Levels for the following:

- TPH-G and benzene in MW1.
- TPH-G, TPH-Jet A, and BETX in MW2.
- TPH-Jet A and benzene in MW3.
- TPH-G, TPH-Jet A, benzene, ethylbenzene, total xylenes, and total chromium in MW4.

Copper was also detected in MW4; however, MTCA Method A cleanup levels for copper have not been established.

Evaluation

Soil analytical results identified petroleum hydrocarbon contamination associated only with the UST cavity backfill.

Groundwater encountered was perched and discontinuous, so the extent of contamination in groundwater is likely limited to the immediate UST vicinity. Calculations based on assumed porosity, volume of contaminated soil, and depth to perched water in the UST cavity indicate a maximum volume of perched water on the order of 100,000 gallons. However, based on our experience, we estimate the total volume of water accumulating in the UST excavation and requiring treatment will be closer to between 5,000 and 30,000 gallons.

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Groundwater chemistry analysis results show petroleum hydrocarbon, copper, and total chromium contamination appear associated with the UST cavity backfill. Chromium and copper were previously used as a UST preservative and likely represent a release from a surface spill or overflow.

Approximately 2,500 cy of soil is contaminated with petroleum hydrocarbons, assuming the fill is contaminated to an average depth of 10 feet. Figure 6 shows the estimated horizontal limits of contamination.

West Fuel Farm

Historical research and the geophysical survey confirmed the presence of the two 50,000-gallon registered USTs (No. 96 and 97) and, in a separate cavity, one 100-gallon UST at the west fuel farm. Figure 7 shows a plan view of USTs and other underground features.

The two 50,000-gallon USTs were originally used by the military to store aviation fuel. In 1966, the two 50,000-gallon USTs were taken out of service and their contents removed. The USTs were preserved with sodium-chromate and copper-water solutions. In 1982, the Army Reserve reactivated the USTs and used them to store Jp4 aviation fuel. Later, Fliteline Services utilized the USTs for storage of Jet A and Jp8 fuels. The 100-gallon UST was used for storing condensate water. One 10,000-gallon UST previously had been located in the same tank cavity as the two 50,000-gallon USTs. This tank was removed in 1992. It had been used by the military for storage of kerosene. SCA intends to remove the unregistered 100-gallon UST at the same time that UST Nos. 96 and 97 are removed.

Soil Investigation

Between April 11 and 14, 1994, subsurface conditions were explored by drilling 13 soil borings (B1 through B13). Boring locations are shown on Figure 8. The boring logs are included in Attachment B. Soil encountered during drilling included approximately 1/2 to 20 feet of fill consisting of loose to medium dense sand, silty sand, gravelly sand, and stiff sandy silt. Most fill appears to be backfill associated with the USTs. Vashon Till was encountered beneath the fill; Vashon Till underlying this tank farm consists mainly of dense silty sand. Subsurface conditions are depicted on Cross Sections A-A' and B-B' on Figures 9 and 10, respectively.

Groundwater Investigation

Perched water was encountered in UST cavity borings at a depth of approximately 2.5 feet bgs. This water was considered perched and limited to the UST cavity. Groundwater was not encountered in the Vashon Till during drilling. Based on this, no groundwater monitoring wells were installed.

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maximum volume of perched water on the order of 100,000 gallons. However, based on our experience, we estimate the total volume of water accumulating in the UST excavation and requiring treatment will be closer to between 5,000 and 30,000 gallons.

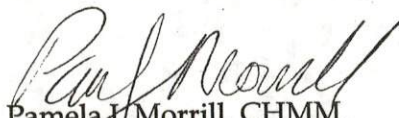
Conclusions

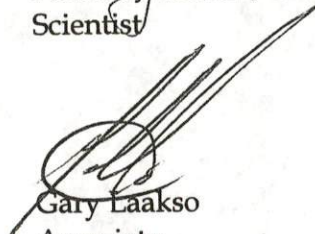
Tank cavity fill soils and perched groundwater at both the east and west fuel farms contain petroleum hydrocarbon compounds at concentrations that exceed MTCA method A cleanup levels. Petroleum hydrocarbons detected in soil and water are consistent with the aviation fuels historically stored in these USTs. We have delineated the extent of contamination at both fuel farms. Based on investigation results, the low permeability of native soils, and discontinuous nature of perched water contamination is essentially limited to the tank cavity at each location. Based on this, we conclude that contamination at these two tank farms presents no immediate threat to human health and the environment.

If you have any questions regarding this project, please feel free to call either of the undersigned at (425) 453-8383.

Very truly yours,

CAMP DRESSER & McKEE INC.


Pamela J. Morrill, CHMM
Scientist


Gary Laakso
Associate

cc: Mr. Andrew Rardin, Snohomish County Airport
Mr. Kirk Bailey, Snohomish County Public Works Department

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Analytical Results

Tables 5 and 6 summarize soil chemical results. Table 5 presents field IR results. Table 6 presents CDM and ATI chemical analytical results and MTCA Method A cleanup levels for each parameter. Soil chemistry analytical results indicate concentrations exceeding MTCA Method A cleanup levels for the following:

- B1 at 3-1/2 feet: TPH-G, TPH-D, and TPH-Jp8.
- B1 at 8 feet: TPH-G, TPH-D, TPH-Jp8, and total xylenes.
- B2 at 11 feet: TPH-G, TPH-D, and TPH-Jp8.
- B3 at 3-1/2 feet: TPH-G, TPH-D, TPH-Jp8, benzene, and total xylenes.
- B4 at 3-1/2 feet: TPH-G, TPH-D, and TPH-Jp8.
- B5 at 2-1/2 feet: TPH-G and TPH-Jp8.
- B6 at 3-3/4 feet: TPH-G, TPH-D, TPH-Jp8, benzene, and total xylenes.
- B6 at 11-1/4 feet: TPH-G, TPH-D, and TPH-Jp8.
- B6 at 13-3/4 feet: TPH-G and TPH-Jp8.
- B12 at 3-3/4 feet: TPH-G, TPH-D, and TPH-Jp8.

Figure 11 maps fuel hydrocarbon and BETX results in soil. All results are considered acceptable; however, results for soil samples from B2 (11 feet) and B12 (3-3/4 feet) are considered estimated values.

Evaluation

Field IR results showed TPH concentrations exceeding MTCA Method A cleanup levels in soil associated with the UST backfill. Approximately 3,750 cy of soil is estimated to contain TPH concentrations exceeding Method A cleanup levels. The estimated volume of contaminated soil is based on the lateral and vertical extent of the backfill encountered in B1 through B6. The vertical extent is estimated at an average of 10 feet. The estimated horizontal limits of contamination are shown on Figure 11.

Perched water was encountered within the UST backfill. No perched groundwater was encountered in the Vashon Till during drilling. The extent of contamination in groundwater is likely limited to the immediate UST vicinity. Calculations based on assumed porosity, volume of contaminated soil, and depth to perched water in the UST cavity indicate a

Tables

Table 1
Static Groundwater Elevation Data Summary
East Fuel Farm
 Snohomish County Airport/Paine Field
 Snohomish County, Washington

Well I.D.	Total Boring Depth (ft bgs)	Depth of Screened Interval (ft bgs)	Date Measured	Time (hrs)	Top of Casing Elevation* (ft)	Depth To Water (ft)	Water Surface Elevation (ft)
MW1	25.5	14.5 – 24.5	04/22/94	1403	99.12	11.90	87.22
MW2	23.0	12 – 17	04/22/94	1404	99.71	4.97	94.74
MW3	24.0	12.5 – 17.5	04/22/94	1405	99.71	4.78	94.93
MW4	17.5	7 – 17	04/22/94	1406	99.07	4.39	94.68

Notes:

*Top of casing elevations in feet relative to an arbitrary benchmark with an arbitrary datum of 100.00 feet.
 ft bgs – Feet below ground surface.

Table 2
Field Infrared Spectrophotometer Results – Soil
East Fuel Farm
 Snohomish County Airport/Paine Field
 Snohomish County, Washington

Sample I.D.	TPH IR Reading (mg/kg)
B14 @ 3.75'	ND
B14 @ 6.0'	61
B14 @ 6.25'	ND
B14 @ 15.25'	ND
B14 @ 22.75'	ND
B15 @ 3.25'	ND
B15 @ 5.25'	ND
B15 @ 10.5'	ND
B15 @ 12.75'	ND
B15 @ 15.0'	ND
B15 @ 17.75'	ND
B15 @ 20.25'	ND
B16 @ 3.75'	ND
B16 @ 6.25'	ND
B16 @ 10.0'	ND
B16 @ 12.75'	ND
B16 @ 23.75'	ND
B17 @ 3.75'	ND
B17 @ 6.5'	ND
B17 @ 11.5'	ND
B17 @ 13.25'	ND
B17 @ 15.75'	ND
B17 @ 17.75'	ND
B17 @ 20.25'	ND
B17 @ 27.75'	ND
B17 @ 37.75'	ND
B18 @ 3.75'	ND
B18 @ 6.25'	ND
B18 @ 8.0'	137
B18 @ 8.75'	ND
B18 @ 11.25'	ND
B18 @ 13.25'	ND

Sample I.D.	TPH IR Reading (mg/kg)
B18 @ 17.75'	ND
B18 @ 22.75'	ND
B18 @ 27.75'	ND
B19 @ 3.75'	ND
B19 @ 6.25'	ND
B19 @ 8.25'	ND
B19 @ 11.25'	ND
B19 @ 13.75'	ND
B19 @ 16.25'	ND
B19 @ 17.75'	ND
B19 @ 20.25'	ND
B19 @ 22.75'	ND
B19 @ 25.25'	ND
B20 @ 3.5'	ND
B20 @ 5.25'	ND
B20 @ 7.75'	ND
B20 @ 10.25'	ND
B20 @ 12.5'	ND
B20 @ 16.25'	ND
B20 @ 17.75'	ND
B20 @ 22.75'	ND
B21 @ 3.25'	ND
B21 @ 5.25'	ND
B21 @ 7.25'	ND
B21 @ 13.25'	ND
B21 @ 17.75'	ND
B22 @ 3.75'	ND
B22 @ 6.25'	101
B22 @ 7.75'	ND
B22 @ 10.25'	ND
B23	NS

Notes:

TPH IR – EPA Method 418.1.
 mg/kg – Milligrams per kilogram.
 ND – Not detected.
 NS – No samples.

Table 3
Analytical Results – Soil
East Fuel Farm
 Snohomish County Airport/Paine Field
 Snohomish County, Washington

Sample I.D.	EPA Test Method – AGI Laboratory				EPA Test Method – ATI Laboratory						
	418.1	8015 Modified			8015 Modified			BETX – 8020M			Total
	TPH-IR	Gas	Diesel	Jp8	Gas	Diesel	Jp8	Benzene	Ethylbenzene	Toluene	Xylenes
	mg/kg	mg/kg			mg/kg			mg/kg			
B14 @ 6.0'	61	113	29	210	810	ND	530	ND	0.58	ND	1.4
B18 @ 8.0'	137	ND	33	ND	NA	NA	NA	NA	NA	NA	NA
B22 @ 6.25'	101	470	54	460	1,300	ND	880	ND	0.78	ND	1.7
B22 @ 6.25' Dup	NA	376	18	NA	NA	NA	NA	NA	NA	NA	NA
Method Reporting Limit	40	25	25	25	5	25	5	0.025	0.025	0.025	0.025
State Cleanup Level*	200	100	200	200	100	200	200	0.5	20	40	20

Notes:

Outlined results exceed Method A cleanup levels.

Method reporting limit for individual samples may vary due to matrix interference, sample dilution, etc.

*Method A suggested cleanup level for residential soil promulgated under Washington Administrative Code Chapter 173-340,

Model Toxics Control Act Cleanup Regulation.

mg/kg – Milligrams per kilogram.

NA – Not analyzed.

ND – Not detected.

Table 4
Analytical Results – Water
East Fuel Farm
 Snohomish County Airport/Paine Field
 Snohomish County, Washington

Sample I.D.	EPA Test Methods									
	8015 Modified				BETX – 8020 Modified				Metals	
	Gas	Diesel	Oil	Jet A	Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Chromium	Chromium ⁺⁶ Copper
	mg/L				µg/L				mg/L	
MW1	1	ND	ND	ND	7.8	2.0	3.7	1.8	NA	NA NA
MW2	2	ND	ND	1	13	88	47	470	NA	NA NA
MW3	ND	ND	ND	1.3	65	0.6	3.2	1.8	NA	NA NA
MW4	2	ND	ND	1.1	130	75	8.7	80	0.33	ND 0.32
Method Reporting Limit	1	1	20	1	0.5	0.5	0.5	0.5	0.010	0.010 0.010
State Cleanup Level*	1	1	1	1	5	30	40	20	0.05	0.05 NE

Notes:

Outlined results exceed Method A cleanup levels.

*Method A suggested cleanup level for groundwater promulgated under Washington Administrative Code Chapter 173–340,

Model Toxics Control Act Cleanup Regulation.

mg/L – Milligrams per liter.

µg/L – Micrograms per liter.

NA – Not analyzed.

ND – Not detected.

NE – Not established.

Table 5
Field Infrared Spectrophotometer Results – Soil
West Fuel Farm
 Snohomish County Airport/Paine Field
 Snohomish County, Washington

Sample I.D.	TPH IR Reading (mg/kg)
B1 @ 3.5'	3,904
B1 @ 6.0'	384
B1 @ 8.0'	6,562
B1 @ 12.5'	178
B1 @ 15.0'	ND
B1 @ 17.5'	ND
B1 @ 20.5'	ND
B1 @ 23.0'	ND
B1 @ 26'	ND
B1 @ 28'	ND
B1 @ 33'	ND
B1 @ 35'	ND
B1 @ 37.5'	ND
B1 @ 40.5'	ND
B1 @ 42.5'	ND
B1 @ 45.5'	ND
B1 @ 48'	ND
B2 @ 3'	52
B2 @ 6'	1,068
B2 @ 8'	906
B2 @ 11'	2,942
B2 @ 15.0'	764
B2 @ 17.5'	ND
B2 @ 20.0'	67
B2 @ 22.5'	ND
B2 @ 25'	ND
B2 @ 27.5'	ND
B2 @ 30.5'	ND
B2 @ 32.5'	ND
B2 @ 35'	ND
B2 @ 37.5'	ND
B2 @ 40'	ND
B2 @ 42.5'	ND
B2 @ 45'	ND
B2 @ 47.5'	ND
B3 @ 3.5'	3,714
B3 @ 8.5'	373
B3 @ 8.75'	1,578
B3 @ 11.5'	2,710
B3 @ 13.0'	382
B3 @ 15.5'	155
B3 @ 18.75'	ND
B3 @ 20.25'	ND
B3 @ 22.75'	ND
B3 @ 25'	ND

Sample I.D.	TPH IR Reading (mg/kg)
B3 @ 30'	ND
B4 @ 3.5'	4,345
B4 @ 6.25'	463
B4 @ 11.25'	ND
B4 @ 12.75'	ND
B4 @ 15.25'	ND
B4 @ 18.0'	ND
B4 @ 22.5'	ND
B5 @ 2.5'	188
B5 @ 7.75'	ND
B5 @ 10.75'	ND
B5 @ 13.25'	ND
B5 @ 17.5'	ND
B6 @ 3.75'	33,653
B6 @ 6.25'	20,044
B6 @ 8.75'	24,369
B6 @ 11.25'	5,354
B6 @ 13.75'	283
B6 @ 16.25'	53
B6 @ 17.75'	ND
B6 @ 23.25'	ND
B6 @ 25.25'	ND
B6 @ 27.75'	ND
B7 @ 3.25'	ND
B7 @ 6.75'	ND
B7 @ 10.25'	ND
B7 @ 13.25'	ND
B8 @ 3.75'	ND
B8 @ 6.25'	ND
B8 @ 8.25'	ND
B8 @ 11.25'	ND
B8 @ 13.25'	ND
B8 @ 15.25'	ND
B9 @ 2.5'	ND
B9 @ 5.0'	ND
B10 @ 3.75'	ND
B10 @ 8.75'	ND
B10 @ 10.75'	ND
B11 @ 3.75'	ND
B11 @ 5.5'	ND
B12 @ 3.75'	361
B12 @ 5.75'	ND
B12 @ 7.75'	ND
B13 @ 2.75'	ND
B13 @ 10.5'	ND

Notes:

TPH IR – EPA Method 418.1.
 mg/kg – Milligrams per kilogram.
 ND – Not detected.

Table 6
Analytical Results – Soil
West Fuel Farm
 Snohomish County Airport/Paine Field
 Everett, Washington

Sample I.D.	EPA Test Method – AGI Laboratory				EPA Test Method – ATI Laboratory						
	418.1	8015 Modified			8015 Modified			BETX – 8020M			Total
	TPH IR	Gas	Diesel	Jp8	Gas	Diesel	Jp8	Benzene	Ethylbenzene	Toluene	Xylenes
	mg/kg	mg/kg			mg/kg			mg/kg			
B1 @ 3.5'	3,904	2,000	1,240	3,300	NA	NA	NA	0.36	7.2	<0.13	30
B1 @ 8.0'	6,562	2,510	1,330	3,800	2,500	930	2,100	NA	NA	NA	NA
B1 @ 12.5'	178	ND	47	ND	12	ND	18	NA	NA	NA	NA
B1 @ 15.0'	ND	ND	49	ND	NA	NA	NA	NA	NA	NA	NA
B2 @ 6'	1,068	ND	70	135	NA	NA	NA	NA	NA	NA	NA
B2 @ 11'	2,942	1,420	990	2,770	350	360	490	0.44	2.8	0.44	2.3
B2 @ 20.0'	67	ND	57	ND	29	32	36	NA	NA	NA	NA
B2 @ 22.5'	ND	ND	31	ND	NA	NA	NA	NA	NA	NA	NA
B3 @ 3.5'	3,714	NA	NA	NA	4,200	1,600	3,900	0.71	16	ND	35
B3 @ 15.5'	155	ND	30	ND	NA	NA	NA	NA	NA	NA	NA
B3 @ 18.75'	ND	ND	26	ND	ND	ND	ND	NA	NA	NA	NA
B4 @ 3.5'	4,845	NA	NA	NA	480	260	510	ND	2.3	ND	6.7
B4 @ 11.25'	ND	ND	36	ND	NA	NA	NA	NA	NA	NA	NA
B5 @ 2.5'	188	206	116	333	260	160	290	ND	0.3	ND	1.5
B6 @ 3.75'	33,653	NA	NA	NA	5,500	1,800	4,900	1.1	18	ND	73
B6 @ 11.25'	5,354	10,850	6,680	17,000	NA	NA	NA	NA	NA	NA	NA
B6 @ 13.75'	283	206	74	302	NA	NA	NA	NA	NA	NA	NA
B8 @ 3.75'	ND	81	43	188	NA	NA	NA	NA	NA	NA	NA
B10 @ 3.75'	ND	ND	33	ND	NA	NA	NA	NA	NA	NA	NA
B12 @ 3.75'	361	ND	32	ND	510	570	820	ND	0.97	ND	3.8
Method Reporting Limit	40	25	25	25	5	25	5	0.025	0.025	0.025	0.025
State Cleanup Level*	200	100	200	200	100	200	200	0.5	20	40	20

Notes:

Outlined results exceed Method A cleanup levels.

Method reporting limit for individual samples may vary due to matrix interference, sample dilution, etc.

*Method A suggested cleanup level for residential soil promulgated under Washington Administrative Code Chapter 173–340,

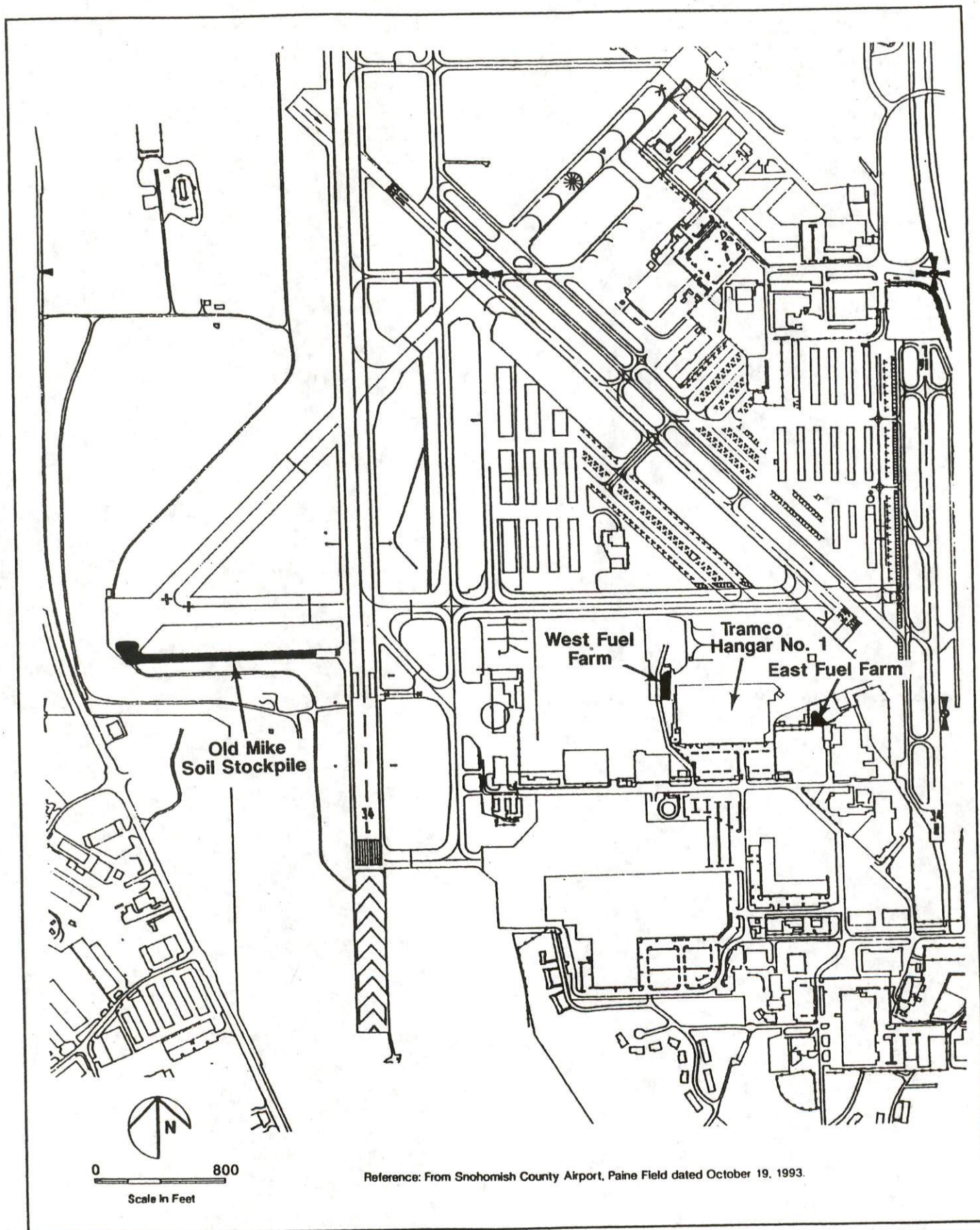
Model Toxics Control Act Cleanup Regulation.

mg/kg – Milligrams per kilogram.

NA – Not analyzed.

ND – Not detected.

Figures



AGI
TECHNOLOGIES

Vicinity Map
Snohomish County Airport/Paine Field Fuel Farm Assessment
Snohomish County, Washington

FIGURE

1

PROJECT NO.
15,512.206

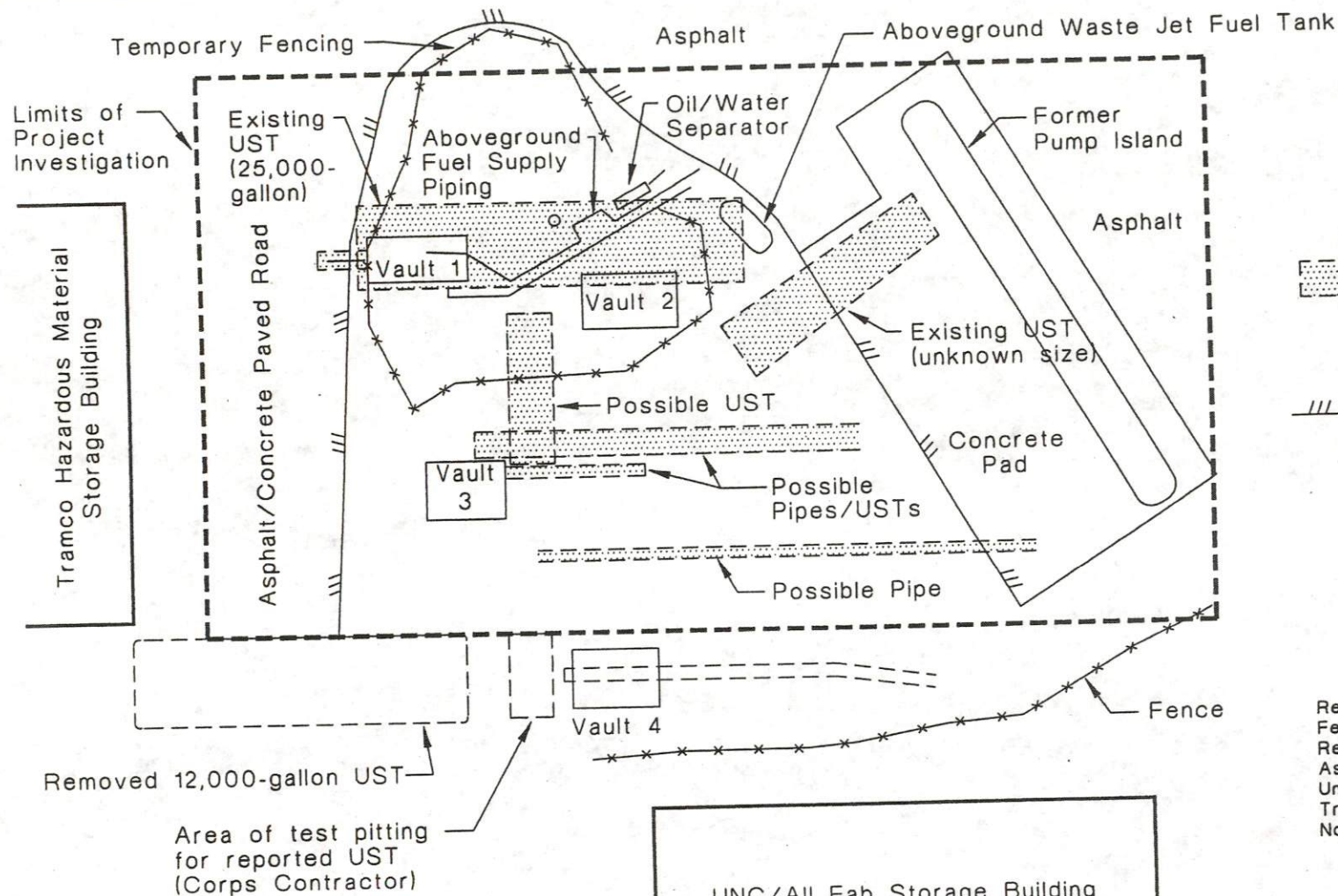
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DATE
22 Jul 94

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DATE



LEGEND

-  Approximate extent of subsurface structure
-  Edge of pavement



Reference: Site Map, Surficial Features and GPR Subsurface Reflectors, by Williamson & Assoc., Inc., April 1994. CEcon, Underground Storage Tank/Transformer Removal Report, November 1992.

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TECHNOLOGIES

East2.dwg

PROJECT NO.
15,512.206

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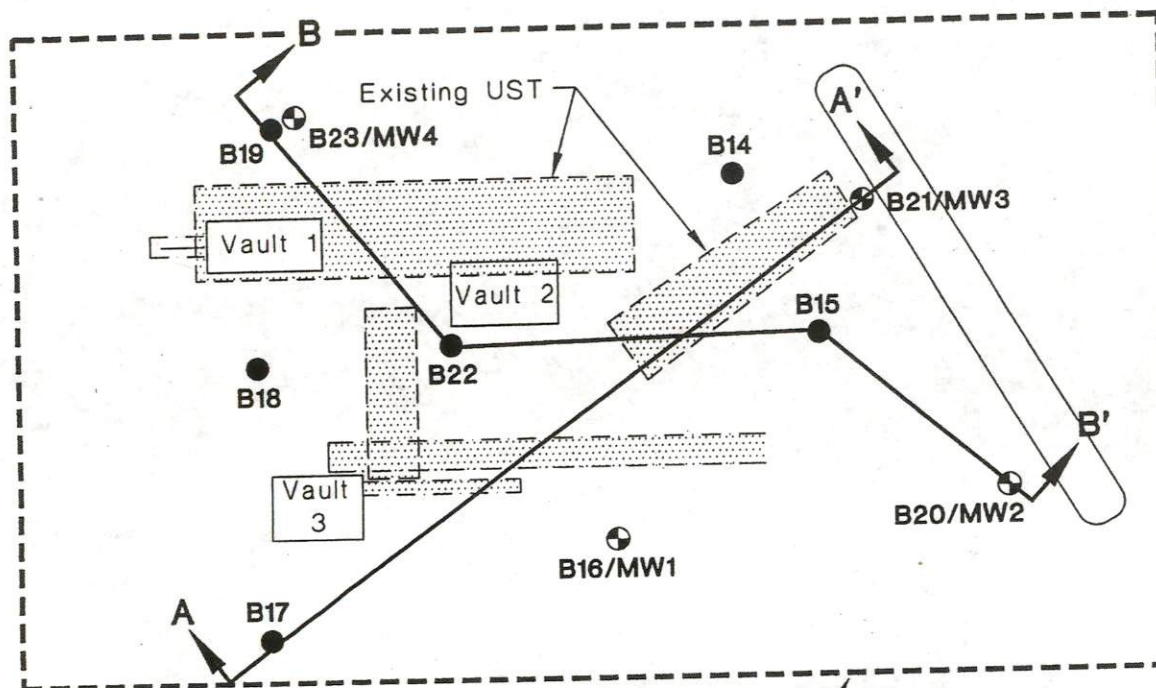
Plan View of East Fuel Farm

Snohomish County Airport/Paine Field Fuel Farm Assessment
Snohomish County, Washington

FIGURE

2

Tranco Hazardous Material
Storage Building



Limits of Project Investigation

UNC/All Fab Storage Building

LEGEND

MW3 Monitoring Well number and approximate location

B15 Boring number and approximate location

A A' Cross section

Possible or existing UST

Possible pipe locations



0 10 20
Scale in Feet

Reference: Site Map, Surficial Features and GPR Subsurface Reflectors, by Williamson & Assoc., Inc., April 1994.

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TECHNOLOGIES

EastBore.dwg

East Fuel Farm Boring and Monitoring Well Locations

Snohomish County Airport/Paine Field Fuel Farm Assessment
Snohomish County, Washington

PROJECT NO.
15,512.206

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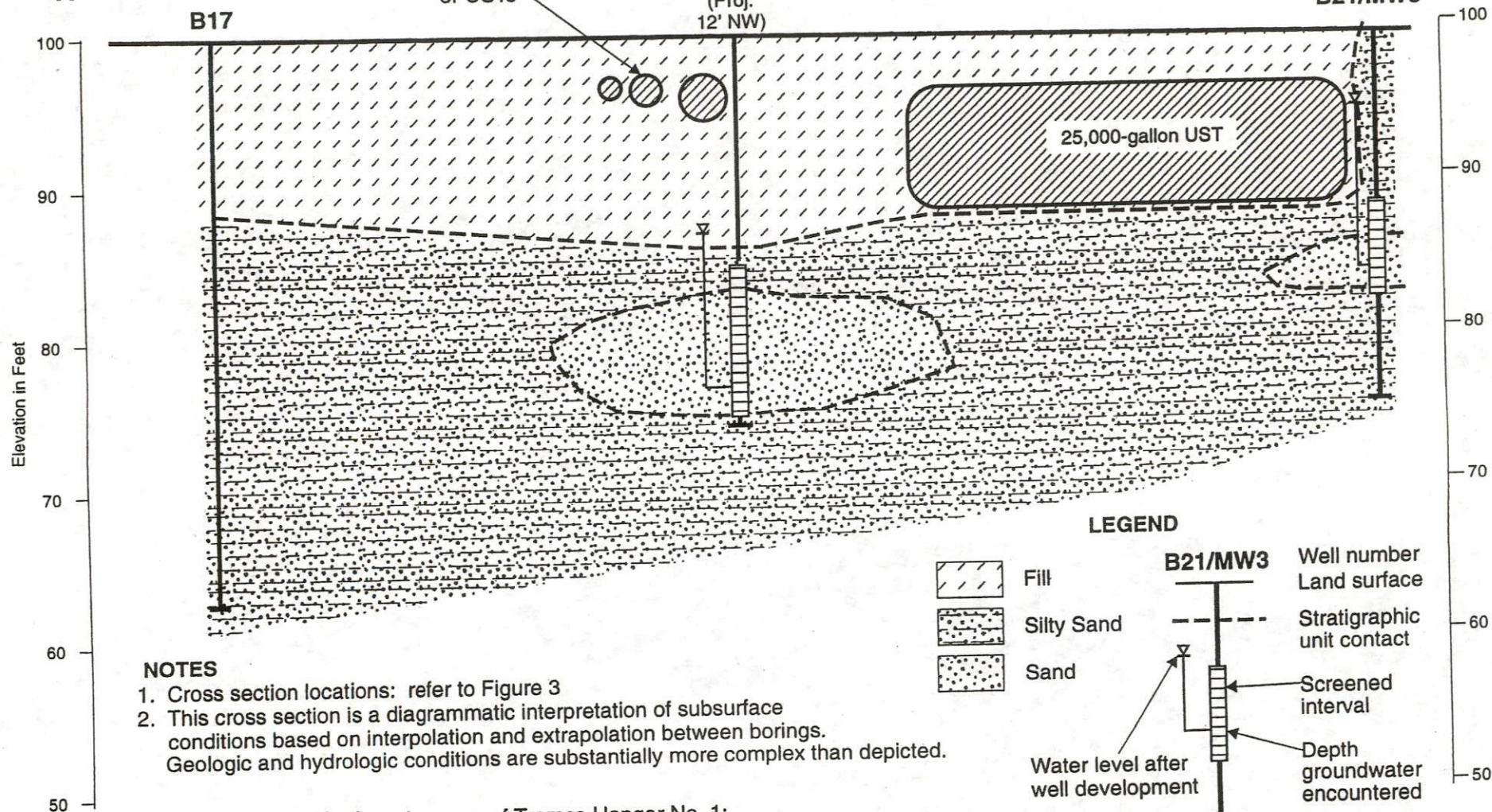
DATE

FIGURE

3

Southwest
A

Northeast
A'



NOTES

1. Cross section locations: refer to Figure 3
2. This cross section is a diagrammatic interpretation of subsurface conditions based on interpolation and extrapolation between borings. Geologic and hydrologic conditions are substantially more complex than depicted.

Elevation Datum: Northwest corner of Tramco Hangar No. 1; assigned an assumed elevation of 100.00 feet.

0 5 10
Scale in Feet
Horizontal Scale: 1" = 10'
Vertical Scale: 1" = 10'

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TECHNOLOGIES

512206g1.cdr

PROJECT NO.
15,512,206

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KM

DATE
23 June 94

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FIGURE

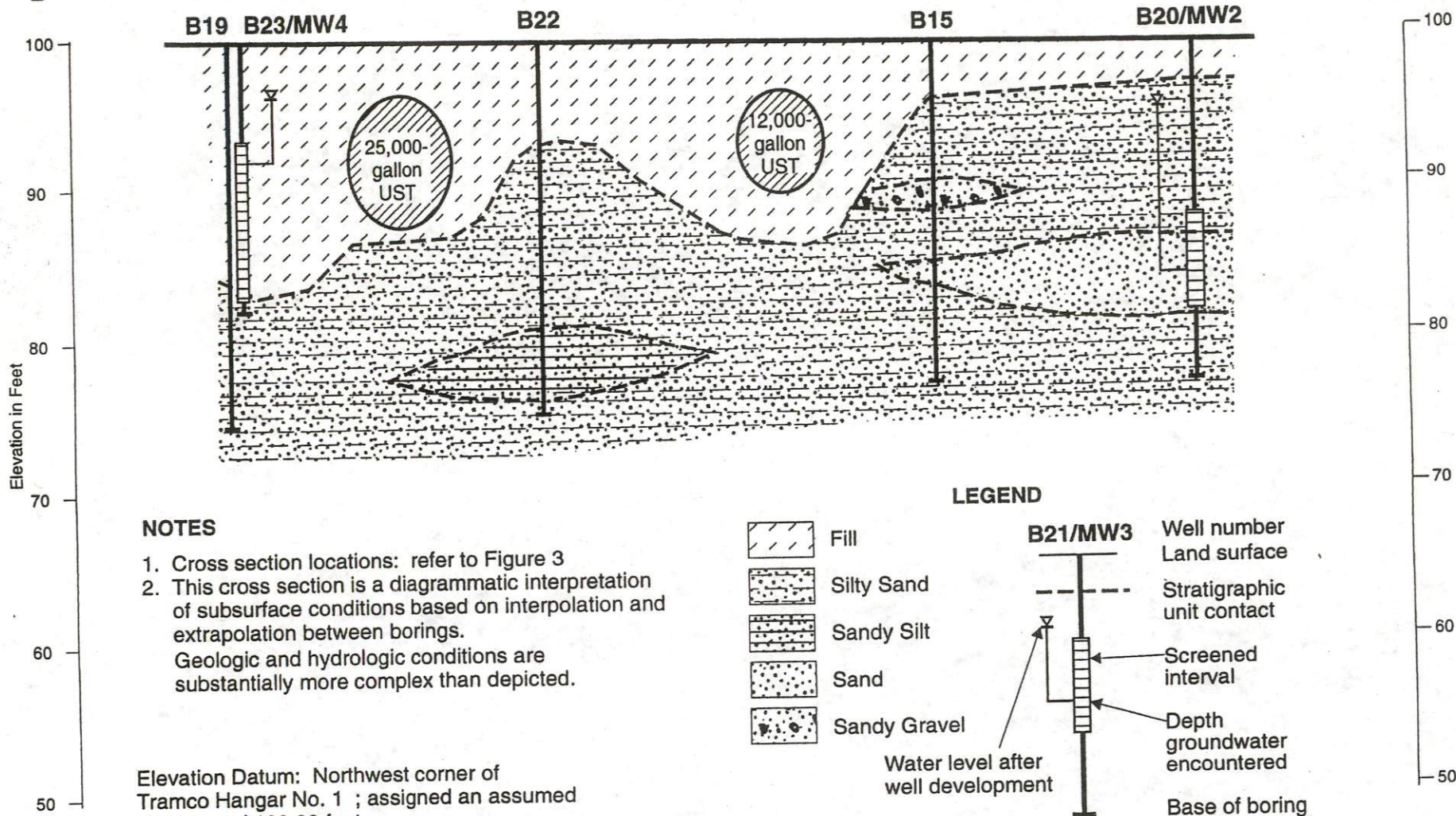
4

DATE

East Fuel Farm - Cross Section A - A'
Snohomish County Airport/Paine Field East Fuel Farm Assessment
Snohomish County, Washington

Northwest
B

Southeast
B'



Scale in Feet
Horizontal Scale: 1" = 15'
Vertical Scale: 1" = 10'

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TECHNOLOGIES

East Fuel Farm - Cross Section B - B'
Snohomish County Airport/Paine Field East Fuel Farm Assessment
Snohomish County, Washington

FIGURE

5

512206g1.cdr

PROJECT NO.
15,512.206

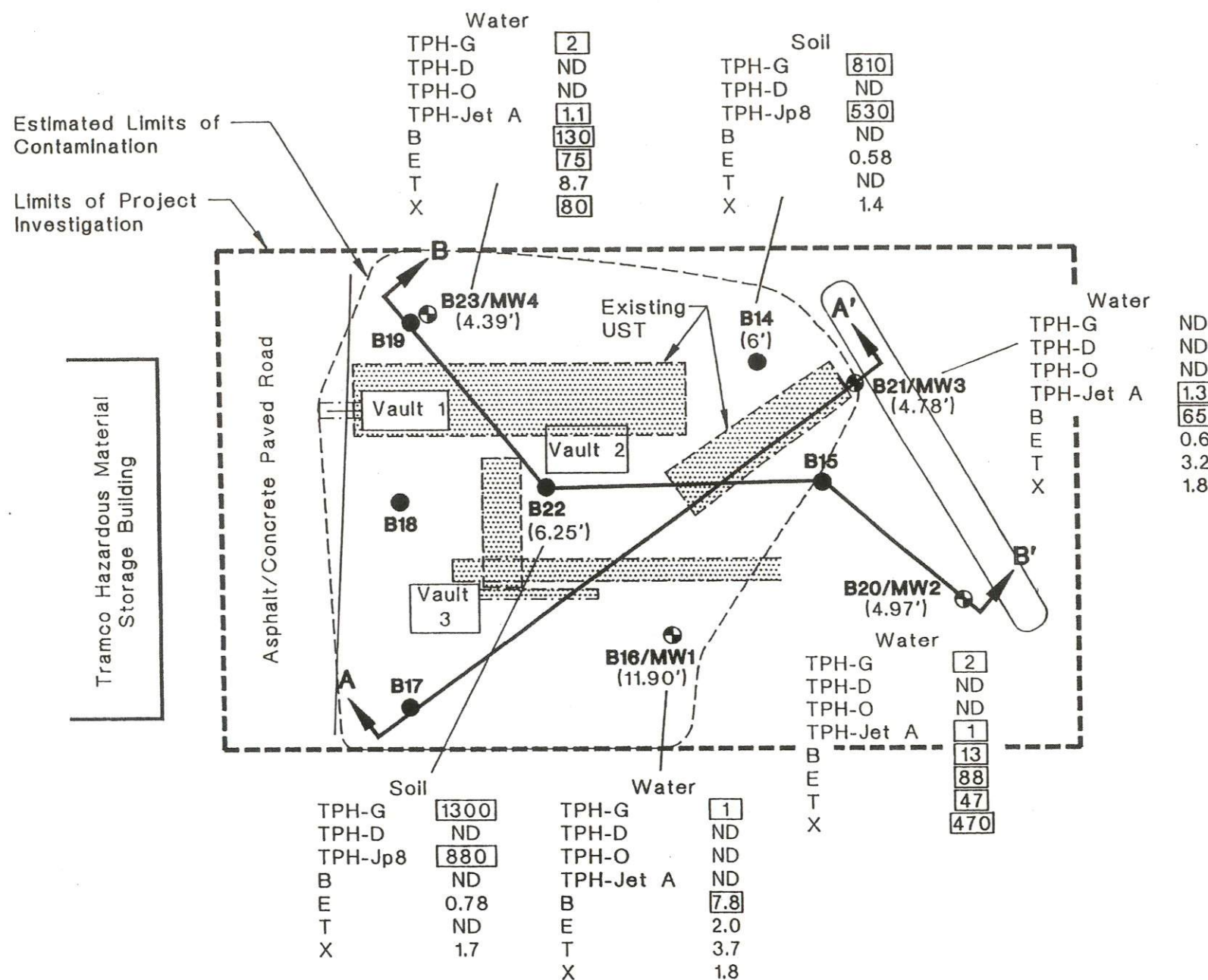
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KM

DATE
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DATE



LEGEND

B21/MW3 (4.78') Monitoring Well number, approximate location, and depth to water (measured in feet)

B14 (6') Boring number and approximate location showing sample depth in feet

A A' Cross section

Possible or existing UST

Possible pipe locations

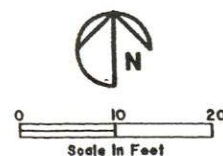
Explanation of Analyses:

TPH Total Petroleum Hydrocarbons
 TPH-G Quantified as gasoline
 TPH-D Quantified as diesel
 TPH-O Quantified as motor oil
 TPH-Jp8 Quantified as Jp8
 TPH-Jet A Quantified as Jet A
 B Benzene
 E Ethylbenzene
 T Toluene
 X Total Xylenes
 ND Not detected
 NA Not analyzed

Concentrations for soil in milligrams per kilogram, equivalent to parts per million.

Concentrations for water in micrograms per liter, equivalent to parts per billion.

Boxed results exceed Model Toxics Control Act Method A cleanup levels (as promulgated by Washington Administrative Code 173-340).



Reference: Site Map, Surficial Features and GPR Subsurface Reflectors, by Williamson & Assoc., Inc., April 1994.

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TECHNOLOGIES

Fuel Hydrocarbon/BETX Concentration Map
East Fuel Farm - Soil & Groundwater
 Snohomish County Airport/Paine Field Fuel Farm Assessment
 Snohomish County, Washington

FIGURE

6

FuelBETX.dwg

PROJECT NO.
15512.206

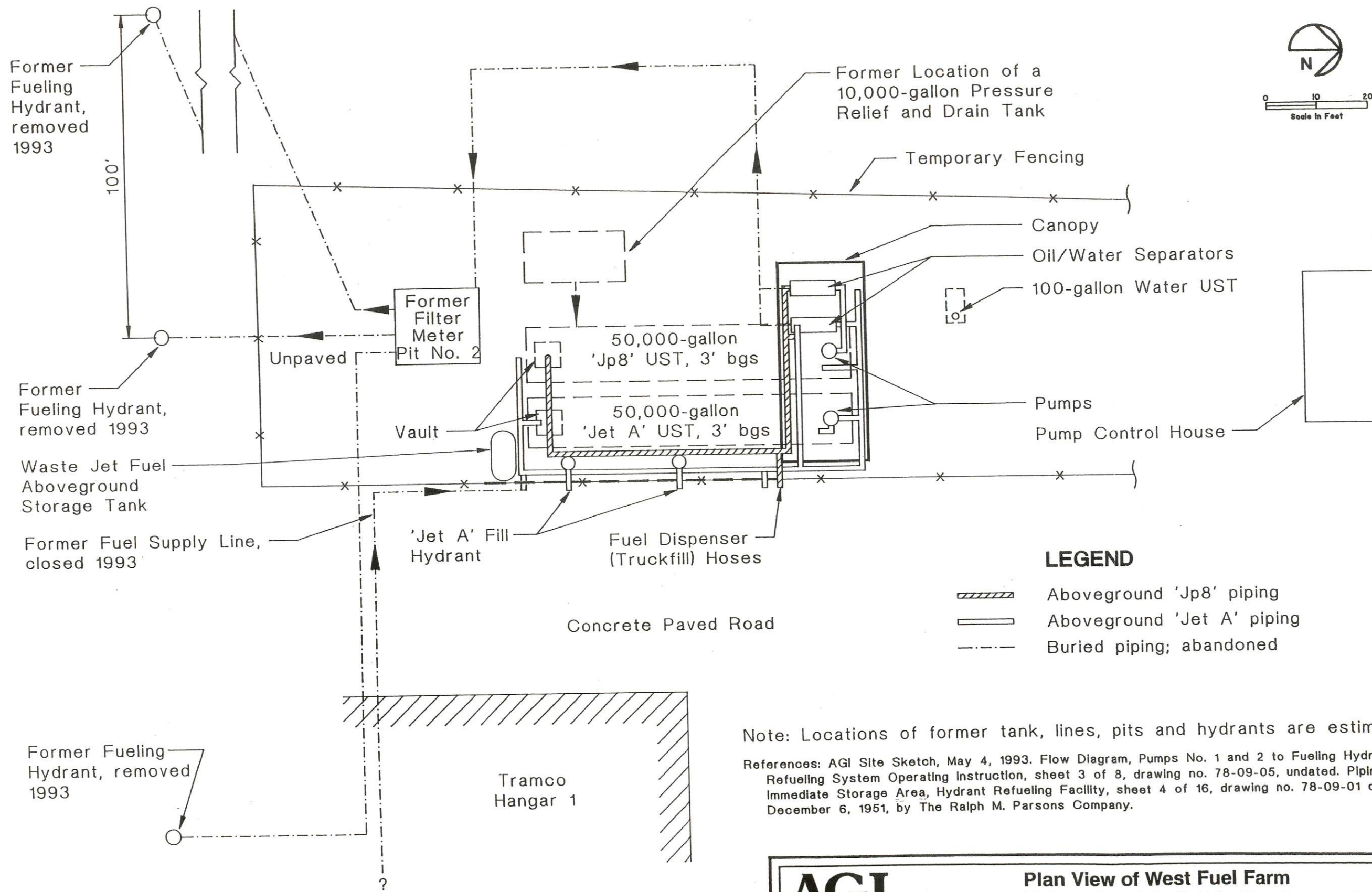
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22 Jul 94

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TECHNOLOGIES

WestWell.dwg

PROJECT NO.
15,512.206

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22 Jul 94

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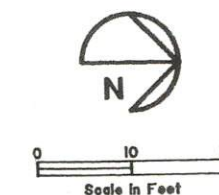
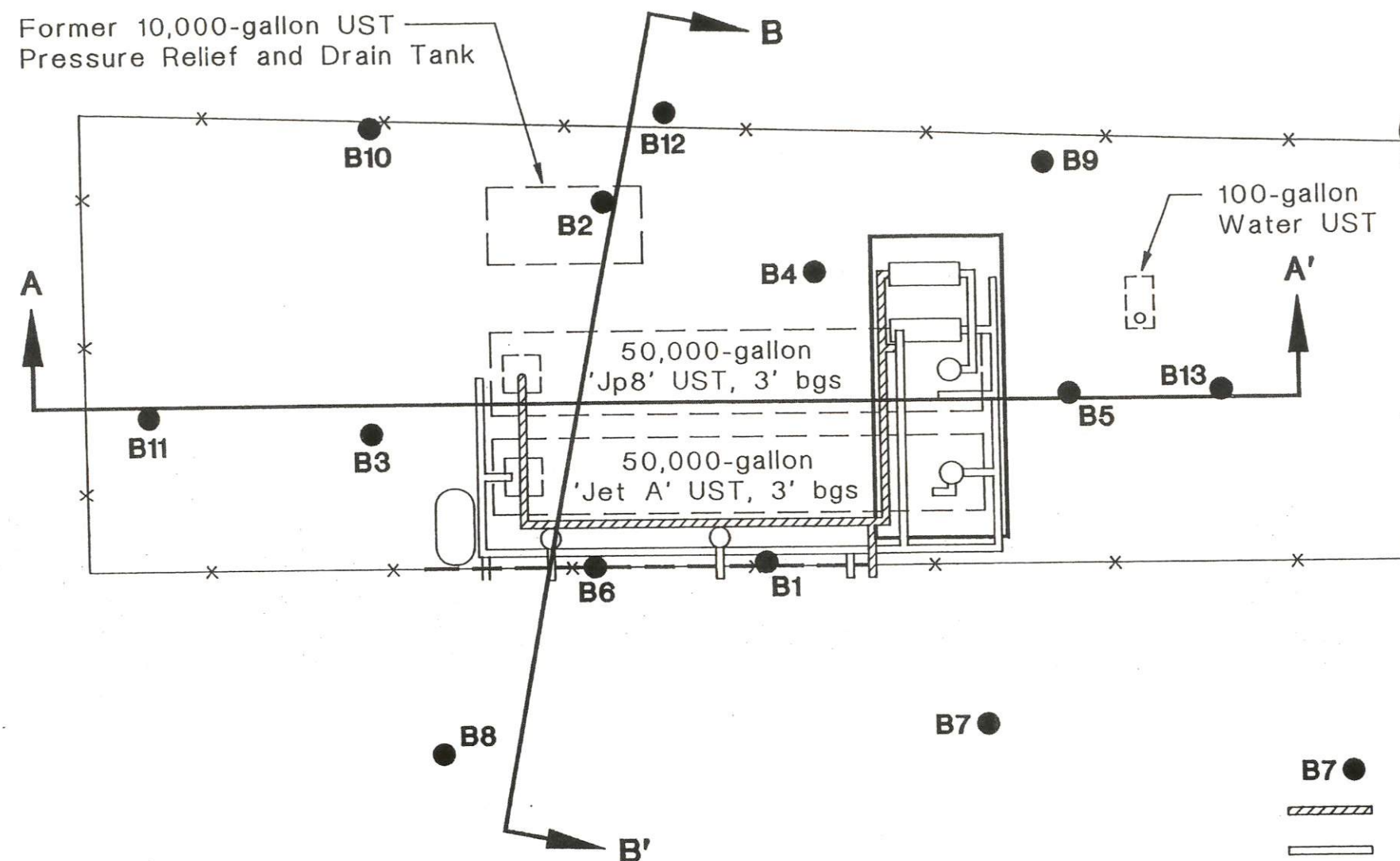
Plan View of West Fuel Farm

Snohomish County Airport/Paine Field Fuel Farm Assessment
Snohomish County, Washington

FIGURE

7

Former 10,000-gallon UST
Pressure Relief and Drain Tank



Pump
Control
House

LEGEND

- B7 ●** Boring number and approximate location
- Aboveground 'Jp8' piping
- Aboveground 'Jet A' piping
- Cross section

Note: Locations of former tank, lines, pits and hydrants are estimates.

References: AGI Site Sketch, May 4, 1993. Flow Diagram, Pumps No. 1 and 2 to Fueling Hydrants, Hydrant Refueling System Operating Instruction, sheet 3 of 8, drawing no. 78-09-05, undated. Piping Plan - Immediate Storage Area, Hydrant Refueling Facility, sheet 4 of 16, drawing no. 78-09-01 dated December 6, 1951, by The Ralph M. Parsons Company.

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TECHNOLOGIES

WestBore.dwg

PROJECT NO.
15,512.206

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DATE
22 Jul 94

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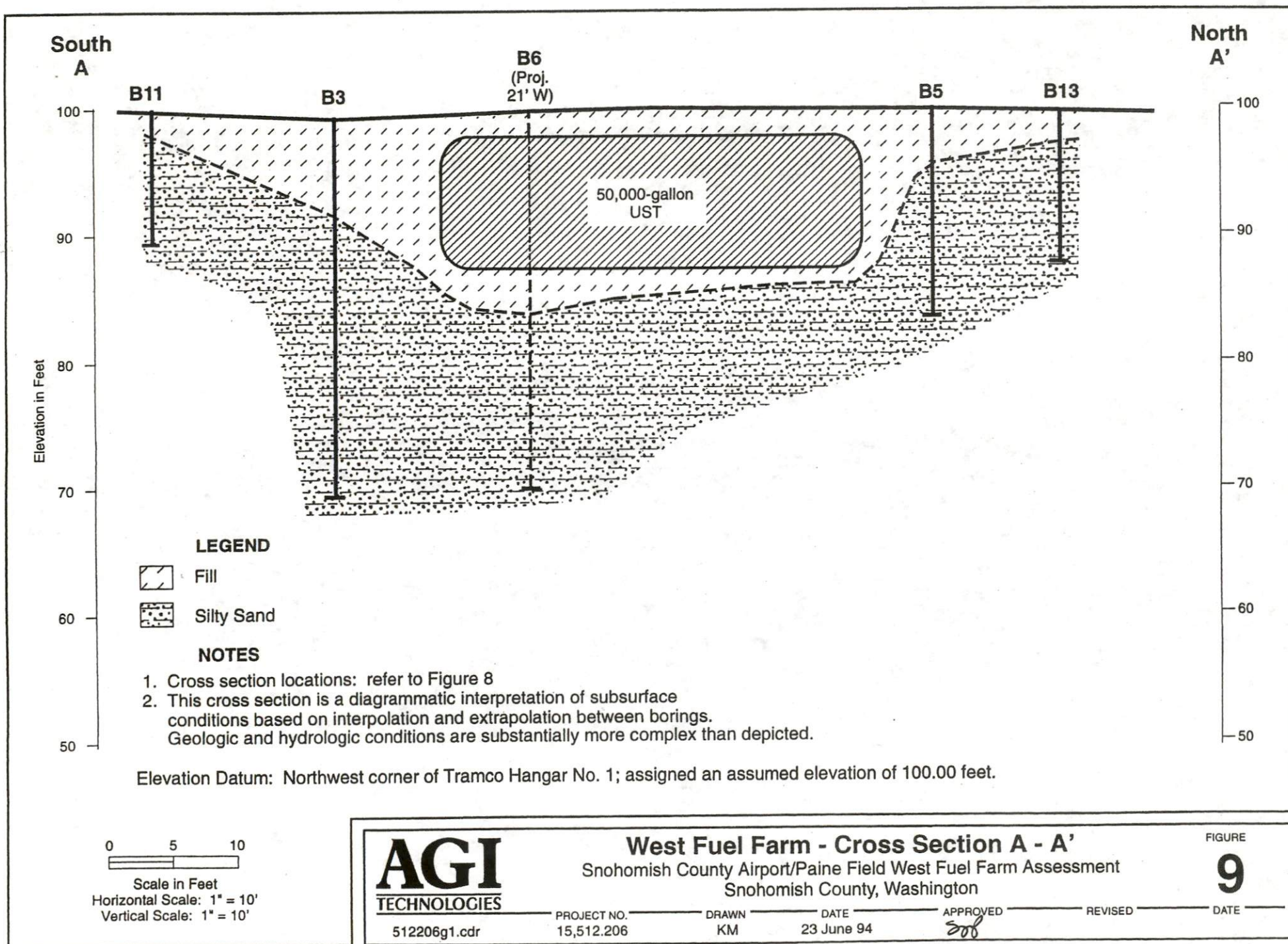
DATE

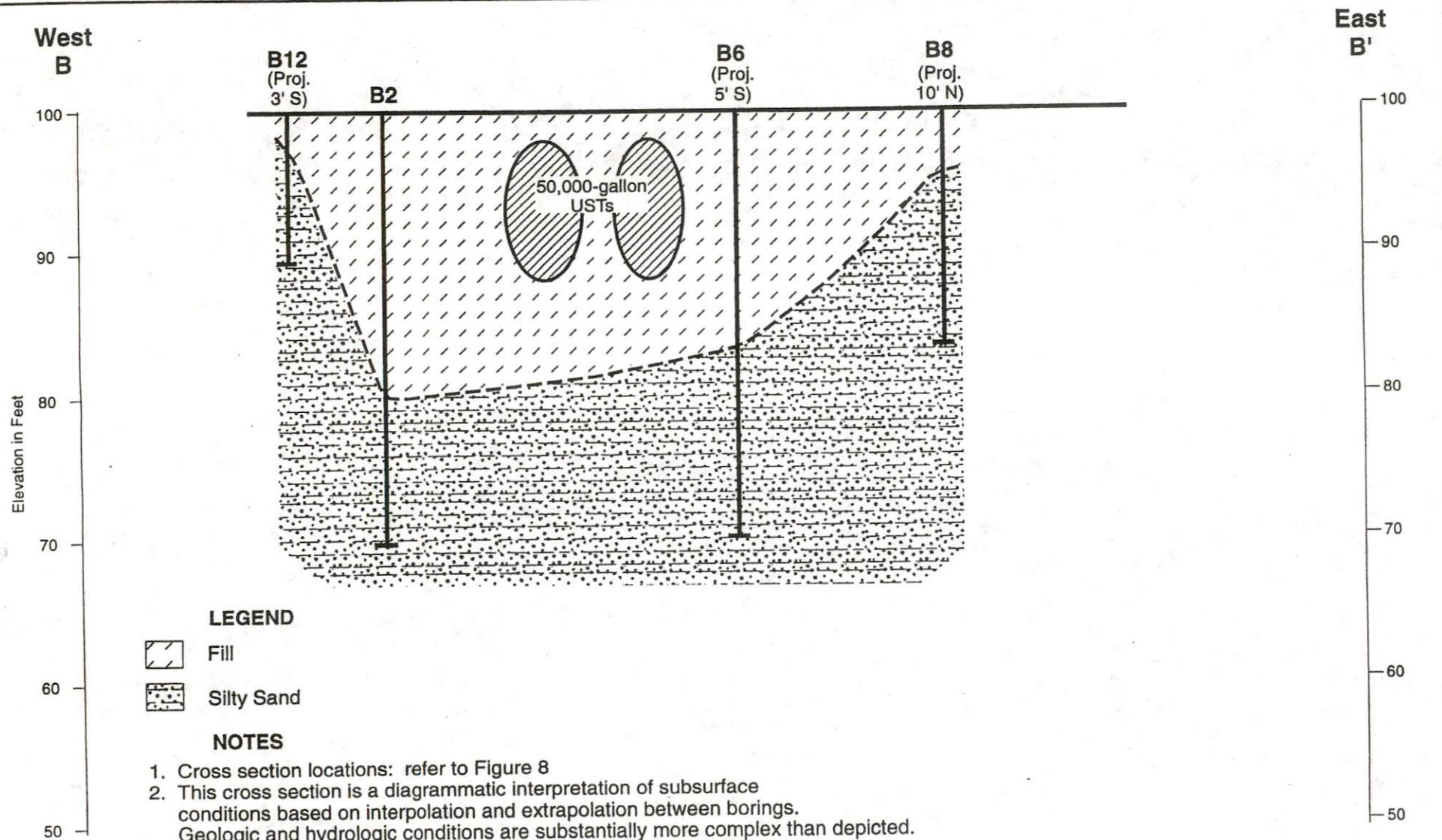
West Fuel Farm Boring Locations

Snohomish County Airport/Paine Field Fuel Farm Assessment
Snohomish County, Washington

FIGURE

8





Elevation Datum: Northwest corner of Tramco Hangar No. 1; assigned an assumed elevation of 100.00 feet.

Scale in Feet
Horizontal Scale: 1" = 20'
Vertical Scale: 1" = 10'

AGI
TECHNOLOGIES

512206g1.cdr

PROJECT NO.
15,512.206

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KM

DATE
23 June 94

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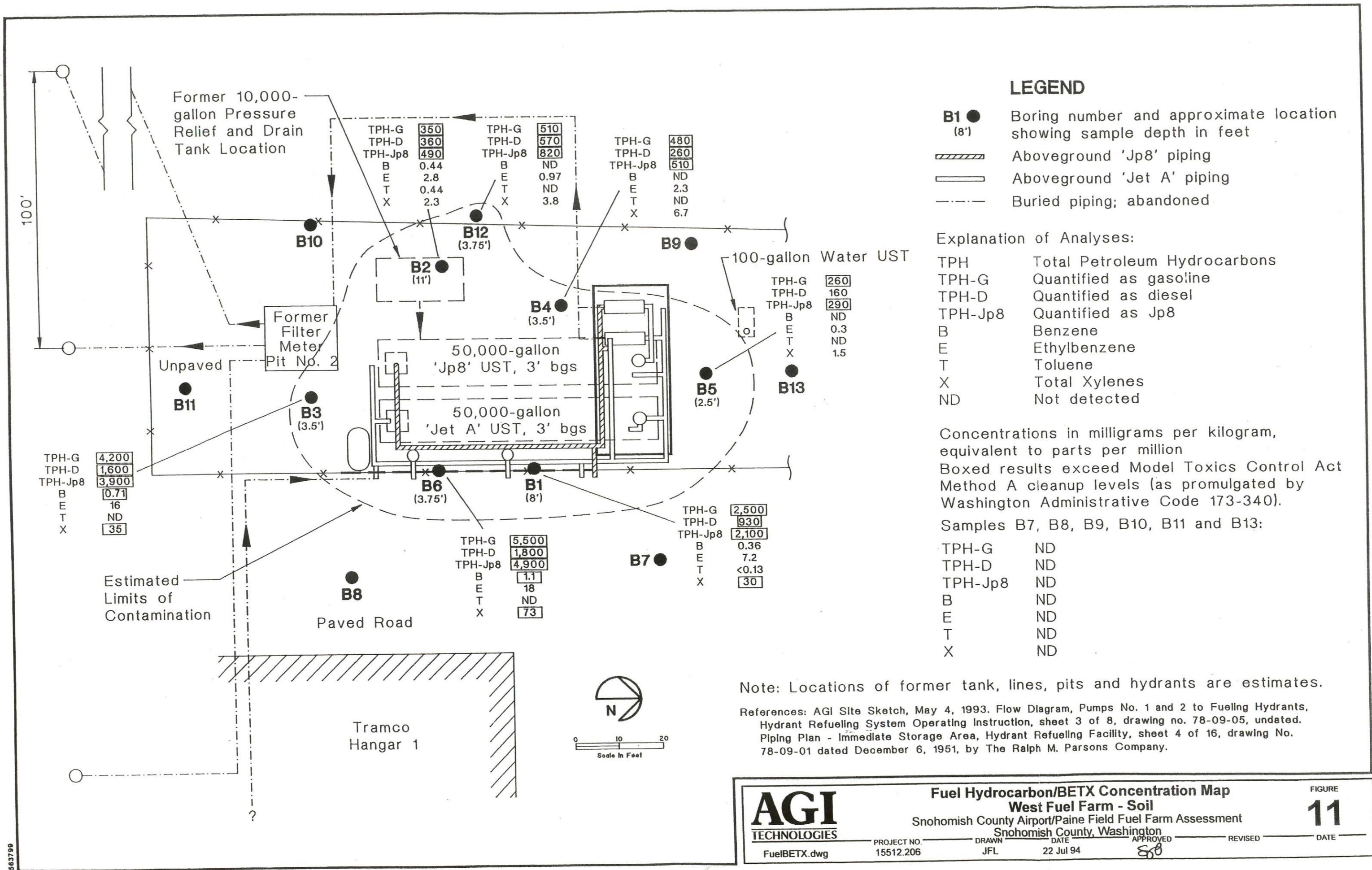
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DATE

West Fuel Farm - Cross Section B - B'
Snohomish County Airport/Paine Field West Fuel Farm Assessment
Snohomish County, Washington

FIGURE

10



Attachment A
UST Cleaning Certification

223-02-CO-AS-TI-202RE

Coastal Tank Cleaning, Inc.

3801 - 7th Avenue South, Seattle, Washington 98108

Phone: (206) 624-9843

Fax No.: (206) 624-9766

CHECKPOINT VERIFICATION

SHIP NAME: Elite line Service ITEM#: 3137 PARA.#: _____TANK NUMBER and/or LOCATION: Two 50K and one 2.5K Jet A TANKSDATE: 6-26-96 TIME: _____ WHEN CALLED: _____700 Gallon Jet A Retain
300 Gallon Wash water
WORKED CHECKED (NONE)

ACCEPTED (✓)

REJECTED (✓)

SURFACE PREPARATION

Coastal Tank INC. REPRESENTATIVE:

CUSTOMER O/A REPRESENTATIVE:

TRIPLE RINSE CERTIFICATE

DATE: 8/28/00

CLIENT: Paine Field

TANK OWNER: Paine Field

TANK VOLUMES: 50,000 gallons

SUBSTANCE STORED: gas

DATE CLEANED: 8/28/00

CEcon Corp. certifies that the above referenced tanks have been triple rinsed in accordance with industry and regulatory specifications (American Petroleum Institute Publication 2015, American Petroleum Institute Recommended Practice 1604, and WAC 173-360) and that all residual fuel and rinsate has been removed and disposed of in accordance with WAC 173-303.



Charles S. Engstrom
President, CEcon Corp.



PAINE FIELD

3220 - 100th Street S.W. • Everett, WA 98204-1390
(425) 353-2110 • Fax (425) 355-9883

COUNTY EXECUTIVE Robert Drewel
AIRPORT DIRECTOR Dave Waggoner

October 12, 2000

RECEIVED
OCT 13 2000
AGI/A CDM COMPANY

Pam Morrill, Scientist
CDM
11811 N.E. 1st Street, Suite 201
Bellevue, Washington 98005-3033

Dear Pam:

The Snohomish County Airport Fire Department will be utilizing the two 50,000 gallon UST's at the west fuel farm as a "draft pit". A draft pit is used to certify fire pumps as per the Washington Administrative Code and National Fire Protection Code 1911. The UST is filled with water, the fire pump draws the water out of the tank then pumps it back into the UST. This test normally takes an hour.

The 25,000 UST at the east fuel farm will not be utilized to store any products. The tank will be removed when it is logistically feasible and when budget is available.

If you have any questions, please give me a call at 425-353-2110 x. 2227.

Sincerely,

Andrew C. Rardin
Environmental Affairs Manager



SNOHOMISH COUNTY AIRPORT

Attachment B
Boring Logs

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS					TYPICAL NAMES
COARSE GRAINED SOILS MORE THAN HALF IS LARGER THAN NO. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS WITH LESS THAN 5% FINES	GW		WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES
			GP		POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES
		GRAVELS WITH OVER 12% FINES	GM		SILTY GRAVELS, POORLY GRADED GRAVEL-SAND-SILT MIXTURES
			GC		CLAYEY GRAVELS, POORLY GRADED GRAVEL-SAND-CLAY MIXTURES
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LESS THAN 5% FINES	SW		WELL GRADED SANDS, GRAVELLY SANDS
			SP		POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM		SILTY SANDS, POORLY GRADED SAND-SILT MIXTURES
			SC		CLAYEY SANDS, POORLY GRADED SAND-CLAY MIXTURES
FINE GRAINED SOILS MORE THAN HALF IS SMALLER THAN NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL		ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH		ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
			HIGHLY ORGANIC SOILS		PT

LEGEND

SAMPLE ■ "Undisturbed" ▨ Bulk/Grab ▢ Not Recovered ▣ Recovered, Not Retained	CONTACT BETWEEN UNITS Well Defined Change Gradational Change Obscure Change End of Exploration	LABORATORY TESTS Consol - Consolidation LL - Liquid Limit PL - Plastic Limit Gs - Specific Gravity SA - Size Analysis TxS - Triaxial Shear TxP - Triaxial Permeability Perm - Permeability Po - Porosity MD - Moisture/Density DS - Direct Shear VS - Vane Shear Comp - Compaction
BLOWS/FOOT Hammer is 140 pounds with 30-inch drop, unless otherwise noted S - SPT Sampler (2.0-Inch O.D.) T - Thin Wall Sampler (2.8-Inch Sample) H - Split Barrel Sampler (2.4-Inch Sample)		
MOISTURE DESCRIPTION Dry - Considerably less than optimum for compaction Moist - Near optimum moisture content Wet - Over optimum moisture content Saturated - Below water table, in capillary zone, or in perched groundwater		UU - Unconsolidated, Undrained CU - Consolidated, Undrained CD - Consolidated, Drained

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TECHNOLOGIES

Soil Classification/Legend

Snohomish County Airport/Paine Field Fuel Farm Assessment
Snohomish County, Washington

PLATE

B1

PROJECT NO.
15,512.206

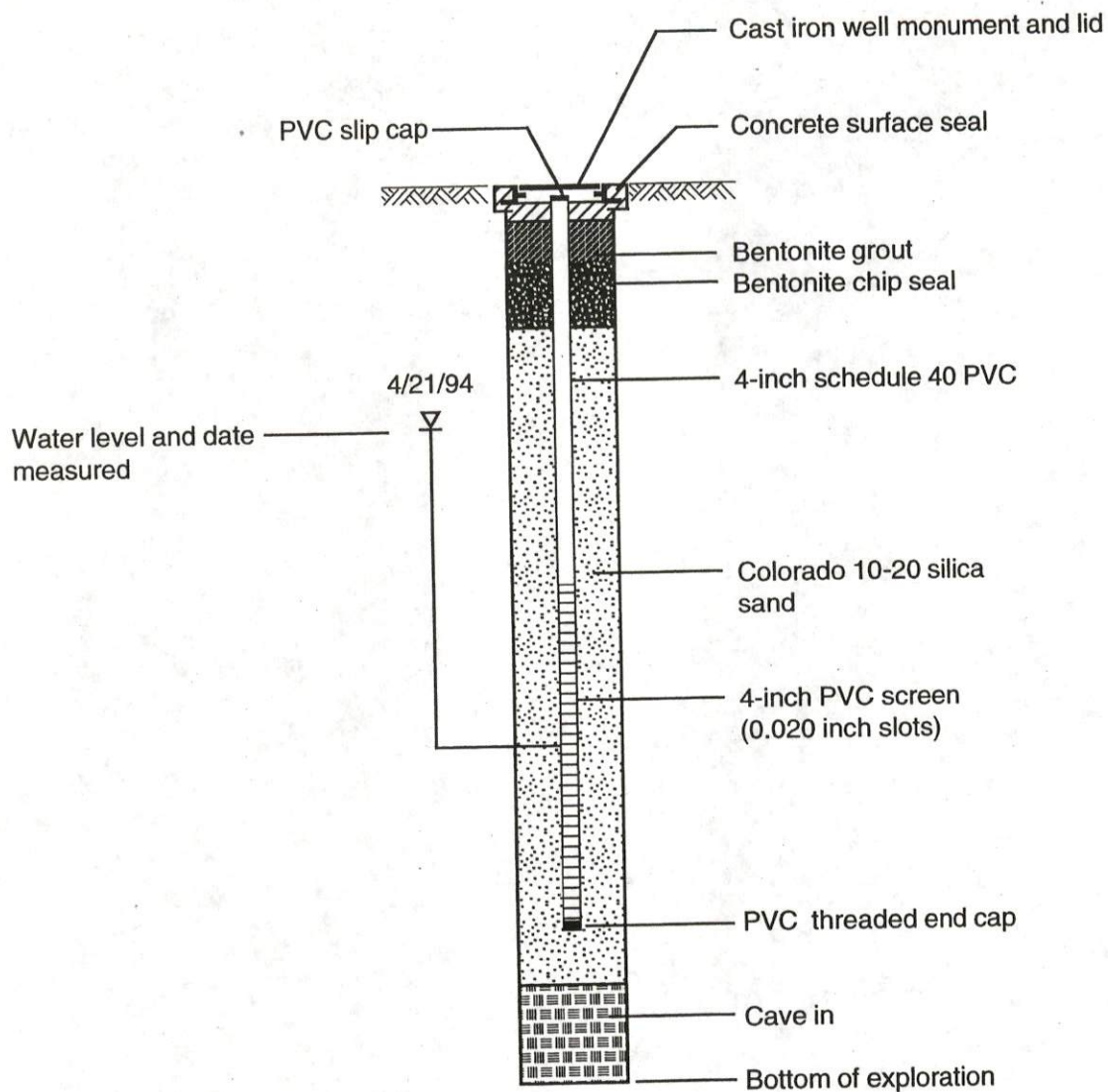
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DATE
7/27/94

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DATE



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TECHNOLOGIES

Typical Monitoring Well Construction
Snohomish County Airport/Paine Field Fuel Farm Assessment
Snohomish County, Washington

PLATE

B2

512206MC.pm5

PROJECT NO.
15,512.206

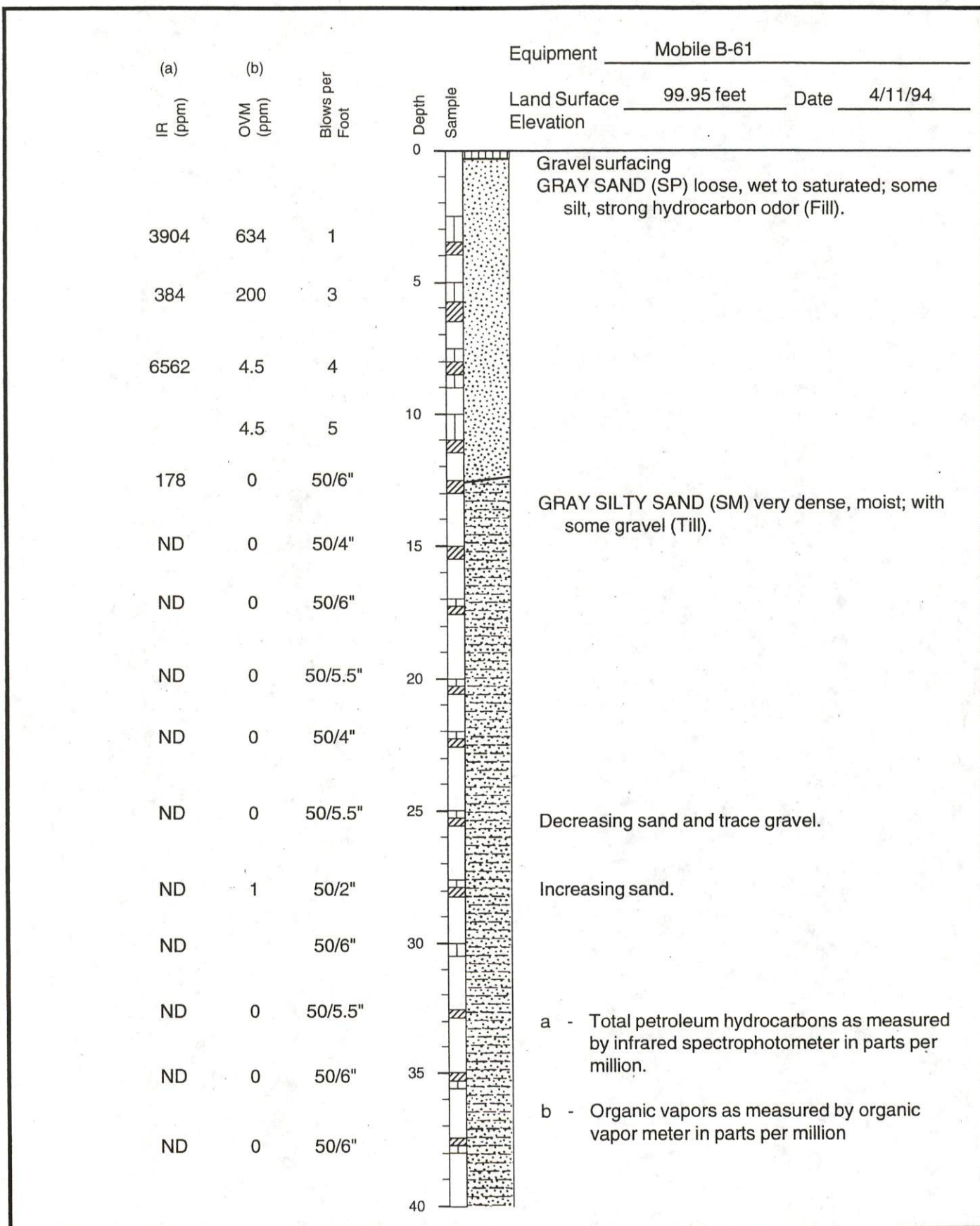
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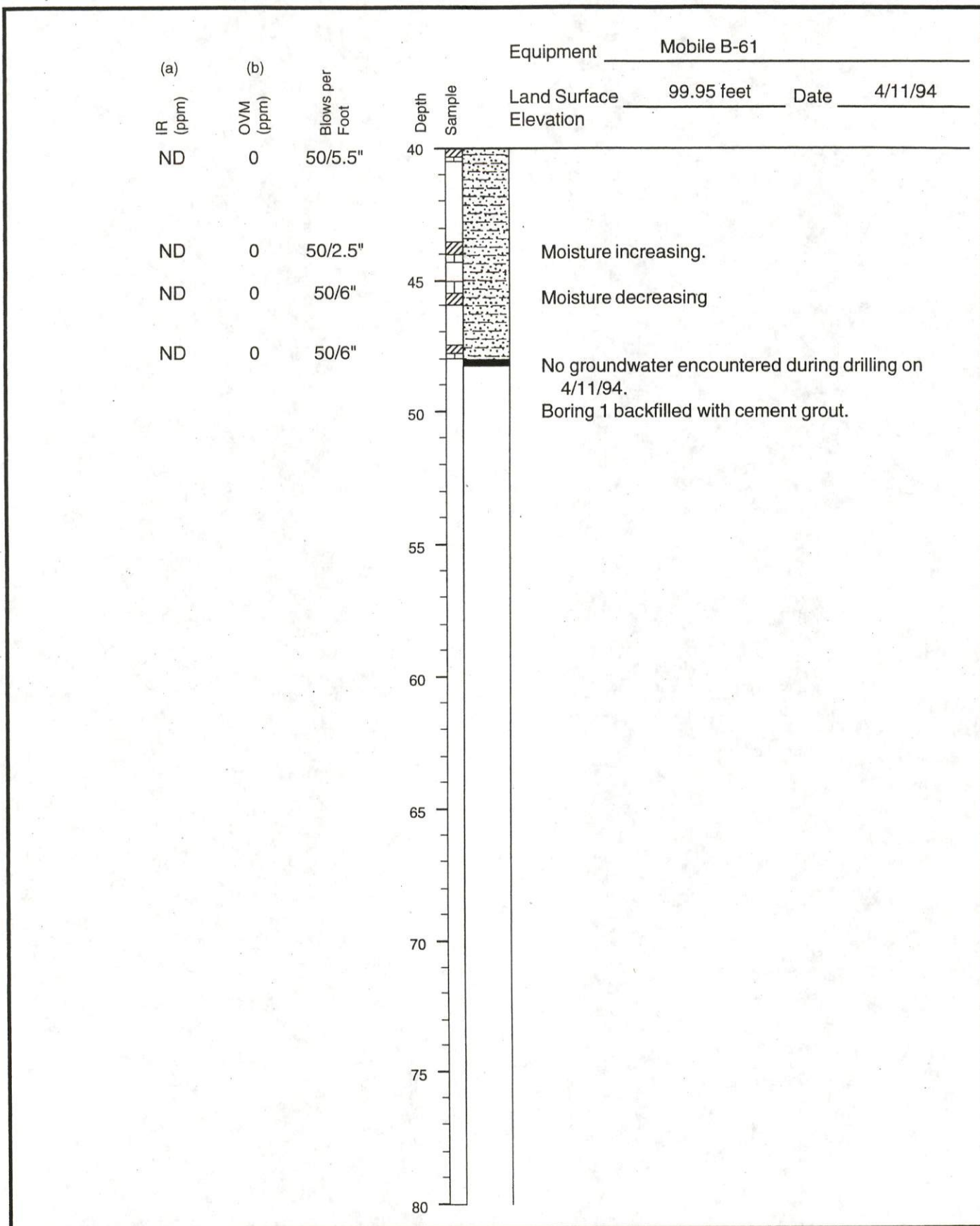
DATE
7/27/94

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DATE





AGI
TECHNOLOGIES

Log of Boring 1 (40-80')
Snohomish County Airport/Paine Field Fuel Farm Assessment - West Fuel Farm
Snohomish County, Washington

PLATE

B3b

512206B.PM5

PROJECT NO.
15,512.206

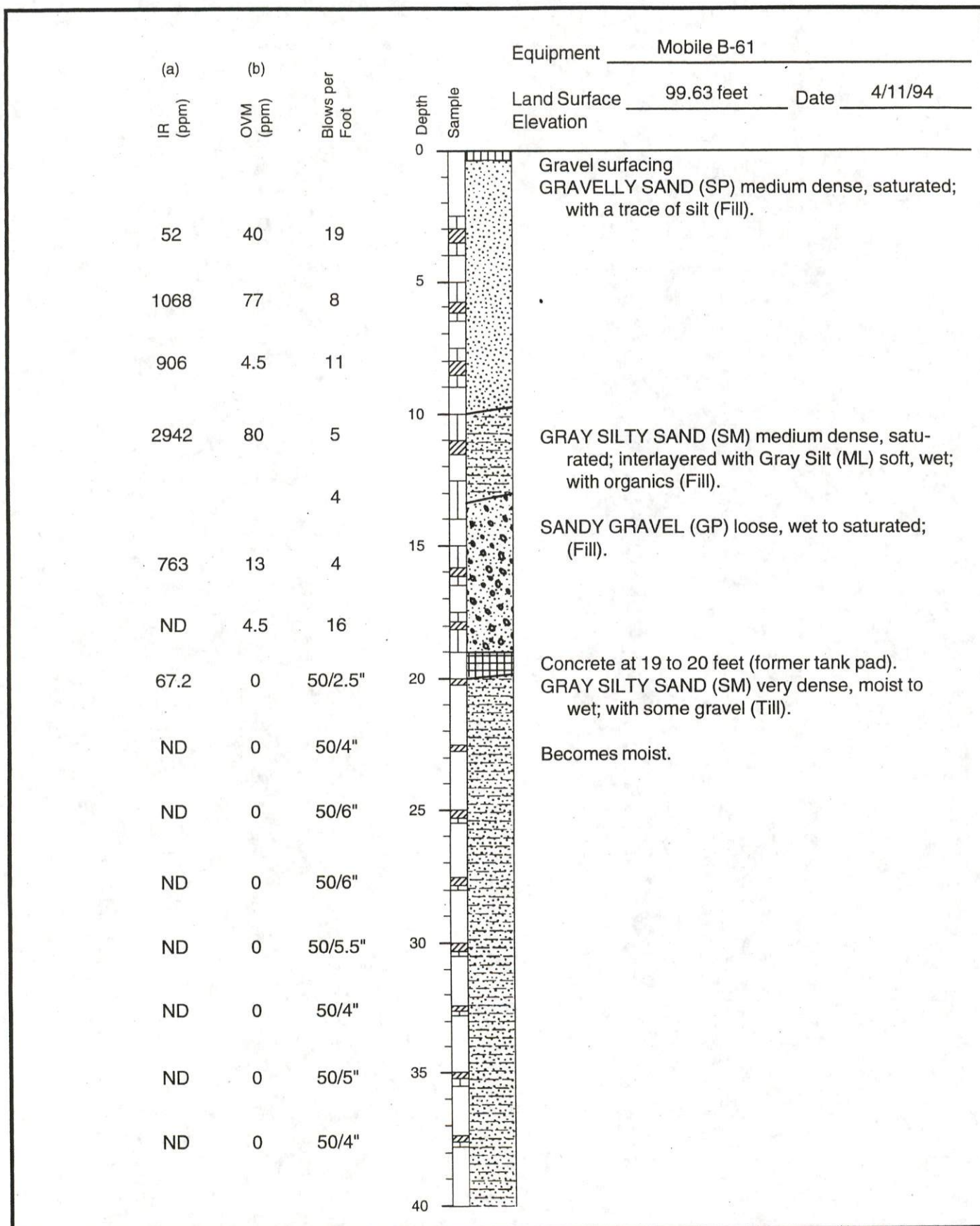
DRAWN
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TECHNOLOGIES

512206B.PM5

Log of Boring 2 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - West Fuel Farm
Snohomish County, Washington

PROJECT NO.
15,512.206

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DATE
7/27/94

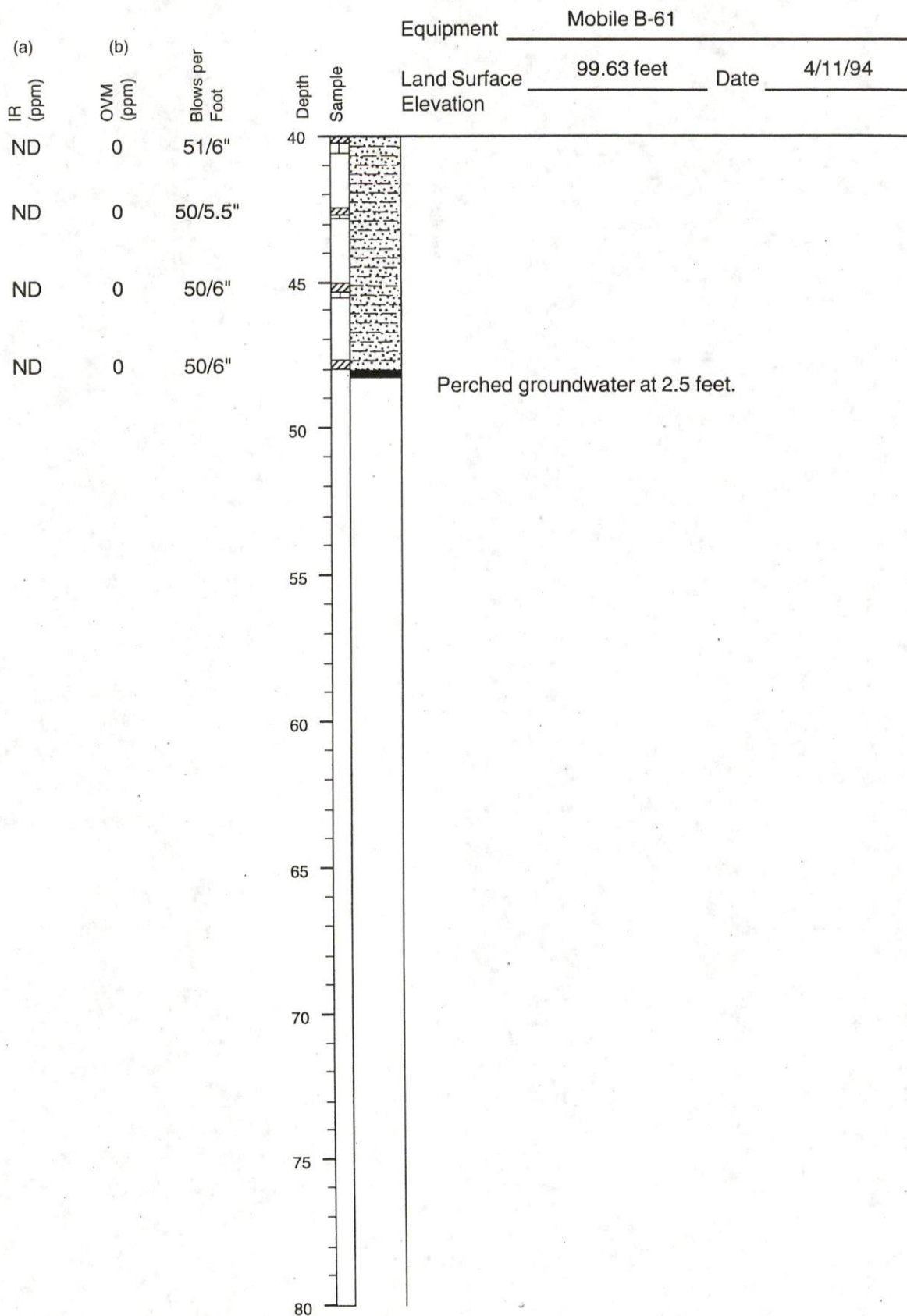
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PLATE

B4a



AGI
TECHNOLOGIES

Log of Boring 2 (40-80')
Snohomish County Airport/Paine Field Fuel Farm Assessment - West Fuel Farm
Snohomish County, Washington

PLATE

B4b

512206B.PM5

PROJECT NO.
15,512.206

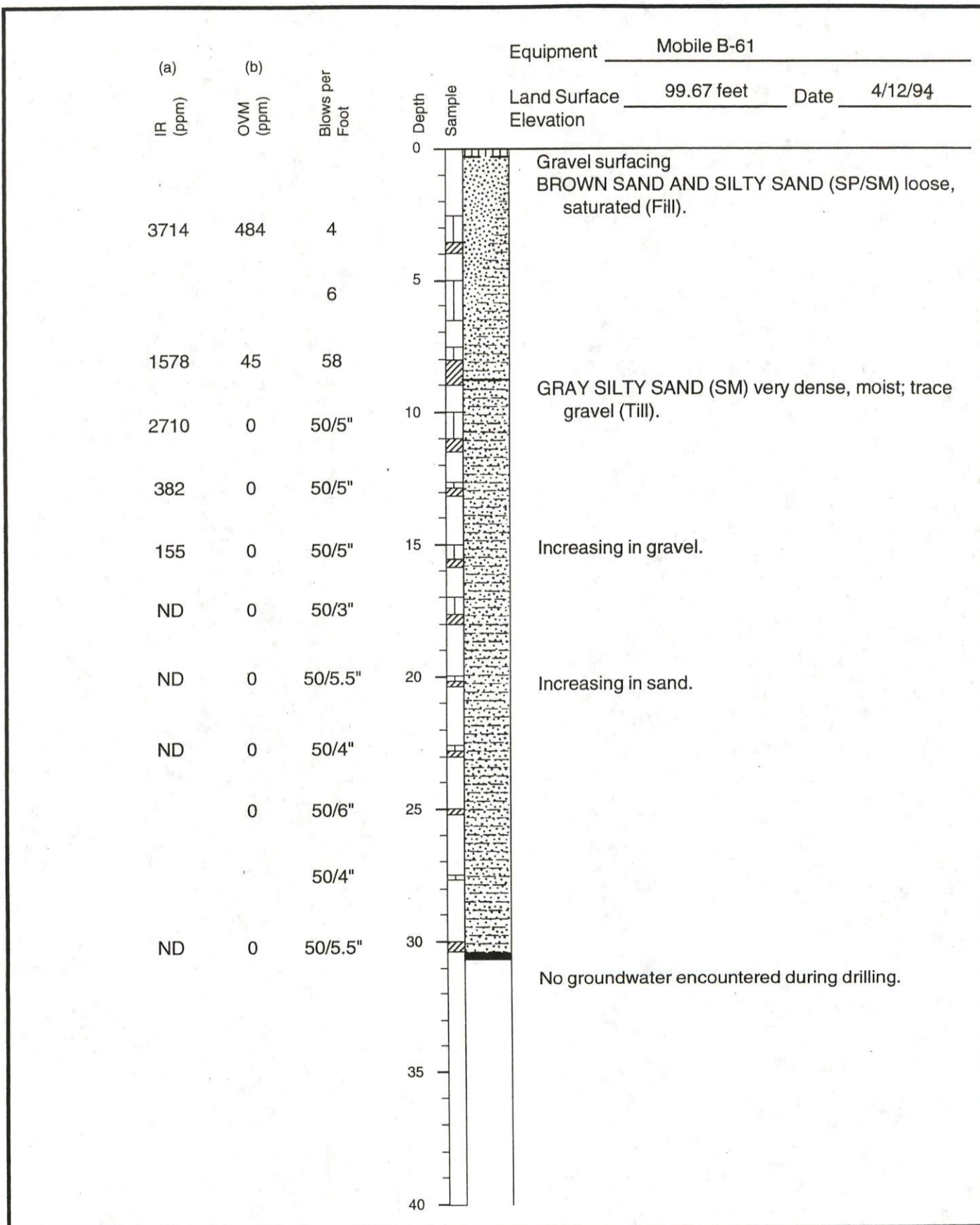
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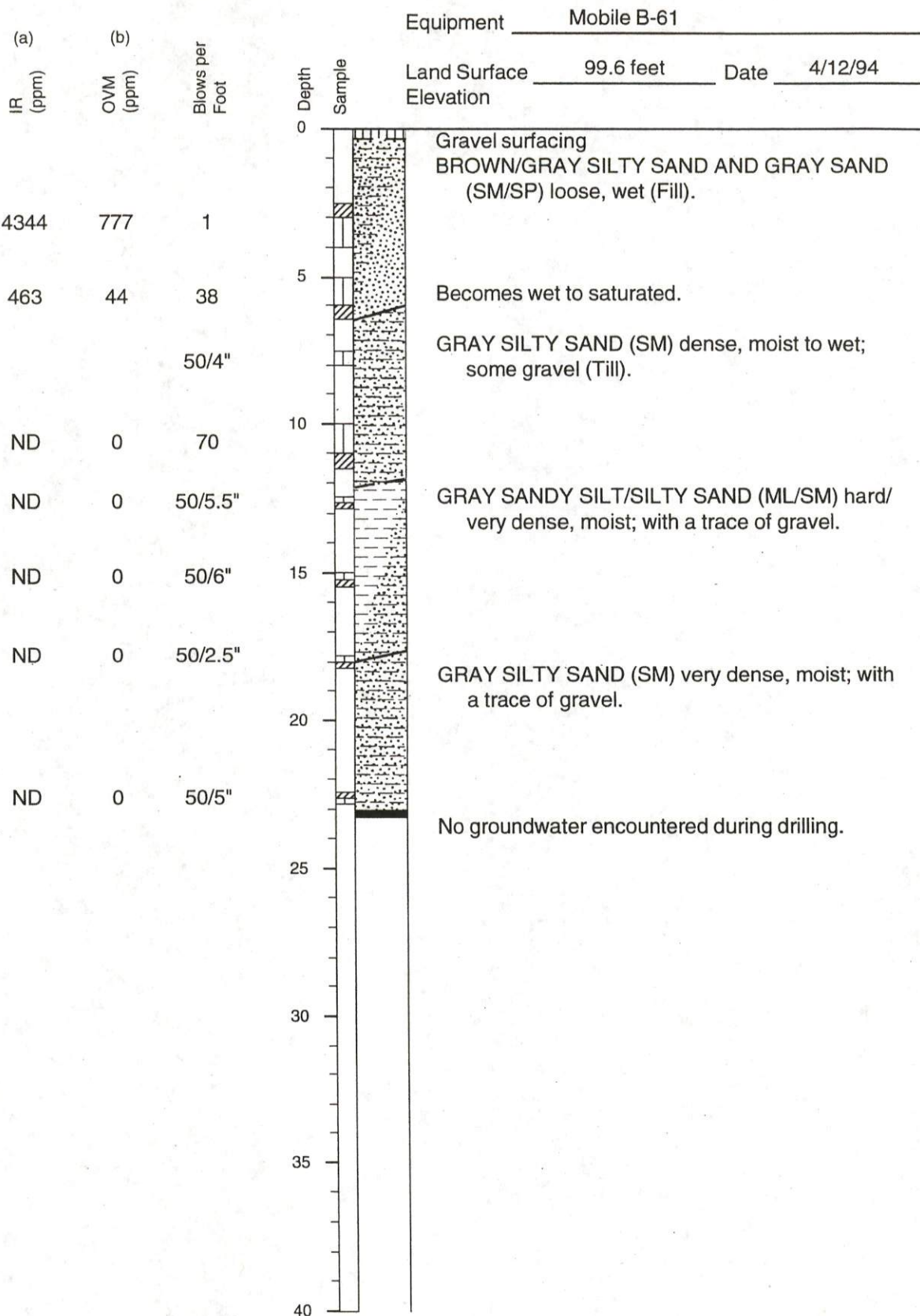
DATE
7/27/94

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DATE





AGI
TECHNOLOGIES

512206B.PM5

Log of Boring 4 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - West Fuel Farm
Snohomish County, Washington

PROJECT NO.
15,512.206

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DATE
7/27/94

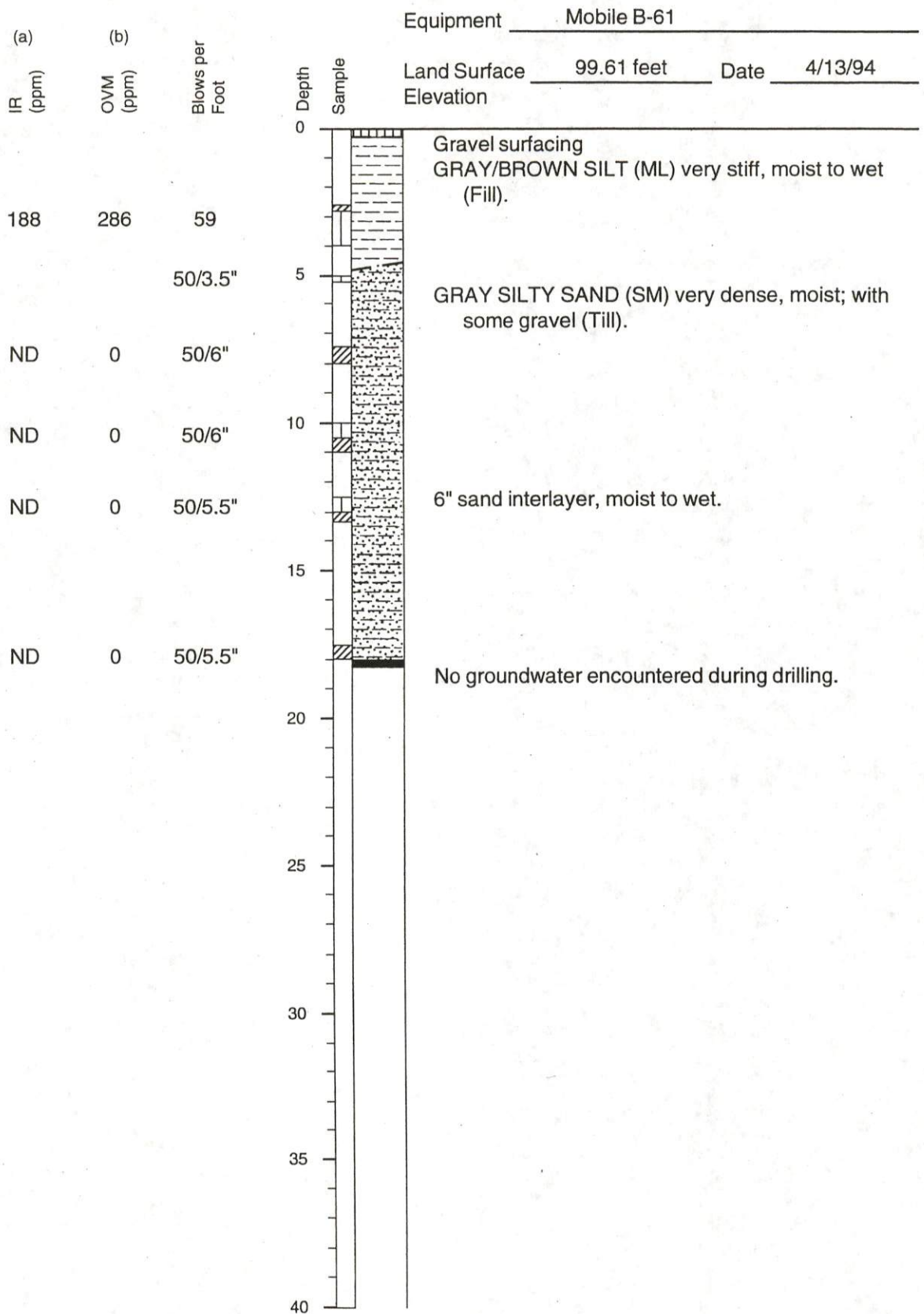
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DATE

PLATE

B6



AGI
TECHNOLOGIES

Log of Boring 5 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - West Fuel Farm
Snohomish County, Washington

PLATE

B7

512206B.PM5

PROJECT NO.
15,512.206

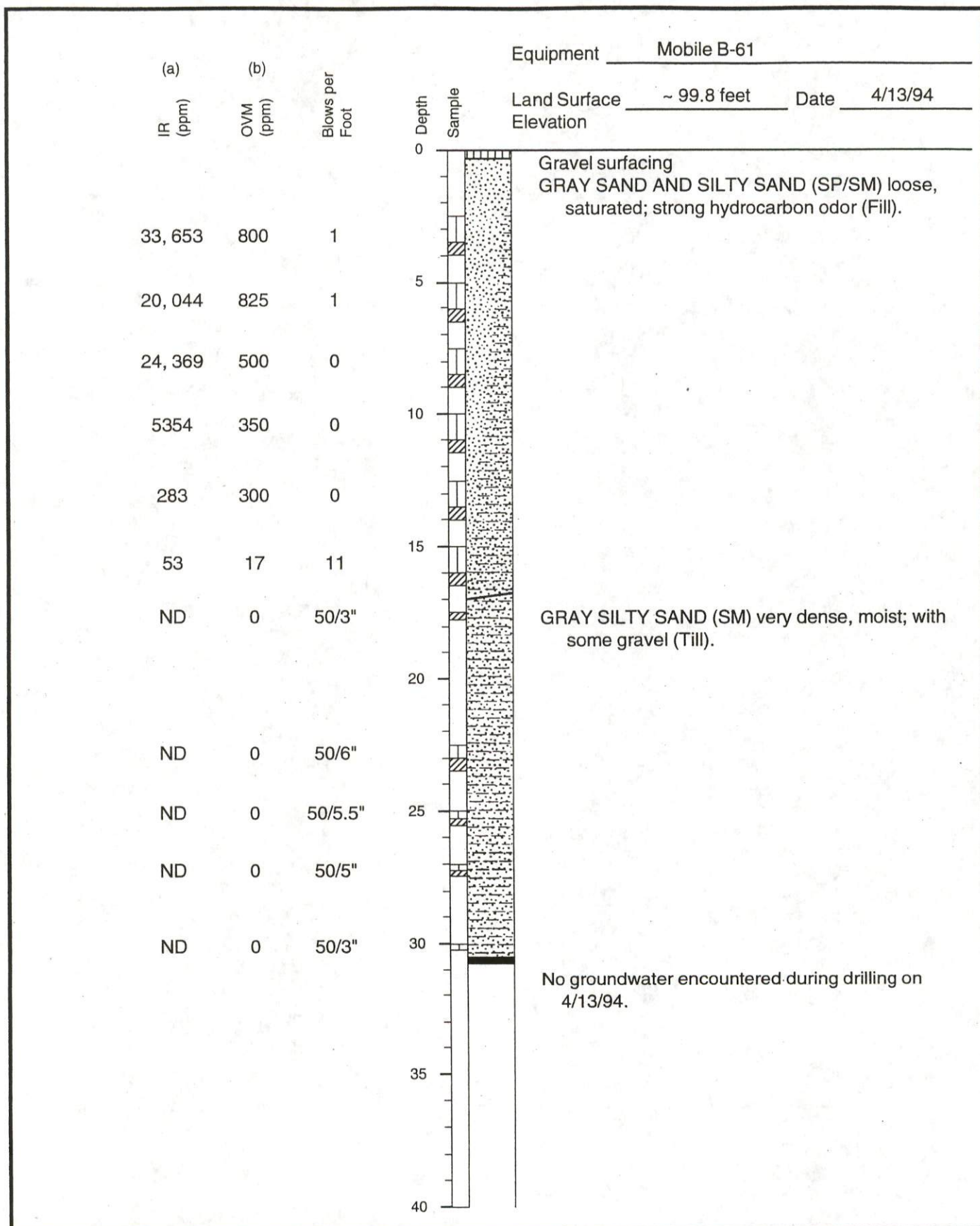
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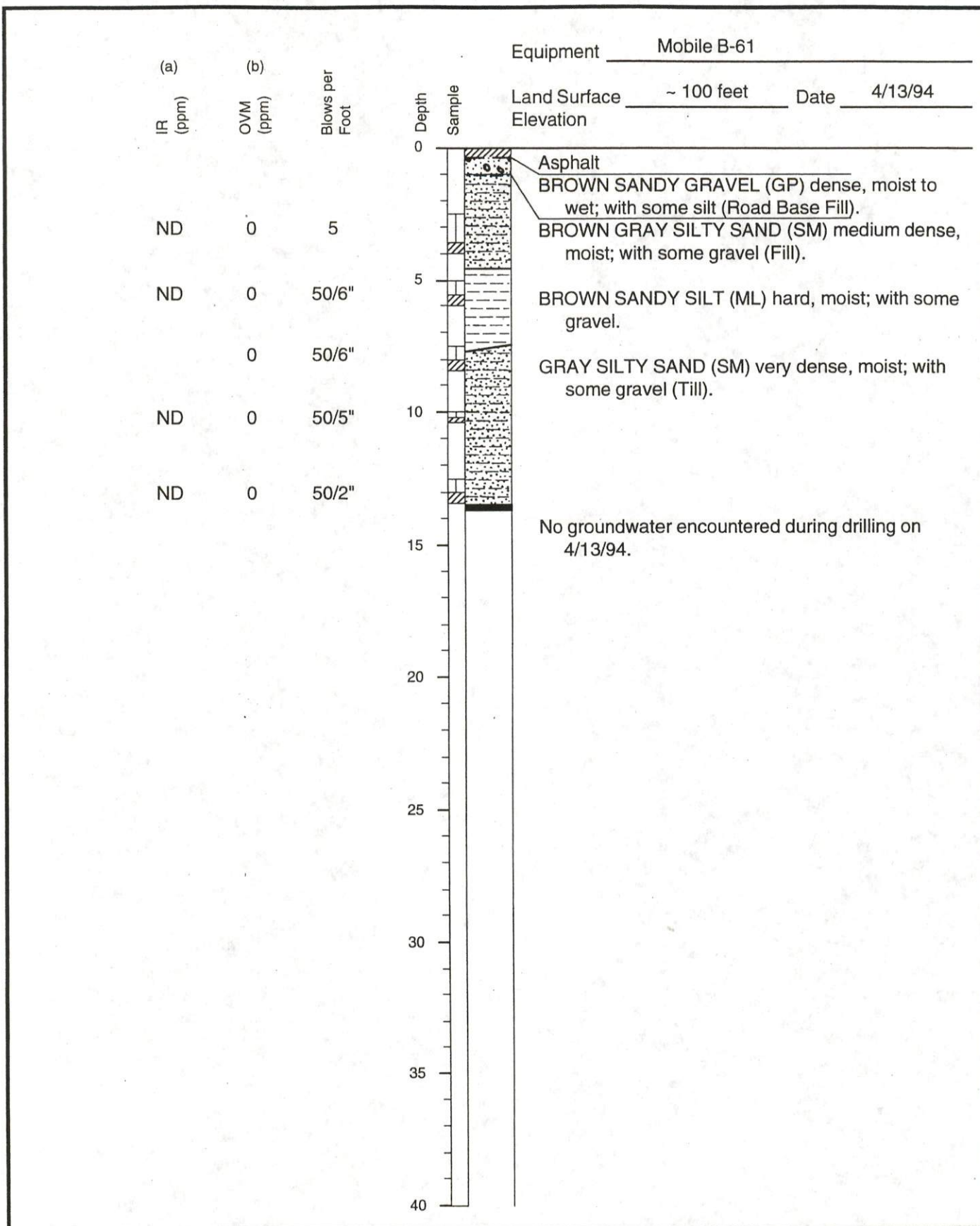
DATE
7/27/94

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AGI
TECHNOLOGIES

Log of Boring 7 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - West Fuel Farm
Snohomish County, Washington

PLATE

B9

512206B2.PM5

PROJECT NO.
15,512.206

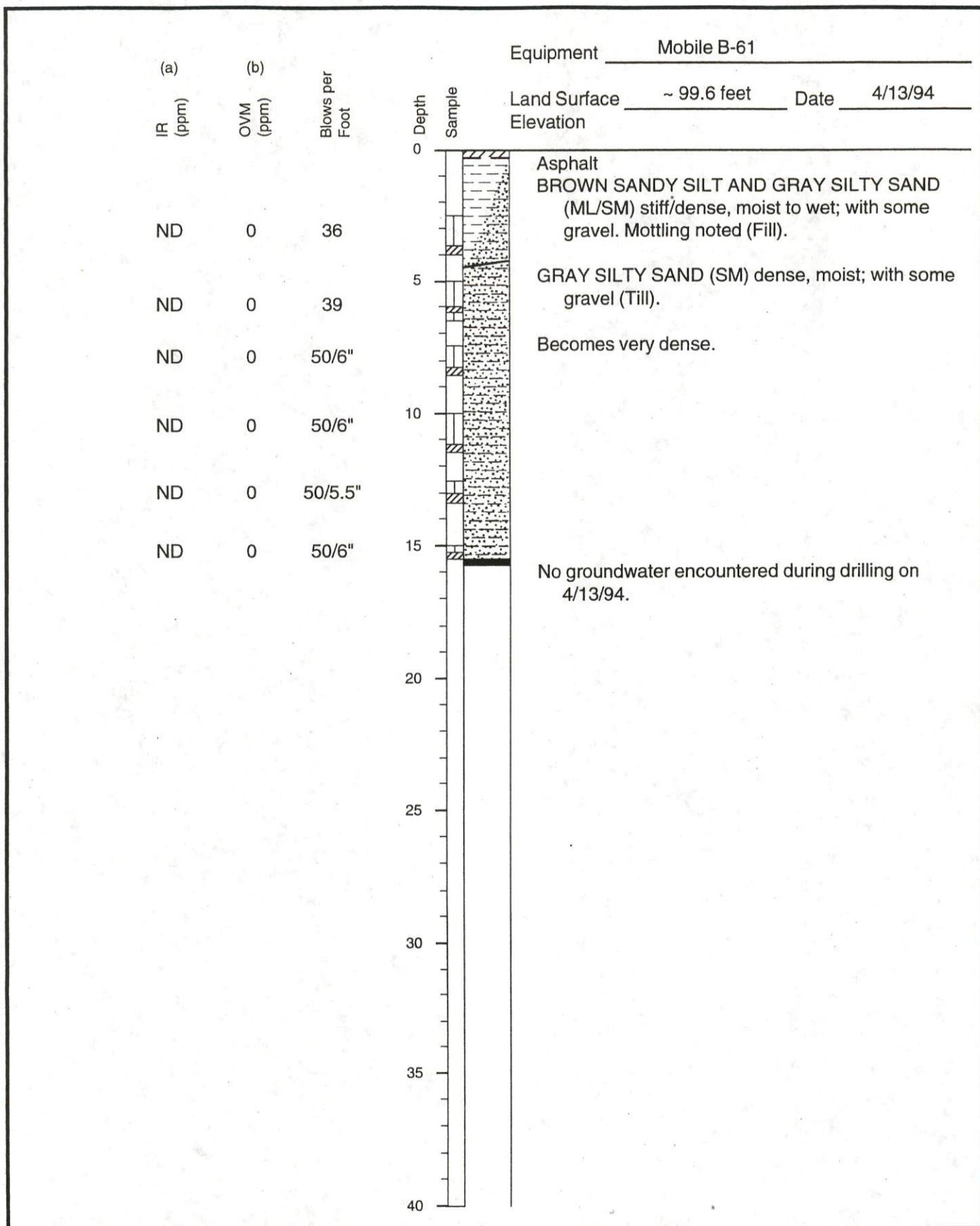
DRAWN
JFL

DATE
7/27/94

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JFL

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DATE



AGI
TECHNOLOGIES

512206B2.PM5

Log of Boring 8 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - West Fuel Farm
Snohomish County, Washington

PROJECT NO.
15,512.206

DRAWN
JFL

DATE
7/27/94

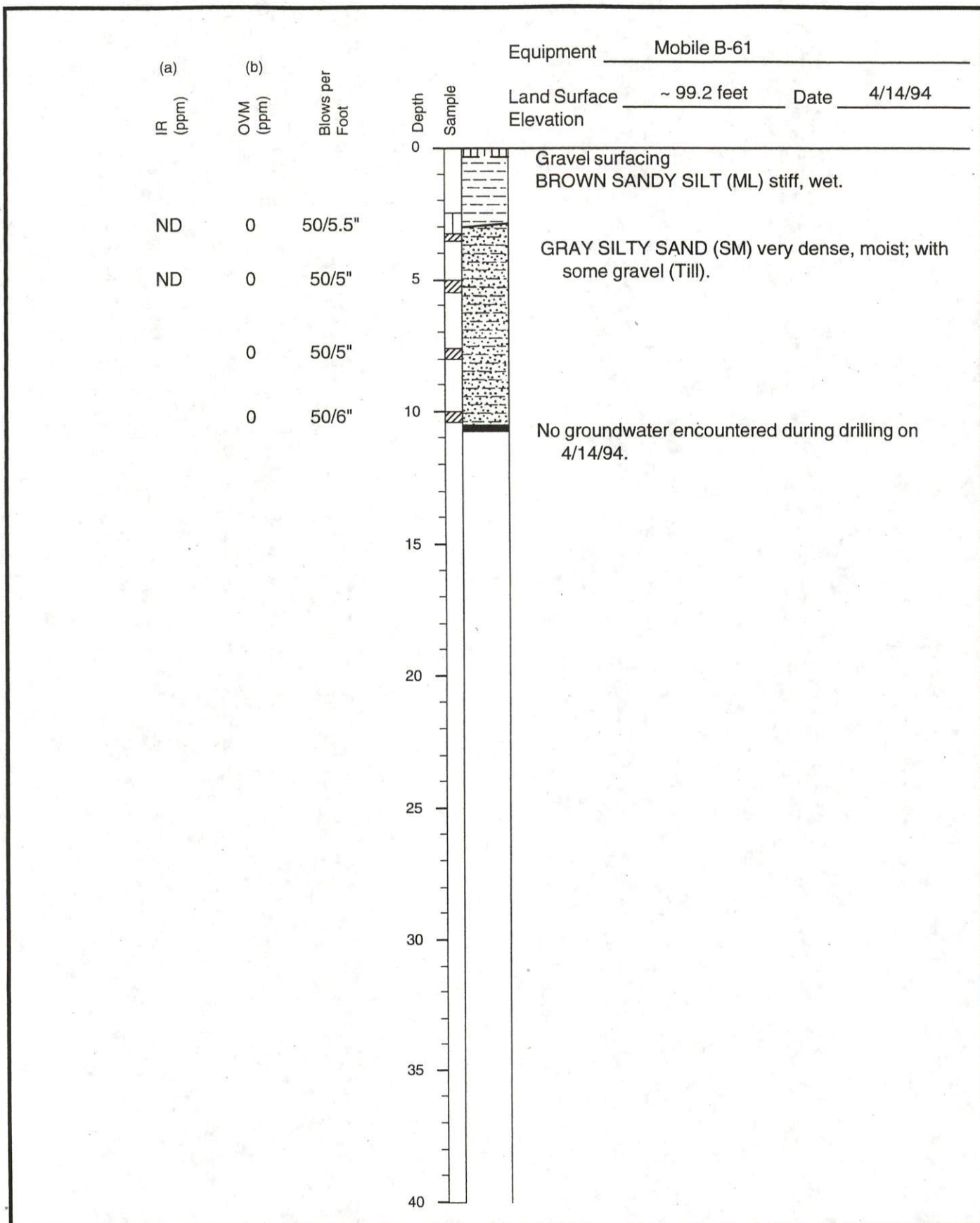
APPROVED

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PLATE

B10

DATE



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TECHNOLOGIES

Log of Boring 9 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - West Fuel Farm
Snohomish County, Washington

PLATE

B11

512206B2.PM5

PROJECT NO.
15,512.206

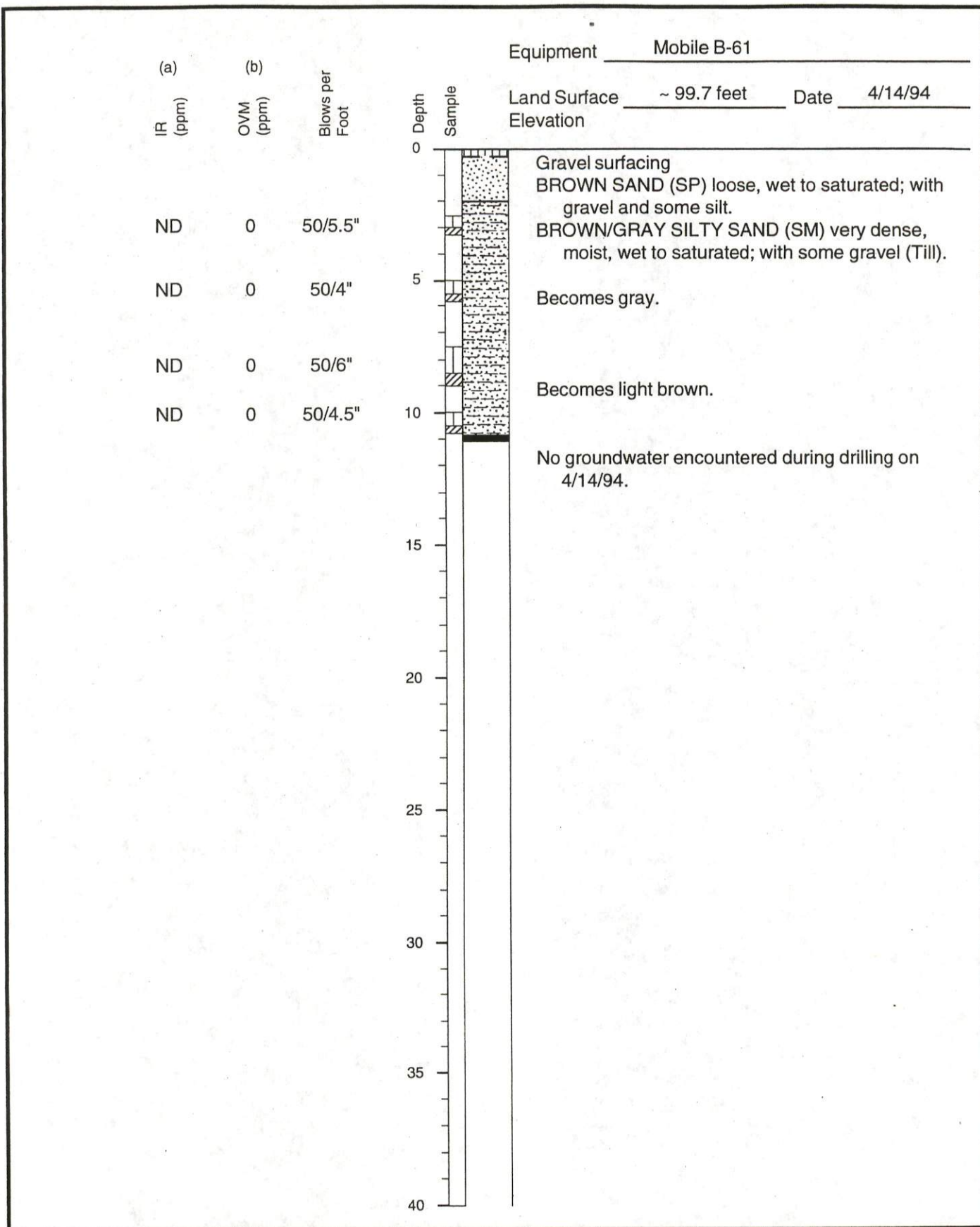
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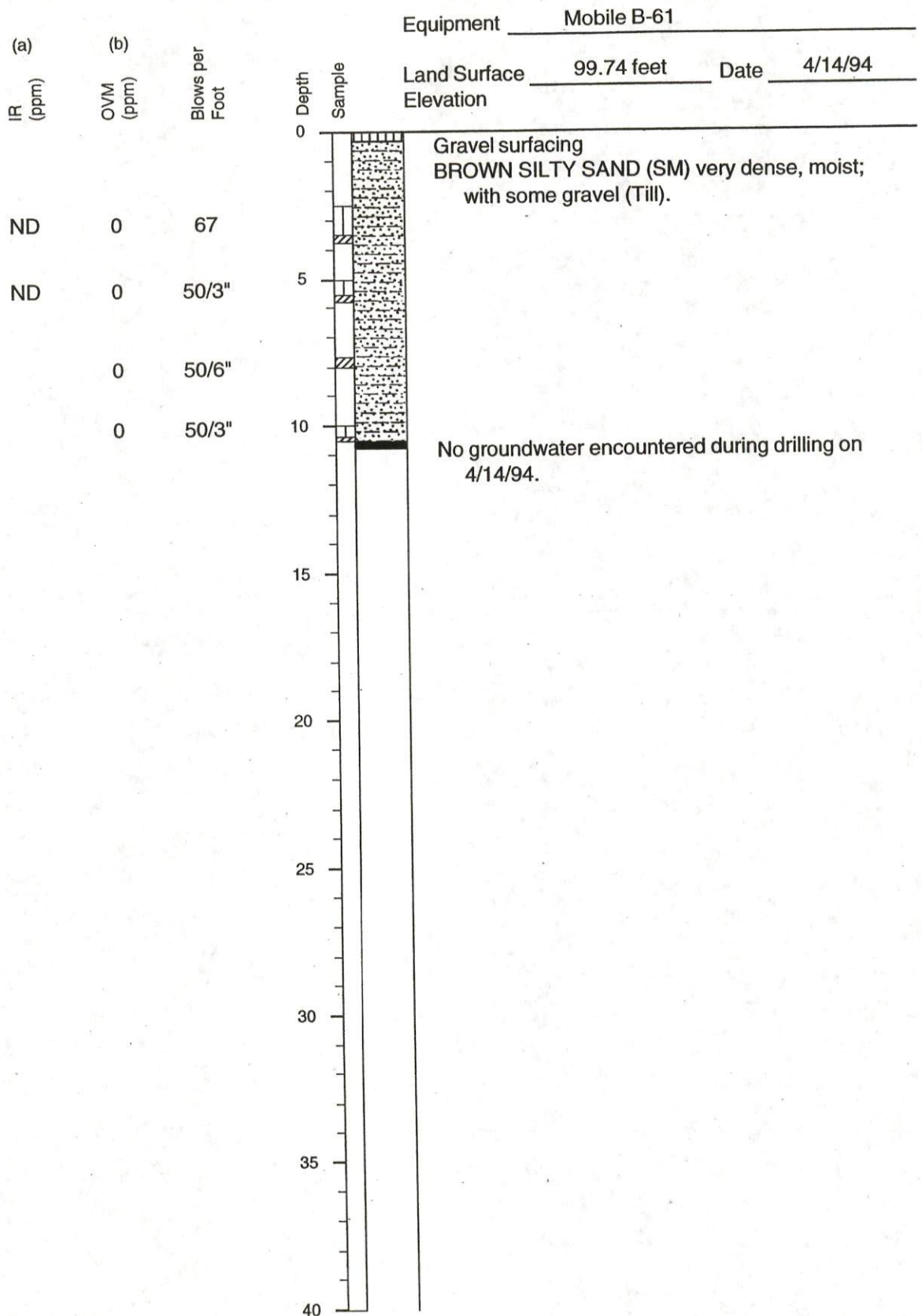
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TECHNOLOGIES

512206B3.PM5

Log of Boring 11 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - West Fuel Farm
Snohomish County, Washington

PROJECT NO.
15,512.206

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JFL

DATE
7/27/94

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PLATE

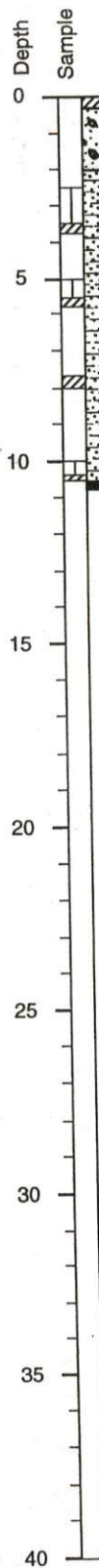
B13

DATE

Equipment Mobile B-61

Land Surface Elevation 99.79 feet Date 4/14/94

(a) IR (ppm)	(b) OVM (ppm)	Blows per Foot
361	254	50/5.5"
ND	0	50/4"
ND	0	50/6"
	0	50/5.5"



Asphalt
BROWN SANDY GRAVEL (GP) dense, moist; with some silt (Road Base Fill).
Slight petroleum hydrocarbon odor at 2 feet.
BROWN SILTY SAND (SM) very dense, moist; with some gravel (Till).

No groundwater encountered during drilling on 4/14/94.

AGI
TECHNOLOGIES

Log of Boring 12 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - West Fuel Farm
Snohomish County, Washington

PLATE

B14

512206B3.PM5

PROJECT NO.
15,512.206

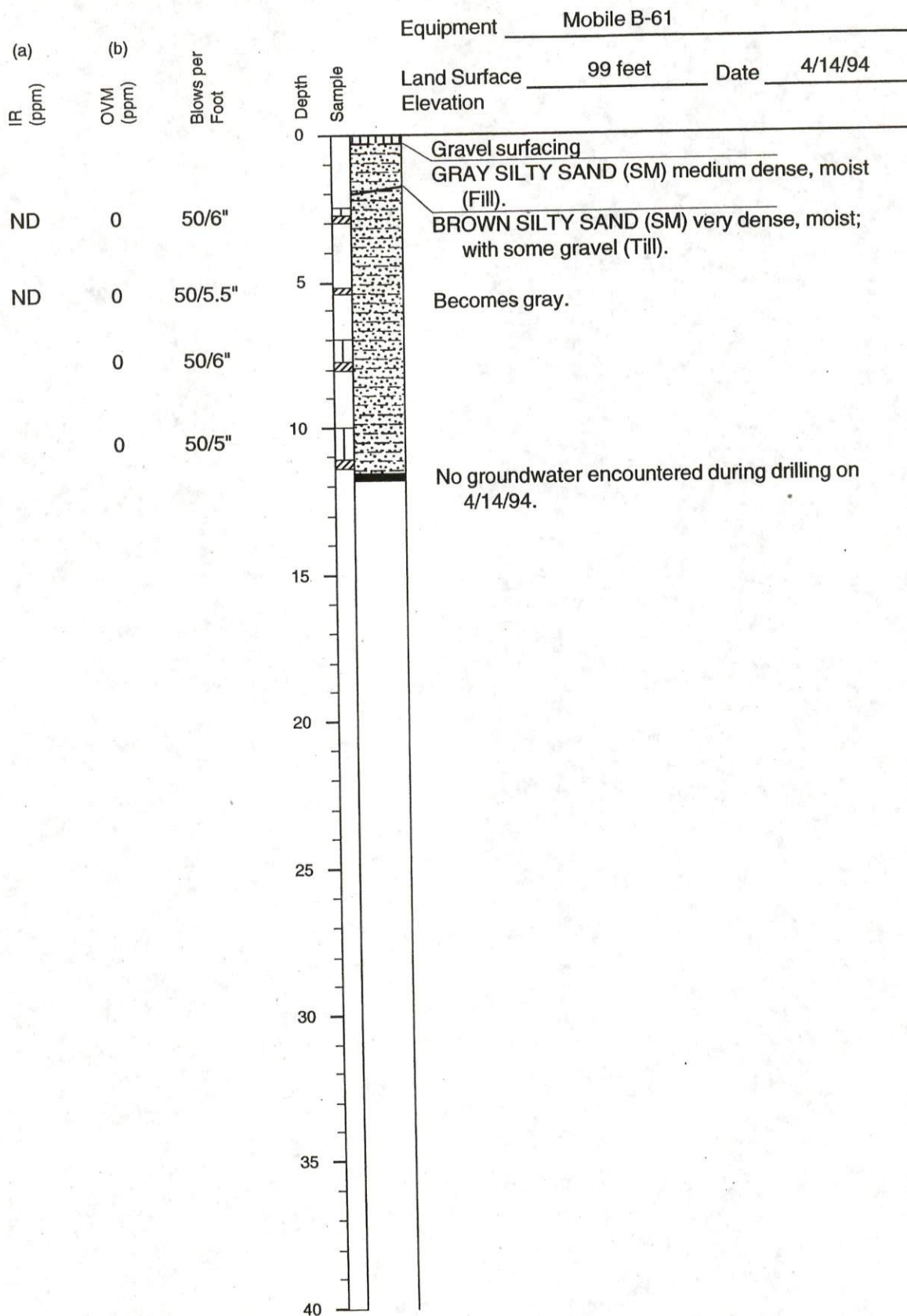
DRAWN
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DATE
7/27/94

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DATE



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TECHNOLOGIES

512206B3.PM5

Log of Boring 13 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - West Fuel Farm
Snohomish County, Washington

PROJECT NO.
15,512.206

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7/27/94

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PLATE

B15

				Equipment	Mobile B-61	
				Land Surface Elevation	99.04 feet	Date 4/14/94
(a) IR (ppm)	(b) OVM (ppm)	Blows per Foot	Depth Sample			
			0	Concrete		
				BROWN SILTY SAND/SILTY GRAVEL (SM/GM)		
				dense, moist (Fill).		
				GRAY SANDY SILT (ML) medium stiff, wet.		
ND	0	50/6"				
			5	GRAY SILTY SAND (SM) very dense, moist; with		
				some gravel (Till).		
ND	0	50/5.5"				
		50/5.5"				
			10	BLACK SILTY SAND/SAND GRAVEL (SM/GP)		
ND	20	50/5.5"		very dense, wet; with some silt.		
				GRAY SILTY SAND (SM) very dense, moist; with		
ND	0	50/.5"		some gravel.		
			15	GRAY SAND (SP) very dense, wet to saturated;		
ND	0	50/3"		with some silt and gravel.		
		50/6"		GRAY SILTY SAND (SM) very dense, moist; with		
	0			some gravel.		
ND	0	50/6"	20	Becomes sandier, moist to wet.		
ND	0	50/5.5"		No groundwater encountered during drilling on		
				4/14/94.		
			25			
			30			
			35			
			40			

AGI
TECHNOLOGIES

Log of Boring 15 (0-40')

Snohomish County Airport/Paine Field Fuel Farm Assessment - East Fuel Farm
Snohomish County, Washington

PLATE

B17

512206B3.PM5

PROJECT NO.
15,512.206

DRAWN
JFL

DATE
7/27/94

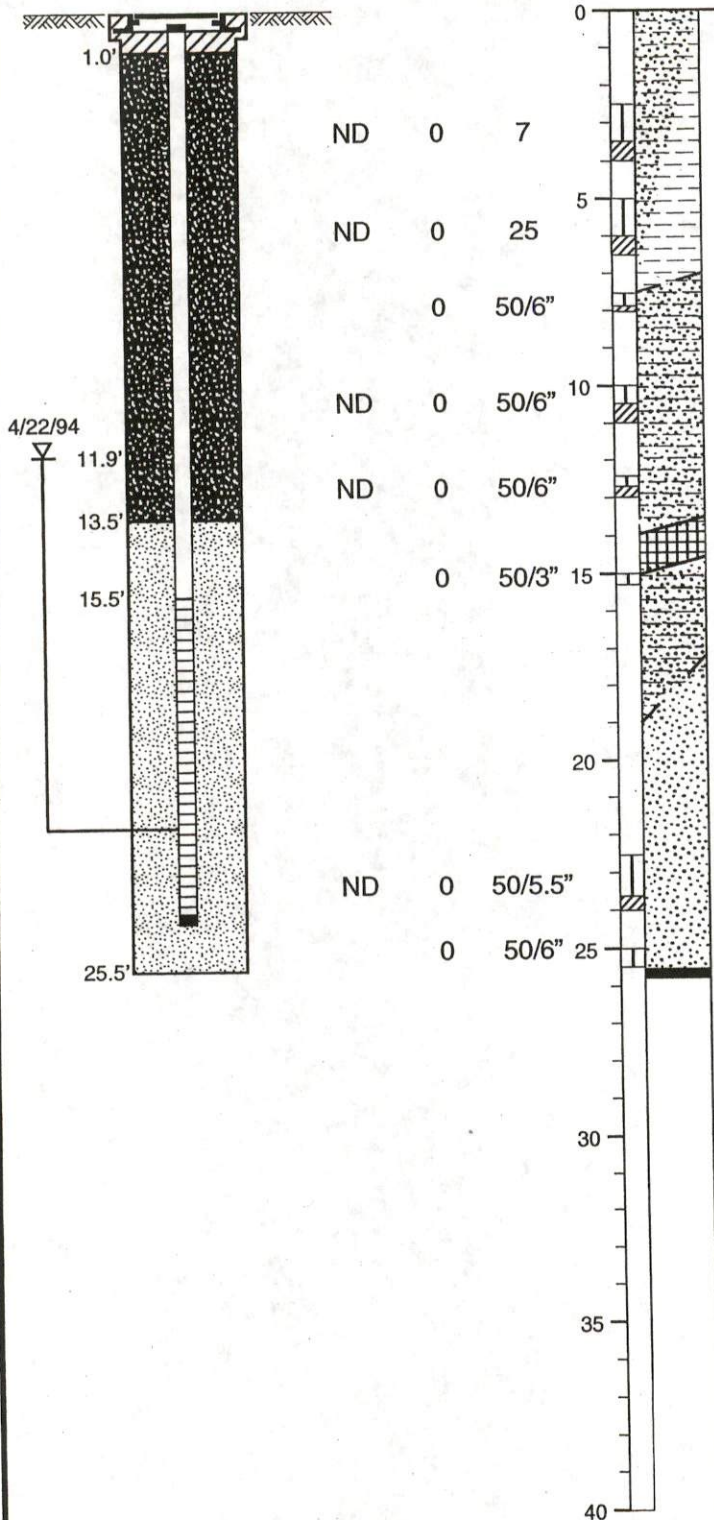
APPROVED
[Signature]

REVISED

DATE

Well Construction
Summary

Equipment Mobile B-61
Land Surface ~ 99.3 feet Date 4/18/94
Elevation



BROWN GRAY SILTY SAND AND SANDY SILT (SM/ML) medium dense to medium stiff, moist to wet; mottling noted (Fill).

GRAY SILTY SAND (SM) very dense, moist; with some gravel (Fill).

Concrete encountered at 14 feet.
GRAY SILTY SAND (SM) very dense, moist; with some gravel (Till).

Gravel layer encountered at 18 feet.
GRAY GRAVELLY SAND (SP) very dense, saturated; interlayered with GRAY SILTY SAND (SM) very dense, wet to saturated.

Groundwater encountered at 22.5 feet on 4/18/94.

AGI
TECHNOLOGIES

Log of Monitoring Well B16/MW1

Snohomish County Airport/Paine Field Fuel Farm Assessment - East Fuel Farm
Snohomish County, Washington

PLATE

B18

512206MW.PM5

PROJECT NO.
15,512.206

DRAWN
JFL

DATE
7/27/94

APPROVED
[Signature]

REVISED

DATE

Equipment Mobile B-61Land Surface Elevation ~ 99.1 feet Date 4/18/94

(a) IR (ppm)	(b) OVM (ppm)	Blows per Foot
ND	0	7
ND	0	5
ND	0	8
ND	0	7
	0	50/4"
	0	50/3"
	0	50/5.5"
	0	50/6"
	0	50/5.5"
	0	50/3"
	0	50/3"
	0	50/4.5"
	0	50/3"

Depth
Sample

0

5

10

15

20

25

30

35

40

BROWN GRAVELLY SAND SILTY SAND (SP/SM)
medium dense, wet; mottling noted (Fill).

Becomes saturated at 6 feet.

GRAY SILTY SAND (SM) medium dense, wet to
saturated; with some gravel.
Becomes wet at 13 feet.

Becomes moist at 15.5 feet.

Perched groundwater encountered at 6-11 feet in
fill during drilling on 4/18/94.

AGI
TECHNOLOGIES

512206B4.PM5

Log of Boring 17 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - East Fuel Farm
Snohomish County, Washington

PROJECT NO.
15,512.206

DRAWN
JFL

DATE
7/27/94

APPROVED
SJB

REVISED

DATE

PLATE

B19

				Equipment	Mobile B-61	
(a)	(b)			Land Surface	~ 99.7 feet	Date 4/19/94
IR	OVM	Blows per	Depth	Elevation		
(ppm)	(ppm)	Foot	Sample			
			0			Gravel surfacing
						BROWN GRAY SILTY SAND (SM) medium dense, moist to wet; with some gravel (Fill).
ND	0	3				
			5			With interlayers of sandy silt.
ND	0	10				Becomes saturated at 6 feet.
138	235	15				Slight hydrocarbon odor noted.
ND	0					
ND	0	61	10			
						GRAY SILTY SAND (SM) very dense, moist; with some gravel (Till).
ND	0	50/6"				Wet to saturated coarse sand and gravel stringers at 12.5 feet.
ND	0	50/6"	15			Becomes moist at 15 feet.
ND	0	50/6"	20			
ND	0	50/6"	25			
ND	0	50/6"	30			Perched groundwater encountered at 6-10 feet in fill during drilling on 4/19/94.
			35			
			40			

AGI
TECHNOLOGIES

512206B4.PM5

Log of Boring 18 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - East Fuel Farm
Snohomish County, Washington

PROJECT NO.
15,512.206

DRAWN
JFL

DATE
7/27/94

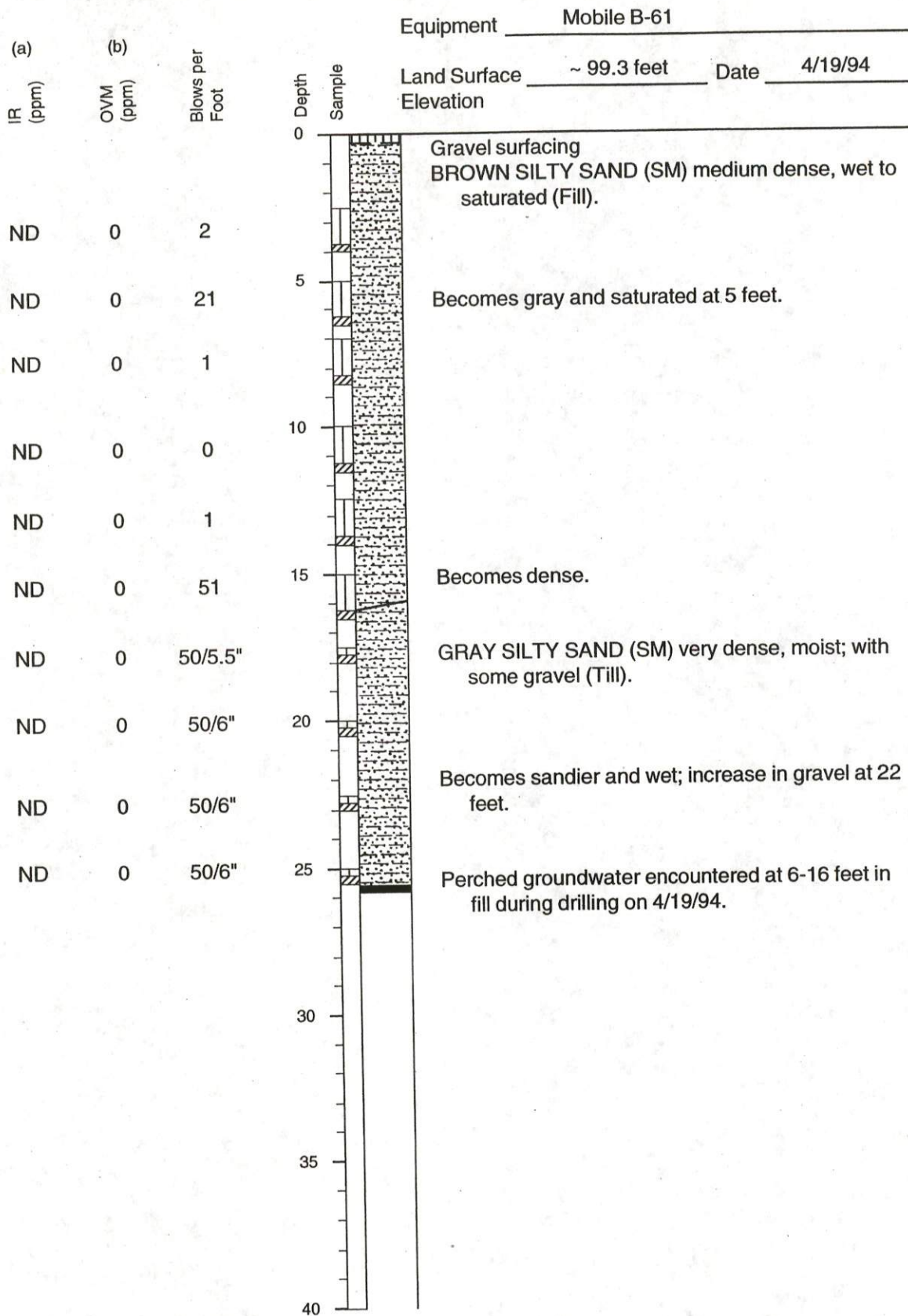
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REVISED

DATE

PLATE

B20



AGI
TECHNOLOGIES

Log of Boring 19 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - East Fuel Farm
Snohomish County, Washington

PLATE

B21

512206B4.PM5

PROJECT NO.
15,512.206

DRAWN
JFL

DATE
7/27/94

APPROVED
[Signature]

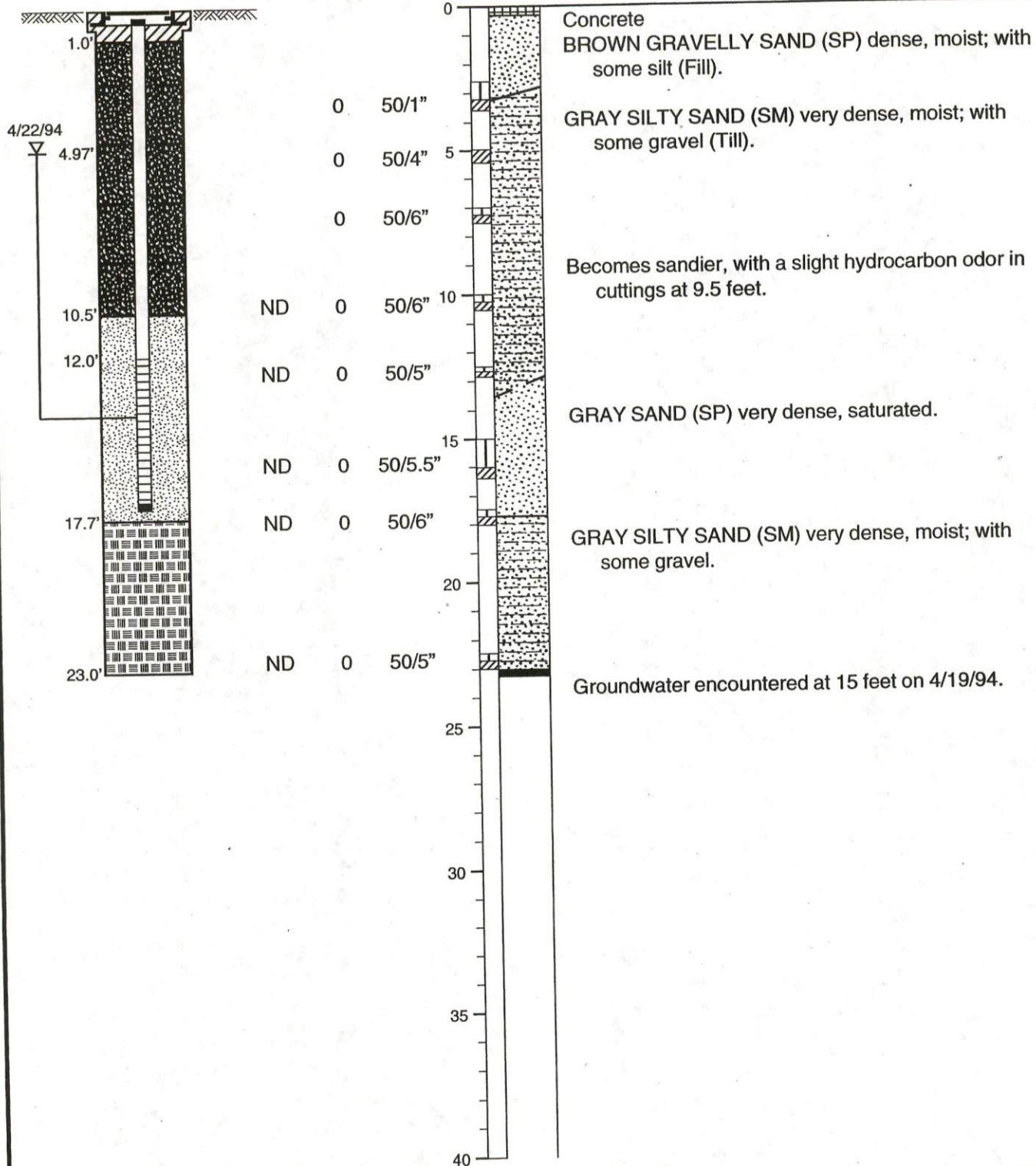
REVISED

DATE

Well Construction
Summary

Equipment Mobile B-61

Land Surface ~ 99 feet Date 4/19/94
Elevation



AGI
TECHNOLOGIES

Log of Monitoring Well B20/MW2

Snohomish County Airport/Paine Field Fuel Farm Assessment - East Fuel Farm
Snohomish County, Washington

PLATE

B22

512206MW.PM5

PROJECT NO.
15,512.206

DRAWN
JFL

DATE
7/27/94

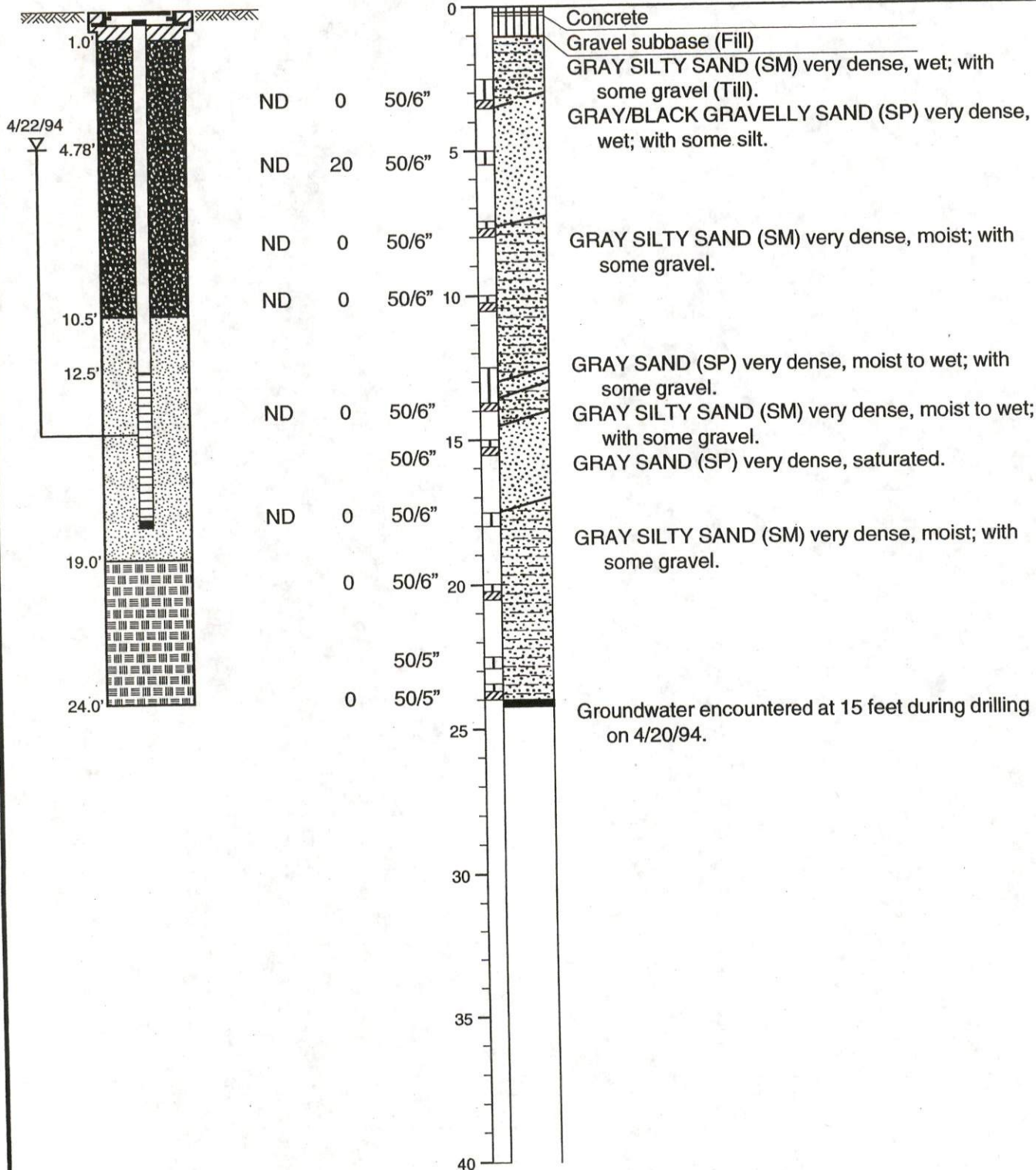
APPROVED
[Signature]

REVISED

DATE

Well Construction
Summary

Equipment Mobile B-61
Land Surface ~ 99 feet Date 4/20/94
Elevation



AGI
TECHNOLOGIES

Log of Monitoring Well B21/MW3
Snohomish County Airport/Paine Field Fuel Farm Assessment - East Fuel Farm
Snohomish County, Washington

PLATE

B23

512206MW.PM5

PROJECT NO.
15,512.206

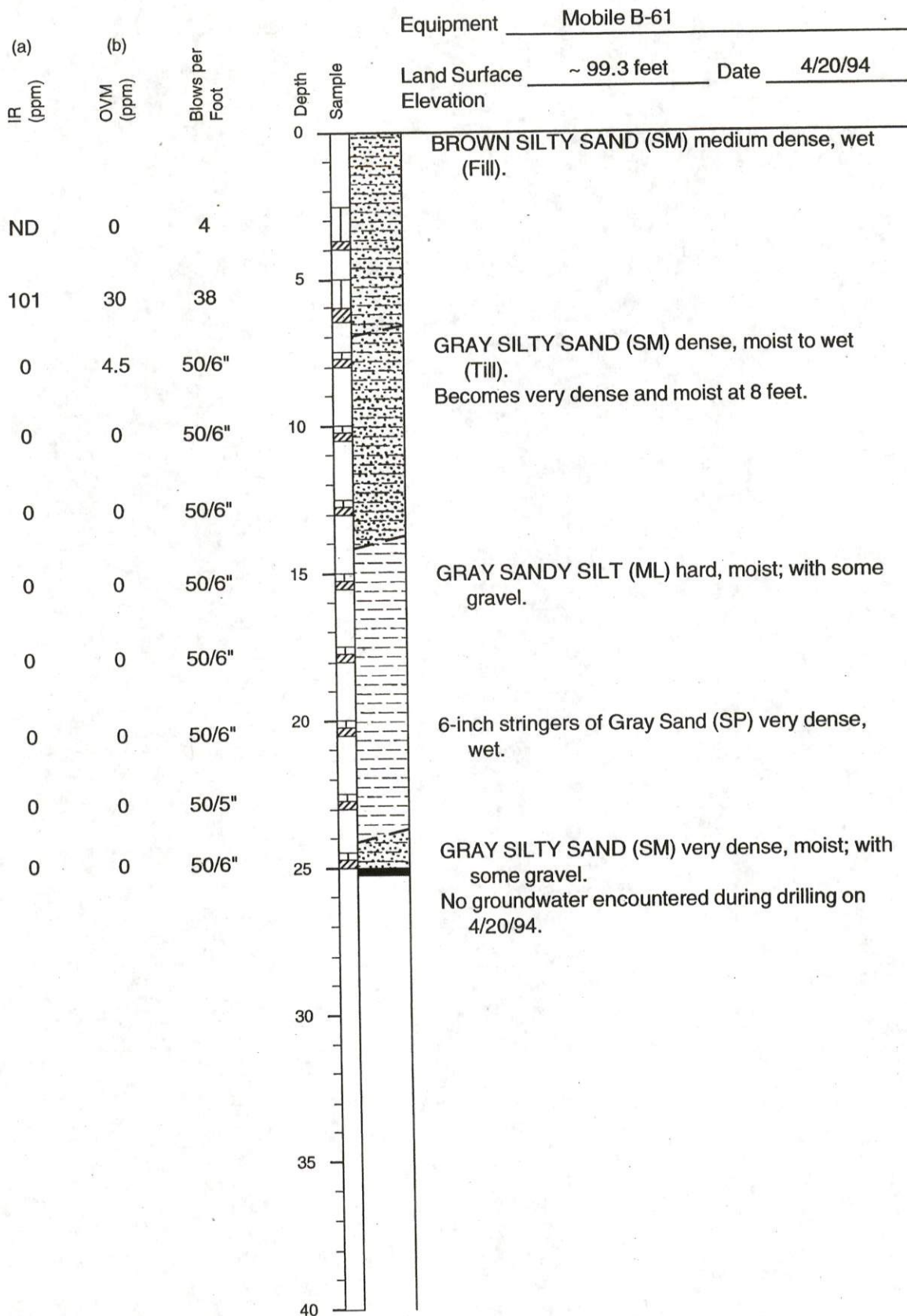
DRAWN
JFL

DATE
7/27/94

APPROVED
800

REVISED

DATE



AGI
TECHNOLOGIES

Log of Boring 22 (0-40')
Snohomish County Airport/Paine Field Fuel Farm Assessment - East Fuel Farm
Snohomish County, Washington

PLATE

B24

512206B4.PM5

PROJECT NO.
15,512.206

DRAWN
JFL

DATE
7/27/94

APPROVED
[Signature]

REVISED

DATE

Well Construction
Summary

(a)
IR
(ppm)

(b)
OVM
(ppm)

Blows per
Foot

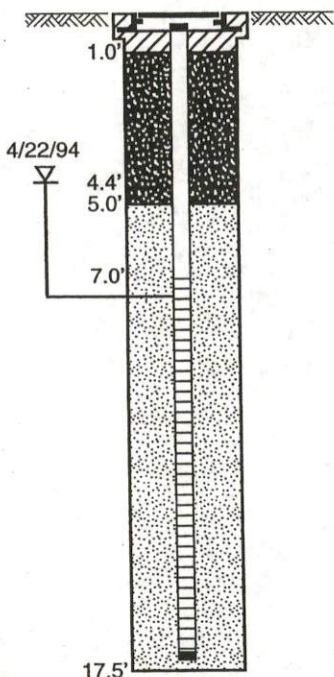
Depth
Sample

Equipment

Mobile B-61

Land Surface ~ 99.4 feet
Elevation

Date 4/20/94



0

5

10

15

20

25

30

35

40

Gravel surfacing
BROWN SILTY SAND (SM) loose to medium dense,
moist to wet (Fill).

Becomes saturated at 7.5 feet.

GRAY SILTY SAND (SM) very dense; with some
gravel (Till).

Groundwater encountered at 7.5 feet on 4/20/94.

AGI
TECHNOLOGIES

Log of Monitoring Well B23/MW4

Snohomish County Airport/Paine Field Fuel Farm Assessment - East Fuel Farm
Snohomish County, Washington

PLATE

B25

512206MW.PM5

PROJECT NO.
15,512.206

DRAWN
JFL

DATE
7/27/94

APPROVED
[Signature]

REVISED

DATE



UNDERGROUND STORAGE TANK Closure and Site Assessment Notice

See back of form for instructions

NW Snohomish

FOR OFFICE USE ONLY
Site ID #: <u>350</u>
Owner ID #: _____

Please ☒ the appropriate box(es)
☐ Temporary Tank Closure ☒ Change-In-Service ☐ Permanent Tank Closure ☐ Site Check/Site Assessment

RECEIVED
OCT 23 2000
ECOLOGY

Site Information

Site ID Number 350
(Available from Ecology if the tanks are registered)
Site/Business Name East and West Fuel Farms
Street
Site Address Paine Field

Owner Information

(This form will be returned to this address)

Owner/Operator Paine Field
Mailing Address 3220 100th St SW
Street

City/State Everett WA
Zip Code 98204 Telephone () _____

City/State Everett, WA
Zip Code 98204-1390 Telephone (425) 353-2110

Owners Signature [Signature]

Tank Closure/Change-In-Service Company

Service Company Camp Dresser + McKee (AGT Technologies)
Certified Supervisor Lance E. Peterson Decommissioning Certification No. 1051116-26
Supervisor's Signature [Signature] Date 10/17/00
Address 11811 NE 1st Street Suite 201 P.O. 3885
Street P.O. Box
Bellevue WA 98005 (98009) Telephone (425) 453 8383
City State Zip Code

Site Check/Site Assessor

Certified Site Assessor [Signature] Camp Dresser + McKee (AGT Technologies)
Address 11811 NE 1st Street P.O. 3885
Street P.O. Box
Bellevue WA 98005 (98009) Telephone (425) 453 8383
City State Zip Code

Contamination Present at the Time of Closure

☐ Yes ☐ No ☐ Unknown
Check unknown if no obvious
contamination was observed
and sample results have not
yet been received from
analytical lab.

☐ Yes ☐ No
If contamination is present,
has the release been reported
to the appropriate regional
office?

Tank Information

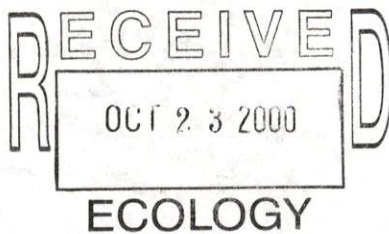
Tank ID	Closure Date	Closure Method	Tank Capacity	Substance Stored
<u>96</u>	<u>6/26/96</u>	<u>empty/clean</u>	<u>50,000 g</u>	<u>JP4 AV Fuel</u>
<u>97</u>	<u>6/26/96</u>	<u>empty/clean</u>	<u>50,000 g</u>	<u>JP4 AV Fuel</u>
<u>93</u>	<u>6/26/96</u>	<u>empty/clean</u>	<u>25,000 g</u>	<u>Jet A</u>

RECEIVED

OCT 31 2000

DEPT. OF ECOLOGY

To receive this document in an alternative format, contact the TOXICS CLEANUP PROGRAM at 1-800-826-7716 (VOICE) OR (360) 407-6006 (TDD).



NW Snohomish
UST 350

CDM Transmittal

CDM Camp Dresser & McKee Inc.

AGI Technologies

11811 N.E. 1st Street, Suite 201
Bellevue, Washington 98005-3033
Tel: (425) 453-8383
Fax: (425) 646-9523

To: Toxics Cleanup Program
Organization/
Address: Department of Ecology
P.O. Box 47655
Olympia, Washington 98504

From: Pam Morrill
Date: October 20, 2000

Re: UST Closure

Job #: 19947-30972-RT

Via: *Mail:* X *Overnight:* *Courier:*

Enclosed please find: Closure Notice and Assessment

For your information

For your review

For your signature

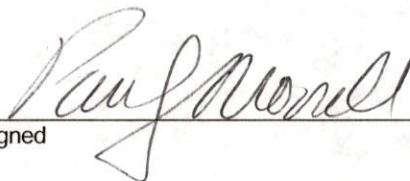
X

Approved

Approved as noted

Returned to you for correction

● **Message:**


Signed