

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

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TES 9
B+V

DMTCE
OU 2
3.2

EPA Region VII
Tes IX - Des Moines TCE Site

BVWST Project 45526.300
BVWST File C.3
November 29, 1990

U.S. EPA Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Site:	DMTCE 002
ID#:	LAD 980679 SS
Block:	3.2
Other:	B+V

Subject: DICO Property - Fall 1990
Supplemental Investigation
Oversight

Attention: Mr. Glenn Curtis
Work Assignment Manager

Gentlemen:

Enclosed is a brief memorandum dated November 28, 1990 pertaining to oversight observations and work progress of the PRP-conducted Supplemental Investigation on the DICO, Inc. property of the Des Moines TCE site.

Please call should you have any questions concerning the enclosed memorandum.

Very truly yours,

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

Craig A. Willis

Craig A. Willis

dsm
Enclosure

cc: Mr. Gary Felkner, w/enclosure

30221169



Superfund

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

MEMORANDUM

**EPA REGION VII
TES IX
Des Moines TCE Site**

**B&V Project 45526.300
November 28, 1990**

To: Craig Willis (PM)/File

From: Gary Felkner

Re: Oversight of the Eckenfelder Inc. field sampling for the Source Control Operable Unit RI on the DICO Inc. portion of the Des Moines TCE site.

This memorandum summarizes the observations of TES IX Field Team Representative Gary Felkner during oversight efforts on November 6 to November 8, 1990 and November 17 to November 19, 1990. Summary tables presenting the sampling progress of Eckenfelder, Inc., a photocopy of the field notes, and oversight photographs are attached for reference.

November 6, 1990

- Eckenfelder, Inc. collected samples SB-28, SB-29, SB-30, SB-31, SB-32, SB-33, SB-40, and SB-41 before Mr. Felkner arrived onsite.
- Eckenfelder, Inc. attempted to measure for the presence of DNAPL in recovery wells ERW-6 and ERW-7. Well construction does not provide an adequate opening in the well casing; therefore, Eckenfelder personnel attempted to measure for DNAPL using the recovery well piezometers. However, well construction diagrams show the bottom of the piezometers to be above bedrock, so, the piezometer cannot be used. Eckenfelder proposed to pull the well pumps and measure for DNAPL using the main well casing.

November 7, 1990

- Mr. Felkner delivered USEPA performance evaluation sample OQ425-001 for HSL volatile organics analysis to Mike Watkins of Eckenfelder, Inc.
- Eckenfelder, Inc. collected samples SB-42, SB-43, SB-44, SB-45, and SB-46.
- A split sample was collected from sample SB-44 and designated as DSX43-001. Eckenfelder, Inc. will analyze its sample for pesticides only. The USEPA will analyze its split sample for TCL and TAL contaminants.

EPA REGION VII
TES IX
Des Moines TCE Site

B&V Project 45526.300
November 28, 1990

- Eckenfelder's crew collected the shallow boring samples using the same technique used during the earlier phases of the RI.
- The thickness of floating product was measured in the abandoned water well. The well contained 0.46 feet of floating product (LNAPL) and no sinking product (DNAPL).

November 8, 1990

- Eckenfelder, Inc. crew bailed approximately thirteen gallons from the abandoned well and reduced the thickness of floating product to 0.01 feet.
- The drilling subcontractor, Layne-Western Co., arrived onsite.

November 17, 1990

- Layne-Western Co. set up an electric drilling rig to drill deep borings DB-69 and DB-70.
- Observed drilling and sampling of deep auger boring DB-69.
 - A USEPA split sample was collected from DB-69, 4.5-5.0 foot sample interval, and was designated as DSX43-002. Eckenfelder will analyze their sample for volatile organics only. USEPA will analyze their split sample for TCL and TAL contaminants.

November 18, 1990

- Mr. Felkner delivered USEPA performance evaluation sample QQ025-001 for volatile organics analysis to Carl Rhodes of Eckenfelder, Inc.
- Observed drilling and sampling of deep auger boring DB-70.

MEMORANDUM

Page 3

EPA REGION VII
TES IX
Des Moines TCE Site

B&V Project 45526.300
November 28, 1990

November 19, 1990

- Observed drilling and sampling of deep auger boring DB-64.
 - A USEPA split sample was collected from DB-64, 8.2-8.8 foot sample interval, and was designated as DSX43-003. Eckenfelder will analyze their sample for volatile organics only. USEPA will analyze their split sample for TCL and TAL contaminants.
 - A black, tacky substance was observed in samples collected from 7.0 to 8.2 feet. Diesel odors were noted.

kg

Attachments - Field Notes (logbook pages 1 through 25)
Site Photographs (25)

**DES MOINES TCE SITE
SAMPLING SUMMARY
FALL 1990**

<u>BORING NO.</u>	<u>SAMPLE INTERVAL DEPTH (FEET)</u>	<u>DATE SAMPLED BY ECKENFELDER, INC.</u>	<u>EPA SPLIT SAMPLE COLLECTED</u>	<u>SAMPLING OBSERVED DURING TES IX OVERSIGHT</u>	<u>REMARKS</u>
<u>SHALLOW BORING SAMPLES</u>					
SB-28	1.5 - 2.0	11-6-90	--	NO	172 ppm OVA (HSA)
SB-29	1.5 - 2.0	11-6-90	--	NO	434 ppm OVA (HSA)
SB-30	1.5 - 2.0	11-6-90	--	NO	232 ppm OVA (HSA)
SB-31	1.5 - 2.0	11-6-90	--	NO	40 ppm OVA (HSA)
SB-32	1.5 - 2.0	11-6-90	--	NO	55 ppm OVA (HSA)
SB-33	1.5 - 2.0	11-6-90	--	NO	46 ppm OVA (HSA)
SB-34	1.0 - 3.0 4.0 - 4.5	11-9-90 11-9-90	-- --	NO NO	848 ppm OVA (HSA) 2 ppm OVA (HSA)
SB-35	4.0 - 4.5	11-8-90	--	NO	10 ppm OVA (HSA)
SB-36	4.0 - 4.5	11-8-90	--	NO	2 ppm OVA (HSA)
SB-37	4.0 - 4.5	11-9-90	--	NO	0 ppm OVA (HSA)

DES MOINES TCE SITE
SAMPLING SUMMARY
FALL 1990

<u>BORING NO.</u>	<u>SAMPLE INTERVAL DEPTH (FEET)</u>	<u>DATE SAMPLED BY ECKENFELDER, INC.</u>	<u>EPA SPLIT SAMPLE COLLECTED</u>	<u>SAMPLING OBSERVED DURING TES IX OVERSIGHT</u>	<u>REMARKS</u>
<u>SHALLOW BORING SAMPLES (continued)</u>					
SB-38	4.0 - 4.5	11-9-90	--	NO	0 ppm OVA (HSA)
SB-39	4.0 - 4.5	11-9-90	--	NO	2 ppm OVA (HSA)
SB-40	1.5 - 2.0	11-6-90	--	NO	40 ppm OVA (HSA)
SB-41	1.5 - 2.0	11-6-90	--	NO	42 ppm OVA (HSA)
SB-42	2.5 - 3.0	11-7-90	--	YES	57 ppm OVA (HSA)
SB-43	2.5 - 3.0	11-7-90	--	YES	32 ppm OVA (HSA)
SB-44	2.5 - 3.0	11-7-90	Note 1	YES	20 ppm OVA (HSA)
SB-45	2.0 - 2.5	11-7-90	--	YES	26 ppm OVA (HSA)
SB-46	2.5 - 3.0	11-7-90	--	YES	10 ppm OVA (HSA)

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SAMPLING SUMMARY
FALL 1990**

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<u>DEEP BORING SAMPLES</u>					
DB-64	8.2 - 8.8	11-19-90	Note 1	YES	314 ppm OVA (HSA) 1000+ ppm OVA (HSA) Fill to 8.2 ft.; GW at 17 ft.
	11.0 - 13.0	11-19-90	--	YES	
DB-65	8.2 - 9.0	11-19-90	--	NO	80 ppm OVA (HSA) 820 ppm OVA (HSA) Fill to 8.2 ft.; GW at 17.2 ft.
	11.0 - 13.0	11-19-90	--	NO	
DB-66	10.0-10.5	11-9-90	--	NO	348 ppm OVA (HSA) 1000+ ppm OVA (HSA) Fill at 8.0 ft.; GW at 20 ft.
	16.0-16.5	11-9-90	--	NO	
DB-67	7.0 - 9.0	11-20-90	--	NO	400 ppm OVA (HSA) 860 ppm OVA (HSA) Fill at 12.5 ft.; GW at 19 ft.
	12.5 - 13.0	11-20-90	--	NO	
DB-68	13.0 - 13.5	11-20-90	--	NO	220 ppm OVA (HSA) 260 ppm OVA (HSA) Fill at 13.0 ft.; GW at 19 ft.
	17.0 - 19.0	11-20-90	--	NO	

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SAMPLING SUMMARY
FALL 1990**

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<u>DEEP BORING SAMPLES (Continued)</u>					
DB-69	4.5 - 5.0	11-17-90	Note 1	YES	17 ppm OVA (HSA)
	13.0 - 15.0	11-17-90	--	YES	1000+ ppm OVA (HSA) Fill to 4.0 ft.; GW at 19.2 ft.
DB-70	11.0 - 12.0	11-18-90	--	YES	52 ppm OVA (HSA)
	17.0 - 19.0	11-18-90	--	YES	1000 ppm OVA (HSA) Fill to 10.8 ft.; GW at 20.9 ft.
<u>MONITORING WELLS</u>					
RI-1	4.5 - 5.0	11-14-90	--	NO	29 ppm OVA (HSA) Fill to 4.5 ft.; GW at 20.9 ft.
RI-2	5.3 - 6.0	11-12-90	--	NO	10 ppm OVA (HSA) Fill to 5.3 ft.; GW at 21.4 ft.
RI-3	4.5 - 5.0	11-16-90	--	NO	0 ppm OVA (HSA)
	45.8-46.0	11-16-90	--	NO	202 ppm OVA (HSA) Fill to 4.5 ft.; GW at 20 ft.

(HSA) = Head Space Analysis
Note 1: TCL and TAL analyses

CURVE FORMULAS

$$\frac{\sin \frac{1}{2} I}{\sin \frac{1}{2} D} = \frac{R}{D}$$

$$\sin \frac{1}{2} D = \frac{50}{R}$$

$$\sin \frac{1}{2} D = \frac{50 \tan \frac{1}{2} I}{T}$$

$$R = T \cot \frac{1}{2} I$$

$$R = \frac{50}{\sin \frac{1}{2} D}$$

$$E = R \text{ ex. sec } \frac{1}{2} I$$

$$E = T \tan \frac{1}{2} I$$

$$\text{Chord def.} = \frac{\text{chord}^2}{R}$$

$$\text{No. chords} = \frac{1}{D}$$

$$\text{Tan. def.} = \frac{1}{2} \text{ chord def.}$$

The square of any distance, divided by twice the radius, will equal the distance from tangent to curve, very nearly.

To find angle for a given distance and deflection.

Rule 1. Multiply the given distance by .01745 (def. for 1° for 1 ft.) and divide given deflection by the product.

Rule 2. Multiply given deflection by 57.3, and divide the product by the given distance.

To find deflection for a given angle and distance. Multiply the angle by .01745, and the product by the distance.

GENERAL DATA

RIGHT ANGLE TRIANGLES. Square the altitude, divide by twice the base. Add quotient to base for hypotenuse.

Given Base 100, Alt. $10 \cdot 10^2 + 200 = .5 \cdot 100 + .5 = 100.5$ hyp.

Given Hyp. 100, Alt. $25 \cdot 25^2 + 200 = 3.125 \cdot 100 - 3.125 = 96.875 =$ Base.

Error in first example, .002; in last, .045.

To find Tons of Rail in one mile of track: multiply weight per yard by 11, and divide by 7.

LEVELING. The correction for curvature and refraction, in feet and decimals of feet is equal to $0.574 d^2$, where d is the distance in miles. The correction for curvature alone is closely, $\frac{1}{2} d^2$. The combined correction is negative.

PROBABLE ERROR. If $d_1, d_2, d_3,$ etc. are the discrepancies of various results from the mean, and if $\sum d^2 =$ the sum of the squares of these differences and $n =$ the number of observations, then the probable error of the mean = $\pm 0.6745 \sqrt{\frac{\sum d^2}{n(n-1)}}$

MINUTES IN DECIMALS OF A DEGREE

1'	.0167	11'	.1833	21'	.3500	31'	.5167	41'	.6833	51'	.8500
2	.0333	12	.2000	22	.3667	32	.5333	42	.7000	52	.8667
3	.0500	13	.2167	23	.3833	33	.5500	43	.7167	53	.8833
4	.0667	14	.2333	24	.4000	34	.5667	44	.7333	54	.9000
5	.0833	15	.2500	25	.4167	35	.5833	45	.7500	55	.9167
6	.1000	16	.2667	26	.4333	36	.6000	46	.7667	56	.9333
7	.1167	17	.2833	27	.4500	37	.6167	47	.7833	57	.9500
8	.1333	18	.3000	28	.4667	38	.6333	48	.8000	58	.9667
9	.1500	19	.3167	29	.4833	39	.6500	49	.8167	59	.9833
10	.1667	20	.3333	30	.5000	40	.6667	50	.8333	60	1.0000

INCHES IN DECIMALS OF A FOOT

1-10	3-32	1/4	3-10	1/2	5-16	3/4	1	1 1/4	1 1/2	1 3/4	2
.0312	.0937	.2500	.3750	.5000	.6250	.7500	.8750	1.0000	1.1250	1.2500	1.3750
1	2	3	4	5	6	7	8	9	10	11	12
.0625	.1250	.1875	.2500	.3125	.3750	.4375	.5000	.5625	.6250	.6875	.7500

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 Eckenfelder
 Mike Watkins
 Carl Rhodes
 Nicole Rodley EPA Lab (913) 236-3881

2 11-6-90 Amy Felber

Weather: Snowing fairly hard.
1336 Arrive site. Drive around site to see if I can find the Eckenfelder crew. I do not see the crew or drilling rig at any of the proposed drilling locations or in the office area previously used by Eckenfelder. I do see some coolers in the office area. I try to find Steve Forrester of Dico. An employee pagers him twice but Steve does not show up. I return to the hotel to see if Mike Watkins is there.

1402 Mike has checked in, but no answer. Return to Dico.

1410 Return to Dico. Find Steve and then find Mike Watkins and Carl.

1504 Mike Watkins says they

11-6-90

Amy Felber

11-6-90

Amy Felber

have collated shallow borings 28, 29, 30, 31, 32, 33, 40, & 41 this morning. They have ~~been~~^{are} going to conduct head space analysis (HSA) on the 7-phi. ~~over~~ However, readings are lower than Eckenfelder expected so they will redo them to ~~morning~~ w/ a different ^(higher 22 in 33) OVA. Mike Watkins said that borings 28-33 had strong odor and that he was expecting higher OVA readings. They are conducting sample management presently.

1515 Go w/ Mike Watkins and Steve Forrester to see if can measure DNAPL in ^{recovery} wells ERW-5 thru 8. ~~They~~ using the water level ports of the wells. Well construction diagrams show the water level ports are not screened ~~are~~ within the well casing and may not have adequate screen length.

1604 In site

2100 Call Glenn Curtis and update on progress (see entry 1504).

11-6-90

Amy Felber

11-6-90

Amy Selman

Also inform Glenn that Eckenfelder wants to use drill rig for drilling SB-36 thru 39 which are the borings I'm to collect a split sample from. However, rig will not be onsite till Friday, meaning I will not be able to collect the split from these borings. Glenn said to not collect the split.

~~Amy Selman~~
11-6-90

11-6-90

Amy Selman

11-7-90

Amy Selman

Weather: Sunny, Morning temp = 20°F

0700 Arrive site. Eck crew has begun sampling SB-42.

0710 Cut 0.5 ft odour noted. HNU rec'd 100ppm

0722 Eck reaches 2.5 ft depth

0735 Eck finishes sampling and begins decontaminating sampling equipment and shovel.

0745 Eck begins sampling SB-44. Sampling procedure is as follows:

① An electric jack-hammer is used to open an excavation approximately 23x23 ft wide to a depth of ^{0.5 ft} ~~the~~ top of the sampling interval.

② A 3 inch diameter auger is used to advance hole to top of sample interval.

③ A 1 inch diameter auger is used to collect sample.

④ Sample is placed into aluminum soil for containerizing.

0826 Eck completes ~~excavation~~ decontaminating SB-44 and begins containerizing sample. Collect split DSX43-001 it is split of SB-44.

11-7-90

Amy Selman

6 11-7-90 Amy Felber

0832 Eck begins decontaminating tools and digging SB-43.

0904 Eck completes sampling SB-43. Begin decontaminating tools.

0920 Eck completes decontaminating and takes break.

1028 Eck begins digging SB-46

1106 Eck completes sampling SB-46

Eck is decontaminating 3 inch auger and using that to collect sample rather than the 1 inch auger.

1121 Eck begins digging SB-45.

1148 Eck completes digging and sampling SB-45.

1206 Give Mike Watkins PE sample OQ 425-ØØ1

1230 Go to lunch

1315 Back from lunch, Eck begins sample management and calibrating OVA for HSA.

1404 Eck has filled out the OVA and is preparing to conduct the HSA. They are using a different OVA today.

11-7-90 Amy Felber

11-7-90 Amy Felber

1420 The OVA was calibrated, the field office has poor air quality though, the OVA is reading 72 ppm.

Side	HSA (ppm)	
Field Blank	28	
SB-43	60 - 28	= 32 ppm
SB-44	48 - 28	= 20 "
SB-45	54 - 28	= 26 "
SB-42	85 - 28	= 57 "
SB-46	38 - 28	= 10 "
Office Ambient	72	

1427 Begin redoing yesterday's sample

SB-28 200 - 28 = 172

SB-29 462 - 28 = 434

SB-30 260 - 28 = 232

SB-31 68 - 28 = 40

SB-32 83 - 28 = 55

SB-32 74 - 28 = 46

SB-40 68 - 28 = 40

SB-41 70 - 28 = 42

1426 Measuring LNAPL at well's abandoned water well 17.80 top LNAPL, 18.26 bottom LNAPL and water. Double peaks.

11-7-90 Amy Felber

8

11-7-90

Amy Felber

in water and steady beep
it in L or D LNAPL,

Bottom well 39.38,

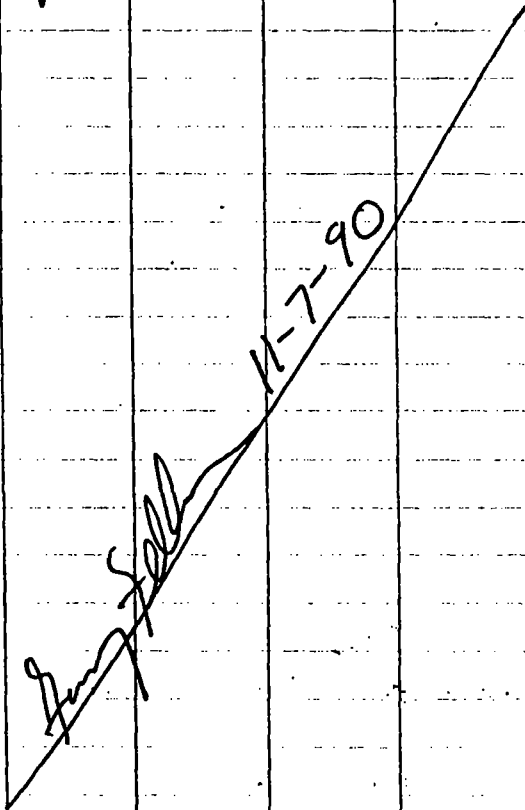
No DNAPL

Lu site.

Call Glen Curtis

update on progress.

1538
2043



11-7-90

Amy Felber

11-8-90

Amy Felber

Weather: Cloudy, rising temp 28°, high = 41°

0740 Arrive site. Eck. crew just arriving also. Eck. will bail the abandoned water supply well first this morning.

0803 Get well, begin bailing.

0810 Measuring remaining LNAPL 18.83

0.30 LNAPL remains yesterday 18.12

0.46 Material bailed - 0.30

bailed looks like motor oil.

0814 Eck. is dumping bailed

fluid into a 55 gal drum in

the auto maintenance garage.

0822 Product now 0.08 ft 17.85

thick. A total of 17.93

8 gal. has been bailed - 0.08

0836 Product now 0.01 ft 17.84

thick. Total of 13 gal. 17.85

bailed. - 0.01

0840 Measuring product in 1.60

drum. Thickness is 2.04

0.44 ft which is supposed to - 0.44

be how much has been totally bailed

from the well.

0909 Mary Goodwin of Large Western

11-8-90

Amy Felber

-90

Amy Selburn

- 0915 Dull R-3 arrives site. Drill crew begins setting up decom pad. It will be located in the same place as during the earlier phases of the RI which is
- 0925 Many Goodwin lvs. site
- 1000 Eck new takes ~~from~~ back rental equipment while drill crew sets up the decom pad.
- 1100 Eck new returns to site.
- 1125 Duller read over health + safety plan. Eck conducts health + safety meeting.
- 12:05 Eck + Duller go to lunch + to site
- 16:30 Deliver supra. to EPA Lab.

~~Selburn~~
11-8-90

11-8-90 Amy Selburn

Glenn Curtis EPA

11-19

Weather - Sunny - 60-65°

- 9:15 Arrive site
- 3 Layne Western crew
- 1 Eichenfelder - Carl Rhodes in process of drilling R-1 just had hit overburden at 4.5'
- Sampling split spoon
- 9:45 Steve Forester visit
- 10:10 Layne breaks
- I leave site to get newspaper - article on site activities.
- 10:40 Return
- Layne crew in process of drilling R-1 - hit water at ~20' overburden clay in unsat. zone about 15' thick
- Carl informed me on R-2
- No head space readings above 6-8 ppm at bedrock no indication of DNAPL
- 11:00 LUNCH BREAK
- 11:20 RETURN TO SITE
- Drillers encounter bedrock at 38.5'

11-14 Glenn Curtis

12.

Glen Cuts EPA

2:20 Leave Site
 meet w/ DMWW
 WHO-TV

3:45 Return to Site
 Drillers in process of
 coring bedrock approx.
 into bedrock by 2 feet
 Complete a 5 foot core of
 shale / silt stone
 sample a 8-12" zone

5:15 Depart Site

~~Glen Cuts 11-14-70~~

Glen Cuts EPA

11-15

9:00 onsite
 Jayne having setscreens
 passing a sand packing screen
 as they pull augers
 then will let natural mts.
 cave in around casing up
 fill about the top of the water
 table then will set bentonite
 plug.

ERW-5

W - 25' 82"

Well depth ~ 98'

interface pipe hung up at 20'
 sampled ERW 5, 6, 8 w/ bailer
 heavy iron sediment in 6 & 8
 ERW 7 - couldn't get to bottom
 of well.

12:00 Call Bill Soukup discuss
 no DNAPL in ERW 5, 6, 8 &
 R-1 & 2, determined not to
 pull well pumps on ERW 5-8
 1:00 leave site

~~Glen Cuts~~
 11-15

11-17-90
Amy Selber

- Weather: 50's, Sunny
1106 Arrive site. Meet w/ Carl Rader and Steve Forrester. Layne - Western is just finishing coring DB-70.
1119 Layne finishes coring DB-70. They could DB-69 earlier today.
1140 Go to lunch.
1215 Return from lunch.
1253 Drillers arrive site from lunch. They begin bringing equipment in.
1335 Drillers get going to boring locations.
1456 Drillers still setting up rig. Mary Goodwin arrives site.
1502 Drillers are ready to start drilling.
1516 Drillers drive split spoon w/ short stroke raising the 160 lb wt and by hitting it w/ sledge hammer. Material at 4 ft sandy clay.
1534 There is not enough clearance to get the hammer above the rod for the 2-8 ft

Amy Selber 11-17-90

11-17-90 Amy Selber 15

Sophia Drillers are contemplating procedure to get around this problem.

1547 Drillers attempted to push the spoon but only pushed it 0.5 ft. They are now going to add space to the pulley to get more head space.

1720 Drillers have added a space for the pulleys of the hammer and start drilling again.

1721 Drive spoon the rest of the 2-4 ft depth.

1731 Drillers having trouble retrieving spoon. They put auger to screw rod to sampler.

1733 Drillers pull Sophia Lt. down to 4 ft, DB-69

1747 Overbank deposit encountered at 4 ft. Collected ^{split} safe DSX 43-~~002~~ a split (4.5-5.0) of DB-69, SS-2, 3-5 ft. Single interval collected was all overbank deposit, so only 1 ft of safe was available for safe. Sample jar not full.

11-17-90 Amy Selber

11-17-90 Amy Selk

1749 Drillers move rig over to allow better angle for sample retrieval.

1815 During sample 5-7 ft, N=14 DB-69, brown silty clay

1826 Drillers recover 7-9 ft, N=6, brown silty clay

1834 Drillers recover 9-11 ft, N=8, med. brown silty clay w/ some fine sand.

1851 Drillers recover 11-13 ft, N=10, med. brown silty clay, Tan fine sand lense 11.8-12.2 ft

1858 Drillers recover 13-15 ft, N=3, med. brown silty clay w/ fine sand lenses, sample wet at 14.6 ft, HNU readings 20 ppm on wet zone.

1910 Drillers recover 15-17 ft, N=13, dk brown silty clay to 16.2 ft. Tan fine + med sand below 16.2 ft.

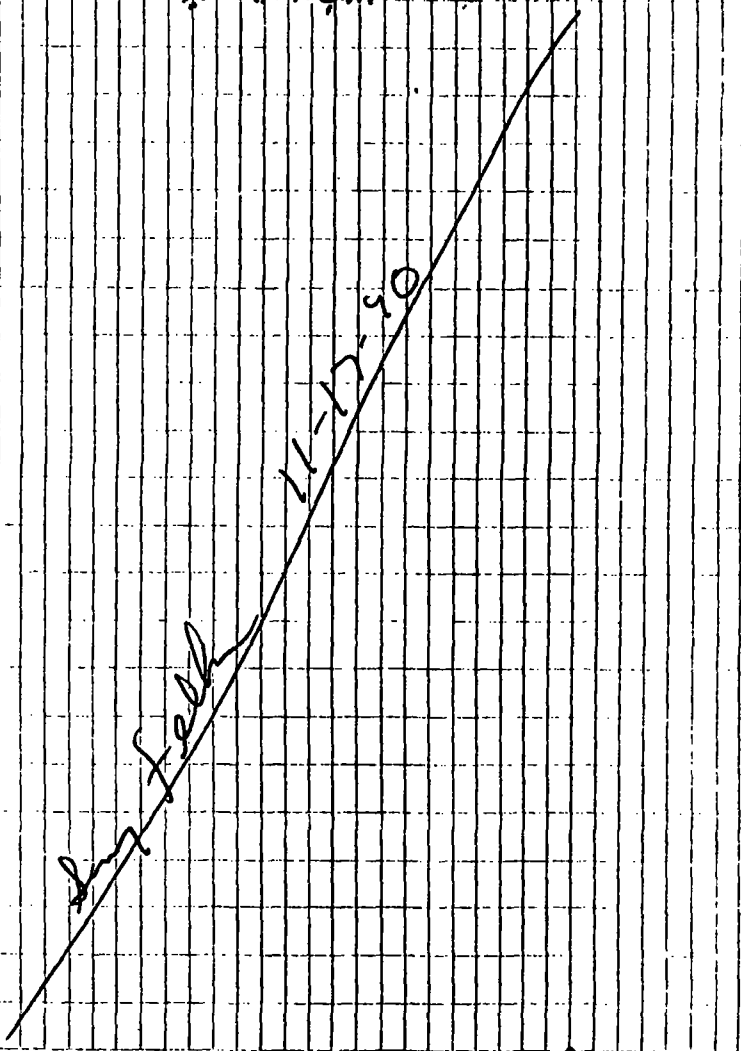
1920 Drillers recover 17-19 ft, Tan fine + med. sand, N=10

1929 Drillers recover 19-21 ft, Tan fine + med. sand, water at 19.2 ft.

11-17-90 Amy Selk

11-17-90 Amy Selk

2005 Drillers stop for night w. site. Carl Roden and myself.



11-17-90 Amy Selk

18

11-18-90 Army Felton

Weather: Cloudy 45-50's

- 0802 Arrive site. Dillor starts to decommission drilling equipment. Dillor will sort bottles brings at same time.
- 0840 Deliver EAT performance sample QQ 025-001 to Carl Roder of Beck, Inc.
- 0903 Dr. Roder has moved rig over to DB-70 and are getting ready to start drilling
- 0920 Steve Formetta arrive site.
- 0933 Begin drill DB-70, No sample recover 0-2, Concrete about 0.8 ft, void space 0.6, σ sand to d.o.
- 0935 No recover 2-4 ft, Dry sand
- 0942 Recover 4-6 ft, $N=9$, Moist Sand (Fill), trace brick.
- 0948 While advancing augers to 6.0 ft, a brick was encountered.
- 0954 Dillor try to collect 6-8' sample but brick (or something else solid) is in way. The hammer cannot be lifted into the rod, so the dillor will ~~attempt~~ try to

11-18-90

Army Felton

11-18-90

Army Felton 1A

drill through it and try to sample again.

0957 Large concrete pad(?) is encountered at 6.5 ft.

0959 ~~Mr.~~ Carl Roder decides to have dillor grind on it for awhile.

1001 Rig penetrates the concrete pad(?) It was very thin after all, much to the surprise of everyone (good call by Carl that least as far as penetrating the concrete goes).

1009 Recover sample 7-9 ft. Tan Sand, Med grade (F.1) Recover 0.5 ft, $N=12$

1012 Recover sample 9-11 ft, $N=13$, (11-12 ft) Tan Fine & Med Sand w/ trace ^{in excess} brick (F.1) Overburden at 10.0 ft. dk. silty clay

1026 Recover sample 11-13 ft, $N=15$ - dk. brn. Silty Clay to 11.5, 11.5 to 13.0 is Tan Fine Sand

1031 Recover 13-15 ft sample $N=5$ Tan sand to 14 ft, brn. Silty Clay 14 to 15 ft.

1044 Recover sample 15-17 ft Gray-brown

11-18-90

Army Felton

20

11-18-90

Amy Selman

Silty Clay w/trace iron nodules

N=3

1055

Recover sample 17-19 ft. Br.
Silty Clay to ~~start~~ about ~18 ft.Tan fine + med sand 18 to
19 ft, moist n=11. ~~18 to 19 ft~~

1101

Recover sample 19-21 ft. n=5
Brn. Silty Clay to ~20 ft.

Tan Med Sand below 20 ft, WL=20.8 ft

1114

Recover sample 21-23 ft, n=8
Brn Fine + Med Sand.

1119

Drill stop for lunch. I
stay to observe Carl take
conduct HSA.

1210

Begin conducting HSA.

DB-69

1-3

Brn split
Exc sample

55

ppm OVA

↓ Fill
40

3-5

53

5-7

64

7-9

76

9-11

200

11-13

79

13-15

Exc sample +1000

480

15-17

56

17-19

56

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Amy Selman

11-18-90

Amy Selman

20

18-21

38

Background Stake 36, Ambient Office 32

1226

DB-70

0-2

No Recovery

2-4

No Recovery

4-6

32

ppm OVA

7-9

260

9-11

720

11-13 Exc sample

76

13-15

+1000

15-17

+1000

17-19 Exc sample

+1000

19-21

+1000

21-23

500

Background

24

Amb. at Office 32

1240 Dollars

return for lunch

21 ST

1404

Lv. site.

to pull rig and

clean-up

~~Amy Selman
11-18-90~~

11-18-90

Amy Selman

22

Amy Felber 11-19-90

0633 Talk w/ Glenn Curtis at update on program. I tell Glenn the recovery was minimal from the DB-69 spl. tank that there may not be enough soil to submit for complete analyses. Glenn said to submit the semi-volatile/pesticide/PCB sample rather than the metals/grade sample.

0809 advise site. Carl Rhoads is here drilling and filling the water tank.

0835 Ruthie are decommissioning the rig and drilling equipment.

0925 Rig pulls onto DB-64.

0945 Drillers recover 1-3 ft, N=19
Dk Brn Silty Clay w/ trace ls +
knife frags (fill).

0955 Recover sample 3-5 ft, N=8
Dk Brn Silty Clay w/ trace ls frags.

1002 Recover sample 5-7 ft, N=7
Brn - gray silty clay to 6.5 ft;
Brn med sand at 6.5 (fill)

1015 Recover sample 7-9 ft, N=7

11-19-90 Amy Felber

11-19-90 Amy Felber

23

Sample is Black Can Sand to 7.5 ft, coated w/ tacky substance, Gray silty clay
Lot no. VOA B9211010 below 7.5 ft. Fill
to 7.5 ft. Collect EPA split
DSX 43-003, from DB-69 8.2
to 8.8 ft. Diesel odors, no HNU
readings

1030 Recover sample 7-11 ft, Gray
Silty Clay, Diesel odor. N=9

1041 Recover sample 11-13 ft, N=10
Green-gray silty clay.

1054 Recover sample 13-15 ft, N=49
Green-gray clay to 13.5 ft, Gravel
lense at 13.5 to 13.8, Gray Med
Sand 13.8 to 15.0 ft.

1106 Recover sample 15-17 ft, N=42
Gray Med Sand w/ trace
ls. gravel.

1136 Recover 17-19 ft, N=24,
Gray Fine + Med Sand, Water
at 17 ft.

1146 Lv. site to conduct sample
management

1155 Call Doug Bruce at alt if
half full 8oz jar would be

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11-19-90 Amy Selby

sufficient for analysis. He said it should be. He said submit the least full for the Metals & cyanide analysis and the most full for the Semivol, pest., & PCB analysis.

1625 Delina sample to EPA lab

~~Amy Selby
11-19-90~~

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