

February 25, 1992

Meeting Minutes Transmittal/Approval
1100-EM-1 Operable Unit Managers Meeting
450 Hillis St., Richland, Washington
January 22, 1992

FROM/APPROVAL: Robert K. Stewart Date 2/26/92
 Robert K. Stewart, 1100-EM-1 Operable Unit Manager (DOE-RL)

APPROVAL: Dave E. Sinah Date 26 Feb 92
 Dave Sinah, 1100-EM-1 Unit Manager, EPA

APPROVAL: Richard B. Hibbard Date 2/26/92
 Richard Hibbard, 1100-EM-1 Unit Manager, WA Department of Ecology

Meeting Minutes are attached. Minutes are comprised of the following:

- Attachment #1 - Meeting Summary/Summary of Commitments and Agreements
- Attachment #2 - Attendance List
- Attachment #3 - Agenda For 1100-EM-1 Meeting
- Attachment #4 - Action Items Status List
- Attachment #5 - 1100-EM-1 Operable Unit RI/FS Progress
- Attachment #6 - Three Letters - Transfer of 1100-EM-1 Data Packages to USACE
- Attachment #7 - Telephone Conference - Resampling MW-20 and MW-21
- Attachment #8 - Report on Trenching Activities
- Attachment #9 - Telephone Conference - Decontamination of Backhoe During Excavation
- Attachment #10 - Evaluation of Data from Siemens Nuclear Power
- Attachment #11 - Telephone Conference - Substitution of Groundwater Samples for September Samples
- Attachment #12 - 1100-EM-1 Static Water Levels
- Attachment #13 - Key Issues
- Attachment #14 - Asbestos Analysis Results for Horn Rapids Landfill

PREPARED BY: W. E. McCleung Date 3/4/92
 SWEC Support Services

CONCURRENCE BY: John T. Stewart Date 26 Feb 92
 USACE 1100-EM-1 Project Manager

92125020228



Attachment #1

Meeting Summary and Summary of Commitments and Agreements

1100-EM-1 Unit Managers Meeting
January 22, 1992

1. John Stewart (USACE) began the meeting by presenting the 1100-EM-1 schedule (see Attachment #5). Mr. Stewart said the schedule was tight and a delay in almost any activity could cause a one to two week delay of critical path activities.
2. Bob Stewart (RL) indicated that RL would like to close the investigation on the buried trenches that contain medical-like waste. Dave Einan (EPA) was going to send documentation that could be placed in the files. The medical-like waste will be addressed in the proposed closure plan.
3. John Stewart said that USACE had informally received the answers to questions presented to Dave Einan. The questions related to how the Horn Rapids Landfill (HRL) area should be designated. USACE is going to revise the baseline risk assessment *to address both residential and industrial land use scenarios. Agricultural land use will not be addressed per recommendations from EPA.*
4. Wendell Greenwald (USACE) stated that the groundwater sample results for August and September would be distributed to the regulators and to Siemens Nuclear Power (SNP) within a few days of this meeting. It will take eight weeks to do the technetium analysis with somewhat quantitative results; and, if further speciation is needed it will take another eight weeks.
5. Currently, USACE is trying to place contracts with laboratories to evaluate groundwater samples. USACE would then validate data through USACE laboratories rather than rely upon the Office of Sample Management (OSM) to validate data. Rich Hibbard (Ecology) pointed out that the Tri-Party Agreement (TPA) required a 21 day turnaround for sample validation. Wendell Greenwald said the new contract would provide for this turnaround time. Dave Einan said that the final report should include validated data.
6. Letters have been written to OSM to request the transfer of 1100-EM-1 data packages to USACE (Attachment #6). The data packages are from analysis of Phase II groundwater and soil samples collected in the 1100-EM-1 Operable Unit.
7. OSM has data from non-radioactive samples taken in June 1991 that has not been validated to date. USACE can see no alternatives to obtaining these data packages and doing the validation.
8. Wendell Greenwald stated that PNL is proceeding with total beta analysis. The data packages from the ICP mass spectrophotometer and the total beta analyses should be available by the end of February 1992.

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The remaining analyses, which include liquid scintillation, gamma scan, etc., will not be available for another three months.

9. The November groundwater samples from MW-20 and MW-21 were disposed of after the contamination incident at the 222-S Laboratory (Attachment #7). These two wells were resampled to analyze for gross alpha and beta and for non-radioactive contaminants, but not for the specific analysis of speciation of technetium.
10. Rich Hibbard stated that Ecology was evaluating wells adjacent to MW-20 and MW-21 to determine what percent of the total alpha and beta emissions was due to technetium 99. A correlation based on these data will then be applied to data from wells MW-20 and MW-21 to determine the percent of technetium that may be found in these wells.
11. *Wendell Greenwald summarized the results of bulk asbestos analysis from the Horn Rapids landfill test pit activity. The results are summarized in the table "Asbestos Analysis Results", Attachment #14. Mr. Greenwald also provided the following explanations of the table: (a) no results are shown for TP-6 because all samples from that pit were left in the excavation; (b) the depth of the sample for TP-7, which is indicated as unknown, is thought to be a surface sample, but this is not documented; and (c) the samples collected from unknown locations are in the vicinity of the test pit excavations, but the exact location is not documented.*
12. John Anderson (USACE) said that USACE has changed compliance monitoring from quarterly to annual sampling. Annual sampling will include analytes and compounds. USACE feels that quarterly monitoring is limited to HRL since delineation of the plume is an ongoing problem.
13. Suzanne Clark (USACE) said that USACE would no longer take filtered samples for metals in the annual compliance monitoring since they appear to give inaccurate results, especially for metals.
14. Suzanne Clark addressed the plume at HRL and the contaminants it contains. Two of the contaminants, nitrate and TCE, are known to be above EPA MCLs. To date the source of these contaminants has not been located.
15. Susan Keith (Siemens) stated that a more detailed remedial investigation/feasibility study (RI/FS) scope of work will be made available in the near future, and will require feedback. The RI/FS will include the hazardous substance sources evaluation work plan, the Phase II groundwater study work plan, and more details on the risk assessment.
16. The groundwater-quality analytical data from the samples collected in November has been received, but has not been validated. USACE recently sampled one of the most contaminated HRL wells (A12) and found 64 parts per billion (ppb) TCE. Previous WHC samples have shown between 50 and 100 ppb TCE.

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Action Items Status Update

11EM1.64 Closed.

11EM1.91 Open; John Stewart (USACE) is in the process of writing a level three change.

11EM1.96 Open.

11EM1.97 Closed.

Action Item #11EM1.97A: Copies of the regulator comments on the validation procedure Golder is employing for non-rad waste are to be provided to Wendell Greenwald (USACE). Action: Dave Einan and Billie Mauss

Action Item #11EM1.97B: Wendell Greenwald is to verify that comments by the regulators have been included in the validation procedure Golder is employing for non-rad waste. Action: Wendell Greenwald

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Attachment #2

Attendance List
 1100-EM-1 Unit Managers Meeting
 January 22, 1992

Name	Organization	1100-EM-1 Responsibility	Phone
Sprecher, Jon	B & C	Ecology Support	503-244-7005
Harris, Allan	DOE-RL	Unit Manager	509-376-4339
Stewart, Robert	DOE-RL	Unit Manager	409-376-6192
Knox, Kathy	CNES	GSSC, DOE-RL	509-376-5011
Cline, Chuck	Ecology	Geohydrology	206-438-7556
Hibbard, Rich	Ecology	Unit Manager	206-493-9367
Mauss, Billie	Ecology	CERCLA	509-546-2993
Teel, Darci	Ecology	CERCLA	509-545-2312
Einan, Dave	EPA	Unit Manager	509-376-3883
Anderson, John	USACE	Ex- EPA - Regulator	509-522-6831
Clark, Suzanne	USACE	Chemist	509-255-6836
Greenwald, Wendell	USACE	Tech. Manager	509-376-1252
Lias, Raimo	USACE	Envir. Eng.	509-522-6924
Staubitz, Ward	USGS	EPA Support	206-593-6510
Drost, Brian	USGS	EPA Support	206-593-6510
Patterson, Jim	WHC	ER Programs	509-376-0568
Erickson, Kirth	SWEC	GSSC, DOE-RL	509-376-8189
Fassett, Doug	SWEC	GSSC, DOE-RL	509-376-5011
Fryer, Bill	SWEC	GSSC, DOE-RL	509-376-9830
Mallio, William	SWEC	GSSC, DOE-RL	509-376-6995
McClung, Bill	SWEC	GSSC, DOE-RL	509-376-1853
Minor, Doris	Siemens	Reg. Support	206-633-3208
Keith, Susan	GM for SNP		206-869-6321
Malody, Chuck	Siemens		509-375-8537

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AGENDA FOR 1100-EM-1 UNIT MANAGERS MEETING

January 22, 1991
12:30 to 2:00 pm
450 Hills St./Rm. 47

- 12:30 - 12:35 Introduction
- 12:35 - 12:45 Overall Project Status
- 12:45 - 12:55 Field Work Progress
- Groundwater Sampling
 - Analysis Results Status
 - Beta Emitter Analysis at PNL
 - HRL Test Pits
 - Lab Analysis Results for Asbestos
- 12:55 - 01:05 Future Groundwater Sampling
- 01:05 - 01:20 Qualification of Siemens Groundwater Data
- 01:20 - 01:35 Siemens Nuclear Power Corporation Status
- 01:35 - 02:00 Action Item Status

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Actions Items Status List

1100-EM-1 Operable Unit
January 22, 1991

Item No.	Action/Source of Action	Status
11EM1.55	WHC will review the Well Inventory Report to determine if the report is sufficient to send to the City of Richland and obtain an opinion from WHC Legal on the release. Action: Steve Clark (1/23/91, EM1-UMM)	Closed. Report delivered to City 10/22/91.
11EM1.64	Schedule a meeting with the City of Richland in mid-April to brief the city on the groundwater investigation and monitoring results, as they pertain to the city well field. ANF should be apprised of these activities. Action: Bob Stewart (DOE-RL), John Stewart (USACE), and Steve Clark (WHC) (3/20/91)	Open. City reviewing report; meeting to be scheduled as necessary.
11EM1.65E	USACE is to work with the sitewide monitoring program to develop an overall disposition plan for the wells drilled at 1100-EM-1. This is to be discussed with Siemens, EPA, Ecology, and the City of Richland. Action: J. Stewart and W. Greenwald (10/17/91)	Closed. Initial meeting 10/23/91.
11EM1.89a	From DOE/SNP meeting on October 30, 1991. After reviewing the schedule presented in the, <u>Remedial Investigation Phase 2, Supplemental Work Plan, for the Hanford Site, 100-Em-1 Operable Unit</u> , SNP will provide DOE with a list of activities for which they wish to participate. Additionally, SNP will detail the type of involvement they desire for each item on the list. Action: Chuck Malody (10/30/91).	Closed. Provided on 12/12/91.

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Item No.	Action/Source of Action	Status
11EM1.89b	From DOE/SNP meeting on October 30, 1991. DOE will review SNP's disposition of DOE's comments on the <u>Phase I Ground-Water Study, Siemens Nuclear Power Corp.</u> work plan and determine if further discussion of SNP's dispositions is warranted. Action: Wendell Greenwald (10/30/91).	Closed. DOE/SNP discussion of comments on 12/12/91.
11EM1.91	A level three change request is to be submitted for the revised schedule to show additional activities. Action: John Stewart (11/20/91).	Open.
11EM1.92	USACE is to provide further information about the analyses methodology for radionuclide species in HRL samples to Billie Mauss (Ecology) and Doris Minor (SNP). Action: Wendell Greenwald (11/20/91).	Closed. Info. provided 11/26/91.
11EM1.93	The proposal for long term groundwater monitoring at HRL is to be supplied to the regulators and SNP, who are to respond with comments within ten working days. Action: Wendell Greenwald (11/20/91).	Closed. Proposal provided 11/25/91.
11EM1.94	USACE is to contact the local health department for guidance in handling the medical waste found in the HRL excavations. Action: Wendell Greenwald (11/20/91).	Closed.
11EM1.95	A meeting tentatively scheduled December 12, 1991, between SNP and DOE is to be held to share information and discuss the SNP RI/FS activities. Action: Wendell Greenwald (11/20/91).	Closed. Meeting was held on 12/12/91.

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Item No.

Action/Source of Action

Status

11EM1.96 EPA is to provide direction concerning the handling of the medical type waste in the Horn Rapids Landfill (HRL).
Action: Dave Einan (12/17/91). Open.

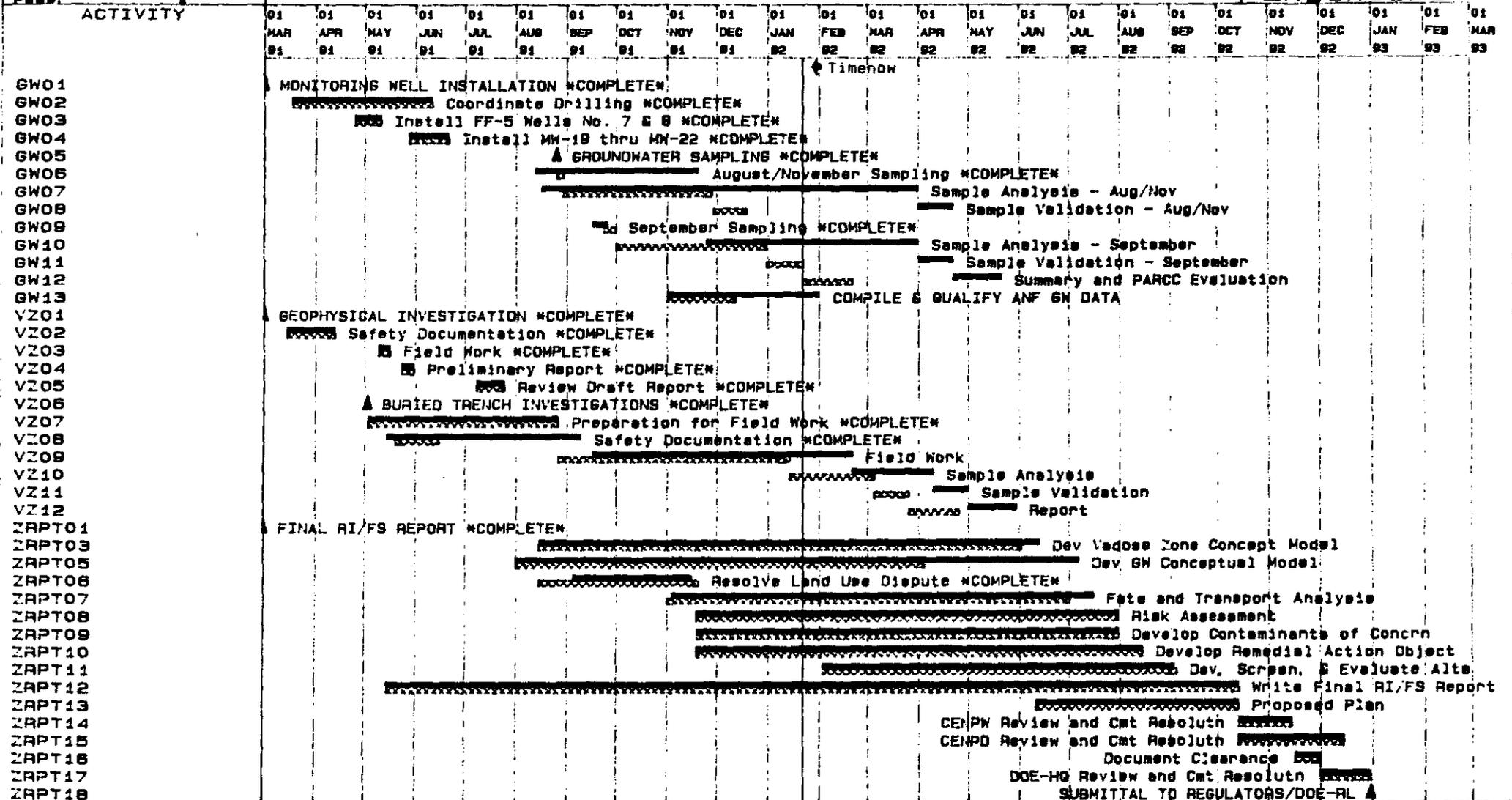
11EM1.97 Check the validation procedure Golder is employing for non-rad waste, and determine if, and how it is being used on-site. Action: Wendell Greenwald (12/17/91). Open.

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OPEN PLAN (R)
 Reports: GRAFARS
 Project: 1100EM1A
 Time New: 22JAN82
 Date: 22JAN82
 Time: 11:18:07
 Page:

1100-EM-1 Operable Unit RI/FS Progress

Walla Walla
 District,
 Corps of
 Engineers



Legend
 - In progress
 - Planned
 - Critical
 - Baseline

Bar Chart Key: Early Dates against Baseline

Signatures
 Prep: _____
 Appv: _____

TABLE I
PHASE II SOIL INVESTIGATION HEIS NUMBERS

11 FEBRUARY 1991 SOIL SAMPLING... EPHEMERAL POOL

BOOG76	BOOG52	BOOG54	BOOG56
BOOG51	BOOG53	BOOG77	

15 APRIL 1991 SOIL SAMPLING...HORN RAPIDS LANDFILL

BOOG92	BOOG96	BOOGB0	BOOGB4
BOOG93	BOOG97	BOOGB1	BOOGB5
BOOG94	BOOG98	BOOGB2	BOOGB6
BOOG95	BOOG99	BOOGB3	BOOGB7

OCTOBER 1991 SOIL SAMPLING...HRL TEST PITS

BOOZT2	BOOZT6	BOOZV0	BOOZS9
BOOZT3	BOOZT7	BOOZV1	BOOZT0
BOOZT4	BOOZT8	BOOZV2	BOOZT1
BOOZT5	BOOZT9	BOOZV3	

NOVEMBER 1991 SOIL SAMPLING...HRL B-4, B-5 & PCB

BOOZV4	BOOZV9	BOOZW4	BOOZX2	BOOZX8
BOOZV5	BOOZW0	BOOZW5	BOOZX4	BOOZX9
BOOZV6	BOOZW1	BOOZW6	BOOZX5	BOOZY0
BOOZV7	BOOZW2	BOOZW7	BOOZX6	
BOOZV8	BOOZW3	BOOZX1	BOOZX7	

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TABLE II

PHASE II GROUNDWATER INVESTIGATION HEIS NUMBERS

ROUND 5...MARCH 1991 GROUNDWATER SAMPLING

BOOHW5	BOOHW8	BOOHW9	BOOHY0	BOOFK2
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ROUND 6...JUNE/JULY 1991 GROUNDWATER SAMPLING

BOOZ49	BOOZ78	BOOZD2	BOOY26	BOOY62
BOOZ50	BOOZ79	BOOZD6	BOOY30	BOOY65
BOOZ53	BOOZ82	BOOZF0	BOOY34	BOOY66
BOOZ54	BOOZ86	BOOZF5	BOOY38	BOOY69
BOOZ57	BOOZ90	BOOZF9	BOOY42	BOOY70
BOOZ58	BOOZ94	BOOZG3	BOOY46	BOOY73
BOOZ61	BOOZ98	BOOZG6	BOOY50	BOOY74
BOOZ62	BOOZB2	BOOZG7	BOOY54	BOOY77
BOOZ65	BOOZB6	BOOZG8	BOOY58	BOOY78
BOOZ66	BOOZC0	BOOZH1	BOOY59	BOOXY2
BOOZ70	BOOZC3	BOOY22	BOOY61	BOOXY3
BOOZ74				

ROUND 7...AUGUST 1991 GROUNDWATER SAMPLING

BO1OT5		BO1OY1	BO1OZ9	BO1117
	BO1OW4	BO1OY2	BO1100	BO1118
BO1OT7	BO1OW5		BO1101	BO1119
	BO1OW6	BO1OY4	BO1102	BO1120
BO1OT9		BO1OY5	BO1103	BO1132
	BO1OW8	BO1OY6	BO1104	BO1133
BO1OV1	BO1OW9		BO1105	BO1134
	BO1OX0	BO1OY8	BO1106	BO1135
BO1OV3		BO1OY9	BO1107	BO1137
BO1OV4	BO1OX2	BO1OZ0	BO1108	BO1145
	BO1OX3	BO1OZ1	BO1109	BO1146
BO1OV6		BO1OZ2	BO1110	BO1147
BO1OV7	BO1OX5	BO1OZ3	BO1111	BO1148
BO1OV8		BO1OZ4	BO1112	BO1149
	BO1OX7	BO1OZ5	BO1113	BO1150
BO1OW0		BO1OZ6	BO1114	BO1151
BO1OW1	BO1OX9	BO1OZ7	BO1115	BO1152
BO1OW2		BO1OZ8	BO1116	BO1154

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TABLE II (CONT.)

ROUND 7.5...SEPTEMBER 1991 GROUNDWATER SAMPLING

BO14Z8	BO1520	BO1541	BO1562	
BO14Z9	BO1521	BO1542	BO1563	BO15T8
BO1500	BO1522	BO1543	BO1564	
BO1501	BO1523	BO1544	BO1565	BO15V0
BO1502	BO1524	BO1545	BO1566	
BO1503	BO1525	BO1546	BO1567	BO15V2
BO1504	BO1526	BO1547	BO1568	
BO1505	BO1527	BO1548	BO1569	BO15V4
BO1506	BO1528	BO1549	BO1570	
BO1507	BO1529	BO1550		BO15V6
BO1508	BO1530	BO1551		
BO1509	BO1531	BO1552		
BO1510	BO1532	BO1553		
BO1511	BO1533	BO1554		
BO1512	BO1534	BO1555	BO15T0	
BO1513	BO1535	BO1556		
BO1514	BO1536	BO1557	BO15T2	
BO1515	BO1537	BO1558		BO15W4
BO1516	BO1538	BO1559	BO15T4	BO15W5
BO1517	BO1539	BO1560		BO15W6
BO1518	BO1540	BO1561	BO15T6	BO15W8
BO1519				

ROUND 8...NOVEMBER 1991 GROUNDWATER SAMPLING

BO1BT3	BO1BW7	BO1BZ2	BO1C18	BO1C42
BO1BT4		BO1BZ3	BO1C19	BO1C43
BO1BT5	BO1BW9	BO1BZ4	BO1C20	BO1C44
BO1BT6	BO1BX0	BO1BZ5	BO1C21	BO1C45
BO1BT7		BO1BZ6	BO1C22	BO1C47
BO1BT8	BO1BX2	BO1BZ7	BO1C23	BO1C48
BO1BT9	BO1BX3	BO1BZ8	BO1C24	BO1C49
BO1BV0	BO1BX4	BO1BZ9	BO1C25	BO1C50
BO1BV1	BO1BX5	BO1C00	BO1C26	BO1C52
BO1BV2	BO1BX6	BO1C02	BO1C27	BO1C53
BO1BV3	BO1BX7	BO1C03		BO1C59
BO1BV4	BO1BX8	BO1C04	BO1C29	BO1C60
BO1BV5	BO1BX9	BO1C05	BO1C30	BO1C61
	BO1BY0	BO1C07	BO1C31	BO1C62
BO1BV7	BO1BY2	BO1C09	BO1C32	BO1C63
BO1BV8	BO1BY3	BO1C10	BO1C33	BO1C64
	BO1BY4		BO1C34	BO1C65
BO1BW0	BO1BY5	BO1C12	BO1C36	BO1C67
BO1BW1	BO1BY7	BO1C13	BO1C37	BO1C68
	BO1BY8	BO1C14		BO1C69
BO1BW3	BO1BY9	BO1C15	BO1C39	BO1C70
BO1BW4	BO1BZ0	BO1C16	BO1C40	BO1C71

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TABLE II (CONT.)

ROUND 7.5...SEPTEMBER 1991 GROUNDWATER SAMPLING

BO14Z8	BO1520	BO1541	BO1562	
BO14Z9	BO1521	BO1542	BO1563	BO15T8
BO1500	BO1522	BO1543	BO1564	
BO1501	BO1523	BO1544	BO1565	BO15V0
BO1502	BO1524	BO1545	BO1566	
BO1503	BO1525	BO1546	BO1567	BO15V2
BO1504	BO1526	BO1547	BO1568	
BO1505	BO1527	BO1548	BO1569	BO15V4
BO1506	BO1528	BO1549	BO1570	
BO1507	BO1529	BO1550		BO15V6
BO1508	BO1530	BO1551		
BO1509	BO1531	BO1552		
BO1510	BO1532	BO1553		
BO1511	BO1533	BO1554		
BO1512	BO1534	BO1555	BO15T0	
BO1513	BO1535	BO1556		
BO1514	BO1536	BO1557	BO15T2	
BO1515	BO1537	BO1558		BO15W4
BO1516	BO1538	BO1559	BO15T4	BO15W5
BO1517	BO1539	BO1560		BO15W6
BO1518	BO1540	BO1561	BO15T6	BO15W8
BO1519				

ROUND 8...NOVEMBER 1991 GROUNDWATER SAMPLING

BO1BT3	BO1BW7	BO1BZ2	BO1C18	BO1C42
BO1BT4		BO1BZ3	BO1C19	BO1C43
BO1BT5	BO1BW9	BO1BZ4	BO1C20	BO1C44
BO1BT6	BO1BX0	BO1BZ5	BO1C21	BO1C45
BO1BT7		BO1BZ6	BO1C22	BO1C47
BO1BT8	BO1BX2	BO1BZ7	BO1C23	BO1C48
BO1BT9	BO1BX3	BO1BZ8	BO1C24	BO1C49
BO1BV0	BO1BX4	BO1BZ9	BO1C25	BO1C50
BO1BV1	BO1BX5	BO1C00	BO1C26	BO1C52
BO1BV2	BO1BX6	BO1C02	BO1C27	BO1C53
BO1BV3	BO1BX7	BO1C03		BO1C59
BO1BV4	BO1BX8	BO1C04	BO1C29	BO1C60
BO1BV5	BO1BX9	BO1C05	BO1C30	BO1C61
	BO1BY0	BO1C07	BO1C31	BO1C62
BO1BV7	BO1BY2	BO1C09	BO1C32	BO1C63
BO1BV8	BO1BY3	BO1C10	BO1C33	BO1C64
	BO1BY4		BO1C34	BO1C65
BO1BW0	BO1BY5	BO1C12	BO1C36	BO1C67
BO1BW1	BO1BY7	BO1C13	BO1C37	BO1C68
	BO1BY8	BO1C14		BO1C69
BO1BW3	BO1BY9	BO1C15	BO1C39	BO1C70
BO1BW4	BO1BZ0	BO1C16	BO1C40	BO1C71
BO1BW6	BO1BZ1	BO1C17	BO1C41	BO1C72

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DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
WALLA WALLA, WASHINGTON 99362-9265

January 13, 1992

REPLY TO
ATTENTION OF:

Hanford Program Office

Serial Letter 92PM024

Subject: Transfer of 1100-EM-1 Data Packages to USACE

Ms. Joan Kessner, Manager, Office of Sample Management
Westinghouse Hanford Company
P.O. Box, MSIN T6-080
Richland, Washington 99352

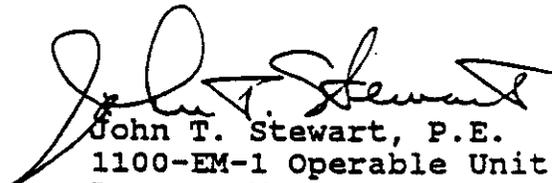
Dear Ms. Kessner:

This letter requests that your office provide the Electronic Data Management Center (EDMC) with the data packages for the Phase II groundwater and soil samples collected in the 1100-EM-1 Operable Unit. This data will be used to validate those data packages. Westinghouse Hanford Company Office of Sample Management (OSM) should provide all material in the sample data packages, for the enclosed Table I and Table II, to Brian Sprouse at Environmental Data Management Center (EDMC) (EDMC will duplicate these packages and deliver the original to USACE). Those data packages which are currently in the possession of OSM should immediately be delivered to EDMC so that delivery of these packages is completed before January 31, 1992. As new data packages are received by OSM, they should be forwarded to EDMC (for duplication and delivery to USACE).

In addition to the hard copy data packages, the electronic data provided by the laboratories shall be provided to Mike Schwab, HEIS Manager, (Mike Schwab will duplicate these disks and provide copies to USACE).

It is critical that the data packages be delivered to EDMC and the electronic data to Mike Schwab as quickly as possible. If there will be any delay please notify Wendell Greenwald at 376-1252.

Sincerely,


John T. Stewart, P.E.
1100-EM-1 Operable Unit
Program Manager

Enclosure

92125020242



DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
WALLA WALLA, WASHINGTON 99362-9265

January 13, 1992

REPLY TO
ATTENTION OF:

Hanford Program Office

Serial Letter 92PM025

Subject: Transfer of 1100-EM-1 Data Packages to USACE

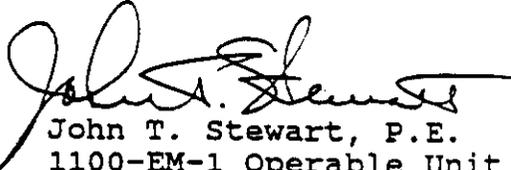
Mr. Brian Sprouse, Manager, EDMC
Westinghouse Hanford Company
P.O. Box 1970, MSIN H4-22
Richland, Washington 99352

Dear Mr. Sprouse:

This letter requests that Electronic Data Management Center (EDMC) provide the USACE with the data packages for the Phase II groundwater and soil samples collected in the 1100-EM-1 Operable Unit. This data will be used to validate those data packages. The EDMC is requested to make copies of all material in the sample data packages for those samples listed in the enclosed Table I and Table II. EDMC will retain these copies and provide Wendell Greenwald, USACE, (telephone 6-1252) with the original data packages. The USACE is aware that the results for some of the samples listed in Table I and Table II are not yet available from Office of Sample Management (OSM) contract laboratories. The OSM has been requested to provide your office with the available data packages and deliver these packages to you prior to January 31, 1992. As OSM receives the remainder of the data packages, they should be forwarded to EDMC (for duplication and delivery to USACE).

This data is critical for the 1100-EM-1 project. If there will be any delay please notify Wendell Greenwald.

Sincerely,


John T. Stewart, P.E.
1100-EM-1 Operable Unit
Program Manager

Enclosure

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DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
WALLA WALLA, WASHINGTON 99362-9265

January 13, 1992

REPLY TO
ATTENTION OF:

Hanford Program Office

Serial Letter 92PM026

Subject: Transfer of 1100-EM-1 Data Packages to USACE

Mr. Michael Schwab, Manager, HEIS
Westinghouse Hanford Company
P.O. Box 1970, MSIN H4-52
Richland, Washington 99352

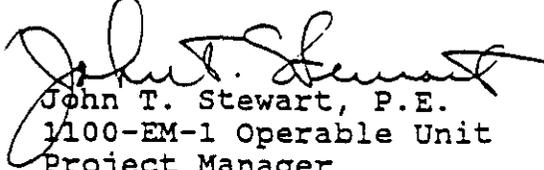
Dear Mr. Schwab:

This letter requests that your office provide the USACE with the electronic analytical results for the Phase II groundwater and soil samples collected in the 1100-EM-1 Operable Unit. This data will be used to validate the requested data packages (see Table I and Table II for a list of samples which will be validated). Concurrently, the Office of Sample Management, Westinghouse Hanford Company (OSM), has been requested to provide the electronic data disks for the 1100-EM-1 to your office as quickly as possible.

The requested electronic data should be delivered to Wendell Greenwald, USACE (376-1251) and 2 copies of each computer disk containing the laboratory data should be provided. The USACE is aware that the analytical results for some of the samples listed in the enclosed Table I and Table II are not yet available from OSM's contract laboratories. However, USACE would appreciate that data which is currently in your possession be copied and delivered as quickly as possible. The remainder of the data should be copied and delivered as it becomes available.

This data is critical for the 1100-EM-1 project. If there will be any delay please notify Wendell Greenwald.

Sincerely,


John T. Stewart, P.E.
1100-EM-1 Operable Unit
Project Manager

Enclosure

92125020244

TELEPHONE CONFERENCE MEMORANDUM

Company: USACE

Address: A5-20 Fed. Build.

[] INCOMING

[X] OUTGOING

DATE: Jan. 5, 1992

TIME: 9:00 am

WITH: Dusty Butcher

OF: WHC

PHONE: 6-5045

WITH:

OF:

PHONE:

Copies to:

Name

Address

John Stewart
Tina Bushnell
Suzanne Clarke
Project Files

A5-20 Fed. Build.
Walla Walla Dist.
Walla Walla Dist.
Walla Walla Dist.

Subject: Re-Sampling MW-20 and MW-21 November Groundwater Samples

Environmental Engineering

6-1252

Department

Wendell L. Greenwald

Telephone #

Summary of Conference

I contacted Dusty to follow-up a telephone conversation with him on December 20, 1991 regarding delivery of November groundwater samples to PNL. During that conversation, it was noted that the re-sampling of MW-20 and MW-21 has not been performed as requested (these two wells were to be re-sampled because of contamination of the samples at the 222s lab. during screening of these samples for off-site analysis), consequently it was not possible to provide samples from these wells to PNL. The purpose of today's conversation was to obtain additional info. regarding this situation. I asked Dusty if it was only the PNL samples which had not been obtained, or if the other samples for the gross alpha and beta and non-rad data had been lost. Dusty indicated that after the contamination at the 222s lab, all the samples were dumped into the purge water tank. Re-sampling was performed for the gross alpha and beta samples and the non-rad samples. The samples for PNL were inadvertently overlooked.

A.D. Foote
1.22.52

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1100-EM-1 OPERABLE UNIT
HORN RAPIDS LANDFILL

REPORT ON TRENCHING ACTIVITIES

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT OFFICE
WALLA WALLA, WASHINGTON

92125020246

TABLE OF CONTENTS

	<u>Page</u>
1. Scope	1
2. Characterization Findings	1
2.1 Soils	1
2.2 Debris	1
2.2.1 Automotive Debris	1
2.2.2 Shop Debris	4
2.2.3 Construction Debris	4
2.2.4 Miscellaneous Debris	4
2.2.5 Medical Debris	4
2.2.6 Unknown Debris	5
2.2.6.1 White Crystalline Powder	5
2.2.6.2 Stained Soil	5
3. Field Screening	5
3.1 Organic Vapors	5
3.2 Air Monitoring	6
3.3 Asbestos Debris Monitoring	6
4. Conclusions	6

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HORN RAPIDS LANDFILL
1100-EM-1 OPERABLE UNIT
REPORT ON TRENCHING ACTIVITIES

1. SCOPE

Anecdotal information gathered during the RI/FS Phase I report, 1100-EM-1 Operable Unit, suggested a quantity of up to 200 drums of Carbon Tetrachloride may have been deposited in one of the disposal trenches located within the Horn Rapids Landfill. Golder Associates, Inc., under Westinghouse Hanford Company contract MLW-SVV-073750, Task Order S-91-29, performed a suite of geophysical surveys at the landfill during May, 1991. Survey results discounted the anecdotal reports and did not present evidence for the presence of any large accumulation of drums (greater than 10) within the landfill facility. However, EPA and Ecology directed that the largest of the geophysical anomalies be investigated and the known disposal trenches at the landfill be characterized. Eight test trenches were excavated during September and October, 1991 to complete these tasks (figure 1).

2. CHARACTERIZATION FINDINGS

2.1 SOILS

The soil matrix within all trench excavations consisted of sandy gravel having a fairly uniform composition averaging 53% gravel, 44% sand, and less than 4% silt (figure 2). Soil structure was lacking in the gravel deposits as they have been repeatedly reworked by heavy equipment during debris burial operations throughout the life of the landfill facility. A deposit of 100% fine to medium sand was encountered below a depth of 13 feet within Trench #3A. The material appeared to be in an undisturbed state. Structural details of the sand deposit were unable to be discerned due to the depth of the trench and the badly sloughing excavation sidewalls. All soil material is interpreted as belonging to the Hanford formation.

2.2 DEBRIS

Debris encountered during trench excavation can be roughly grouped into four categories; automotive debris, shop debris, construction debris, and miscellaneous debris.

2.2.1 AUTOMOTIVE DEBRIS

Automotive debris consisting of car and truck tires, mufflers, lengths of tail pipe, and inner tubes was found in all areas of the landfill. However, the highest concentration of automotive debris relative to other debris types seemed to be in the central portion

9 2 1 2 3 0 2 0 2 4 8

CHARACTERIZATION TRENCHING

1100-EM-1 SUB-UNIT

Horn Rapids Landfill

not shown

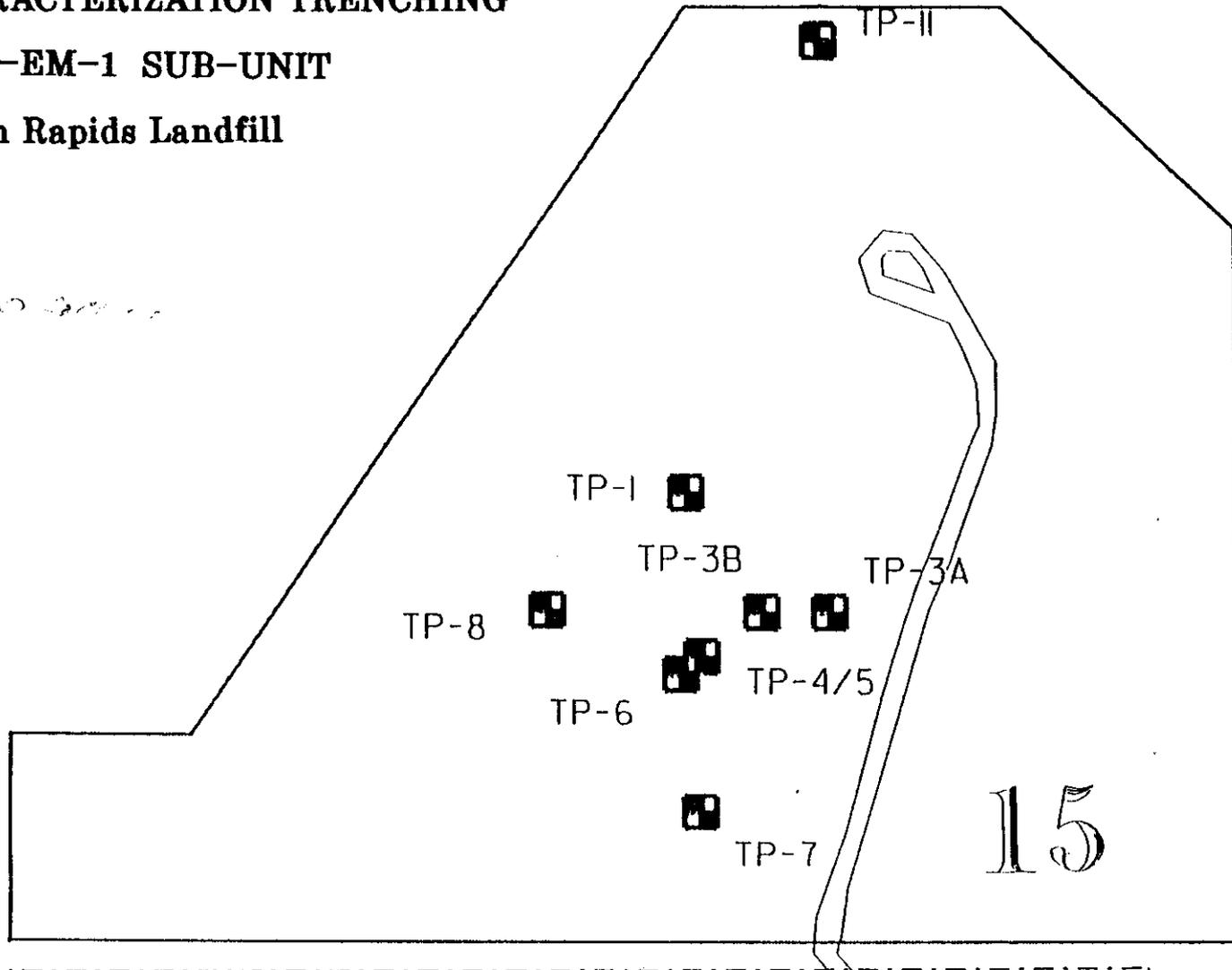


Figure 1.

**DEBRIS TRENCH COMPOSITION
HORN RAPIDS LANDFILL CHARACTERIZATION
1100-EM-1 OPERABLE UNIT**

	DEPTH (FT)	SAND (%)	GRAVEL (%)	SILT (%)	SOIL (%)	DEBRIS (%)	SOIL CLASSIFICATION (after Folk, 1954)
Trench #1	0-11	43	52	5	90	10	Sandy Gravel
Trench #3A	1-13	40	55	<5	97	3	Sandy Gravel
	13-21	100	0	0	100	0	Sand
Trench #3B	0-8	52	44	4	97	3	Sandy Gravel
Trench #4/5	0-0.5	35	60	5	100	0	Silty Sandy Gravel
	0.5-12	45	55	<3	99.5	0.5	Sandy Gravel
Trench #6	0-6.5	35	65	<2	95	5	Sandy Gravel
Trench #7	0-6	52	43	0	85	15	Sandy Gravel
Trench #8	0-5	30	65	<5	98	2	Sandy Gravel
Trench #11	0-5	54	40	6	N/R	N/R	Sandy Gravel

Notes: 1. N/R - Results not reported in boring logs.

FIGURE 2

9 2 1 2 5 7 2 0 2 5 0

of the landfill area. Most of the automotive debris appeared to have been randomly dumped into the debris trenches. Tires may have occasionally been laced prior to burial, i.e., carefully stacked to conserve space when large quantities were involved.

2.2.2 SHOP DEBRIS

Shop debris is characterized by accumulations of stainless steel lathe shavings, again concentrated in the central area of the landfill property. Large quantities of the material seem to have been haphazardly dumped into the debris trenches while smaller quantities appear to have been spread into distinct layers. The metal has a fresh appearance, with little or no deterioration apparent.

2.2.3 CONSTRUCTION DEBRIS

Construction debris consisted of a variety of material including; metal flashing strips of various lengths, pieces of sheet rock, roofing material, metal culverts, concrete, reinforcing steel (rebar), piping, steel cable, electrical wiring, asbestos and fiberglass insulation, and timbers. This material was encountered, to some degree, in all eight of the characterization trenches. There appeared not to be any area of preferential disposal of this category of material. Construction debris seemed to occur in associations. Metal flashing, sheet rock, and fiberglass insulation were usually in close proximity to each other as were piping, cable, and asbestos insulation. Metal culvert lengths were found with concrete slabs and asphalt debris. Asphalt debris was usually present with roofing paper. The material was apparently collected during demolition activities and brought directly to the landfill for disposal.

2.2.4 MISCELLANEOUS DEBRIS

Miscellaneous debris included all other types of material including; soda bottles, paint containers, trash cans, coffee cans, cigarette butts, cloth, ash, and other items. The greatest abundance of this category of material was observed in the northern portion of the landfill, adjacent to the burn cage. Paint containers seemed to be concentrated in the central portion of the landfill area. This material was usually mixed with other categories of debris.

2.2.5 MEDICAL DEBRIS

One unique association of debris was encountered during the excavation of Trench #6. Medical waste consisting of between 30 and 40 multi-injection vials containing a milky white substance, a single plastic IV-style bag, an "eye-dropper" bottle containing a clear liquid, one multi-injection vial containing a clear liquid, and one 7 to 8 inch long by 4 inch diameter cylindrical bottle

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9 2 1 2 5 0 2 0 2 5 2

containing a clear liquid were uncovered at a depth of approximately 6.5 feet. No intact labels were present on any of the bottles or vials. This material was apparently removed with a single scoop of the backhoe's 2 cubic yard bucket. The great majority of the material went undiscovered until backfilling operations had commenced. The remainder was retrieved directly from the backhoe bucket or fell from the bucket while it was being swung to the spoils pile. Trench excavation was immediately stopped when the medical waste was first noticed due to the unknown hazards associated with the material. Ultimately, all medical waste, chemical soil samples, and soil screening samples collected from this excavation were placed in the bottom of the trench and reburied. Based on visual inspection by Pacific Northwest Laboratories personnel, the milky white liquid material was very tentatively identified as some form of penicillin; likely surplus stock from a hospital or other medical facility. None of the medical waste was submitted for laboratory identification because no on-site laboratory could be located which was willing or capable of accepting medical waste for analysis. As excavation was stopped immediately after the discovery of the waste, the total extent of the medical products which may be present was not determined.

2.2.6 UNKNOWN DEBRIS

Two unknown waste substances were found during the excavation of Trench #3A; a white crystalline powder, and an isolated pocket of soil stained bright purple.

2.2.6.1 WHITE CRYSTALLINE POWDER

The white crystalline powder appeared to have been originally contained in plastic-lined paper bags, resembling concrete bags in size and shape. Labelling on the bags was illegible. The material appeared to have been placed in the debris trench in layers. All field screening of the substance proved negative. A suggestion was made by site workers that the material had the appearance of commercial fertilizer. Samples were collected for analysis.

2.2.6.2 STAINED SOIL

Soil excavated from a depth of approximately 10 feet in Trench #3A was stained bright purple. Field screening of the stained soil was negative. No source for the staining substance was observed. The Site Safety Officer on duty during the discovery suggested the staining may have occurred due to the disposal of a permanganate compound. A sample of the soil was collected for analysis.

3. FIELD SCREENING

3.1 ORGANIC VAPORS

Soil and debris were continuously monitored with an

oxygen/explosive level indicator and an organic vapor monitor (OVM) throughout the excavation process (figure 3). A single positive OVM reading occurred in Trench #1 associated with a paint can and paint residue. The can and residue were collected and drummed. At all other times, readings were negative.

3.2 AIR MONITORING

Air monitoring for asbestos was implemented due to known past disposal of asbestos-containing materials at the Horn Rapids Landfill. The presence of asbestos was confirmed during the excavation of Trench #1 (see paragraph 3.3). Site-wide monitoring equipment was located at the edge of each control zone, downwind from the excavation. Personal air monitors were worn by personnel required to enter the control zones. Both types of monitors were checked daily to assure worker safety. Asbestos collected by the monitors was below action levels in all cases. All personnel entering the control zones after the discovery of asbestos was confirmed were required to wear level C personal protective equipment (PPE).

3.3 ASBESTOS DEBRIS MONITORING

Field personnel were constantly monitoring excavations and spoil piles for the presence of asbestos-containing material. Suspect material was collected by the site geologist and forwarded to the Hanford Environmental Health Foundation (HEHF) laboratories for analysis. All suspect material collected and analyzed proved to contain asbestos. There seemed no pattern to the location of asbestos-containing materials within the landfill. Virtually all of the material seemed to have been piping insulation. Much of the asbestos material collected and analyzed was in a friable state.

4. CONCLUSIONS

Excavations at the Horn Rapids Landfill confirmed the geophysical survey interpretation that no large accumulations of buried drums exist within the facility. Geophysical magnetic anomalies were found to represent accumulations of metallic objects including automotive debris, sheet metal, and metallic lathe shavings. Ground penetrating radar reflections could be explained by large, flat-lying pieces of sheet metal and automotive debris such as large truck mufflers. Asbestos-containing pipe insulation was the single hazardous material identified at the site. Disposition of medical waste discovered in Trench #6 is currently being investigated. Identification of two unknown substances, a white crystalline powder and soil stained a bright purple color, uncovered during the excavation of Trench #1, is awaiting the completion of laboratory analyses. Neither the medical waste nor the unknown substances is presently believed to represent an environmental or personal health threat.

9 2 1 2 5 0 2 0 2 5 3

**FIELD SCREENING RESULTS SUMMARY
HORN RAPIDS LANDFILL CHARACTERIZATION
1100-EM-1 OPERABLE UNIT**

	OVM (10.0 eV)	OVM (11.8 eV)	LEL/Oxygen	RAD	pH
Trench #1					
5.0 feet	0.0	0.0	0.0/20.8	background	-----
7.0 feet	264.0	124.0	0.0/20.8	-----	-----
10.0 feet	0.0	0.0	0.0/20.8	background	-----
Trench #3A					
11.0 feet	0.0	0.0	0.0/20.8	-----	6.5 - 7.0
21.0 feet	0.0	0.0	0.0/20.8	-----	6.8 - 7.6
Trench #3B					
8.0 feet	0.0	0.0	0.0/20.8	-----	6.5 - 8.0
Trench #4/5					
12.0 feet	0.0	0.0	0.0/20.8	-----	6.5 - 7.0
Trench #6					
8.0 feet	0.0	0.0	0.0/20.8	-----	-----
Trench #7					
surface	0.0	0.0	0.0/20.9	-----	-----
4.0 feet	0.0	0.0	0.0/20.9	-----	-----
6.0 feet	0.0	0.0	0.0/20.8	-----	6.5 - 7.0
Trench #8					
5.0 feet	0.0	0.0	0.0/20.8	-----	-----
Trench #11					
surface	0.0	0.0	0.0/20.8	-----	-----
4.0 feet	0.0	0.0	0.0/20.8	background	6.0 - 8.0
5.0 feet	0.0	0.0	0.0/20.8	-----	6.0 - 8.0
6.0 feet	0.0	0.0	0.0/20.8	-----	-----

NOTES: 1. Positive OVM readings in trench #1 obtained from paint residue in and around an unearthed paint can.
2. Field screening was performed on a continuous basis during trenching operations. Depth values reported indicate the bottom of a tested depth interval.

FIGURE 3

1. COMPANY NAME CENPW		2. DRILLING SUBCONTRACTOR WESTINGHOUSE - HANFORD CO.			SHEET 1 OF 2		
3. PROJECT 1100-EM-1 OPERABLE UNIT				4. LOCATION HORN RAPIDS LANDFILL			
5. NAME OF DRILLER C. LARSON / M. FOSS				6. MANUFACTURER'S DESIGNATION OF DRILL CASE #780 BACKHOE / FMC BACKHOE			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		SAMPLED WITH SPOON FROM BACKHOE BUCKET		8. HOLE LOCATION 700N, 1260E			
				9. SURFACE ELEVATION N/A			
				10. DATE STARTED SEPT 1991		11. DATE COMPLETED 22 OCT 1991	
12. OVERBURDEN THICKNESS N/A				15. DEPTH GROUNDWATER ENCOUNTERED N/A			
13. DEPTH DRILLED INTO ROCK N/A				16. DEPTH TO WATER/ELAPSED TIME AFTER DRILLING N/A			
14. TOTAL DEPTH OF HOLE 11.0 FEET				17. OTHER WATER LEVEL MEASUREMENTS N/A			
18. GEOTECHNICAL SAMPLES		DISTURBED 0	UNDISTURBED 0	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC 2	METALS 0	OTHER 4	OTHER SCREENING	OTHER 21. TOTAL CORE RECOVERY N/A %	
22. DISPOSITION OF HOLE		BACKFILLED	MONITOR. WELL	OTHER	23. INSPECTOR V. M. JOHNSON, WHC / J. A. MCBANE, CENPW		
		22 OCT 1991					
ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c		FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	0	0-11 FEET					
	1	SANDY GRAVEL: sand 43%, gravel 52%, silt 5%; 10YR 6/2, light brownish gray; poorly sorted; sands subangular, gravels rounded to subrounded; 55% felsic, 45% mafic; no reaction to acid.					
	2	0.5-11 feet: Abundant stainless steel lathe shavings, piping, cable, tires, and coke bottles.					Paint can and paint residue drummed.
	3	2 feet: paint can and paint residue.					
	4			HRL0101			Screening - negative
	5					B00T0	Chemical sample
	6			HRL0102			Screening - negative

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HTW DRILLING LOG

HOLE NO.
TRENCH #1

PROJECT
1100-EM-1 O.U. - HORN RAPIDS LANDFILL

INSPECTOR
V. M. JOHNSON / J. A. MCBANE

SHEET 2
OF 2

ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c	FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	6	SOIL, as above. 6-10 feet: Tires, one rusted drum with no visible contents; labelled "certified".	HRLO102			Screening - negative
	7	7 feet: Cloth, rags, coffee can, fiberglass insulation.				
	8					
	8.5	8.5 feet: Solidified paint residue, OVM reading of 262ppm, suspect asbestos, scrap metal.	HRLO103			Paint residue drummed.
	9					Screening - negative
	10				BOOT1	Chemical sample
	11	Approx. 320 cubic yards excavated. Approx. Landfill Composition: soil - 90% debris - 10%	HRLO104			Screening - negative

FORM
MRK JUN 89 55-2

PROJECT
1100-EM-1 HORN RAPIDS LANDFILL

HOLE NUMBER
TRENCH #1

92125020256

HTW DRILLING LOG

TRENCH #3A

1. COMPANY NAME CENPW		2. DRILLING SUBCONTRACTOR WESTINGHOUSE - HANFORD CO.			SHEET 1 OF 3			
3. PROJECT 1100-EM-1 OPERABLE UNIT				4. LOCATION HORN RAPIDS LANDFILL				
5. NAME OF DRILLER M. FOSS				6. MANUFACTURER'S DESIGNATION OF DRILL FMC BACKHOE #HO-17-5669				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		SAMPLED WITH SPOON FROM		8. HOLE LOCATION				
		BACKHOE BUCKET		510N, 1350E				
				9. SURFACE ELEVATION				
				N/A				
				10. DATE STARTED		11. DATE COMPLETED		
				23 OCT 1991		24 OCT 1991		
12. OVERBURDEN THICKNESS N/A				15. DEPTH GROUNDWATER ENCOUNTERED N/A				
13. DEPTH DRILLED INTO ROCK N/A				16. DEPTH TO WATER/ELAPSED TIME AFTER DRILLING N/A				
14. TOTAL DEPTH OF HOLE 21.0 FEET				17. OTHER WATER LEVEL MEASUREMENTS N/A				
18. GEOTECHNICAL SAMPLES		DISTURBED 0	UNDISTURBED 0	19. TOTAL NUMBER OF CORE BOXES N/A				
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER SCREENING	OTHER ASBESTOS	OTHER UNKNOWNNS		
		4	0	5	2	2		
21. TOTAL CORE RECOVERY		N/A %						
22. DISPOSITION OF HOLE		BACKFILLED	MONITOR. WELL	OTHER	23. INSPECTOR			
23 OCT 1991					J. A. MCBANE, CENPW			
ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c			FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	1	0-13 FEET SANDY GRAVEL: sand 40%, gravel 55%, silt <5%; 10YR 4/2, light gray; dry; poorly sorted; sands subangular to angular, gravels rounded to subangular; 60% basalt, 40% quartzite, feldspars and others; reaction to acid - slight to none. 1.5 feet: layer of stainless steel lathe shavings, slopes downward approx. 5 degrees toward the west.						
	3	3-5 feet: accumulation of tires, inner tubes, and misc. automotive debris including mufflers and lengths of tail pipe.			HRL3A01			Screening - negative Mufflers/tailpipe possible GPR targets.
	5	5.5 feet: Empty 5-gallon paint can; 0.0 ppm with OVM screening			HRL3A02			Screening - negative
	6						B00ZT7	Chemical sample

FORM
MRK JUN 89 55

PROJECT
1100-EM-1 HORN RAPIDS LANDFILL

HOLE NO.
TRENCH #3A

92125020257

HTW DRILLING LOG

HOLE NO.
TRENCH #3A

PROJECT
1100-EM-1 O.U. - HORN RAPIDS LANDFILL

INSPECTOR
J. A. MCBANE

SHEET 2
OF 3

ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c	FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	6	6 feet: Encountered white crystalline material partially wrapped in plastic bag, sample obtained.				
	7	7 feet: Flat lying fragment of sheet metal, approx. 1/16 inch thick and 4 feet long by 3 feet wide.				Sheet metal possible GPR target.
	8	8-10 feet: Abundant tires and inner tubes.	HRL3A03 HRL3A04			White crystalline material Screening - negative
	9					
	10	10 feet: Another bag of white crystalline material. Substance enclosed in a plastic lined paper bag. Pocket of bright purple stained soil. Suspect asbestos.	HRL3A05 HRL3A06		B00ZT8	Purple stained soil Asbestos sample Chemical sample
	11	11-13 feet: very scattered stainless steel lathe shavings.				
	12					
	13	13 - 21 FEET SAND; 100% med to coarse sand; 10YR 7/1 light gray; moist; very well sorted; angular to subangular; 90% quartzite and feldspar, 10% mica; no reaction to acid.	HRL3A07			Screening - negative
	14	No debris below 13 feet depth.				
	15					
	16		HRL3A08			Screening - negative

9 2 1 2 5 0 2 0 2 5 8

FORM
MRK JUN 89 55-2

PROJECT
1100-EM-1 HORN RAPIDS LANDFILL

HOLE NUMBER
TRENCH #3A

HTW DRILLING LOG

HOLE NO.
TRENCH #3A

PROJECT
1100-EM-1 O.U. - HORN RAPIDS LANDFILL

INSPECTOR
J. A. MCBANE

SHEET 3
OF 3

ELEV. (ft) <small>a</small>	DEPTH (ft) <small>b</small>	DESCRIPTION OF MATERIALS <small>c</small>	FIELD SCREENING NUMBER <small>d</small>	GEOTECH SAMPLE NUMBER <small>e</small>	ANALYTICAL SAMPLE NUMBER <small>f</small>	REMARKS <small>g</small>		
	16	SOIL, as above - no debris.	HRL3A08			Screening - negative		
	17							
	18							
	19					HRL3A09		Asbestos sample
	20							B00ZT9 Chemical sample
	21							B00ZV0 Chemical sample
		Approx. 108 cubic yards excavated. Approx. Landfill Composition: soil - 97% debris - 3%						

9 2 1 2 5 0 2 0 2 5 9

FORM
MRK JUN 89 55-2

PROJECT
1100-EM-1 HORN RAPIDS LANDFILL

HOLE NUMBER
TRENCH #3A

HTW DRILLING LOG

HOLE NO. _____
TRENCH #3B

1. COMPANY NAME CENPW		2. DRILLING SUBCONTRACTOR WESTINGHOUSE - HANFORD CO.			SHEET 1 OF 2			
3. PROJECT 1100-EM-1 OPERABLE UNIT				4. LOCATION HORN RAPIDS LANDFILL				
5. NAME OF DRILLER C. LARSON / M. FOSS				6. MANUFACTURER'S DESIGNATION OF DRILL CASE 780/FMC BACKHOE #HO-17-5669				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	SAMPLED WITH SPOON FROM			8. HOLE LOCATION				
	BACKHOE BUCKET			510N, 1350E				
				9. SURFACE ELEVATION				
				N/A				
				10. DATE STARTED		11. DATE COMPLETED		
				18 SEPT 1991		23 OCT 1991		
12. OVERBURDEN THICKNESS N/A				15. DEPTH GROUNDWATER ENCOUNTERED N/A				
13. DEPTH DRILLED INTO ROCK N/A				16. DEPTH TO WATER/ELAPSED TIME AFTER DRILLING N/A				
14. TOTAL DEPTH OF HOLE 8.0 FEET				17. OTHER WATER LEVEL MEASUREMENTS N/A				
18. GEOTECHNICAL SAMPLES		DISTURBED 0	UNDISTURBED 0	19. TOTAL NUMBER OF CORE BOXES N/A				
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER SCREENING	OTHER ASBESTOS	21. TOTAL CORE RECOVERY N/A %		
		3	0	2	1			
22. DISPOSITION OF HOLE		BACKFILLED	MONITOR. WELL	OTHER	23. INSPECTOR			
		23 OCT 1991			V. M. JOHNSON, WHC / J. A. MCBANE, CENPW			
ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c			FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	---	0-8 FEET						
	1	SANDY GRAVEL: sand 52%, gravel 44%, silt 4%; 10YR 4/2. light gray; dry, poorly to very poorly sorted; sands subangular, gravels rounded to subrounded; 60% mafic, 40% felsic; no reaction to acid. Scattered boulders 3 feet max. diameter.						
	2	2-3 feet: Accumulation of tires and inner tubes.						
	3	3-4 feet: Accumulation of stainless steel lather shavings and building flashing. Sheetrock still attached to flashing in places.			HRL3B01			Screening - negative
	4	4.5 feet: Unlabeled, rusted 5 gallon paint can. No contents observed. 0.0 ppm with OVM.						
	5	5-6 feet: Accumulation of tires and inner tubes.						
	6				HRL3B02 HRL3B03			Screening - negative Asbestos sample

9 2 1 2 5 7 2 0 2 5 0

HTW DRILLING LOG

HOLE NO.
TRENCH #3B

PROJECT
1100-EM-1 O.U. - HORN RAPIDS LANDFILL

INSPECTOR
V. M. JOHNSON / J. A. MCBANE

SHEET 2
OF 2

ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c	FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	6	SOIL as above; debris amount and character as above.	HRL3B02 HRL3B03			Screening - negative Asbestos sample
	7					Appears that GPR returns caused by metal flashing and ss shavings.
	8					Chemical sample Duplicate Split
		Approx. 19 cubic yards excavated. Approx. Landfill Composition: soil - 97% debris - 3%				ss - stainless steel

92125020261

HTW DRILLING LOG

HOLE NO.
TRENCH #4/5

1. COMPANY NAME CENPW		2. DRILLING SUBCONTRACTOR WESTINGHOUSE - HANFORD CO.			SHEET 1 OF 2			
3. PROJECT 1100-EM-1 OPERABLE UNIT				4. LOCATION HORN RAPIDS LANDFILL				
5. NAME OF DRILLER C. LARSON				6. MANUFACTURER'S DESIGNATION OF DRILL FMC BACKHOE #HO-17-5669				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		SAMPLED WITH SPOON FROM BACKHOE BUCKET		8. HOLE LOCATION 470N, 1265E				
		9. SURFACE ELEVATION N/A						
		10. DATE STARTED 25 OCT 1991		11. DATE COMPLETED 25 OCT 1991				
		12. OVERBURDEN THICKNESS N/A			15. DEPTH GROUNDWATER ENCOUNTERED N/A			
13. DEPTH DRILLED INTO ROCK N/A				16. DEPTH TO WATER/ELAPSED TIME AFTER DRILLING N/A				
14. TOTAL DEPTH OF HOLE 12.0 FEET				17. OTHER WATER LEVEL MEASUREMENTS N/A				
18. GEOTECHNICAL SAMPLES		DISTURBED 0	UNDISTURBED 0	19. TOTAL NUMBER OF CORE BOXES N/A				
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER	OTHER	OTHER		
		2	0	SCREENING 2				
21. TOTAL CORE RECOVERY		N/A %						
22. DISPOSITION OF HOLE		BACKFILLED	MONITOR. WELL	OTHER	23. INSPECTOR			
25 OCT 1991					J. A. MCBANE, CENPW			
ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c			FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	0-0.5 FEET	SILTY SANDY GRAVEL: 60% gravel, 35% sand (fine to med), 5% silt; 10YR 7/3 very pale brown; dry, very poorly sorted; gravels rounded to subrounded, sands angular; 65% basalt, 35% others; no reaction to acid.						
1	0.5-12 FEET	SANDY GRAVEL: 55% gravel, 45% sand (med to coarse), <3% silt; 10YR 6/1 gray; dry; poorly sorted; gravels rounded to subrounded, sands angular to subangular; 70% basalt, 30% others; no reaction to acid; rare cobbles and boulders to 14 inch max. diameter.						
2								
3					HRL4/501			Screening - negative
4		No debris observed above 5 feet depth.						
5		5 feet: 3-1/2 foot long wooden 4x4 embedded in a concrete mass.					B00ZV1	Chemical sample
6		6 feet: Tires, tail pipe, 12 in. dia. gear wheel.						Possible GPR targets.

92125020262

FORM
MRK JUN 89 55

PROJECT
1100-EM-1 HORN RAPIDS LANDFILL

HOLE NO.
TRENCH #4/5

HTW DRILLING LOG

HOLE NO.
TRENCH #4/5

PROJECT
1100-EM-1 O.U. - HORN RAPIDS LANDFILL

INSPECTOR
J. A. MCBANE

SHEET 2
OF 2

ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c	FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	6	6 feet: Tires, tail pipe, 12 in. dia. gear wheel.				Possible GPR targets.
		SOIL as above.				
	7		HRL4/502			Screening - negative
	8	8 feet: Tires (5 or 6), long pieces (5-6 feet) of flat lying metal building flashing.				Possible GPR targets.
	9	9 feet: Large piece of sheet metal (4x4 feet) exposed in eastern wall. Approx. 1/32 in. thick. Flat lying relative to ground surface.				Possible GPR target.
	10	10 feet: Rotted timbers in trench sidewalls. Little observed in trench floor.				
	11	11 feet: Rotted timbers, metal flashing strips, fiberglass insulation, street drain grate, copper wire pieces.			B00ZV2	Chemical sample
	12	Approx. 90 cubic yards excavated. Approx. Landfill Composition: soil - 99.5% debris - 0.5%				

9 2 1 2 5 7 2 0 2 6 3

HTW DRILLING LOG

HOLE NO.
TRENCH #6

1. COMPANY NAME CENPW		2. DRILLING SUBCONTRACTOR WESTINGHOUSE - HANFORD CO.			SHEET 1 OF 2		
3. PROJECT 1100-EM-1 OPERABLE UNIT				4. LOCATION HORN RAPIDS LANDFILL			
5. NAME OF DRILLER M. FOSS				6. MANUFACTURER'S DESIGNATION OF DRILL FMC BACKHOE #HO-17-5669			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		SAMPLED WITH SPOON FROM		8. HOLE LOCATION			
		BACKHOE BUCKET		420N, 1250E			
				9. SURFACE ELEVATION			
				N/A			
12. OVERBURDEN THICKNESS N/A				15. DEPTH GROUNDWATER ENCOUNTERED N/A			
13. DEPTH DRILLED INTO ROCK N/A				16. DEPTH TO WATER/ELAPSED TIME AFTER DRILLING N/A			
14. TOTAL DEPTH OF HOLE 6.5 FEET				17. OTHER WATER LEVEL MEASUREMENTS N/A			
18. GEOTECHNICAL SAMPLES		DISTURBED 0	UNDISTURBED 0	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER	OTHER	21. TOTAL CORE RECOVERY N/A %	
		0	0	SCREENING 0			
22. DISPOSITION OF HOLE		BACKFILLED	MONITOR WELL	OTHER	23. INSPECTOR		
30 OCT 1991					J. A. MCBANE, CENPW		
ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c		FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	1	0-6.5 FEET SANDY GRAVEL; gravel 65%, sand (med to coarse) 35%, silt <2%; 10YR 6/1 gray; dry; poorly sorted; gravels rounded to subrounded, sands angular to subangular; 70% basalt, 30% others; no reaction to acid.		HRL0601			Screening sample Possible GPR target.
	2	1.5 feet: Sheet of 1/8 in. rubber approx. 3x4 ft. misc. #8 rebar lengths, fragments of 1/4-1/2 in. dia. steel cable, metal flashing, plasterboard, and wood. 2 feet: Flat lying piece of approx. 1/16 in. thick by 2 foot square sheet metal. Flat lying relative to the ground surface.					
	3						
	4	4-6.5 feet: Wood debris mixed with refuse previously described.		HRL0602			Screening sample
	5			HRL0603			Asbestos sample
	6	6 feet: Scattered tires.				B00ZB3*	Chemical sample

92125020264

HTW DRILLING LOG

HOLE NO.
TRENCH #6

PROJECT
1100-EM-1 O.U. - HORN RAPIDS LANDFILL

INSPECTOR
J. A. MCBANE

SHEET 2
OF 2

ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c	FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	6	SOIL as above, debris as above.				
		6.5 feet: Suspect asbestos, medical waste.	HRL0604			Asbestos sample.
	7	Trench terminated at 6.5 feet due to unknown hazards associated with medical debris. Approx. 30-40 medical vials containing a milky-white liquid plus one plastic IV bag were uncovered. All samples collected were placed within an ice chest and reburied in the trench.				
		HRL0000 - Sample obtained and subsequently reburied.				
		B00ZB3* - Chemical sample was reburied and sample number was reused for next trench.				
		Approx. 20 cubic yards excavated.				
		Approx. Landfill Composition: soil - 95% debris - 5%				

9 2 1 2 5 0 2 0 2 6 5

HTW DRILLING LOG

HOLE NO.
TRENCH #7

1. COMPANY NAME CENPW		2. DRILLING SUBCONTRACTOR WESTINGHOUSE - HANFORD CO.			SHEET 1 OF 1		
3. PROJECT 1100-EM-1 OPERABLE UNIT				4. LOCATION HORN RAPIDS LANDFILL			
5. NAME OF DRILLER C. LARSON / M. FOSS				6. MANUFACTURER'S DESIGNATION OF DRILL CASE #780 BACKHOE / FMC BACKHOE			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	SAMPLED WITH SPOON FROM BACKHOE BUCKET			8. HOLE LOCATION 280N, 1260E			
				9. SURFACE ELEVATION N/A			
				10. DATE STARTED 17 SEPT 1991		11. DATE COMPLETED 17 OCT 1991	
12. OVERBURDEN THICKNESS N/A				15. DEPTH GROUNDWATER ENCOUNTERED N/A			
13. DEPTH DRILLED INTO ROCK N/A				16. DEPTH TO WATER/ELAPSED TIME AFTER DRILLING N/A			
14. TOTAL DEPTH OF HOLE 6.0 FEET				17. OTHER WATER LEVEL MEASUREMENTS N/A			
18. GEOTECHNICAL SAMPLES		DISTURBED 0	UNDISTURBED 0	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER	OTHER	OTHER	
		1	0	SCREENING 3			
21. TOTAL CORE RECOVERY		N/A %					
22. DISPOSITION OF HOLE				23. INSPECTOR			
BACKFILLED				MONITOR. WELL			
17 OCT 1991				V. M. JOHNSON, WHC / J. A. MCBANE, CENPW			
ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c		FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	0	0-6 FEET					
	1	SANDY GRAVEL: sand 52%, gravel 43%, silt 5%; 10YR 6/2 light brownish gray; dry; poorly to very poorly sorted; sand subangular, gravel subrounded to rounded; 60% mafics, 40% felsics (gravel); no reaction to acid.					
	2	Debris consists of intermixed glass bottles, black tile, metal flashing strips, plasterboard fragments, roofing paper, crushed culverts, rebar, and rotten building timbers.		HRL0701			Screening - negative Crushed culverts and flashing strips likely GPR targets.
	3	SOIL and debris uniform throughout excavation.		HRL0702			Screening - negative
	4						
	5					B00ZT2	Chemical sample
	6	Approx. 50 cubic yards excavated. Approx. Landfill Composition: soil - 85% debris - 15%		HRL0703			Screening - negative

9212020266

HTW DRILLING LOG

TRENCH #8

1. COMPANY NAME CENPW		2. DRILLING SUBCONTRACTOR WESTINGHOUSE - HANFORD CO.			SHEET 1 OF 1		
3. PROJECT 1100-EM-1 OPERABLE UNIT				4. LOCATION HORN RAPIDS LANDFILL			
5. NAME OF DRILLER M. FOSS				6. MANUFACTURER'S DESIGNATION OF DRILL FMC BACKHOE #HO-17-5669			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		SAMPLED WITH SPOON FROM		8. HOLE LOCATION			
		BACKHOE BUCKET		540N, 1020E			
				9. SURFACE ELEVATION			
				N/A			
12. OVERBURDEN THICKNESS		N/A		15. DEPTH GROUNDWATER ENCOUNTERED		N/A	
13. DEPTH DRILLED INTO ROCK		N/A		16. DEPTH TO WATER/ELAPSED TIME AFTER DRILLING			
14. TOTAL DEPTH OF HOLE		5.0 FEET		17. OTHER WATER LEVEL MEASUREMENTS			
18. GEOTECHNICAL SAMPLES		DISTURBED 0	UNDISTURBED 0	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER	OTHER	OTHER	
		1	0	SCREENING 1	ASBESTOS 1	21. TOTAL CORE RECOVERY N/A %	
22. DISPOSITION OF HOLE		BACKFILLED	MONITOR. WELL	OTHER	23. INSPECTOR		
30 OCT 1991				J. A. MCBANE, CENPW			
ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c		FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	0	0-5 FEET					
	1	SANDY GRAVEL: sand 30%, gravel 65%, silt <5%; 10YR 7/1 light gray, dry, poorly sorted; sand angular to subangular, gravel subrounded to rounded; 60% basalt, 40% others; no reaction to acid.					
	2	No debris above 3 feet depth.					
	3	3 feet: A single tire and misc. rotten wood debris.		HRL0801 HRL0802			Screening - negative Asbestos sample
	4	4-5 feet: pieces of electrical wire, short lengths of 1/4 in. dia. steel cable.					
	5	5 feet: Sheet metal (1/16"x2"x3'), suspect asbestos, sponge fragments, copper rod.				B00ZV3	Chemical sample Sheet metal possible GPR target.
	6	Approx. 5 cubic yards excavated. Approx. Landfill Composition: soil - 98% debris - 2%					

92125020267

FORM
MRK JUN 89 55

PROJECT
1100-EM-1 HORN RAPIDS LANDFILL

HOLE NO.
TRENCH #8

HTW DRILLING LOG

TRENCH #11

1. COMPANY NAME CENPW		2. DRILLING SUBCONTRACTOR WESTINGHOUSE - HANFORD CO.			SHEET 1 OF 1		
3. PROJECT 1100-EM-1 OPERABLE UNIT				4. LOCATION HORN RAPIDS LANDFILL			
5. NAME OF DRILLER C. LARSON				6. MANUFACTURER'S DESIGNATION OF DRILL CASE 780 BACKHOE #HO-62-5531			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		SAMPLED WITH SPOON FROM BACKHOE BUCKET		8. HOLE LOCATION 1400N, 1490E			
				9. SURFACE ELEVATION N/A			
				10. DATE STARTED 20 SEPT 1991	11. DATE COMPLETED 20 SEPT 1991		
12. OVERBURDEN THICKNESS N/A				15. DEPTH GROUNDWATER ENCOUNTERED N/A			
13. DEPTH DRILLED INTO ROCK N/A				16. DEPTH TO WATER/ELAPSED TIME AFTER DRILLING N/A			
14. TOTAL DEPTH OF HOLE 5.0 FEET				17. OTHER WATER LEVEL MEASUREMENTS N/A			
18. GEOTECHNICAL SAMPLES		DISTURBED 0	UNDISTURBED 0	19. TOTAL NUMBER OF CORE BOXES N/A			
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC 1	METALS	OTHER	OTHER	OTHER	
22. DISPOSITION OF HOLE		BACKFILLED 20 SEPT '91	MONITOR WELL	OTHER	21. TOTAL CORE RECOVERY N/A %		
				23. INSPECTOR V. M. JOHNSON, WHC			
ELEV. (ft) a	DEPTH (ft) b	DESCRIPTION OF MATERIALS c		FIELD SCREENING NUMBER d	GEOTECH SAMPLE NUMBER e	ANALYTICAL SAMPLE NUMBER f	REMARKS g
	0	0-5 FEET SANDY GRAVEL: sand 54%, gravel 40%, silt 6%; 10YR 6/2 light brownish gray; dry; moderately to poorly sorted; gravel subrounded to rounded; 70% mafics, 30% felsics; no reaction to acid.					
	1	0-2.5 feet: debris consists of coke bottles, large amount of wood, cigarette butts, 3-ft. pocket of light gray to black ash, wire, plastic bags, and minor amounts of metal.					
	2	2.5-5 feet: Large amount of metal, wood, rebar, and fragments of asphalt.					
	3						
	4					B00ZS9	Chemical sample
	5						
	6	Approx. 30 cubic yards excavated.					

9212020268

FORM
MRK JUN 89 55

PROJECT
1100-EM-1 HORN RAPIDS LANDFILL

HOLE NO.
TRENCH #11

TELEPHONE CONFERENCE MEMORANDUM

Company: US Army Corps of Engineers

Address: Fed. Build. RM. 560

[] INCOMING

[X] OUTGOING

DATE: October 18, 1991

TIME: 1:30 pm

WITH: Dave Einan

OF: EPA

PHONE: 376-3883

WITH:

OF:

PHONE:

Copies to:

Name

Address

Dave Einan

MSIN B5-01

Bob Stewart

MSIN A5-19

John Stewart

MSIN A5-20

Kevin Singleton

MSIN H4-56

Subject: Decontamination of Backhoe During Excavation of Test Pits at Horn Rapids Landfill

Environmental Engineering

Wendell Greenwald
Wendell Greenwald

376-1252

Department

Telephone #

Summary of Conference

I contacted Dave Einan to discuss changing the decontamination procedure for the backhoe bucket which is used to excavate test pits at Horn Rapid Landfill. The decontamination requires a large amount of time and is expensive (a minimum of 1-1/2 hours down time which stops the entire work crew of 8 persons) and generates large quantities of decontamination fluids which must be containerized (if the decontamination is performed on site). This effort is excessive, because the process which controls the asbestos emissions is effectively decontaminating the backhoe bucket during the process of excavation.

A spray of water is directed at the backhoe bucket as it excavates a scoop of soil and transports it to the spoil pile. This spray of water prevents any visible emissions of dust which might contain asbestos and makes an additional decontamination step unnecessary. Dave indicated that the general concept was acceptable to him but he questioned what soaps would be used for decontamination.

I indicated that the EII 5.4, which is being followed at the site, allowed for non-phosphate soaps to be used in the decontamination process. In general, the decontamination fluid used would consist of the water used to control asbestos emissions. This water is mixed with a wetting agent (non-hazardous materials intended for use in asbestos abatement work). The manufacturer of the wetting agent recommends a 125 to one (volume of water to wetting agent), but a ratio of 4000 to one (volume of water to wetting agent) is presently being used (the ratio will vary depending upon the manufacturers recommendation and the direction be the site safety officer).

Dave Einan indicated that under these circumstances it would be acceptable to allow the asbestos laden fluids generated from the emissions control/decontamination of the backhoe bucket to return to the test pit being excavated.

EVALUATION OF DATA FROM SIEMENS NUCLEAR POWER

- DATA QUALITY OBJECTIVES

- To estimate the probability that the source of groundwater plumes at HRL containing TCE, Nitrate, and gross β originate from Siemens Nuclear Power Corporation.
- To estimate probable time of release of TCE, Nitrate (or ammonia), and gross β for groundwater modeling of plumes.
- To estimate if releases were one time occurrences or continual release both for groundwater modeling and estimation of risk and remedial alternatives.

- PROGRESS IN THE DATA EVALUATION

- Catalogued the available data (see table) which appears in several formats.
- Plotted data (one well) for the analytes total nitrogen and fluoride to observe trends.

- PLANNED FUTURE ACTIVITIES

- Compare graphs of wells hydrogeologically up-gradient and down-gradient relative to the lagoons at Siemens.
- Estimate if these data help to explain the groundwater plumes at HRL.

SUMMARY OF DATA TRANSFERRED FROM SIEMENS NUCLEAR POWER TO CENPW

ANALYTE LIST	YEARS										
	73	74-80	81	82	83	84	85	86	87	88-89	90
	NUMBER OF SAMPLING EVENTS PER YEAR										
Total Nitrogen	12	12	12	6	*	*	*	*	*	*	NE
Nitrate	ND	ND	4	4	4	2	2	2	2	2	NE
Ammonia	ND	ND	4	4	4	2	1	2	2	2	NE
Fluoride	12	12	12	6	4	4	4	4	3	4	NE
Sulfate	5	12	12	6	ND	ND	ND	ND	ND	ND	NE
Uranium	ND	ND	4	4	4	1	ND	ND	ND	ND	NE
Gross Alpha	ND	ND	ND	ND	ND	3	4	4	4	4	NE
Gross Beta	ND	ND	ND	1	ND	3	4	4	4	4	NE
TCE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4

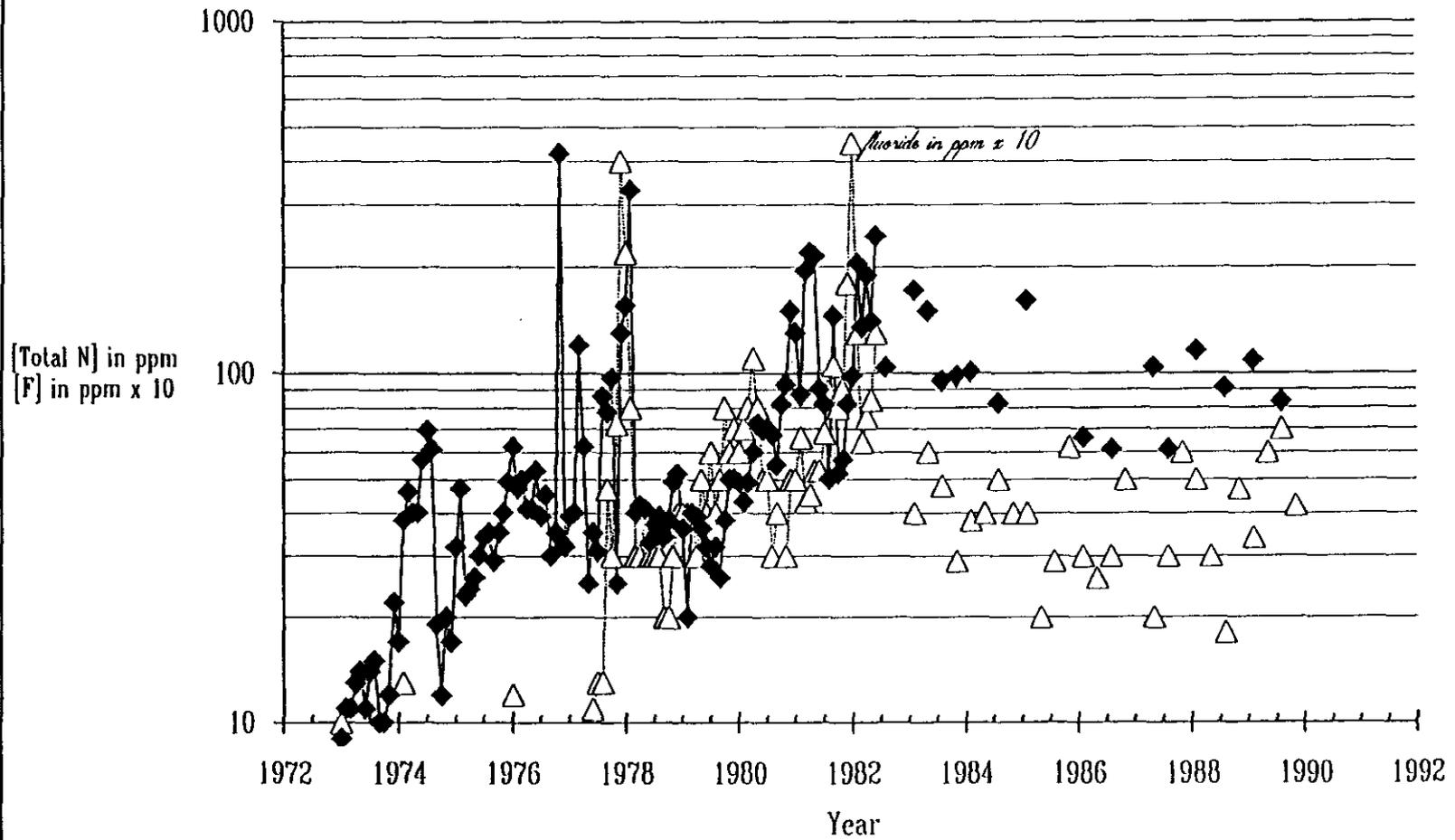
ND = Either not done or not yet obtained by CENPW.

NE = Not evaluated by CENPW as part of data package recieved from Siemens: data may be included with Horn Rapids RI data summary.

* = Can be calculated from existing data.

9 2 1 2 5 0 2 0 2 7 2

CONCENTRATION OF TOTAL NITROGEN (PPM) AND FLUORIDE (PPM X 10)
FOLLOWED FOR 1 WELL AT SIEMENS NUCLEAR POWER CORPORATION



DRAFT

TELEPHONE CONFERENCE MEMORANDUM

Company: US Army Corps of Engineers Address: RM 560, Fed. Buldg.
[] INCOMING [X] OUTGOING DATE: November 4, 1991 TIME:
WITH: Dave Einan OF: EPA PHONE: 376-3883
WITH: OF: PHONE:

Copies to: Name Address

Bob Stewart	DOE-RL
John Stewart	USACE
Dave Einan	EPA

Subject: Substitution of November Groundwater Samples for September Samples

Environmental Engineering Branch

376-1252

Department Wendell L. Greenwald Telephone #

Summary of Conference

9 2 1 2 3
I called Dave Einan to discuss problems with the August groundwater samples at Horn Rapids Landfill which should be corrected by replacing them with samples collected in November. The Horn Rapids Landfill samples, collected in August, were preserved with H₂SO₄. It was planned to have PNL perform special analysis to quantify technetium-99 and, potentially, perform additional analysis for the gross β emitter. But, PNL had concerns about H₂SO₄ interfering with the planned analysis. We wanted to replace these August samples with samples collected in November. The November samples for PNL analysis would not be preserved. Dave Einan stated that this would be acceptable so long as there was no schedule impact. I assured him that the schedule would not be delayed because of this action.

Dave asked why those samples were preserved with H₂SO₄. The Office of Sample Management has indicated that their office instructed the field team performing the sampling to use HNO₃. The field team, on the other hand, indicates that they were instructed by the Office of Sample Management to use the H₂SO₄. The investigation of this matter is continuing.

1100-EM-1 STATIC WATER LEVELS

Crew: Please print Richard Fink Jim McBane	Equipment Used: SINCO E-Tape Flashlight D.I. Water	Date: 12/16/91 Weather: Overcast 27 F Slight wind
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WELL ID	TIME	TOC ELEVATION (FT MSL)	DEPTH TO WATER (FT)	WATER ELEVATION (FT MSL)	
1	11-34-13	13:42	394.78	41.43	353.35
2	11-41-13C	12:48	405.98	53.57	352.41
3	30-45-16	Could not Locate	408.77	N/R	
4	30-47-18B	12:41	373.97	32.71	341.26
5	S27-E14	Could not Locate	399.76	N/R	
6	S29-E11 (MW-20)	08:30	385.70	38.35	347.35
7	S29-E12	12:00	387.96	41.93	346.03
8	S30-E10A (MW-10)	11:20	392.30	42.57	349.73
9	S30-E10B (MW-11)	09:10	392.08	41.93	350.15
10	S30-E15A	12:04	400.14	57.66	342.48
11	S31-E10A (MW-12)	11:10	384.58	35.25	349.33
12	S31-E10B (MW-13)	08:54	383.73	33.71	350.02
13	S31-E10C (MW-14)	08:49	382.92	33.05	349.87
14	S31-E10D (MW-15)	08:39	380.59	30.72	349.87
15	S31-E10E (MW-21)	08:46	383.42	34.00	349.42
16	S31-E11 (MW-22)	09:45	387.52	40.35	347.17
17	S31-E13	12:34	394.06	47.92	346.14
18	S31-E8 (MW-8)	09:12	374.77	20.38	354.39
19	S32-E8 (MW-9)	09:15	375.79	15.70	360.09
20	S32-E11 (MW-19)	10:14	386.91	35.83	351.08
21	S32-E13A	12:30	390.46	44.00	346.46
22	S32-E13B	12:23	394.72	47.92	346.80
23	S34-E10 (MW-2)	10:59	382.38	27.95	354.43
24	S36-E12B	14:06	399.04	47.00	352.04
25	S36-E13A	14:13	399.31	47.54	351.77
26	S36-E13B	14:10	399.63	47.38	352.25
27	S37-E11 (MW-6)	13:12	399.31	46.27	353.04
28	S37-E12 (MW-18)	12:59	403.17	50.88	352.29
29	S37-E14	14:19	408.28	56.92	351.36
30	S38-E11 (MW-7)	13:06	398.61	44.37	354.24
31	S38-E12A (MW-4)	12:55	404.96	52.66	352.30
32	S38-E12B (MW-5)	12:53	405.01	52.69	352.32
33	S40-E14	No Access	402.85	N/R	
34	S41-E11 (MW-1)	13:19	401.37	46.40	354.97
35	S41-E12 (MW-3)	No Access	401.93	N/R	
36	S41-E13A	13:55	410.56	57.67	352.89
37	S41-E13B	13:59	410.10	57.37	352.73
38	S41-E13C (MW-17)	13:57	410.69	58.15	352.54
39	S43-E12	13:33	405.60	50.95	354.65

9 2 1 2 5 0 2 0 2 7 4

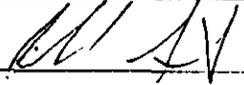
Signature:

Date: 12/17/91

1100-EM-1 STATIC WATER LEVELS

Crew: Please print Richard Fink Jim McBane Tina Bushnell Mathew Johansen	Equipment Used: Solinst 100' E-Tape SN 11118 BC # 01423	Date: 1/13/92 Weather: Cloudy 32° F
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WELL ID	TIME	TOC ELEVATION (FT MSL)	DEPTH TO WATER (FT)	WATER ELEVATION (FT MSL)
1	11-34-13	10:08	42.18	352.60
2	11-41-13C	09:26	55.05	350.93
3	30-45-16	N/R	N/R	
4	30-47-18B	09:19	32.95	341.02
5	S27-E14	N/R	N/R	
6	S29-E11 (MW-20)	07:58	38.70	347.00
7	S29-E12	09:07	42.40	345.56
8	S30-E10A (MW-10)	08:20	42.90	349.40
9	S30-E10B (MW-11)	08:23	42.16	349.92
10	S30-E15A	09:11	58.08	342.06
11	S31-E10A (MW-12)	08:03	35.62	348.96
12	S31-E10B (MW-13)	08:09	34.01	349.72
13	S31-E10C (MW-14)	08:06	33.28	349.64
14	S31-E10D (MW-15)	08:13	31.10	349.49
15	S31-E10E (MW-21)	08:10	34.28	349.14
16	S31-E11 (MW-22)	07:52	40.94	346.58
17	S31-E13	09:00	48.52	345.54
18	S31-E8 (MW-8)	08:28	20.47	354.30
19	S32-E8 (MW-9)	08:30	15.44	360.35
20	S32-E11 (MW-19)	08:46	36.22	350.69
21	S32-E13A	08:56	44.67	345.79
22	S32-E13B	08:53	48.54	346.18
23	S34-E10 (MW-2)	08:44	28.66	353.72
24	S36-E12B	10:40	48.68	350.36
25	S36-E13A	10:35	49.11	350.20
26	S36-E13B	10:32	49.20	350.43
27	S37-E11 (MW-6)	09:48	47.90	351.41
28	S37-E12 (MW-18)	N/R	N/R	
29	S37-E14	10:26	58.72	349.56
30	S38-E11 (MW-7)	09:41	45.55	353.06
31	S38-E12A (MW-4)	09:30	54.26	350.70
32	S38-E12B (MW-5)	09:32	54.30	350.71
33	S40-E14	10:54	52.20	350.65
34	S41-E11 (MW-1)	09:54	47.19	354.18
35	S41-E12 (MW-3)	N/R	N/R	
36	S41-E13A	10:21	59.44	351.12
37	S41-E13B	10:18	59.03	351.07
38	S41-E13C (MW-17)	10:20	59.78	350.91
39	S43-E12	10:02	51.78	353.82

Signature: 

Date: 1/13/92

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PURGE VOLUMES FOR FY 1992 SAMPLING ROUNDS

WELL #	RADIUS FEET	TOTAL DEPTH FEET	DEPTH TO WATER FEET	WATER COLUMN FEET	PURGE VOLUME	
					CUBIC FEET	GALLONS
MW-1	0.17	94.00	46.40	47.60	12.46	93.21
MW-3 **	0.17	83.00	47.93	35.07	9.18	68.68
MW-4	0.17	67.30	52.66	14.64	3.83	28.67
MW-6	0.17	91.00	46.27	44.73	11.71	87.59
MW-7	0.17	89.30	44.37	44.93	11.76	87.98
MW-8	0.17	34.10	20.38	13.72	3.59	26.87
MW-10	0.17	67.50	42.57	24.93	6.53	48.82
MW-11	0.17	58.51	41.93	16.58	4.34	32.47
MW-12	0.17	59.20	35.25	23.95	6.27	46.90
MW-14	0.17	60.50	33.05	27.45	7.19	53.75
MW-15	0.17	54.50	30.72	23.78	6.23	46.57
MW-20	0.17	67.70	38.35	29.35	7.68	57.47
MW-22	0.17	63.00	40.35	22.65	5.93	44.35
S29-E12	0.25	79.00	41.93	37.07	21.84	163.33

** MW-3 PURGE WATER VOLUME BASED ON AVG. WATER ELEVATIONS FROM 1990.

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KEY ISSUES

COORDINATION OF PLANNING IN ER PROGRAMS

APPLICATION OF THE PAST PRACTICE STRATEGY

RCRA/CERCLA INTEGRATION

APPLICATION OF RISK ASSESSMENT TO CLEANUP DECISIONS

FOCAL POINTS

MACRO ENGINEERING "CONCEPTUAL PLAN"

**MILESTONE DOCUMENTS: MODELING
RISK ASSESSMENT**

100 AREA WORK PLANS

AGGREGATE AREA MANAGEMENT STUDIES

**RCRA/CERCLA INTEGRATION: IDW
SAMPLING/ANALYSIS
COORDINATED TSD CLOSURES**

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BENEFITS

IMPROVED UNDERSTANDING OF ER PROGRAMS/PROBLEMS

MORE APPLIED COMMENTARY ON DOCUMENTS

REPORTS TO DOE ON MANAGEMENT ISSUES

INDEPENDENT FUNCTIONAL REVIEW OF DOCUMENTS

INDEPENDENT REVIEW OF COMMITTEES AND WORKING GROUPS

CROSS FERTILIZATION OF ER PROGRAM ACTIVITIES

ASBESTOS ANALYSIS RESULTS
for
HORN RAPIDS LANDFILL
1100-EM-1 OPERABLE UNIT

TEST PIT	SAMPLING DEPTH (ft)	SAMPLE MATERIAL DESCRIPTION	FIBER CONTENT
1	8.5	Tan Fibrous Insulation Material with Small Amount of Dirt	Amosite Asbestos
3A	10	White/Tan Paper with Soil	No Asbestos Detected
3A	21-22	Yellow and White Flaky Granular Material	Non-Fibrous
3B	6	Tan Dirt	No Asbestos Detected
6	4.5-5	Sample Left In Test Pit	
6	6.5	Sample Left In Test Pit	
7	Unknown	Brown Soil (portion)----- Transite (portion)-----	--Unident. Asbestos --25-35% Chrysotile
7	5	Brown Granular Soil	Amosite Asbestos
8	3-4	White and Black Mottled Granular Piece	2-4% Fiberglass
Unknown	Surf.	Brown Soil (portion)----- Transite (portion)-----	--Chrysotile --25-35% Chrysotile
Unknown	Surf.	Tan Soil	Unident. Asbestos

92125920230

Distribution

1100-EM-1 Unit Managers Meeting
January 22, 1992

Chuck Cline, WDOE
Ward Staubitz, USGS
Mike Thompson, DOE-RL (A6-95)
Mary Harmon, DOE-HQ, (EM-442)

John Stewart, USACE
Linda Powers, WHC (B2-35)
Tom Wintczak, WHC (B2-15)
Mel Adams, WHC (H4-55)
Steven Clark, WHC (H4-55)
Brian Sprouse, WHC (H4-22)
Diane Clark, DOE-RL (A5-55)
Bill Price, WHC (S0-03)
Donna Lacombe, PRC
Jim Patterson, WHC
Michael Beavers, WHC (G1-66)
Earl Oxford, WHC (G4-11)
L.D. Arnold, WHC (B2-35)

~~Ronald D. Izatt (A6-95)~~
~~Director, DOE-RL, ERD~~
June M. Hennig (A5-21)
DOE-RL, WMD
Roger D. Freeberg (A6-95)
Chief, Rstr. Br., DOE-RL, ERD
~~Steven H. Wisness~~
~~TPA Proj. Mgr.~~
Richard D. Wojtasek (B2-15)
Prgm. Mgr. WHC

Dave Einan, EPA (B5-01)

Chuck Malody, ANF
Don Praast, GAO (A1-80)

ADMINISTRATIVE RECORD: 1100-EM-1; Care of Susan Wray, WHC (~~H4-51C~~)

H4-22

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Please contact Doug Fassett (SWEC) if there are any deletions or additions to this list.