0017240

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ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT 133016

2. To: (Receiving Organization) Distribution

3. From: (Originating Organization) Groundwater Well Services

4. Related EDT No:

5. Proj/Prog/Dept/Div: Envir. Restoration

6. Cog/Proj Engr: R. K. Ledgerwood

7. Purchase Order No:

8. Originator Remarks: Approval/Release

9. Equip/Component No:

10. System/Bldg/Facility:

11. Receiver Remarks:

12. Major Assm Dwg No:

13. Permit/Permit Application No.

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14. Required Response Date: 11/1/91

15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev No.	(E) Title or Description of Data Transmitted	(F) Impact Level	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	WHC-SD-ER-TI-006		0	Summaries of Well Construction Data and Field Observations for Existing 100 Aggregate Area Operable Unit Resource Protection Wells	4	1/2		

16. KEY

Impact Level (F)	Reason for Transmittal (G)	Disposition (H) & (I)
1, 2, 3, or 4 see MRP 5.43 and EP-1.7	1. Approval 2. Release 3. Information 4. Review 5. Post-Review 6. Dist (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Impact Level for required signatures)

(G) Reason	(H) Disp	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp
4	1	Cog./Proj. Eng			N3-05						
4	1	Cog./Proj. Eng. Mgr									
		QA									
		Safety									
3		EDMC, T. Tonning (2)			H4-22						
3		Clearance, N. Solis			H4-17						

NOV 1991 RECEIVED EDMC

18. Signature of EDT Originator — Date 10-31-91

19. Authorized Representative for Receiving Organization — Date

20. Cognizant/Project Engineer's Manager — Date 10-31-91

21. DOE APPROVAL (if required) Ltr No.
- ☐ Approved
- ☐ Approved w/comments
- ☐ Disapproved w/comments

BD-7400-172 (2/89)

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	(H) Originator Disposition	• Enter the appropriate disposition code (see Block 16).
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SUPPORTING DOCUMENT

1. Total Pages ~~340~~ 339

2. Title

SUMMARIES OF WELL CONSTRUCTION DATA AND FIELD OBSERVATIONS FOR EXISTING 100 AGGREGATE AREA OPERABLE UNIT RESOURCE PROTECTION WELLS

3. Number

WHC-SD-ER-TI-006

4. Rev No.

0

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100 Aggregate Area Operable Unit resource protection wells
Environmental restoration

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10/30/91 M. Solis

6. Author

Name: R. K. Ledgerwood

R. K. Ledgerwood
Signature

Organization/Charge Code 81243/PH31A

7. Abstract

This document summarizes available construction data and field observations for existing resource protection groundwater wells within or associated with the 100 Aggregate Area, Hanford Site. Construction data and field observation summaries tabulate pertinent construction data and results of field observations of the wells. Preliminary recommendations for remediation based on this data are also provided. The as-built drawing or "Well Construction and Completion Summary" is based on review of existing drilling records and the results of field observations.

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INTRODUCTION

This package provides data for groundwater wells included in released 100 Area Remedial Investigation/Feasibility Study Work Plans (DOE-RL 1990a and DOE-RL 1990b). It also includes 100 and 600 Area wells that may become a part of the 100 Area Aggregate Unit. It is the first part of the fitness-for-use evaluation process detailed in Environmental Investigation and Site Characterization Instruction (EII) 6.6, "Resource Protection Well Characterization and Evaluation," (WHC-CM-7-7). Figure 1 depicts the process as applied to each well. All documentation in this process is considered draft or preliminary until final approval of recommendations generated by EII 6.6.

The data consists of a data summary of construction data and field observations for each well and a "Well Construction and Completion Summary" or "as-built" drawing for each well.

The data summary tabulates pertinent drilling data and the results of field inspections and downhole television scans of the wells. Preliminary recommendations based on evaluation of that data are then provided. Recommendations detail required remediation or maintenance to achieve applicable data quality objectives. Documented uses for the wells are extracted from computer data base records of water level measurements and published results of chemical and radionuclide analyses (Jaquish and Bryce 1990).

Digitized scans of field photographs of well sites are provided where available and contrast of the photographs allow acceptable resolution for scanning.

The as-built drawing is based on review of existing drilling records, the results of field observations, and applicable data contained in Hanford Wells (McGhan 1989).

Preliminary recommendations of incomplete EII 6.6 fitness-for-use evaluations for wells identified for possible use are summarized in Table 1. Results of reviews of existing drilling records for all known groundwater wells located within or associated with the 100 Aggregate Area and available records of field maintenance and observations are tabulated in this section and are summarized in Table 2. Location of the 100 Areas and wells tabulated in this document are given in Figures 2-6.

REFERENCES

McGhan, V. L., 1989, *Hanford Wells*, PNL-6907, Pacific Northwest Laboratory, Richland, Washington.

Environmental Investigations and Site Characterization Manual, WHC-CM-7-7, Westinghouse Hanford Company, Richland, Washington.
Environmental Investigations Instructions (EII):
EII 1.6, "Records Management."
EII 6.1, "Activity Reports of Field Operations."
EII 6.4, "Groundwater Resource Protection Well Maintenance."
EII 6.6, "Resource Protection Well Characterization and Evaluation."
EII 6.10, "Abandoning/Decommissioning Ground Water Wells."
EII 8.3, "Groundwater Well Remediation."

DOE-RL, 1990a, *CERCLA Remedial Investigation/Feasibility Study Work Plan for the 100-BC-5 Operable Unit, Predecisional*, DOE/RL-90-08, U.S. Department of Energy - Richland Operations Office, Richland, Washington.

DOE-RL, 1990b, *Remedial Investigation/Feasibility Study Work Plan for the 100-KR-4 Operable Unit, Hanford Site - Richland, Washington*, DOE/RL-90-21, U.S. Department of Energy - Richland Operations Office, Richland, Washington.

DOE-RL, 1991, *Annual Report for RCRA Groundwater Monitoring Projects at Hanford Site Facilities for 1990*, DOE/RL-91-03, Geosciences Group, Westinghous Hanford Company, Richland, Washington.

Jaquish, R.E. and R. W. Bryce, Eds., 1990, *Hanford Site Environmental Report for Calendar Year 1989*, PNL-7346, Pacific Northwest Laboratory, Richland, Washington.

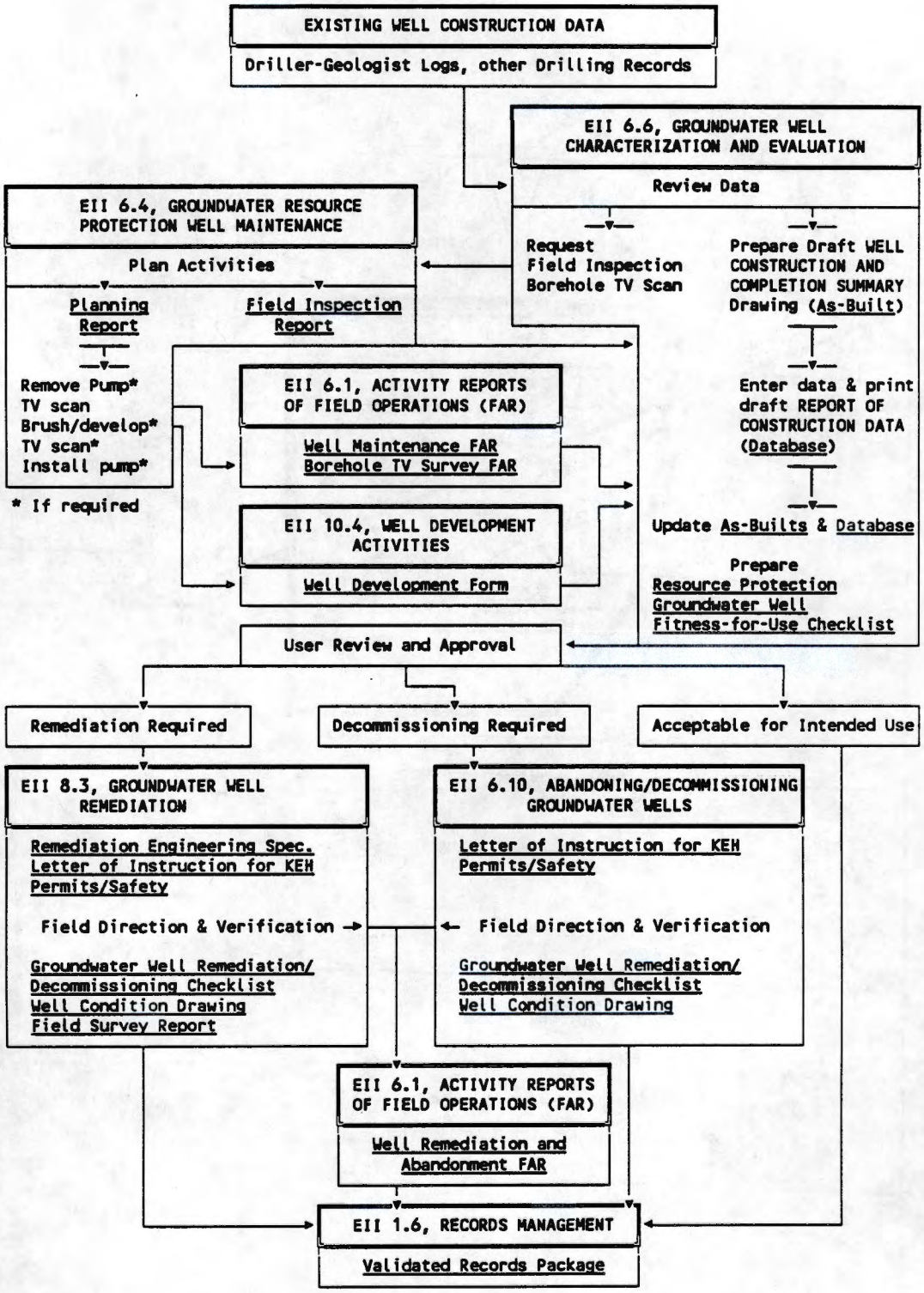

Figure 1. Fitness-for-Use Evaluation Workflow.

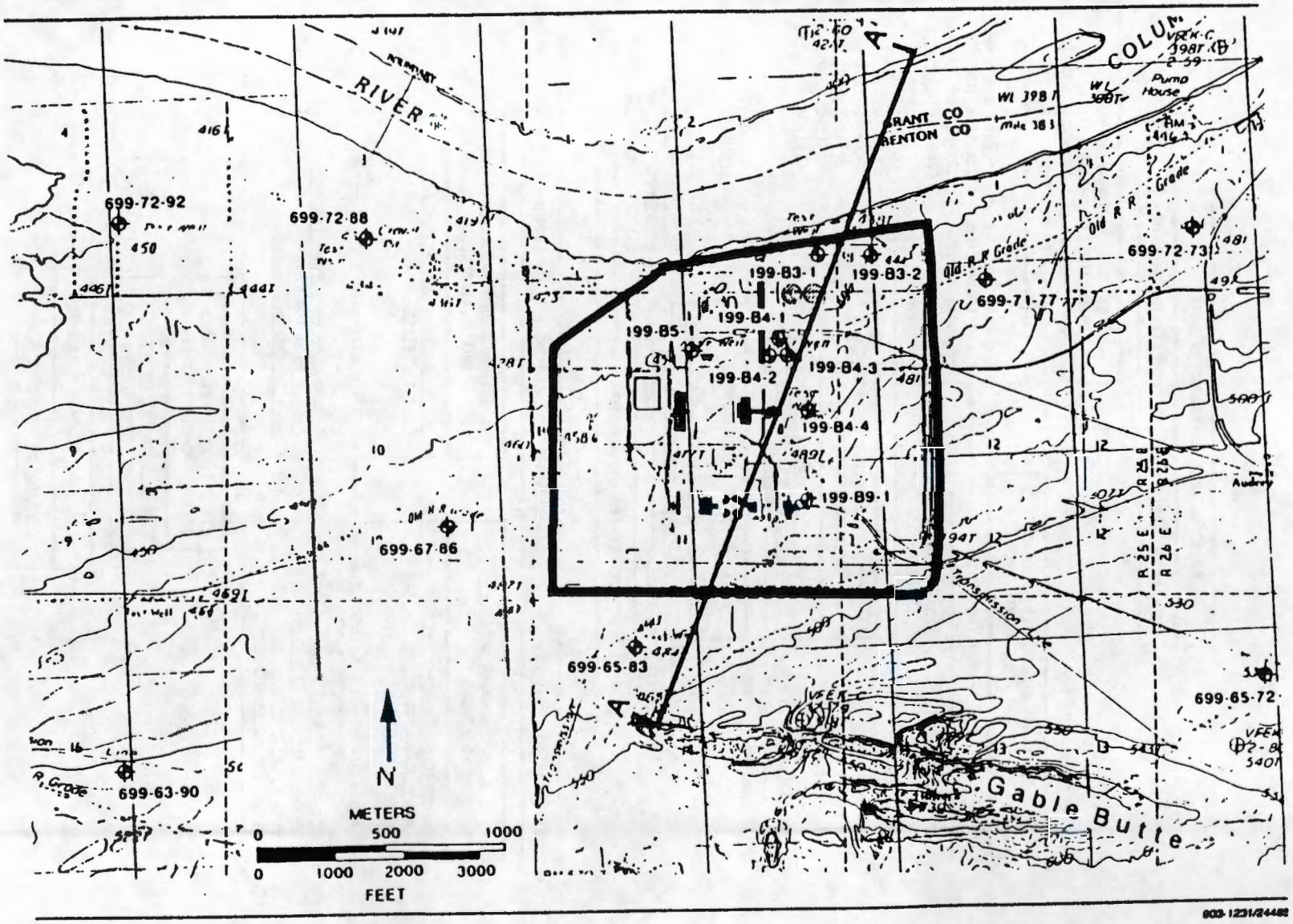

Figure 2. Well locations for the 100-B/C Area

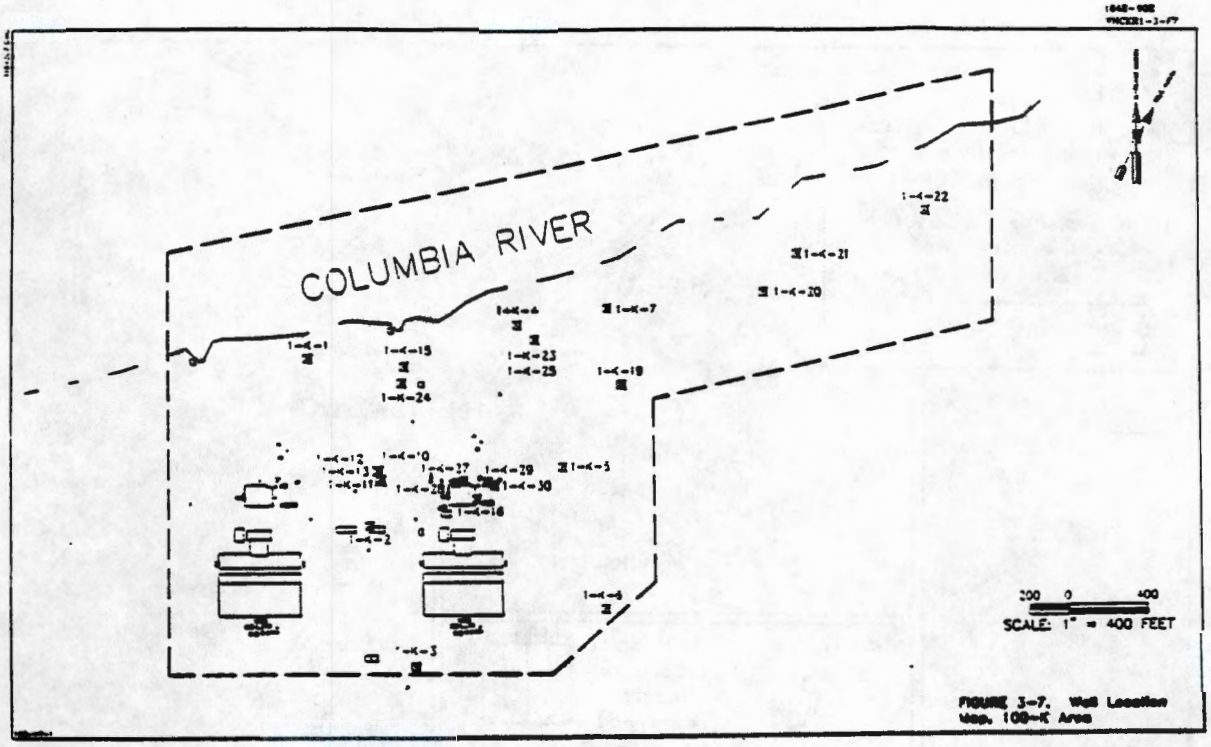

Figure 3a. Well locations for 100-K Area

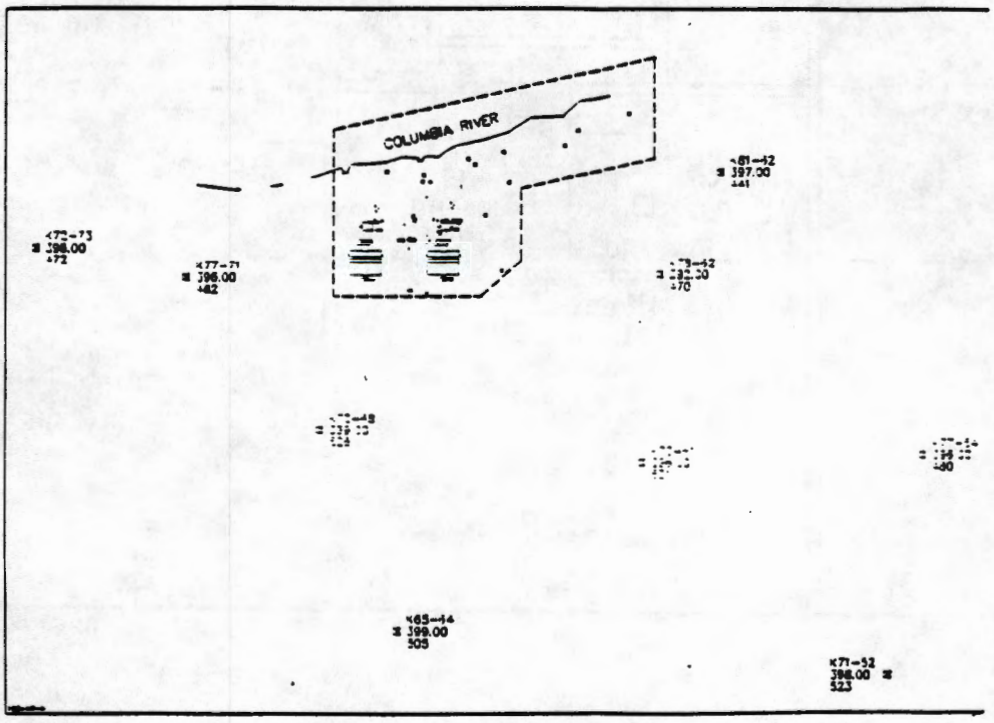

Figure 3b. 600-Area well locations in the vicinity of 100-K Area (Hanford Site well designations are 699- instead of K-)

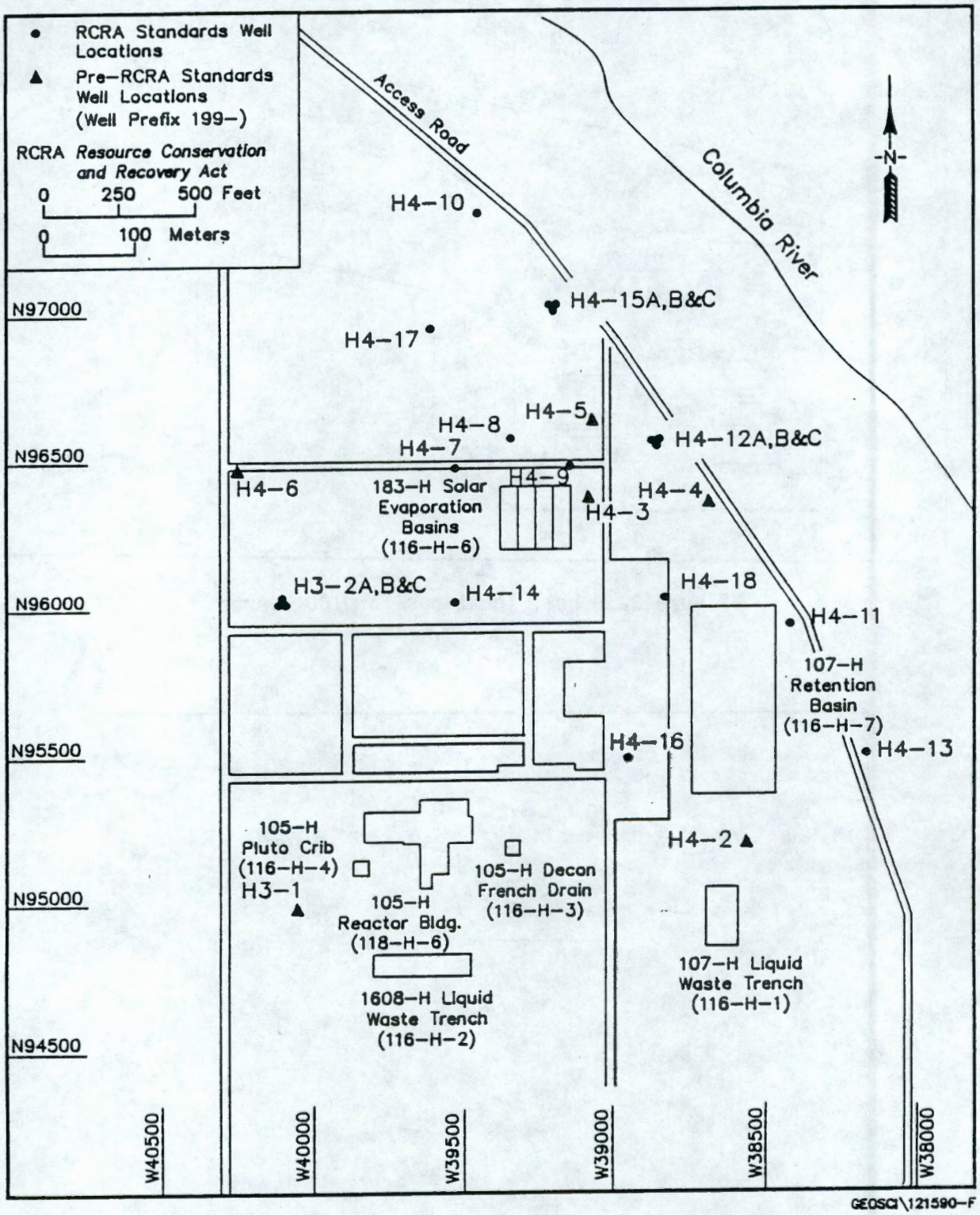

Figure 4. Well locations for 100-H Area

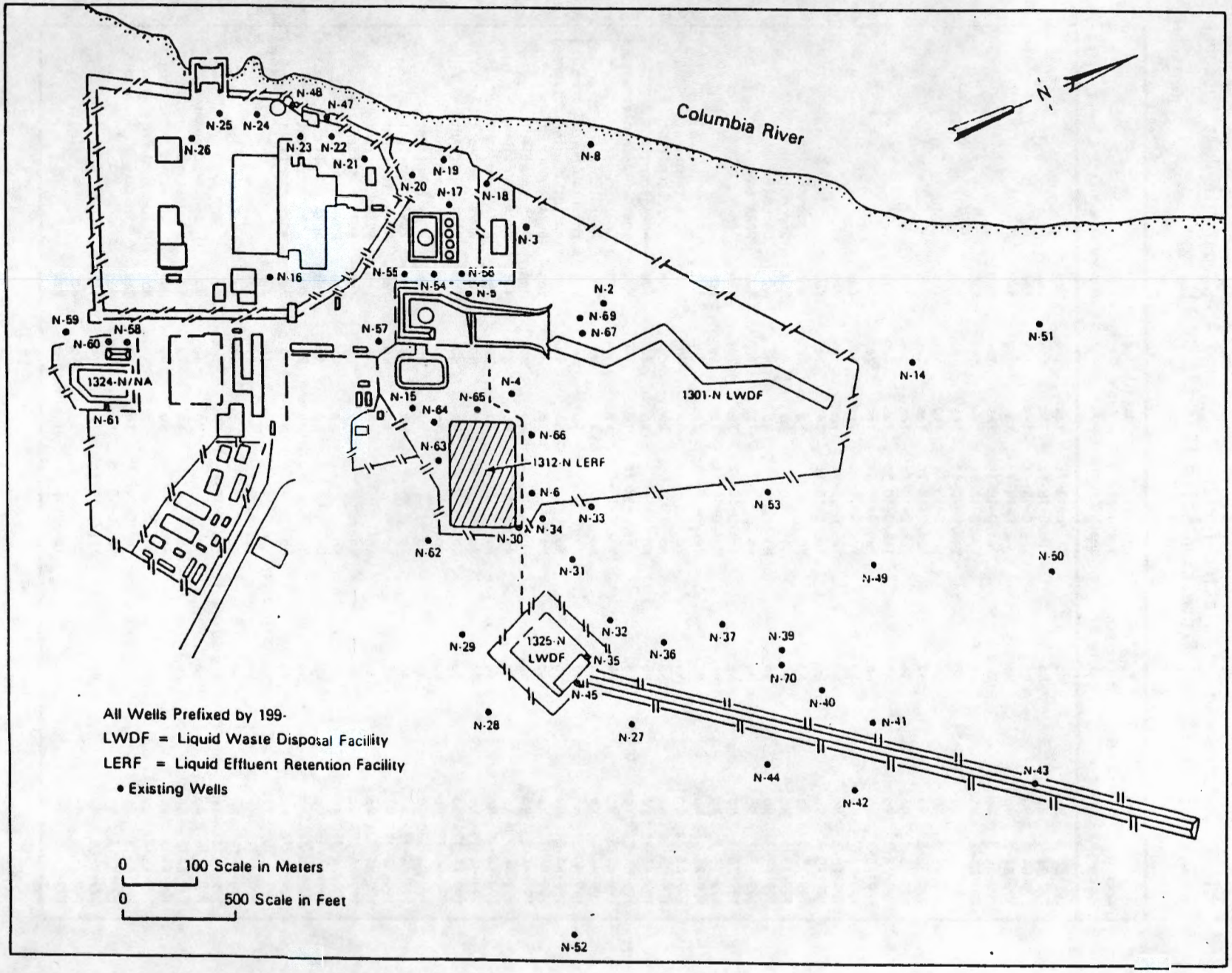

Figure 5. Well locations for 100-N Area

Table 1. Recommended Remediation for 100-Aggregate Area Operable Unit Resource Protection Wells (Sheet 1 Of 3)

Well Number	Reduce Monitored Interval	Perforate Casing	Install Surface Seal	Install 4'4'6" Pad	Install Posts Paint	Survey	Comments
199-B3-1	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-B3-2	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-B4-1	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-B4-2	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-B4-3	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-B4-4	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-B5-1	Yes, <30-ft	No	Yes/0-18-ft	Yes	Yes	Yes	
199-B9-1	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-D2-5	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-D5-12	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-D8-3	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-F5-1	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-F5-2	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-F5-3	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-F5-4	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-F5-5	No	No	No	No	No	No	Decommission
199-F5-6	No	No	No	No	No	No	Decommission
199-F7-1	No	No	No	No	No	No	Decommission
199-F7-2	No	No	No	TBD	TBD	TBD	RCRA compliant
199-F8-1	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-F8-2	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-H3-1	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-H3-2A	No	No	No	No	No	Yes	RCRA compliant
199-H3-2B	No	No	No	No	No	Yes	RCRA compliant
199-H3-2C	No	No	No	No	No	Yes	RCRA compliant
199-H4-2	Yes, <30-ft	TBD	Yes/0-18-ft	TBD	TBD	Yes	Install 2-in piezometer?
199-H4-3	No	No	Yes/0-18-ft	No	No	Yes	
199-H4-4	No	No	No	No	No	Yes	Acceptable for screening
199-H4-5	No	No	No	No	No	Yes	Acceptable for screening
199-H4-6	No	No	No	No	No	Yes	Acceptable for screening
199-H4-7	No	No	No	No	No	Yes	RCRA compliant
199-H4-8	No	No	No	No	No	Yes	RCRA compliant
199-H4-9	No	No	No	No	No	Yes	RCRA compliant
199-H4-10	No	No	No	No	No	Yes	RCRA compliant
199-H4-11	No	No	No	No	No	Yes	RCRA compliant
199-H4-12A	No	No	No	No	No	Yes	RCRA compliant
199-H4-12B	No	No	No	No	No	Yes	RCRA compliant
199-H4-12C	No	No	No	No	No	Yes	RCRA compliant
199-H4-13	No	No	No	No	No	Yes	RCRA compliant
199-H4-14	No	No	No	No	No	Yes	RCRA compliant
199-H4-15A	No	No	No	No	No	Yes	RCRA compliant
199-H4-15B	No	No	No	No	No	Yes	RCRA compliant
199-H4-15C	No	No	No	No	No	Yes	RCRA compliant
199-H4-16	No	No	No	No	No	Yes	RCRA compliant
199-H4-17	No	No	No	No	No	Yes	RCRA compliant
199-H4-18	No	No	No	No	No	Yes	RCRA compliant
199-K-10	Yes, <30-ft	Yes/60-100-ft	Yes/0-18-ft	Yes	Yes	Yes	
199-K-11	Yes, <30-ft	Yes/60-70-ft	Yes/0-18-ft	Yes	Yes	Yes	
199-K-12	No	No	No	No	No	No	Decommission
199-K-13	Yes, <30-ft	Yes/60-100-ft	Yes/0-18-ft	Yes	Yes	Yes	
199-K-14	No	No	No	No	No	No	Locate-decommission
199-K-15	No	No	No	No	No	No	Locate-decommission
199-K-16	No	No	No	No	No	No	Locate-decommission
199-K-17	No	No	No	No	No	No	Locate-decommission
199-K-18	No	No, remove	Yes/0-~12-ft	Yes	Yes	Yes	Install 4" SS casing
199-K-19	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-K-20	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-K-21	No	No	No	No	No	No	Decommission
199-K-22	No	No	Yes/0-18-ft	Yes	Yes	Yes	

Table 1. Recommended Remediation for 100-Aggregate Area Operable Unit Resource Protection Wells (Sheet 2 Of 3)

Well Number	Reduce Monitored Interval	Perforate Casing	Install Surface Seal	Install 4'4'6" Pad	Install Posts Paint	Survey	Comments
199-K-23	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-K-24	No	No	No	No	No	No	Locate-decommission
199-K-25	No	No	No	No	No	No	Locate-decommission
199-K-27	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-K-28	No	No	No	Yes	Yes	Yes	
199-K-29	No	No	No	Yes	Yes	Yes	
199-K-30	No	No	No	Yes	Yes	Yes	
199-K-31	No	No	No	No	No	No	Locate-decommission
199-N-1	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-N-2	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-N-3	Yes, <30-ft	No	Yes/0-18-ft	Yes	Yes	Yes	
199-N-4	No	Yes/60-90-ft	Yes/0-18-ft	Yes	Yes	Yes	Remove plug @ 73-ft
199-N-5	Yes, <30-ft	No	Yes/0-18-ft	Yes	Yes	Yes	
199-N-6	No	Yes/65-70-ft	Yes/0-18-ft	Yes	Yes	Yes	Deepen/decommission?
199-N-7	No	No	No	No	No	No	Decommissioned
199-N-8P	No	No	No	No	No	No	Decommission
199-N-8Q	No	No	No	No	No	No	Decommission
199-N-8R	No	No	No	No	No	No	Decommission
199-N-8S	No	No	No	No	No	No	Decommission
199-N-8T	No	No	No	No	No	No	Decommission
199-N-8U	No	No	No	No	No	No	Decommission
199-N-8V	No	No	No	No	No	No	Decommission
199-N-12	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-N-14	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-N-15	No	No	Yes/0-18-ft	Yes	Yes	Yes	
199-N-16	No	No	No	Yes	No	Yes	Acceptable for screening
199-N-17	No	No	No	Yes	No	Yes	
199-N-18	No	No	No	Yes	Yes	Yes	Acceptable for screening
199-N-19	No	No	No	Yes	No	Yes	
199-N-20	No	No	No	Yes	No	Yes	
199-N-21	No	No	No	Yes	No	Yes	
199-N-22	No	No	No	Yes	Yes	Yes	Acceptable for screening
199-N-23	No	No	No	Yes	TBD	Yes	
199-N-24	No	No	No	Yes	TBD	Yes	
199-N-25	No	No	No	Yes	TBD	Yes	Acceptable for screening
199-N-26	No	No	No	Yes	TBD	Yes	Acceptable for screening
199-N-27	No	No	No	Yes	No	Yes	Acceptable for screening
199-N-28	No	No	No	Yes	No	Yes	Acceptable for screening
199-N-29	No	No	No	Yes	No	Yes	Acceptable for screening
199-N-30	No	No	No	Yes	Yes	Yes	Acceptable for screening
199-N-31	No	No	No	Yes	No	Yes	Acceptable for screening
199-N-32	No	No	No	Yes	No	Yes	Acceptable for screening
199-N-33	No	No	No	Yes	No	Yes	Acceptable for screening
199-N-34	No	No	Yes/0-18-ft	Yes	Yes	Yes	Acceptable for screening
199-N-35	No	No	Yes/0-18-ft	Yes	Yes	Yes	Acceptable for screening
199-N-36	No	No	Yes/0-18-ft	Yes	No	Yes	Acceptable for screening
199-N-37	No	No	Yes/0-18-ft	Yes	No	Yes	Acceptable for screening
199-N-38	No	No	No	No	No	No	Decommissioned/grouted
199-N-39	No	No	Yes/0-18-ft	Yes	No	Yes	Acceptable for screening
199-N-40	No	No	Yes	Yes	No	Yes	Acceptable for screening
199-N-41	No	No	Yes/0-18-ft	Yes	No	Yes	Acceptable for screening
199-N-42	No	No	Yes/0-18-ft	Yes	No	Yes	Acceptable for screening
199-N-43	No	No	Yes/0-18-ft	Yes	No	Yes	Acceptable for screening
199-N-44	No	TBD	Yes/0-18-ft	Yes	No	Yes	
199-N-45	No	No	Yes/0-18-ft	Yes	TBD	Yes	Acceptable for screening
199-N-47	No	No	No	Yes	TBD	Yes	Acceptable for screening
199-N-48	No	No	No	Yes	TBD	Yes	Acceptable for screening
199-N-49	No	No	No	Yes	TBD	Yes	Acceptable for screening
199-N-50	No	No	No	Yes	TBD	Yes	Acceptable for screening
199-N-51	No	No	No	Yes	TBD	Yes	Acceptable for screening
199-N-52	No	No	No	Yes	No	Yes	Acceptable for screening

Table 1. Recommended Remediation for 100-Aggregate Area Operable Unit Resource Protection Wells (Sheet 3 Of 3)

Well Number	Reduce Monitored Interval	Perforate Casing	Install Surface Seal	Install 4'4'6" Pad	Install Posts Paint	Survey	Comments
199-N-53	No	No	No	Yes	Yes	Yes	Acceptable for screening
199-N-54	No	No	No	No	No	Yes	RCRA compliant
199-N-55	No	No	No	No	No	Yes	RCRA compliant
199-N-56	No	No	No	No	No	Yes	RCRA compliant
199-N-57	No	No	No	No	No	Yes	RCRA compliant
199-N-58	No	No	No	No	No	Yes	RCRA compliant
199-N-59	No	No	No	No	No	Yes	RCRA compliant
199-N-60	No	No	No	No	No	Yes	RCRA compliant
199-N-61	No	No	No	No	No	Yes	RCRA compliant
199-N-62	No	No	No	No	No	Yes	RCRA compliant
199-N-63	No	No	No	No	No	Yes	RCRA compliant
199-N-64	No	No	No	No	No	Yes	RCRA compliant
199-N-65	No	No	No	No	No	Yes	RCRA compliant
199-N-66	No	No	No	No	No	Yes	RCRA compliant
199-N-67	No	No	No	No	No	Yes	RCRA compliant
199-N-69	No	No	No	No	No	Yes	RCRA compliant
199-N-70	No	No	No	No	No	Yes	RCRA compliant
699-63-90	Yes, <30-ft	No	Yes/0-18-ft	Yes	Yes	Yes	
699-65-72	Yes, <30-ft	Yes/130-137-ft	Yes/0-18-ft	Yes	Yes	Yes	
699-65-83	No	Yes/80-86-ft	Yes/0-18-ft	Yes	Yes	Yes	
699-66-64	No	No	Yes/0-18-ft	Yes	Yes	Yes	Screen on lead packer
699-66-91	Yes, <30-ft	No	Yes/0-18-ft	Yes	Yes	Yes	
699-67-86	No	No	Yes/0-18-ft	Yes	Yes	Yes	
699-70-68	No	Yes/120-126-ft	Yes/0-18-ft	Yes	Yes	Yes	
699-71-77	Yes, <30-ft	No	Yes/0-18-ft	Yes	Yes	Yes	
699-72-73	Yes, <30-ft	No	Yes/0-18-ft	Yes	Yes	Yes	
699-72-88	No	Yes/25-32-ft	Yes/0-18-ft	Yes	Yes	Yes	
699-72-92	Yes, <30-ft	No	Yes/0-18-ft	Yes	Yes	Yes	
699-73-61	No	No	Yes/0-18-ft	Yes	Yes	Yes	
699-77-54	Yes, <30-ft	No	Yes/0-18-ft	Yes	Yes	Yes	
699-78-62	No	No	Yes/0-18-ft	Yes	Yes	Yes	
699-81-58	No?	No	Yes/0-18-ft	Yes	Yes	Yes	
699-81-62	No	No	No	No	No	No	Decommission
699-89-35	No	No	Yes/0-18-ft	Yes	Yes	Yes	
699-90-45	No	No	Yes/0-18-ft	Yes	Yes	Yes	
699-96-49	No	No	Yes/0-18-ft	Yes	Yes	Yes	
699-97-43	Yes, <30-ft	No	Yes/0-18-ft	Yes	Yes	Yes	
699-97-51A	No	No	Yes/0-18-ft	Yes	Yes	Yes	
699-101-48B	No	No	Yes/0-18-ft	Yes	Yes	Yes	

NOTE: Recommendations are preliminary and based on incomplete data. They are made in draft form for planning purposes only.

Table 2. Tabulation of 100-Aggregate Area Operable Unit Existing Resource Protection Well Status (Sheet 1 Of 3)

Well Number	Hanford Coord North	West	Date Drill	Depth Drill	Depth Bott$_1$	Depth Water$_2$	Casng Size	Ref Elev	Perfed Intrvl	Screen Intrvl	Comments
199-B3-1	71,800	79,830	Mar53	63	55	32/42	8-CS	439.79	20-60	NA	
199-B3-2	71,752	78,818	Sep53	790	~650	44/33	8-CS	442.59	635-645	NA	
199-B4-1	70,000	80,650	Feb49	90	89	66/59	8-CS	461.80	50-90	NA	
199-B4-2	69,933	80,672	Feb49	90	83	63/59	6-CS	461.99	62-88	NA	
199-B4-3	69,933	80,636	Feb49	91	82	63/59	8-CS	461.75	60-90	NA	
199-B4-4	68,978	80,367	Sep60	105	91	75/70	8-CS	472.14	49-102	NA	
199-B5-1	69,930	82,000	Aug62	151	96	68/52	8-CS	455.56	40-148	NA	
199-B9-1	67,500	79,961	Jul52	92*	116*	98/92*	8-CS	478.87*	80-110*	NA	*25-ft csng added
199-D2-5	90,783	52,638	Aug60	95	ND	74/70	8-CS	460.87	36-86	NA	
199-D5-12	92,125	52,546	Aug60	91	ND	78/82	8-CS	469.67	35-90	NA	
199-D8-2	94,725	53,018	Jun52	76	ND	50/42	6-CS	444.61	30-75	NA	
199-D8-3	94,720	52,205	Jun52	80.5	ND	55/64	6-CS	449.06	35-79	NA	
199-F5-1	79,531	28,255	Sep48	67	ND	35/30	6-CS	406.56	35-63	NA	
199-F5-2	79,738	28,828	Feb53	100	ND	34/ND	8-CS	413.02	25-100	NA	
199-F5-3	79,588	28,498	Jan53	90	ND	37/32	8-CS	408.62	22-90	NA	
199-F5-4	79,069	30,650	Feb53	115	ND	35/42	8-CS	412.12	35-105	NA	
199-F5-5	80,185	29,174	Jan53	100	ND	16/ND	8-CS	412.51	15-100	NA	
199-F5-6	80,537	29,402	Aug56	192	ND	36/42	8-CS	412.95	35-74	NA	
199-F7-1	77,199	33,394	Aug56	150	ND	13/15	8-CS	389.74	10-140	NA	Perf not continous
199-F7-2	ND	ND	Mar88	31	ND	20/ND	6-SS	ND	NA	15-30	
199-F8-1	78,536	31,265	Aug60	57	ND	15/35	8-CS	405.86	13-53	NA	
199-F8-2	78,661	31,138	Aug60	55	ND	15/38	8-CS	410.74	10-53	NA	
199-H3-1	94,994	40,052	Aug60	75	ND	38/41	8-CS	421.98	29-74	NA	
199-H3-2A	96,018	40,117	Nov86	56	ND	41/38	6-SS	417.83	NA	36-51	
199-H3-2B	96,041	40,104	Nov86	58	ND	41/38	6-SS	418.42	NA	50-55	
199-H3-2C	96,019	40,092	Nov86	155	ND	41/38	6-SS	418.22	NA	100-110	
199-H4-2	95,200	38,565	May52	386	ND	#/4	6-CS	421.12	NA	NA	#=Artesian
199-H4-3	96,373	39,080	May74	55	ND	39/42	6-CS	420.35	34-55	NA	
199-H4-4	96,356	38,685	Jun83	55	ND	36/36	6-CS	413.76	NA	33-43	Telescoping screen
199-H4-5	96,639	39,065	May83	60	ND	36/38	6-CS	416.26	NA	32-42	Telescoping screen
199-H4-6	96,473	40,245	May83	55	ND	41/40	6-CS	419.58	NA	39-49	Telescoping screen
199-H4-7	96,479	39,526	Sep86	55	ND	43/41	6-SS	420.59	NA	38-53	
199-H4-8	96,580	39,341	May86	55	ND	44/41	6-SS	420.00	NA	38-48	
199-H4-9	96,488	39,136	Sep86	51	ND	43/41	6-SS	418.08	NA	36-46	
199-H4-10	97,348	39,449	Sep86	38	ND	28/26	6-SS	404.44	NA	23-38	
199-H4-11	95,943	38,419	Oct86	53	ND	42/39	6-SS	416.84	NA	38-53	
199-H4-12A	96,549	38,854	Nov86	48	ND	38/35	6-SS	413.50	NA	33-48	
199-H4-12B	96,568	38,869	Nov86	51	ND	37/35	6-SS	413.52	NA	45-50	
199-H4-12C	96,572	38,845	Oct86	220	ND	38/32	6-SS	413.52	NA	72-82	
199-H4-13	95,506	38,166	Nov86	61	ND	42/41	6-SS	418.20	NA	37-52	
199-H4-14	96,024	39,529	Dec86	53	ND	43/40	6-SS	420.59	NA	38-53	
199-H4-15A	97,012	39,147	Nov86	46	ND	33/29	6-SS	407.21	NA	27-42	
199-H4-15B	97,032	39,212	Nov86	44	ND	30/29	6-SS	406.92	NA	37-42	
199-H4-15C	97,033	39,185	Oct86	330	ND	ND/33S	2-SS	407.44S	NA	4 Zones	4 piezometers
199-H4-16	95,496	38,945	Apr87	61	ND	48/44	6-SS	424.23	NA	42-57	
199-H4-17	96,961	39,607	May87	46.5	ND	42/40	6-SS	419.09	NA	35-45	
199-H4-18	96,036	3,825	May87	51	ND	45/43	6-SS	421.82	NA	40-50	
199-K-10	76,100	68,800	Aug52	170	ND	74/70	12-CS	466.66	155-165	NA	
199-K-11	76,030	68,733	Aug52	170	127	73/69	6-CS	467.66	69-160	NA	
199-K-12	76,104	68,803	Sep52	159	ND	74/ND	6-CS	466.55?	117-137	NA	Covered ovr-no FIR
199-K-13	76,104	68,803	Mar53	159	134	55/68	12-CS	464.00	ND	NA	No drill records
199-K-14	ND	ND	Dec52	95	ND	79/ND	8-CS	469.05	ND	NA	No FIR-location ND
199-K-15	77,160	69,050	Apr43	150	ND	ND/ND	6-CS	408.00	ND	NA	No FIR-not located
199-K-16	76,300	68,800	Feb53	50	ND	ND/ND	8-CS	404.00	ND	NA	No FIR-not located
199-K-17	ND	ND	Sep53	75	ND	62/ND	8-CS	406.00	50-75	NA	No FIR-location ND
199-K-18	ND	ND	Oct54	60	39	52/16	8-CS	410.66	ND	NA	

Table 2. Tabulation of 100-Aggregate Area Operable Unit Existing Resource Protection Well Status (Sheet 2 Of 3)

Well Number	Hanford Coord North	Hanford Coord West	Date Drill	Depth Drill	Depth Bott$_1$	Depth Water$_2$	Casng Size	Ref Elev	Perfed Intrvl	Screen Intrvl	Comments
199-K-19	78,000	67,000	Apr55	51	47	31/29	8-CS	422.17	10-50	26-46	
199-K-20	79,500	66,125	May55	50	47	30/30	8-CS	422.57	10-50	NA	
199-K-21	80,000	66,000	May55	50	ND	28/11	8-CS	421.73	10-50	NA	
199-K-22	81,000	65,000	May55	50	50	6/33	8-CS	421.68	10-50	29-49	
199-K-23	78,000	68,000	Feb56	80	77	74/71	8-CS	405.00	65-80	NA	
199-K-24	77,000	69,000	Dec52	50	ND	ND/ND	8-CS	467.00	ND	NA	No FIR-not located
199-K-25	78,000	68,000	Aug53	76	ND	61/ND	8-CS	473.00	50-75	NA	No FIR-not located
199-K-27	76,400	68,000	Sep79	90	ND	70/69	6-CS	465.00	65-85	NA	
199-K-28	76,350	68,060	Sep79	90	ND	74/68	6-CS	465.00	63-88	NA	
199-K-29	76,500	67,775	Sep79	90	ND	74/69	6-CS	465.00	65-85	NA	
199-K-30	76,500	67,700	Oct79	90	ND	70/68	6-CS	465.00	NA	67-87	
199-K-31	ND	ND	May86	50	ND	26/ND	6-CS	ND	None	30-50	No FIR-location ND
199-N-1	86,157	60,593	May64	100	ND	49/54	8-CS	456.10	34-95	NA	
199-N-2	86,577	60,306	Jun64	125	ND	60/71	8-CS	459.13	35-120	NA	
199-N-3	86,365	60,828	Jun64	125	ND	63/69	8-CS	459.45	34-95	NA	
199-N-4	85,921	60,042	Apr64	150	ND	52/67	8-CS	458.73	50-60	NA	
199-N-5	85,973	60,540	Jun64	125	ND	49/55	8-CS	455.47	34-120	NA	
199-N-6	85,925	59,572	May65	71	ND	60/69	8-CS	460.97	35-65	NA	
199-N-7	85,634	59,643	May65	68	0	54/62	None	NA	NA	NA	Abandoned
199-N-8P	86,790	60,796	May66	100	ND	16/13	1.5-CS	405.12	NA	90-100	
199-N-8Q	86,804	60,782	May66	60	ND	19/19	1.5-CS	404.62	NA	50-60	
199-N-8R	86,810	60,776	Jun66	50	ND	16/18	1.5-CS	404.09	NA	37-47	
199-N-8S	86,790	60,789	Jun66	40	ND	16/17	1.5-CS	404.57	NA	28-38	
199-N-8T	86,784	60,803	Jun66	30	ND	14/ND	1.5-CS	404.61	NA	20-30	
199-N-8U	86,816	60,770	May66	20	ND	14/ND	1.5-CS	404.59	NA	18-20	
199-N-8V	86,776	60,811	Jun66	15	ND	Dry	1.5-CS	404.61	NA	5-15	
199-N-12	86,218	60,374	Dec66	74	ND	46/ND	1.5-CS	457.38P	NA	48-50, 68-70	piezometers
199-N-14	87,834	59,535	Apr69	80	ND	51/56	6-CS	445.70	45-78	NA	
199-N-15	N6,659	N5,566	May69	80	ND	58/58	8-CS	456.94	50-78	NA	
199-N-16	N6,087	N6,158	Feb81	80	ND	58/64	8-CS	456.70	12-78	52-78	Telescoping screen
199-N-17	N6,902	N6,518	Jan81	84.5	ND	63/70	8-CS	461.20	12-83	NA	
199-N-18	N7,000	N6,613	Feb81	84	ND	58/68	8-CS	458.28	12-78	58-79	Telescoping screen
199-N-19	N6,783	N6,709	Jan81	78	ND	ND/64	8-CS	453.90	12-78	NA	
199-N-20	N6,646	N6,680	Jan81	80	ND	62/65	8-CS	455.90	12-78	NA	
199-N-21	N6,522	N6,707	Jan81	79.5	ND	60/66	8-CS	457.00	12-78	NA	
199-N-22	N6,340	N6,762	Jan81	80	ND	62/ND	8-CS	457.10	12-77	58-80	Telescoping screen
199-N-23	N6,232	N6,784	Jan81	80	ND	58/69	8-CS	456.30	12-78	NA	
199-N-24	N6,049	N6,892	Jan81	55	ND	34/41	8-CS	432.50	12-54	NA	
199-N-25	N5,923	N6,910	Jan81	49	ND	36/39	8-CS	428.50	12-47	28-48	Telescoping screen
199-N-26	N5,705	N6,797	Jan81	81.5	ND	63/39	8-CS	455.80	12-77	61-82	Telescoping screen
199-N-27	N7,728	N4,103	Aug83	69	ND	49/57	8-CS	449.08	NA	32-69	Casing pulled back
199-N-28	N7,050	N4,165	Aug83	83	ND	63/75	8-CS	464.24	NA	47-83	Casing pulled back
199-N-29	N6,943	N4,525	Aug83	84	ND	64/75	8-CS	465.25	NA	48-84	Casing pulled back
199-N-30	N6,469	N5,545	Sep83	79	ND	58/60	8-CS	459.90	NA	42-78	Casing pulled back
199-N-31	N7,489	N4,865	Sep83	81	ND	61/73	8-CS	462.63	NA	44-81	Casing pulled back
199-N-32	N7,690	N4,604	Sep83	80	ND	60/70	8-CS	462.08	NA	44-80	Casing pulled back
199-N-33	N7,557	N5,101	Aug83	75	ND	56/68	8-CS	459.87	NA	38-75	Casing pulled back
199-N-34	N7,309	N5,049	Sep83	78	ND	58/68	8-CS	459.63	NA	34-78	Casing pulled back
199-N-35	N7,485	N4,390	Apr84	64	ND	45/ND	6-CS	449.38	NA	44-64	Casing pulled back
199-N-36	N7,879	N4,485	Apr84	75	ND	55/67	8-CS	458.97	NA	54-74	Casing pulled back
199-N-37	N8,138	N4,571	Apr84	75	ND	55/64	8-CS	456.12	NA	54-74	Casing pulled back
199-N-38	N8,071	N4,142	Apr84	75	0	55/ND	None	NA	NA	NA	Abandoned-grouted
199-N-39	N8,388	N4,431	Apr84	80	ND	58/63	8-CS	454.31	NA	53-73	Casing pulled back
199-N-40	N8,585	N4,276	Apr84	80	ND	58/65	8-CS	456.35	NA	53-73	Casing pulled back
199-N-41	N8,816	N4,100	Apr84	78	ND	58/67	8-CS	457.59	NA	53-73	Casing pulled back

Table 2. Tabulation of 100-Aggregate Area Operable Unit Existing Resource Protection Well Status (Sheet 3 Of 3)

Well Number	Hanford Coord North	Hanford Coord West	Date Drill	Depth Drill	Depth Bott[1]	Depth Water[2]	Casng Size	Ref Elev	Perfed Intrvl	Screen Intrvl	Comments
199-N-42	N8,746	N3,774	Apr84	78	ND	58/64	8-CS	455.14	NA	ND	Casing pulled back
199-N-43	N9,579	N3,766	Apr84	80	ND	58/62	8-CS	449.01	NA	51-71	Casing pulled back
199-N-44	N8,329	N3,901	Apr84	85	ND	62/69	8-CS	460.70	ND	ND	
199-N-45	N7,474	N4,273	Apr84	73	ND	53/51	8-CS	452.31	NA	51-71	Casing pulled back
199-N-47	ND	ND	Nov84	73	ND	54/ND	8-CS	443.53	NA	53-73	Casing pulled back
199-N-48	ND	ND	Nov84	73	ND	ND/ND	8-CS	439.79	NA	51-71	Casing pulled back
199-N-49	ND	ND	Jul85	65	ND	ND/62	8-CS	450.72	NA	55-65	Casing pulled back?
199-N-50	ND	ND	Jul85	86	ND	76/77	8-CS	453.36	NA	66-86	Casing pulled back
199-N-51	ND	ND	Jul85	86	ND	75/76	8-CS	462.18	NA	66-86	Casing pulled back
199-N-52	ND	ND	Jul85	76	ND	65/71	8-CS	463.70	NA	56-76	Casing pulled back
199-N-53	ND	ND	Jun85	74	ND	61/68	8-CS	461.76	NA	51-71	Casing pulled back
199-N-54	N6,772	N6,153	Jun87	73	ND	60/64	6-SS	457.51	NA	58-73	
199-N-55	N6,687	N6,153	Jun87	75	ND	60/66	6-SS	457.85	NA	58-73	
199-N-56	N6,998	N6,206	Jun87	74	ND	61/66	6-SS	458.09	NA	59-74	
199-N-57	N6,558	N5,887	Jun87	76	ND	60/65	6-SS	457.76	NA	58-73	
199-N-58	N5,428	N5,867	Nov87	71	ND	59/69	6-SS	462.88	NA	55-70	
199-N-59	N5,176	N5,858	Nov87	72.5	ND	59/67	6-SS	459.53	NA	56-72	
199-N-60	N5,351	N5,867	Nov87	72	ND	60/68	6-SS	461.94	NA	55-70	
199-N-61	N5,320	N5,570	Nov87	67.5	ND	55/68	6-SS	462.02	NA	52-67	
199-N-62	N6,822	N5,565	Oct87	78.5	ND	66/71	6-SS	463.59	NA	64-78	
199-N-63	N6,833	N5,231	Nov87	81	ND	70/76	6-SS	466.70	NA	66-81	
199-N-64	N6,825	N4,981	Nov87	69.5	ND	58/62	6-SS	454.63	NA	54-69	
199-N-65	N6,610	N4,892	Nov87	71	ND	59/63	6-SS	456.44	NA	56-71	
199-N-66	N6,327	N5,040	Nov87	80	ND	68/74	6-SS	465.25	NA	63-78	
199-N-67	N7,438	N5,970	Mar88	79	ND	65/68	6-SS	458.46	NA	60-76	
199-N-69	N7,443	N6,008	Jun88	104	ND	68/69	6-SS	458.84	NA	90-100	
199-N-70	N8,375	N4,414	Jun88	104.4	ND	59/63	6-SS	454.21	NA	89-99	
699-63-90	62,892	90,264	Dec48	253	164	114/107	8-CS	509.73	95-147	NA	
699-65-72	64,452	72,156	ND	216	171	ND/138	12-CS	540.28	137-157	NA	
699-65-83	64,944	82,961	Apr67	121	115	81/82	6-CS	485.63	60-120	NA	
699-66-64	66,483	64,249	Jun72	118	119	102/102	6-CS	505.92	NA	96-116	Casing pulled back
699-66-91	65,708	90,879	May73	190	182	102/63	6-CS	467.75	None	NA	Casing to ~98-ft
699-67-86	66,996	85,997	Oct62	467	99	71/70	8-CS	472.39	60-460	NA	
699-70-68	70,123	68,357	Jul54	149	145	126/124	8-CS	526.21	126-147	NA	
699-71-77	70,996	76,997	Sep62	300	123	67/71	8-CS	472.28	60-288	NA	
699-72-73	72,038	73,222	Sep61	200	135	80/81	8-CS	482.57	60-176	NA	
699-72-88	72,100	87,500	ND	52	51	ND/32	8-CS	437.37	33-48	NA	
699-72-92	71,890	91,963	Sep61	200	89	60/47	8-CS	452.22	44-195	NA	
699-73-61	73,195	60,527	Sep62	150	146	127/130	8-CS	531.53	107-146	95-135?	
699-77-54	76,700	54,100	May57	150	116	80/82	8-CS	480.59	70-120	NA	
699-78-62	77,750	62,300	May57	152	106	63/72	8-CS	469.88	70-120	67-107	
699-81-58	81,004	57,993	Sep62	150	ND	47/43	8-CS	439.55	35-148	NA	
699-81-62	80,813	62,072	Mar73	1,471	ND	44/28	2.4-CS	441.46	None	NA	BH-17 corehole
699-89-35	88,767	35,221	Sep61	75	ND	27/26	8-CS	397.46	20-73	NA	
699-90-45	89,626	45,276	ND	42	ND	38/37	6-CS	422.15	37-42	32-42	Telescoping screen
699-96-49	96,388	49,232	Oct62	100	ND	40/34	8-CS	419.29	28-96	79-89	on 1½-in piezometer
699-97-43	97,143	43,241	Oct62	100	ND	42/39	8-CS	421.01	25-97	NA	
699-97-51A	97,238	50,507	ND	~40	ND	21/17	8-CS	402.49	12-39	NA	
699-101-48B	101,465	47,884	May43	48	ND	7/6	6-CS	390.15	ND	43-47	Telescoping screen

NOTES:

1) Depth to bottom as verified by field measurement or television log rounded to nearest ft.
2) Depth to water encountered during drilling/latest available measurement rounded to the nearest ft.
3) ND = not documented

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SUMMARIES OF CONSTRUCTION AND COMPLETION DATA AND FIELD OBSERVATIONS FOR 100-BC-5 AND 100-KR-4 OPERABLE UNITS RESOURCE PROTECTION WELLS

WELL CONSTRUCTION AND COMPLETION SUMMARY DRAWINGS

Well Construction and Completion Summary drawings are produced using the Linedraw function of Wordperfect® 5.1. The drawings are intended to emphasize the construction aspects of the wells that would affect fitness-for-use. No attempt has been made to maintain scale except in a general way.

Drilled depths and generalized stratigraphy are from driller or geologist logs and are given as related to ground surface at the time of drilling. Logs have been summarized but reflect the wording of the originator as much as possible.

Hole diameters are often noted as "nominal" (nom). Diameters are estimated based on documented casing inner diameter. For example 6 inch casing with a shoe whould have an outer diameter of almost 7 inches.

Survey data provided is obtained from Hanford Wells. Much of the data is estimated from topographic maps. Typically. such estimates are indicated by rounding of horizontal coordinates to the nearest 1,000 or 500 ft and elevations to the nearest 5 ft with no significant decimal footage given.

Washington State coordinates, where no significant decimals are given are conversions from the Hanford Coordinate System using the conversion formula:

$$N_L = 405{,}302.04 - W_H \sin\theta + N_H \cos\theta$$
$$E_L = 2{,}295{,}325.01 - W_H \cos\theta - N_H \sin\theta$$

where:
- $\theta = 0^\circ - 8$ min $- 49.577$ sec
- N_H = northing on Hanford Plant grid
- W_H = westing on Hanford plant grid
- N_L = northing on Washington State grid
- E_L = easting on Washington State grid

SUMMARIES OF CONSTRUCTION DATA AND FIELD OBSERVATIONS

Construction data tabulated is from driller or geologist logs. Field observations are summarized from Activity Reports of Field Operations and Field Inspection Reports in applicable borehole files (EII 6.4). Abbreviations used are NA for not applicable and ND, not documented.

Depth to water lists the depth below ground surface (GS) encountered during drilling and the latest available measurement. Television survey depths are indicated as TV. Measured depth is always the latest available direct measurement to bottom of the borehole.

Results of television scans are summarized. The Well Construction and Completion Summary drawing has not been changed to reflect observed versus recorded differences in depth, especially for perforated or screened sections. However, such differences are noted, where significant.

Data presented in LISTED USE is intended to illustrate past or continuing use of the well. It does not attempt to present all latest sampling or measurement dates or necessarily reflect all data quality objectives.

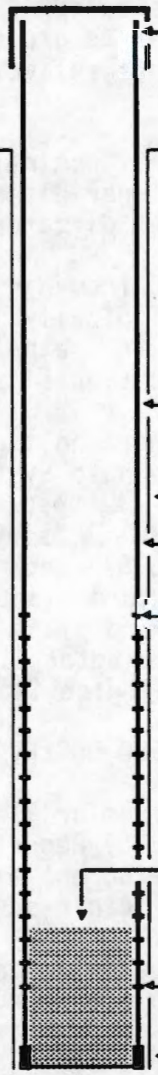
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-B3-1	TEMPORARY WELL NO: 107-B-1
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 71,800	E/W W 79,830
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N 476,897	E 2,215,311
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 13Mar53	Date Complete: 19Mar53	Elevation Ground surface (ft): 438.8 Estimated	

Depth to water: 32-ft Mar53
(Ground surface) 42.5-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-20: BOULDERS, GRAVEL and SILT
20-25: 50% Pea GRAVEL and BOULDERS
25-30: 50% Pea GRAVEL 50% coarse GRAVEL
30-35: Coarse GRAVEL, pea GRAVEL and SAND
35-40: 50% Coarse GRAVEL 50% SAND
40-55: 80% SAND, 20% coarse GRAVEL
55-60: 50% SAND, 50% small and coarse GRAVEL
60-63: 75% GRAVEL, 25% SAND



Elevation of reference point: [439.79-ft]
(top of casing)

Height of reference point above ground surface [1.0-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
Not documented

Depth top of perforations: [20-ft]
Description of perforations:
20-35-ft, 3 holes every 2-ft
35-60-ft, 1 hole every 3-ft

Depth to bottom, 55.3-ft
30Jul91

Depth bottom of perforations: [60-ft]

Depth bottom of casing: [63-ft]
Depth bottom of borehole: [63-ft]

Drawing By: RKL/1#B3#01.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-B3-1

WELL DESIGNATION : 199-B3-1
CERCLA UNIT : 100-BC-5
RCRA FACILITY : NA
HANFORD COORDINATES : N 71,800 W 79,830
LAMBERT COORDINATES : N 476,897 E 2,215,311
DATE DRILLED : Mar53
DEPTH DRILLED (GS) : 63-ft
MEASURED DEPTH (GS) : 55.3-ft, 30Jul91
DEPTH TO WATER (GS) : 32-ft, Mar53; 42.5-ft, 30Jul91
CASING DIAMETER : 8-in, from +1.0-63-ft
ELEV TOP CASING : 439.79-ft
ELEV GROUND SURFACE : 438.8-ft estimated
PERFORATED INTERVAL : 20-60-ft
SCREENED INTERVAL : NA
COMMENTS : FIELD INSPECTION, 25Feb91,
Carbon steel, pump hanger holes, no pad, no posts, capped, and locked.
No permanent identification.
Located in underground radiation zone.
OTHER;
AVAILABLE LOGS : Driller
TV SCAN COMMENTS : 07Jun91, depths referenced to ground surface;
Depth to bottom: 50.8-ft, silty
Depth to water: 38.7-ft, floating debris. Water clear with some dislodged scale and suspended debris.
Vadose casing clean; submerged casing, some light corrosion/scale/rust, not extremely dirty. Perforations not visible. The casing will need cleaning.
24Jul91,
Depth to bottom: 45.8-ft,
Depth to water: 41.7-ft, floating debris.
Vadose casing clean, submerged casing clean. Perforations not determined. There wasn't anything that looked like a perforation. There were some spots that might have been.
DATE EVALUATED :
EVAL RECOMMENDATION :
LISTED USE : B overflow trench, EMA 1851,
Sampled 1989 for ^{3}H, U, ^{90}Sr, NO_3, Cr; water levels measured 26May59-01Mar90
PUMP TYPE : Electric submersible, intake at 53.35-ft (TOC).
MAINTENANCE : 03Jun91; Pulled pump, no contamination encountered.
07Jun91; TV run.
11Jun91; Brushed casing and bailed debris with sand pump. Much sand coming in during bailing.
10Jul91; Developed well by pumping to <5 NTU.
24Jul91; TV run.
30Jul91; Installed electric submersible pump.
Depth-to-water, 43.5-ft; depth-to-bottom, 56.3-ft (TOC).

WELL CONSTRUCTION AND COMPLETION SUMMARY

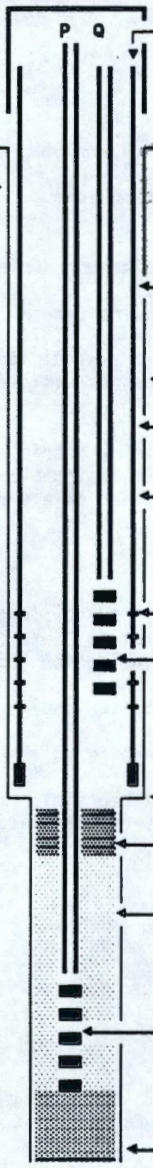
Drilling Method: Cable tool	Sample Method: Not documented	WELL NUMBER: 199-B3-2	TEMPORARY WELL NO: 107-B-2
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 71,752	E/W W 78,818
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N 476,851	E 2,216,323
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 27Mar53	Date Complete: 21Sep53	Elevation Ground surface (ft): 441.7 Estimated	

Depth to water: 44.2-ft Sep53
(Ground surface) P 37.9-ft Jan89
Q 33.2-ft Jan89

GENERALIZED STRATIGRAPHY — Driller's Log

0-30: FILL, BOULDERS, GRAVEL and SILT
30-75: Coarse GRAVEL, little SAND & SILT
75-145: SAND, GRAVEL and sandy GRAVEL
145-153: GRAVEL with SAND and CLAY
153-188: SAND & SILT with GRAVEL
188-197: SAND and coarse GRAVEL
197-220: SAND & SILT
220-264: SAND, SILT with CALICHE
264-305: GRAVEL and SAND
305-317: SAND, SILT and CLAY
317-350: SAND and GRAVEL
350-359: Fine SAND
359-378: SAND and GRAVEL
378-388: CLAY, SAND and GRAVEL
388-430: CLAY
430-440: SANDSTONE
440-450: CLAY, CALICHE and little SAND
450-455: SAND & CLAY
455-560: CLAY with some GRAVEL & SAND
560-590: Blue SHALE with some CALICHE
590-600: CLAY with some SAND & GRAVEL
600-632: SAND, GRAVEL with CLAY
632-640: SAND & GRAVEL
640-658: SAND & CLAY
656-769: BASALT
769-773: CLAY
773-778: ASH
778-787: Fine SAND
787-790: SANDSTONE

REMEDIATION:
Mar70 by Hatch
Perforated 8-in casing.
Installed lower piezometer with screen, gravel pack and cement plug.
Notes that cement plug to be placed after shallow piezometer but not documented.
No gravel pack documented for this piezometer.



Elevation of reference point: [442.59-ft]
(top of casing) P[443.38-ft]
Q[442.81-ft]

Height of reference point above ground surface [1.7-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]

I.D. of riser pipe: [8&1.5-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
None documented

Elevation/depth top of seal
Type of seal: None documented

Perforated
635-645-ft, 4 cuts/ft

Piezometer 1½-in ID
Screen 632-642-ft
Slot not documented

Depth bottom of casing: [~650-ft]

Cement plug
650-655-ft

Gravel pack
655-778-ft
Some sand slough at bottom

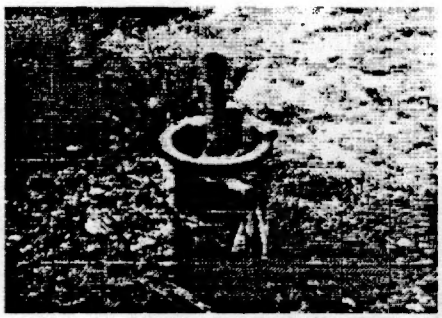
Piezometer, 1½-in ID
Screen 758-778-ft
Slot not documented

Depth bottom of borehole [790-ft]

Drawing By: RKL/1#83-#02.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCES PROTECTION WELL - 199-B3-2



WELL DESIGNATION	:	199-B3-2
CERCLA UNIT	:	100-BC-5
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 71,752 W 78,818
LAMBERT COORDINATES	:	N 476,851 E 2,216,323
DATE DRILLED	:	Mar-Sep53
DEPTH DRILLED (GS)	:	790-ft
MEASURED DEPTH (GS)	:	768-ft, Date ND
DEPTH TO WATER (GS)	:	44.2-ft, Sep53
		P 37.9-ft, Jan89
		Q 33.2-ft, Jan89
CASING DIAMETER	:	8-in, from +1.7-650-ft
ELEV TOP CASING	:	442.59-ft
ELEV GROUND SURFACE	:	441.7-ft Estimated
PERFORATED INTERVAL	:	635-645-ft
SCREENED INTERVAL	:	Q = 632-642-ft
		P = 758-778-ft
COMMENTS	:	FIELD INSPECTION, 25Feb91,
		Carbon steel, no pad, no posts, capped, and locked. No permanent identification.
		Not in radiation zone.
		OTHER: Contains two 1½-in piezometers; 1-B3-2P and 1-B3-2Q
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	C overflow trench, EMA 1852, 1856 & 1857, not sampled 1989;
		Water levels measured 26May59-01Feb91; B3-2P 26May59-15Mar91; B3-2Q 13Jun84-24Jan90
PUMP TYPE	:	None
MAINTENANCE	:	NA

WELL CONSTRUCTION AND COMPLETION SUMMARY

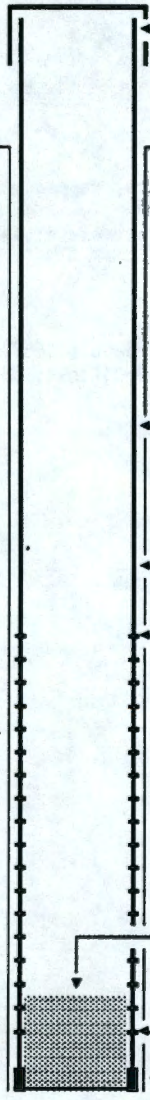
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-B4-1	TEMPORARY WELL NO: 108-B-1
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 70,000	E/W W 80,650
Driller's Name: Chausse	WA State Lic Nr: Not documented	State Coordinates: N 475,095	E 2,214,495
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 15Feb49	Date Complete: 23Feb49	Elevation Ground surface (ft): 460.5 Estimated	

Depth to water: 66-ft Mar53
(Top of casing) 59.4-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-19: BOULDERS
19-47: SAND and BOULDERS
47-72: SAND and GRAVEL
72-90: SAND, SILT and GRAVEL

REMEDIATION:
Multiple remediations/cleaning.
Perforated 62-70-ft, Row, Apr51.
Perforated 50-65-ft, Bultena, Oct74.



Elevation of reference point: [461.80-ft]
(top of casing)

Height of reference point above ground surface [1.3-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
Not documented

Depth top of perforations: [50-ft]
Description of perforations:
50-65-ft, not documented
62-70-ft, not documented
70-90-ft, 5 holes-ft

Depth to bottom, 88.7-ft
30Jul91

Depth bottom of perforations: [90-ft]

Depth bottom of casing: [90-ft]
Depth bottom of borehole: [90-ft]

Drawing By: RKL/1#B4#01.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCES PROTECTION WELL - 199-B4-1

WELL DESIGNATION	:	199-B4-1
CERCLA UNIT	:	100-BC-5
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 70,000 W 80,650
LAMBERT COORDINATES	:	N 475,095 E 2,214,495
DATE DRILLED	:	Feb49
DEPTH DRILLED (GS)	:	90-ft
MEASURED DEPTH (GS)	:	88.7-ft, 30Jul91
DEPTH TO WATER (GS)	:	66-ft, Mar53; 59.4-ft, 30Jul91
CASING DIAMETER	:	8-in, from +1.3-90-ft
ELEV TOP CASING	:	461.80-ft
ELEV GROUND SURFACE	:	460.5-ft Estimated
PERFORATED INTERVAL	:	50-90-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 25Feb91, Carbon steel, pump hanger holes, no pad, no posts, capped, and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	07Jun91, depths referenced to ground surface; Depth to bottom: 80.4-ft, silty. Depth to water: 59.0-ft, some floating debris. Water clear with some dislodged scale and suspended debris. Vadose casing clean; submerged casing fairly dirty with corrosion/scale/rust. Perforations start at 47.9-ft-not determined. The well will have to be cleaned. 24Jul91, Depth to bottom: 95.1-ft, sand and some gravel. Depth to water: 59.4-ft, some floating debris. Water clear. Vadose casing clean, submerged casing clean. Perforations from 48.2-ft-not determined, 4 cuts/rd/ft, open and clean. Most of the perforations below water were visible.
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	108-B crib, sampled 1989 for ^{3}H, U, ^{90}Sr, NO_3, Cr; water levels measured 13Jul65-18Jun90
PUMP TYPE	:	Electric submersible, intake at 69.05-ft (TOC).
MAINTENANCE	:	28May91; Pulled pump. No contamination encountered. 07Jun91; TV run. 12Jun91; Brushed casing, sand pumped and bailed to construction depth. 11Jul91; Developed well by pumping to <5 NTU. 24Jul91; TV run. 30Jul91; Installed pump. Depth-to-water, 60.8-ft; depth-to-bottom, 90.0-ft (TOC).

WELL CONSTRUCTION AND COMPLETION SUMMARY

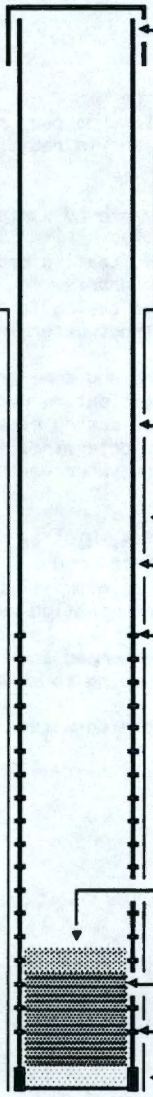
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-B4-2	TEMPORARY WELL NO: 108-B-2
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 69,933	E/W W 80,672
Driller's Name: Rodda	WA State Lic Nr: Not documented	State Coordinates: N 475,028	E 2,214,474
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 15Feb49	Date Complete: 28Feb49	Elevation Ground surface (ft): 461.0 Estimated	

Depth to water: 63-ft Feb49
(Ground surface) 59.7-ft Jun91 TV

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: SAND, GRAVEL, SILT and BOULDERS
15-18: SAND, GRAVEL and BOULDERS
18-20: BOULDER
20-21: SAND, GRAVEL and BOULDERS
21-25: SAND and GRAVEL
25-27: SAND, GRAVEL and SILT
27-50: SAND and GRAVEL
50-55: SAND, GRAVEL and BOULDERS
55-59: SAND and GRAVEL
59-60: SAND, GRAVEL and BOULDERS
60-70: Coarse SAND
70-73: SAND and GRAVEL
73-85: SAND, GRAVEL and SILT
85-90: SAND, GRAVEL, BOULDERS and SILT

REMEDIATION:
Multiple remediations/cleaning.
Perforated 62-70-ft, Row, Apr51.
Bultena set cement plug to 86-ft, May78.



Elevation of reference point: [461.99-ft]
(top of casing)
Height of reference point above ground surface [1.0-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

Driller's Note:
Drilled with 8-in casing to 21-ft, pulled 8-in and drilled with 6-in casing to 90-ft.

I.D. of riser pipe: [6-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [7-in nom]

Type of filler:
Not documented

Depth top of perforations: [62-ft]
Description of perforations:
62-70-ft, not documented
70-88-ft, 5 holes/ft

Depth to bottom, 83.3-ft
07Jun91 TV

Cement plug set to 86-ft

Depth bottom of perforations: [88-ft]

Depth bottom of casing: [90-ft]
Depth bottom of borehole: [90-ft]

Drawing By: RKL/1#B4#02.ASB Date:_____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-B4-2

WELL DESIGNATION	:	199-B4-2
CERCLA UNIT	:	100-BC-5
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 69,933 W 80,672
LAMBERT COORDINATES	:	N 475,028 E 2,214,474
DATE DRILLED	:	Feb49
DEPTH DRILLED (GS)	:	90-ft
MEASURED DEPTH (GS)	:	83.3-ft, 07Jun91 TV
DEPTH TO WATER (GS)	:	63-ft, Feb49; 59.7-ft, 07Jun91 TV
CASING DIAMETER	:	8-in, from +1.0-90-ft
ELEV TOP CASING	:	461.99-ft
ELEV GROUND SURFACE	:	461.0-ft Estimated
PERFORATED INTERVAL	:	62-88-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 25Feb91, Carbon steel, pump hanger holes, no pad, no posts, capped, and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	07Jun91, depths referenced to ground surface; Depth to bottom: 83.3-ft, looked like weeds on bottom. Depth to water: 59.7-ft, floating debris. Water clear with some dislodged scale and suspended debris. Vadose casing looked good, light corrosion/scale/rust; submerged casing fairly heavy scale. Perforations start at 54.8-ft to not determined. The well needs cleaning. 30Sep91, Depth to bottom: 85.0-ft, sandy. Depth to water: 61.7-ft, some floating debris. Water clear. Vadose casing clean, some pitting from 30-ft to water; submerged casing clean. Perforations start at 57.4-ft to not determined. 4 cuts/rd/ft, open above water, most were visible below water. The well is in good shape.
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	108-B crib, sampled 1989 for ^{3}H, U, ^{90}Sr, NO_3,; water levels measured 07Feb89-05Mar90
PUMP TYPE	:	None
MAINTENANCE	:	07Jun91; TV run. 18Sep91; Brushed casing and bailed debris. No contamination encountered. 27Sep91; Developed well to <5 NTU. 30Sep91; TV run

9 2 1 2 5 3 0 0 0 3 3

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-B4-3	TEMPORARY WELL NO: 108-B-3
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 69,933	E/W W 80,636
Driller's Name: Rumley	WA State Lic Nr: Not documented	State Coordinates: N 475,028	E 2,214,510
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 15Feb49	Date Complete: 23Feb49	Elevation Ground surface (ft): 460.3 Estimated	

Depth to water: 63-ft Feb49
(Ground surface) 59.4-ft Jun91 TV

GENERALIZED STRATIGRAPHY — Driller's Log

0-6: SAND, GRAVEL and BOULDERS
6-25: SAND, ROCKS and BOULDERS
25-28: ROCKS and BOULDERS
28-48: GRAVEL, ROCKS and BOULDERS
48-70: GRAVEL, ROCKS and coarse SAND
70-80: SILT, SAND and GRAVEL
80-84: Coarse SAND
84-91: Coarse SAND and GRAVEL

REMEDIATION:
Multiple remediations/cleaning.
Bultena perforated 60-70-ft and set cement plug to 86-ft, May78.

- Elevation of reference point: [461.75-ft] (top of casing)
- Height of reference point above ground surface [1.5-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Depth top of perforations: [60-ft]
- Description of perforations: 60-70-ft, 4 cuts/rd/ft; 70-90-ft, 5 holes/ft
- Depth to bottom, 82.3-ft 07Jun91 TV
- Cement plug set to 86-ft
- Depth bottom of perforations: [90-ft]
- Depth bottom of casing: [91-ft]
- Depth bottom of borehole: [91-ft]

Drawing By: RKL/1#84#03.ASB Date:_____

Reference: HANFORD WELLS

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-B4-4	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 68,978	E/W W 80,367
Driller's Name: St George	WA State Lic Nr: Not documented	State Coordinates: N 474,073	E 2,214,781
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 31Aug60	Date Complete: 13Sep60	Elevation Ground surface (ft): 469.7 Estimated	

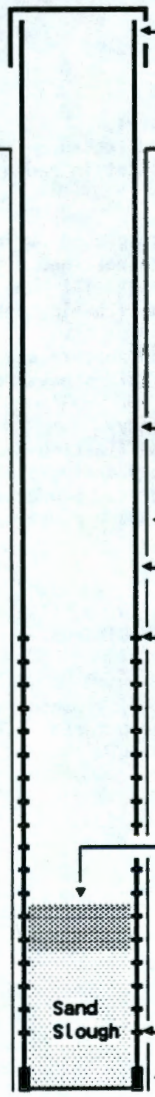
Depth to water: 75-ft Sep60
(Ground surface) 69.9-ft Jun91 TV

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: BOULDERS and silty SAND
10-15: COBBLE and silty SAND
15-20: GRAVEL and SAND
20-85: GRAVEL and silty SAND
(Hit BOULDER at 35.5 ft)
85-105: Silty SAND, GRAVEL
105 : Heavy SAND

DRILLER'S NOTE:
Well blows steam. Water 130-145° temperature.

REMEDIATION:
Multiple remediations/cleaning.



Elevation of reference point: [472.14-ft]
(top of casing)
Height of reference point above ground surface [2.4-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [8- in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
Not documented

Depth top of perforations: [49-ft]
Description of perforations:
49-80-ft, 4 cuts/ft
80-90-ft, 1 cut/ft
90-102-ft, 4 cuts/ft

Depth to bottom, 90.0-ft
10Jun91 TV

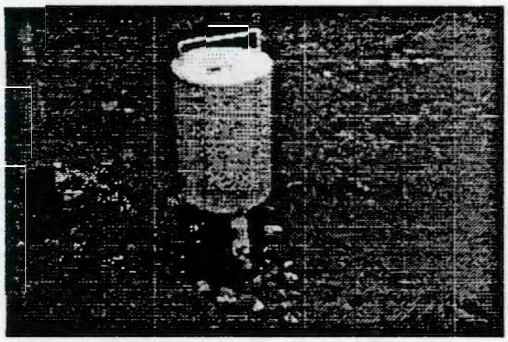
Depth bottom of perforations: [102-ft]

Depth bottom of casing: [105-ft]
Depth bottom of borehole: [105-ft]

Drawing By: RKL/1#84#04.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-B4-3



WELL DESIGNATION : 199-B4-3
CERCLA UNIT : 100-BC-5
RCRA FACILITY : NA
HANFORD COORDINATES : N 69,933 W 80,636
LAMBERT COORDINATES : N 475,028 E 2,214,510
DATE DRILLED : Feb49
DEPTH DRILLED (GS) : 91-ft
MEASURED DEPTH (GS) : 82.3-ft, 07Jun91 TV
DEPTH TO WATER (GS) : 63-ft, Feb49; 59.4-ft, 07Jun91 TV
CASING DIAMETER : 8-in, from +1.5-91-ft
ELEV TOP CASING : 461.75-ft
ELEV GROUND SURFACE : 460.3-ft Estimated
PERFORATED INTERVAL : 60-90-ft
SCREENED INTERVAL : NA
COMMENTS : FIELD INSPECTION, 25Feb91,
Carbon steel, pump hanger holes,
no pad, no posts, capped, and locked.
No permanent identification. Not in radiation zone.
OTHER:
AVAILABLE LOGS : Driller
TV SCAN COMMENTS : 07Jun91, depths referenced to ground surface;
Depth to bottom: 82.3-ft, the well had a piece of pipe on bottom. Could not tell what size or how long. It will have to be fished before the well is cleaned.
Depth to water: 59.4-ft, some floating debris. Water clear, some dislodged scale and suspended debris.
Vadose casing light corrosion/scale/rust; submerged casing fairly heavy corrosion/scale/rust. Perforations never seen.
30Sep91;
Depth to bottom: 83.3-ft, sandy.
Depth to water: 61.0-ft, some floating debris. Water clear.
Vadose casing clean; submerged casing clean. Perforations start at 58.8-ft to not determined, 3 cuts/rd/ft. Open above water, most were visible below water.
The article seen in 1st run was a plastic bottle, removed during casing cleaning.
The well is in good shape.
DATE EVALUATED : NA
EVAL RECOMMENDATION : NA
LISTED USE : 108-B crib, sampled 1989 for ^{3}H, U, ^{90}Sr, NO_3,;
water levels measured 11Jul57-01Mar90
PUMP TYPE : None
MAINTENANCE : 07Jun91; TV run.
17Sep91; Removed sample bottle, brushed casing and bailed debris.
No contamination encountered.
26Sep91; Developed well to <5 NTU.
30Sep91; TV run.

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-B4-4

WELL DESIGNATION	:	199-B4-4
CERCLA UNIT	:	100-BC-5
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 68,978 W 80,367
LAMBERT COORDINATES	:	N 474,073 E 2,214,781
DATE DRILLED	:	Aug-Sep60
DEPTH DRILLED (GS)	:	105-ft
MEASURED DEPTH (GS)	:	90.9-ft, 10Jun91
DEPTH TO WATER (GS)	:	75-ft, Sep60; 69.9-ft, 10Jun91
CASING DIAMETER	:	8-in, from +2.4-105-ft
ELEV TOP CASING	:	472.14-ft
ELEV GROUND SURFACE	:	469.7-ft Estimated
PERFORATED INTERVAL	:	49-102-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 25Feb91, Carbon steel, pump hanger holes, no pad, no posts, capped, and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	10Jun91, depths referenced to ground surface; Depth to bottom: 90.9-ft, silty. Depth to water: 69.9-ft, some floating debris. Water clear, some dislodged scale and suspended debris. Vadose casing good, light corrosion/scale/rust; submerged casing dirty. Perforations start at 46.9-ft to not determined. The well needs cleaning.
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Sampled 1989 for ^{3}H, U, ^{90}Sr, NO_3, Cr; water levels measured 28Apr61-01Mar90
PUMP TYPE	:	Electric submersible, intake set at xxxx ft
MAINTENANCE	:	28May91; Pulled pump. No contamination encountered. 10Jun91; TV run 13&18Jun91; Brushed casing and bailed debris with sand pump and bailer. much sand fill coming in. 15Jul91; Developed well by pumping to <5 NTU.

WELL CONSTRUCTION AND COMPLETION SUMMARY

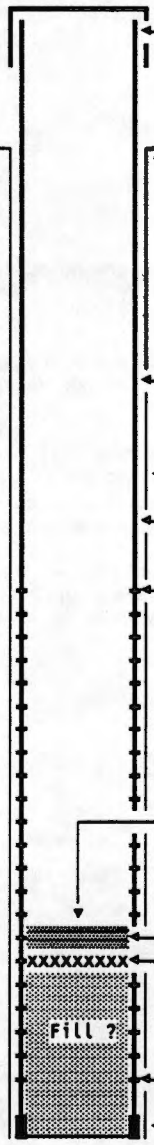
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-B5-1 / TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 69,930 E/W W 82,000
Driller's Name: Wilcox/Richards	WA State Lic Nr: Not documented	State Coordinates: N 475,021 E 2,213,146
Drilling Company: Haden Drilling	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 13Aug62	Date Complete: 27Aug62	Elevation Ground surface (ft): 452.8 Estimated

Depth to water: 68-ft Aug62
(Ground surface) 54.9-ft Jun91

GENERALIZED STRATIGRAPHY — Driller's Log

0-1: 6 in minus GRAVEL
1-11: COBBLES & GRAVEL with silty SAND
11: BOULDER or cluster of large COBBLES
11-20: COBBLES & GRAVEL with trace SILT
20-25: GRAVEL & some COBBLE, trace SILT
25-80: GRAVEL with some SILT & SAND with some SILT & SAND
80-90: GRAVEL with SAND
90-130: GRAVEL with SAND and SILT
130-135: GRAVEL with SAND & some CLAY
135-151: GRAVEL with SAND & SILT

REMEDIATION:
Multiple remediations/cleaning. Bultena set wooden and cement plug to 100-ft, May78.

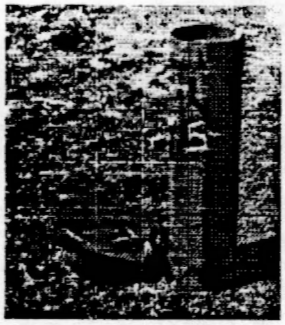


Elevation of reference point: [455.56-ft] (top of casing)
Height of reference point above ground surface [2.8-ft]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Depth top of perforations: [40-ft]
Description of perforations: 40-65-ft, 6 cuts/rd/ft; 65-148-ft, 6 perfs/ft
Depth to bottom, 99.9-ft 20Jun91
Cement plug set to 100-ft
Wooden plug depth not documented
Depth bottom of perforations: [148-ft]
Depth bottom of casing: [151-ft]
Depth bottom of borehole: [151-ft]

Drawing By: RKL/1#B5#01.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-B5-1



WELL DESIGNATION	:	199-B5-1
CERCLA UNIT	:	100-BC-5
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 69,930 W 82,000
LAMBERT COORDINATES	:	N 475,021 E 2,213,146
DATE DRILLED	:	Aug62
DEPTH DRILLED (GS)	:	151-ft
MEASURED DEPTH (GS)	:	99.9-ft, 20Jun91
DEPTH TO WATER (GS)	:	68-ft, Feb49; 54.9-ft, 20Jun91
CASING DIAMETER	:	8-in, from +2.8-151-ft
ELEV TOP CASING	:	455.56-ft
ELEV GROUND SURFACE	:	452.8-ft Estimated
PERFORATED INTERVAL	:	40-148-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 25Feb91, Carbon steel, pump hanger holes, no pad, 4 posts, capped, and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	07Jun91, depths referenced to ground surface; Depth to bottom: 96.5-ft, silty. Depth to water: 52.2-ft, some floating debris. Water clear, some dislodged scale and suspended debris. Vadose casing light corrosion/scale/rust; submerged casing has heavy scale. Perforations start at 61.7-ft to not determined. The well needs cleaning.
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Sampled 1989 for ^{3}H,U,^{90}Sr,NO_3,; water levels measured 28Aug62-05Mar90
PUMP TYPE	:	Electric submersible, intake set at xxxx ft.
MAINTENANCE	:	06Jun91; Pulled pump. No contamination encountered. 07Jun91; TV run. 20Jun91; Brushed casing and cleaned debris with sand pump and bailer. 16Jul91; Developed well by pumping to <5 NTU.

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-B9-1 — TEMPORARY WELL NO: 105-C-1 Pluto 100C
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 67,500 E/W W 79,961
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N 472,596 E 2,215,191
Drilling Company: Not documented	Company Location: Pasco, WA	Start Card #: Not documented T___ R___ S___
Date Started: 27Jun52	Date Complete: 10Jul52	Elevation Ground surface (ft): 476.0 Estimated

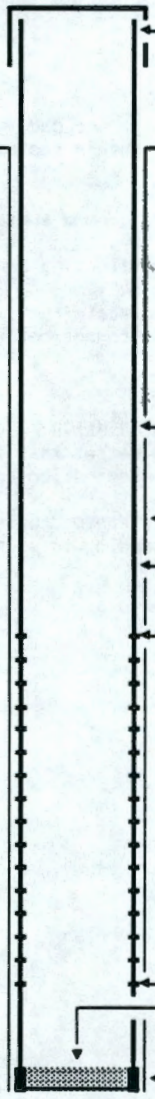
Depth to water: 98-ft Jul52(*)
(Ground surface) 92.5-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log
Original drilled depths

0-10: BOULDERS
10-15: BOULDERS and GRAVEL
15-30: Coarse GRAVEL
30-38: BOULDERS and GRAVEL
38-50: Coarse GRAVEL
50-55: GRAVEL, SAND and little SILT
55-60: Coarse GRAVEL
60-70: GRAVEL, SAND and SILT
70-85: Pure pea GRAVEL
85-90: SAND
90-92: Fine SAND
92 : Coarse GRAVEL

Add 25-ft to above descriptions for current depths.

REMEDIATION:
Original well located in 25-ft pit. 24.75-ft of casing added May74.



Elevation of reference point: [478.87-ft]
(top of casing)
Height of reference point above ground surface [2.9-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
Not documented

Depth top of perforations: [80-ft(*)]
Description of perforations:
80-110-ft(*), 5 holes/ft

Depth bottom of perforations: [110-ft(*)]
Depth to bottom, 115.7-ft
30Jul91

Depth bottom of casing: [117-ft(*)]
Depth bottom of borehole: [117-ft(*)]
Original drilled depth: [92-ft]
(*)=Corrected depth

Drawing By: RKL/1#B9#01.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-B9-1

WELL DESIGNATION : 199-B9-1
CERCLA UNIT : 100-BC-5
RCRA FACILITY : NA
HANFORD COORDINATES : N 67,500 W 79,961
LAMBERT COORDINATES : N 472,596 E 2,215,191
DATE DRILLED : Jun-Jul52
DEPTH DRILLED (GS) : 92-ft (25-ft casing added = 117-ft)
MEASURED DEPTH (GS) : 115.7-ft, 30Jul91
DEPTH TO WATER (GS) : 98-ft, Jul52; 92.5-ft, 30Jul91
CASING DIAMETER : 8-in, from +2.9-117-ft
ELEV TOP CASING : 478.87-ft
ELEV GROUND SURFACE : 476.0-ft Estimated
PERFORATED INTERVAL : 80-110-ft
SCREENED INTERVAL : NA
COMMENTS : FIELD INSPECTION, 25Feb91,
Carbon steel, pump hanger holes, no pad, no posts,
capped, and locked. No permanent identification.
Not in radiation zone.
OTHER:
AVAILABLE LOGS : Driller
TV SCAN COMMENTS : 10Jun91, depths referenced to ground surface;
Depth to bottom: 114.8-ft, silty. Appeared to be a piece of tin on bottom.
Depth to water: 92.2-ft, some floating debris. Water clear, some dislodged scale and suspended debris.
Vadose casing fairly clean, some light corrosion/scale/rust;
submerged casing fairly heavy scale. Perforations start at 73.8-ft
to not determined. Cuts were large and sporadic.
24Jul91,
Depth to bottom: 115.2-ft, sandy, 2 fairly large rocks on bottom.
Depth to water: 91.9-ft, light floating debris. Water clear.
Vadose casing clean, submerged casing clean.
Perforations 72.5-ft-not determined. 4 cuts/rd/ft. All that were visible
were open and in good shape.
DATE EVALUATED : NA
EVAL RECOMMENDATION : NA
LISTED USE : 105-C crib, sampled 1989 for ^{3}H, U, ^{90}Sr, NO_3, Cr;
water levels measured 27Dec62-01Mar90
PUMP TYPE : Electric submersible, intake set at 103.21-ft (TOC).
MAINTENANCE : 03Jun91; Pulled pump. No contamination encountered.
10Jun91; TV run.
19Jun91; Brushed casing and cleaned debris with sand pump and bailer.
12Jul91; Developed well by pumping to <5 NTU.
24Jul91; TV run.
30Jul91; Installed pump. Depth-to-water, 95.4-ft; depth-to-bottom, 118.6-ft (TOC).

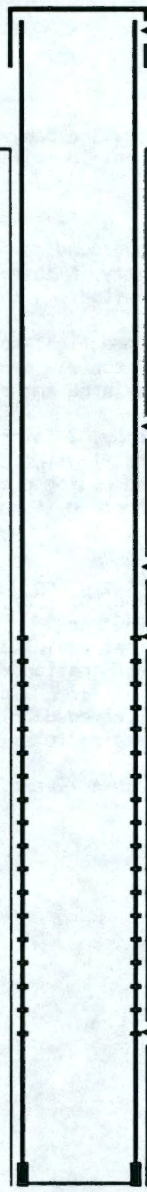
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-D2-5	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 90,783	E/W W 52,638
Driller's Name: St. George	WA State Lic Nr: Not documented	State Coordinates: N 495,950	E 2,242,454
Drilling Company: Hatch Drilling	Company Location: Pasco, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 05Aug60	Date Complete: 11Aug60	Elevation Ground surface (ft): 458.3 Estimated	

Depth to water: 74-ft Aug60
(Ground surface) 70.2-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: 12-in COBBLE and silty SAND
15-25: 3-in GRAVEL and SAND
25-30: GRAVEL and SAND
30-35: Small GRAVEL and SAND
35-45: SAND with small trace of SILT
45-50: 3-in minus GRAVEL, silty
50-80: 3-in minus GRAVEL, and SAND
80-90: 2-in minus GRAVEL, silty SAND
90-95: Yellow CLAY
slight amount of SAND
95 : Yellow CLAY, small pieces BASALT



Elevation of reference point: [460.87-ft]
(top of casing)
Height of reference point above ground surface [2.6-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
Not documented

Depth top of perforations: [36-ft]
Description of perforations:
36-86-ft, 6 holes/ft

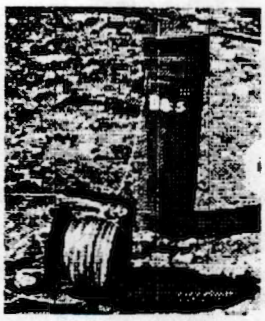
Depth bottom of perforations: [86-ft]

Depth bottom of casing: [95-ft]
Depth bottom of borehole: [95-ft]

Drawing By: RKL/1#D2#05.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-D2-5



WELL DESIGNATION	:	199-D2-5
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 90,783 W 52,638
LAMBERT COORDINATES	:	N 495,950 E 2,242,454
DATE DRILLED	:	Aug60
DEPTH DRILLED (GS)	:	95-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	74-ft Aug60; 70.2-ft Jul91
CASING DIAMETER	:	8-in, from +2.6-95 ft
ELEV TOP CASING	:	460.87-ft
ELEV GROUND SURFACE	:	458.3-ft Estimated
PERFORATED INTERVAL	:	36-86-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 14Jun90; Carbon steel. No pad, no posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 22Jun64-29Jul91
PUMP TYPE	:	Electric submersible pump on J-hook
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: St. George
Drilling Company: Hatch Drilling
Date Started: 12Aug60

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Pasco, WA
Date Complete: 19Aug60

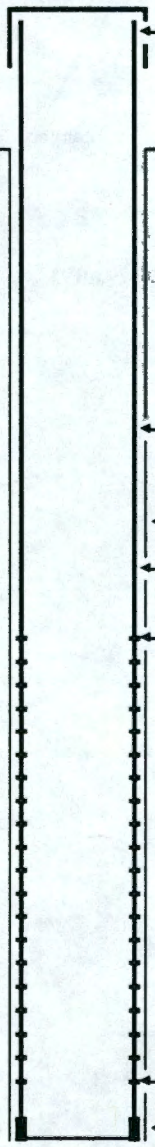
WELL NUMBER: 199-D5-12
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 92,125 E/W W 52,546
State Coordinates: N 497,292 E 2,242,543
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 468.3 Estimated

Depth to water: 78-ft Aug60
(Ground surface) 81.6-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: Large COBBLES, SAND with SILT
15-20: 6-in minus GRAVEL, silty SAND
20-25: 2-in minus GRAVEL and silty SAND
25-35: Black silty SAND
35-50: GRAVEL and silty SAND
50-55: GRAVEL and silty SAND, cemented
55-60: GRAVEL and SAND slightly cemented
60-85: GRAVEL and silty SAND
85-89: GRAVEL & SAND, less SILT
89-91: CLAY

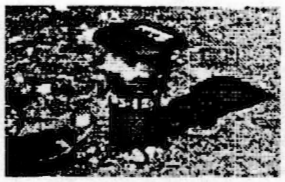
REMEDIATION:
Sep69, by Bigham
Perforated 36-86-ft
Sep74, by Bultena
Perforated 85-90-ft



Elevation of reference point: [469.67-ft]
(top of casing)
Height of reference point above ground surface [1.4-ft]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Depth top of perforations: [35-ft]
Description of perforations: 35-85-ft, 6 holes/ft, 85-90-ft, not documented
Depth bottom of perforations: [90-ft]
Depth bottom of casing: [91-ft]
Depth bottom of borehole: [91-ft]

Drawing By: RKL/1#D5#12.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-D5-12



WELL DESIGNATION	:	199-D5-12
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 92,125 W 52,546
LAMBERT COORDINATES	:	N 497,292 E 2,242,543
DATE DRILLED	:	Aug60
DEPTH DRILLED (GS)	:	91-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	78-ft Aug60; 81.6-ft Jul91
CASING DIAMETER	:	8-in, from +1.4-91 ft
ELEV TOP CASING	:	469.67-ft
ELEV GROUND SURFACE	:	468.3-ft Estimated
PERFORATED INTERVAL	:	35-90-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 14Jun90; Carbon steel. No pad, no posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 09Dec60-29Jul91
PUMP TYPE	:	Electric submersible pump on J-hook
MAINTENANCE	:	26Jul77; - Brushed and bailed to 95-ft

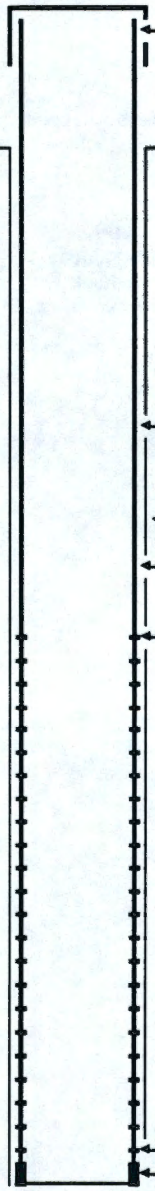
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-D8-2	TEMPORARY WELL NO: 107-D-1
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 94,725	E/W W 53,018
Driller's Name: Row	WA State Lic Nr: Not documented	State Coordinates: N 499,891	E 2,242,064
Drilling Company: Not documented	Company Location:	Start Card #: Not documented	T___ R___ S___
Date Started: 22May52	Date Complete: 02Jun52	Elevation Ground surface (ft): 443.1 Estimated	

Depth to water: 50-ft Jun52
(Ground surface) 42-ft Jul67

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: Backfill
10-25: GRAVEL and black SAND
25-30: Pure GRAVEL
30-35: GRAVEL, sand, some SILT
35-57: Mostly GRAVEL with some SAND
57-76: GRAVEL - SAND



Elevation of reference point: [444.61-ft]
(top of casing)

Height of reference point above ground surface [1.5-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [6-in]
Type of riser pipe:
Carbon steel

Diameter of borehole [7-in nom]

Type of filler:
Not documented

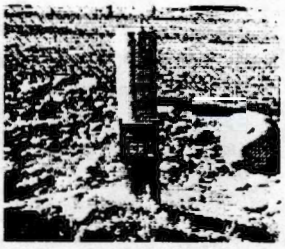
Depth top of perforations: [30-ft]
Description of perforations:
5 holes/ft, 30-75-ft

Depth bottom of perforations: [75.0-ft]
Depth bottom of casing: [76.0-ft]
Depth bottom of borehole: [76.0-ft]

Drawing By: RKL/1#D8#02.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-D8-2



WELL DESIGNATION	:	199-D8-2
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 94,725 W 53,018
LAMBERT COORDINATES	:	N 499,891 E 2,242,064
DATE DRILLED	:	Jun52
DEPTH DRILLED (GS)	:	76-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	50-ft Jun52; 42.0-ft, Jul67
CASING DIAMETER	:	6-in, from +1.5-76 ft
ELEV TOP CASING	:	444.61-ft
ELEV GROUND SURFACE	:	443.1-ft Estimated
PERFORATED INTERVAL	:	30-75-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 14Jun90; Carbon steel. No pad, no posts, capped, and locked. No permanent identification. Casing damaged, bent.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 16Jun57-06Jul67
PUMP TYPE	:	None
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

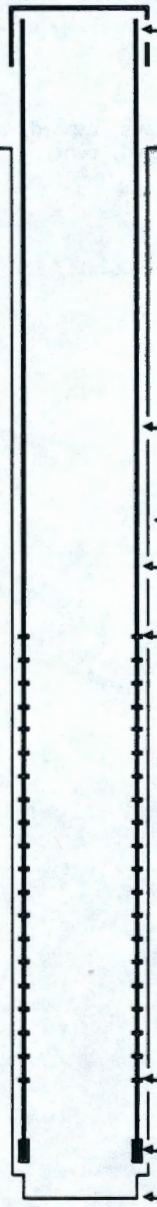
Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Not documented	Additives Used: Not documented
Driller's Name: Row	WA State Lic Nr: Not documented
Drilling Company: Not documented	Company Location:
Date Started: 04Jun52	Date Complete: 12Jun52

WELL NUMBER: 199-D8-3	TEMPORARY WELL NO: 107-D-2
Hanford Coordinates: N/S N 94,720	E/W W 52,205
State Coordinates: N 499,888	E 2,242,877
Start Card #: Not documented	T___ R___ S___
Elevation Ground surface (ft): 448.3 Estimated	

Depth to water: 55-ft Aug60
(Ground surface) 64.4-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-8: BOULDERS and ROCK
8-15: BOULDERS and GRAVEL
15-22: GRAVEL and black SAND
22-30: GRAVEL, some SAND
30-43: SAND with very little GRAVEL
43-45: SAND, GRAVEL and SILT
45-65: GRAVEL, SAND and some SILT
65-80: GRAVEL and SAND

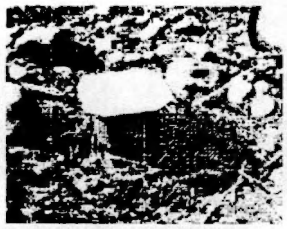


- Elevation of reference point: [449.06-ft] (top of casing)
- Height of reference point above ground surface [0.8-ft]
- Depth of surface seal [ND]
  Type of surface seal: None documented
  I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [6-in]
  Type of riser pipe: Carbon steel
- Diameter of borehole [7-in nom]
- Type of filler: Not documented
- Depth top of perforations: [35-ft]
  Description of perforations: Not documented
- Depth bottom of perforations: [79-ft]
- Depth bottom of casing: [80-ft]
- Depth bottom of borehole: [80.5-ft]

Drawing By: RKL/1#D8#03.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-D8-3



WELL DESIGNATION	:	199-D8-3
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 94,720 W 52,205
LAMBERT COORDINATES	:	N 499,888 E 2,242,877
DATE DRILLED	:	Jun52
DEPTH DRILLED (GS)	:	80.5-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	55-ft, Aug60; 64.4-ft, Jul91
CASING DIAMETER	:	6-in, from +0.8-80 ft
ELEV TOP CASING	:	449.06-ft
ELEV GROUND SURFACE	:	448.3-ft Estimated
PERFORATED INTERVAL	:	35-79-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 14Jun90; Carbon steel. No pad, no posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 16Jun52-29Jul91
PUMP TYPE	:	Electric submersible pump on J-hook.
MAINTENANCE	:	05Jun74; - Repaired bent casing, cleaned well 16Aug76; - Brushed and bailed 13Jun79; - Developed with pump 11Apr80; - Brushed and bailed

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WELL CONSTRUCTION AND COMPLETION SUMMARY

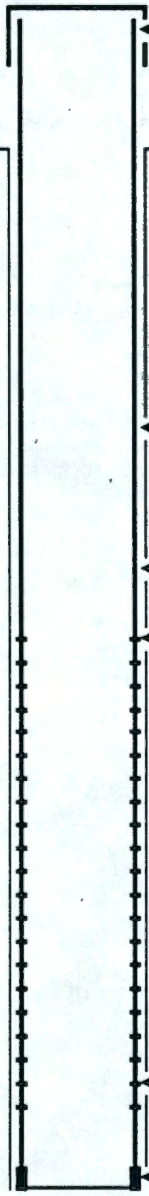
Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: Greenfield	WA State Lic Nr: Not documented
Drilling Company: Not documented	Company Location:
Date Started: 01Sep48	Date Complete: 10Sep48

WELL NUMBER: 199-F5-1	TEMPORARY WELL NO: 107-F-1
Hanford Coordinates: N/S N 79,531	E/W W 28,255
State Coordinates: N 484,760	E 2,266,866
Start Card #: Not documented	T___ R___ S___
Elevation Ground surface (ft): 405.6 Estimated	

Depth to water: 35-ft Sep48
(Ground surface) 29.6-ft Jun91

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: SAND
15-20: SAND and very little GRAVEL
20-22: Very little SAND, GRAVEL and mostly BASALT
22-23: Gray SAND and little GRAVEL
23-24: SAND, GRAVEL and mostly BASALT
24-25: GRAVEL - mostly BASALT
25-60: Grey SAND
60-62: SAND and mostly CLAY
62-66: CLAY
66-67: ROCK

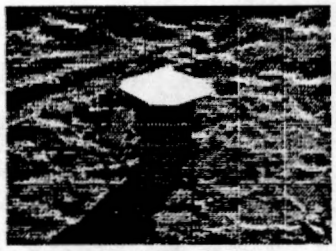


- Elevation of reference point: [406.56-ft] (top of casing)
- Height of reference point above ground surface [1.0-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [6-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole [7-in nom]
- Type of filler: Not documented
- Depth top of perforations: [35-ft]
- Description of perforations: 4 cuts/ft
- Depth bottom of perforations: [63-ft]
- Depth bottom of casing: [67-ft]
- Depth bottom of borehole: [67-ft]

Drawing By: RKL/1#F5#01.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-F5-1



WELL DESIGNATION	:	199-F5-1
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 79,531 W 28,255
LAMBERT COORDINATES	:	N 484,760 E 2,266,866
DATE DRILLED	:	Sep48
DEPTH DRILLED (GS)	:	67.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	35-ft, Sep48; 29.6-ft, Jun91
CASING DIAMETER	:	6-in, +ND-67-ft
ELEV TOP CASING	:	406.56-ft
ELEV GROUND SURFACE	:	405.6-ft Estimated
PERFORATED INTERVAL	:	35-63-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 18Aug89; Carbon steel. No posts, no pad. Capped and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 31Oct52-04Jun91
PUMP TYPE	:	None documented
MAINTENANCE	:	04Oct74; - Extended casing, reperforated 35-63-ft

WELL CONSTRUCTION AND COMPLETION SUMMARY

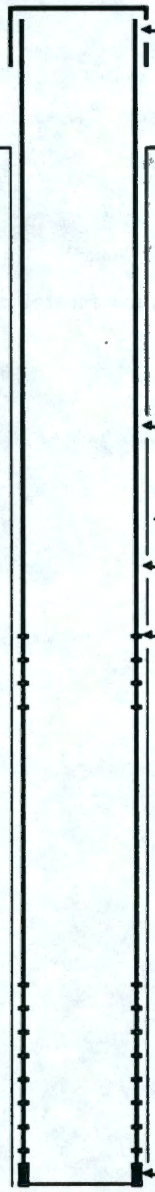
Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Gentz
Drilling Company: Not documented
Date Started: 22Jan53

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location:
Date Complete: 02Feb53

WELL NUMBER: 199-F5-2
TEMPORARY WELL NO: 107-F-2
Hanford Coordinates: N/S N 79,738 E/W W 28,828
State Coordinates: N 484,966 E 2,266,292
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: 34-ft Feb53
(Ground surface) ND

GENERALIZED STRATIGRAPHY	Driller's Log
0-10:	BOULDERS up to 12-in
10-11:	BOULDERS and a little SAND
11-19:	BOULDERS, 2-in up to 12-in
19-27:	BOULDERS with a little SAND
27-30:	GRAVEL up to 2-in with 25% SAND
30-40:	GRAVEL and 50% SAND
40-45:	GRAVEL and BOULDERS, up to 5-in 15% SAND
45-48:	Pure SAND
48-50:	Coarse GRAVEL
50-65:	Coarse GRAVEL and 50% fine SAND
65-70:	GRAVEL up to 3-in and fine SAND
70-75:	75% SAND and coarse GRAVEL
75-76:	Ringold, coarse GRAVEL and SAND
76-85:	Ringold, GRAVEL and CLAY
85-90:	SAND, GRAVEL and CLAY
90-95:	SAND, SILT and CALICHE
95-100:	SILT, SAND and CLAY
100 :	SAND, SILT with a little CALICHE



Elevation of reference point: [413.02-ft] (top of casing)
Height of reference point above ground surface [ND]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole [9-in nom]
Type of filler: Not documented
Depth top of perforations: [25-ft]
Description of perforations: Perforated 25-35-ft and 80-100-ft
Depth bottom of perforations: [100-ft]
Depth bottom of casing: [100-ft]
Depth bottom of borehole: [100-ft]

Drawing By: RKL/1#F5#02.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-F5-2

WELL DESIGNATION	:	199-F5-2
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 79,738 W 28,828
LAMBERT COORDINATES	:	N 484,966 E 2,266,292
DATE DRILLED	:	Feb53
DEPTH DRILLED (GS)	:	100.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	34-ft, Feb53;
CASING DIAMETER	:	8-in, +ND-100-ft
ELEV TOP CASING	:	413.02-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	25-35 and 80-100-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION,
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

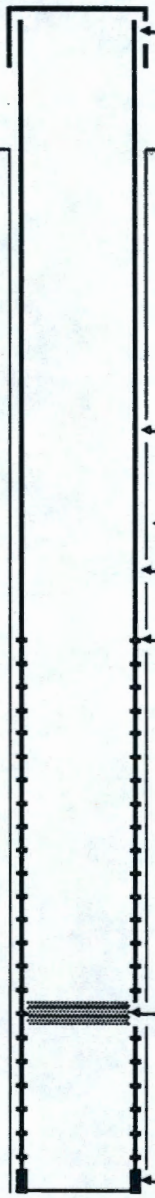
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-F5-3	TEMPORARY WELL NO: 107-F-3
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 79,588	E/W W 28,496
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N 484,817	E 2,266,625
Drilling Company: Not documented	Company Location:	Start Card #: Not documented	T___ R___ S___
Date Started: 05Dec52	Date Complete: 08Jan53	Elevation Ground surface (ft): 407.4 Estimated	

Depth to water: 37-ft Jan53
(Ground surface) 32.4-ft May91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: SAND and BOULDERS
10-15: Coarse GRAVEL
15-20: Coarse GRAVEL and SAND
20-23: GRAVEL and BOULDERS
23-42: SAND and GRAVEL
42-50: GRAVEL
50-52: SAND and a very little GRAVEL
52-55: Pure SAND
55-60: Small and coarse GRAVEL and SAND
60-61: SAND and very little GRAVEL
61-63: SAND
63-65: Small GRAVEL
65-73: SILT and CLAY
73-90: Ringold
90 : SILT, CLAY and Ringold

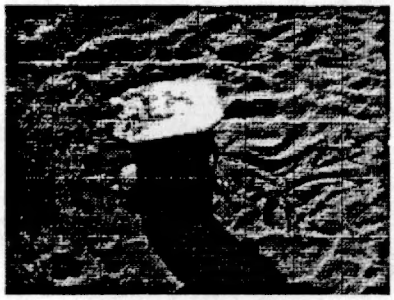


- Elevation of reference point: [408.62-ft] (top of casing)
- Height of reference point above ground surface [1.25-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole [9-in nom]
- Type of filler: Not documented
- Depth top of perforations: [22-ft]
- Description of perforations: Not documented
- Plugged at 63-ft
- Depth bottom of perforations: [90-ft]
- Depth bottom of casing: [90-ft]
- Depth bottom of borehole: [90-ft]

Drawing By: RKL/1#F5#03.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-F5-3



WELL DESIGNATION	:	199-F5-3
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 79,588 W 28,496
LAMBERT COORDINATES	:	N 484,817 E 2,266,625
DATE DRILLED	:	Jan53
DEPTH DRILLED (GS)	:	90.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	37-ft, Jan53; 32.4-ft, May91
CASING DIAMETER	:	8-in, +ND-90-ft
ELEV TOP CASING	:	408.62-ft
ELEV GROUND SURFACE	:	407.4-ft Estimated
PERFORATED INTERVAL	:	22-90-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 18Aug89; Carbon steel, no pad, no posts. Capped and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 15Jan53-31May91
PUMP TYPE	:	None documented
MAINTENANCE	:	09Apr75; - Brushed and bailed 22May78; - Cleaned out to 66-ft. Set cement plug at 63-ft

9 2 1 2 5 8 0 0 0 5 5

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Gentz
Drilling Company: Not documented
Date Started: 11Feb53

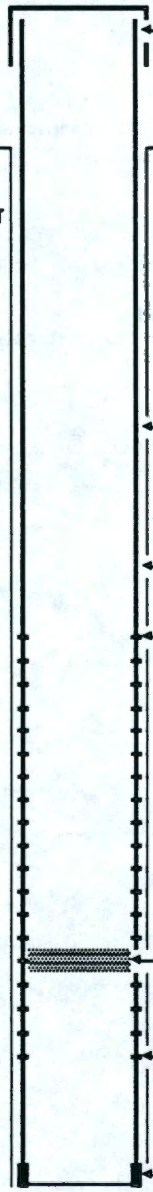
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location:
Date Complete: 18Feb53

WELL NUMBER: 199-F5-4
TEMPORARY WELL NO: 107-F-1
Hanford Coordinates: N/S N 79,069 E/W W 30,650
State Coordinates: N 484,292 E 2,264,472
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: 35-ft Feb53
(Top of casing) 41.6-ft Mar90

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: 75% coarse GRAVEL, 25% SILT
10-15: 50% SAND and SILT, 50% GRAVEL
15-18: 75% pee GRAVEL, 25% SAND and SILT
18-24: Pure SAND
24-35: Coarse GRAVEL, 1-in up to 3-in
35-49: 50% GRAVEL, 50% SAND
49-50: CLAY and SAND
50-62: Gray CLAY and CALICHE
62-70: Pure CLAY
70-72: CLAY, SAND and GRAVEL
70-75: CLAY and SAND
75-90: CLAY
90-92: CLAY, little SAND and SILT
92-95: Ringold Formation and CLAY
95-103: Ringold, 5% GRAVEL
103-115: CLAY and SILT



Elevation of reference point: [412.12-ft] (top of casing)
Height of reference point above ground surface [ND]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole [9-in nom]
Type of filler: Not documented
Depth top of perforations: [35-ft]
Description of perforations: 35-65 and 65-105-ft, 4 cuts/ft
Plug documented at 80-ft
Depth bottom of perforations: [105-ft]
Depth bottom of casing: [115-ft]
Depth bottom of borehole: [115-ft]

Drawing By: RKL/1#F5#04.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-F5-4

WELL DESIGNATION	:	199-F5-4
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 79,069 W 30,650
LAMBERT COORDINATES	:	N 484,292 E 2,264,472
DATE DRILLED	:	Feb53
DEPTH DRILLED (GS)	:	115.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	35-ft, Feb53; 41.6-ft, Mar90 (top-of-casing)
CASING DIAMETER	:	8-in, +ND-115-ft
ELEV TOP CASING	:	412.12-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	35-105-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION,
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 16Jul65-05Mar90
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Not documented	Additives Used: Not documented
Driller's Name: Gentz	WA State Lic Nr: Not documented
Drilling Company: Not documented	Company Location:
Date Started: 10Jan53	Date Complete: 19Jan53

WELL NUMBER: 199-F5-5 TEMPORARY WELL NO: 107-F-2

Hanford Coordinates: N/S N 80,185 E/W W 29,174

State Coordinates: N 485,412 E 2,265,945

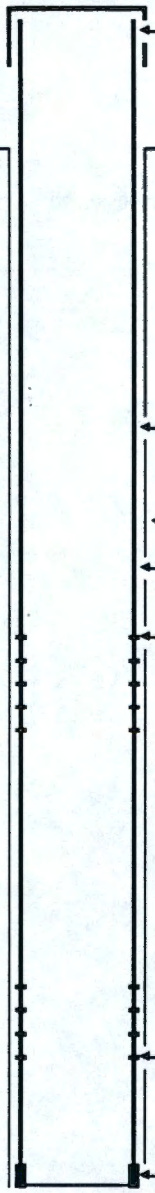
Start Card #: Not documented T___ R___ S___

Elevation Ground surface (ft): Not documented

Depth to water: 16-ft Jan53
(Ground surface) ND

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: GRAVEL, BOULDERS and SILT
10-17: BOULDERS and little SILT
17-20: BOULDERS and GRAVEL
20-25: SAND, GRAVEL and BOULDERS
25-35: Coarse SAND
35-37: Fine SAND
37-42: Coarse GRAVEL and SAND
42-45: Pea GRAVEL and SAND
45-50: 50% fine SAND, GRAVEL up to 4-in
50-55: Fine SAND with small and coarse GRAVEL
55-62: 95% SAND and 1-2-in GRAVEL
62-70: 50% SAND and coarse GRAVEL
70-72: Fine and coarse SAND
72-75: SAND, CALICHE, Ringold and SILT
75-80: SAND, SILT and CLAY
80-85: SAND, SILT and Ringold
85-90: Ringold
90-95: SAND, SILT and CALICHE
95-100: SAND and SILT



Elevation of reference point: [412.51-ft]
(top of casing)

Height of reference point above ground surface [ND]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole [9-in nom]

Type of filler:
Not documented

Depth top of perforations: [15-ft]
Description of perforations:
15-30 and 70-80-ft, 4 cuts/ft

Depth bottom of perforations: [80-ft]

Depth bottom of casing: [100-ft]
Depth bottom of borehole: [100-ft]

Drawing By: RKL/1#F5#05.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-F5-5

WELL DESIGNATION	:	199-F5-5
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 80,185 W 29,174
LAMBERT COORDINATES	:	N 485,412 E 2,265,945
DATE DRILLED	:	Jan53
DEPTH DRILLED (GS)	:	100.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	16-ft, Jan53;
CASING DIAMETER	:	8-in, +ND-100-ft
ELEV TOP CASING	:	412.51-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	15-30 and 80-100-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION,
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

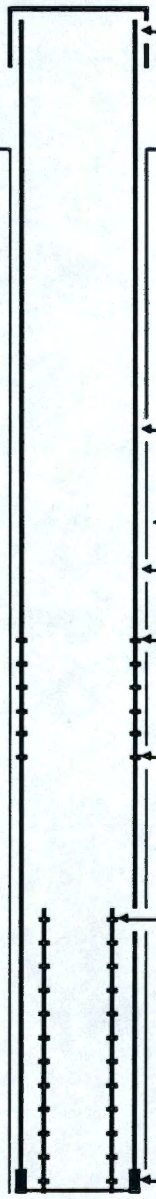
9 2 1 2 5 8 0 0 0 5 9

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-F5-6	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Bentonite	Hanford Coordinates: N/S N 80,537	E/W W 29,402
Driller's Name: P. Rydman	WA State Lic Nr: Not documented	State Coordinates: N 485,763	E 2,265,716
Drilling Company: Not documented	Company Location:	Start Card #: Not documented	T R S
Date Started: 01Aug56	Date Complete: 13Aug56	Elevation Ground surface (ft): Not documented	

Depth to water: 35.5-ft May85
(Top of casing) 42.1-ft May90

GENERALIZED STRATIGRAPHY	Driller's Log
0-11:	GRAVEL, BOULDERS and SAND
11-34:	Loose GRAVEL and SAND, some BOULDERS
34-69:	Large GRAVEL and fine brown SAND
69-74:	Brown sandy SILT
74-97:	Sandy CLAY
97-109:	CLAY and GRAVEL
109-161:	Sandy CLAY
161-187:	CLAY
187-192:	Sticky CLAY



- Elevation of reference point: (top of casing) [412.95-ft]
- Height of reference point above ground surface [ND]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole [9-in nom]
- Type of filler: Not documented
- Depth top of perforations: [35-ft]
- Description of perforations: 35-74-ft, 4 cuts/ft/rd
- Depth bottom of perforations: [74-ft]
- Preperforated 6-in liner ~149-192-ft, 4 rows of 4-in cuts 4-in apart
- Depth bottom of casing: [~192-ft]
- Depth bottom of borehole: [192-ft]

Drawing By: RKL/1#F5#06.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-F5-6

WELL DESIGNATION	:	199-F5-6
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 80,537 W 29,402
LAMBERT COORDINATES	:	N 485,763 E 2,265,716
DATE DRILLED	:	Aug56
DEPTH DRILLED (GS)	:	192.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	35.5-ft, May85; 42.1-ft, May90 (top-of-casing)
CASING DIAMETER	:	8-in, +ND-~192-ft; 6-in preperforated liner, ~149-192-ft
ELEV TOP CASING	:	412.95-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	35-74-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 07Aug89; Carbon steel casing. No pad, no posts, capped and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 11Jul57-14May90
PUMP TYPE	:	Electric submmersible pump.
MAINTENANCE	:	Date not documented - Slotted well, assumed 35-74-ft

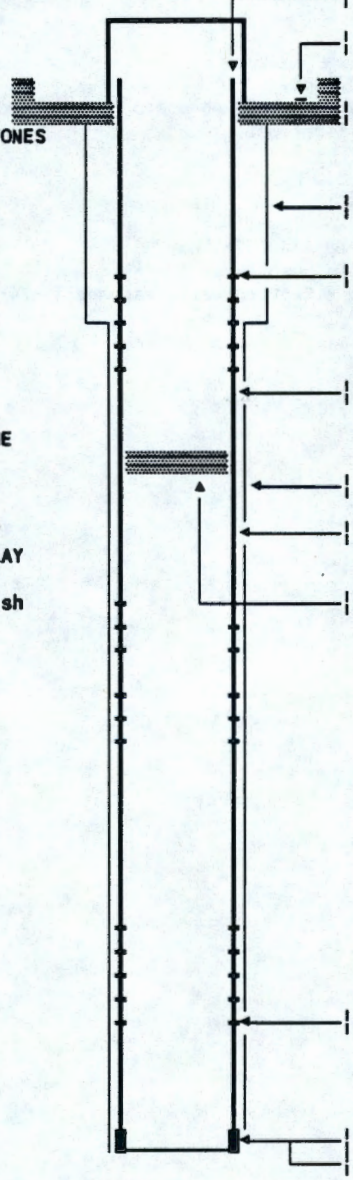
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-F7-1 / TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Bentonite/Clay	Hanford Coordinates: N/S N 77,199 E/W W 33,394
Driller's Name: Johnson	WA State Lic Nr: Not documented	State Coordinates: N 482,415 E 2,261,733
Drilling Company: Not documented	Company Location:	Start Card #: Not documented T___ R___ S___
Date Started: 06Aug56	Date Complete: 15Aug56	Elevation Ground surface (ft): 389.5 Estimated

Depth to water: 13-ft Aug56
(Ground surface) 14.7-ft Feb90

GENERALIZED STRATIGRAPHY — Driller's Log

0-20: Large GRAVEL and COBBLESTONES
20-24: Smaller GRAVEL
24-30: CLAY mixture
30-40: CLAY
40-50: CLAY, mixture of SAND
50-60: Some SILT mixed in
60-70: Mostly all CLAY
70-75: CLAY
75-79: Fine SAND mixture
79-85: CLAY and some SILT
85-94: SAND and CLAY
94-99: SILT
99-105: CLAY and some GRAVEL
105-110: CLAY and some SANDSTONE
110-115: Brown SILT
115-120: Mixure CLAY, SILT and small GRAVEL
120-129: Cemented SAND and CLAY
129-135: Decomposed SAND and CLAY
135-140: Some GRAVEL
140-149: Less GRAVEL and brownish SANDSTONE
149-150: Sticky brownish CLAY



- Elevation of reference point: [389.74-ft] (top of casing)
- Height of reference point above ground surface [0.2-ft]
- Depth of surface seal [ND]
- Type of surface seal: Concrete pump pad
- 12-in casing to 20-ft, pulled
- I.D. of surface casing [ND] (If present)
- Depth top of perforations: [10-ft]
- Description of perforations: 10-25, 75-85, 90-100, and 130-140-ft
- I.D. of riser pipe: [8-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole [9-in nom]
- Type of filler: Not documented
- Cement plug at 55-ft
- Depth bottom of perforations: [140-ft]
- Depth bottom of casing: [150-ft]
- Depth bottom of borehole: [150-ft]

Drawing By: RKL/1#F7#01.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-F7-1

WELL DESIGNATION	:	199-F7-1
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 77,199 W 33,394
LAMBERT COORDINATES	:	N 482,415 E 2,261,733
DATE DRILLED	:	Aug56
DEPTH DRILLED (GS)	:	150.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	13-ft, Aug56; 14.7-ft, Feb90
CASING DIAMETER	:	8-in, +0.2-150-ft
ELEV TOP CASING	:	389.74-ft
ELEV GROUND SURFACE	:	389.5-ft Estimated
PERFORATED INTERVAL	:	10-25, 75-85, 90-100 and 130-140-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 18Aug89; Carbon steel casing. Concrete pump pad-8x8-ft, no posts. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 11Jul57-28Feb90
PUMP TYPE	:	Electric submersible pump.
MAINTENANCE	:	10Jan74; - Developed with pump 111-160ct74; - Perforated 10-20-ft, brushed and cleaned

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: O. Amos
Drilling Company: Kaiser Engineers
Date Started: 14Mar88

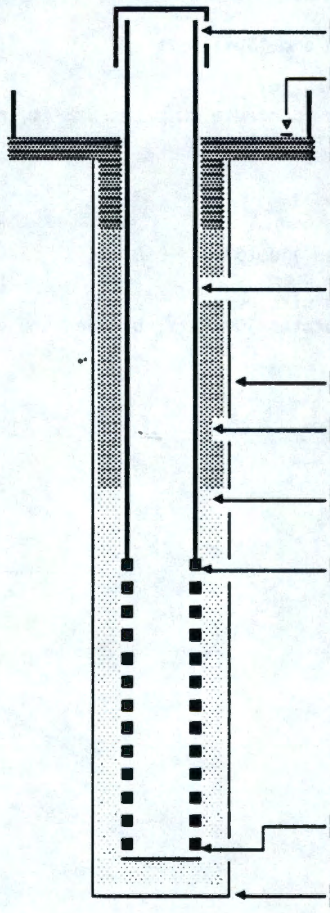
Sample Method: Drive barrel
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Richland, WA
Date Complete: 21Mar88

WELL NUMBER: 199-F7-2
TEMPORARY WELL NO:
Hanford Coordinates: N/S N ND E/W W ND
State Coordinates: N ND E ND
Start Card #: Not documented T R S
Elevation Ground surface (ft): Not documented

Depth to water: 20.0-ft Mar88
(Ground surface) ND

GENERALIZED STRATIGRAPHY Geologist's Log

0-5: Silty sandy GRAVEL
5-25: Sandy GRAVEL
25-31: Gravelly SAND



Elevation of reference point: [ND]
(top of casing)
Height of reference point above ground surface [ND]
Depth of surface seal [0-4.5 ft]
Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
I.D. of riser pipe: [6-in]
Type of riser pipe: Stainless steel
Diameter of borehole: [11-in nom]
Type of filler: Bentonite pellets
Depth top of sand pack: [10.0-ft]
Depth top of screen: [15.0-ft]
6-in, 20-slot
304 stainless steel
Depth bottom of screen: [30.5-ft]
Depth bottom of borehole: [31.0-ft]

Drawing By: RKL/1#F7#02.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-F7-2

WELL DESIGNATION	:	199-F7-2
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N ND W ND
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Mar88
DEPTH DRILLED (GS)	:	31.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	20.0-ft, Mar88;
CASING DIAMETER	:	6-in stainless steel, from +2.0-15.0-ft
ELEV TOP CASING	:	Not documented
ELEV GROUND SURFACE	:	Not documented
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 15-30.5-ft;
COMMENTS	:	FIELD INSPECTION,
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 0 6 5

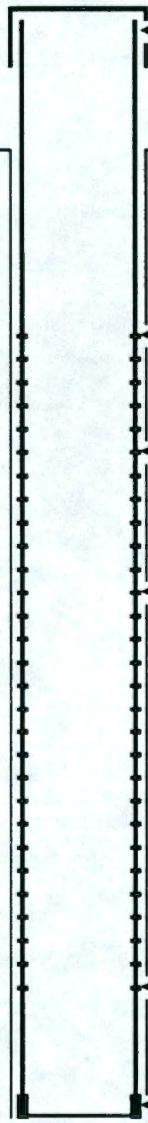
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-F8-1	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Mud	Hanford Coordinates: N/S N 78,536	E/W W 31,265
Driller's Name: McDonald, Swain, George	WA State Lic Nr: Not documented	State Coordinates: N 483,758	E 2,263,858
Drilling Company: Not documented	Company Location:	Start Card #: Not documented	T R S
Date Started: 18Jul60	Date Complete: 23Aug60	Elevation Ground surface (ft): Not documented	

Depth to water: 15.4-ft May60
(Top of casing) 35.0-ft Feb90

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: TOP SOIL
10-25: SAND with heavy GRAVELS and COBBLES
25-33: Ringold (?) SAND and heavy GRAVELS
33-35: Coarse SAND and GRAVEL
35-45: SAND and fine GRAVELS
45-49: Sticky CLAY
49-55: Sticky CLAY and a little SAND
55-57: Sandy CLAY and small particles
57 : Black ROCK



Elevation of reference point: [405.86-ft]
(top of casing)
Height of reference point above ground surface [ND]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

Depth top ofperforations: [13-ft]
Description of perforations:
13-41-ft, 1 hole/ft spiral
and 42-53-ft, 3 holes/ft

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole [9-in nom]

Type of filler:
Not documented

Depth bottom of perforations: [53-ft]

Depth bottom of casing: [57-ft]
Depth bottom of borehole: [57-ft]

Drawing By: RKL/1#F8#01.ASB Date:

Reference: HANFORD WELLS

WELL CONSTRUCTION AND COMPLETION SUMMARY

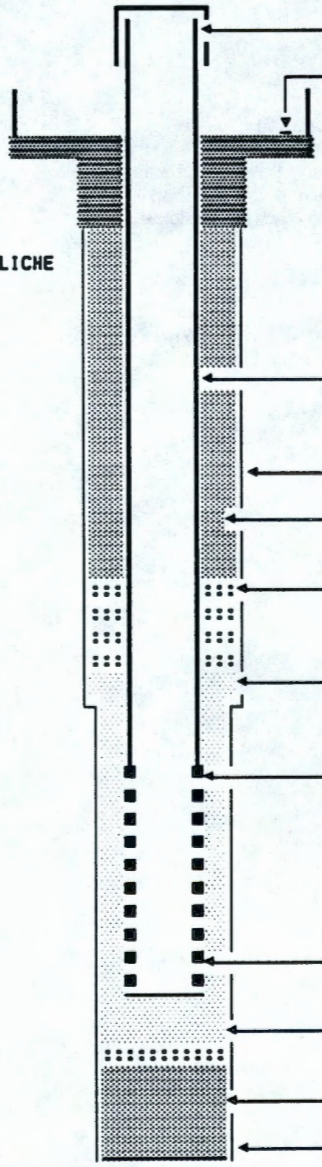
Drilling Method: Cable tool	Sample Method: Drive barrel	WELL NUMBER: 199-H3-2C	TEMPORARY WELL NO: 1H-TC3C
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 96,019	E/W W 40,092
Driller's Name: D. Garcia	WA State Lic Nr: 1143	State Coordinates: N 501,218	E 2,254,987
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 12Aug86	Date Complete: 15Dec86	Elevation Ground surface (ft): 416.1 Estimated	

Depth to water: 41.0-ft Dec86
(Ground surface) 37.9-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-5: Not documented
5-55: Sandy GRAVEL
55-60: Ringold Fm.
60-65: Clayey SAND GRAVEL
65-75: Silty SAND with CLAY & CALICHE
75-85: Clayey sandy SILT
85-100: Sandy SILT
100-110: Clayey silty SAND
110-120: Gravelly silty SAND
120-155: Clayey silty SAND

NOTE:
Hole was drilled open hole below 99-ft.

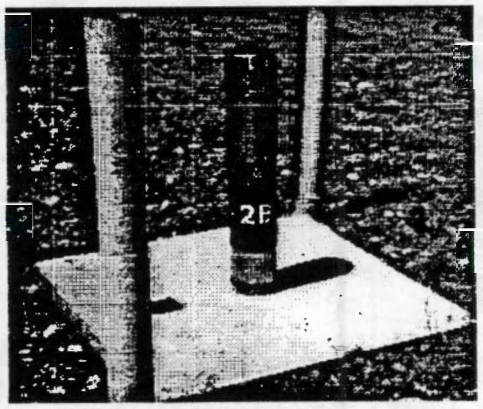


- Elevation of reference point: [418.22-ft] (top of casing)
- Height of reference point above ground surface [2.1-ft]
- Depth of surface seal [0-4.5-ft]
  - Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
  - I.D. of surface casing: [NA] (If present)
- I.D. of riser pipe: [6-in]
  - Type of riser pipe: Stainless steel
- Diameter of borehole: [13-in nom]
- Type of filler: Granular bentonite, 4.5-36-ft; Bentonite slurry, 36-83-ft
- Depth top of seal: [83.0-ft]
  - Type of seal: Volclay pellets
- Depth top of sand pack: [88.5-ft]
  - 10-20, 20-30, 20-40 silica sand
- Depth top of screen: [100.0-ft]
  - 6-in, 10-slot
  - 304 stainless steel
- Depth bottom of screen: [110.0-ft]
- Depth bottom of sand pack: [115.5-ft]
- Bentonite pellets, 115.5-117.5-ft
- Bentonite slurry, 117.5-155.0-ft
- Depth bottom of borehole: [155.0-ft]

Drawing By: RKL/1#H3#02C.ASB Date:_____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H3-2B



WELL DESIGNATION	:	199-H3-2B
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,041 W 40,104
LAMBERT COORDINATES	:	N 501,240 E 2,254,975
DATE DRILLED	:	Dec86
DEPTH DRILLED (GS)	:	58.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	40.5-ft, Dec86; 37.7-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, from +2.3-50.0-ft
ELEV TOP CASING	:	418.42-ft
ELEV GROUND SURFACE	:	416.1-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 50-55-ft;
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-F8-1

WELL DESIGNATION	:	199-F8-1
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 78,536 W 31,265
LAMBERT COORDINATES	:	N 483,758 E 2,263,858
DATE DRILLED	:	Aug60
DEPTH DRILLED (GS)	:	57.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	15.4-ft, May60; 35.0-ft Feb90 (top-of-casing)
CASING DIAMETER	:	8-in, +ND-~57-ft
ELEV TOP CASING	:	405.86-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	13-53-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 18Aug89; Carbon steel casing. No pad, no posts, capped and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 16Jul65-28Feb90
PUMP TYPE	:	Electric submersible pump.
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 0 6 7

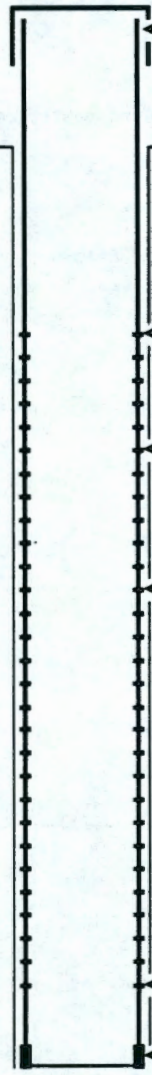
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-F8-2	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 78,661	E/W W 31,138
Driller's Name: McDonald, Swain	WA State Lic Nr: Not documented	State Coordinates: N 483,883	E 2,263,985
Drilling Company: Hatch Drilling CO	Company Location: Pasco, WA	Start Card #: Not documented	T ___ R ___ S ___
Date Started: 25Jul60	Date Complete: 23Aug60	Elevation Ground surface (ft): 408.2 Estimated	

Depth to water: 15.4-ft May60
(Ground surface) 37.5-ft Feb90

GENERALIZED STRATIGRAPHY — Driller's Log

0-20: SAND, heavy GRAVEL and COBBLES
20-21: SAND and GRAVEL
21-23: SAND
23-30: SAND and heavy GRAVELS
30-35: SAND less GRAVELS
35-45: Clean SAND and GRAVEL (80% GRAVEL)
45-50: SAND and GRAVEL (60% GRAVEL)
50-52: SAND and heavy GRAVEL (6-in)
52-54: Fine SAND and small GRAVEL
54-55: CLAY with black ROCK



Elevation of reference point: [410.74-ft]
(top of casing)

Height of reference point above ground surface [2.5-ft]

Depth of surface seal [ND]

Type of surface seal: None documented

I.D. of surface casing (If present) [ND]

Depth top ofperforations: [10-ft]
Description of perforations: 10-25-ft, 6 holes/ft and 25-53-ft, 3 holes/ft

I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel

Diameter of borehole [9-in nom]

Type of filler: Not documented

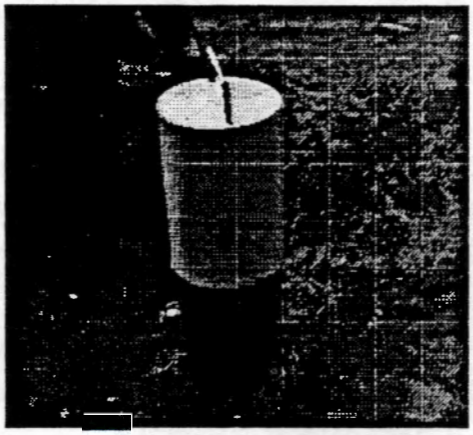
Depth bottom of perforations: [53-ft]

Depth bottom of casing: [55-ft]
Depth bottom of borehole: [55-ft]

Drawing By: RKL/1#F8#02.ASB Date: ___

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-F8-2



WELL DESIGNATION	:	199-F8-2
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 78,661 W 31,138
LAMBERT COORDINATES	:	N 483,883 E 2,263,985
DATE DRILLED	:	Aug60
DEPTH DRILLED (GS)	:	55.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	38-ft, Jun60; 37.5-ft, Feb90
CASING DIAMETER	:	8-in, +2.5-57-ft
ELEV TOP CASING	:	410.74-ft
ELEV GROUND SURFACE	:	408.2-ft
PERFORATED INTERVAL	:	10-53-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 18Aug89; Carbon steel casing. No pad, no posts, capped and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water level measured 23Feb90
PUMP TYPE	:	None
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: St. George
Drilling Company: Hatch Drilling
Date Started: 24Aug60

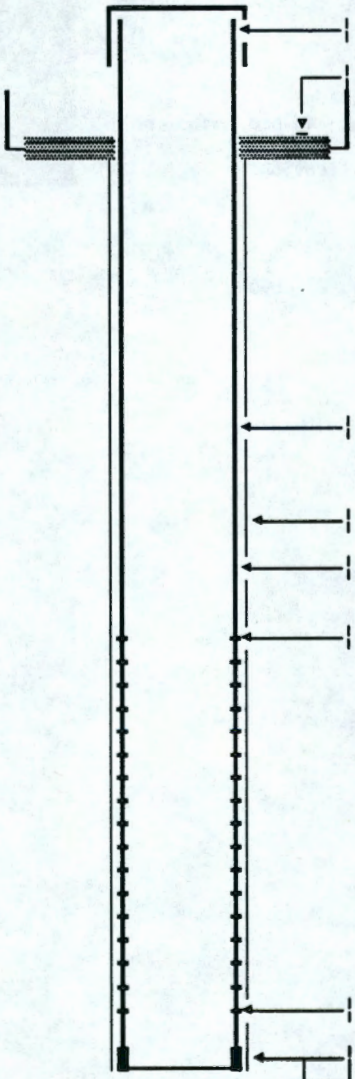
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Pasco, WA
Date Complete: 30Aug60

WELL NUMBER: 199-H3-1
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 94,994 E/W W 40,052
State Coordinates: N 500,193 E 2,255,029
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 420.3 Estimated

Depth to water: 37.5-ft Aug60
(Ground surface) 41.2-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

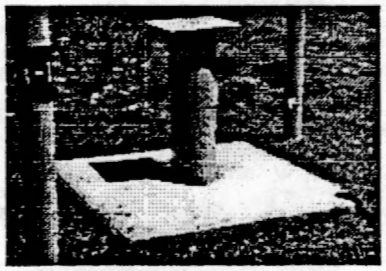
0-5: Not documented
10-20: Silty COBBLE and SAND
20-25: Not documented
25-50: GRAVEL and silty SAND
50-56: SAND and GRAVEL
56-65: CLAY
65-70: CLAY and BASALT
70-75: SAND with CLAY
75 : BASALT and CLAY-SAND



Elevation of reference point: [421.98-ft] (top of casing)
Height of reference point above ground surface [1.7-ft]
Depth of surface seal [ND]
Type of surface seal: Surface pad 4-ft x 4-ft, depth not documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Depth top of perforations: [29-ft]
Description of perforations: 29-50-ft, 4 holes/ft, 51-68-ft, 1 spiral/ft, 69-74-ft, 4 holes/ft,
Depth bottom of perforations: [74-ft]
Depth bottom of casing: [75-ft]
Depth bottom of borehole: [75-ft]

Drawing By: RKL/1#H03#01.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H3-1



WELL DESIGNATION	:	199-H3-1
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 94,994 W 40,052
LAMBERT COORDINATES	:	N 500,193 E 2,255,029
DATE DRILLED	:	Aug60
DEPTH DRILLED (GS)	:	75.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	37.5-ft, Aug60; 41.2-ft, Jul91
CASING DIAMETER	:	8-in, from +1.7-75-ft
ELEV TOP CASING	:	421.98-ft
ELEV GROUND SURFACE	:	420.3-ft Estimated
PERFORATED INTERVAL	:	29-74-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 12Jun90; Carbon steel casing. 4-ft x 4-ft concrete pad, 4 protective posts. Capped and locked. Identification stamped on brass cap. Not in radiation zone.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 22Feb62-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	07-14Aug78; - Pump test

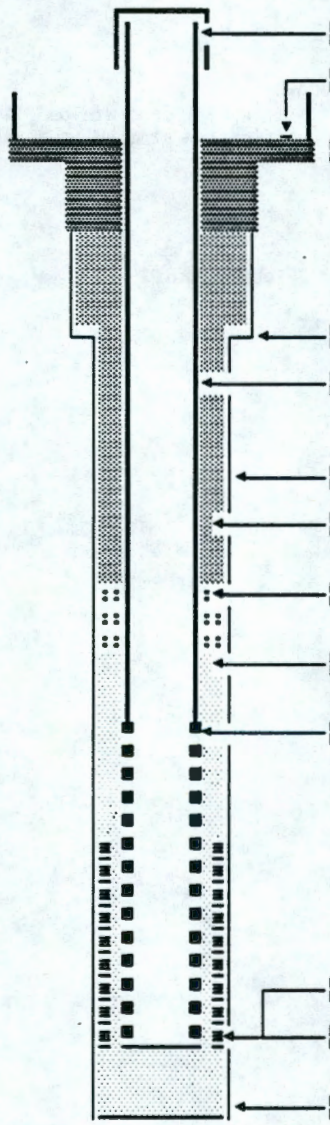
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Drive barrel	WELL NUMBER: 199-H3-2A	TEMPORARY WELL NO: 1H-TC3A
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 96,018	E/W W 40,117
Driller's Name: D. Garcia	WA State Lic Nr: 1143	State Coordinates: N 501,217	E 2,254,962
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 15Oct86	Date Complete: 04Nov86	Elevation Ground surface (ft): 416.1 Estimated	

Depth to water: 41.0-ft Nov86
(Ground surface) 37.7-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-4: Not documented
4-10: GRAVEL with SAND
10-54: Sandy GRAVEL
54-56: Sandy GRAVEL with CLAY and CALICHE

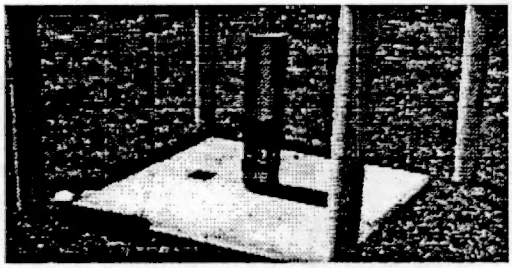


- Elevation of reference point: [417.83-ft] (top of casing)
- Height of reference point above ground surface [1.7-ft]
- Depth of surface seal [0-4.5 ft]
- Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
- I.D. of surface casing: 14-in [Removed] (If present) 15-in nominal
- Surface hole to 10-ft
- I.D. of riser pipe: [6-in] Type of riser pipe: Stainless steel
- Diameter of borehole: [11-in nom]
- Type of filler: Granular bentonite
- Depth top of seal: [26.5-ft] Type of seal: Volclay tablets
- Depth top of sand pack: [30.0-ft] 10-20 silica sand
- Depth top of screen: [36.0-ft] 6-in, 20-slot 304 stainless steel
- Depth bottom of screen: [51.0-ft]
- Telescoping screen, 41.0-51.0-ft 10-in stainless steel, 40-slot
- Depth bottom of borehole: [56.0-ft]

Drawing By: RKL/1#H3#02A.ASB Date:_____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H3-2A



WELL DESIGNATION	:	199-H3-2A
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,018 W 40,117
LAMBERT COORDINATES	:	N 501,217 E 2,254,962
DATE DRILLED	:	Dec86
DEPTH DRILLED (GS)	:	56.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	41.0-ft, Dec86; 37.7-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +1.7-36.0-ft
ELEV TOP CASING	:	417.83-ft
ELEV GROUND SURFACE	:	416.1-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 36-51-ft; 10-in telescoping, stainless steel, #40-slot, 41-51-ft
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

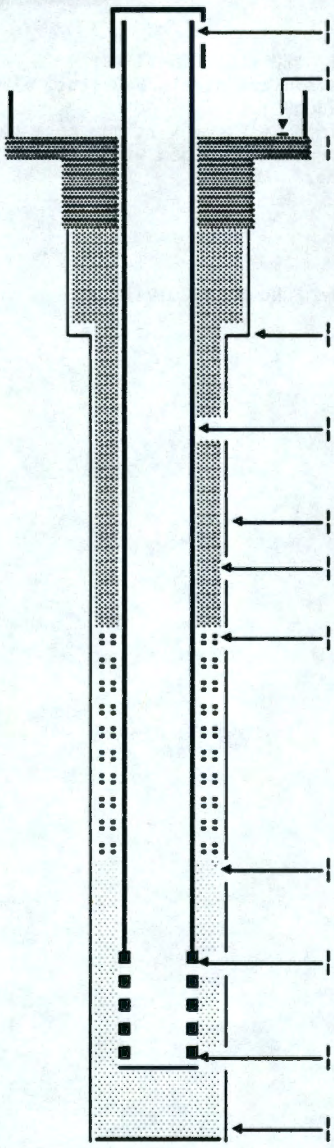
Drilling Method: Cable tool	Sample Method: Drive barrel
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: D. Garcia	WA State Lic Nr: 1143
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA
Date Started: 04Nov86	Date Complete: 14Nov86

WELL NUMBER: 199-H3-2B	TEMPORARY WELL NO: 1H-TC3B
Hanford Coordinates: N/S N 96,041	E/W W 40,104
State Coordinates: N 501,240	E 2,254,975
Start Card #: Not documented	T___ R___ S___
Elevation Ground surface (ft): 416.1 Estimated	

Depth to water: 40.5-ft Nov86
(Ground surface) 37.7-ft Jul91

GENERALIZED Geologist's STRATIGRAPHY Log

0-4: Not documented
4-9: Silty sandy GRAVEL
9-14: GRAVEL with SAND
14-24: Silty GRAVEL
24-54: Sandy GRAVEL
54-57: SAND
57-58: Silty SAND



Elevation of reference point: [418.42-ft]
(top of casing)

Height of reference point above ground surface [2.3-ft]

Depth of surface seal [0-5.0-ft]

Type of surface seal: Concrete
4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts

I.D. of surface casing: 14-in [Removed]
(If present)
15-in nominal

Surface hole to 10 ft

I.D. of riser pipe: [6-in]
Type of riser pipe:
Stainless steel

Diameter of borehole: [11-in nom]
Diameter of surface hole: [15-in nom]

Type of filler:
Granular bentonite

Depth top of seal: [35.0-ft]
Type of seal:
Volclay pellets

Depth top of sand pack: [45.0-ft]
10-20 silica sand

Depth top of screen: [50.0-ft]
6-in, 20-slot
304 stainless steel

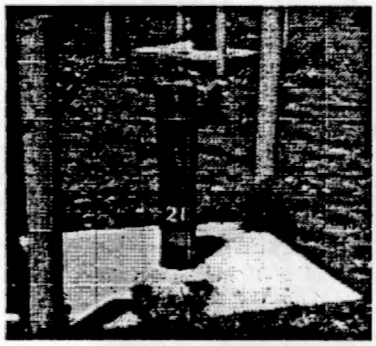
Depth bottom of screen: [55.0-ft]

Depth bottom of borehole: [58.0-ft]

Drawing By: RKL/1#H3#02B.ASB Date:_____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H3-2C



WELL DESIGNATION	:	199-H3-2C
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,019 W 40,092
LAMBERT COORDINATES	:	N 501,218 E 2,254,987
DATE DRILLED	:	Dec86
DEPTH DRILLED (GS)	:	155.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	41.0-ft, Dec86; 37.9-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, from +2.3-50.0-ft
ELEV TOP CASING	:	418.22-ft
ELEV GROUND SURFACE	:	416.1-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 100-110-ft;
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Row
Drilling Company: Not documented
Date Started: 28Mar52

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location:
Date Complete: 01May52

WELL NUMBER: 199-H4-2
TEMPORARY WELL NO: 107-H-2
Hanford Coordinates: N/S N 95,200 E/W W 38,565
State Coordinates: N , E 2, ,
Start Card #: Not documented T R S
Elevation Ground surface (ft): Not documented

Depth to water: Flowed Apr52
(Top of casing) 3.7-ft Jun84

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: GRAVEL, SAND and SILT
10-31: GRAVEL and SAND
31-35: SAND and GRAVEL
35-37: GRAVEL and SAND
(Perched water at 36.5-ft)
37-59: SAND, w/very little-some GRAVEL
59-68: SILT
68-75: Silty CLAY and rotten SANDSTONE
75-80: CLAY, SILT, SANDSTONE, CALICHE and SAND
80-90: CLAY, rotten SANDSTONE and SAND
90-95: SAND and silt-like SANDSTONE
95-150: Sandy CLAY, SILT and chips of basalt GRAVEL
150-165: Sandy CLAY, SILT and SAND, layered
165-190: SAND, CLAY and SILT, small amount of small GRAVEL
190-192: Gray SAND and GRAVEL
192-205: Gray SAND, brown sandy SILT
205-210: Whitish sandy ASH and some ROCK chips
210-215: Brown SAND, SILT and MUD
215-240: Gray muck, SAND, very fine
240-249: SAND, some SILT & BASALT chips
249-250: Sandy CLAY
250-270: CLAY, SHALE and SANDSTONE
270-272: Blue CLAY with GRAVEL
272-274: Sandy white MUD
274-275: Blue CLAY with GRAVEL
275-280: Green CLAY and fine GRAVEL
280-328: Black stiff MUD
(1-ft of hard SHALE @ 300-ft)
328-340: Black MUD like SHALE
340-355: Black SHALE, green CLAY
355-370: BASALT, rotten or weathered
370-381: ASH, SAND, SILT, blue CLAY, SHALE, GRAVEL and SANDSTONE
(Water flowed while drilling at 380-ft)
381-386: BASALT

Elevation of reference point: [421.12-ft]
(top of casing)
Height of reference point above ground surface [ND]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [6-in]
Type of riser pipe:
Carbon steel

Diameter of borehole [7-in nom]

Type of filler:
Not documented

Depth top of perforations: [NA]
Description of perforations:
None documented

Depth bottom of casing: [363-ft]

Depth bottom of borehole: [386-ft]

Drawing By: RKL/1#H4#02.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-2

WELL DESIGNATION	:	199-H4-2
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 95,200 W 38,565
LAMBERT COORDINATES	:	N , E 2, ,
DATE DRILLED	:	Jun52
DEPTH DRILLED (GS)	:	386-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	Flowed Apr52; 3.7-ft, Jun84 (top-of-casing)
CASING DIAMETER	:	6-in, +2.0-363-ft
ELEV TOP CASING	:	421.12-ft
ELEV GROUND SURFACE	:	Not documented
PERFORATED INTERVAL	:	None documented
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION,
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 23May52-01Jun84
PUMP TYPE	:	None
MAINTENANCE	:	ND

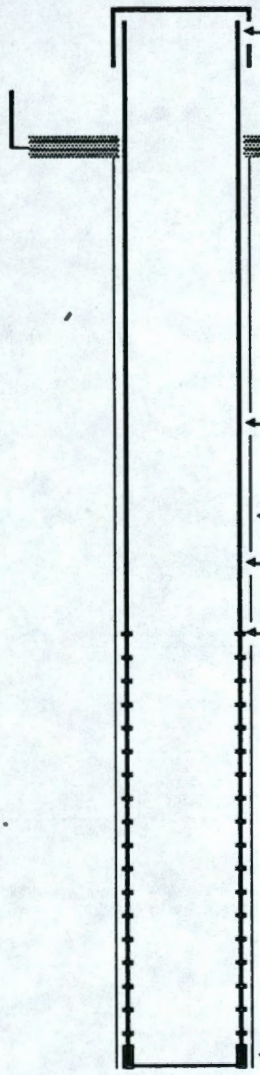
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-H4-3 / TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 96,373 E/W W 39,080
Driller's Name: H. Baker	WA State Lic Nr: Not documented	State Coordinates: N 501,574 E 2,255,998
Drilling Company: Not documented	Company Location:	Start Card #: Not documented T___ R___ S___
Date Started: 17May74	Date Complete: Not documented	Elevation Ground surface (ft): 417.7 Estimated

Depth to water: 39.0-ft May74
(Ground surface) 41.9-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-5: Not documented
5-20: GRAVEL with SAND
20-43: SAND with GRAVEL
43-45: BOULDER
45-50: SAND, GRAVEL & COBBLES
50-55: Ringold Fm.
55 : Ringold Fm. and CALICHE



Elevation of reference point: [420.35-ft]
(top of casing)

Height of reference point above ground surface [2.7-ft]

Depth of surface seal [ND]

Type of surface seal: Surface pad 4 ft x 4 ft, depth not documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [6-in]
Type of riser pipe: Carbon steel

Diameter of borehole: [7-in nom]

Type of filler: Not documented

Depth top of perforations: [34-ft]
Description of perforations: 34-55-ft, 4 cuts/rd/ft

Depth bottom of perforations: [55-ft]
Depth bottom of casing: [55-ft]
Depth bottom of borehole: [55-ft]

Drawing By: RKL/1#H04#03.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-3

WELL DESIGNATION	:	199-H4-3
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,373 W 39,080
LAMBERT COORDINATES	:	N 501,574 E 2,255,998
DATE DRILLED	:	May74
DEPTH DRILLED (GS)	:	55.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	39.0-ft, May74; 41.9-ft, Aug91
CASING DIAMETER	:	6-in carbon steel, +2.7-55.0-ft
ELEV TOP CASING	:	420.35-ft
ELEV GROUND SURFACE	:	417.7-ft Estimated
PERFORATED INTERVAL	:	34-55-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 12Jun90; Carbon steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 19Jun85-01Aug91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

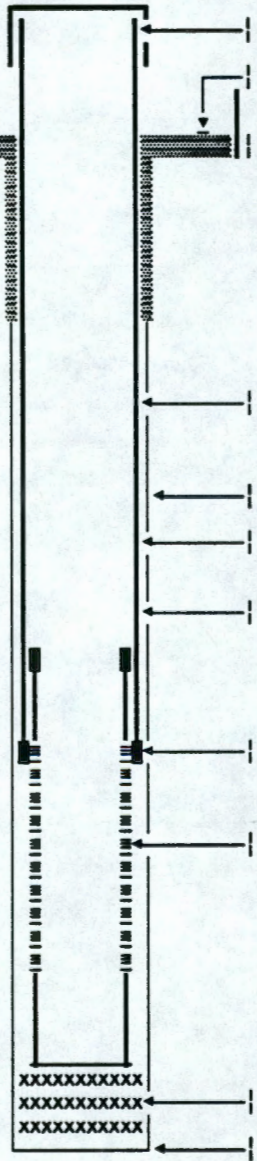
Drilling Method: Cable tool	Sample Method: Hard tool	WELL NUMBER: 199-H4-4 / TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 93,560 E/W W 38,685
Driller's Name: Troy	WA State Lic Nr: Not documented	State Coordinates: N 498,762 E 2,256,400
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 01Jun83	Date Complete: 10Jun83	Elevation Ground surface (ft): 412.4 Estimated

Depth to water: 36.0-ft Jun83
(Ground surface) 36.2-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-5: Not documented
5-20: GRAVEL & medium-coarse SAND
20-50: Not documented
50-55: SAND & fine GRAVEL

REMEDIATION:
May87;
Installed surface pad.



- Elevation of reference point: [413.76-ft] (top of casing)
- Height of reference point above ground surface [1.4-ft]
- Depth of surface seal [0-15-ft]
- Type of surface seal: Cement grout
- I.D. of surface casing (Pulled back) [10-in]
- I.D. of riser pipe: [6-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [7-in nom]
- Type of filler: Not documented
- Elevation/depth top of seal
- Type of seal: Not documented
- Depth bottom of casing: Pulled back from total depth [34-ft]
- Telescoping screen 33-43-ft. 7-ft blank below, 5-ft top with packer
- 5-sack cement plug 50-55-ft
- Depth bottom of borehole [55-ft]

Drawing By: RKL/1#H4#04.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-4

WELL DESIGNATION	:	199-H4-4
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 93,560 W 38,685
LAMBERT COORDINATES	:	N 498,762 E 2,256,400
DATE DRILLED	:	Jun83
DEPTH DRILLED (GS)	:	55.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	36.0-ft, Jun83; 36.2-ft, Aug91
CASING DIAMETER	:	6-in carbon steel, +1.4-34.0-ft
ELEV TOP CASING	:	413.76-ft
ELEV GROUND SURFACE	:	412.4-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	33-43-ft, telescoping
COMMENTS	:	FIELD INSPECTION, 12Jun90; Carbon steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 22Jan85-01Aug91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 0 8 3

WELL CONSTRUCTION AND COMPLETION SUMMARY

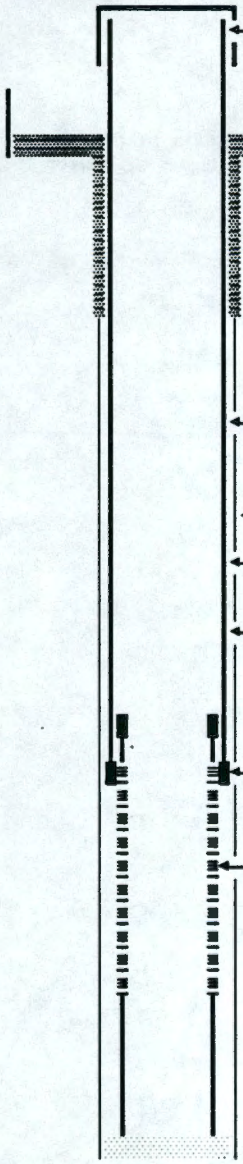
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-H4-5	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 96,639	E/W W 39,065
Driller's Name: Troy/Bigham	WA State Lic Nr: Troy-0438 Bigham-0036	State Coordinates: N 501,840	E 2,256,012
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 27Apr83	Date Complete: 10May83	Elevation Ground surface (ft): 413.9 Estimated	

Depth to water: 36.0-ft May83
(Ground surface) 37.7-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-5: GRAVEL, Mt. St. Helen's ASH, SAND & TOP SOIL
5-12: GRAVEL with SAND
12-20: GRAVEL
20-30: GRAVEL & BOULDERS
30-36: SAND, GRAVEL, COBBLES & BOULDERS
36-48: SAND & GRAVEL with some COBBLES
48-60: Sandy SILT

REMEDIATION:
May87
Installed surface pad and brass survey marker



- Elevation of reference point: [416.26-ft] (top of casing)
- Height of reference point above ground surface [2.4-ft]
- Depth of surface seal [0-~15-ft]
- Type of surface seal: Cement grout
- I.D. of surface casing (Pulled back) [10-in]
- I.D. of riser pipe: [6-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [7-in nom]
- Type of filler: Not documented
- Elevation/depth top of seal
- Type of seal: Not documented
- Depth bottom of casing: [ND] Pulled back from total depth, final depth not documented
- Telescoping screen 32-42-ft. 16-ft tail pipe with welded ring and packer on top
- Depth bottom of borehole [60-ft]

Drawing By: RKL/1#H4#05.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-5

WELL DESIGNATION	:	199-H4-5
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,639 W 39,065
LAMBERT COORDINATES	:	N 501,840 E 2,256,012
DATE DRILLED	:	May83
DEPTH DRILLED (GS)	:	60.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	36.0-ft, May83; 37.7-ft, Jul91
CASING DIAMETER	:	6-in carbon steel, +2.4-Not documented (~32-ft)
ELEV TOP CASING	:	416.26-ft
ELEV GROUND SURFACE	:	413.9-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	32-42-ft, telescoping
COMMENTS	:	FIELD INSPECTION, 12Jun90; Carbon steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in rediation zone.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 22Jan85-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: Bigham/Troy	WA State Lic Nr: 0036/0438
Drilling Company: Not documented	Company Location: Not documented
Date Started: 12May83	Date Complete: 24May83

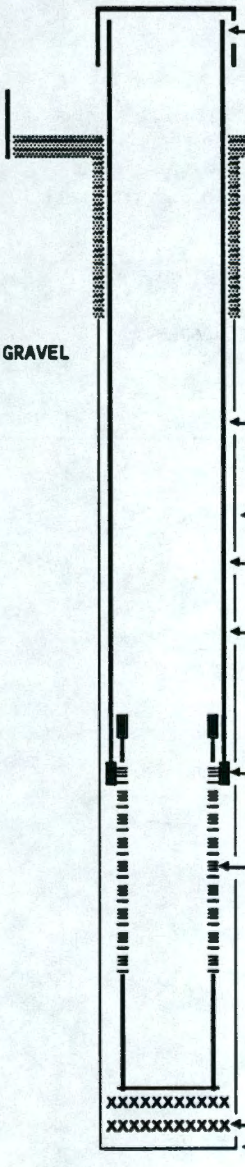
WELL NUMBER: 199-H4-6 TEMPORARY WELL NO: _____
Hanford Coordinates: N/S N 96,473 E/W W 40,245
State Coordinates: N 501,671 E 2,254,832
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 418.3 Estimated

Depth to water: 41.0-ft Jun83
(Ground surface) 39.9-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-5: Not documented
5-14: SAND, GRAVEL & COBBLES
14-15: BOULDER
15-20: GRAVEL with SAND
20-27: GRAVEL with SILT & SAND
27-35: BOULDER
35-39: GRAVEL & BOULDERS
39-40: GRAVEL & ROCKS with SAND
40-45: Medium-coarse SAND & pea GRAVEL
45-54: GRAVEL & coarse SAND

REMEDIATION:
May87
Poured pad and placed brass survey marker

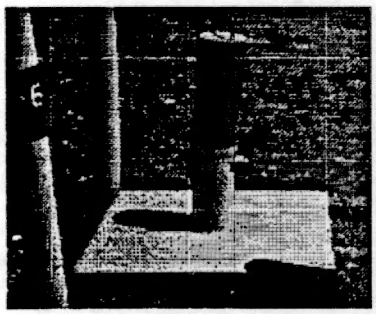


Elevation of reference point: [419.58-ft] (top of casing)
Height of reference point above ground surface [1.3-ft]
Depth of surface seal [0-20-ft]
Type of surface seal: Cement grout
I.D. of surface casing (Pulled back) [10-in]
I.D. of riser pipe: [6-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [7-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: [40-ft]
Pulled back from total depth
Telescoping screen 39-49-ft
1.5-ft casing above with packer
Fill 54-55-ft
Depth bottom of borehole [55-ft]

Drawing By: RKL/1#H4#06.ASB Date: _____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-6



WELL DESIGNATION	:	199-H4-6
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,473 W 40,245
LAMBERT COORDINATES	:	N 501,671 E 2,254,832
DATE DRILLED	:	May83
DEPTH DRILLED (GS)	:	55.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	41.0-ft, Jun83; 39.9-ft, Jul91
CASING DIAMETER	:	6-in carbon steel, +1.3-40.0-ft
ELEV TOP CASING	:	419.58-ft
ELEV GROUND SURFACE	:	418.3-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	39-49-ft, telescoping
COMMENTS	:	FIELD INSPECTION, 12Jun90; Carbon steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 22Jan85-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 0 3 7

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Drive barrel
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: D. Garcia	WA State Lic Nr: 1143
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA
Date Started: 02Sep86	Date Complete: 22Sep86

WELL NUMBER: 199-H4-7 TEMPORARY WELL NO: 1H-TW1

Hanford Coordinates: N/S N 96,479 E/W W 39,527

State Coordinates: N 501,679 E 2,255,550

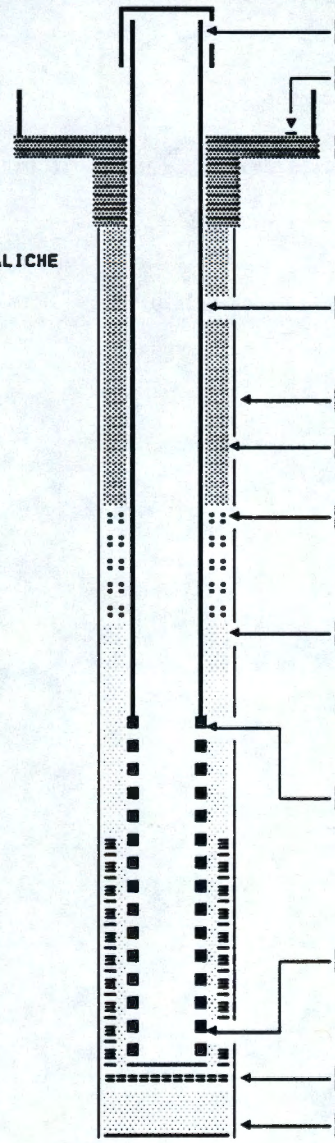
Start Card #: Not documented T___ R___ S___

Elevation Ground surface (ft): 418.5 Estimated

Depth to water: 43.0-ft Sep86
(Ground surface) 41.0-ft Jul91

GENERALIZED Geologist's STRATIGRAPHY Log

0-3: Backfill
3-14: Sandy GRAVEL
14-24: Sandy GRAVEL with SILT
24-54: Sandy GRAVEL
54-55: Silty SAND with CLAY & CALICHE
Ringold Fm.



Elevation of reference point: [420.59-ft]
(top of casing)

Height of reference point above ground surface [2.1-ft]

Depth of surface seal [0-4.0-ft]

Type of surface seal: Concrete
4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts

I.D. of surface casing: [Removed]

I.D. of riser pipe: [6-in]
Type of riser pipe:
Stainless steel

Diameter of borehole: [11-in nom]

Type of filler:
8-20 mesh granular bentonite

Depth top of seal: [25.0-ft]
Type of seal:
1/4-in Volclay tablets

Depth top of sand pack: [30.0-ft]
10-20 mesh silica sand

Depth top of screen: [38.0-ft]
6-in, #20-slot
304 stainless steel

Depth bottom of screen: [53.0-ft]

Telescoping screen, 43.0-53.0-ft
#40-slot, 10-in stainless steel

Depth bottom of borehole: [55.0-ft]

Drawing By: RKL/1#H4#07.ASB Date:_____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-7

WELL DESIGNATION	:	199-H4-7
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,479 W 39,527
LAMBERT COORDINATES	:	N 501,679 E 2,255,550
DATE DRILLED	:	Sep86
DEPTH DRILLED (GS)	:	55.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	43.0-ft, Sep86; 41.0-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +2.1-38.0-ft
ELEV TOP CASING	:	420.59-ft
ELEV GROUND SURFACE	:	418.5-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 38-53-ft; 10-in telescoping screen, #40-slot, 43-53-ft
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

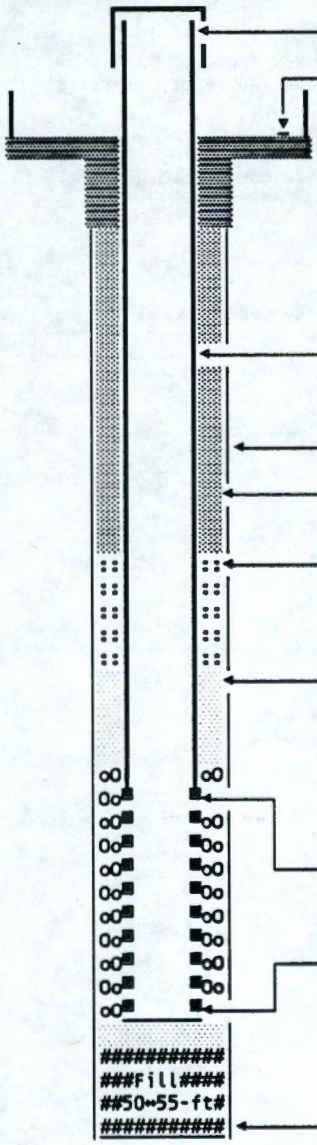
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool/ Drive barrel	WELL NUMBER: 199-H4-8
Drilling Fluid Used: Water	Additives Used: Not documented	TEMPORARY WELL NO: 1H-TW2
Driller's Name: L. Bultena	WA State Lic Nr: 0066	Hanford Coordinates: N/S N 96,580 E/W W 39,341
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA	State Coordinates: N 501,781 E 2,255,736
Date Started: 02Sep86	Date Complete: 11Sep86	Start Card #: Not documented T___ R___ S___
		Elevation Ground surface (ft): 418.0 Estimated

Depth to water: 44.0-ft Sep86
(Ground surface) 40.9-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-5: Not documented
5-48: Sandy GRAVEL
48-55: Silty SAND - Ringold Fm. at 48-ft

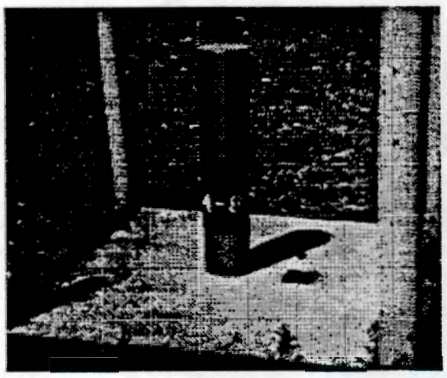


- Elevation of reference point: [420.00-ft] (top of casing)
- Height of reference point above ground surface [2.0-ft]
- Depth of surface seal [0-4.0-ft]
  - Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
  - I.D. of surface casing: [Removed] (If present)
- I.D. of riser pipe: [6-in]
  - Type of riser pipe: Stainless steel
- Diameter of borehole: [11-in nom]
- Type of filler: 8-20 mesh bentonite crumbles
- Depth top of seal: [26.0-ft]
  - Type of seal: 1/4 in Volclay tablets
- Depth top of sand pack: [31.0-ft]
  - 10-20 mesh silica sand, 31-37 and 48-50-ft natural pack 37-48-ft
- Depth top of screen: [38.0-ft]
  - 6-in, #20-slot 3-4 stainless steel
- Depth bottom of screen: [48.0-ft]
- Depth bottom of borehole: [55.0-ft]

Drawing By: RKL/1#H4#08.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-8



WELL DESIGNATION	:	199-H4-8
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,580 W 39,341
LAMBERT COORDINATES	:	N 501,781 E 2,255,736
DATE DRILLED	:	Sep86
DEPTH DRILLED (GS)	:	55.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	44.0-ft, Sep86; 40.9-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +2.0-38.0-ft
ELEV TOP CASING	:	420.00-ft
ELEV GROUND SURFACE	:	418.0-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 38-48-ft;
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

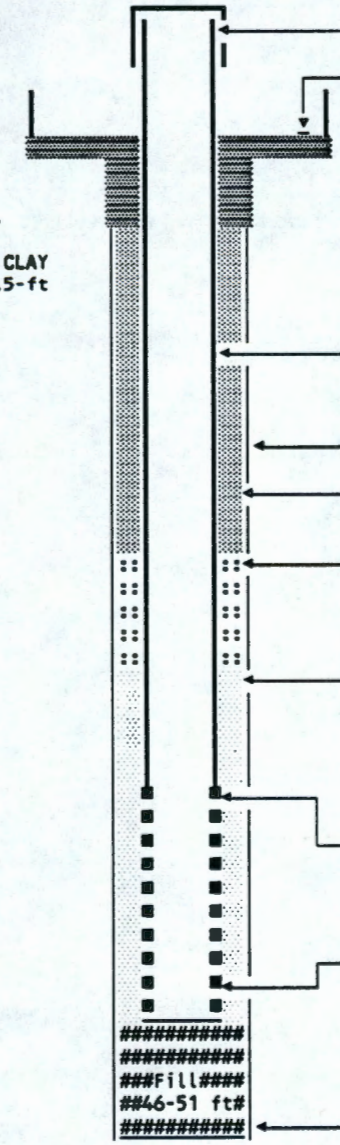
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Hard tool Method: Drive barrel	WELL NUMBER: 199-H4-9	TEMPORARY WELL NO: 1H-TW3
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 96,488	E/W W 39,136
Driller's Name: D. Ludtke	WA State Lic Nr: 1333	State Coordinates: N 501,689	E 2,255,941
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 12Sep86	Date Complete: 24Sep86	Elevation Ground surface (ft): 417.0 Estimated	

Depth to water: 43.0-ft Sep86
(Ground surface) 40.8-ft Aug91

GENERALIZED Geologist's STRATIGRAPHY Log

0-4: Not documented
4-10: Sandy GRAVEL
10-24: Silty SAND & GRAVEL
24-46.5: Sandy GRAVEL
46.5-51: Gravelly, sand, silty CLAY
Ringold contact at 46.5-ft



Elevation of reference point: [418.08-ft]
(top of casing)

Height of reference point above ground surface [1.1-ft]

Depth of surface seal [0-4.0-ft]

Type of surface seal: Concrete
4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts
I.D. of surface casing: [Removed]
(If present)

I.D. of riser pipe: [6-in]
Type of riser pipe:
Stainless steel

Diameter of borehole: [11-in nom]

Type of filler:
8-20 mesh bentonite crumbles

Depth top of seal: [24.0-ft]
Type of seal:
1/4 in Volclay tablets

Depth top of sand pack: [29.0-ft]
10-20 mesh silica sand 29-35-ft
natural pack 35-46-ft

Depth top of screen: [36.0-ft]
6-in, 20-slot
304 stainless steel

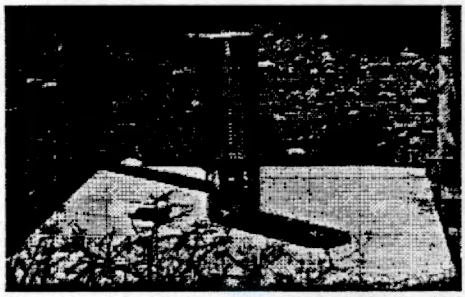
Depth bottom of screen: [46.0-ft]

Depth bottom of borehole: [51.0-ft]

Drawing By: RKL/1#H4#09.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-9



WELL DESIGNATION	:	199-H4-9
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,488 W 39,136
LAMBERT COORDINATES	:	N 501,689 E 2,255,941
DATE DRILLED	:	Sep86
DEPTH DRILLED (GS)	:	51.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	43.0-ft, Sep86; 40.8-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +1.1-36.0-ft
ELEV TOP CASING	:	418.08-ft
ELEV GROUND SURFACE	:	417.0-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 36-46-ft;
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-01Aug91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 0 9 3

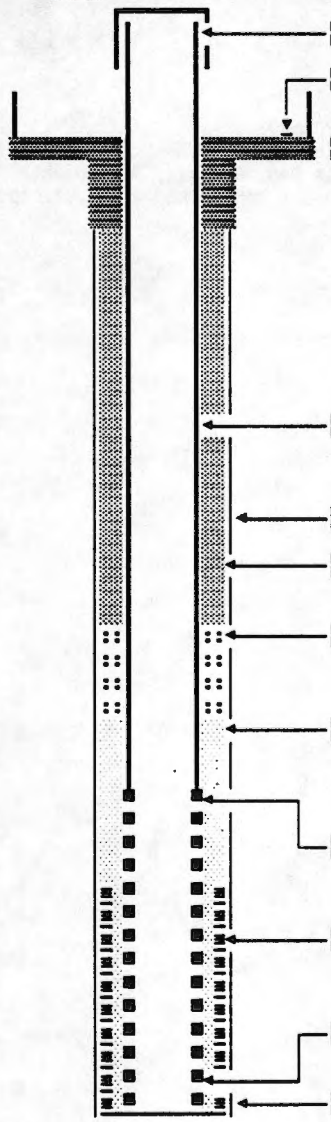
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Hard tool Method: Drive barrel	WELL NUMBER: 199-H4-10	TEMPORARY WELL NO: 1H-TW4
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 97,348	E/W W 39,449
Driller's Name: L. Bultena	WA State Lic Nr: 0066	State Coordinates: N 502,548	E 2,255,626
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 12Sep86	Date Complete: 22Sep86	Elevation Ground surface (ft): 401.9 Estimated	

Depth to water: 28.5-ft Sep86
(Ground surface) 25.9-ft Jul91

GENERALIZED STRATIGRAPHY Geologist's Log

0-38: Sandy GRAVEL
Ringold contact at 38.0 ft
Brown, clayey silty SAND

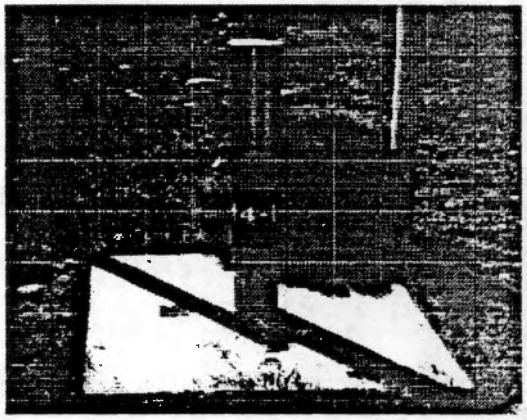


- Elevation of reference point: [404.44-ft] (top of casing)
- Height of reference point above ground surface [2.5-ft]
- Depth of surface seal [0-5.0-ft]
- Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
- I.D. of surface casing: [Removed] (If present)
- I.D. of riser pipe: [6-in]
- Type of riser pipe: Stainless steel
- Diameter of borehole: [11-in nom]
- Type of filler: 8-20 mesh granular bentonite
- Depth top of seal: [12.0-ft]
- Type of seal: 1/4 in Volclay tablets
- Depth top of sand pack: [17.0-ft] 10-20 mesh silica sand 17-38-ft
- Depth top of screen: [23.0-ft] 6-in, 20-slot 304 stainless steel
- Telescoping screen 28-38-ft, #40-slot
- Depth bottom of screen: [38.0-ft]
- Depth bottom of borehole: [38-ft]

Drawing By: RKL/1#H4#10.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-10



WELL DESIGNATION	:	199-H4-10
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 97,348 W 39,449
LAMBERT COORDINATES	:	N 502,548 E 2,255,626
DATE DRILLED	:	Sep86
DEPTH DRILLED (GS)	:	38.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	28.5.0-ft, Sep86; 25.9-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +2.5-23.0-ft
ELEV TOP CASING	:	404.44-ft
ELEV GROUND SURFACE	:	401.9-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 23-38-ft; 10-in telescoping, #40-slot, 28-38-ft
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

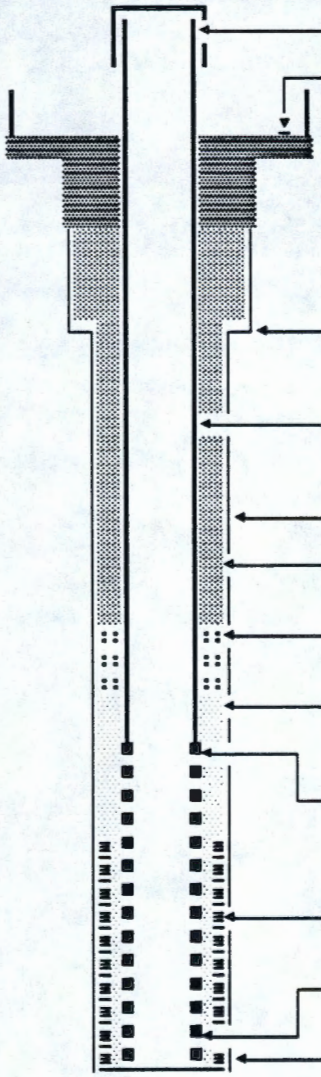
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Hard tool Method: Drive barrel	WELL NUMBER: 199-H4-11	TEMPORARY WELL NO: 1H-TW5
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 95,943	E/W W 38,419
Driller's Name: D. Ludtke	WA State Lic Nr: 1333	State Coordinates: N 501,146	E 2,256,660
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 23Sep86	Date Complete: 10Oct86	Elevation Ground surface (ft): 414.9 Estimated	

Depth to water: 42.5-ft Oct86
(Ground surface) 39.2-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-5: Sandy GRAVEL with SILT (backfill included)
5-28.5: Sandy GRAVEL
28.5-37: Gravelly SAND
37-49: Sandy GRAVEL
49-57: Gravelly SAND
57-59: Cemented SANDs & GRAVEL
Top of Ringold at 59-ft (CLAYS)

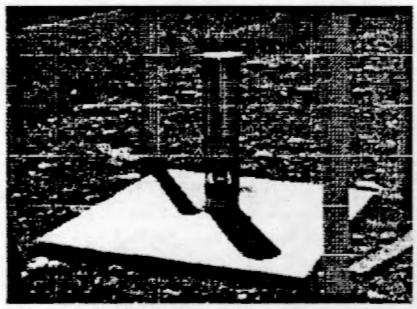


- Elevation of reference point: [416.84-ft] (top of casing)
- Height of reference point above ground surface [1.9-ft]
- Depth of surface seal [0-5.0-ft]
- Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
- I.D. of surface casing: [Removed] (If present)
- Surface hole to 10-ft
- I.D. of riser pipe: [6-in]
- Type of riser pipe: Stainless steel
- Diameter of borehole: [11-in nom]
- Diameter of surface hole: [15-in nom]
- Type of filler: 8-20 mesh granular bentonite
- Depth top of seal: [26.0-ft]
- Type of seal: 1/4-in Volclay tablets
- Depth top of sand pack: [31.0-ft] 10-20 mesh silica sand
- Depth top of screen: [38.0-ft] 6 in, 20-slot 304 stainless steel
- 10-in telescoping screen 43-53-ft, #40-slot
- Depth bottom of screen: [53.0-ft]
- Depth bottom of borehole: [53.0-ft]

Drawing By: RKL/1#H4#11.ASB Date:_____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-11



WELL DESIGNATION	:	199-H4-11
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 95,943 W 38,419
LAMBERT COORDINATES	:	N 501,146 E 2,256,660
DATE DRILLED	:	Oct86
DEPTH DRILLED (GS)	:	53.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	42.5.0-ft, Sep86; 39.2-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, from +1.9-38.0-ft
ELEV TOP CASING	:	416.84-ft
ELEV GROUND SURFACE	:	414.9-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 38-53-ft; 10-in telescoping, #40-slot, 43-53-ft
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: D. Ludtke
Drilling Company: Onwego Drilling
Date Started: 27Oct86

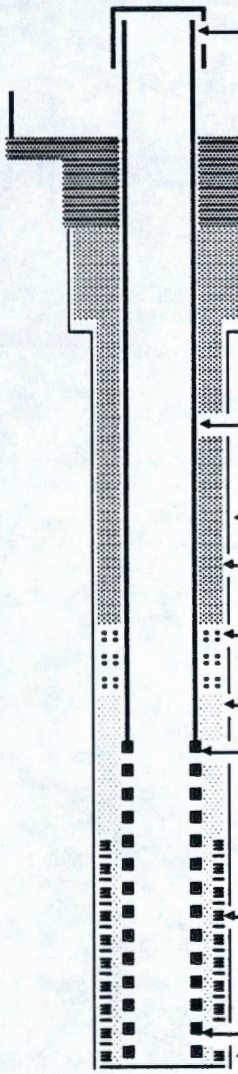
Sample Hard tool Method: Drive barrel
Additives Used: Not documented
WA State Lic Nr: 1333
Company Location: Kennewick, WA
Date Complete: 04Nov86

WELL NUMBER: 199-H4-12A
TEMPORARY WELL NO: 1H-TC1A
Hanford Coordinates: N/S N 96,549 E/W W 38,854
State Coordinates: N 501,751 E 2,256,223
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 411.0 Estimated

Depth to water: 38.5-ft Oct86
(Ground surface) 35.2-ft Jul91

GENERALIZED STRATIGRAPHY Geologist's Log

0-5: Gravelly silty fine to very fine SAND
5-11: Silty sandy GRAVEL
11-34: Sandy GRAVEL
34-35: GRAVEL with SAND
35-40: Sandy GRAVEL
40-45: Gravelly SAND
45-51: Sandy GRAVEL
51-52: Ringold, brown CLAY and CALICHE

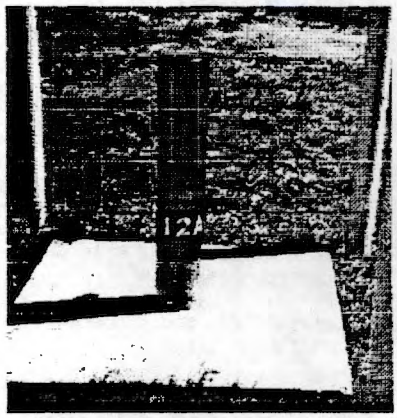


Elevation of reference point: [413.50-ft] (top of casing)
Height of reference point above ground surface [2.5-ft]
Depth of surface seal [0-4.5-ft]
Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
I.D. of surface casing: [Removed] (If present)
Surface hole to 10 ft
I.D. of riser pipe: [6-in]
Type of riser pipe: Stainless steel
Diameter of borehole: [11-in nom]
Diameter of surface hole: [15-in nom]
Type of filler: 8-20 mesh granular bentonite
Depth top of seal: [26.0-ft]
Type of seal: 1/4-in Volclay tablets
Depth top of sand pack: [28.0-ft]
10-20 mesh silica sand
Depth top of screen: [33.0-ft]
6-in, 20-slot 304 stainless steel
10-in telescoping screen 37.5-47.5-ft, #40-slot
Depth bottom of screen: [48.0-ft]
Depth bottom of borehole: [48.0-ft]

Drawing By: RKL/1#H4#12A.ASB Date:___

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-12A



WELL DESIGNATION	:	199-H4-12A
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,549 W 38,854
LAMBERT COORDINATES	:	N 501,751 E 2,256,223
DATE DRILLED	:	Nov86
DEPTH DRILLED (GS)	:	48.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	38.5-ft, Oct86; 35.2-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, from +2.5-33.0-ft
ELEV TOP CASING	:	413.50-ft
ELEV GROUND SURFACE	:	411.0-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 33-48-ft; 10-in telescoping, #40-slot, 37.5-47.5-ft
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: D. Ludtke
Drilling Company: Onwego Drilling
Date Started: 27Oct86

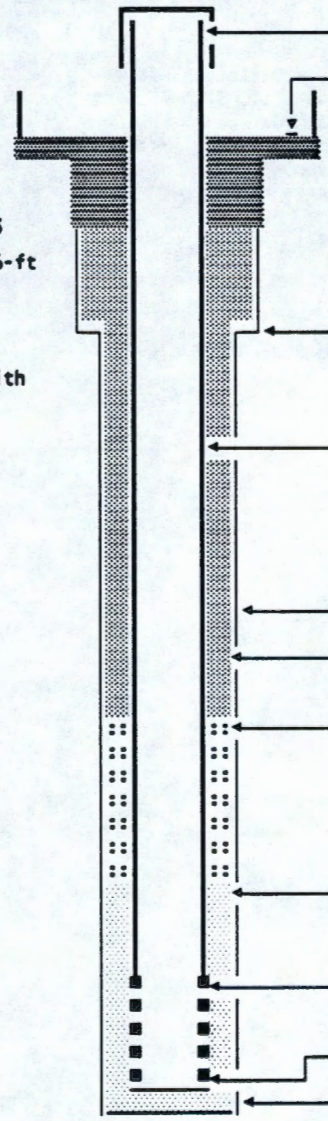
Sample Method: Hard tool Drive barrel
Additives Used: Not documented
WA State Lic Nr: 1333
Company Location: Kennewick, WA
Date Complete: 11Nov86

WELL NUMBER: 199-H4-12B
TEMPORARY WELL NO: 1H-TC1B
Hanford Coordinates: N/S N 96,568 E/W W 38,869
State Coordinates: N 501,770 E 2,256,208
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 411.0 Estimated

Depth to water: 37.0-ft Nov86
(Ground surface) 35.2-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

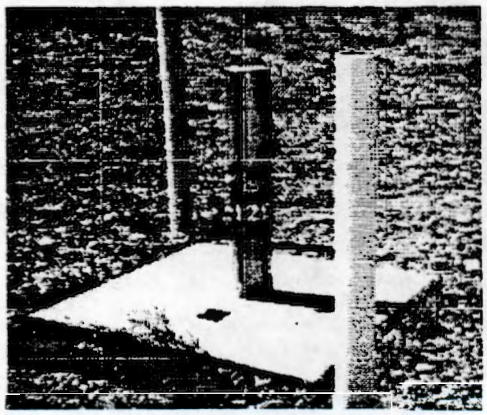
0-5: Silty, sandy GRAVEL
5-29: Sandy GRAVEL
29-38.5: Sandy GRAVEL with $CaCO_3$ cemented between grains
6-in med. SAND unit at 36-ft
38.5-42: Cemented sandy GRAVEL, decayed organics
42-49: Gravelly SAND
49-50.5: SAND
50.5-51: Ringold - silty SAND with CLAY and CALICHE



Elevation of reference point: [413.52-ft] (top of casing)
Height of reference point above ground surface [2.5-ft]
Depth of surface seal [0-5.0-ft]
Type of surface seal: Concrete
4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts
I.D. of surface casing: 14-in [Removed] (If present)
Surface hole to 10 ft 15-in nominal
I.D. of riser pipe: [6-in]
Type of riser pipe: Stainless steel
Diameter of borehole: [11-in nom]
Diameter of surface hole: [15-in nom]
Type of filler: 8-20 mesh granular bentonite
Depth top of seal: [32.0-ft]
Type of seal: 1/4-in Volclay tablets
Depth top of sand pack: [40.0-ft]
10-20 mesh silica sand
Depth top of screen: [45.0-ft]
6-in, #20-slot
304 stainless steel
Depth bottom of screen: [50.0-ft]
Depth bottom of borehole: [51.0-ft]

Drawing By: RKL/1#H4#12B.ASB Date:_____
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-12B



WELL DESIGNATION	:	199-H4-12B
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,568 W 38,869
LAMBERT COORDINATES	:	N 501,770 E 2,256,208
DATE DRILLED	:	Nov86
DEPTH DRILLED (GS)	:	51.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	37.0-ft, Nov86; 35.2-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +2.5-45.0-ft
ELEV TOP CASING	:	413.52-ft
ELEV GROUND SURFACE	:	411.0-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 45-50-ft;
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

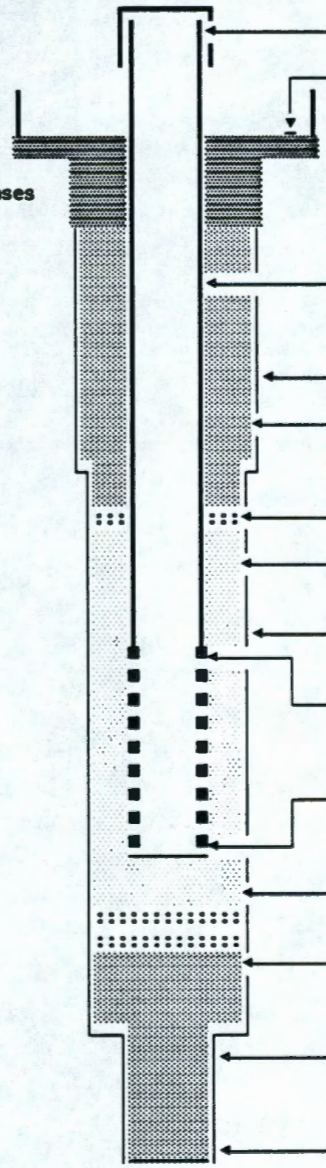
Drilling Method: Cable tool	Sample Method: Drive barrel	WELL NUMBER: 199-H4-12C	TEMPORARY WELL NO: 1H-TC1C
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 96,573	E/W W 38,845
Driller's Name: L. Bultena	WA State Lic Nr: 0066	State Coordinates: N 501,775	E 2,256,232
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA	Start Card #: Not documented	T ___ R ___ S ___
Date Started: 12Aug86	Date Complete: 03Oct86	Elevation Ground surface (ft): 410.6 Estimated	

Depth to water: 38.2-ft Oct86
(Ground surface) 31.8-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-5: Sandy GRAVEL
5-10: Sandy GRAVEL with SILT lenses
10-49: Sandy GRAVEL
49-54: Silty, sandy GRAVEL
54-59: Silty GRAVEL
59-74: Gravelly SILT
74-79: Gravelly, clayey SILT
79-84: Gravelly SILT
84-92: Silty SAND
92-99: Silty SAND with CALICHE
99-175: Silty SAND with CLAY and CALICHE
175-179: Clayey SAND
179-194: Clayey SILT
194-209: Sandy SILT with CLAY
209-219: Silty SAND with CLAY
219-220: Silty SAND

NOTE:
Hole was drilled open hole below 174-ft.

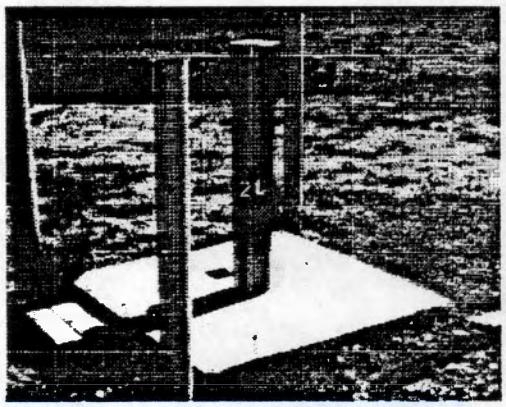


- Elevation of reference point: [413.52-ft] (top of casing)
- Height of reference point above ground surface [2.9-ft]
- Depth of surface seal [0-5.0-ft]
  - Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
- I.D. of riser pipe: [6-in]
  - Type of riser pipe: 304 stainless steel
- Borehole diameter, 5-60-ft: [13-in nom]
- Type of filler: Granular bentonite, 5-28.5-ft; Bentonite slurry, 28.5-61-ft
- Depth top of seal: [61.0-ft]
  - Type of seal: Volclay pellets
- Depth top of sand pack: [62.0-ft]
  - 10-20, 20-30, 20-40 mesh silica sand
- Borehole diameter, 60-174-ft [11-in nom]
- Depth top of screen: [72.0-ft]
  - 6-in #10-slot 304 stainless steel
- Depth bottom of screen: [82.0-ft]
- Depth bottom of sand pack: [87.0-ft]
- Bentonite pellets, 87.0-92.0-ft; Bentonite slurry, 92.0-220.0-ft
- Borehole diameter, 174-220 ft [6-in]
- Depth bottom of borehole: [220.0-ft]

Drawing By: RKL/1#H4#12C.ASB Date: ___

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-12C



WELL DESIGNATION	:	199-H4-12C
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,573 W 38,845
LAMBERT COORDINATES	:	N 501,775 E 2,256,232
DATE DRILLED	:	Oct86
DEPTH DRILLED (GS)	:	220.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	38.2-ft, Oct86; 31.8-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +2.9-72.0-ft
ELEV TOP CASING	:	413.52-ft
ELEV GROUND SURFACE	:	410.6-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 72-82-ft;
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 1 0 3

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: D. Ludtke
Drilling Company: Onwego Drilling
Date Started: 12Nov86

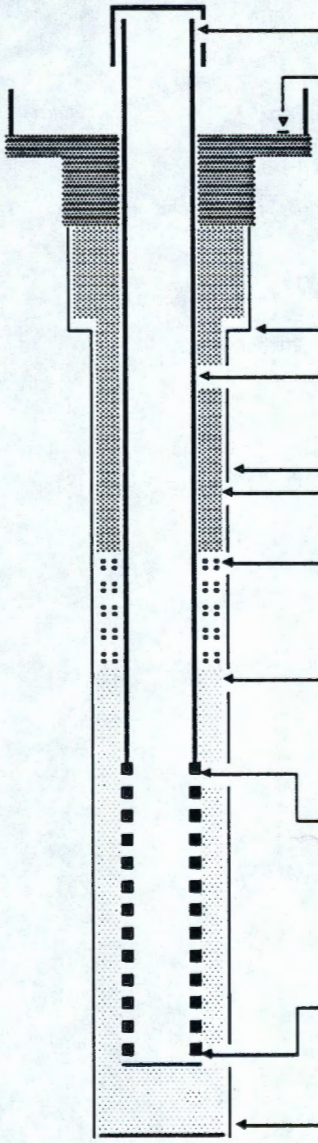
Sample Hard tool Method: Drive barrel
Additives Used: Not documented
WA State Lic Nr: 1333
Company Location: Kennewick, WA
Date Complete: 20Nov86

WELL NUMBER: 199-H4-13
TEMPORARY WELL NO: 1H-TW6
Hanford Coordinates: N/S N 95,506 E/W W 38,166
State Coordinates: N 500,710 E 2,256,914
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 416.0 Estimated

Depth to water: 42.0-ft Nov86
(Ground surface) 40.6-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-9: Gravelly SAND
9-17: Gravelly SILT
17-22: SILT and very fine SAND
22-29: Medium SAND
29-49: Sandy GRAVEL
49-54: SAND
54-59: Sandy GRAVEL
59-61: Clayey, silty SAND
Top of Ringold at 59-ft



Elevation of reference point: [418.20-ft]
(top of casing)
Height of reference point above ground surface [2.2-ft]

Depth of surface seal [0-5.0-ft]

Type of surface seal: Concrete
4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts
I.D. of surface casing: [Removed]
(If present)

Surface hole to 10 ft-diameter: [15-in nom]

I.D. of riser pipe: [6-in]
Type of riser pipe:
Stainless steel

Diameter of borehole: [11-in nom
Type of filler:
8-20 mesh granular bentonite

Depth top of seal: [26.0-ft]
Type of seal:
1/4-in Volclay tablets

Depth top of sand pack: [32.0-ft]
10-20 mesh silica sand

Depth top of screen: [37.0-ft]
6-in, #20-slot
304 stainless steel

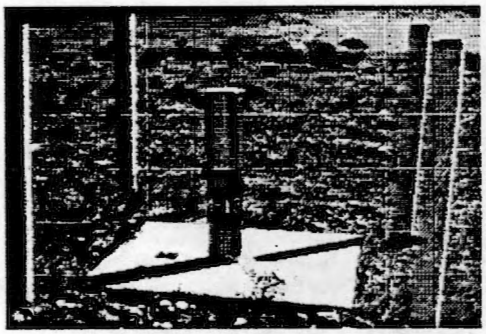
Depth bottom of screen: [52.0-ft]

Depth bottom of borehole: [61.0-ft]

Drawing By: RKL/1#H4#13.ASB Date:_____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-13



WELL DESIGNATION	:	199-H4-13
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 95,506 W 38,166
LAMBERT COORDINATES	:	N 500,710 E 2,256,914
DATE DRILLED	:	Nov86
DEPTH DRILLED (GS)	:	61.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	42.0-ft, Nov86; 40.6-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +2.2-37.0-ft
ELEV TOP CASING	:	418.20-ft
ELEV GROUND SURFACE	:	416.0-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 37-52-ft
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

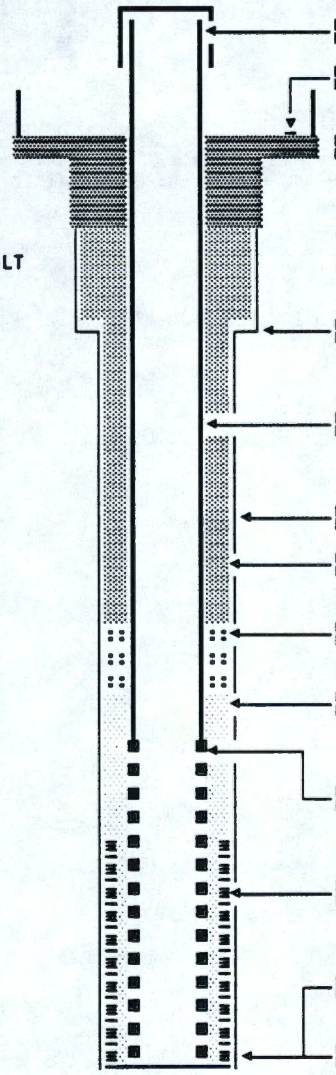
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool Drive barrel	WELL NUMBER: 199-H4-14	TEMPORARY WELL NO: 1H-TW7
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 96,024	E/W W 39,529
Driller's Name: D. Garcia	WA State Lic Nr: 1143	State Coordinates: N 501,224	E 2,255,550
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 21Nov86	Date Complete: 05Dec86	Elevation Ground surface (ft): 418.1 Estimated	

Depth to water: 43.0-ft Dec86
(Ground surface) 40.0-ft Jul91

GENERALIZED Geologist's STRATIGRAPHY Log

0-14: Silty, sandy GRAVEL
14-19: Sandy GRAVEL with SILT
19-34: Sandy GRAVEL with few BOULDERS
34-59: Sandy GRAVEL with some SILT
59-60: Silty SAND with CLAY
Top of Ringold at 59-ft below land surface

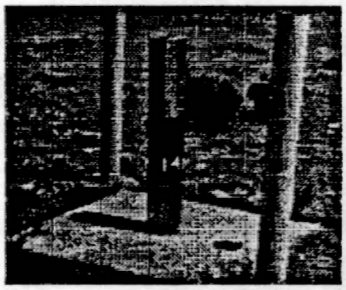


- Elevation of reference point: (top of casing) [420.59-ft]
- Height of reference point above ground surface [2.5-ft]
- Depth of surface seal [0-5.0-ft]
- Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
- I.D. of surface casing: (If present) [14-in Removed]
- Surface hole to 10 ft 15-in nominal diameter
- I.D. of riser pipe: [6-in]
- Type of riser pipe: Stainless steel
- Diameter of borehole: [11-in nom]
- Type of filler: 8-20 mesh granular bentonite
- Depth top of seal: [27.0-ft]
- Type of seal: 1/4-in Volclay tablets
- Depth top of sand pack: [33.0-ft]
- 10-20 mesh silica sand
- Depth top of screen: [38.0-ft]
- 6-in, 20-slot 304 stainless steel
- 10-in telescoping screen 43-53-ft, #40-slot
- Depth bottom of screen: [53.0-ft]
- Depth bottom of borehole: [53.0-ft]

Drawing By: RKL/1#H4#14.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-14



WELL DESIGNATION	:	199-H4-14
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,024 W 39,529
LAMBERT COORDINATES	:	N 501,224 E 2,255,550
DATE DRILLED	:	Dec86
DEPTH DRILLED (GS)	:	53.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	43.0-ft, Dec86; 40.0-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, from +2.5-38.0-ft
ELEV TOP CASING	:	420.59-ft
ELEV GROUND SURFACE	:	418.1-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, 38-53-ft, #20-slot; 10-in telescoping, #40-slot, 43-53-ft
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 05Dec86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

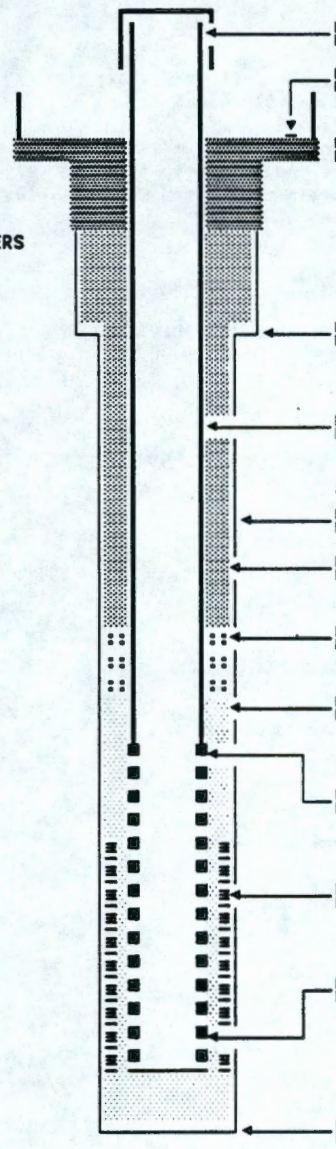
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool Drive barrel	WELL NUMBER: 199-H4-15A	TEMPORARY WELL NO: 1H-TC2A
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 97,012	E/W W 39,197
Driller's Name: K. Olson	WA State Lic Nr: 1217	State Coordinates: N 502,213	E 2,255,879
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 28Oct86	Date Complete: 11Nov86	Elevation Ground surface (ft): 405.0 Estimated	

Depth to water: 32.8-ft Nov86
(Ground surface) 29.0-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-2: SAND & GRAVEL
2-5: SAND
5-14: SAND, GRAVEL & BOULDERS
14-19: GRAVEL with SAND & BOULDERS
19-46: Sandy GRAVEL
Ringold Fm. at 44-ft

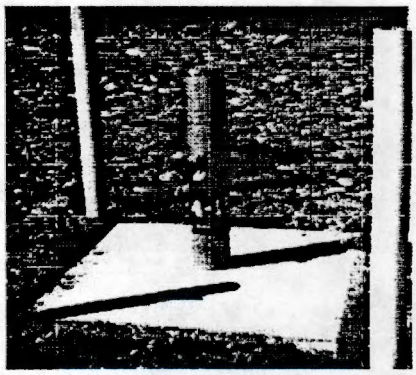


Elevation of reference point: [407.21-ft]
(top of casing)
Height of reference point above ground surface [2.2-ft]
Depth of surface seal [0-5.0-ft]
Type of surface seal: Concrete
4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts
I.D. of surface casing: 14-in [Removed]
(If present)
Surface hole to 10 ft
15-in nominal diameter
I.D. of riser pipe: [6-in]
Type of riser pipe:
Stainless steel
Diameter of borehole: [11-in nom]
Type of filler:
8-20 mesh granular bentonite
Depth top of seal: [17.0-ft]
Type of seal:
1/4-in Volclay tablets
Depth top of sand pack: [22.0-ft]
10-20 mesh silica sand
Depth top of screen: [27.0-ft]
6-in, 20-slot
304 stainless steel
10-in telescoping screen
32-42-ft, #40-slot
Depth bottom of screen: [42.0-ft]
Depth bottom of borehole: [46.0-ft]

Drawing By: RKL/1#H4#15A.ASB Date:_____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-15A



WELL DESIGNATION	:	199-H4-15A
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 97,012 W 39,197
LAMBERT COORDINATES	:	N 502,213 E 2,255,879
DATE DRILLED	:	Nov86
DEPTH DRILLED (GS)	:	46.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	32.8-ft, Nov86; 29.0-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +2.2-27.0-ft
ELEV TOP CASING	:	407.21-ft
ELEV GROUND SURFACE	:	405.0-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, 27-42-ft, #20-slot; 10-in telescoping, #40-slot, 32-42-ft
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

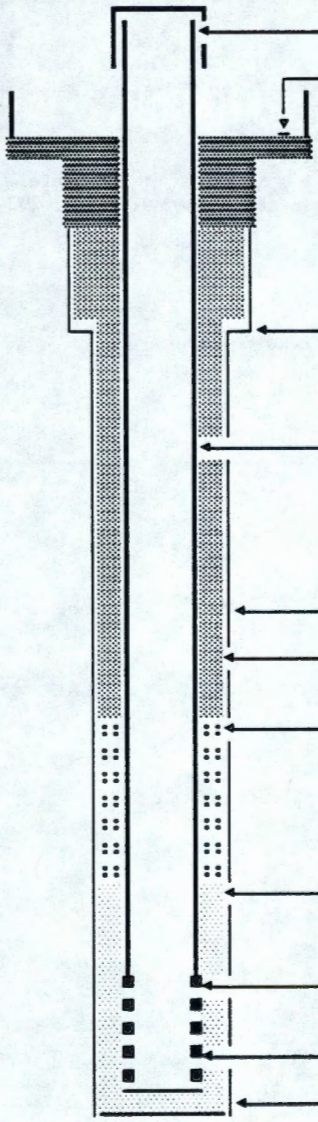
Drilling Method: Cable tool	Sample Hard tool Method: Drive barrel
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: K. Olson	WA State Lic Nr: 1217
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA
Date Started: 11Nov86	Date Complete: 19Nov86

WELL NUMBER: 199-H4-15B TEMPORARY WELL NO: 1H-TC2B
Hanford Coordinates: N/S N 97,032 E/W W 39,212
State Coordinates: N 502,233 E 2,255,864
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 404.7 Estimated

Depth to water: 30.0-ft Nov86
(Ground surface) 28.8-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

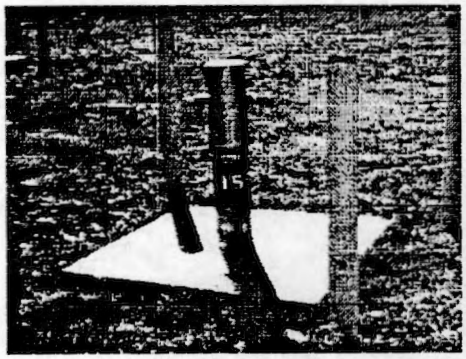
0-5: SAND & GRAVEL (Backfill included)
5-14: GRAVEL with SAND
14-39: Sandy GRAVEL
39-43: Gravelly SAND
43-44: Silty SAND with CLAY (Top of Ringold measured at 43-ft)



Elevation of reference point: [406.92-ft] (top of casing)
Height of reference point above ground surface [2.2-ft]
Depth of surface seal [0-5.0-ft]
Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts
I.D. of surface casing: 14-in [Removed] (If present)
Surface hole to 10-ft 15-in nominal diameter
I.D. of riser pipe: [6-in]
Type of riser pipe: Stainless steel
Diameter of borehole: [11-in nom]
Type of filler: 8-20 mesh granular bentonite
Depth top of seal: [25.0-ft]
Type of seal: 1/4-in Volclay tablets
Depth top of sand pack: [32.0-ft]
10-20 mesh silica sand
Depth top of screen: [37.0-ft]
6-in, 20-slot 304 stainless steel
Depth bottom of screen: [42.0-ft]
Depth bottom of borehole: [44.0-ft]

Drawing By: RKL/1#H4#15B.ASB Date:___
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-15B



WELL DESIGNATION	:	199-H4-15B
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 97,032 W 39,212
LAMBERT COORDINATES	:	N 502,233 E 2,255,864
DATE DRILLED	:	Nov86
DEPTH DRILLED (GS)	:	44.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	30.0-ft, Nov86; 28.8-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +2.2-37.0-ft
ELEV TOP CASING	:	406.92-ft
ELEV GROUND SURFACE	:	404.7-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, 37-42-ft, #20-slot
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 20Nov86-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

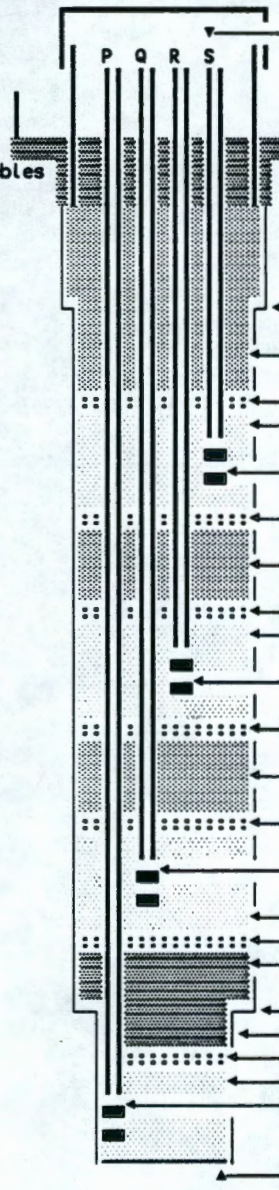
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Hard tool/ Method: Drive barrel	WELL NUMBER: 199-H4-15C	TEMPORARY WELL NO: 1H-TC2C
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 97,033	E/W W 39,185
Driller's Name: K. Olson	WA State Lic Nr: ND	State Coordinates: N 501,775	E 2,256,232
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 12Aug86	Date Complete: 16Dec86	Elevation Ground surface (ft): 405.5 Estimated	

Depth to water: S=33.2-ft Jul90
(Top casing) R=30.1-ft Jul90
Q=14.3-ft Jul90
P=Flowing

GENERALIZED STRATIGRAPHY
Geologist's Log

0-35: Sandy GRAVEL, basaltic pebbles with fine to medium sand
35-55: Silty, sandy GRAVEL, top of Ringold at 46 ft
55-60: Silty GRAVEL
60-65: Gravelly SILT
65-75: Gravelly, clayey SILT
75-80: Gravelly SILT
80-100: Silty SAND
100-125: CLAY and CALICHE
125-150: Clayey SILT with SAND and CALICHE
150-170: Silty SAND with CLAY
170-190: Silty SAND with CLAY and CALICHE
190-195: Silty SAND with CLAY
195-202: Clayey, sandy SILT
202-207: Fine SAND with SILT and CALICHE
207-212: Fine SAND
212-295: CLAY
295-296: Silty CLAY with SAND
296-305: CLAY
305-314: Silty CLAY with CALICHE
314-322: BASALT (dark grey)
322-330: BASALT (dark brown with yellow brown/rust clay)



Elevation of reference point: [407.44-ft]
(top of casing, S tube)
Height of reference point above ground surface [1.9-ft]

Depth of surface seal [0-5.0-ft]
Type of surface seal: Concrete 4-ft x 4-ft x 6-in surface pad 4 equidistant protective posts
Type of riser pipes:
10-in PVC protective casing
4 piezometer tubes, 2-in SS
Borehole diameter, 0-55-ft [13-in nom]

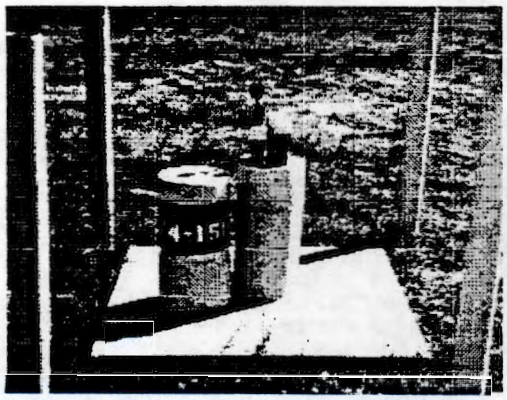
Granular bentonite, 5-24.5-ft
Bentonite slurry, 24.5-70-ft
Bentonite Volclay pellets, 70-75-ft
Sand pack 75-83-ft, 10-20 silica sand
Screen, 2-in, 20-slot, SS304, 78-80-ft
Bentonite Volclay pellet seal, 83-90.5-ft
Bentonite slurry, 90.5-186-ft
Bentonite Volclay pellet seal, 186-191-ft
Sand pack 191-197-ft, 10-20 silica sand
Screen, 2-in, 20-slot, SS304, 194-196-ft
Bentonite Volclay pellet seal, 197-200-ft
Bentonite slurry 200-287-ft
Bentonite Volclay pellet seal, 287-292-ft
Screen, 2-in, 20-slot, SS304, 295-297-ft
Sand pack 292-299-ft, 10-20 silica sand
Bentonite Volclay pellet seal 299-301-ft
Grout seal, 301-320.5-ft
Borehole diameter, 55-316.5-ft [11-in nom]
Borehole diameter, 316.5-330-ft [8-in]
Bentonite Volclay pellet seal=320.5-321-ft
Sand pack, 321-330-ft, 10-20 silica sand
Screen, 2-in, 20-slot, SS304, 325-327-ft

Depth bottom of borehole: [330.0-ft]

Drawing By: RKL/1#H4#15C.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-15C



WELL DESIGNATION :	199-H4-15C
CERCLA UNIT :	100-Aggregate Area
RCRA FACILITY :	183-H Solar Evaporation Basins
HANFORD COORDINATES :	N 97,033 W 39,185
LAMBERT COORDINATES :	N 501,775 E 2,256,232
DATE DRILLED :	Dec86
DEPTH DRILLED (GS) :	330.0-ft
MEASURED DEPTH (GS) :	ND
DEPTH TO WATER (GS) :	S=33.2-ft, Jul90; R=30.1-ft, Jul90; Q=14.3-ft, Jul90; P=Flowing
CASING DIAMETER :	4, 2-in piezometer tubes, S=+1.9-78-ft; R=+1.9-194-ft; Q=+1.8-295-ft; P=+1.6-325-ft
ELEV TOP CASING :	S=407.44-ft; R=407.37-ft; Q=407.27-ft; P=407.07-ft
ELEV GROUND SURFACE :	405.5-ft Estimated
PERFORATED INTERVAL :	NA
SCREENED INTERVAL :	S=2-in stainless steel, 78-80-ft, 20-slot; R=2-in stainless steel, 194-196-ft, 20-slot Q=2-in stainless steel, 295-297-ft, 20-slot P=2-in stainless steel, 325-327-ft, 20-slot
COMMENTS :	FIELD INSPECTION, 12Jun90; Stainless steel casing with 4 stainless steel 2-in piezometers. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS :	Geologist
TV SCAN COMMENTS :	NA
DATE EVALUATED :	NA
EVAL RECOMMENDATION :	NA
LISTED USE :	None
PUMP TYPE :	None
MAINTENANCE :	ND

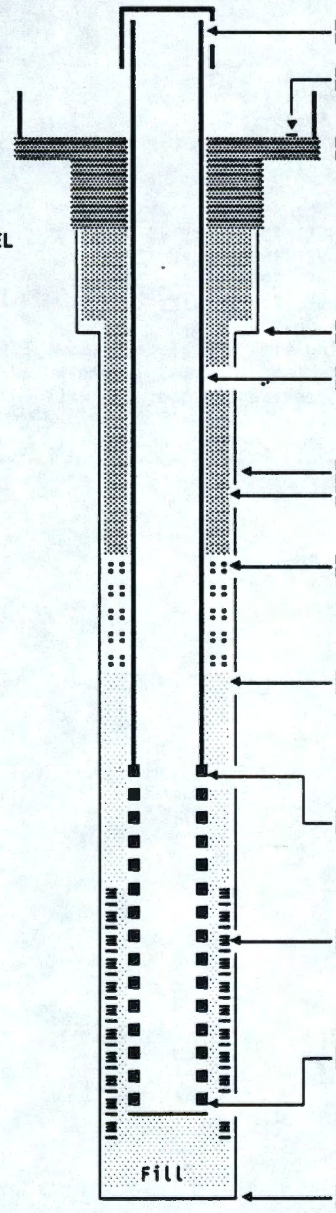
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool Drive barrel	WELL NUMBER: 199-H4-16	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 95,496	E/W W 38,945
Driller's Name: Garcia, Moomaw, Ludtke	WA State Lic Nr: 1143, ND, 1333	State Coordinates: N 500,698	E 2,256,135
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 15Apr87	Date Complete: 30Apr87	Elevation Ground surface (ft): 422.0 Estimated	

Depth to water: 47.5-ft Apr87
(Ground surface) 44.3-ft Jul91

GENERALIZED STRATIGRAPHY Geologist's Log

0-5: Sandy GRAVEL (Unconsolidated backfill)
5-20: Sandy GRAVEL
20-59: Coarse-medium sandy GRAVEL
59-60: GRAVEL with CLAY
60-61: Muddy, sandy GRAVEL



Elevation of reference point: [424.23-ft]
(top of casing)

Height of reference point above ground surface [2.2-ft]

Depth of surface seal [0-5.5-ft]

Type of surface seal: Concrete
4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts
I.D. of surface casing: 14-in [Removed]
(If present)

Surface hole to 10-ft
15-in nominal diameter

I.D. of riser pipe: [6-in]
Type of riser pipe:
Stainless steel

Diameter of borehole: [11-in nom]
Type of filler:
8-20 mesh granular bentonite

Depth top of seal: [32.5-ft]
Type of seal:
1/4-in Volclay tablets

Depth top of sand pack: [37.5-ft]
10-20 mesh silica sand

Depth top of screen: [42.5-ft]
6-in, #20-slot
304 stainless steel

10-in telescoping screen
48.5-58.5-ft, #40-slot

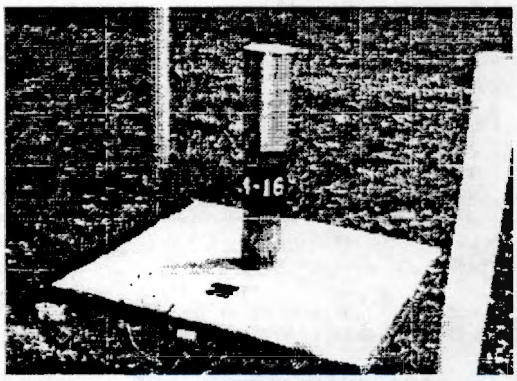
Depth bottom of screen: [57.5-ft]

Depth bottom of borehole: [61.0-ft]

Drawing By: RKL/1#H4#16.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-16



WELL DESIGNATION	:	199-H4-16
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 95,496 W 38,945
LAMBERT COORDINATES	:	N 500,698 E 2,256,135
DATE DRILLED	:	Apr87
DEPTH DRILLED (GS)	:	61.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	47.5-ft, Apr87; 44.3-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +2.2-42.5-ft
ELEV TOP CASING	:	424.23-ft
ELEV GROUND SURFACE	:	422.0-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot; 42.5-57.5-ft 10-in telescoping, #40-slot, 48.5-58.5-ft
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 07May87-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

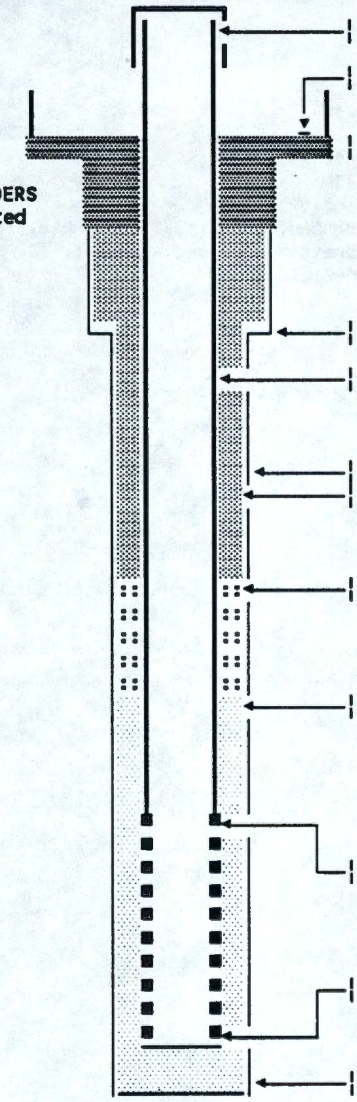
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Hard tool Method: Drive barrel	WELL NUMBER: 199-H4-17	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 96,961	E/W W 39,607
Driller's Name: Ludtke, Moomow	WA State Lic Nr: 1333, ND	State Coordinates: N 502,162	E 2,255,469
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 04May87	Date Complete: 08May87	Elevation Ground surface (ft): 417.2 Estimated	

Depth to water: 41.5-ft May87
(Ground surface) 40.3-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-18: Sandy GRAVEL
18-22: Sandy GRAVEL, many BOULDERS
22-34: Sandy GRAVEL, consolidated
34-45: Consolidated, gray silty GRAVEL
45 : Ringold-consolidated silty sandy GRAVEL

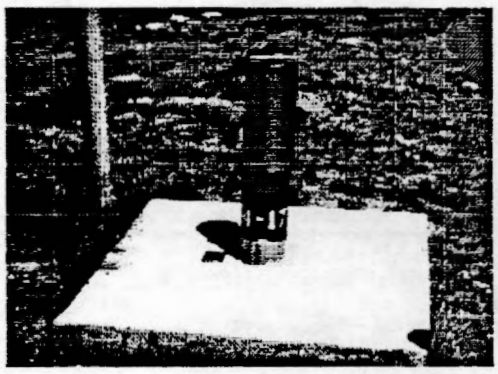


- Elevation of reference point: (top of casing) [419.09-ft]
- Height of reference point above ground surface [1.9-ft]
- Depth of surface seal [0-5.5-ft]
- Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
- I.D. of surface casing: (If present) 14-in [Removed]
- Surface hole to 10-ft 15-in nominal diameter
- I.D. of riser pipe: [6-in]
- Type of riser pipe: Stainless steel
- Diameter of borehole: [11-in nom]
- Type of filler: 8-20 mesh granular bentonite
- Depth top of seal: [25.0-ft]
- Type of seal: 1/4-in Volclay tablets
- Depth top of sand pack: [30.0-ft]
- 10-20 mesh silica sand
- Depth top of screen: [35.0-ft]
- 6-in, 20-slot 304 stainless steel
- Depth bottom of screen: [45.0-ft]
- Depth bottom of borehole: [46.5-ft]

Drawing By: RKL/1#H4#17.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-17



WELL DESIGNATION	:	199-H4-17
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,961 W 39,607
LAMBERT COORDINATES	:	N 502,162 E 2,255,469
DATE DRILLED	:	May87
DEPTH DRILLED (GS)	:	46.5-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	41.5-ft, May87; 40.3-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +1.9-35.0-ft
ELEV TOP CASING	:	419.09-ft
ELEV GROUND SURFACE	:	417.2-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 35-45-ft
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft x 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 13May87-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Hard tool Method: Drive barrel
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: Ludtke	WA State Lic Nr: 1333
Drilling Company: Onwego Drilling	Company Location: Kennewick, WA
Date Started: 12May87	Date Complete: 26May87

WELL NUMBER: 199-H4-18 TEMPORARY WELL NO: _____

Hanford Coordinates: N/S N 96,036 E/W W 38,825

State Coordinates: N 501,238 E 2,255,254

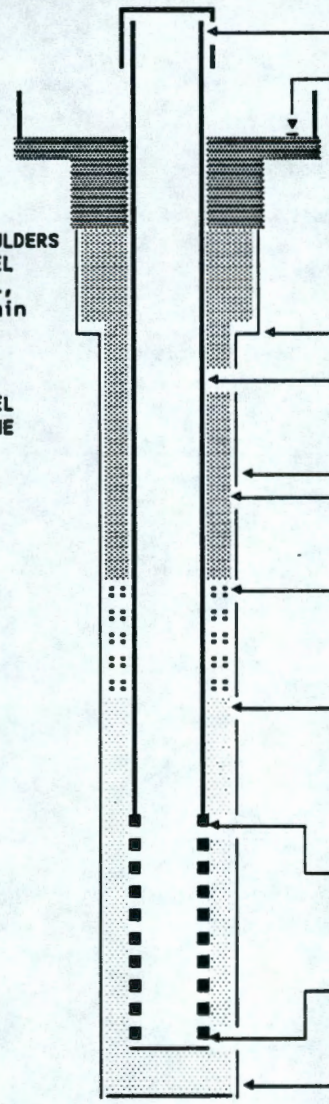
Start Card #: Not documented T___ R___ S___

Elevation Ground surface (ft): 419.6 Estimated

Depth to water: 45.0-ft May87
(Ground surface) 42.6-ft Jul91

GENERALIZED Geologist's STRATIGRAPHY Log

0-6: Sandy GRAVEL
6-7: CONCRETE
10-12: Sandy GRAVEL
12-12: Large COBBLES & small BOULDERS
12-15: Poorly sorted sandy GRAVEL
15-40: Consolidated sandy GRAVEL, decreasing in overall grain size with depth
40-49: Sandy GRAVEL, cemented and consolidated
49-49: Ringold Fm. - sandy GRAVEL with CLAY and some CALICHE



Elevation of reference point: [421.82-ft]
(top of casing)
Height of reference point above ground surface [2.2-ft]

Depth of surface seal [0-4.5-ft]

Type of surface seal: Concrete
4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts
I.D. of surface casing: 14-in [Removed]
(If present)

Surface hole to 10-ft
15-in nominal diameter

I.D. of riser pipe: [6-in]
Type of riser pipe:
Stainless steel

Diameter of borehole: [11-in nom]
Type of filler:
8-20 mesh granular bentonite

Depth top of seal: [28.5-ft]
Type of seal:
1/4-in Volclay tablets

Depth top of sand pack: [34.0-ft]
10-20 mesh silica sand

Depth top of screen: [40.0-ft]
6-in, #20-slot
304 stainless steel

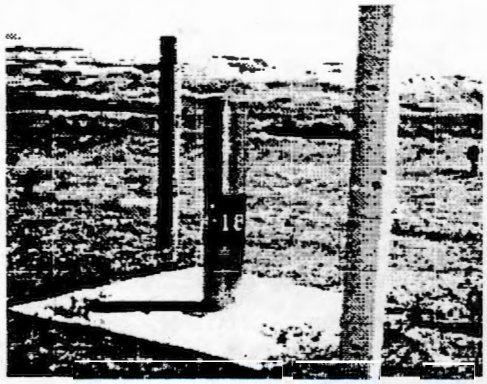
Depth bottom of screen: [50.0-ft]

Depth bottom of borehole: [51.0-ft]

Drawing By: RKL/1#H4#18.ASB Date: _____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-H4-18



WELL DESIGNATION	:	199-H4-18
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	183-H Solar Evaporation Basins
HANFORD COORDINATES	:	N 96,036 W 38,825
LAMBERT COORDINATES	:	N 501,238 E 2,255,254
DATE DRILLED	:	May87
DEPTH DRILLED (GS)	:	51.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	45.0-ft, May87; 42.6-ft, Jul91
CASING DIAMETER	:	6-in stainless steel, +2.2-40.0-ft
ELEV TOP CASING	:	421.82-ft
ELEV GROUND SURFACE	:	419.6-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	6-in stainless steel, #20-slot, 40-50-ft
COMMENTS	:	FIELD INSPECTION, 12Jun90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable. Capped and locked, brass cap in pad with well ID. Not in radiation zone.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 15Jun87-26Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

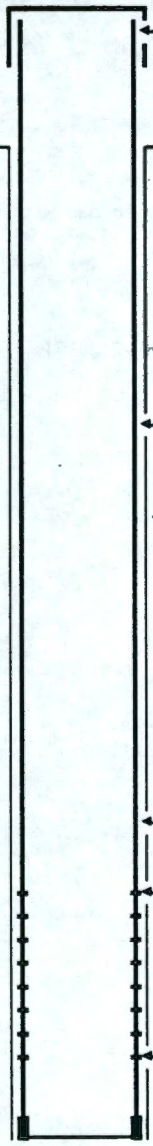
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-10	TEMPORARY WELL NO: Test Well #10
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 76,100	E/W W 68,800
Driller's Name: Row	WA State Lic Nr: Not documented	State Coordinates: N 481,200	E 2,226,300
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 23Jun52	Date Complete: 06Aug52	Elevation Ground surface (ft): 466.2 Estimated	

Depth to water: 74.2-ft Aug52
(Ground surface) ~70.0-ft May61

GENERALIZED STRATIGRAPHY — Driller's Log

0-3: TOP SOIL
3-30: GRAVEL and SAND, hit BOULDER at 3 ft and 8 ft
30-40: Sandy SILT
40-45: Sandy SILT and GRAVEL
45-46: GRAVEL, no SILT
46-70: Cement GRAVEL and SAND
70-75: Cement GRAVEL
75-84: Cement GRAVEL and SAND
84-89: 75% coarse SAND and 25% GRAVEL
89-91: Not documented
91-96: 80% GRAVEL, 20% GRAVEL
96-97: 95% SAND and 5% GRAVEL
97-97.5: SAND
97.5-102: 60% SAND and 40% GRAVEL
102-104: 98% SAND
104-106.5: 70% GRAVEL and 30% SAND
106.5-108: Big BOULDERS, GRAVEL & SAND
108-115: 70% GRAVEL and 30% SAND
115-126: 70% Cement GRAVEL & 30% SAND
126-132.5: 90% GRAVEL and 10% SAND
132.5-133: 60% GRAVEL and 40% SAND
133-136: 90% GRAVEL and 10% SAND
136-140: 80% GRAVEL and 20% SAND
140-150: 80% SAND
150-156: 50% GRAVEL and 50% SAND
156-160: 70% GRAVEL and 20% coarse SAND
160-163: 80% GRAVEL and 15% coarse SAND
163-164: 70% GRAVEL with sandy SILT
164-170: CLAY and SILT, GRAVEL, SHALE and SAND



Elevation of reference point: [466.66-ft]
(top of casing)
Height of reference point above ground surface [0.5-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [12.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [13-in nom]

Type of filler:
Not documented

Depth top of perforations: [155-ft]
Description of perforations:
12 holes/ft

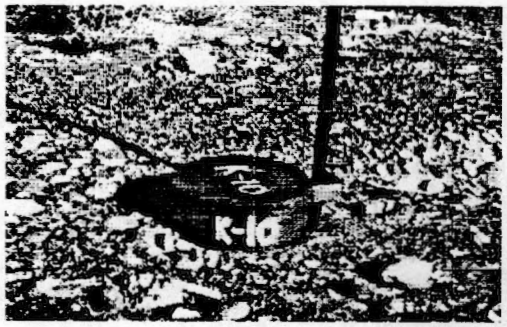
Depth bottom of perforations: [165-ft]

Depth bottom of casing: [170-ft]
Depth bottom of borehole: [170-ft]

Drawing By: RKL/1#K#10.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-10



WELL DESIGNATION	:	199-K-10
CERCLA UNIT	:	100-KR-2
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 76,100 W 68,800
LAMBERT COORDINATES	:	N 481,200 E 2,226,300
DATE DRILLED	:	Jun-Aug52
DEPTH DRILLED (GS)	:	170-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	74-ft, Aug52; ~70-ft, May61
CASING DIAMETER	:	12-in, +0.5-170-ft
ELEV TOP CASING	:	466.66-ft
ELEV GROUND SURFACE	:	466.2-ft Estimated
PERFORATED INTERVAL	:	155-170-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 26Feb91, Carbon steel casing, no pad, no posts, capped with welded plate. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Not sampled 1989; water level measured 10May61
PUMP TYPE	:	None
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

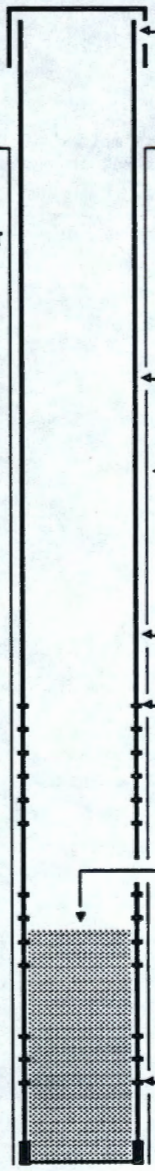
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-11	TEMPORARY RDA-DC6-11 WELL NO: 100-K-11
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 76,030	E/W W 68,733
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N 481,155	E 2,226,397
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 15Jul52	Date Complete: 09Aug52	Elevation Ground surface (ft): 466.0 Estimated	

Depth to water: 73.0-ft Aug52
(Ground surface) 70.2-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: BOULDERS
15-20: BOULDERS and GRAVEL
20-28: Coarse GRAVEL
28-35: 75% GRAVEL with 25% SAND and SILT
35-42: SAND and SILT
42-45: SAND and SILT
45-50: SAND, SILT and coarse GRAVEL
50-55: 50% GRAVEL and 50% SAND and SILT
55-65: Cement GRAVEL
65-80: Coarse GRAVEL
80-85: GRAVEL and SAND
85-97: GRAVEL, SAND and a little SILT
97-105: SAND and coarse GRAVEL
105-110: GRAVEL and a little SAND
110-115: Coarse GRAVEL
115-118: GRAVEL and SAND
118-120: PEBBLES and a little SAND
120-130: PEBBLES, GRAVEL and SAND
130-140: GRAVEL and SAND
140-164: Coarse GRAVEL and SAND
164-165: Coarse GRAVEL
165-170: SAND and SILT
170 : CLAY

REMEDIATION:
Jun74, by Bultena
Perforated 69-90-ft



Elevation of reference point: [467.66-ft]
(top of casing)

Height of reference point above ground surface [1.7-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [6.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [7-in nom]

Type of filler:
Not documented

Depth top of perforations: [69-ft]
Description of perforations:
69-90-ft 4 holes/ft
110-135 and 150-160-ft
cuts not documented

Depth to bottom, 126.6-ft
01Aug91

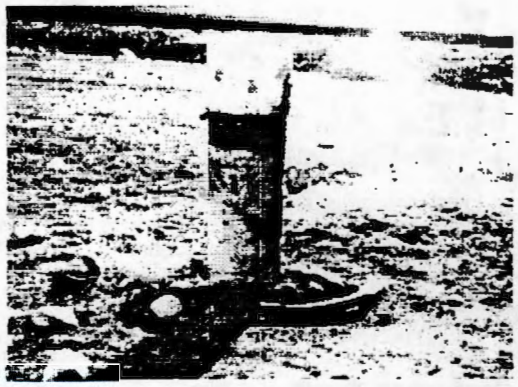
Depth bottom of perforations: [160-ft]

Depth bottom of casing: [170-ft]
Depth bottom of borehole: [170-ft]

Drawing By: RKL/1#K#11.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-11



WELL DESIGNATION : 199-K-11
CERCLA UNIT : 100-KR-2
RCRA FACILITY : NA
HANFORD COORDINATES : N 76,030 W 68,733
LAMBERT COORDINATES : N 481,155 E 2,226,397
DATE DRILLED : Jul-Aug52
DEPTH DRILLED (GS) : 170-ft
MEASURED DEPTH (GS) : 126.6-ft, 01Aug91
DEPTH TO WATER (GS) : 73-ft, Aug52; 70.2-ft, 01Aug91
CASING DIAMETER : 6-in, +1.7-170-ft
ELEV TOP CASING : 467.66-ft
ELEV GROUND SURFACE : 466.0-ft Estimated
PERFORATED INTERVAL : 69-160-ft
SCREENED INTERVAL : NA
COMMENTS : FIELD INSPECTION, 25Feb91,
Carbon steel casing,
pump hanger holes, no pad,
no posts, capped, and locked.
No permanent identification. Not in radiation zone.
OTHER:
AVAILABLE LOGS : Driller
TV SCAN COMMENTS : 07Jun91, depths referenced to ground surface;
Depth to bottom: 120.4-ft, silty.
Depth to water: 68.9-ft, some floating debris. Water clear, some dislodged scale and suspended debris.
Vadose casing clean; submerged casing has quite a lot of scale in spots.
Perforations start at 70.2-ft-not determined. Some perfs were visible almost to the bottom, they were open. The well needs to be cleaned.
24Jul91;
Depth to bottom: 126.0-ft, sand and gravel.
Depth to water: 69.6-ft, some floating debris. Water clear.
Vadose casing clean, some pitting just above water;
submerged casing clean. Perforations start at 68.6-ft to not determined, 4 cuts/rd/ft. The well looked real clean.
DATE EVALUATED : NA
EVAL RECOMMENDATION : NA
LISTED USE : Sampled 1989 for ^{3}H, U, ^{90}Sr, NO_3, Cr;
water levels measured 10May61-18Jun90
PUMP TYPE : Electric submersible, intake set at 79.97-ft (top-of-casing)
MAINTENANCE : 06Jun91; Pulled pump. No contamination encountered.
07Jun91; TV run.
08Jul91; Brushed casing and cleaned debris with sand pump and bailer.
18Jul91; Developed well by pumping to <5 NTU.
24Jul91; TV run.
01Aug91; Installed electric submersible pump.

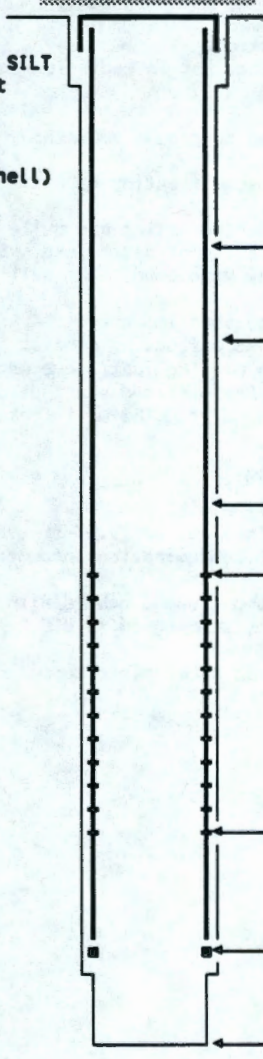
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-12	TEMPORARY WELL NO: 100-K #12
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 76,104	E/W W 68,803
Driller's Name: Row	WA State Lic Nr: Not documented	State Coordinates: N 481,229	E 2,226,327
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 15Aug52	Date Complete: 11Sep52	Elevation Ground surface (ft): Not documented	

Depth to water: 73.5-ft Sep52
(Ground surface) _____

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: TOP SOIL and GRAVEL
10-15: 80% GRAVEL, 15% SAND, & 5% SILT
BOULDERS at 10-12 and 15 ft
15-35: 90% GRAVEL and 10% SAND
35-39: GRAVEL, SAND and SILT
39-85: Cement GRAVEL
BOULDER 41-42 ft (Hard as hell)
85-105: 75% SAND, 25% GRAVEL
105-115: Cement GRAVEL and SAND
115-125: SAND, GRAVEL and SILT
125-148: GRAVEL, SAND and SILT
148-159: SAND and GRAVEL



Elevation of reference point: [466.55-ft]
(top of casing)

Height of reference point above ground surface [ND]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [6.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [7-in nom]

Type of filler:
Not documented

Depth top of perforations: [117-ft]
Description of perforations:
117-137-ft, 4 holes/ft

Depth bottom of perforations [137-ft]

Depth bottom of casing: [155-ft]

Depth bottom of borehole: [159-ft]

Drawing By: RKL/1#K#12.ASB Date: _____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-12

WELL DESIGNATION	:	199-K-12
CERCLA UNIT	:	100-KR-3
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 76,104 W 68,803
LAMBERT COORDINATES	:	N 481,229 E 2,226,327
DATE DRILLED	:	Aug-Sep52
DEPTH DRILLED (GS)	:	159-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	73-ft, Sep52
CASING DIAMETER	:	6-in, from ND-~155-ft
ELEV TOP CASING	:	ND, 466.55-ft before covered over
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	117-137-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	No FIELD INSPECTION, covered over
		OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None documented
PUMP TYPE	:	None
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

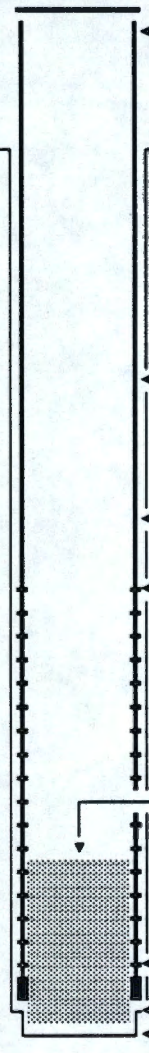
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-13	TEMPORARY WELL NO: 100-K
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 76,104	E/W W 68,803
Driller's Name: Not documented	WA State Lic Nr: Not documented	State Coordinates: N 481,229	E 2,226,327
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: Not documented	Date Complete: Mar53	Elevation Ground surface (ft): 462.7 Estimated	

Depth to water: 55.4-ft Aug65
(Ground surface) 68.2-ft Jun91 TV

GENERALIZED STRATIGRAPHY — Driller's Log

0-159: Not documented

Presence of oil in well documented



- Elevation of reference point: [464.00-ft] (top of casing)
- Height of reference point above ground surface [1.3-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [12.0-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [13-in nom]
- Type of filler: Not documented
- Depth top of perforations: [63-ft TV]
- Description of perforations: Not documented
- Depth to bottom, 134.2-ft 21Jun91
- Depth bottom of perforations [ND]
- Depth bottom of casing: [ND]
- Depth bottom of borehole: [159-ft]

Drawing By: RKL/1#K#13.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-13

WELL DESIGNATION	:	199-K-13
CERCLA UNIT	:	100-KR-1
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 76,104 W 68,803
LAMBERT COORDINATES	:	N 481,229 E 2,226,327
DATE DRILLED	:	Mar53
DEPTH DRILLED (GS)	:	159-ft
MEASURED DEPTH (GS)	:	134.2-ft, 21Jun91 TV
DEPTH TO WATER (GS)	:	55.4-ft, Aug65; 68.2-ft, 21Jun91 TV
CASING DIAMETER	:	12-in, +1.3-ft*ND
ELEV TOP CASING	:	464.00-ft
ELEV GROUND SURFACE	:	462.7-ft Estimated
PERFORATED INTERVAL	:	ND
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 26Feb91, Carbon steel casing, no pad, no posts, capped with flat plate, not locked. No permanent identification. Not in radiation zone. OTHER: Presence of oil in well documented, (McGhan 1989).
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	21Jun91, depths referenced to ground surface; Depth to bottom: 134.2-ft, condition not determined. Depth to water: 68.2-ft, murky with dislodged scale and suspended debris. Vadose casing had corrosion/scale/rust; submerged casing heavy corrosion/scale/rust. Perforations start at 63-ft to not determined. The casing is so large that below water the camera couldn't see much except near the camera. The well needs cleaning.
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Not sampled 1989; water levels measured 17Aug65*09Apr90
PUMP TYPE	:	No pump
MAINTENANCE	:	21Jun91; TV run

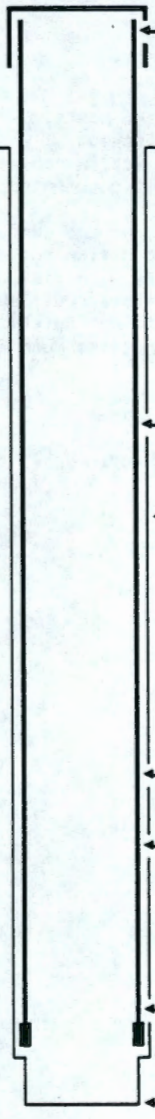
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-14	TEMPORARY WELL NO: 105-KW-1
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S ND	E/W ND
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N ND	E ND
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 12Nov52	Date Complete: 03Dec52	Elevation Ground surface (ft): Not documented	

Depth to water: 79.0-ft Dec52
(Ground surface) _____

GENERALIZED STRATIGRAPHY — Driller's Log

0-5: SAND, GRAVEL and BOULDERS
5-10: BOULDERS
10-13: BOULDERS and GRAVEL
13-15: Coarse GRAVEL
15-22: BOULDERS and GRAVEL
22-30: SAND and coarse GRAVEL
30-37: SAND and GRAVEL
37-45: Coarse GRAVEL and SAND
45-48: SAND and GRAVEL
48-55: Pure GRAVEL
55-65: SAND and GRAVEL
65-67: Small GRAVEL and SAND
67-85: GRAVEL and SAND
85-90: GRAVEL and fine SAND
90-95: Coarse GRAVEL and SAND



Elevation of reference point: [469.05-ft]
(top of casing)

Height of reference point above ground surface [ND]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [8.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
Not documented

Depth top of perforations: [ND]
Description of perforations:
None documented

Depth bottom of perforations: [ND]

Depth bottom of casing: [92-ft]

Depth bottom of borehole: [95-ft]

Drawing By: RKL/1#K#14.ASB Date: _____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-14

WELL DESIGNATION	:	199-K-14
CERCLA UNIT	:	100-KR-4
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N ND W ND
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Nov-Dec52
DEPTH DRILLED (GS)	:	95-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	79-ft Dec52
CASING DIAMETER	:	6-in, ND-95 ft
ELEV TOP CASING	:	469.05-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	ND
SCREENED INTERVAL	:	NA
COMMENTS	:	No FIELD INSPECTION, location not documented
		OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	No pump documented
MAINTENANCE	:	ND

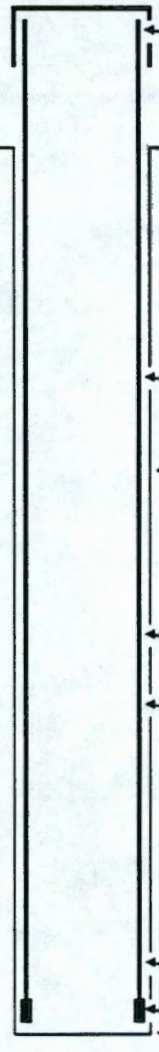
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-15	TEMPORARY WELL NO: USED TH.#1
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 77,160	E/W W 69,050
Driller's Name: Not documented	WA State Lic Nr: Not documented	State Coordinates: N 482,284	E 2,226,077
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: Not documented	Date Complete: Mar53	Elevation Ground surface (ft): Not documented	

Depth to water: Not documented
(Ground surface) _____

GENERALIZED STRATIGRAPHY — Driller's Log

0-150: Not documented



- Elevation of reference point: [408.00-ft] (top of casing)
- Height of reference point above ground surface [ND]
- Depth of surface seal [ND]
  Type of surface seal: None documented
  I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [6.0-in]
  Type of riser pipe: Carbon steel
- Diameter of borehole: [7-in nom]
- Type of filler: Not documented
- Depth top of perforations: [ND]
  Description of perforations: Not documented
- Depth bottom of perforations [ND]
- Depth bottom of casing: [ND]
- Depth bottom of borehole: [150-ft]

Drawing By: RKL/1#K#15.ASB Date: _____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-15

WELL DESIGNATION	:	199-K-15
CERCLA UNIT	:	100-KR-2
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 77,160 W 69,050
LAMBERT COORDINATES	:	N 482,284 E 2,226,077
DATE DRILLED	:	Mar53
DEPTH DRILLED (GS)	:	150-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	ND
CASING DIAMETER	:	6-in, ND-150 ft
ELEV TOP CASING	:	408.00-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	ND
SCREENED INTERVAL	:	NA
COMMENTS	:	No FIELD INSPECTION, unable to locate
		OTHER:
AVAILABLE LOGS	:	No drill records
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	No pump documented
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 1 3 1

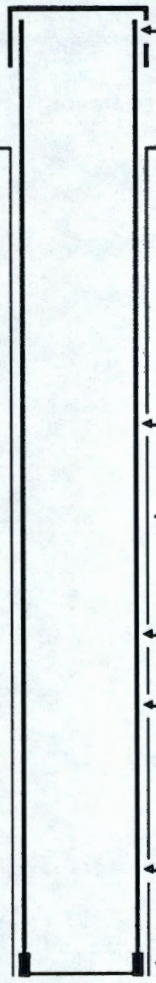
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-16 / TEMPORARY WELL NO: 105-KE-1
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 76,300 E/W W 68,800
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N 481,400 E 2,226,300
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 04Feb53	Date Complete: 10Feb53	Elevation Ground surface (ft): Not documented

Depth to water: Not documented
(Ground surface) _____

GENERALIZED STRATIGRAPHY — Driller's Log

0-12: BOULDERS and GRAVEL
12-14: GRAVEL
14-20: Pea GRAVEL and SAND
20-23: Coarse GRAVEL up to 1.5-in
23-25: Coarse GRAVEL up to 3-in
25-27: Small and coarse GRAVEL with a little SAND
27-30: Coarse GRAVEL and pea GRAVEL
30-35: Small and coarse GRAVEL and SAND
35-42: Coarse GRAVEL and SAND
42-44: GRAVEL runs from 3/4-in up to 3-in
44-50: Coarse GRAVEL and SAND



Elevation of reference point: [404.00-ft] (top of casing)

Height of reference point above ground surface [ND]

Depth of surface seal [ND]

Type of surface seal: None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [8.0-in]
Type of riser pipe: Carbon steel

Diameter of borehole: [9-in nom]

Type of filler: Not documented

Depth top of perforations: [ND]
Description of perforations: None documented

Depth bottom of perforations: [ND]

Depth bottom of casing: [50-ft]
Depth bottom of borehole: [50-ft]

Drawing By: RKL/1#K#16.ASB Date: _____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-16

WELL DESIGNATION	:	199-K-16
CERCLA UNIT	:	100-KR-2
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 76,300 W 68,800
LAMBERT COORDINATES	:	N 481,400 E 2,226,300
DATE DRILLED	:	Feb53
DEPTH DRILLED (GS)	:	50-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	ND
CASING DIAMETER	:	6-in, from ND-50-ft
ELEV TOP CASING	:	404.00-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	ND
SCREENED INTERVAL	:	NA
COMMENTS	:	No FIELD INSPECTION, unable to locate OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Not sampled 1989
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

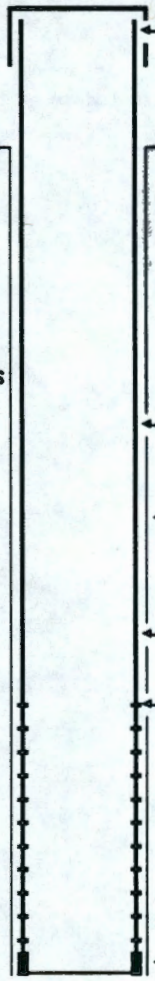
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-17	TEMPORARY WELL NO: 105-KE-2
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S ND	E/W ND
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N ND	E ND
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 27Aug53	Date Complete: 04Sep53	Elevation Ground surface (ft): Not documented	

Depth to water: 62.0-ft Sep53
(Ground surface) _____

GENERALIZED STRATIGRAPHY — Driller's Log

0-20: Not documented
20-25: Coarse GRAVEL and BOULDERS
25-30: Small and coarse GRAVEL up to 4-in
30-34: 50% SAND, 50% coarse GRAVEL up to 5-in
34-43: 25% SAND, 75% coarse GRAVEL
43-60: 15% SAND, 85% gravel and BOULDERS up to 6-in
60-65: 10% SAND, 90% GRAVEL and BOULDERS
65-70: 75% coarse GRAVEL up to 3-in
70-75: 25% fine SAND, 75% coarse GRAVEL up to 3-in



Elevation of reference point: [406.00-ft]
(top of casing)

Height of reference point above ground surface [ND]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [8.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
Not documented

Depth top of perforations: [50-ft]
Description of perforations:
Not documented

Depth bottom of perforations: [75-ft]
Depth bottom of casing: [75-ft]
Depth bottom of borehole: [75-ft]

Drawing By: RKL/1#K#17.ASB Date: _____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-17

WELL DESIGNATION	:	199-K-17
CERCLA UNIT	:	100-KR-4
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N ND W ND
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Aug-Sep53
DEPTH DRILLED (GS)	:	75-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	62-ft Sep53
CASING DIAMETER	:	8-in, from ND-75-ft
ELEV TOP CASING	:	406.00-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	50-75-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	No FIELD INSPECTION, location not documented OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Not sampled 1989
PUMP TYPE	:	No pump documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

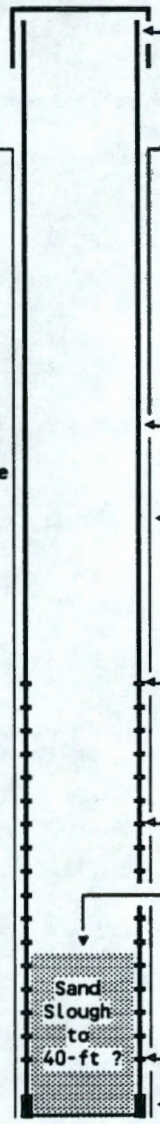
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-18	TEMPORARY WELL NO: 105-KE-3
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S ND	E/W ND
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N ND	E ND
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T ___ R ___ S ___
Date Started: 27Oct54	Date Complete: 30Oct54	Elevation Ground surface (ft): 407.7 Estimated	

Depth to water: 52.0-ft Oct54
(Ground surface) 15.8-ft Jul91 TV

GENERALIZED STRATIGRAPHY — Driller's Log

0-14: BACKFILL and GRAVEL
14-16: 75% coarse GRAVEL, 25% fine and coarse SAND
17-18: 75% GRAVEL, 25% fine SAND
18-19: 50% GRAVEL, 50% fine SAND
19-21: 85% Fine SAND, 15% GRAVEL
21-25: 75% SAND, 25% GRAVEL
25-31: 90% GRAVEL, 10% fine SAND
31-35: 85% coarse GRAVEL, 15% fine SAND
35-38: Fine SAND
38-39: 75% coarse GRAVEL, 25% fine SAND
39-41: 90% coarse GRAVEL, 10% fine SAND
41-44: 80% coarse GRAVEL, 20% fine SAND
44-45: 90% GRAVEL and COBBLES, 10 % fine
45-46: 75% coarse GRAVEL and COBBLES, 25% fine SAND
46-48: 95% coarse GRAVEL, 5% fine SAND
48-49: 75% GRAVEL and COBBLES, 25% fine SAND
49-50: 90% fine SAND, 10% coarse SAND
50-51: 80% small and coarse GRAVEL, 20% fine SAND
51-52: 80% coarse SAND, 20% coarse GRAVEL
52-55: 80% coarse GRAVEL, 20% fine SAND
55-56: 70% small coarse GRAVEL 30% fine SAND
56-59: 85% small coarse GRAVEL 15% SAND
59-60: 75% coarse GRAVEL, 25% fine SAND

DRILLER'S NOTE:
Water from 13-49-ft.
Apparently perched water from a crib.

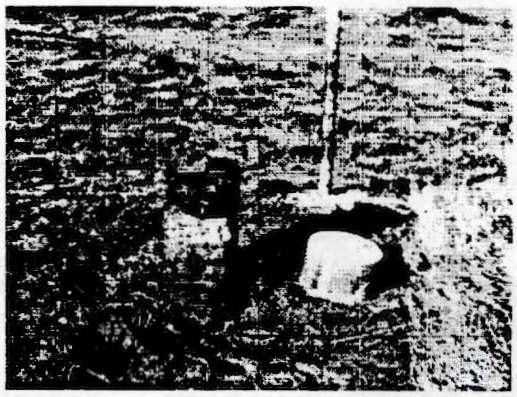


Elevation of reference point: [410.66-ft]
(top of casing)
Height of reference point above ground surface [1.7-ft]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8.0-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in]
Depth top of perforations: [~18-ft TV]
Description of perforations: Not documented
Type of filler: Not documented
Depth to bottom, 39.4-ft 24Jul91 TV
Depth bottom of perforations: [ND]
Depth bottom of casing: [60-ft]
Depth bottom of borehole: [60-ft]

Drawing By: RKL/1#K#18.ASB Date: ___

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-18



WELL DESIGNATION : 199-K-18
CERCLA UNIT : 100-KR-4
RCRA FACILITY : NA
HANFORD COORDINATES : N ND W ND
LAMBERT COORDINATES : N ND E ND
DATE DRILLED : Oct54
DEPTH DRILLED (GS) : 60-ft
MEASURED DEPTH (GS) : 39.4-ft, 24Jul91 TV
DEPTH TO WATER (GS) : 52-ft, Oct54; 15.8-ft, 24Jul91 TV
CASING DIAMETER : 6-in, from 1.7-60-ft
ELEV TOP CASING : 409.00-ft
(~410.66 after repairs, 24Jul91)
ELEV GROUND SURFACE : 407.3-ft
(~407.7-ft after repairs, 24Jul91)
PERFORATED INTERVAL : ~18-not documented TV
SCREENED INTERVAL : NA
COMMENTS : FIELD INSPECTION, 26Feb91
Carbon steel casing,
pump hanger holes and large notches in casing, no pad, no posts.
Capped, not locked. No permanent identification. Not in radiation zone.
OTHER:
AVAILABLE LOGS : Driller
TV SCAN COMMENTS : 28May91, depths referenced to ground surface;
Depth to bottom: 38.0-ft, silty.
Depth to water: 18.4-ft, some floating debris. Water clear, some dislodged scale and suspended debris.
Vadose and submerged casing very cruddy from top to bottom.
Perforations could not be determined.
24Jul91,
Depth to bottom: 39.4-ft,
Depth to water: 15.8-ft, floating debris.
Vadose casing clean, submerged casing clean.
Perforations 17.7-ft-not determined, clean.
COMMENTS: Repaired bent casing, removed 0.82-ft, added 2.48-ft of new casing.
DATE EVALUATED :
EVAL RECOMMENDATION :
LISTED USE : Not sampled 1989
PUMP TYPE : No pump documented
MAINTENANCE : 25May91; TV run
30May91; Brushed casing. Cleaned debris with sand pump and bailer.
No contamination encountered.
17Jul91; Developed well by pumping to <5 NTU.
24Jul91; TV run.

WELL CONSTRUCTION AND COMPLETION SUMMARY

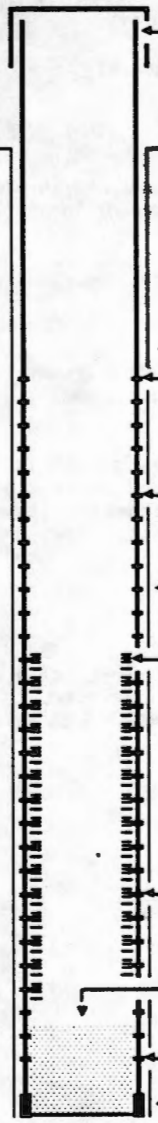
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-19	TEMPORARY WELL NO: 105-KE-4
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 78,000	E/W W 67,000
Driller's Name: Chausse	WA State Lic Nr: Not documented	State Coordinates: N 483,000	E 2,228,000
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T ___ R ___ S ___
Date Started: 09Apr55	Date Complete: 26Apr55	Elevation Ground surface (ft): 420.2 Estimated	

Depth to water: 31.0-ft Apr55
(Ground surface) 28.9-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: GRAVEL & BOULDERS
15-36: GRAVEL
36-45: GRAVEL, BOULDERS
45-51: GRAVEL

REMEDIATION:
Jun74, by Bultena.
Apparently set screen.
Not documented.

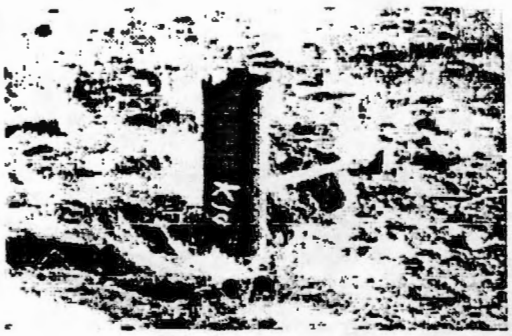


- Elevation of reference point: [422.17-ft] (top of casing)
- Height of reference point above ground surface [2.0-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- Depth top of perforations: [10-ft]
  Description of perforations: 5 holes/ft
- I.D. of riser pipe: [8.0-in]
  Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Screen 26-46-ft #15 slot, galvanized
- Type of filler: Not documented
- Depth to bottom, 47.1-ft 01Aug91
- Depth bottom of perforations: [50-ft]
- Depth bottom of casing: [51-ft]
- Depth bottom of borehole: [51-ft]

Drawing By: RKL/1#K#19.ASB Date: ___

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-19



WELL DESIGNATION : 199-K-19
CERCLA UNIT : 100-KR-1
RCRA FACILITY : NA
HANFORD COORDINATES : N 78,000 W 67,000
LAMBERT COORDINATES : N 483,000 E 2,228,000
DATE DRILLED : Apr55
DEPTH DRILLED (GS) : 51-ft
MEASURED DEPTH (GS) : 47.1-ft, 01Aug91
DEPTH TO WATER (GS) : 31.0-ft, Apr55; 28.9-ft, 01Aug91
CASING DIAMETER : 8-in, from +2.0-51-ft
ELEV TOP CASING : 422.17-ft
ELEV GROUND SURFACE : 420.2-ft Estimated
PERFORATED INTERVAL : 10-50-ft
SCREENED INTERVAL : 26-46-ft, #15 slot, galvanized
COMMENTS : FIELD INSPECTION, 26Feb91,
Carbon steel, no pad, no posts,
capped not locked. Hanger holes in casing.
No permanent identification. Not in radiation zone.
OTHER:
AVAILABLE LOGS : Driller
TV SCAN COMMENTS : 07Jun91; depths referenced to ground surface;
Depth to bottom: 46.3-ft, silty and small pebbles.
Depth to water: 27.2-ft, some floating debris. Water clear, some dislodged scale and suspended debris.
Screen: 26.6-ft-not determined, fairly clean. Blank above screen starts at ~ 21-ft.
Vadose casing very light corrosion/scale rust; submerged casing heavy.
Perforations start at 12.5-ft-not determined, 4 cuts/rd/ft.
The well will need cleaning.
DATE EVALUATED : NA
EVAL RECOMMENDATION : NA
LISTED USE : Sampled 1989 for NO_3, Cr;
water levels meesured 30Dec57-09Apr90
PUMP TYPE : Electric submersible, intake set at 39.3-ft (top-of-casing).
MAINTENANCE : 03Jun91; Pulled pump. No contamination encountered.
07Jun91; TV run.
25Jun91; Brushed casing and cleaned debris with sand pump and bailer.
22Jul91; Developed well by pumping to <5 NTU.
01Aug91; Installed electric submersible pump.

WELL CONSTRUCTION AND COMPLETION SUMMARY

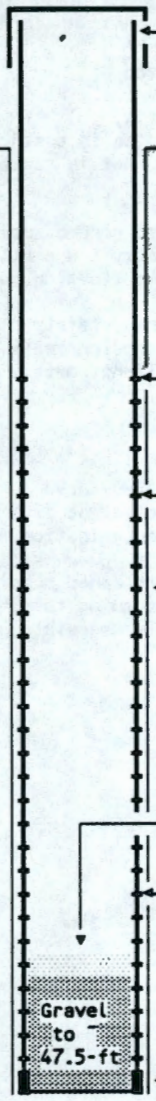
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-20 / TEMPORARY WELL NO: 105-KE-5
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 79,500 E/W W 66,125
Driller's Name: Chausse, Gentz	WA State Lic Nr: Not documented	State Coordinates: N 484,600 E 2,229,000
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 27Apr55	Date Complete: 05May55	Elevation Ground surface (ft): 420.5 Estimated

Depth to water: 30.0-ft Apr55
(Ground surface) 29.9-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: GRAVEL-BOULDERS
10-23: BOULDERS
23-34: BOULDERS, GRAVEL
34-50: GRAVEL

REMEDIATION:
Jun74, by Bultena.
Installed gravel plug at 47.5-ft.



Elevation of reference point: [422.57-ft]
(top of casing)

Height of reference point above ground surface [2.1-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing (If present) [ND]

Depth top of perforations: [10-ft]
Description of perforations:
Not documented

I.D. of riser pipe: [8.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Depth to bottom, 47.0-ft
01Aug91

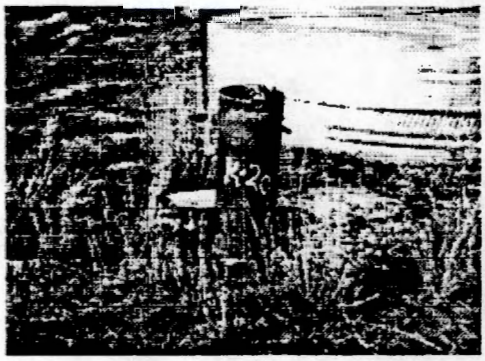
Type of filler:
Not documented

Depth bottom of perforations: [50-ft]
Depth bottom of casing: [50-ft]
Depth bottom of borehole: [50-ft]

Drawing By: RKL/1#K#20.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-20



WELL DESIGNATION : 199-K-20
CERCLA UNIT : 100-KR-1
RCRA FACILITY : NA
HANFORD COORDINATES : N 79,500 W 66,125
LAMBERT COORDINATES : N 484,600 E 2,229,000
DATE DRILLED : Apr-May55
DEPTH DRILLED (GS) : 50-ft
MEASURED DEPTH (GS) : 47.0-ft, 01Aug91
DEPTH TO WATER (GS) : 30.0-ft, Apr55; 29.9-ft, 01Aug91
CASING DIAMETER : 8-in, +2.0-51-ft
ELEV TOP CASING : 422.57-ft
ELEV GROUND SURFACE : 420.5-ft Estimated
PERFORATED INTERVAL : 10-50-ft
SCREENED INTERVAL : NA
COMMENTS : FIELD INSPECTION, 26Feb91,
Carbon steel casing, no pad, no posts,
capped and locked.
Casing has hanger holes.
No permanent identification. Not in radiation zone.
OTHER:
AVAILABLE LOGS : Driller
TV SCAN COMMENTS : 07Jun91, depths referenced to ground surface;
Depth to bottom: 44.6-ft, looked like sand on bottom.
Depth to water: 27.2-ft, some floating debris. Water clear, some dislodged scale and suspended debris.
Vadose some corrosion/scale/rust near water; submerged casing fairly heavy corrosion/scale/rust. Perforations start at 9.8-ft-not determined, those visible were open. Well needs to be cleaned.
24Jul91;
Depth to bottom: 45.3-ft, sand and some gravel.
Depth to water: 28.5-ft, surface clean. Water clear.
Vadose casing clean, casing looked bent at 12-ft, rough tO 14-ft; submerged casing clean. Perforations start at 9.8-ft to not determined. Perforations were clean.
DATE EVALUATED : NA
EVAL RECOMMENDATION : NA
LISTED USE : Sampled 1989 for NO_3, Cr;
water levels measured 30Dec57-09Apr90
PUMP TYPE : Electric submersible, intake set at 39.8-ft (top-of-casing).
MAINTENANCE : 03Jun91; Pulled pump. No contamination encountered.
07Jun91; TV run.
26Jun91; Brushed casing and removed debris with sand pump and bailer.
23Jul91; Developed well by pumping to <5 NTU.
24Jul91; TV run.
01Aug91; Installed electric submersible pump.

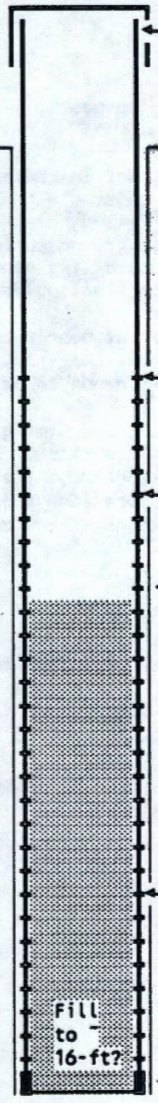
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-21 / TEMPORARY WELL NO: 105-KE-6
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 80,000 E/W W 66,000
Driller's Name: Richards, Jahnke, Gentz	WA State Lic Nr: Not documented	State Coordinates: N 485,000 E 2,229,000
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 06May55	Date Complete: 17May55	Elevation Ground surface (ft): 420.1 Estimated

Depth to water: 28.5-ft May55
(Ground surface) 11.1-ft Oct67

GENERALIZED STRATIGRAPHY — Driller's Log

0-12: SAND, ROCK and GRAVEL
12-15: SAND, GRAVEL
15-40: GRAVEL
40-50: Coarse GRAVEL, fine SAND



Elevation of reference point: [421.73-ft]
(top of casing)
Height of reference point above ground surface [1.6-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

Depth top of perforations: [10-ft]
Description of perforations:
Not documented

I.D. of riser pipe: [8.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
Not documented

Depth bottom of perforations: [50-ft]
Depth bottom of casing: [50-ft]
Depth bottom of borehole: [50-ft]

Drawing By: RKL/1#K#21.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-21

WELL DESIGNATION	:	199-K-21
CERCLA UNIT	:	100-KR-1
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 80,000 W 66,000
LAMBERT COORDINATES	:	N 485,000 E 2,229,000
DATE DRILLED	:	May55
DEPTH DRILLED (GS)	:	50-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	28.5-ft, May55; 11.1-ft, 19Oct67
CASING DIAMETER	:	8-in, from +1.6-50-ft
ELEV TOP CASING	:	421.73-ft
ELEV GROUND SURFACE	:	420.1-ft Estimated
PERFORATED INTERVAL	:	10-50-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 26Feb91 Carbon steel, no pad, no posts. Capped, and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Not sampled 1989; water levels measured 30Dec57-19Oct67
PUMP TYPE	:	No pump
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

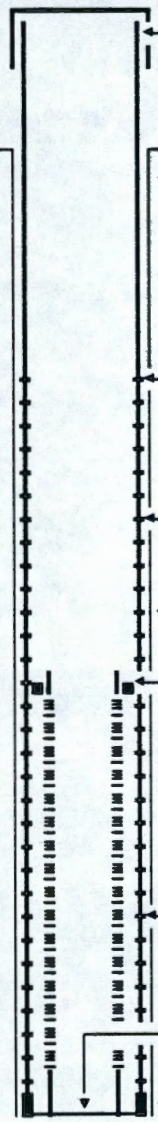
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-22	TEMPORARY WELL NO: 105-KE-7
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 81,000	E/W W 65,000
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N 486,000	E 2,230,000
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T ___ R ___ S ___
Date Started: 17May55	Date Complete: 20May55	Elevation Ground surface (ft): 418.9 Estimated	

Depth to water: 6.0-ft May55
(Ground surface) 32.9-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: BOULDERS, SAND and GRAVEL
15-20: BOULDERS and GRAVEL
20-25: Not documented
25-50: Coarse GRAVEL, fine SAND

REMEDIATION:
Jun74, by Bultena
Set screen and
cemented bottom.

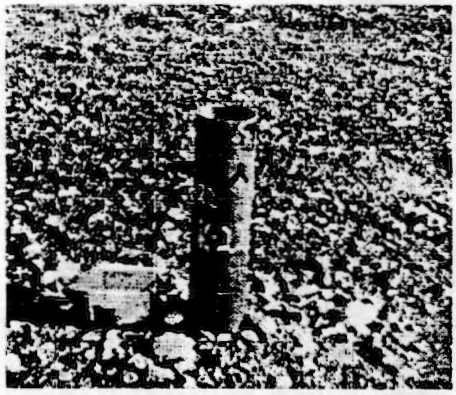


- Elevation of reference point: [421.68-ft] (top of casing)
- Height of reference point above ground surface [2.8-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- Depth top of perforations: [10-ft]
- Description of perforations: Not documented
- TV scan notes perforations start at ~20-ft.
- I.D. of riser pipe: [8.0-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Screen 29-49-ft
  1-ft blank 49-50-ft
  6-in telescoping screen
  set with neoprene packer
- Type of filler: Not documented
- Depth to bottom, 49.9-ft 01Aug91
- Depth bottom of perforations: [50-ft]
- Depth bottom of casing: [50-ft]
- Depth bottom of borehole: [50-ft]

Drawing By: RKL/1#K#22.ASB Date: ___

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-22



WELL DESIGNATION : 199-K-22
CERCLA UNIT : 100-KR-1
RCRA FACILITY : NA
HANFORD COORDINATES : N 81,000 W 65,000
LAMBERT COORDINATES : N 486,000 E 2,230,000
DATE DRILLED : May55
DEPTH DRILLED (GS) : 50-ft
MEASURED DEPTH (GS) : 49.9-ft, 01Aug91
DEPTH TO WATER (GS) : 6.0-ft, May55; 32.9-ft, 01Aug91
CASING DIAMETER : 8-in, +2.0-51-ft
ELEV TOP CASING : 421.68-ft
ELEV GROUND SURFACE : 418.9-ft Estimated
PERFORATED INTERVAL : 10-50-ft
SCREENED INTERVAL : 29-49-ft
COMMENTS : FIELD INSPECTION, 26Feb91,
Carbon steel, pump hanger hole,
no pad, no posts, capped and locked.
No permanent identification.
Not in radiation zone.
OTHER:
AVAILABLE LOGS : Driller
TV SCAN COMMENTS : 07Jun91, depths referenced to ground surface;
Depth to bottom: Unable to determine.
Depth to water: 29.9-ft, some floating debris. Water clear, some dislodged scale and suspended debris.
Vadose casing, some light scale. Submerged casing, unable to determine, perforations start at 19.7-ft, 4 cuts/rd/ft. Screen started at top of water at 29.9-ft-not determined. Continous wrap screen with some corrosion.
It needs to be cleaned. There is a rope in the well that has to be fished out.
29Jul91;
Depth to bottom: 49.2-ft, cement, cement is cracked and broken.
Depth to water: 33.1-ft, surface clean. Water clear, with some suspended debris.
Vadose casing clean; submerged casing clean. Perforations start at 17.4-ft to ~25.6-ft, 1 cuts/rd/ft.
Continous wrap screen 30.2-49.2-ft, screen is clean and looks in good shape.
DATE EVALUATED : NA
EVAL RECOMMENDATION : NA
LISTED USE : Sampled 1989 for ^{3}H, U, ^{90}Sr, NO_3, Cr;
water levels measured 30Dec57-02Mar90
PUMP TYPE : Hydrostar, intake set at 49.0-ft (top-of-casing).
MAINTENANCE : 03Jun91; Pulled pump, no contamination encountered.
07Jun91; TV run.
27Jun91; Removed rope and sample bailer from well. Brushed casing and cleaned debris with sand pump and bailer. No contamination encountered.
29Jul91; Developed well to <5 NTU.
29Jul91; TV run.
01Aug91; Installed hydrostar pump

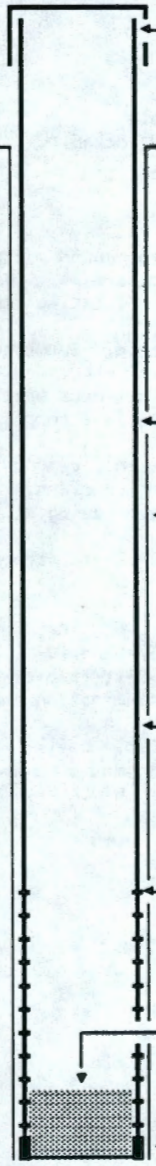
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-23 / TEMPORARY WELL NO: 1706-KER-1
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 78,000 E/W W 68,000
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N 483,000 E 2,227,000
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 24Feb56	Date Complete: 29Feb56	Elevation Ground surface (ft): 403.3 Estimated

Depth to water: 74.0-ft Feb56
(Ground surface) 70.9-ft Feb91

GENERALIZED STRATIGRAPHY Driller's Log

DRILLER'S NOTE:
Well was 36-ft deep when started to drill.
0-36: Not documented
36-45: Coarse SAND and GRAVEL
45-50: Coarse GRAVEL up to 3-in
50-55: SAND, GRAVEL and COBBLES
55-65: Coarse GRAVEL
65-70: Coarse GRAVEL and COBBLES
70-75: GRAVEL, COBBLES, little SAND
75-80: Coarse GRAVEL, little SAND, SILT
80 : Coarse GRAVEL and SAND



Elevation of reference point: [405.00-ft]
(top of casing)

Height of reference point above ground surface [1.7 ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
Not documented

Depth top of perforations: [65-ft]
Description of perforations:
Not documented

Depth to bottom, 77.0-ft
25Feb91

Depth bottom of perforations: [80-ft]
Depth bottom of casing: [80-ft]
Depth bottom of borehole: [80-ft]

Drawing By: RKL/1#K#23.ASB Date:_____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-23

WELL DESIGNATION	:	199-K-23
CERCLA UNIT	:	100-KR-1
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 78,000 W 68,000
LAMBERT COORDINATES	:	N 483,000 E 2,227,000
DATE DRILLED	:	Feb56
DEPTH DRILLED (GS)	:	80-ft
MEASURED DEPTH (GS)	:	77-ft, 25Feb91
DEPTH TO WATER (GS)	:	74-ft, Feb56; 70.9-ft, 25Feb91
CASING DIAMETER	:	8-in, +1.7-80-ft
ELEV TOP CASING	:	405.00-ft
ELEV GROUND SURFACE	:	403.3-ft Estimated
PERFORATED INTERVAL	:	65-80-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 25Feb91 Carbon steel, pump hanger holes, no pad, no posts. Capped, not locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	No pump
MAINTENANCE	:	ND

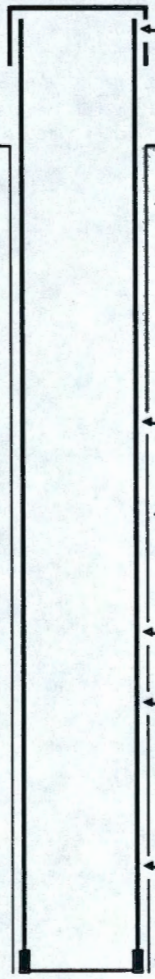
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-24	TEMPORARY WELL NO: 105-KW-2
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 77,000	E/W W 69,000
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N 482,000	E 2,226,000
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 22Dec52	Date Complete: 27Dec52	Elevation Ground surface (ft): Not documented	

Depth to water: Not documented
(Ground surface) _____

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: GRAVEL and SAND
10-12: 75% SAND and GRAVEL
12-15: Pea GRAVEL up to 1 1/2-in
15-25: GRAVEL, SAND
25-30: 90% GRAVEL and 10% fine SAND
30-40: 95% GRAVEL and 5% SAND
40-45: Coarse GRAVEL
45-50: Coarse GRAVEL with 25% SAND



Elevation of reference point: [467.00-ft]
(top of casing)

Height of reference point above ground surface [ND]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [8.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
Not documented

Depth top of perforations: [ND]
Description of perforations:
None documented

Depth bottom of perforations: [ND]

Depth bottom of casing: [50-ft]
Depth bottom of borehole: [50-ft]

Drawing By: RKL/1#K#24.ASB Date: _____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-24

WELL DESIGNATION	:	199-K-24
CERCLA UNIT	:	100-KR-1
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 77,000 W 69,000
LAMBERT COORDINATES	:	N 482,000 E 2,226,000
DATE DRILLED	:	Dec52
DEPTH DRILLED (GS)	:	50-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	ND
CASING DIAMETER	:	8-in, from ND-50-ft
ELEV TOP CASING	:	467.00-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	None documented
SCREENED INTERVAL	:	NA
COMMENTS	:	No FIELD INSPECTION, - unable to locate
		OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	No pump documented
MAINTENANCE	:	ND

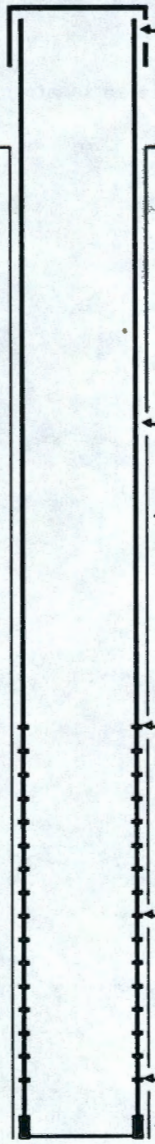
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-25	TEMPORARY WELL NO: 105-KW-3
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 78,000	E/W W 68,000
Driller's Name: Gentz	WA State Lic Nr: Not documented	State Coordinates: N 483,000	E 2,227,000
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 13Aug53	Date Complete: 25Aug53	Elevation Ground surface (ft): Not documented	

Depth to water: 61.0-ft Aug53
(Ground surface) _____

GENERALIZED STRATIGRAPHY — Driller's Log

0-5: GRAVEL and BOULDERS
5-10: CLAY
10-17: 50% CLAY, 50% GRAVEL
17-25: GRAVEL
25-30: GRAVEL and BOULDERS
30-37: 75% SAND, 25% coarse GRAVEL
37-40: 50% SAND, 50% coarse GRAVEL
40-45: 75% coarse GRAVEL and BOULDERS
25% fine SAND
45-55: 50% fine SAND,
50% coarse GRAVEL up to 3-in
55-65: 80% coarse GRAVEL and 10% SAND
65-76: 80% small and coarse GRAVEL
20% SAND
76 : 50% coarse GRAVEL, 50% SAND



Elevation of reference point: [473.00-ft]
(top of casing)
Height of reference point above ground surface [ND]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Depth top of perforations: [50-ft]
Description of perforations:
50-75-ft, 5 holes/ft

Type of filler:
Not documented

Depth bottom of perforations: [75-ft]

Depth bottom of casing: [76-ft]
Depth bottom of borehole: [76-ft]

Drawing By: RKL/1#K#25.ASB Date: _____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-25

WELL DESIGNATION	:	199-K-25
CERCLA UNIT	:	100-KR-1
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 78,000 W 68,000
LAMBERT COORDINATES	:	N 483,000 E 2,227,000
DATE DRILLED	:	Aug53
DEPTH DRILLED (GS)	:	76-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	61.0-ft, Aug53
CASING DIAMETER	:	8-in, ND-76-ft
ELEV TOP CASING	:	467.00-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	50-75-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	No FIELD INSPECTION, - unable to locate OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	No pump documented
MAINTENANCE	:	ND

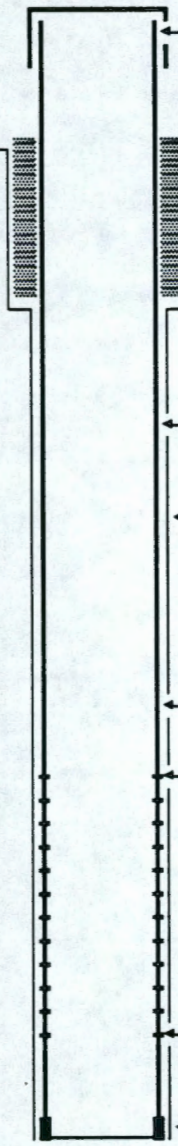
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-27 / TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 76,400 E/W W 68,000
Driller's Name: Evans	WA State Lic Nr: Not documented	State Coordinates: N 481,500 E 2,227,000
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 29Aug79	Date Complete: 21Sep79	Elevation Ground surface (ft): 462.8-ft Estimated

Depth to water: 70.0-ft Sep79
(Ground surface) ~69.0-ft Apr91

GENERALIZED STRATIGRAPHY — Driller's Log

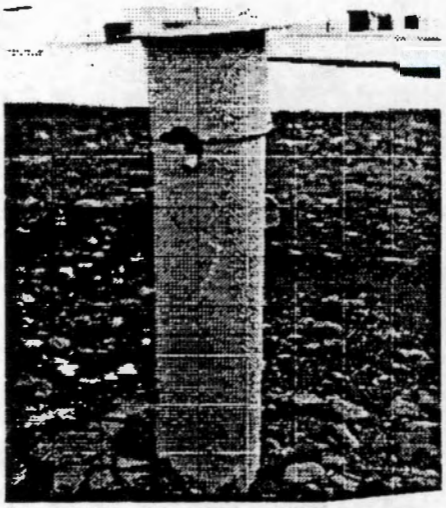
0-18: 40% COBBLES, 20% BOULDERS, 20% PEBBLES, 10% SAND, 10% SILT
18-42: 60% COBBLES, 15% BOULDERS, 15% SAND, 5% PEBBLES, 5% SILT
42-75: 60% COBBLES, 20% PEBBLES, 10% SAND, 10% SILT
75-90: 30% COBBLES, 30% PEBBLES, 30% SAND, 10% SILT



Elevation of reference point: [465.00-ft] (top of casing)
Height of reference point above ground surface [2.2-ft]
Depth of surface seal [20-ft]
Type of surface seal: Cement grout
I.D. of surface casing [8-in pulled] (If present)
Surface casing to 20-ft Grouted with 36-gals cement
I.D. of riser pipe: [6-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [7-in nom]
Type of filler: Not documented
Depth top of perforations: [65-ft]
Description of perforations: 65-85-ft, 2 cuts/rd/ft
Depth bottom of perforations: [85-ft]
Depth bottom of casing: [90-ft]
Depth bottom of borehole: [90-ft]

Drawing By: RKL/1#K#27.ASB Date:
Reference:

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-27



WELL DESIGNATION	:	199-K-27
CERCLA UNIT	:	100-KR-2
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 76,400 W 68,000
LAMBERT COORDINATES	:	N 481,500 E 2,227,000
DATE DRILLED	:	Aug-Sep79
DEPTH DRILLED (GS)	:	90-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	70.0-ft, Sep79; ~69.0-ft 17Apr91
CASING DIAMETER	:	6-in, +2.2-90-ft
ELEV TOP CASING	:	465.00-ft
ELEV GROUND SURFACE	:	462.8-ft Estimated
PERFORATED INTERVAL	:	65-85-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 26Feb91, Carbon steel, pump hanger hole, no pad, no posts, capped and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	08Sep91, Depth to bottom: 83.0-ft, sandy. Depth to water: 68.6-ft, some floating debris. Water clear with dislodged scale and suspended debris. Vadose casing some corrosion/scale/rust just above water; submerged casing has fairly heavy corrosion/scale/rust. Perforations start at 61.4-ft to not determined, 2 cuts/rd/ft. Open above water, not observed below water. The well needs cleaning.
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Sampled 1989 for ^{3}H, U, ^{90}Sr, NO_3, Cr; water levels measured 25Mar57-17Apr91
PUMP TYPE	:	Electric submersible, intake set at xxxx ft
MAINTENANCE	:	07Aug91; Pulled electric submersible pump. No contamination encountered. 09Aug91; TV run.

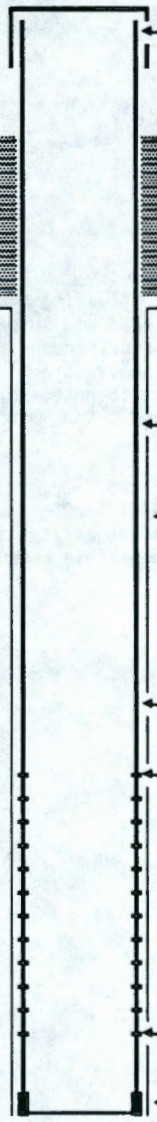
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-28 / TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 76,350 E/W W 68,060
Driller's Name: L. Bultena	WA State Lic Nr: Not documented	State Coordinates: N 481,475 E 2,227,070
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 16Aug79	Date Complete: 05Sep79	Elevation Ground surface (ft): 462.6-ft Estimated

Depth to water: 74.0-ft Sep79
(Ground surface) ~68.2-ft Apr91

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: Not documented
15-36: Brown SAND and large COBBLES
36-47: Brown SAND and COBBLES
47-59: CALICHE
59-65: BOULDER
65-70: Cemented GRAVEL and CALICHE
70-81: Cemented GRAVEL with some CALICHE
81-90: Not documented



Elevation of reference point: [465.00-ft]
(top of casing)
Height of reference point above ground surface [2.4-ft]

Depth of surface seal [20-ft]

Type of surface seal:
Cement grout

I.D. of surface casing [8-in pulled]
(If present)
Surface casing to 20-ft
Grouted with 144-gals cement

I.D. of riser pipe: [6 in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [7-in nom]

Type of filler:
Not documented

Depth top of perforations: [63-ft]
Description of perforations:
63-88-ft, 2 cuts/rd/ft

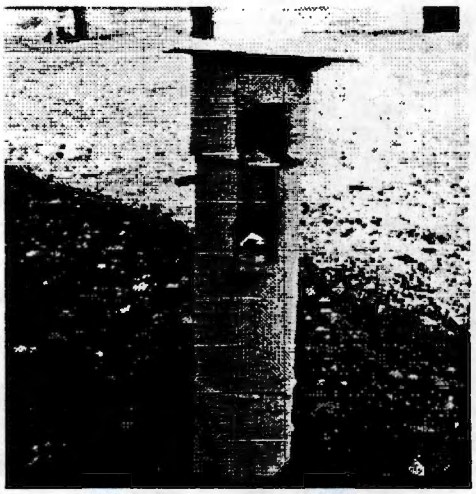
Depth bottom of perforations: [88-ft]

Depth bottom of casing: [90-ft]
Depth bottom of borehole: [90-ft]

Drawing By: RKL/1#K#28.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-28



WELL DESIGNATION : 199-K-28
CERCLA UNIT : 100-KR-2
RCRA FACILITY : NA
HANFORD COORDINATES : N 76,350 W 68,060
LAMBERT COORDINATES : N 481,475 E 2,227,070
DATE DRILLED : Aug-Sep79
DEPTH DRILLED (GS) : 90-ft
MEASURED DEPTH (GS) : ND
DEPTH TO WATER (GS) : 74.0-ft, Sep79; ~68.2-ft 19Apr91
CASING DIAMETER : 6-in, +2.4-90-ft
ELEV TOP CASING : 465.00-ft
ELEV GROUND SURFACE : 462.6-ft estimated
PERFORATED INTERVAL : 63-88-ft
SCREENED INTERVAL : NA
COMMENTS : FIELD INSPECTION, 26Feb91,
Carbon steel, pump hanger hole,
no pad, no posts, capped and locked.
No permanent identification.
Not in radiation zone.
OTHER:
AVAILABLE LOGS : Driller
TV SCAN COMMENTS : 09Aug91,
depths referenced to ground surface
Depth to bottom: 87.9-ft, sandy.
Depth to water: 67.6-ft, some floating debris.
Water clear with dislodged scale and suspended debris.
Vadose casing some corrosion/scale/rust, pitting from 42-ft to water;
submerged casing heavy corrosion/scale/rust near the bottom.
Perforations start at 64.0-ft to not determined, 2 cuts/rd/ft.
They were open above water, very few seen below water. The well needs cleaning.
DATE EVALUATED : NA
EVAL RECOMMENDATION : NA
LISTED USE : Sampled 1989 for ^{3}H, U, ^{90}Sr, NO_3, Cr;
water levels measured 25Mar57-17Apr91
PUMP TYPE : Electric submersible, intake set at xxxx ft
MAINTENANCE : 07Aug91; Removed electric submersible pump. No contamination encountered.
09Aug91; TV run.
20Sep91; Brushed casing and bailed debris. No contamination encountered.
02Oct91; Developed well to <5 NTU.

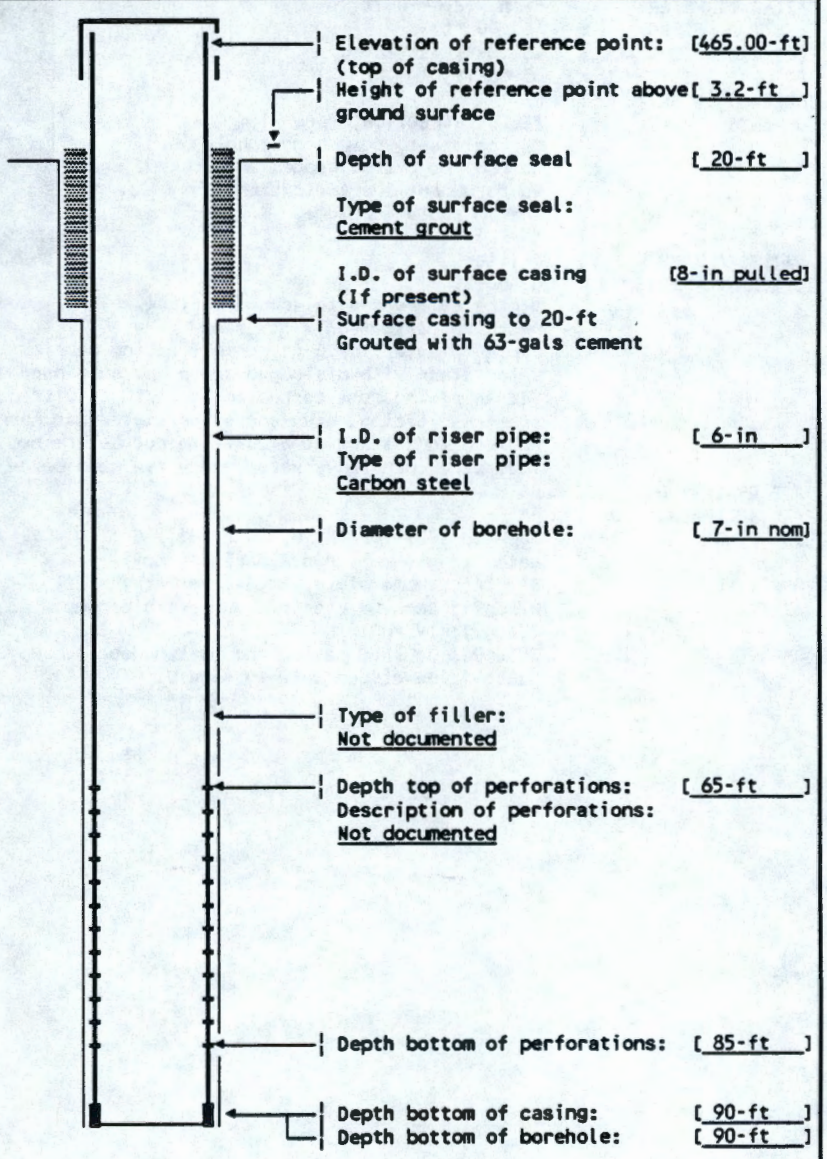
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-29 / TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 76,500 E/W W 68,775
Driller's Name: L. Bultena	WA State Lic Nr: Not documented	State Coordinates: N 481,625 E 2,227,350
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 06Sep79	Date Complete: 24Sep79	Elevation Ground surface (ft): 461.8-ft Estimated

Depth to water: 74.0-ft Sep79
(Ground surface) ~68.6-ft Apr91

GENERALIZED STRATIGRAPHY — Driller's Log

0-18: Not documented
18-35: Brown SAND, COBBLES and BOULDERS
35-40: Brown SAND and COBBLES
40-50: Tight SAND and GRAVEL and COBBLES
50-85: Compacted SAND and COBBLES
85-90: Not documented



Drawing By: RKL/1#K#29.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-29

WELL DESIGNATION	:	199-K-29
CERCLA UNIT	:	100-KR-2
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 76,550 W 68,775
LAMBERT COORDINATES	:	N 481,625 E 2,227,350
DATE DRILLED	:	Sep79
DEPTH DRILLED (GS)	:	90-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	74.0-ft, Sep79; ~68.6-ft Apr91
CASING DIAMETER	:	6-in, +3.2-90-ft
ELEV TOP CASING	:	465.00-ft
ELEV GROUND SURFACE	:	461.8-ft Estimated
PERFORATED INTERVAL	:	65-85-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 26Feb91, Carbon steel, pump hanger hole, no pad, no posts, capped and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	09Aug91, Depth to bottom: 88.2-ft, sandy. Depth to water: 67.9-ft, some floating debris. Water clear. with dislodged scale and suspended debris, more near the bottom. Vadose casing light corrosion/scale/rust; submerged casing some corrosion/scale/rust, heavier nearer the bottom. Perforations start at 67.6-ft to not determined. The well needs cleaning.
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Sampled 1989 for ^{3}H, U, ^{90}Sr, NO_3, Cr; water levels measured 25Mar87-18Apr91
PUMP TYPE	:	Electric submersible, intake set at xxxx ft
MAINTENANCE	:	07Aug91; Removed electric submersible pump. No contamination encountered. 09Aug91; TV run. 23Sep91; Brushed casing and bailed debris. No contamination encountered. 03Oct91; Developed well to <5 NTU.

9 2 1 2 5 8 0 0 1 5 7

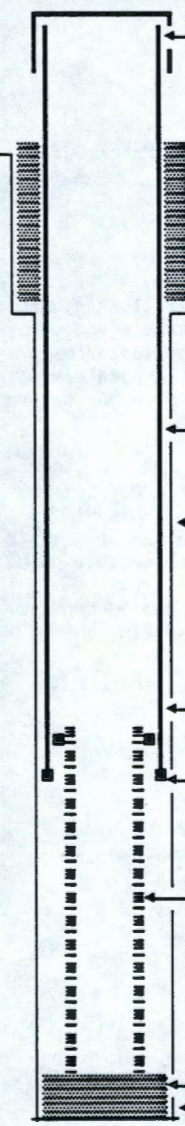
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-30 / TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 76,500 E/W W 67,700
Driller's Name: Evans	WA State Lic Nr: Not documented	State Coordinates: N 481,600 E 2,227,400
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 03Oct79	Date Complete: 30Oct79	Elevation Ground surface (ft): 462.4-ft Estimated

Depth to water: 70.0-ft Oct79
(Ground surface) ~67.8-ft Apr91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: 10% BOULDER, 20% COBBLES 40% PEBBLES, 20% SAND, 10% SILT
10-20: 20% BOULDERS, 40% COBBLES 20% PEBBLES, 15% SAND and 5% SILT
20-22: Not documented
22-30: 10% BOULDERS, 40% COBBLES, 30% PEBBLES, 15% SAND, and 5% SILT
30-40: 5% BOULDERS, 30% COBBLES, 50% PEBBLES, 10% SAND and 5% SILT
40-50: 40% COBBLES, 48% PEBBLES, 15% SAND and 5% SILT
50-53: 50% COBBLES, 40% PEBBLES 20% SAND
53-60: 40% COBBLES, 40% PEBBLES, 15% SAND, 5% SILT
60-70: 40% COBBLES, 35% PEBBLES, 20% SAND, 5% SILT
70-78: 30% COBBLES, 30% PEBBLES, 20% SAND, 5% SILT
78-90: 90% SAND, 10% SILT



Elevation of reference point: [465.00-ft] (top of casing)
Height of reference point above ground surface [2.6-ft]
Depth of surface seal [ND]
Type of surface seal: Cement grout
I.D. of surface casing [8-in pulled] (If present)
Surface casing to 20-ft Grouted with 63-gals cement
I.D. of riser pipe: [6-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [7-in nom]
Type of filler: Not documented
Depth bottom of casing: [70-ft] Casing pulled back to expose screen
Telescoping screen 67-87-ft, #10 slot
Cement plug at bottom
Depth bottom of borehole: [90-ft]

Drawing By: RKL/1#K#30.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-30

WELL DESIGNATION	:	199-K-30
CERCLA UNIT	:	100-KR-2
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 76,500 W 67,700
LAMBERT COORDINATES	:	N 481,600 E 2,227,400
DATE DRILLED	:	Oct79
DEPTH DRILLED (GS)	:	90-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	70.0-ft, Oct79: ~67.8-ft 17Apr91
CASING DIAMETER	:	6-in, +2.6-70-ft, pulled back from 90-ft
ELEV TOP CASING	:	465.00-ft
ELEV GROUND SURFACE	:	462.4-ft Estimated
PERFORATED INTERVAL	:	70-90-ft
SCREENED INTERVAL	:	67-87-ft, #10 slot
COMMENTS	:	FIELD INSPECTION, 26Feb91, Carbon steel, pump hanger hole, no pad, no posts, capped and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	09Aug91; Depth to bottom: 86.6-ft, sandy. Depth to water: 67.3-ft, some floating debris. Water clear with some dislodged scale and suspended debris. Vadose casing some corrosion/scale/rust; submerged casing clean. No perforations seen. Continous wrap screen started at 66.9-ft to not determined. Screen appeared to have algae growth. The well needs cleaning. to 160.4-ft, 2 cuts/rd/ft.
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Sampled 1989 for ^{3}H, U, ^{90}Sr, NO_3, Cr; water levels measured 19Mar87-17Apr91
PUMP TYPE	:	Electric submersible, intake set at xxxx ft
MAINTENANCE	:	07Aug91; Removed electric submersible pump. No contamination encountered. 09Aug91; TV run. 24Sep91; Brushed well and bailed debris. No contamination encountered.

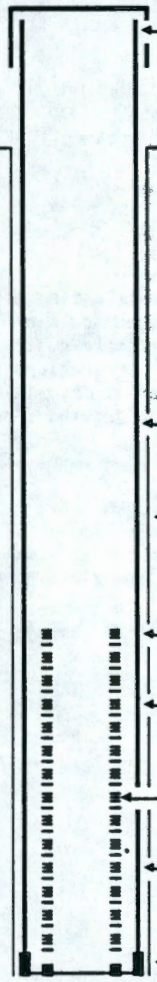
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-K-31 / TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S ND E/W W ND
Driller's Name: Not documented	WA State Lic Nr: Not documented	State Coordinates: N E
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T R S
Date Started: Not documented	Date Complete: May86	Elevation Ground surface (ft): Not documented

Depth to water: ~25.9-ft (TOC)
(Top of casing)

GENERALIZED STRATIGRAPHY — Driller's Log

0-50: Not documented



- Elevation of reference point: [ND] (top of casing)
- Height of reference point above ground surface [ND]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing [ND] (If present)
- I.D. of riser pipe: [6.0-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [ND]
- Type of filler: Not documented
- Depth top of perforations: [ND]
- Description of perforations: None documented
- Screen 30-50-ft
- Description not documented
- Depth bottom of perforations: [ND]
- Depth bottom of casing: [ND]
- Depth bottom of borehole: [50-ft]

Drawing By: RKL/1#K#31.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-K-31

WELL DESIGNATION	:	199-K-31
CERCLA UNIT	:	100-KR-4
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N ND W ND
LAMBERT COORDINATES	:	N ND ND
DATE DRILLED	:	Dec52
DEPTH DRILLED (GS)	:	50-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	~25.9-ft (TOC)
CASING DIAMETER	:	6-in, from ND-ND
ELEV TOP CASING	:	ND
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	ND
SCREENED INTERVAL	:	30-50-ft
COMMENTS	:	No FIELD INSPECTION, - location not documented OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Not sampled 1989; water levels measured 03Mar87&23Mar87 (Depth to water only)
PUMP TYPE	:	No pump documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Rodda
Drilling Company: Bach Dilling Co.
Date Started: 12May64

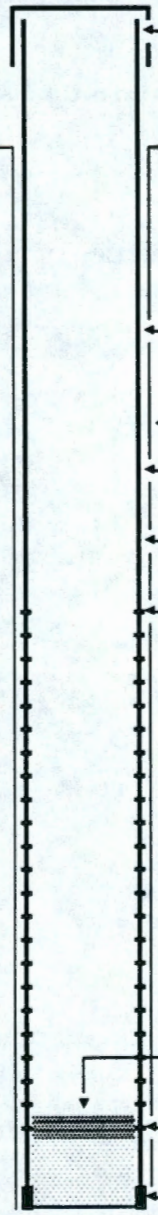
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 22May64

WELL NUMBER: 199-N-1
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 86,157 E/W W 60,593
State Coordinates: N 491,303 E 2,234,511
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: 49.0-ft May64
(top-of-casing) 53.9-ft, Aug66

GENERALIZED STRATIGRAPHY — Driller's Log

0-3: SAND, GRAVEL and COBBLES
3-5: GRAVEL and COBBLES
5-6: BOULDERS
6-10: GRAVEL, BOULDERS and SAND
10-38: GRAVEL and SAND
38-100: SAND and GRAVEL



Elevation of reference point: [456.10-ft]
(top of casing)
Height of reference point above [ND]
ground surface

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
None documented

Elevation/depth top of seal
Type of seal: None documented

Depth top of perforations: [34-ft]
Description of perforations:
6 holes/rd/ft

Cement plug at 95-ft

Depth bottom of perforations: [95-ft]

Depth bottom of casing: [100-ft]
Depth bottom of borehole: [100-ft]

Drawing By: RKL/1#N-01.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-1

WELL DESIGNATION	:	199-N-1
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 86,157 W 60,593
LAMBERT COORDINATES	:	N 491,303 E 2,234,511
DATE DRILLED	:	May64
DEPTH DRILLED (GS)	:	100-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	49.0-ft, May64; 53.9-ft, Aug66 (top-of-casing)
CASING DIAMETER	:	8-in carbon steel, +ND-100-ft
ELEV TOP CASING	:	456.10-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	34-95-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 23Oct62-15Aug66
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 1 6.3

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Rodda
Drilling Company: Bach Dilling Co.
Date Started: 25May64

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 05Jun64

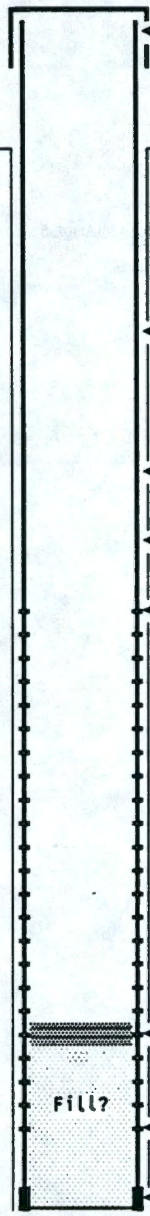
WELL NUMBER: 199-N-2
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 87,577 E/W W 60,306
State Coordinates: N 492,724 E 2,234,794
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 457.1 Estimated

Depth to water: 60.0-ft Jun64
(top-of-casing) 71.2-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-8: SAND, GRAVEL & BOULDERS
8-15: SAND & GRAVEL
15-17: BOULDER
17-100: SAND & GRAVEL
100-105: GRAVEL, SAND & CLAY
105-135: CLAY

REMEDIATION:
24-30May78 by M. Bultena
Removed piezometers.
Brushed and cleaned.
Set cement plug at 95-ft.

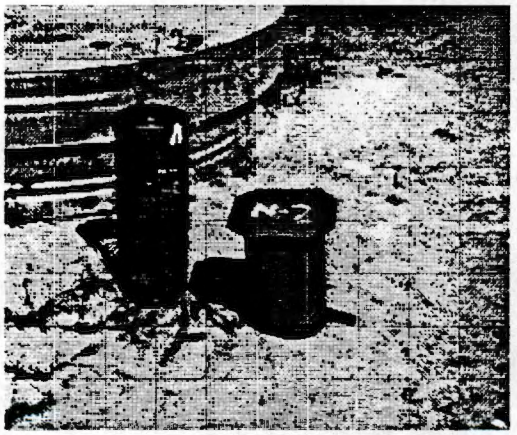


Elevation of reference point: [459.13-ft]
(top of casing)
Height of reference point above ground surface [2.0-ft]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: None documented
Elevation/depth top of seal
Type of seal: None documented
Depth top of perforations: [35-ft]
Description of perforations: 6 holes/rd/ft
Cement plug at 95-ft
Depth bottom of perforations: [120-ft]
Depth bottom of casing: [125-ft]
Depth bottom of borehole: [125-ft]

Drawing By: RKL/1#N-02.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-2



WELL DESIGNATION	:	199-N-2
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N
HANFORD COORDINATES	:	N 87,577 W 60,306
LAMBERT COORDINATES	:	N 492,724 E 2,234,794
DATE DRILLED	:	May64
DEPTH DRILLED (GS)	:	125-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	60.0-ft, May64; 71.2-ft, Jul91 (top-of-casing)
CASING DIAMETER	:	8-in carbon steel, +2.0-125-ft
ELEV TOP CASING	:	459.13-ft
ELEV GROUND SURFACE	:	457.1-ft, Estimated
PERFORATED INTERVAL	:	35-120-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 26Apr91, Carbon steel casing. No pad, No posts, capped, locked. No permanent identification. Located in radiation zone.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 23Oct64-31Jul91;
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Shafer
Drilling Company: Bach Dilling Co.
Date Started: 02Jun64

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 12Jun64

WELL NUMBER: 199-N-3
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 86,365 E/W W 60,828
State Coordinates: N 491,511 E 2,234,277
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 457.8 Estimated

Depth to water: 63.0-ft Jun64
(Ground surface) 69.3-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-11: BOULDERS and DUST
11-15: BOULDERS and SAND
15-17: BOULDER, SAND and DUST
17-20: COBBLES and SAND
20-21: BOULDERS and SAND
21-22: BOULDERS and GRAVEL
22-63: SAND and GRAVEL
63-68: SAND
68-74: SAND and GRAVEL
74-76: SAND
76-98: SAND and GRAVEL
98-104: SAND
104-106: SAND and GRAVEL
106-125: Not documented

REMEDIATION:
Removal of piezometers and probable setting of plug not documented.

Elevation of reference point: [459.45-ft]
(top of casing)
Height of reference point above ground surface [1.7-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
None documented

Elevation/depth top of seal
Type of seal: None documented

Depth top of perforations: [34-ft]
Description of perforations:
Not documented

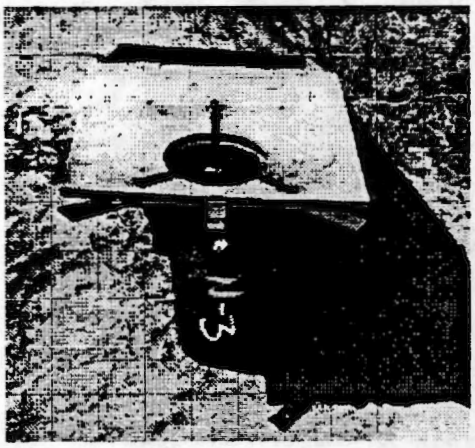
Depth bottom of perforations: [95-ft]

Depth bottom of casing: [125-ft]
Depth bottom of borehole: [125-ft]

Drawing By: RKL/1#N-03.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-3



WELL DESIGNATION	:	199-N-3
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N
HANFORD COORDINATES	:	N 86,365 W 60,826
LAMBERT COORDINATES	:	N 491,511 E 2,234,277
DATE DRILLED	:	Jun64
DEPTH DRILLED (GS)	:	125-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	63.0-ft, Jun64; 69.3-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +1.7-125-ft
ELEV TOP CASING	:	459.45-ft
ELEV GROUND SURFACE	:	457.8-ft, Estimated
PERFORATED INTERVAL	:	35-95-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 26Apr91, Carbon steel casing. No pad, No posts, capped, and locked. No permanent identification. Located in radiation zone. Has Stevens Recorder installed.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 23Oct64-31Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Drussell
Drilling Company: Bach Dilling Co.
Date Started: 08Jun64

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 12Jun64

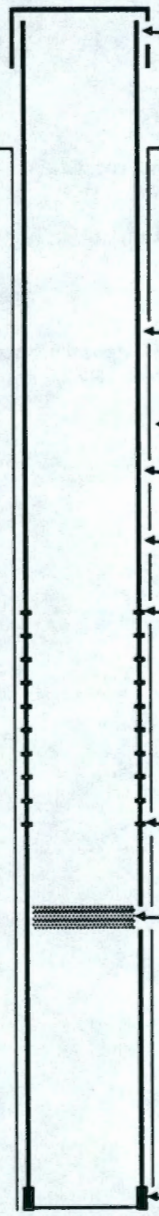
WELL NUMBER: 199-N-4
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 85,921 E/W W 60,042
State Coordinates: N 491,069 E 2,235,063
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 456.4 Estimated

Depth to water: 52.0-ft Jun64
(Ground surface) 66.7-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: GRAVEL & SAND
10-15: COBBLES & SAND
15-20: COBBLES & BOULDERS
20-25: COBBLES & SAND
25-65: GRAVEL & SAND
65-70: SAND
70-80: SAND & GRAVEL
80-95: Sandy COBBLES
95-150: Not documented

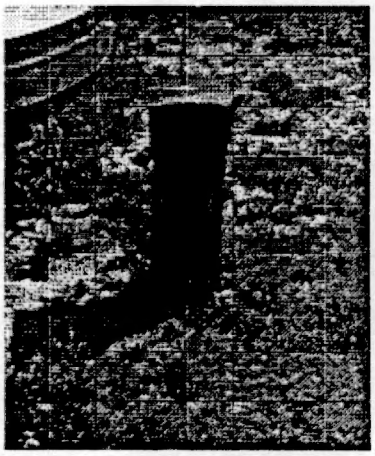
REMEDIATION:
Jun74 by Bigham
Removed pizometers. Set bridge at 80-ft and poured cement plug.
Perforated 50-60-ft.



Elevation of reference point: [458.73-ft]
(top of casing)
Height of reference point above ground surface [2.3-ft]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: None documented
Elevation/depth top of seal
Type of seal: None documented
Depth top of perforations: [50-ft]
Description of perforations: 4 cuts/ft
Depth bottom of perforations: [60-ft]
Cement plug at 73-ft
Depth bottom of casing: [150-ft]
Depth bottom of borehole: [150-ft]

Drawing By: RKL/1#N-04.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-4



WELL DESIGNATION	:	199-N-4
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N
HANFORD COORDINATES	:	N 85,921 W 60,042
LAMBERT COORDINATES	:	N 491,069 E 2,235,063
DATE DRILLED	:	Jun64
DEPTH DRILLED (GS)	:	150-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	52.0-ft, Jun64; 66.7-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +2.3-150-ft
ELEV TOP CASING	:	458.73-ft
ELEV GROUND SURFACE	:	456.4-ft, Estimated
PERFORATED INTERVAL	:	50-60-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 26Apr91, Carbon steel casing. No pad, No posts, capped, and locked. No permanent identification. Located in radiation zone.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 23Oct64-31Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Rodda
Drilling Company: Bach Dilling Co.
Date Started: 27Apr64

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 11May64

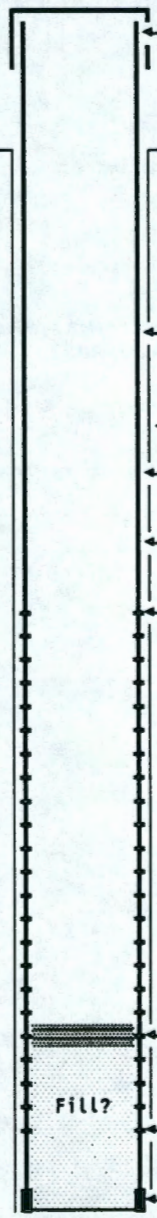
WELL NUMBER: 199-N-5
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 85,973 E/W W 60,540
State Coordinates: N 491,119 E 2,234,564
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 454.0 Estimated

Depth to water: 49.0-ft May64
(Ground surface) 54.9-ft Aug77

GENERALIZED STRATIGRAPHY — Driller's Log

0-4: BACKFILL
4-5: Backfill SAND, GRAVEL, BOULDERS and WOOD
5-10: BOULDERS
10-105: SAND and GRAVEL
105-115: SAND, GRAVEL and CLAY
115-125: CLAY

REMEDIATION:
30-31May78 by M. Bultena
Cleaned well, removed pizometers.



Elevation of reference point: [455.47-ft]
(top of casing)
Height of reference point above ground surface [1.5-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
None documented

Elevation/depth top of seal
Type of seal: None documented

Depth top of perforations: [34-ft]
Description of perforations:
6 holes/rd/ft

Plug documented at 110-ft

Depth bottom of perforations: [120-ft]

Depth bottom of casing: [125-ft]
Depth bottom of borehole: [125-ft]

Drawing By: RKL/1#N-05.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-5

WELL DESIGNATION	:	199-N-5
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 85,973 W 60,540
LAMBERT COORDINATES	:	N 491,119 E 2,234,564
DATE DRILLED	:	May64
DEPTH DRILLED (GS)	:	125-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	49.0-ft, May64; 54.9-ft, Aug77
CASING DIAMETER	:	8-in carbon steel, +1.5-125-ft
ELEV TOP CASING	:	455.47-ft
ELEV GROUND SURFACE	:	454-ft, Estimated
PERFORATED INTERVAL	:	34-120-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 26Feb90, Carbon steel casing. No pad, no posts, capped, not locked. No permanent identification. Controlled access zone.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 23Oct64-13Aug73
PUMP TYPE	:	None
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: L. Bach	WA State Lic Nr: Not documented
Drilling Company: Bach Dilling Co.	Company Location: Not documented
Date Started: 27Apr65	Date Complete: 05May65

WELL NUMBER: 199-N-6 TEMPORARY WELL NO:

Hanford Coordinates: N/S N 85,925 E/W W 59,572

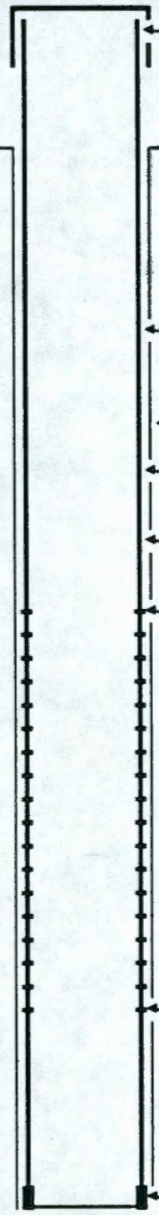
State Coordinates: N 491,074 E 2,235,533

Start Card #: Not documented T___ R___ S___

Elevation Ground surface (ft): 458.5 Estimated

Depth to water: 60.0-ft May65
(Ground surface) 69.3-ft Jul91

GENERALIZED STRATIGRAPHY	Driller's Log
0-14:	BOULDERS, medium COBBLES
14-16:	GRAVELS, COBBLES
16-17:	BOULDER
17-18:	Large BOULDER, GRAVEL
18-19:	GRAVEL, some MUD
19-20:	GRAVELS, COBBLES
20-21:	GRAVEL, traces of CLAY-SAND
21-23:	CLAY-SAND, GRAVEL, COBBLES
23-28:	GRAVEL, traces SAND, less CLAY
28-38:	GRAVEL with CLAY-SAND
38-45:	GRAVEL with SAND, trace CLAY
45-51:	GRAVEL with fine SAND
51-62:	CLAY with GRAVEL
62-71:	Pea GRAVEL with slight CLAY
71 :	Small GRAVEL with coarse SAND

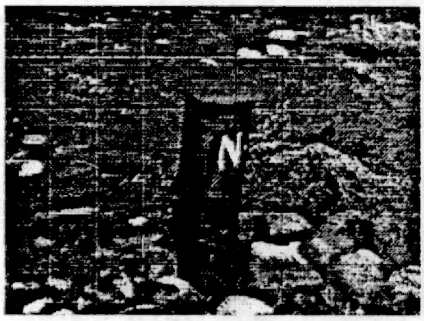


- Elevation of reference point: [460.97-ft] (top of casing)
- Height of reference point above ground surface [2.5-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: None documented
- Elevation/depth top of seal
- Type of seal: None documented
- Depth top of perforations: [35-ft]
- Description of perforations: Not documented
- Depth bottom of perforations: [65-ft]
- Depth bottom of casing: [71-ft]
- Depth bottom of borehole: [71-ft]

Drawing By: RKL/1#N-06.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-6



WELL DESIGNATION	:	199-N-6
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 85,925 W 59,572
LAMBERT COORDINATES	:	N 491,074 E 2,235,533
DATE DRILLED	:	May65
DEPTH DRILLED (GS)	:	71-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	60.0-ft, May65; 69.3-ft Jul91
CASING DIAMETER	:	8-in carbon steel, +2.5-71-ft
ELEV TOP CASING	:	460.97-ft
ELEV GROUND SURFACE	:	458.5-ft, Estimated
PERFORATED INTERVAL	:	35-65-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 26Feb90, Carbon steel casing. No pad, No posts, capped, not locked. No permanent identification. Controlled access zone.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 07Jul65-31Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

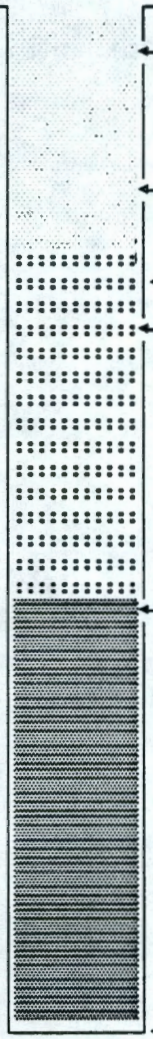
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-N-7	TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 85,973	E/W W 60,540
Driller's Name: Bach	WA State Lic Nr: Not documented	State Coordinates: N 491,119	E 2,234,564
Drilling Company: Bach Dilling Co.	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 06May65	Date Complete: 19May65	Elevation Ground surface (ft): Not documented	

Depth to water: 54.0-ft May65
(top-of-casing) 62.2-ft Jan87

GENERALIZED STRATIGRAPHY — Driller's Log

0-17: BOULDERS, COBBLES, SAND
17-20: GRAVEL, SAND
20-26: Very small GRAVEL mixed with fine SAND
26-28: Slight trace of small GRAVEL - QUICKSAND
28-30: GRAVEL, coarse SAND
30-40: GRAVELS, fine SAND
40-50: GRAVEL, SAND
50-60: Small GRAVELS, SAND
60-68: GRAVELS, coarse SAND mixed with CLAY

WELL ABANONMENT:
24Apr87;
Added 97-gals cement with 5% bentonite from 42-68-ft and 63-gals of dry granular bentonite 25-52-ft while pulling casing. Pulled final 25-ft of casing and allowed formation to cave into hole.



- Elevation of reference point: [455.47-ft] (top of casing before removal)
- Height of reference point above ground surface [ND]
- Depth of surface seal [~25-ft]
- Type of surface seal: Formation cave, 0-25-ft
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [None]
  Type of riser pipe: Carbon steel before removal
- Diameter of borehole: [9-in nom]
- Type of filler: Granular bentonite 25-42-ft
- Elevation/depth top of seal
  Type of seal: Cement grout with 5% bentonite 42-68-ft
- Depth top of perforations: [37-ft]
  Description of perforations: Perforations before removal
- Depth bottom of perforations: [67-ft]
  Before removal of casing
- Depth bottom of casing: [None]
- Depth bottom of borehole: [68-ft]

Drawing By: RKL/1#N-07.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-7

WELL DESIGNATION	:	199-N-7
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 85,973 W 60,540
LAMBERT COORDINATES	:	N 491,119 E 2,234,564
DATE DRILLED	:	May65
DEPTH DRILLED (GS)	:	68-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	54.0-ft, May65; 62.2-ft Jan87 (top-of-casing)
CASING DIAMETER	:	None, pulled
ELEV TOP CASING	:	455.47-ft before removal
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	37-67-ft before removal
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 07Jul65-19Jan87
PUMP TYPE	:	None
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 1 7 5

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Hatch
Drilling Company: Hatch Drilling Co
Date Started: 19May66

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Pasco, WA
Date Complete: 28May66

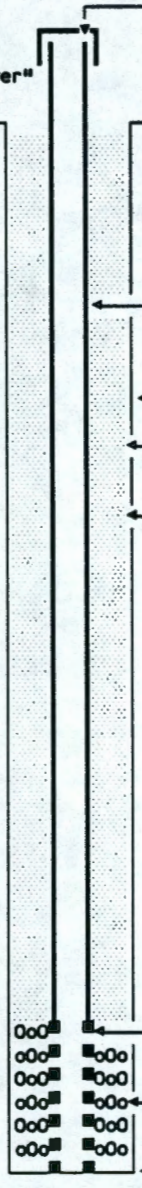
WELL NUMBER: 199-N-8P
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 86,790 E/W W 60,790
State Coordinates: N 491,936 E 2,234,312
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: 16.0-ft May66
(top-of-casing) 13.1-ft May91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: BACKFILL
10-20: SAND and SILT, GRAVEL up to 6-in
20-25: GRAVEL, COBBLES
25-30: SAND
30-35: SAND and BOULDERS
35-40: SAND and COBBLES
40-50: Heaving SAND
50-52: BOULDERS, coarse GRAVEL to 4-in
52-70: Sandy CLAY
70-95: Sandy CLAY, GRAVEL particles
95-100: Sandy CLAY, GRAVEL to 1-in

NOTE:
This well is one of a group of seven small diameter wells. Documentation is very poor. Drillers logs mention use of screen, gravel and sand pack and pulling casing. Depths of gravel/sand pack not documented. Casing size not documented.



Elevation of reference point: [405.12-ft] (top of casing)
Height of reference point above ground surface [ND]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [1.5-in]
Type of riser pipe: Carbon steel or galvanized (nom)
Diameter of borehole: [7-in nom]
Type of filler: Sand pack (now)
Elevation/depth top of seal
Type of seal: None documented
Description of perforations: None documented
Screen 90-100-ft (nom)
Gravel pack (nom)
Depth bottom of borehole: [100-ft]

Drawing By: RKL/1#N-08P.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-8P

WELL DESIGNATION	:	199-N-8P
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 86,790 W 60,790
LAMBERT COORDINATES	:	N 491,936 E 2,234,312
DATE DRILLED	:	May66
DEPTH DRILLED (GS)	:	100-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	16.0-ft, May66; 13.1-ft May91 (top-of-casing)
CASING DIAMETER	:	1.5-in carbon or galvanized steel, +ND-90-ft
ELEV TOP CASING	:	405.12-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	90-100-ft
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 21Jul87-09May91
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Not documented	Additives Used: Not documented
Driller's Name: Hatch	WA State Lic Nr: Not documented
Drilling Company: Hatch Drilling Co	Company Location: Pasco, WA
Date Started: 13May66	Date Complete: 18May66

WELL NUMBER: 199-N-8Q TEMPORARY WELL NO:

Hanford Coordinates: N/S N 86,804 E/W W 60,782

State Coordinates: N 491,950 E 2,234,320

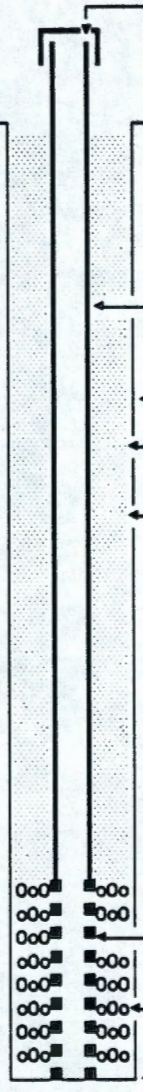
Start Card #: Not documented · T___ R___ S___

Elevation Ground surface (ft): Not documented

Depth to water: 16.0-ft May66
(top-of-casing) 18.9-ft May88

GENERALIZED STRATIGRAPHY — Driller's Log

0-21: COBBLES
21-36: COBBLES, small GRAVEL
36-60: COBBLES



Elevation of reference point: [404.62-ft] (top of casing)

Height of reference point above ground surface [ND]

Depth of surface seal [ND]

Type of surface seal: None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [1.5-in]
Type of riser pipe: Carbon steel or galvanized (nom)

Diameter of borehole: [7-in nom]

Type of filler: Sand pack (now)

Elevation/depth top of seal
Type of seal: None documented

Description of perforations: None documented

Screen 50-60-ft (nom)

Gravel pack (nom)

Depth bottom of borehole: [60-ft]

NOTE:
This well is one of a group of seven small diameter wells. Documentation is very poor. Drillers logs mention use of screen, gravel and sand pack and pulling casing. Depths of gravel/sand pack not documented. Casing size not documented.

Drawing By: RKL/1#N-08Q.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-8Q

WELL DESIGNATION	:	199-N-8Q
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 86,804 W 60,782
LAMBERT COORDINATES	:	N 491,950 E 2,234,320
DATE DRILLED	:	May66
DEPTH DRILLED (GS)	:	60-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	16.0-ft, May66; 18.9-ft May88 (top-of-casing)
CASING DIAMETER	:	1.5-in carbon or galvanized steel, +ND-50-ft
ELEV TOP CASING	:	404.62-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	50-60-ft, material/slot not documented
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 21Jun87-23May88
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

9 2 1 2 5 0 0 1 7 9

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Hatch
Drilling Company: Hatch Drilling Co
Date Started: 09Jun66

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Pasco, WA
Date Complete: 11Jun66

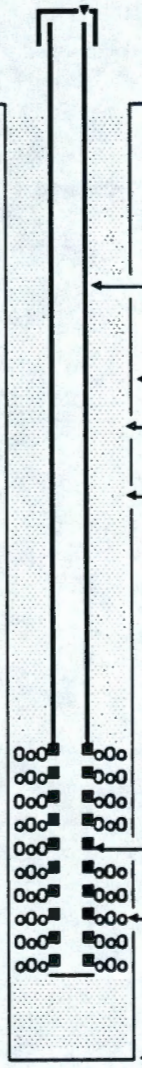
WELL NUMBER: 199-N-8R
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 86,810 E/W W 60,776
State Coordinates: N 491,956 E 2,234,326
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: 16.0-ft Jun66
(top-of-casing) 18.4-ft May88

GENERALIZED STRATIGRAPHY — Driller's Log

0-14: COBBLES
14-37: Not documented
37-47: Coarse SAND
47-50: Fine SAND with CLAY

NOTE:
Documentation is very poor. Drillers logs mention use of screen, gravel and sand pack and pulling casing. Depths of gravel/sand pack not documented. Casing size not documented.



Elevation of reference point: [404.09-ft]
(top of casing)
Height of reference point above ground surface [ND]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [1.5-in]
Type of riser pipe: Carbon steel or galvanized (nom)
Diameter of borehole: [7-in nom]
Type of filler: Sand pack (now)
Elevation/depth top of seal
Type of seal: None documented
Description of perforations: None documented
Screen 37-47-ft (nom)
Gravel pack (nom)
Depth bottom of borehole: [50-ft]

Drawing By: RKL/1#N-08R.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-8R

WELL DESIGNATION	:	199-N-8R
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 86,810 W 60,776
LAMBERT COORDINATES	:	N 491,956 E 2,234,326
DATE DRILLED	:	Jun66
DEPTH DRILLED (GS)	:	50-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	16.0-ft, Jun66; 18.4-ft May88 (top-of-casing)
CASING DIAMETER	:	1.5-in carbon or galvanized steel, +ND-37-ft
ELEV TOP CASING	:	404.09-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	37-47-ft, material/slot not documented
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 21Jul87-23May88
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

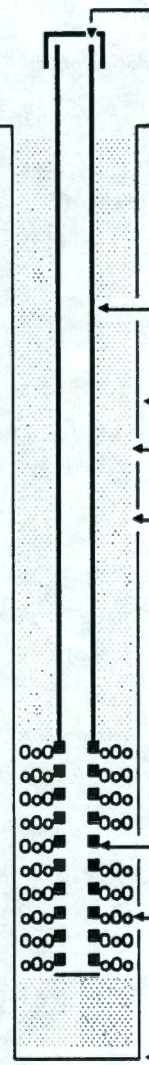
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-N-8S	TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 86,798	E/W W 60,789
Driller's Name: Hatch	WA State Lic Nr: Not documented	State Coordinates: N 491,944	E 2,234,339
Drilling Company: Hatch Drilling Co	Company Location: Pasco, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 09Jun66	Date Complete: 11Jun66	Elevation Ground surface (ft): Not documented	

Depth to water: 16.0-ft Jun66
(top-of-casing) 17.1-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-24: COBBLES and GRAVELS
24-34: COBBLES, GRAVEL and SAND
34-40: Heaving coarse SAND



Elevation of reference point: [404.57-ft]
(top of casing)

Height of reference point above ground surface [ND]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [1.5-in]
Type of riser pipe:
Carbon steel or galvanized (nom)

Diameter of borehole: [7-in nom]

Type of filler:
Sand pack (now)

Elevation/depth top of seal
Type of seal: None documented

Description of perforations:
None documented

Screen 28-38-ft (nom)

Gravel pack (nom)

Depth bottom of borehole: [40-ft]

NOTE:
Documentation is very poor. Drillers logs mention use of screen, gravel and sand pack and pulling casing. Depths of gravel/sand pack not documented. Casing size not documented.

Drawing By: RKL/1#N-08S.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-8S

WELL DESIGNATION	:	199-N-8S
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 86,798 W 60,789
LAMBERT COORDINATES	:	N 491,944 E 2,234,339
DATE DRILLED	:	Jun66
DEPTH DRILLED (GS)	:	40-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	16.0-ft, Jun66; 17.1-ft Jul91
CASING DIAMETER	:	1.5-in carbon or galvanized steel, +ND-28-ft
ELEV TOP CASING	:	404.57-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	28-38-ft, material/slot not documented
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 06Jun66-31Jul91
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Not documented	Additives Used: Not documented
Driller's Name: Bigham	WA State Lic Nr: Not documented
Drilling Company: Hatch Drilling Co	Company Location: Pasco, WA
Date Started: 04Jun66	Date Complete: 07Jun66

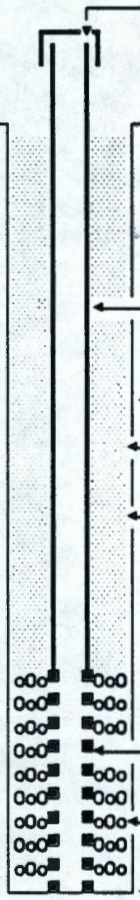
WELL NUMBER: 199-N-8T	TEMPORARY WELL NO:
Hanford Coordinates: N/S N 86,784	E/W W 60,803
State Coordinates: N 491,930	E 2,234,299
Start Card #: Not documented	T R S
Elevation Ground surface (ft): Not documented	

Depth to water: 14.0-ft Jun66
(Ground surface)

GENERALIZED STRATIGRAPHY — Driller's Log

0-21: COBBLES and GRAVEL
21-30: Heaving SAND
30 : Heaving coarse SAND

NOTE:
This well is one of a group of seven small diameter wells. Documentation is very poor. Drillers logs mention use of screen, gravel and sand pack and pulling casing. Depths of gravel/sand pack not documented. Casing size not documented.



- Elevation of reference point: [404.61-ft] (top of casing)
- Height of reference point above ground surface [ND]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [1.5-in] Type of riser pipe: Carbon steel or galvanized (nom)
- Diameter of borehole: [7-in nom]
- Type of filler: Sand pack (now)
- Elevation/depth top of seal Type of seal: None documented
- Description of perforations: None documented
- Screen 20-30-ft (nom)
- Gravel pack (nom)
- Depth bottom of borehole: [30-ft]

Drawing By: RKL/1#N-08T.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-8T

WELL DESIGNATION	:	199-N-8T
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 86,784 W 60,803
LAMBERT COORDINATES	:	N 491,930 E 2,234,299
DATE DRILLED	:	Jun66
DEPTH DRILLED (GS)	:	30-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	14.0-ft, Jun66;
CASING DIAMETER	:	1.5-in carbon or galvanized steel, +ND-20-ft
ELEV TOP CASING	:	404.61-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	20-30-ft, material/slot not documented
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	Continous sample pump
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 1 8 5

WELL CONSTRUCTION AND COMPLETION SUMMARY

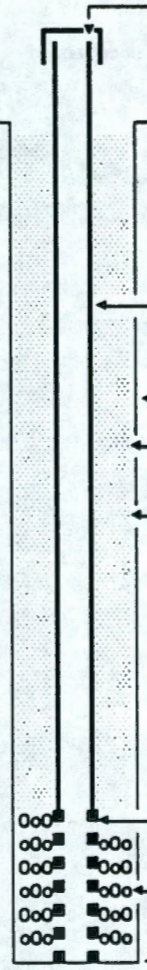
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-N-8U	TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 86,816	E/W W 60,770
Driller's Name: Hatch	WA State Lic Nr: Not documented	State Coordinates: N 491,962	E 2,234,294
Drilling Company: Hatch Drilling Co	Company Location: Pasco, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 03May66	Date Complete: 09Jun66	Elevation Ground surface (ft): Not documented	

Depth to water: 14.0-ft May66
(Ground surface)

GENERALIZED STRATIGRAPHY — Driller's Log

0-20: Not documented

NOTE:
This well is one of a group of seven small diameter wells. Documentation is very poor. Drillers logs mention use of screen, gravel and sand pack and pulling casing. Depths of gravel/sand pack not documented. Casing size not documented.



Documented as plugged

- Elevation of reference point: [404.59-ft] (top of casing)
- Height of reference point above ground surface [ND]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [1.5-in]
  Type of riser pipe: Carbon steel or galvanized (nom)
- Diameter of borehole: [7-in nom]
- Type of filler: Sand pack (nom)
- Elevation/depth top of seal
  Type of seal: None documented
- Description of perforations: None documented
- Screen 18-20-ft (nom)
- Gravel pack (nom)
- Depth bottom of borehole: [20-ft]

Drawing By: RKL/1#N-08U.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-8U

WELL DESIGNATION	:	199-N-8U
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 86,816 W 60,770
LAMBERT COORDINATES	:	N 491,962 E 2,234,294
DATE DRILLED	:	May66
DEPTH DRILLED (GS)	:	20-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	14.0-ft, May66;
CASING DIAMETER	:	1.5-in carbon or galvanized steel, +ND↔~18-ft
ELEV TOP CASING	:	404.59-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	18↔20-ft, material/slot not documented
COMMENTS	:	FIELD INSPECTION, none; Documented as plugged.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

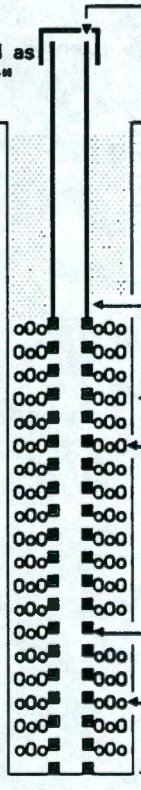
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-N-8V / TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 86,776 E/W W 60,811
Driller's Name: Hatch	WA State Lic Nr: Not documented	State Coordinates: N 491,922 E 2,234,291
Drilling Company: Hatch Drilling Co	Company Location: Pasco, WA	Start Card #: Not documented T___ R___ S___
Date Started: 08Jun66	Date Complete: 08Jun66	Elevation Ground surface (ft): Not documented

Depth to water: Dry well
(Ground surface)

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: COBBLES, GRAVEL and some coarse SAND

NOTE:
This well is one of a group of seven small diameter wells. Documentation is very poor. Drillers logs mention use of screen, gravel and sand pack and pulling casing. Depths of gravel/sand pack not documented. Casing size not documented.



- Elevation of reference point: (top of casing) [404.61-ft]
- Height of reference point above ground surface [ND]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [1.5-in]
- Type of riser pipe: Carbon steel or galvanized (nom)
- Diameter of borehole: [7-in nom]
- Type of filler: Gravel pack (nom)
- Screen 5-15-ft (nom)
- Gravel pack (nom)
- Depth bottom of borehole: [15-ft]

Drawing By: RKL/1#N-08U.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-8V

WELL DESIGNATION	:	199-N-8V
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 86,776 W 60,811
LAMBERT COORDINATES	:	N 491,922 E 2,234,291
DATE DRILLED	:	Jun66
DEPTH DRILLED (GS)	:	15-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	Dry
CASING DIAMETER	:	1.5-in carbon or galvanized steel, +ND↔~10-ft
ELEV TOP CASING	:	404.61-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	5↔10-ft, material/slot not documented
COMMENTS	:	FIELD INSPECTION, none; Documented as bent over.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

9212580139

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Hatch
Drilling Company: Hatch Drilling Co
Date Started: 16Jan67

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Pasco, WA
Date Complete: 30Jan67

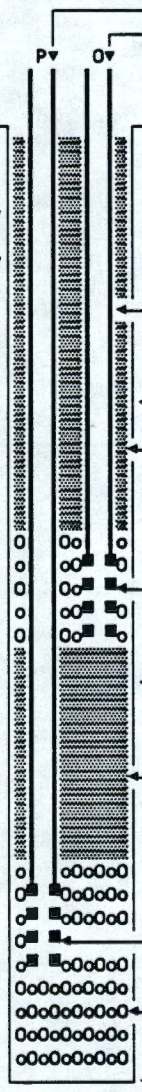
WELL NUMBER: 199-N-12
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 86,218 E/W W 60,374
State Coordinates: N 491,365 E 2,234,730
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: 46.5-ft Jan67
(Ground surface)

GENERALIZED STRATIGRAPHY — Driller's Log

0-49: SAND & SILT, GRAVELS and small COBBLES
49-52: Coarse SAND, small GRAVEL
52-53: Coarse SAND, small GRAVEL and CLAY
53-54: Coarse SAND, CLAY lens
54-55: Coarse SAND, large GRAVEL and CLAY
55-64: Coarse SAND, large GRAVEL, CLAY & SILT
64-65: Coarse SAND, large GRAVEL & CLAY
65-73: GRAVEL, SAND, CLAY
73-74: SAND & SILT, CLAY, GRAVEL

NOTE:
Documentation is very poor.



Elevation of reference point: P=[457.38-ft]
(top of casing) O=[456.96-ft]
Height of reference point above ground surface: [ND]

Depth of surface seal [ND]

Type of surface seal: None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipes: [1.5-in]
Type of riser pipe: Carbon steel or galvanized (nom)

Diameter of borehole: [7-in nom]

Type of filler: Cement grout (nom)

Piezometer 48-50-ft nom (Type and length not documented)

6-in casing pulled as pizometers were installed

Bottom piezometer documented as cemented

Piezometer 68-70-ft (nom) (Type and length not documented)

Gravel pack (Assumed, not documented

Depth bottom of borehole: [74-ft]

Drawing By: RKL/1#N-12.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-12

WELL DESIGNATION	:	199-N-12
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 86,218 W 60,374
LAMBERT COORDINATES	:	N 491,365 E 2,234,730
DATE DRILLED	:	Jan67
DEPTH DRILLED (GS)	:	74-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	46.5-ft, Jan67;
CASING DIAMETER	:	P piezometer tube, 1.5-in carbon or galvanized steel, +ND-68-ft
		O piezometer tube, 1.5-in carbon or galvanized steel, +ND-48-ft
ELEV TOP CASING	:	P = 457.38-ft
		O = 456.96-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	P = 68-70-ft nominal, material/slot not documented
		O = 48-50-ft nominal, material/slot not documented
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Rodda
Drilling Company: Bach Dilling Co.
Date Started: 27Apr69

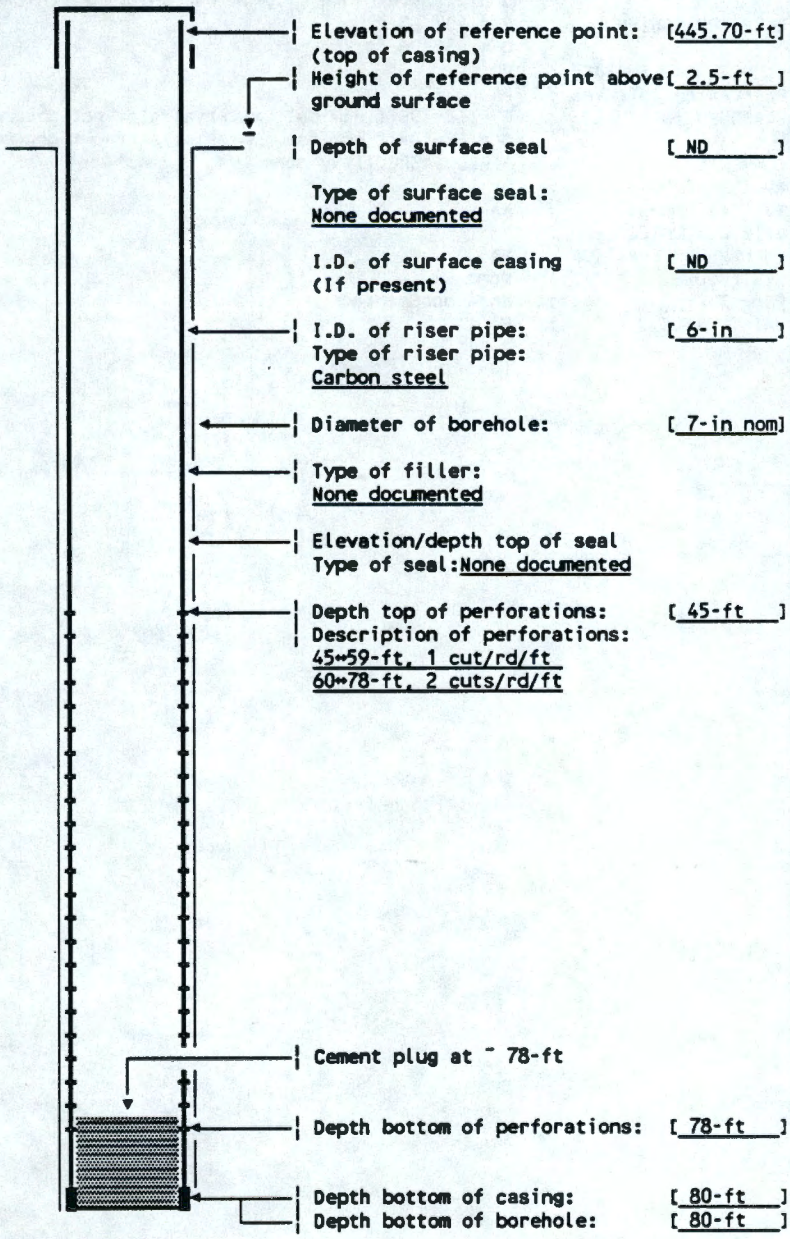
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 13May69

WELL NUMBER: 199-N-14
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 87,834 E/W W 59,535
State Coordinates: N 492,983 E 2,235,565
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 443.2 EStimated

Depth to water: 51.0-ft May69
(Ground surface) 56.1-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-20: SAND, GRAVEL and COBBLES
20-48: SAND and GRAVEL
48-50: SAND
50-80: SAND and GRAVEL



Drawing By: RKL/1#N-14.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-14

WELL DESIGNATION	:	199-N-14
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N
HANFORD COORDINATES	:	N 87,834 W 59,535
LAMBERT COORDINATES	:	N 492,983 E 2,235,565
DATE DRILLED	:	May69
DEPTH DRILLED (GS)	:	80-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	51.0-ft, May69; 56.1-ft Jul91
CASING DIAMETER	:	6-in carbon steel, +2.5↔80-ft
ELEV TOP CASING	:	445.70-ft
ELEV GROUND SURFACE	:	443.2-ft Estimated
PERFORATED INTERVAL	:	45↔78-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 25Apr91; Carbon steel. No pad, no posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 06May70↔30Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Rodda
Drilling Company: Bach Dilling Co.
Date Started: 15May69

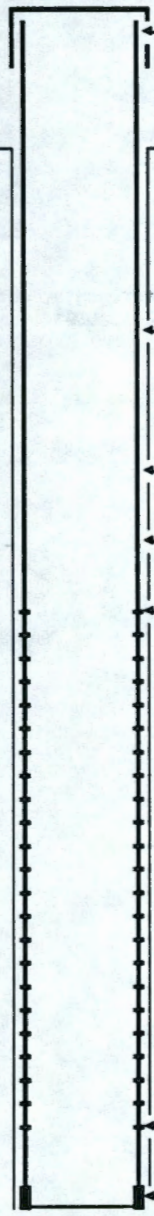
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 31May69

WELL NUMBER: 199-N-15
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 6,659 E/W W 5,569
State Coordinates: N ND E ND
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 454.4 Estimated

Depth to water: 57.0-ft May69
(Ground surface) 58.2-ft Feb89

GENERALIZED STRATIGRAPHY — Driller's Log

0-12: BOULDERS, COBBLES, GRAVEL and SAND-slightly cemented
12-80: SAND and GRAVEL



Elevation of reference point: [456.94-ft]
(top of casing)
Height of reference point above ground surface [2.55-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
None documented

Elevation/depth top of seal
Type of seal: None documented

Depth top of perforations: [50-ft]
Description of perforations:
50-65-ft, 1 cut/rd spiraled
65-78-ft, 2 cuts/rd/ft

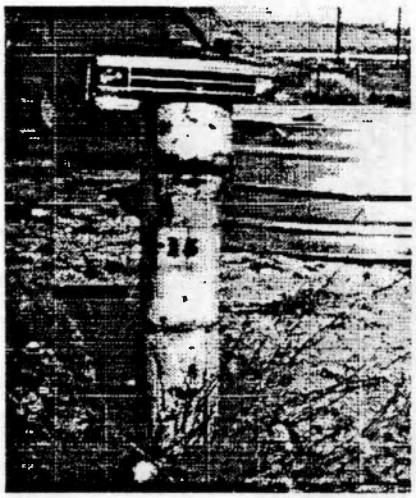
Depth bottom of perforations: [78-ft]

Depth bottom of casing: [80-ft]
Depth bottom of borehole: [80-ft]

Drawing By: RKL/1#N-15.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-15



WELL DESIGNATION	:	199-N-15
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 6,659 W 5,566
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	May69
DEPTH DRILLED (GS)	:	125-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	57.0-ft, May64; 58.2-ft Feb89
CASING DIAMETER	:	8-in carbon steel, +2.55↔~80-ft
ELEV TOP CASING	:	456.94-ft
ELEV GROUND SURFACE	:	454.4-ft, Estimated
PERFORATED INTERVAL	:	50↔78-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 28Mar90, Carbon steel casing. No pad, No posts, capped not locked. (Hasp repaired Apr90) No permanent identification. Controlled access zone.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 06May70↔24Feb89
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	21Jul77; - Brushed casing, bailed debris 22Jun82; - Brushed casing, bailed debris

9 2 1 2 2 0 0 1 9 5

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Rotary
Drilling Fluid Used: Air
Driller's Name: Nelson ?
Drilling Company: Nelson Well Drilling
Date Started: 09Feb81

Sample Method: Air returns
Additives Used: Foam, Torq Trim
WA State Lic Nr: Not documented
Company Location: Pasco, WA
Date Complete: 10Feb81

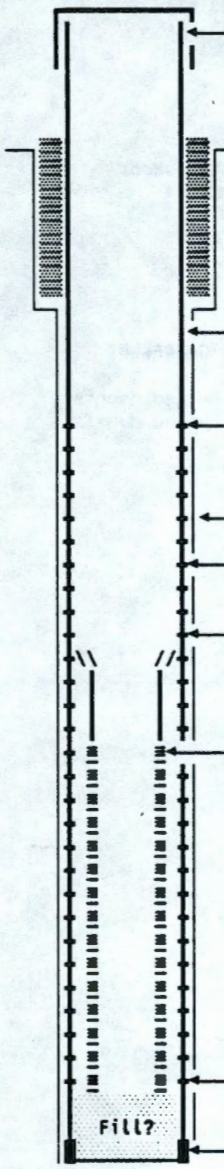
WELL NUMBER: 199-N-16
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 6,087 E/W W 6,158
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 453.5 Estimated

Depth to water: 57.5-ft Feb81
(Ground surface) 63.8-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-4: GRAVEL and COBBLES with SILT
4-15: GRAVEL and COBBLES with BOULDERS, SAND
15-20: GRAVEL with SAND, COBBLES, and BOULDERS
20-40: GRAVEL and SAND
40-45: GRAVEL, COBBLES and SAND
45-79: GRAVEL and SAND
79-80: Not documented

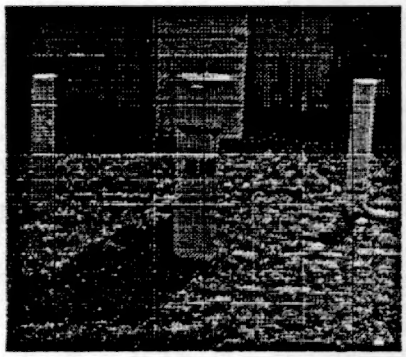
REMEDIATION:
19-Apr84 by M. Bultena
Cleaned well. Installed telescoping screen.



Elevation of reference point: [456.70-ft] (top of casing)
Height of reference point above ground surface [3.2-ft]
Depth of surface seal [10-ft nom]
Type of surface seal: Cement grout
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Depth top of perforations: [12-ft]
Description of perforations: Not documented
Diameter of borehole: [9-in nom]
Type of filler: None documented
Elevation/depth top of seal
Type of seal: None documented
Telescoping screen, 6-in nominal 51.5-78.5-ft, 10-slot stainless steel 7-ft of 5-in pipe with flare on top
Depth bottom of perforations: [78-ft]
Depth bottom of casing: [80-ft]
Depth bottom of borehole: [80-ft]

Drawing By: RKL/1#N-16.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-16



WELL DESIGNATION	:	199-N-16
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 6,087 W 6,158
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Feb81
DEPTH DRILLED (GS)	:	80-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	57.5-ft, Feb81; 63.8-ft Jul91
CASING DIAMETER	:	8-in carbon steel, +3.2-80-ft
ELEV TOP CASING	:	456.70-ft
ELEV GROUND SURFACE	:	453.5-ft Estimated
PERFORATED INTERVAL	:	12-78-ft
SCREENED INTERVAL	:	51.5-78.5-ft, 10-slot, stainless steel, 6-in nominal telescoping
COMMENTS	:	FIELD INSPECTION, 15Aug89, Carbon steel casing. No pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 31Mar89-30Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Rotary
Drilling Fluid Used: Air
Driller's Name: Nelson ?
Drilling Company: Nelson Well Drilling
Date Started: 27Jan81

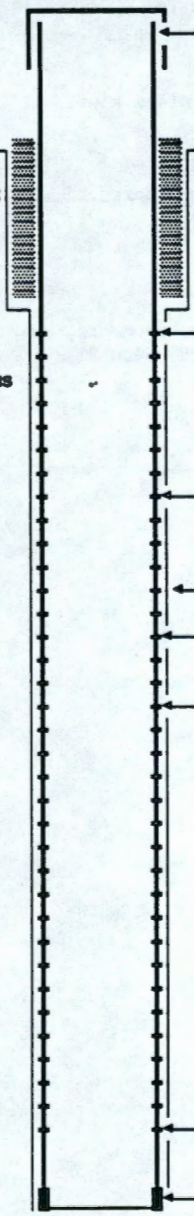
Sample Method: Air returns
Additives Used: Foam, Torq Trim
WA State Lic Nr: Not documented
Company Location: Pasco, WA
Date Complete: 29Jan81

WELL NUMBER: 199-N-17
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 6,902 E/W W 6,518
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 458.2 Estimated

Depth to water: 63.0-ft Jan81
(Ground surface) 70.1-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

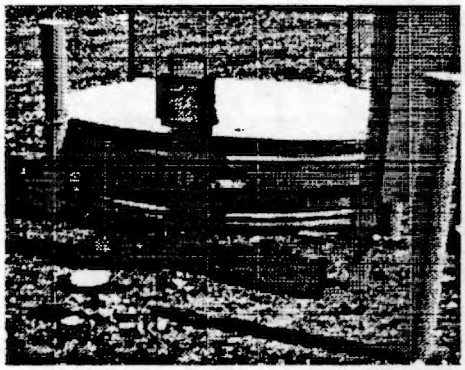
0-3: GROUT and COBBLES with SILT
3-15: GRAVEL and COBBLES with BOULDERS
15-25: GRAVEL 6-in minus with COBBLES, SAND
25-35: GRAVEL 6-in minus with SAND
35-45: GRAVEL 3-in minus with SAND
45-55: GRAVEL 6-in minus with SAND
55-65: GRAVEL 6-in minus with SAND and a trace of SILT
65-75: SAND with some GRAVEL 3-in minus
75-84.5: GRAVEL with SAND



Elevation of reference point: [461.20-ft] (top of casing)
Height of reference point above ground surface [3.0-ft]
Depth of surface seal [10-ft nom]
Type of surface seal: Cement grout
I.D. of surface casing (If present) [ND]
Depth top of perforations: [12-ft]
Description of perforations: Not documented
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: None documented
Elevation/depth top of seal
Type of seal: None documented
Depth bottom of perforations: [83-ft]
Depth bottom of casing: [84.5-ft]
Depth bottom of borehole: [84.5-ft]

Drawing By: RKL/1#N-17.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-17



WELL DESIGNATION	:	199-N-17
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 6,902 W 6,518
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jan81
DEPTH DRILLED (GS)	:	84.5-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	63.0-ft, Jan81; 70.1-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +3.0-84.5-ft
ELEV TOP CASING	:	461.20-ft
ELEV GROUND SURFACE	:	458.2-ft Estimated
PERFORATED INTERVAL	:	12-83-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION,15Aug89, Carbon steel casing. No pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 22Jul87-30Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Rotary
Drilling Fluid Used: Air
Driller's Name: Nelson ?
Drilling Company: Nelwon Well Drilling
Date Started: 03Feb81

Sample Method: Air returns
Additives Used: Foam, Torq Trim
WA State Lic Nr: Not documented
Company Location: Pasco, WA
Date Complete: 04Feb81

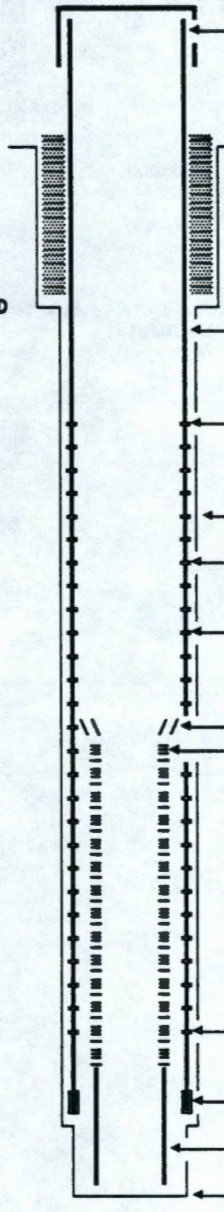
WELL NUMBER: 199-N-18
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 7,000 E/W W 6,613
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 455.3 Estimated

Depth to water: 57.5-ft Feb81
(Ground surface) 67.9-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: GRAVEL 6-in minus with SILT BOULDERS 2.5-4.5-ft
10-15: GRAVEL 6-in minus with SAND, COBBLES
15-20: GRAVEL 6-in minus with SAND
20-50: GRAVEL 6-in minus with SAND
50-60: GRAVEL 6-in minus, silty SAND
60-65: GRAVEL 6-in minus with COBBLES and SAND
65-68: Gray SAND with a little amount of GRAVEL
68-75: GRAVEL 6-in minus with SAND
75-80: GRAVEL 6-in minus with COBBLES and SAND
80 : GRAVEL 6-in minus with SAND, some cementation
80-84: Not documented

REMEDIATION:
25-27Apr84 by M. Bultena
Cleaned well, extended to 84-ft and set telescoping screen.

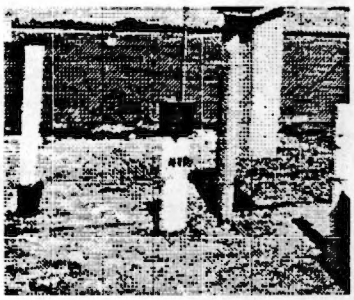


Elevation of reference point: [458.28-ft] (top of casing)
Height of reference point above ground surface [3.0-ft]
Depth of surface seal [10-ft nom]
Type of surface seal: Cement grout
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Depth top of perforations: [12-ft]
Description of perforations: Not documented
Diameter of borehole: [9-in nom]
Type of filler: None documented
Elevation/depth top of seal
Type of seal: None documented
1-ft of flared 5-in casing
Telescoping screen, 6-in 58.5-79.0-ft, 10-slot stainless steel
Depth bottom of perforations: [78-ft]
Depth bottom of casing: [80-ft]
5-ft of blank 5-in casing
Depth bottom of borehole: [84-ft]

Drawing By: RKL/1#N-18.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-18



WELL DESIGNATION	:	199-N-18
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 7,000 W 6,613
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Feb81
DEPTH DRILLED (GS)	:	80-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	62.0-ft, Feb81; 67.9-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +3.0-~80-ft
ELEV TOP CASING	:	458.28-ft
ELEV GROUND SURFACE	:	455.3-ft Estimated
PERFORATED INTERVAL	:	12-78-ft
SCREENED INTERVAL	:	58.5-79.0-ft, 10-slot, stainless steel, 6-in nominal telescoping
COMMENTS	:	FIELD INSPECTION, 15Aug89, Carbon steel casing. No pad, 2 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; dropped from RCRA monitoring network after Feb90 sampling; Water levels measured 22Jul87-30Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Rotary	Sample Method: Air returns
Drilling Fluid Used: Air	Additives Used: Foam, Torq Trim
Driller's Name: Nelson ?	WA State Lic Nr: Not documented
Drilling Company: Nelson Well Drilling	Company Location: Pasco, WA
Date Started: 30Jan81	Date Complete: 30Jan81

WELL NUMBER: 199-N-19 TEMPORARY WELL NO: _____

Hanford N-Area Coordinates: N/S N 6,783 E/W W 6,709

State Coordinates: N Not documented E Not documented

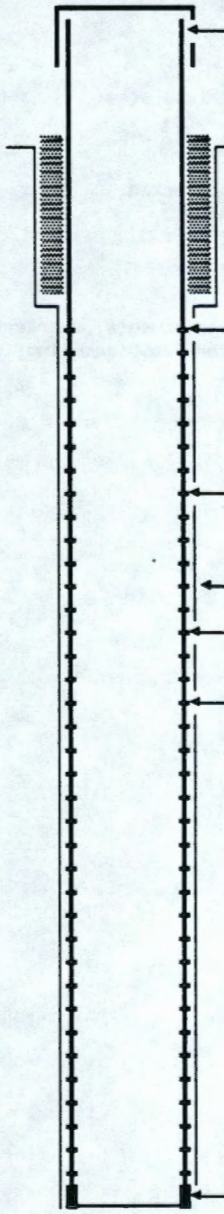
Start Card #: Not documented T___ R___ S___

Elevation Ground surface (ft): 450.9 Estimated

Depth to water: Not documented
(Ground surface) 63.5-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: GRAVEL 6-in minus and COBBLES with SILT to 3-ft
10-15: GRAVEL 6-in minus with COBBLES, SAND and BOULDERS
15-20: GRAVEL 6-in minus some COBBLES, SAND
20-25: GRAVEL 6-in minus, some COBBLES, SAND
25-30: GRAVEL 6-in minus, SAND
30-45: GRAVEL 4-in minus, SAND
45-62: GRAVEL 6-in minus, SAND and COBBLES
62-64: GRAVEL 6-in minus, SAND and COBBLES
64-77: GRAVEL 6-in minus, SAND
77-78: SAND with GRAVEL



Elevation of reference point: [453.90-ft] (top of casing)

Height of reference point above ground surface [3.0-ft]

Depth of surface seal [10-ft nom]

Type of surface seal: Cement grout, (not documented)

I.D. of surface casing (If present) [ND]

Depth top of perforations: [12-ft]
Description of perforations: Not documented

I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel

Diameter of borehole: [9-in nom]

Type of filler: None documented

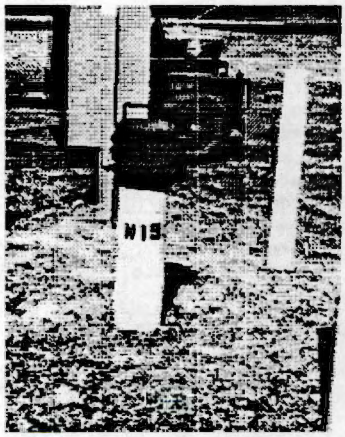
Elevation/depth top of seal
Type of seal: None documented

Depth bottom of perforations: [78.0-ft]
Depth bottom of casing: [78.0-ft]
Depth bottom of borehole: [78.0-ft]

Drawing By: RKL/1#N-19.ASB Date: _____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-19



WELL DESIGNATION	:	199-N-19
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 6,783 W 6,709
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jan81
DEPTH DRILLED (GS)	:	78.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	Not documented; 63.5-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +3.0-78.0-ft
ELEV TOP CASING	:	453.90-ft
ELEV GROUND SURFACE	:	450.9-ft Estimated
PERFORATED INTERVAL	:	12-78-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 15Aug89, Carbon steel casing. No pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 22Jul87-30Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 2 0 3

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Rotary
Drilling Fluid Used: Air
Driller's Name: Nelson ?
Drilling Company: Nelson Well Drilling
Date Started: 21Jan81

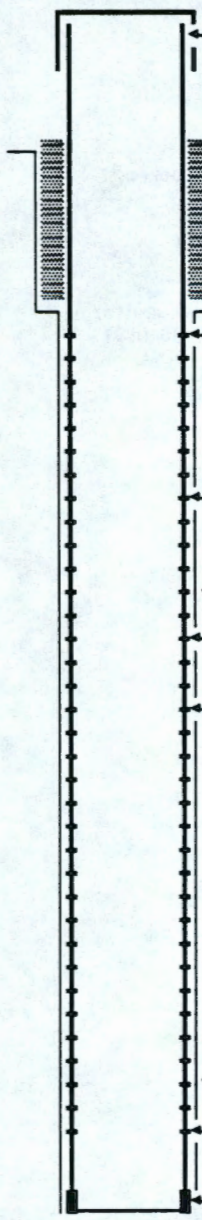
Sample Method: Air returns
Additives Used: Foam, Torq Trim
WA State Lic Nr: Not documented
Company Location: Pasco, WA
Date Complete: 27Jan81

WELL NUMBER: 199-N-20
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 6,646 E/W W 6,680
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 452.9 Estimated

Depth to water: 62.0-ft Jan81
(Ground surface) 64.9-ft Jul91

GENERALIZED STRATIGRAPHY Driller's Log

0-10: GRAVEL 6-in minus with SILT binder at 3-ft
10-20: GRAVEL 6-in minus, BOULDERS
20-25: GRAVEL 6-in minus with BOULDERS, SAND
25-30: GRAVEL 2-in minus with SAND and COBBLES
30-80: GRAVEL 2-in minus with SAND

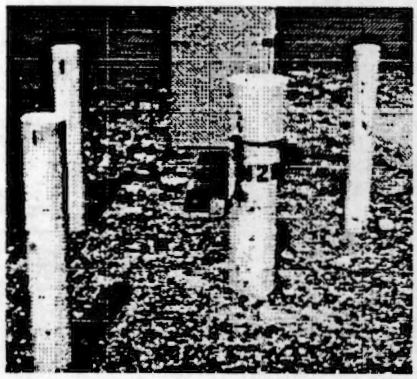


Elevation of reference point: [455.90-ft] (top of casing)
Height of reference point above ground surface [3.0-ft]
Depth of surface seal [10-ft nom]
Type of surface seal: Cement grout
I.D. of surface casing (If present) [ND]
Depth top of perforations: [12-ft]
Description of perforations: 3/8-in x 2 3/8-in
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: None documented
Elevation/depth top of seal
Type of seal: None documented
Depth bottom of perforations: [78-ft]
Depth bottom of casing: [80.0-ft]
Depth bottom of borehole: [80.0-ft]

Drawing By: RKL/1#N-20.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-20



WELL DESIGNATION	:	199-N-20
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 6,646 W 6,680
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jan81
DEPTH DRILLED (GS)	:	80.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	62.0-ft, Jan81; 64.9-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +3.0-80.0-ft
ELEV TOP CASING	:	455.90-ft
ELEV GROUND SURFACE	:	452.9-ft Estimated
PERFORATED INTERVAL	:	12-78-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 15Aug89, Carbon steel casing. No pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 22Jul87-30Jul91
PUMP TYPE	:	None
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Rotary
Drilling Fluid Used: Air
Driller's Name: Nelson ?
Drilling Company: Nelson Well Drilling
Date Started: 16Jan81

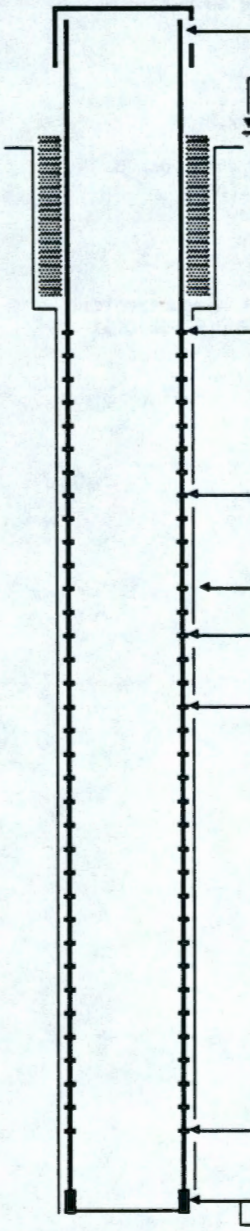
Sample Method: Air returns
Additives Used: Foam, Torq Trim
WA State Lic Nr: Not documented
Company Location: Pasco, WA
Date Complete: 20Jan81

WELL NUMBER: 199-N-21
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 6,522 E/W W 6,707
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 454.0-Estimated

Depth to water: 60.0-ft Jan81
(Ground surface) 66.1-ft Jul91

GENERALIZED STRATIGRAPHY Driller's Log

0-6: GRAVEL and COBBLES with SILT binder
6-9: BOULDER
9-15: COBBLES and GRAVEL
15-20: COBBLES and GRAVEL with SAND
20-25: COBBLES and GRAVEL, SAND with a trace of SILT
25-30: COBBLES, GRAVEL, SAND
30-40: GRAVEL 6-in minus, SAND
40-45: GRAVEL 4-in minus, SAND
45-55: GRAVEL 2-in minus, SAND
55-79.5: GRAVEL 6-in minus, SAND

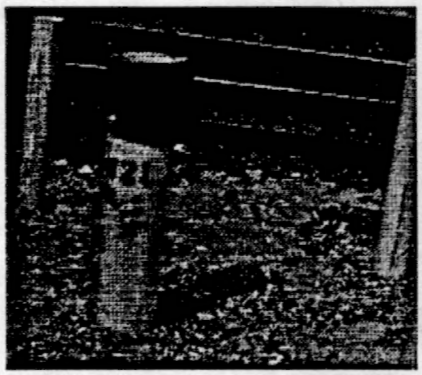


Elevation of reference point: [457.00-ft] (top of casing)
Height of reference point above ground surface [3.0-ft]
Depth of surface seal [10-ft nom]
Type of surface seal: Cement grout
I.D. of surface casing (If present) [ND]
Depth top of perforations: [12-ft]
Description of perforations: Not documented
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: None documented
Elevation/depth top of seal
Type of seal: None documented
Depth bottom of perforations: [77.6-ft]
Depth bottom of casing: [79.5-ft]
Depth bottom of borehole: [79.5-ft]

Drawing By: RKL/1#N-21.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-21



WELL DESIGNATION	:	199-N-21
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 6,522 W 6,707
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jan81
DEPTH DRILLED (GS)	:	79.5-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	60.0-ft, Jan81; 66.1-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +3.0-79.5-ft
ELEV TOP CASING	:	457.00-ft
ELEV GROUND SURFACE	:	454.0-ft Estimated
PERFORATED INTERVAL	:	12-77.6-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 25Apr91, Carbon steel casing. No pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 26Apr89-30Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Rotary	Sample Method: Air returns
Drilling Fluid Used: Air	Additives Used: Foam, Torq Trim
Driller's Name: Nelson ?	WA State Lic Nr: Not documented
Drilling Company: Nelson Well Drilling	Company Location: Pasco, WA
Date Started: 14Jan81	Date Complete: 16Jan81

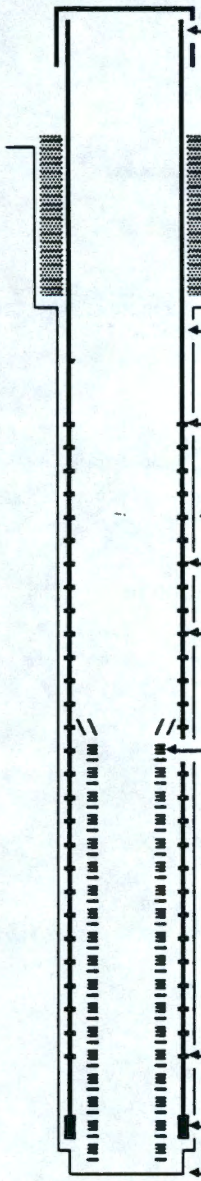
WELL NUMBER: 199-N-22	TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 6,340	E/W W 6,762
State Coordinates: N Not documented	E Not documented
Start Card #: Not documented	T___ R___ S___
Elevation Ground surface (ft): 454.2 Estimated	

Depth to water: 62.0-ft Jan81
(Ground surface)

GENERALIZED STRATIGRAPHY — Driller's Log

0-25: Not legibly documented
25-35: GRAVEL 6-in minus grading to 3-in
35-60: GRAVEL 3-in with SAND
60-79: GRAVEL 6-in minus with SAND

REMEDIATION:
24-25Apr84 by M. Bultena
Cleaned well and set telescoping screen

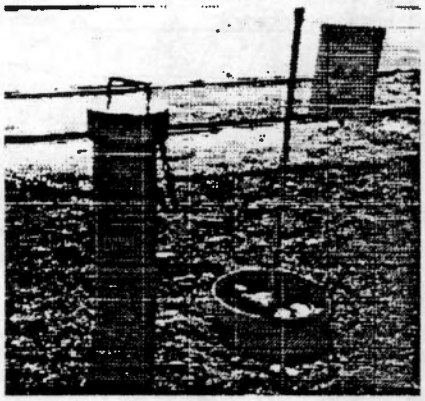


- Elevation of reference point: [457.10-ft] (top of casing)
- Height of reference point above ground surface [2.9-ft]
- Depth of surface seal [10-ft nom]
  Type of surface seal: Cement grout
  I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8-in]
  Type of riser pipe: Carbon steel
- Depth top of perforations: [12-ft]
  Description of perforations: Not documented
- Diameter of borehole: [9-in nom]
- Type of filler: None documented
- Elevation/depth top of seal
  Type of seal: None documented
- Telescoping screen, 6-in
  57.5-80.0-ft,
  10-slot stainless steel
  1-ft flared 5-in casing on top
- Depth bottom of perforations: [77-ft]
- Depth bottom of casing: [~79-ft]
- Depth bottom of borehole: [~80-ft]

Drawing By: RKL/1#N-22.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-22



WELL DESIGNATION	:	199-N-22
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 6,340 W 6,762
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jan81
DEPTH DRILLED (GS)	:	79-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	62.0-ft, Jan81;
CASING DIAMETER	:	8-in carbon steel, +2.9-79-ft
ELEV TOP CASING	:	457.10-ft
ELEV GROUND SURFACE	:	454.2-ft Estimated
PERFORATED INTERVAL	:	12-77-ft
SCREENED INTERVAL	:	58.5-80.0-ft, 10-slot, stainless steel, 6-in nominal telescoping
COMMENTS	:	FIELD INSPECTION, 28Sep89, Carbon steel casing. No pad, no posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	None
MAINTENANCE	:	ND

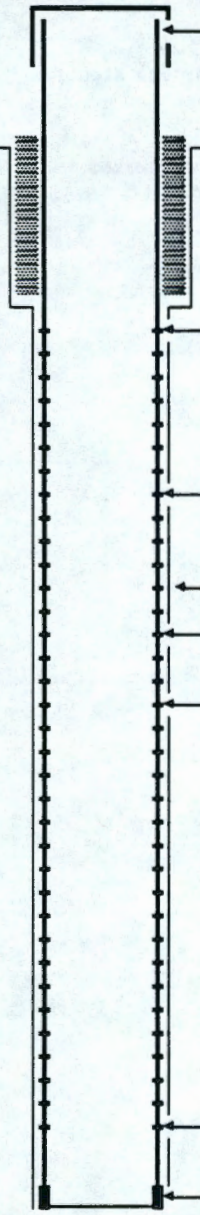
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Rotary	Sample Method: Air returns	WELL NUMBER: 199-N-23	TEMPORARY WELL NO:
Drilling Fluid Used: Air	Additives Used: Foam, Torq Trim	Hanford N-Area Coordinates: N/S N 6,232	E/W W 6,784
Driller's Name: Nelson ?	WA State Lic Nr: Not documented	State Coordinates: N Not documented	E Not documented
Drilling Company: Nelson Well Drilling	Company Location: Pasco, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 12Jan81	Date Complete: 14Jan81	Elevation Ground surface (ft): Not documented	

Depth to water: 58.4-ft Jan81
(top-of-casing) 68.8-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: GRAVEL 6-in minus with SAND and SILT binder
10-25: GRAVEL 6-in minus with SAND
25-50: GRAVEL 3-in minus, SAND
50-70: GRAVEL 6-in minus with SAND
70-80: GRAVEL 6-in minus, SAND, silty



- Elevation of reference point: [456.30-ft] (top of casing)
- Height of reference point above ground surface [ND]
- Depth of surface seal [10-ft nom]
  Type of surface seal: Cement grout
- I.D. of surface casing (If present) [ND]
- Depth top of perforations: [12-ft]
  Description of perforations: Not documented
- I.D. of riser pipe: [8-in]
  Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: None documented
- Elevation/depth top of seal
  Type of seal: None documented
- Depth bottom of perforations: [78.0-ft]
- Depth bottom of casing: [80.0-ft]
- Depth bottom of borehole: [80.0-ft]

Drawing By: RKL/1#N-23.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-23

WELL DESIGNATION	:	199-N-23
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 6,232 W 6,784
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jan81
DEPTH DRILLED (GS)	:	80.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	58.4-ft, Jan81;
CASING DIAMETER	:	8-in carbon steel, +ND↔-80.0-ft
ELEV TOP CASING	:	457.00-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	12↔78.0-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; dropped from monitoring network after Feb90 sampling; Water levels measured 31Mar89↔30Jul91
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

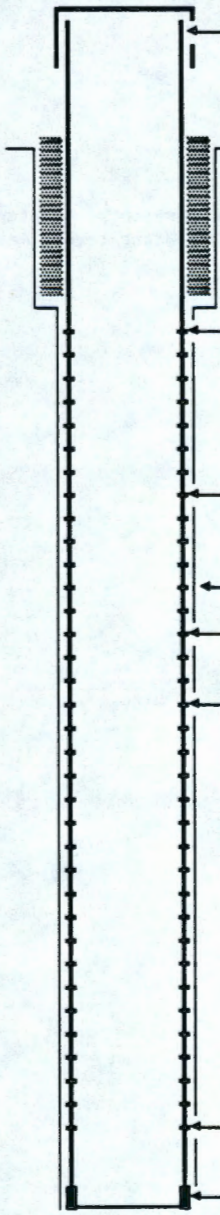
Drilling Method: Rotary	Sample Method: Air returns
Drilling Fluid Used: Air	Additives Used: Foam, Torq Trim
Driller's Name: Nelson ?	WA State Lic Nr: Not documented
Drilling Company: Nelson Well Drilling	Company Location: Pasco, WA
Date Started: 06Jan81	Date Complete: 07Jan81

WELL NUMBER: 199-N-24	TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 6,049	E/W W 6,892
State Coordinates: N Not documented	E Not documented
Start Card #: Not documented	T___ R___ S___
Elevation Ground surface (ft): Not documented	

Depth to water: 34.0-ft Jan81
(top-of-casing) 40.8-ft Aug90

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: GRAVEL with BOULDERS, SILT binder and SAND
10-15: GRAVEL with COBBLES, SAND
15-20: GRAVEL 6-in with SAND
20-30: COBBLES 4-in minus with increasing SAND with a trace of SILT
30-35: GRAVEL 2-in minus with SAND, silty
35-50: GRAVEL 2-in minus with SAND, silty
50-55: GRAVEL, 2-in minus with increasing SAND, silty



Elevation of reference point: [432.50-ft]
(top of casing)
Height of reference point above ground surface [ND]

Depth of surface seal [10-ft nom]

Type of surface seal:
Cement grout

I.D. of surface casing (If present) [ND]

Depth top of perforations: [12-ft]
Description of perforations:
Not documented

I.D. of riser pipe: [8-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
None documented

Elevation/depth top of seal
Type of seal: None documented

Depth bottom of perforations: [54.0-ft]

Depth bottom of casing: [55.0-ft]
Depth bottom of borehole: [55.0-ft]

Drawing By: RKL/1#N-24.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-24

WELL DESIGNATION	:	199-N-24
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 6,049 W 6,892
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jan81
DEPTH DRILLED (GS)	:	55.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	34.0-ft, Jan81; 40.8-ft, Aug90 (top-of-casing)
CASING DIAMETER	:	8-in carbon steel, +ND+-55.0-ft
ELEV TOP CASING	:	432.50-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	12+54-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; dropped from monitoring network after Feb90 sampling; Water levels measured 31Mar89+30Aug90
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 2 1 3

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Rotary
Drilling Fluid Used: Air
Driller's Name: Nelson ?
Drilling Company: Nelson Well Drilling
Date Started: 08Jan81

Sample Method: Air returns
Additives Used: Foam, Torq Trim
WA State Lic Nr: Not documented
Company Location: Pasco, WA
Date Complete: 10Jan81

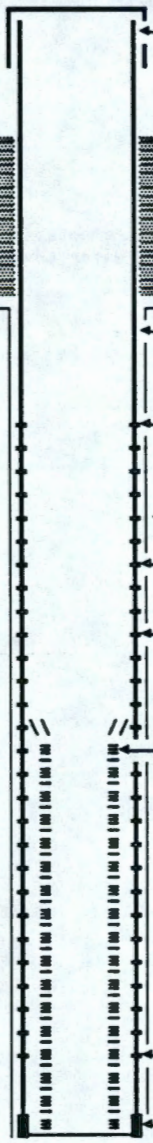
WELL NUMBER: 199-N-25
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 5,923 E/W W 6,910
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: 35.5-ft Jan81
(top-of-casing) 38.8-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: GRAVEL 6-in minus with SAND, SILTS
10-15: BOULDERS and GRAVELS with SAND
15-16: GRAVEL 6-in minus with SANDS
16-18: BOULDER
18-24: GRAVEL 6-in minus with SAND
24-36: Medium SAND, some GRAVEL
36-49: GRAVEL with SAND
49 : GRAVEL with SAND and COBBLES

REMEDIATION:
16-19Apr84 by M. Bultena
Cleaned well and set telescoping screen



Elevation of reference point: [428.50-ft] (top of casing)
Height of reference point above ground surface [ND]
Depth of surface seal [10-ft nom]
Type of surface seal: Cement grout
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Depth top of perforations: [12-ft]
Description of perforations: Not documented
Diameter of borehole: [9-in nom]
Type of filler: None documented
Elevation/depth top of seal
Type of seal: None documented
Telescoping screen, 6-in 27.5-48.5-ft, Stainless steel 1-ft flared 5-in casing on top
Depth bottom of perforations: [47-ft]
Depth bottom of casing: [49-ft]
Depth bottom of borehole: [49-ft]

Drawing By: RKL/1#N-25.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-25

WELL DESIGNATION	:	199-N-25
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 5,923 W 6,910
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jan81
DEPTH DRILLED (GS)	:	49-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	35.5-ft, Jan81; 38.8-ft, Jul91 (top-of-casing)
CASING DIAMETER	:	8-in carbon steel, +ND-~49-ft
ELEV TOP CASING	:	425.80-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	12-47-ft
SCREENED INTERVAL	:	26.5-48.5-ft, stainless steel, 6-in nominal telescoping
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; dropped from RCRA monitoring network after Feb90 sampling; Water levels measured 20Apr89-30Jul91
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

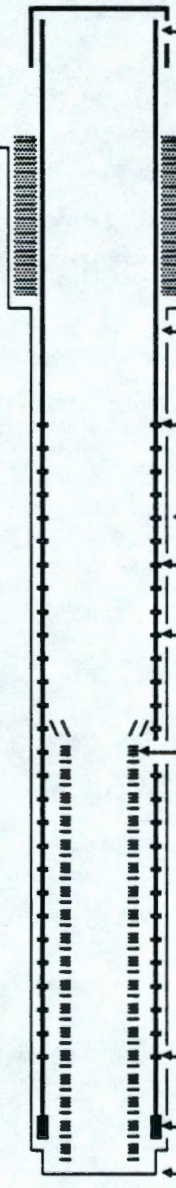
Drilling Method: Rotary	Sample Method: Air returns	WELL NUMBER: 199-N-26 / TEMPORARY WELL NO:
Drilling Fluid Used: Air	Additives Used: Foam, Torq Trim	Hanford N-Area Coordinates: N/S N 5,705 E/W W 6,797
Driller's Name: Nelson ?	WA State Lic Nr: Not documented	State Coordinates: N Not documented E Not documented
Drilling Company: Nelson Well Drilling	Company Location: Pasco, WA	Start Card #: Not documented T___ R___ S___
Date Started: 31Dec80	Date Complete: 03Jan81	Elevation Ground surface (ft): Not documented

Depth to water: 63.0-ft Jan81
(top-of-casing) 39.4-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: GRAVEL with COBBLES and SAND with SILT
10-15: GRAVEL with COBBLES and SAND
15-20: GRAVEL with some SAND
20-45: GRAVEL 6-in with SAND
45-50: GRAVEL 3-in with SAND, SILT
50-55: GRAVEL 3-in, COBBLES, SAND more SILT
55-79: GRAVEL 3-in, SAND silty

REMEDIATION:
23-24aApr84 by M. Bultena
Set telescoping screen



- Elevation of reference point: [455.80-ft] (top of casing)
- Height of reference point above ground surface [ND]
- Depth of surface seal [10-ft nom]
  Type of surface seal: Cement grout
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8-in]
  Type of riser pipe: Carbon steel
- Depth top of perforations: [12-ft]
  Description of perforations: Not documented
- Diameter of borehole: [9-in nom]
- Type of filler: None documented
- Elevation/depth top of seal
  Type of seal: None documented
- Telescoping screen, 6-in 61.0-81.5-ft, 10-slot stainless steel 1-ft flared 5-in casing on top
- Depth bottom of perforations: [77-ft]
- Depth bottom of casing: [79-ft]
- Depth bottom of borehole: [81.5-ft]

Drawing By: RKL/1#N-26.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-26

WELL DESIGNATION	:	199-N-26
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 5,705 W 6,797
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jan81
DEPTH DRILLED (GS)	:	79-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	63.0-ft, Jan81;
CASING DIAMETER	:	8-in carbon steel, +ND-79-ft
ELEV TOP CASING	:	457.10-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	12-77-ft
SCREENED INTERVAL	:	58.5-80.0-ft, 10-slot, stainless steel, 6-in nominal telescoping
COMMENTS	:	FIELD INSPECTION,
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; dropped from RCRA monitoring network after Feb90 sampling; Water levels measured 22Aug89-30Jul91
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

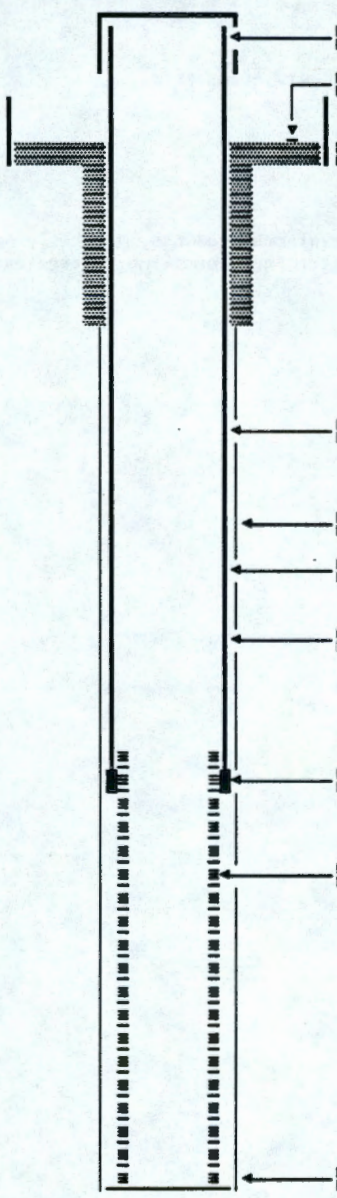
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-N-27 / TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford N-Area Coordinates: N/S N 7,728 E/W W 4,103
Driller's Name: Bultena	WA State Lic Nr: 0066	State Coordinates: N Not documented E Not documented
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 15Jun83	Date Complete: 23Aug83	Elevation Ground surface (ft): 447.1 Estimated

Depth to water: 49.0-ft Aug83
(Ground surface) 56.9-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-40: COBBLES and BOULDERS
40-50: COBBLES, SAND and SILT
50-69: COBBLES and SAND

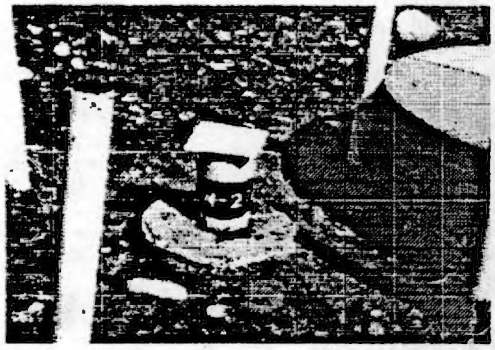


- Elevation of reference point: (top of casing) [449.08-ft]
- Height of reference point above ground surface [2.0-ft]
- Depth of surface seal [0-18-ft]
- Type of surface seal: Cement grout, 135 gals
- I.D. of surface casing (Pulled back) [12-in]
- I.D. of riser pipe: [8-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Elevation/depth top of seal
- Type of seal: Not documented
- Depth bottom of casing: Pulled back from total depth, [33-ft]
- Telescoping screen 32-69-ft. #20-slot, stainless steel
- Depth bottom of borehole [69-ft]

Drawing By: RKL/1#N-27.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-27



WELL DESIGNATION	:	199-N-27
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1325-N
HANFORD COORDINATES	:	N-Area N 7,728 W 4,103
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Aug83
DEPTH DRILLED (GS)	:	69.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	49.0-ft, Aug83; 56.9-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +2.0-33-ft
ELEV TOP CASING	:	449.08-ft
ELEV GROUND SURFACE	:	447.1-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	32-69-ft, telescoping, #20-slot, stainless steel
COMMENTS	:	FIELD INSPECTION, 25Apr91; Carbon steel casing. 2-ft by 2-ft round concrete pad, 4 posts, 2 removable. Capped and locked, no permanent identification. Has Stevens Recorder installed.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 11Sep85-31Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

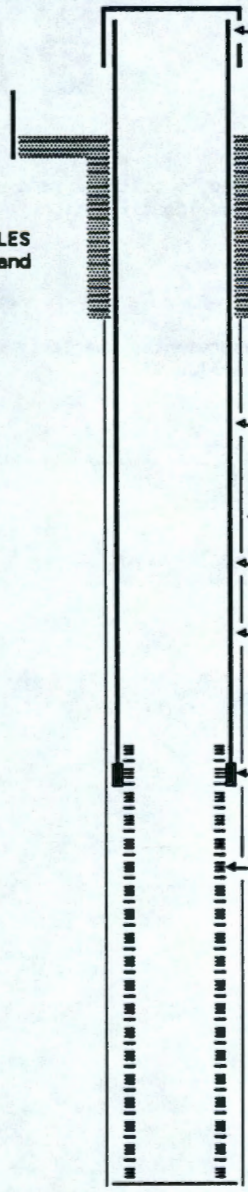
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-N-28	TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford N-Area Coordinates: N/S N 7,050	E/W W 4,165
Driller's Name: Olson	WA State Lic Nr: 1217	State Coordinates: N Not documented	E Not documented
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 17Sep83	Date Complete: 20Sep83	Elevation Ground surface (ft): Not documented	

Depth to water: 63.0-ft Sep83
(top-of-casing) 74.8-ft Jul91

GENERALIZED STRATIGRAPHY | Driller's Log

0-14: BOULDERS and COBBLES
14-18: Not documented
18-31: BOULDERS and COBBLES
31-42: Larger BOULDERS and COBBLES
42-58: Small BOULDERS, COBBLES and GRAVEL
58-68: COBBLES, GRAVEL and SAND
68-73: COBBLES, GRAVEL and SAND becoming cemented
73-83: Cemented COBBLES, GRAVEL and SAND

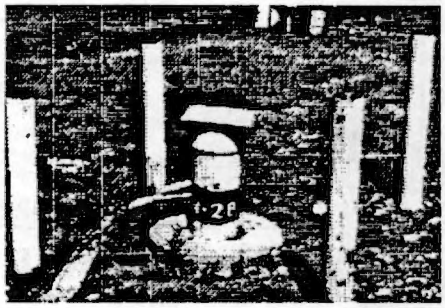


- Elevation of reference point: (top of casing) [464.24-ft]
- Height of reference point above ground surface [ND]
- Depth of surface seal [0-~18-ft]
- Type of surface seal: Cement grout
- I.D. of surface casing (Pulled back) [12-in]
- I.D. of riser pipe: [8-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Elevation/depth top of seal
- Type of seal: Not documented
- Depth bottom of casing: Pulled back from total depth, [48-ft]
- Telescoping screen 47-83-ft.
- Depth bottom of borehole [83-ft]

Drawing By: RKL/1#N-28.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-28



WELL DESIGNATION	:	199-N-28
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 7,050 W 4,165
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Sep83
DEPTH DRILLED (GS)	:	83.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	63.0-ft, Sep83;
CASING DIAMETER	:	8-in carbon steel, +2.0-~48-ft
ELEV TOP CASING	:	464.24-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	47-83-ft, telescoping,
COMMENTS	:	FIELD INSPECTION, 15Aug89; Carbon steel casing. 2-ft by 2-ft round concrete pad, 4 posts, 2 removable. Capped and locked, no permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 11Sep85-31Jul91.
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

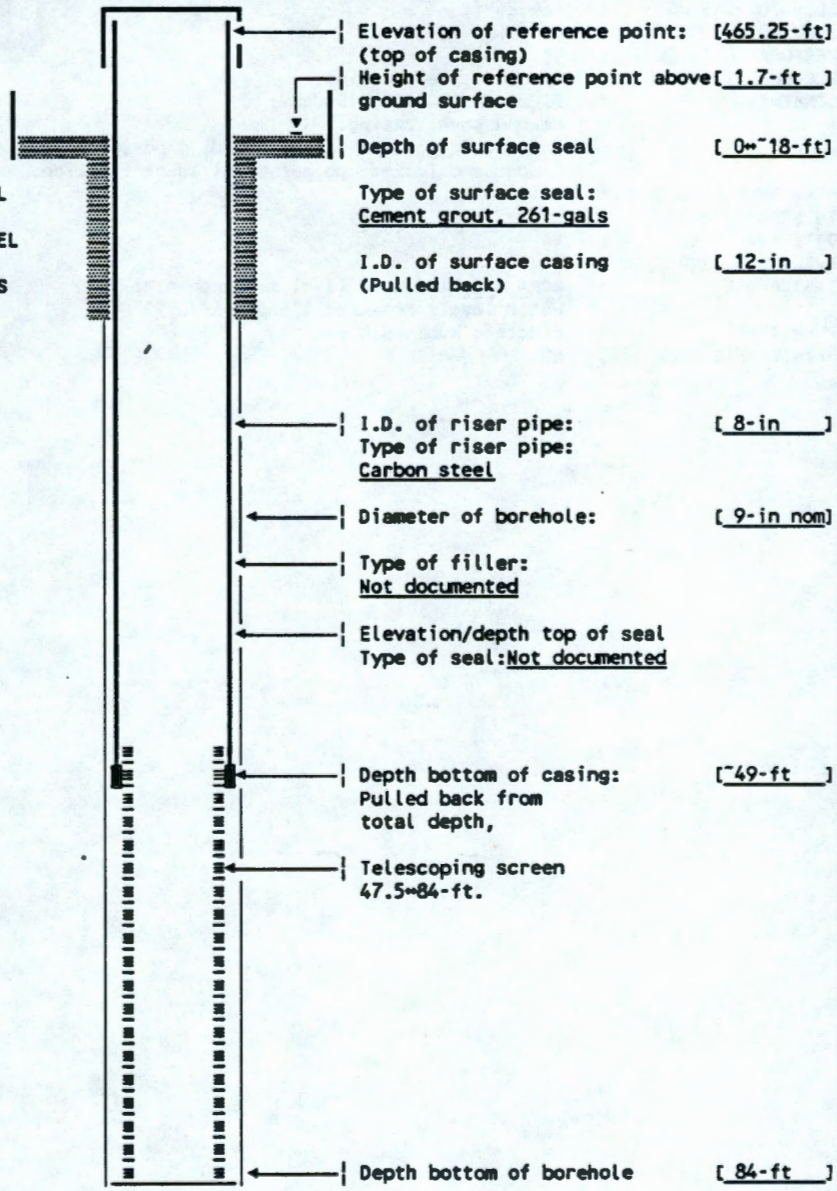
Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Not documented	Additives Used: Not documented
Driller's Name: Olson	WA State Lic Nr: 1217
Drilling Company: Not documented	Company Location: Not documented
Date Started: 17Aug83	Date Complete: 26Aug83

WELL NUMBER: 199-N-29 TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 6,943 E/W W 4,525
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 463.5 Estimated

Depth to water: 64.0-ft Aug83
(top-of-casing) 74.8-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

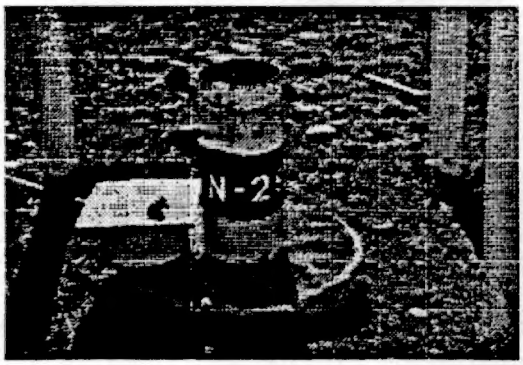
0-4: Not documented
4-13: BOULDERS, COBBLES & GRAVEL
13-14: BOULDERS
14-28: BOULDERS, COBBLES & GRAVEL
28-58: GRAVEL, COBBLES & SAND
58-62: BOULDERS, GRAVEL, COBBLES COBBLES & SAND
62-78: GRAVEL, COBBLES & SAND
78-84: SAND & GRAVEL



Drawing By: RKL/1#N-29.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-29



WELL DESIGNATION	:	199-N-29
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1325-N
HANFORD COORDINATES	:	N-Area N 6,943 W 4,525
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Aug83
DEPTH DRILLED (GS)	:	84.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	64.0-ft, Aug83; 74.8-ft, Jul91 (top-of-casing)
CASING DIAMETER	:	8-in carbon steel, +1.7-49-ft
ELEV TOP CASING	:	465.25-ft
ELEV GROUND SURFACE	:	463.5-ft, Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	47.5-84-ft, telescoping,
COMMENTS	:	FIELD INSPECTION, 26Apr91; Carbon steel casing. 2-ft by 2-ft round concrete pad, 4 posts, 2 removable. Capped and locked, no permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 11Sep85-31Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 2 2 3

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Not documented	Additives Used: Not documented
Driller's Name: Olson	WA State Lic Nr: 1217
Drilling Company: Not documented	Company Location: Not documented
Date Started: 29Aug83	Date Complete: 08Sep83

WELL NUMBER: 199-N-30 TEMPORARY WELL NO:

Hanford N-Area Coordinates: N/S N 6,469 E/W W 5,545

State Coordinates: N Not documented E Not documented

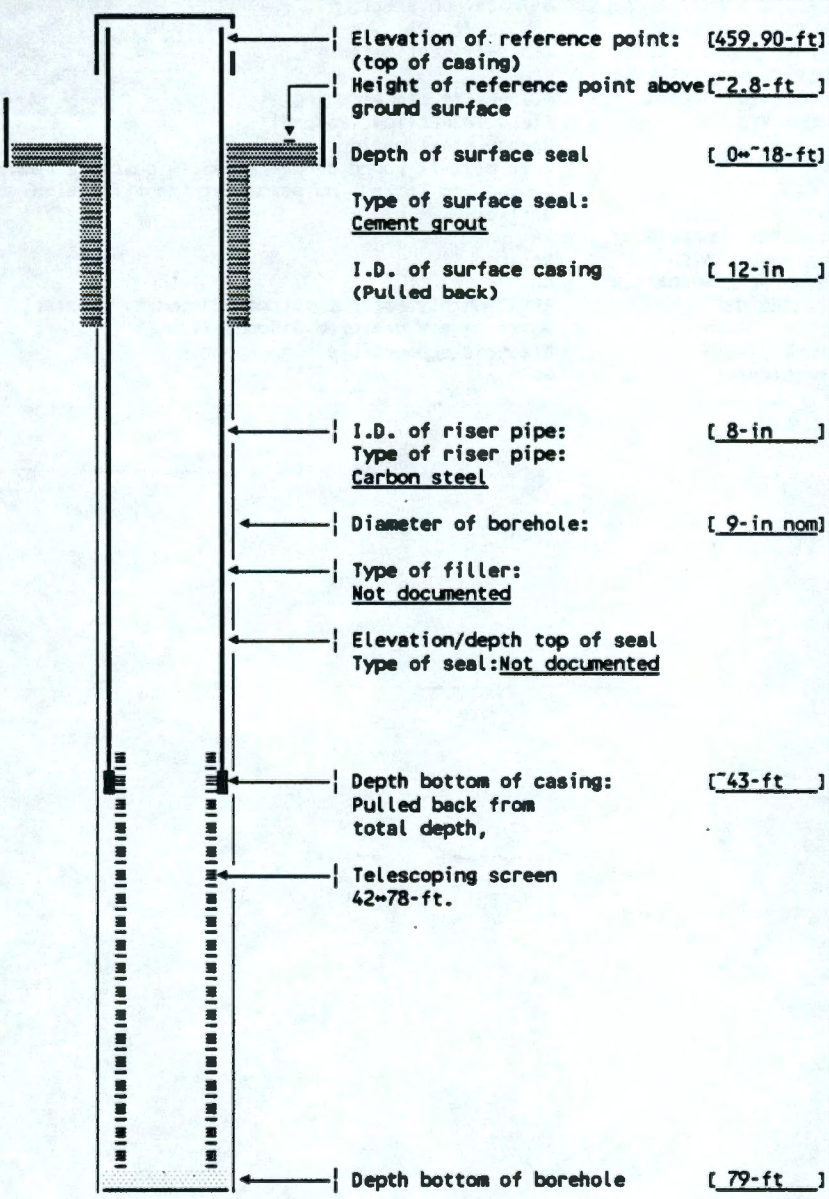
Start Card #: Not documented T___ R___ S___

Elevation Ground surface (ft): 457.1 Estimated

Depth to water: 58.0-ft Sep83
(Ground surface) 59.9-ft Feb89

GENERALIZED STRATIGRAPHY — Driller's Log

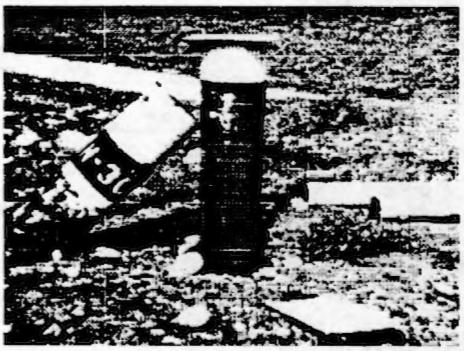
0-15: SAND
15-45: BOULDERS, COBBLES, GRAVEL
45-59: BOULDERS and COBBLES
59-61: BOULDERCOBBLES & GRAVEL
61-79: COBBLES, GRAVEL & SAND



Drawing By: RKL/1#N-30.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-30



WELL DESIGNATION	:	199-N-30
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 6,469 W 5,545
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Sep83
DEPTH DRILLED (GS)	:	79.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	58.0-ft, Sep83; 59.9-ft, Feb89
CASING DIAMETER	:	8-in carbon steel, +2.8-43-ft
ELEV TOP CASING	:	459.90-ft
ELEV GROUND SURFACE	:	457.1-ft, Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	42-79-ft, telescoping,
COMMENTS	:	FIELD INSPECTION, 28Mar90; Carbon steel casing. Upper 3-ft of casing has been cut off and replaced. No pad, no posts, Not capped and locked, (Hasp repaired Apr90) no permanent identification. In radiation zone.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 11Sep85-24Feb89
PUMP TYPE	:	Electric submersible?
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Bultena
Drilling Company: Not documented
Date Started: 12Sep83

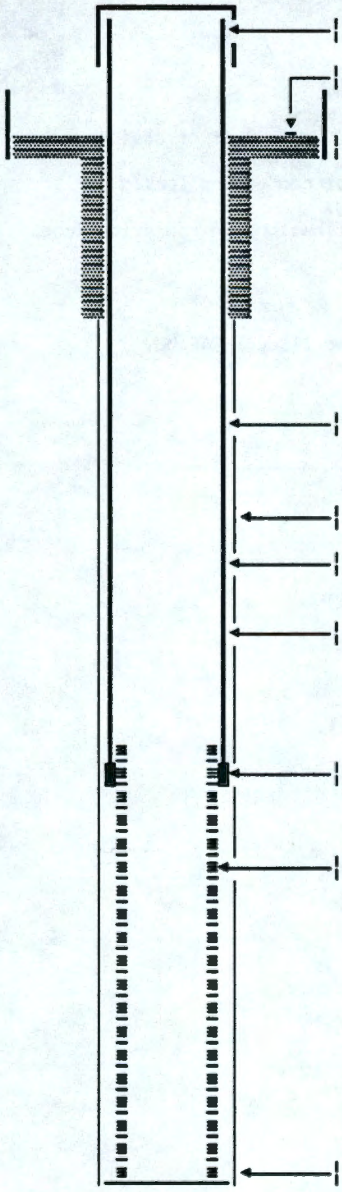
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: 0066
Company Location: Not documented
Date Complete: 23Sep83

WELL NUMBER: 199-N-31
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 7,489 E/W W 4,865
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 460.9 Estimated

Depth to water: 61.0-ft Sep83
(top-of-casing) 73.2-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-6: Not documented
6-45: COBBLES & BOULDERS
45-81: BOULDERS and COBBLES
31-42: SILT, SAND & COBBLES

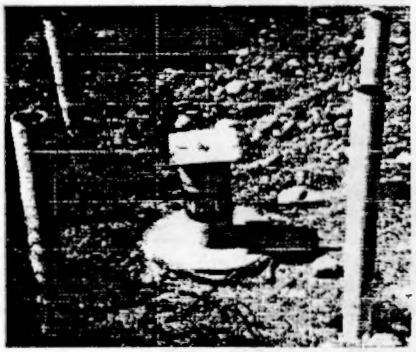


Elevation of reference point: [462.63-ft]
(top of casing)
Height of reference point above ground surface [1.7-ft]
Depth of surface seal [0-18-ft]
Type of surface seal: Cement grout
I.D. of surface casing (Pulled back) [12-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: [45-ft]
Pulled back from total depth,
Telescoping screen 44-81-ft.
Depth bottom of borehole [81-ft]

Drawing By: RKL/1#N-31.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-31



WELL DESIGNATION	:	199-N-31
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1325-N
HANFORD COORDINATES	:	N-Area N 7,489 W 4,865
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Sep83
DEPTH DRILLED (GS)	:	81.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	61.0-ft, Sep83; 73.2-ft Jul91 (top-of-casing)
CASING DIAMETER	:	8-in carbon steel, +1.7-45-ft
ELEV TOP CASING	:	462.63-ft
ELEV GROUND SURFACE	:	460.9-ft, Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	44-81-ft, telescoping,
COMMENTS	:	FIELD INSPECTION, 25Apr91; Carbon steel casing. 2-ft by 2-ft round concrete pad, 4 posts, 2 removable. Capped and locked, no permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 11Sep85-30Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

9 2 1 2 3 0 0 2 2 7

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Olson
Drilling Company: Not documented
Date Started: 21Sep83

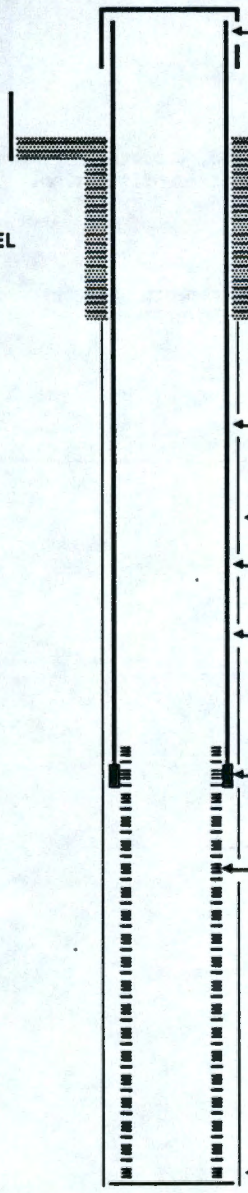
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: 1217
Company Location: Not documented
Date Complete: 29Sep83

WELL NUMBER: 199-N-32
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 7,690 E/W W 4,604
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 460.3 Estimated

Depth to water: 60.0-ft Sep83
(Ground surface) 70.2-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

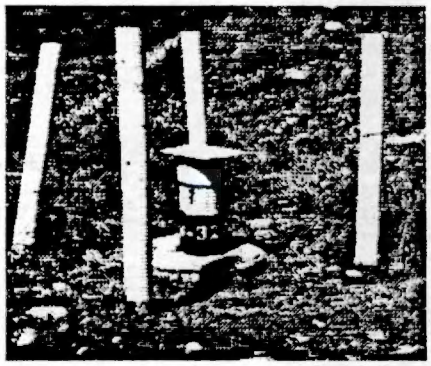
0-13: BOULDERS and COBBLES
13-20: Not documented
20-36: BOULDERS and COBBLES
36-61: BOULDERS, COBBLES & GRAVEL
61-80: COBBLES, GRAVEL & SAND



Elevation of reference point: [462.08-ft]
(top of casing)
Height of reference point above ground surface [1.8-ft]
Depth of surface seal [0-~18-ft]
Type of surface seal: Cement grout, 144-gals
I.D. of surface casing (Pulled back) [12-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: Pulled back from total depth, [~44-ft]
Telescoping screen 44-80-ft.
Depth bottom of borehole [80-ft]

Drawing By: RKL/1#N-32.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-32



WELL DESIGNATION	:	199-N-32
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1325-N
HANFORD COORDINATES	:	N-Area N 7,690 W 4,604
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Sep83
DEPTH DRILLED (GS)	:	80.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	60.0-ft, Sep83; 70.2-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +1.8-44-ft
ELEV TOP CASING	:	464.24-ft
ELEV GROUND SURFACE	:	460.3-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	44-80-ft, telescoping,
COMMENTS	:	FIELD INSPECTION, 25Apr91; Carbon steel casing. 2-ft by 2-ft round concrete pad, 4 posts, 2 removable. Capped and locked, no permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 11Sep85-31Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Bultena
Drilling Company: Not documented
Date Started: 24Aug83

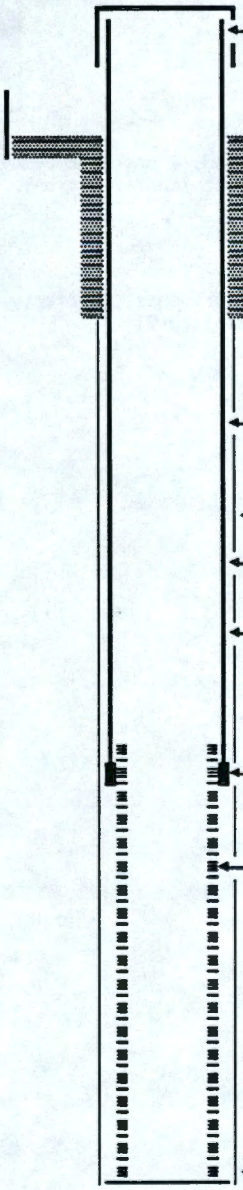
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: 0066
Company Location: Not documented
Date Complete: 31Aug83

WELL NUMBER: 199-N-33
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 7,557 E/W W 5,101
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 458.3 Estimated

Depth to water: 55.8-ft Sep83
(Ground surface) 68.1-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

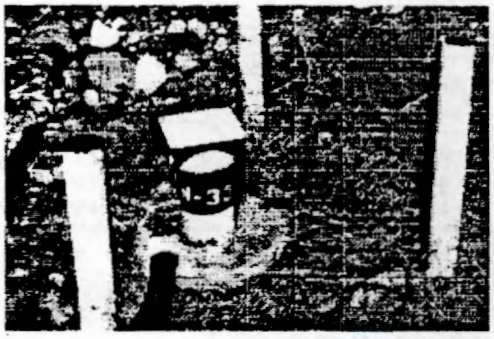
0-6: Not documented
6-44: COBBLES & BOULDERS
44-75: SAND, SILT & GRAVEL



Elevation of reference point: [459.87-ft] (top of casing)
Height of reference point above ground surface [1.6-ft]
Depth of surface seal [0-18-ft]
Type of surface seal: Cement grout, 153-gals
I.D. of surface casing (Pulled back) [12-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: Pulled back from total depth, [40-ft]
Telescoping screen 38-75-ft.
Depth bottom of borehole [75-ft]

Drawing By: RKL/1#N-33.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-33



WELL DESIGNATION	:	199-N-33
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1325-N
HANFORD COORDINATES	:	N-Area N 7,557 W 5,101
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Aug83
DEPTH DRILLED (GS)	:	75.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	55.8-ft, Sep83; 68.1-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +1.6-40-ft
ELEV TOP CASING	:	459.87-ft
ELEV GROUND SURFACE	:	458.3-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	38-75-ft, telescoping,
COMMENTS	:	FIELD INSPECTION, 25Apr91; Carbon steel casing. 2-ft by 2-ft round concrete pad, 4 posts, none removable. Capped and locked, no permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 11Sep85-30Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

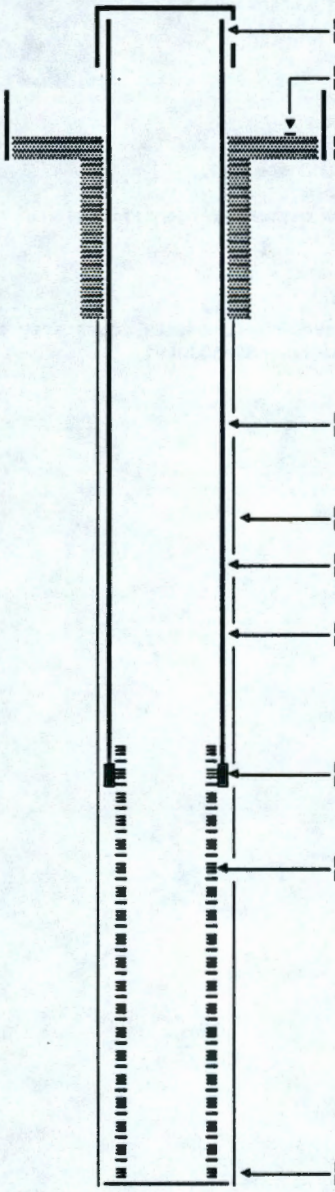
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-N-34	TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford N-Area Coordinates: N/S N 7,309	E/W W 5,049
Driller's Name: Bultena	WA State Lic Nr: 0066	State Coordinates: N Not documented	E Not documented
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 01Sep83	Date Complete: 09Sep83	Elevation Ground surface (ft): 459.6 Estimated	

Depth to water: 58.0-ft Sep83
(Ground surface) 67.5-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-50: COBBLES and BOULDERS
50-78: COBBLES, SAND and SILT

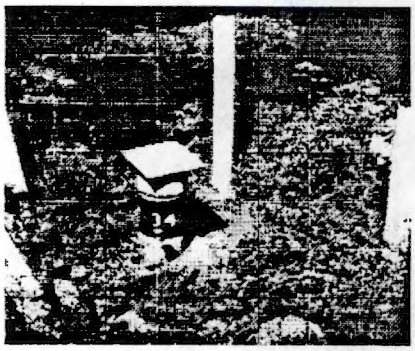


- Elevation of reference point: [459.63-ft] (top of casing)
- Height of reference point above ground surface [2.0-ft]
- Depth of surface seal [0-18-ft]
  Type of surface seal: Cement grout, 17 sacks
- I.D. of surface casing [12-in] (Pulled back)
- I.D. of riser pipe: [8-in]
  Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Elevation/depth top of seal
  Type of seal: Not documented
- Depth bottom of casing: [35-ft] Pulled back from total depth,
- Telescoping screen 34-78-ft.
- Depth bottom of borehole [78-ft]

Drawing By: RKL/1#N-34.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-34



WELL DESIGNATION	:	199-N-34
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 7,309 W 5,049
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Sep83
DEPTH DRILLED (GS)	:	78.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	58.0-ft, Sep83; 67.5-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +2.0-35-ft
ELEV TOP CASING	:	459.63-ft
ELEV GROUND SURFACE	:	457.6-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	34-78-ft, telescoping,
COMMENTS	:	FIELD INSPECTION, 15Aug89; Carbon steel casing. 2-ft by 2-ft round concrete pad, 4 posts, 2 removable. Capped and locked, no permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 11Sep85-30Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

9 2 1 2 5 8 9 0 2 3 3

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Not documented	Additives Used: Not documented
Driller's Name: Keith and Doug ?	WA State Lic Nr: 0066
Drilling Company: Ponderosa	Company Location: Not documented
Date Started: 03Apr84	Date Complete: 06Apr84

WELL NUMBER: 199-N-35 TEMPORARY WELL NO:

Hanford N-Area Coordinates: N/S N 7,485 E/W W 4,390

State Coordinates: N Not documented E Not documented

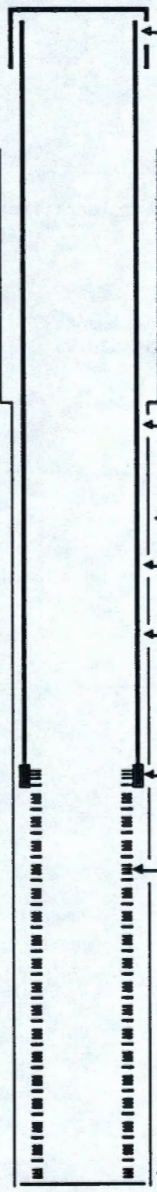
Start Card #: Not documented T___ R___ S___

Elevation Ground surface (ft): Not documented

Depth to water: 45.0-ft Apr84
(Ground surface)

GENERALIZED STRATIGRAPHY — Geologist's Log

0-15: Brown DIRT, SAND and broken GRAVELS
15-20: Brown DIRT, SAND and broken GRAVELS with more GRAVELS than above
20-25: Brown MUD, SAND with more broken GRAVEL
25-50: Very coarse SAND and GRAVEL with some broken COBBLES
50-55: Very coarse SAND and GRAVEL some broken COBBLES (Ringold?)
55-60: Broken GRAVEL and COBBLES, very coarse-coarse SAND
60-62: Very coarse SAND, broken GRAVELS and COBBLES
62-64: BOULDER



- Elevation of reference point: (top of casing) [449.38-ft]
- Height of reference point above ground surface [ND]
- Depth of surface seal [ND]
- Type of surface seal: Not documented
- I.D. of surface casing (Pulled back) [10-in]
- I.D. of riser pipe: [6-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [7-in nom]
- Type of filler: Not documented
- Elevation/depth top of seal
- Type of seal: Not documented
- Depth bottom of casing: Pulled back from total depth, [45-ft]
- Telescoping screen 44-64-ft.
- Depth bottom of borehole [64-ft]

Drawing By: RKL/1#N-35.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-35

WELL DESIGNATION	:	199-N-35
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 7,485 W 4,390
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Apr84
DEPTH DRILLED (GS)	:	64.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	45.0-ft, Apr84;
CASING DIAMETER	:	6-in carbon steel, +ND-45-ft
ELEV TOP CASING	:	449.38-ft
ELEV GROUND SURFACE	:	Not documented
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	44-64-ft, telescoping,
COMMENTS	:	FIELD INSPECTION,none
AVAILABLE LOGS	:	Geologist; driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 2 3 5

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Keith and Doug ?
Drilling Company: Ponderosa
Date Started: 09Apr84

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 10Apr84

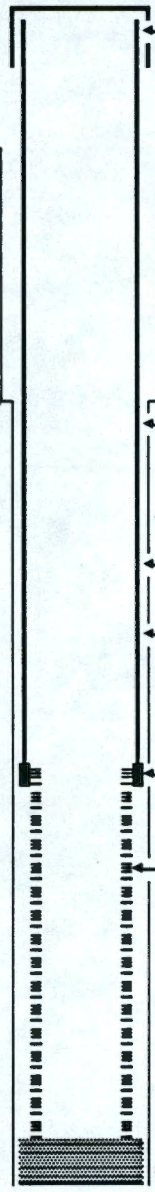
WELL NUMBER: 199-N-36
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 7,879 E/W W 4,485
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 456.3 Estimated

Depth to water: 55.0-ft Apr84
(Ground surface) 67.2-ft Jan91

GENERALIZED STRATIGRAPHY — Geologist's Log

0-5: SAND
5-20: SAND, COBBLES & PEBBLES
20-25: BOULDERS
25-50: SAND, COBBLES & PEBBLES
50-75: (Ringold Fm) SAND, PEBBLES and COBBLES

REMEDIATION:
28Jun85 by L. Bultena
Pulled casing back and set telescoping screen



Elevation of reference point: [458.97-ft]
(top of casing)
Height of reference point above ground surface [2.7-ft]
Depth of surface seal [ND]
Type of surface seal: Not documented
I.D. of surface casing (Pulled back) [10-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented .
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: [~55-ft]
Pulled back from total depth,
Telescoping screen ~54-74-ft
Depth bottom of borehole [75-ft]

Drawing By: RKL/1#N-36.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-36

WELL DESIGNATION	:	199-N-36
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1325-N
HANFORD COORDINATES	:	N-Area N 7,879 W 4,485
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Apr84
DEPTH DRILLED (GS)	:	75.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	55.0-ft, Apr84; 67.2-ft, Jan91
CASING DIAMETER	:	8-in carbon steel, +2.7-55-ft
ELEV TOP CASING	:	449.38-ft
ELEV GROUND SURFACE	:	456.3-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	54-74-ft, telescoping,
COMMENTS	:	FIELD INSPECTION, 25Apr91, Carbon steel casing. No pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 11Sep85-31Jan91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Keith and Doug ?
Drilling Company: Ponderosa
Date Started: 10Apr84

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 11Apr84

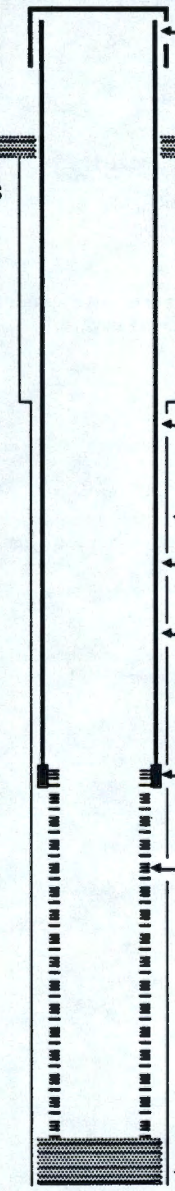
WELL NUMBER: 199-N-37
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 8,138 E/W W 4,571
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 453.1 Estimated

Depth to water: 55.0-ft Apr84
(Ground surface) 63.6-ft Jul91

GENERALIZED STRATIGRAPHY — Geologist's Log

0-10: Fine SAND, some broken ROCK, a few BOULDERS and COBBLES
10-15: Fine brown SAND, broken PEBBLES and COBBLES
15-25: Broken PEBBLES and COBBLES, some SAND
25-30: Broken PEBBLES and COBBLES, coarse SAND
30-35: SAND, some PEBBLES and broken COBBLES
35-40: SAND and PEBBLES, some broken PEBBLES
40-55: Broken COBBLES and PEBBLES, SAND
55-65: Broken PEBBLES and COBBLES, some SAND
65-70: Broken COBBLES and PEBBLES, very little coarse SAND
70-75: Broken COBBLES and PEBBLES, some coarse SAND
75 : Broken COBBLES, PEBBLES and coarse SAND

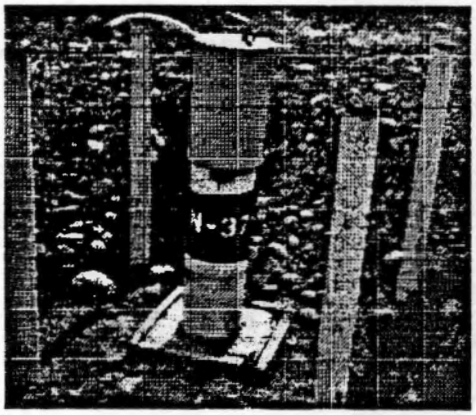
REMEDIATION:
26-27Jun85 by L. Bultena
Pulled back casing and set telescoping screen



Elevation of reference point: [456.12-ft]
(top of casing)
Height of reference point above ground surface [3.0-ft]
Depth of surface seal [ND]
Type of surface seal: Not documented
I.D. of surface casing (Pulled back) [10-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: [~55-ft]
Pulled back from total depth,
Telescoping screen ~54-74-ft
Depth bottom of borehole [75-ft]

Drawing By: RKL/1#N-37.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-37



WELL DESIGNATION	:	199-N-37
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 8,138 W 4,571
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Apr84
DEPTH DRILLED (GS)	:	75.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	55.0-ft, Apr84;
CASING DIAMETER	:	8-in carbon steel, +3.0-55-ft
ELEV TOP CASING	:	456.12-ft
ELEV GROUND SURFACE	:	453.1-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	54-74-ft, telescoping,
COMMENTS	:	FIELD INSPECTION, 15Aug89; Carbon steel casing. 18-in square pad, 4 posts, capped,locked. No permanent identification.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 11Sep85-31Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

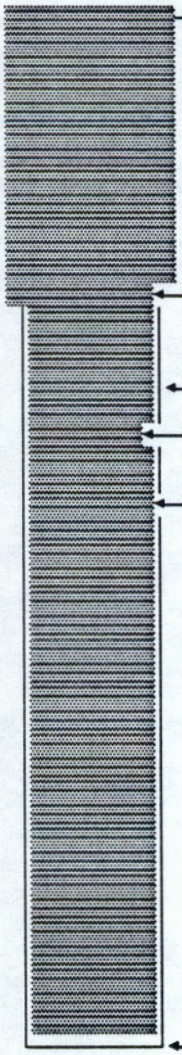
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 199-N-38
Drilling Fluid Used: Not documented	Additives Used: Not documented	TEMPORARY WELL NO:
Driller's Keith and Doug ?	WA State Lic Nr: Not documented	Hanford N-Area Coordinates: N/S N 8,071 E/W W 4,142
Drilling Company: Ponderosa	Company Location: Not documented	State Coordinates: N Not documented E Not documented
Date Started: 11Apr84	Date Complete: 12Apr84	Start Card #: Not documented T___ R___ S___
		Elevation Ground surface (ft): 456.3 Estimated

Depth to water: 55-ft Apr84
(Ground surface)

GENERALIZED STRATIGRAPHY — Geologist's Log

0-10: Fine brown SAND, broken BASALT chips
10-15: Fine brown SAND, broken COBBLES and ROCK, BOULDERS
15-20: Broken ROCKS and COBBLES, BOULDERS, fine-medium SAND
20-25: Broken ROCK & PEBBLES, BOULDERS, quite a bit of very fine to some medium SAND
25-30: Fine to coarse SAND, PEBBLES and a few broken COBBLES
30-40: Medium-very coarse SAND, GRANULES, PEBBLES and broken COBBLES
40-45: Broken COBBLES, PEBBLES, some fine SAND
45-55: Broken COBBLES, PEBBLES, SAND (Ringold)
55-60: SAND, PEBBLES, and a few broken COBBLES
60-65: SAND, few PEBBLES, broken COBBLES
65-70: Broken COBBLES and PEBBLES and a LITTLE sand
70-75: Broken PEBBLES, COBBLES, very little coarse SAND
75 : SAND, broken COBBLES & PEBBLES

ABANDONMENT:
05-07Jun85 by L. Bultena
Pulled 8-in casing and filled hole with cement and 5% bentonite grout



- Elevation of reference point: [456.40-ft] (top of casing before removal)
- Height of reference point above ground surface [ND]
- Depth of surface seal [ND]
- Type of surface seal: Not documented
- I.D. of surface casing (Pulled back) [10-in]
- I.D. of riser pipe: [None]
- Type of riser pipe: Casing pulled
- Diameter of borehole: [9-in nom]
- Type of filler: Cement grout
- Elevation/depth top of seal
- Type of seal: Not documented
- No screen documented
- Depth bottom of borehole [75-ft]

Drawing By: RKL/1#N-38.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-38

WELL DESIGNATION	:	199-N-38
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 8,071 W 4,142
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Apr84
DEPTH DRILLED (GS)	:	75.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	55-ft, Apr84
CASING DIAMETER	:	8-in carbon steel, pulled
ELEV TOP CASING	:	456.40-ft (Before removal)
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	None documented
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	None
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Keith and Doug ?
Drilling Company: Ponderosa
Date Started: 18Apr84

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 18Apr84

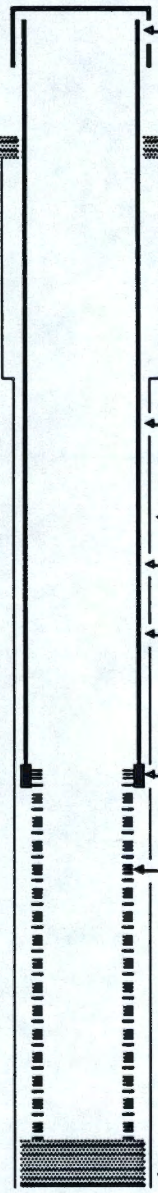
WELL NUMBER: 199-N-39
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 8,388 E/W W 4,431
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 452.1 Estimated

Depth to water: 58.0-ft Apr84
(Ground surface) 62.8-ft Jul91

GENERALIZED STRATIGRAPHY — Geologist's Log

0-10: Fine to very fine brown SAND
10-20: Medium to very fine brown SAND, PEBBLES, broken GRAVEL BOULDERS
20-25: Very coarse to very fine SAND, broken GRAVEL (BOULDERS), few PEBBLES
25-30: Very coarse to medium SAND, broken GRAVEL and PEBBLES
30-35: Very coarse to very fine SAND, PEBBLES, broken GRAVEL and COBBLES
35-40: Very coarse to fine SAND, broken GRAVEL (BOULDERS), COBBLES and a few PEBBLES
40-45: Coarse to very fine brown SAND, broken COBBLES, GRAVEL and PEBBLES
45-55: Very coarse to fine SAND, PEBBLES, broken GRAVEL and COBBLES (Ringold)
55-60: Coarse to medium SAND, PEBBLES and broken GRAVEL
60-65: Medium to fine SAND, PEBBLES, broken GRAVEL, some COBBLES
65-80: Very coarse to fine SAND, PEBBLES, broken GRAVEL and COBBLES

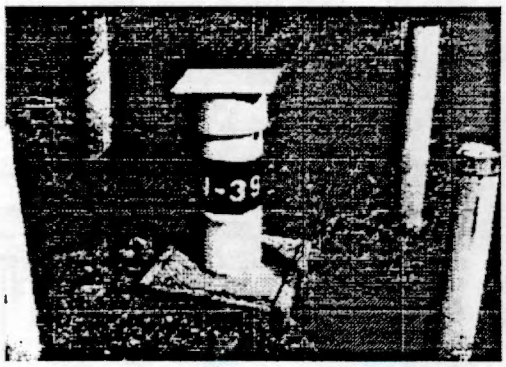
REMEDIATION:
17Jun85 by L. Bultena
Pulled back casing and set telescoping screen



Elevation of reference point: [454.31-ft] (top of casing)
Height of reference point above ground surface [2.25-ft]
Depth of surface seal [ND]
Type of surface seal: Not documented
I.D. of surface casing (Pulled back) [10-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: Pulled back from total depth, [~55-ft]
Telescoping screen ~53-73-ft
Depth bottom of borehole [~80-ft]

Drawing By: RKL/1#N-39.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-39



WELL DESIGNATION	:	199-N-39
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1325-N
HANFORD COORDINATES	:	N-Area N 8,388 W 4,432
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Apr84
DEPTH DRILLED (GS)	:	~80-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	58.0-ft, Apr84; 62.8-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +2.25-~55-ft
ELEV TOP CASING	:	454.31-ft
ELEV GROUND SURFACE	:	452.1-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	53-73-ft, telescoping,
COMMENTS	:	FIELD INSPECTION, 25Apr91, Carbon steel casing. 2-ft square pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 13Sep85-31Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Keith and Doug ?
Drilling Company: Ponderosa
Date Started: 17Apr84

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 17Apr84

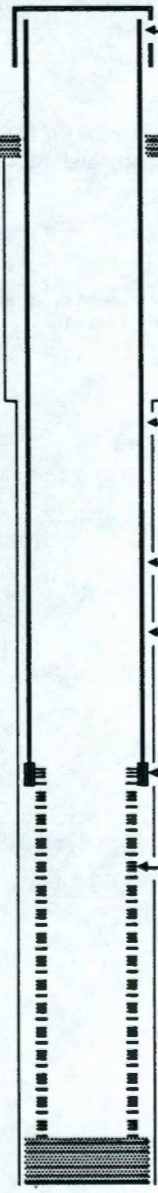
WELL NUMBER: 199-N-40
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 8,585 E/W W 4,276
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 454.4 Estimated

Depth to water: 58.0-ft Apr84
(Ground surface) 65.4-ft Jul91

GENERALIZED STRATIGRAPHY — Geologist's Log

0-10: Broken GRAVEL and COBBLES some fine to medium SAND
10-15: Broken COBBLES and GRAVEL, some very fine-medium SAND
15-20: Broken GRAVEL and COBBLES, very fine to medium SAND
20-25: Broken PEBBLES, COBBLES and very fine to medium SAND
25-30: Broken GRAVEL, PEBBLES, coarse to fine SAND and a few broken COBBLES
30-35: Very coarse to medium SAND, PEBBLES, a few broken COBBLES and GRAVELS
35-40: Very coarse to medium SAND, broken PEBBLES and COBBLES
40-45: Very coarse to medium SAND GRAVEL and some broken COBBLES
45-50: Broken COBBLES and GRAVEL, PEBBLES and some coarse to fine SAND (Ringold)
50-55: Broken COBBLES, GRAVEL and PEBBLES, very coarse to medium SAND
55-60: Broken COBBLES, GRAVEL and PEBBLES, very coarse to very fine SAND
60-65: Very coarse to medium SAND, some broken GRAVEL and PEBBLES, very few COBBLES
65-70: Very coarse to medium SAND, PEBBLES, few broken COBBLES
70-75: Broken GRAVEL, very coarse to fine SAND, PEBBLES, broken COBBLES
75-80: Broken COBBLES and GRAVEL, PEBBLES and very coarse to fine SAND
80 : Broken COBBLES, PEBBLES and GRAVEL, very coarse to medium SAND

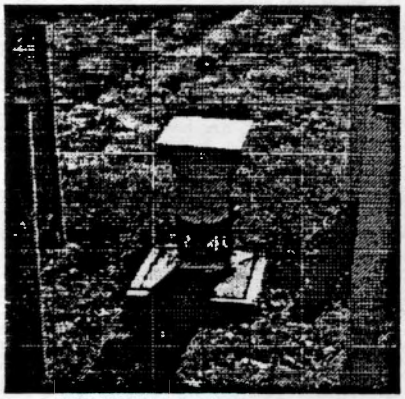
REMEDIATION:
14Jun85 by L. Bultena
Pulled back casing and set telescoping screen



Elevation of reference point: [456.35-ft] (top of casing)
Height of reference point above ground surface [2.0-ft]
Depth of surface seal [ND]
Type of surface seal: Not documented
I.D. of surface casing (Pulled back) [10-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: Pulled back from total depth, [~55-ft]
Telescoping screen ~53-73-ft
Depth bottom of borehole [~80-ft]

Drawing By: RKL/1#N-40.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-40



WELL DESIGNATION	:	199-N-40
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 8,585 W 4,276
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Apr84
DEPTH DRILLED (GS)	:	~80-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	58.0-ft, Apr84; 65.4-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +2.0-~55-ft
ELEV TOP CASING	:	456.35-ft
ELEV GROUND SURFACE	:	454.4-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	53-73-ft, telescoping,
COMMENTS	:	FIELD INSPECTION, 15Aug89, Carbon steel casing. 2-ft square pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 11Sep85-31Jul91
PUMP TYPE	:	None
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 2 4 5

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Keith and Doug ?
Drilling Company: Ponderosa
Date Started: 19Apr84

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 19Apr84

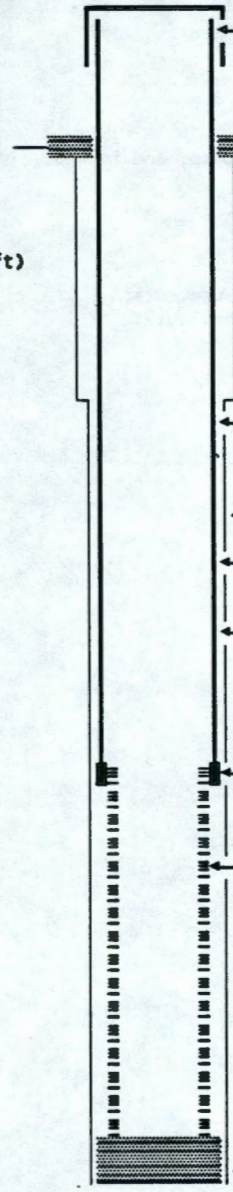
WELL NUMBER: 199-N-41
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 8,816 E/W W 4,100
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 455.0 Estimated

Depth to water: 58.0-ft Apr84
(Ground surface) 67.0-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-25: SAND, COBBLES, GRAVEL & PEBBLES
25-30: SAND, GRAVEL & COBBLES
30-65: SAND, GRAVEL, COBBLES & PEBBLES (Ringold at 45-ft)
65-70: SAND, PEBBLES & GRAVEL
70-75: SAND, COBBLES & PEBBLES
75-78: SAND, COBBLES, GRAVEL & PEBBLES

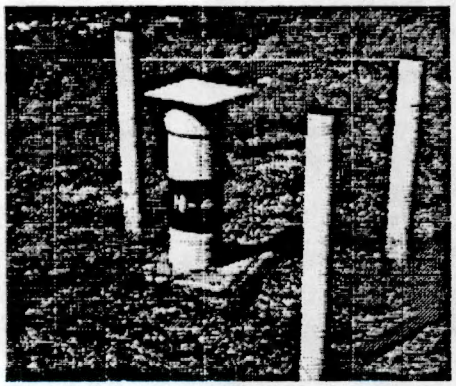
REMEDIATION:
12-14Jun85 by L. Bultena
Pulled back casing and set telescoping screen



Elevation of reference point: [457.59-ft] (top of casing)
Height of reference point above ground surface [2.6-ft]
Depth of surface seal [ND]
Type of surface seal: Not documented
I.D. of surface casing (Pulled back) [10-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: [~55-ft]
Pulled back from total depth,
Telescoping screen ~53-73-ft
Depth bottom of borehole [~78-ft]

Drawing By: RKL/1#N-41.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-41



WELL DESIGNATION	:	199-N-41
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1325-N
HANFORD COORDINATES	:	N-Area N 8,816 W 4,100
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Apr84
DEPTH DRILLED (GS)	:	~78-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	58.0-ft, Apr84; 67.0-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +2.6↔~55-ft
ELEV TOP CASING	:	457.59-ft
ELEV GROUND SURFACE	:	455.0-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	53↔73-ft, telescoping,
COMMENTS	:	FIELD INSPECTION, 25Apr91, Carbon steel casing. 2-ft square pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 11Sep85↔31Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

9 2 1 2 5 3 0 0 2 4 7

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Not documented
Drilling Company: Not documented
Date Started: 24Apr84

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 24Apr84

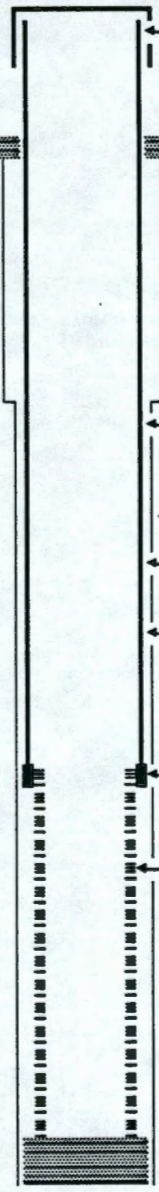
WELL NUMBER: 199-N-42
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 8,746 E/W W 3,766
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 452.1 Estimated

Depth to water: 58.0-ft Apr84
(Ground surface) 63.7-ft Jul91

GENERALIZED STRATIGRAPHY — Geologist's Log

0-5: SAND, COBBLES & GRAVEL
5-30: GRAVEL, PEBBLES, COBBLES & SAND
30-35: SAND, GRAVEL & PEBBLES
35-75: GRAVEL, PEBBLES, SAND & COBBLES (Ringold at 45-ft)
75-78: GRAVEL, PEBBLES & SAND

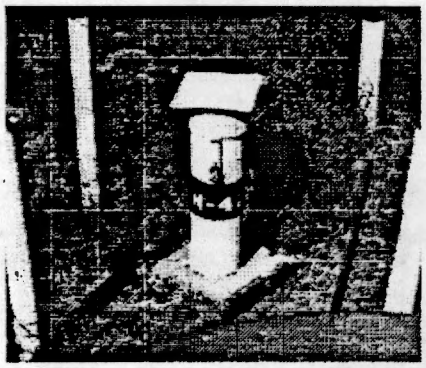
REMEDIATION:
02Jul85 by L. Bultena
Pulled back casing and set telescoping screen



Elevation of reference point: [455.14-ft]
(top of casing)
Height of reference point above ground surface [3.0-ft]
Depth of surface seal [ND]
Type of surface seal: Not documented
I.D. of surface casing (Pulled back) [10-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: [~55-ft]
Pulled back from total depth,
Telescoping screen
Depth not documented
Depth bottom of borehole [~78-ft]

Drawing By: RKL/1#N-42.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-42



WELL DESIGNATION	:	199-N-42
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1325-N
HANFORD COORDINATES	:	N-Area N 8,746 W 3,774
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Apr84
DEPTH DRILLED (GS)	:	~78-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	58.0-ft, Apr84; 63.7-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +3.0-~55-ft
ELEV TOP CASING	:	455.14-ft
ELEV GROUND SURFACE	:	452.1-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	None documented
COMMENTS	:	FIELD INSPECTION, 19Sep89, Carbon steel casing. 2-ft square pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; dropped from monitoring network after Feb90 sampling; Water levels measured 11Sep85-31Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 2 4 9

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Not documented
Drilling Company: Not documented
Date Started: 20Apr84

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 24Apr84

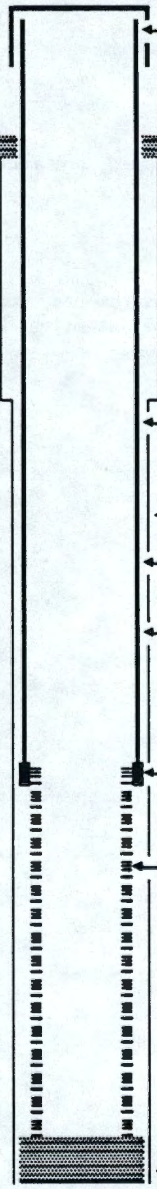
WELL NUMBER: 199-N-43
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 9,579 E/W W 3,766
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: 58.0-ft Apr84
(top-of-casing) 61.8-ft Nov85

GENERALIZED STRATIGRAPHY — Geologist's Log

0-10: Medium-very fine SAND, PEBBLES, some broken COBBLES
10-15: Broken COBBLES and PEBBLES, some very fine SAND
15-20: Broken COBBLES, GRAVEL and PEBBLES, some medium-fine SAND
20-25: Coarse-fine SAND, broken GRAVELS, COBBLES and PEBBLES
25-30: Coarse-very fine SAND, broken GRAVELS, some COBBLES & PEBBLES
30-40: Very coarse-very fine SAND, broken GRAVELS and PEBBLES, some COBBLES
40-45: Very coarse-fine SAND, broken PEBBLES, GRAVELS & COBBLES
45-55: Broken COBBLES, PEBBLES, GRAVEL & very coarse-medium SAND (Ringold)
55-70: Broken COBBLES, PEBBLES, GRAVEL & coarse-very fine SAND
70-75: Broken COBBLES, PEBBLES, GRAVEL & some coarse-fine SAND
75-80: Broken GRAVEL, COBBLES, PEBBLES, very little medium-fine SAND
80 : Broken GRAVEL, COBBLES, PEBBLES & medium SAND

REMEDIATION:
12Jun85 by L. Bultena
Pulled back casing and set telescopinmg screen



Elevation of reference point: (top of casing) [449.01-ft]
Height of reference point above ground surface [ND]
Depth of surface seal [ND]
Type of surface seal: Not documented
I.D. of surface casing (Pulled back) [10-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: Pulled back from total depth, [~52-ft]
Telescoping screen 51-71-ft
Depth bottom of borehole [~80-ft]

Drawing By: RKL/1#N-43.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-43

WELL DESIGNATION	:	199-N-43
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 9,579 W 3,766
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Apr84
DEPTH DRILLED (GS)	:	~80-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	58.0-ft, Apr84; 61.8-ft, Nov85 (top-of-casing)
CASING DIAMETER	:	8-in carbon steel, ND-~55-ft
ELEV TOP CASING	:	449.01-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	51-71-ft telescoping
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 17Sep85-21Nov85
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

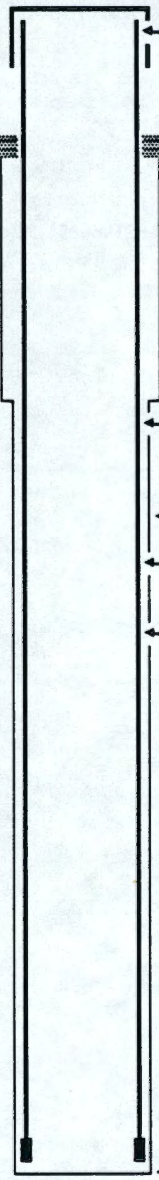
Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Not documented	Additives Used: Not documented
Driller's Name: Keith and Doug	WA State Lic Nr: Not documented
Drilling Company: Ponderosa	Company Location: Not documented
Date Started: 13Apr84	Date Complete: 16Apr84

WELL NUMBER: 199-N-44 TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 8,329 E/W W 3,901
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 457.9 Estimated

Depth to water: 62.0-ft Apr84
(Ground surface) 68.8-ft Jul91

GENERALIZED STRATIGRAPHY — Geologist's Log

0-10: Fine SAND, some broken COBBLES and PEBBLES
10-15: Broken COBBLES and PEBBLES: BOULDERS, some coarse-fine SAND
15-30: Very coarse-medium SAND, PEBBLES and broken COBBLES
30-35: Very coarse-medium SAND, some PEBBLES & a few broken COBBLES
35-40: Very coarse-medium SAND, very few PEBBLES and broken COBBLES
40-45: Very coarse-medium SAND, broken COBBLES, few PEBBLES
45-50: Coarse-fine SAND, PEBBLES and broken COBBLES (Ringold)
50-55: Coarse-medium SAND, broken COBBLES and PEBBLES
55-60: Medium-fine SAND, broken COBBLES and PEBBLES
60-65: Coarse-very fine SAND, broken COBBLES and PEBBLES
65-70: Very coarse-very fine SAND, broken PEBBLES and COBBLES
70-75: Very coarse-fine SAND, some broken PEBBLES
75-80: Very coarse-fine SAND, broken PEBBLES, a few COBBLES
80-85: Broken COBBLES, PEBBLES, very coarse-very fine SAND
85 : PEBBLES, broken COBBLES, coarse-fine SAND



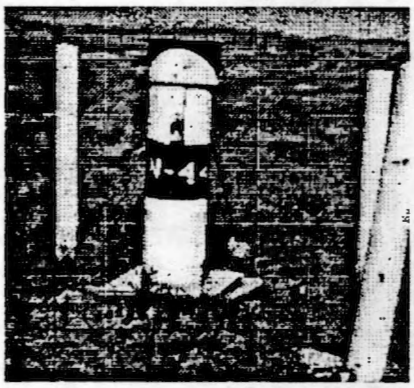
Elevation of reference point: [460.70-ft] (top of casing)
Height of reference point above ground surface [2.8-ft]
Depth of surface seal [ND]
Type of surface seal: Not documented
I.D. of surface casing (Pulled back) [10-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented

No documentation of telescoping screen, casing pullback or perforations

Depth bottom of borehole [85-ft]

Drawing By: RKL/1#N-44.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-44



WELL DESIGNATION	:	199-N-44
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 8,746 W 3,774
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Apr84
DEPTH DRILLED (GS)	:	~85-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	62.0-ft, Apr84; 68.8-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +2.8-~83-ft
ELEV TOP CASING	:	460.70-ft
ELEV GROUND SURFACE	:	457.9-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	None documented
COMMENTS	:	FIELD INSPECTION, 19Sep89, Carbon steel casing. 18-in square pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 11Sep85-31Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Not documented
Drilling Company: Not documented
Date Started: 25Apr84

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 25Apr84

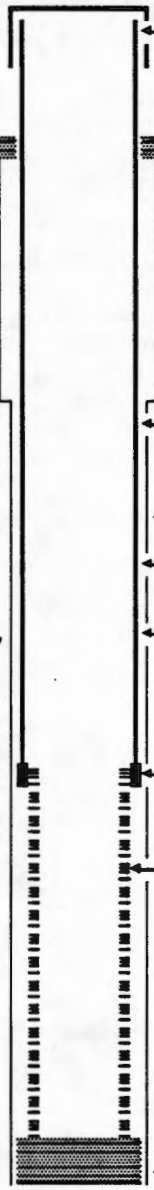
WELL NUMBER: 199-N-45
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 7,474 E/W W 4,273
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: 53.0-ft Apr84
(top-of-casing) 50.6-ft Nov85

GENERALIZED STRATIGRAPHY — Geologist's Log

0-10: Medium-very fine SAND, PEBBLES and broken GRAVEL
10-15: Very coarse-very fine SAND, PEBBLES and broken GRAVEL
15-25: Very coarse-very fine SAND, broken COBBLES, GRAVEL & PEBBLES
25-30: Very coarse-medium SAND, broken GRAVEL, COBBLES and PEBBLES
30-35: Coarse-very fine SAND, broken GRAVEL and PEBBLES, few COBBLES
35-40: Very coarse-very fine SAND, broken GRAVEL and PEBBLES, few COBBLES
40-45: Broken COBBLES and GRAVEL, PEBBLES, very coarse-very fine SAND
45-50: Very coarse-fine SAND broken GRAVEL
50-55: Very coarse-very fine SAND, broken GRAVEL and PEBBLES
55-60: Broken GRAVEL, COBBLES & PEBBLES, some very fine SAND (Ringold)
60-65: Very coarse-very fine SAND, broken GRAVEL and PEBBLES
65-70: Broken GRAVEL, COBBLES, PEBBLES coarse-very fine SAND
70-73: Very coarse-very fine SAND, broken GRAVEL, PEBBLES
73 : Broken GRAVEL, PEBBLES, very coarse-very fine SAND

REMEDIATION:
07-11Jun85 by L. Bultena
Pulled back casing and set telescoping screen



Elevation of reference point: [452.31-ft] (top of casing)
Height of reference point above ground surface [ND]
Depth of surface seal [ND]
Type of surface seal: Not documented
I.D. of surface casing (Pulled back) [10-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: [~52-ft] Pulled back from total depth,
Telescoping screen 51-71-ft
Depth bottom of borehole [~73-ft]

Drawing By: RKL/1#N-45.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-45

WELL DESIGNATION	:	199-N-45
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 7,474 W 4,273
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Apr84
DEPTH DRILLED (GS)	:	~73-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	53.0-ft, Apr84; 50.6-ft, Nov85 (top-of-casing)
CASING DIAMETER	:	8-in carbon steel, ND-~53-ft
ELEV TOP CASING	:	452.31-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	51-71-ft telescoping
COMMENTS	:	FIELD INSPECTION,
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 11Sep85-21Nov85
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Not documented	Additives Used: Not documented
Driller's Name: Garcia	WA State Lic Nr: Not documented
Drilling Company: Onwego Drilling Co	Company Location: Kennewick,WA
Date Started: 02Nov84	Date Complete: 11Nov84

WELL NUMBER: 199-N-47	TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 6,295	E/W W 6,896
State Coordinates: N Not documented	E Not documented
Start Card #: Not documented	T___ R___ S___
Elevation Ground surface (ft): Not documented	

Depth to water: 54.0-ft Nov84
(Ground surface)

GENERALIZED STRATIGRAPHY — Driller's Log

0-20: BOULDER, big COBBLES, and fine SAND
20-30: BOULDERS, small COBBLES, fine SAND
30-34: COBBLES, fine SAND
34-40: COBBLES, coarse GRAVELS, fine SAND
40-55: Medium GRAVEL, light brown SAND
55-68: Fine light brown SAND, small GRAVEL (water bearing)
68-73: Medium GRAVELS to fine light brown SAND

- Elevation of reference point: [443.53-ft] (top of casing)
- Height of reference point above ground surface [ND]
- Depth of surface seal [0-20-ft]
- Type of surface seal: Cement grout
- 16-in casing to 8-ft
- 12-in casing to 20-ft
- both pulled and grouted
- 8-in carbon steel casing was cut 6-ft below ground level and 8-in PVC casing installed
- I.D. of riser pipe: [8-in]
- Type of riser pipe: Carbon steel, 6-53-ft; PVC ~2-6-ft
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Elevation/depth top of seal
- Type of seal: Not documented
- Depth bottom of casing: [53-ft] Pulled back from total depth,
- 8-in telescoping screen 53-73-ft; 5-ft blank 7-in casing on top with packer, packer material not documented
- Depth bottom of borehole [73-ft]

Drawing By: RKL/1#N-47.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-47

WELL DESIGNATION	:	199-N-47
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 6,295 W 6,896
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Nov84
DEPTH DRILLED (GS)	:	73-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	54.0-ft, Apr84;
CASING DIAMETER	:	8-in carbon steel, 6-53-ft 8-in PVC, ~2-6-ft
ELEV TOP CASING	:	443.53-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	53-73-ft 8-in telescoping
COMMENTS	:	FIELD INSPECTION, 28Sep89, PVC casing. No pad, no posts, capped, not locked. No permanent identification. Inside double security fence. No access.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA quarterly sampling;
PUMP TYPE	:	Electric submersible, set at 68-ft below ground level
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: J. Bultena
Drilling Company: Onwego Drilling Co
Date Started: 02Nov84

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Kennewick, WA
Date Complete: 08Nov84

WELL NUMBER: 199-N-48
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 6,220 E/W W 6,916
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: Not documented
(Ground surface)

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: GRAVELS, COBBLES and BOULDERS
15-20: Tan Sand, GRAVELS, black SAND & large COBBLES
20-25: GRAVELS, black SAND & COBBLES BOULDER at 18-19-ft
25-35: GRAVELS and COBBLES
35-40: GRAVELS, COBBLES & large COBBLES
40-50: GRAVELS & COBBLES
50-65: SAND (tan) GRAVELS & COBBLES
65-71: SAND (tan) & GRAVELS
68-73: Medium GRAVELS to fine light brown SAND

- Elevation of reference point: [439.79-ft] (top of casing)
- Height of reference point above ground surface [ND]
- Depth of surface seal [0-20-ft]
- Type of surface seal: Cement grout
- 16-in casing to 8-ft
- 12-in casing to 20-ft
- both pulled and grouted
- 8-in carbon steel casing was cut below ground level and 8-in PVC installed
- I.D. of riser pipe: [8-in]
- Type of riser pipe: Carbon steel, 6-53-ft; PVC ~2-6-ft
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Elevation/depth top of seal
- Type of seal: Not documented
- Depth bottom of casing: [51-ft] Pulled back from total depth,
- 8-in telescoping screen 51-71-ft, #20-slot 5-ft blank 7-in casing on top with packer, packer material not documented
- Depth bottom of borehole [73-ft]

Drawing By: RKL/1#N-48.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-48

WELL DESIGNATION	:	199-N-48
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 6,220 W 6,916
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Nov84
DEPTH DRILLED (GS)	:	71-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	ND
CASING DIAMETER	:	8-in carbon steel, ND-51-ft 8-in PVC, ND
ELEV TOP CASING	:	439.79-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	51-71-ft 8-in telescoping
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	None
PUMP TYPE	:	Electric submersible,
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 2 5 9

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: L. Bultena
Drilling Company: Not documented
Date Started: 03Jul85

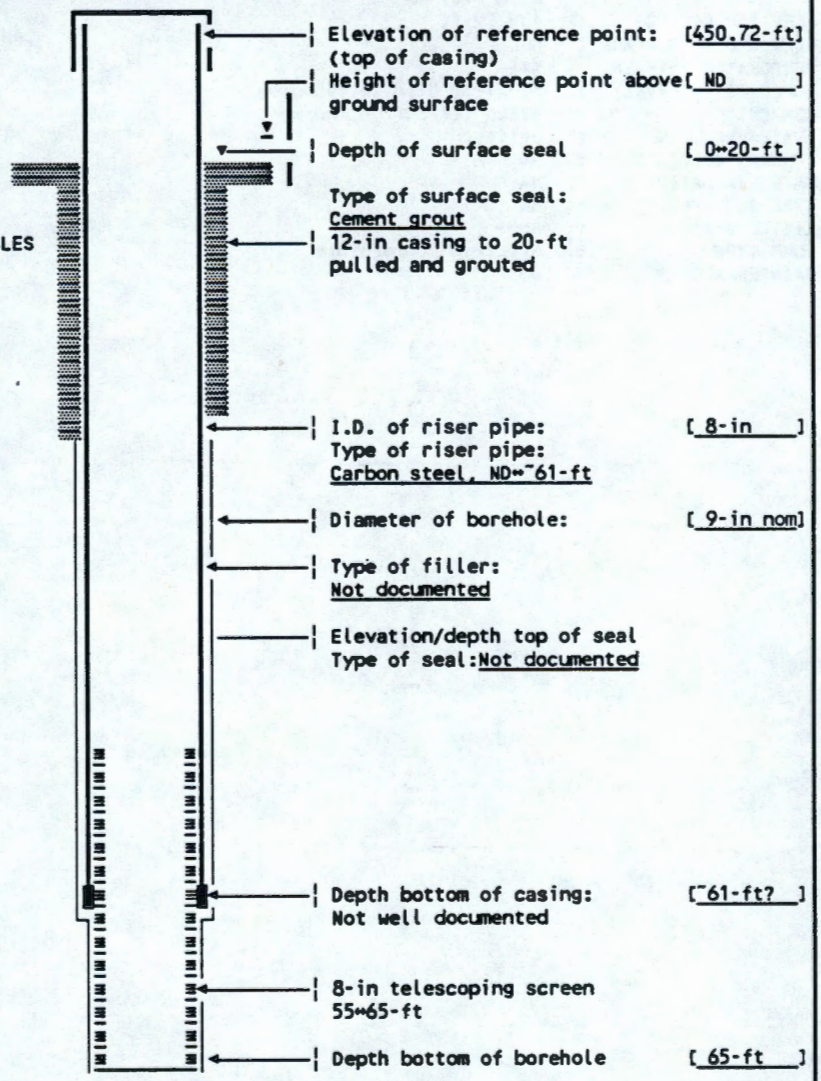
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 15Jul85

WELL NUMBER: 199-N-49
TEMPORARY WELL NO: Well #3
Hanford N-Area Coordinates: N/S N ND E/W W ND
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: Not documented
(top-of-casing) 62.4-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: Not documented
10-20: BOULDERS, COBBLES, SAND
20-29: COBBLES & SAND
29-61: Compacted SILT, SAND & COBBLES
61-65: Not documented



Drawing By: RKL/1#N-49.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-49

WELL DESIGNATION	:	199-N-49
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N ND W ND
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jul85
DEPTH DRILLED (GS)	:	65-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	ND
CASING DIAMETER	:	8-in carbon steel, ND-61-ft
ELEV TOP CASING	:	450.72-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	55-65-ft 8-in telescoping
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 11Sep85-30Jul91
PUMP TYPE	:	Electric submersible,
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: K. Olson
Drilling Company: Not documented
Date Started: 17Jul85

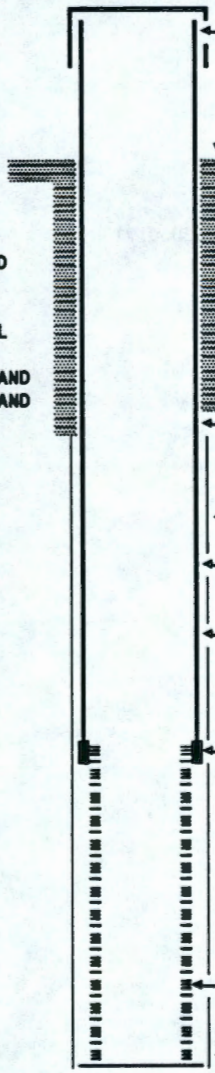
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 31Jul85

WELL NUMBER: 199-N-50
TEMPORARY WELL NO: Well #4
Hanford N-Area Coordinates: N/S N ND E/W W ND
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: 76.0-ft Jul85
(top-of-casing) 76.8-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-5: Not documented
5-8: BOULDERS and COBBLES
8-14: COBBLES, BOULDERS and GRAVEL
14-20: COBBLES and GRAVEL
20-22: COBBLES and GRAVEL with SAND
22-26: BOULDERS, COBBLES, GRAVEL and SAND
26-31: BOULDERS, COBBLES and GRAVEL
31-50: GRAVEL, COBBLES and SAND
50-60: GRAVEL, small COBBLES and SAND
60-70: GRAVEL, small COBBLES and SAND partially cemented
70-86: Not documented



Elevation of reference point: [453.36-ft] (top of casing)
Height of reference point above ground surface [ND]
Depth of surface seal [0-20-ft]
Type of surface seal: Cement grout
12-in casing to 20-ft pulled and grouted
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel, ND-~66-ft
Diameter of borehole: [9-in nom]
Type of filler: Not documented
Elevation/depth top of seal
Type of seal: Not documented
Depth bottom of casing: [~66-ft]
Pulled back to expose screen
8-in telescoping screen 66-86-ft
Depth bottom of borehole [86-ft]

Drawing By: RKL/1#N-50.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-50

WELL DESIGNATION	:	199-N-50
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N ND W ND
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jul85
DEPTH DRILLED (GS)	:	86-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	76.0-ft Jul85; 76.8-ft, Jul91 (top-of-casing)
CASING DIAMETER	:	8-in carbon steel, ND-66-ft
ELEV TOP CASING	:	453.36-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	66-86-ft 8-in telescoping
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 11Sep85-30Jul91
PUMP TYPE	:	Electric submersible,
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: K. Olson
Drilling Company: Not documented
Date Started: 27Jun85

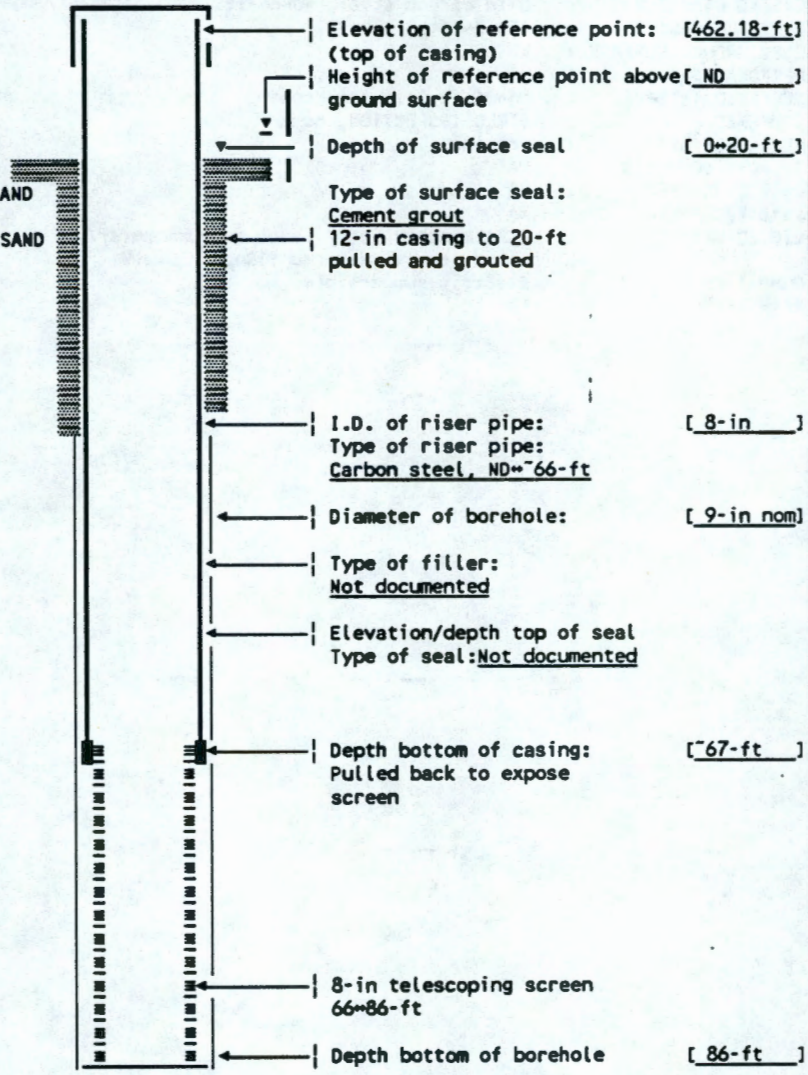
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 11Jul85

WELL NUMBER: 199-N-51
TEMPORARY WELL NO: Well #5
Hanford N-Area Coordinates: N/S N ND E/W W ND
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): Not documented

Depth to water: 75.0-ft Jul85
(top-of-casing) 76.4-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: Not documented
10-20: GRAVEL, small COBBLES and SAND
20-35: COBBLES, GRAVEL and SAND
35-53: GRAVELS, small COBBLES and SAND
53-70: GRAVELS and SAND, partially cemented
70-86: SAND and GRAVEL



Drawing By: RKL/1#N-51.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-51

WELL DESIGNATION	:	199-N-51
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N ND W ND
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jul85
DEPTH DRILLED (GS)	:	86-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	75.0-ft Jul85; 76.4-ft, Jul91 (top-of-casing)
CASING DIAMETER	:	8-in carbon steel, ND-67-ft
ELEV TOP CASING	:	462.18-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	66-86-ft 8-in telescoping
COMMENTS	:	FIELD INSPECTION, none
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 11Sep85-30Jul91
PUMP TYPE	:	Electric submersible,
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: K. Olson
Drilling Company: Not documented
Date Started: 17Jun85

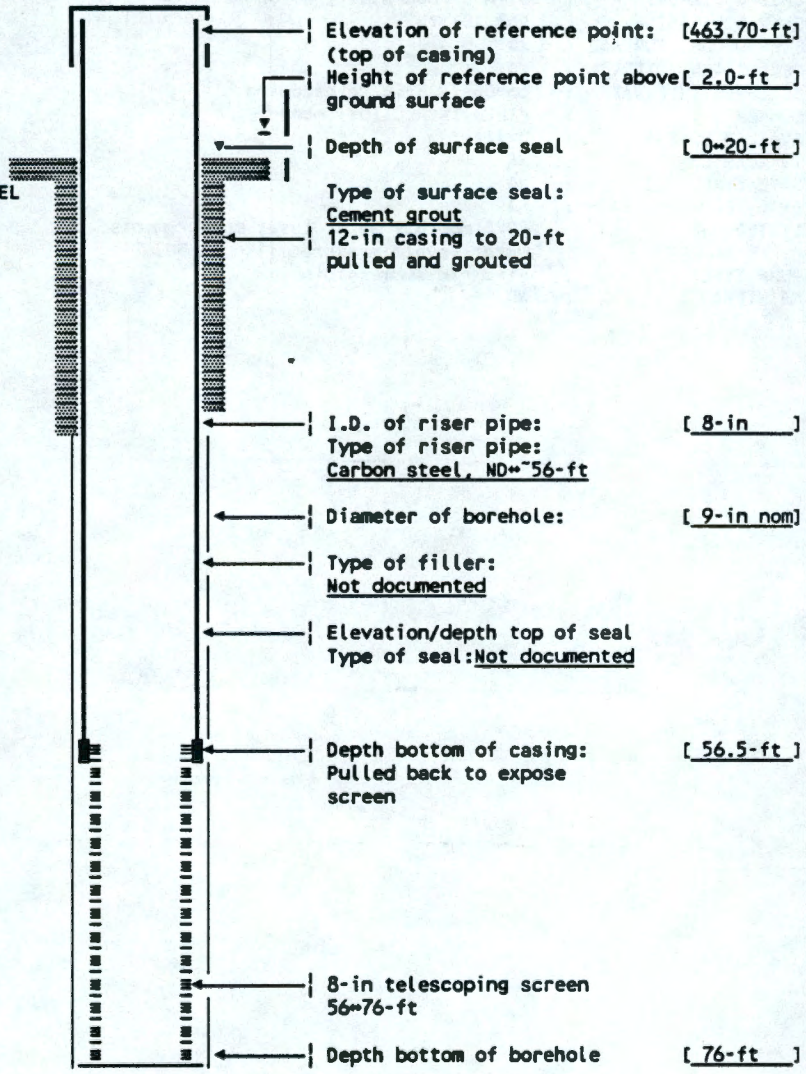
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 19Jul85

WELL NUMBER: 199-N-52
TEMPORARY WELL NO: Well #1
Hanford N-Area Coordinates: N/S N ND E/W W ND
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 461.7 Estimated

Depth to water: 65.0-ft Jul85
(Ground surface) 71.2-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

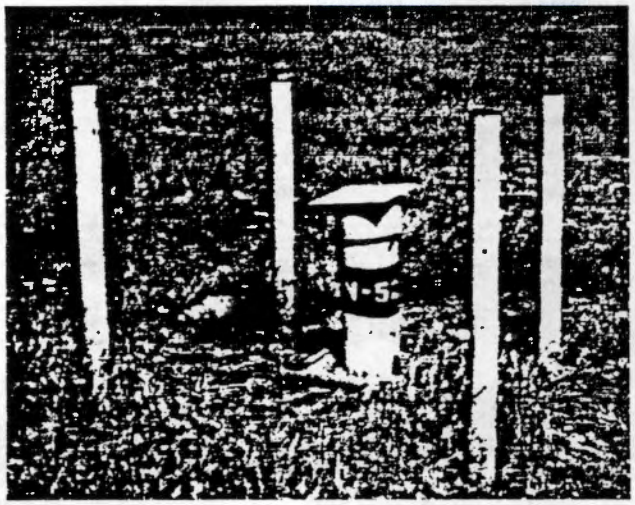
0-7.5: Not documented
7.5-31: COBBLES, BOULDERS and GRAVEL
31-50: GRAVEL and SAND
50-62: GRAVEL, SAND and SILT
62-76: SAND and GRAVEL



Drawing By: RKL/1#N-52.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-52



WELL DESIGNATION	:	199-N-52
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1325-N
HANFORD COORDINATES	:	N-Area N ND W ND
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jul85
DEPTH DRILLED (GS)	:	76-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	65.0-ft, Jul85; 71.2-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, ND-56.5-ft
ELEV TOP CASING	:	463.70-ft
ELEV GROUND SURFACE	:	461.7-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	56-76-ft 8-in telescoping
COMMENTS	:	FIELD INSPECTION, 15Aug89, Carbon steel casing. 2-ft round pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; dropped from RCRA monitoring network after Feb90 sampling. Water levels measured 11Sep85-31Jul91
PUMP TYPE	:	Electric submersible,
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

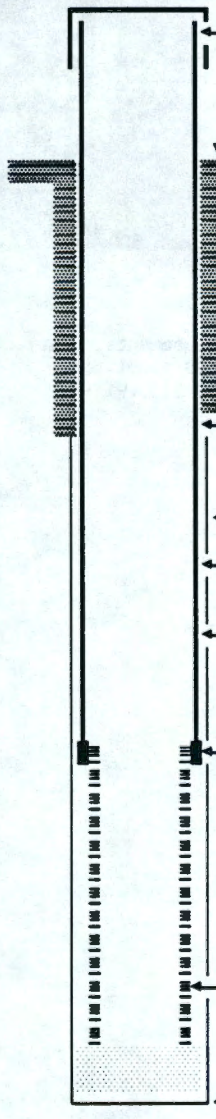
Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Not documented	Additives Used: Not documented
Driller's Name: L. Bultena	WA State Lic Nr: Not documented
Drilling Company: Not documented	Company Location: Not documented
Date Started: 18Jun85	Date Complete: 17Jul85

WELL NUMBER: 199-N-53 TEMPORARY WELL NO: Well #2
Hanford N-Area Coordinates: N/S N ND E/W W ND
State Coordinates: N Not documented E Not documented
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 458.8 Estimated

Depth to water: 61.0-ft Jun85
(Ground surface) 68.1-ft Jun90

GENERALIZED STRATIGRAPHY — Driller's Log

0-28: Small amount SAND & GRAVEL, COBBLES & BOULDERS
28-38: SAND, GRAVEL & COBBLES
38-54: Small amount SAND, GRAVEL & COBBLES
54-74: SAND, GRAVEL & COBBLES

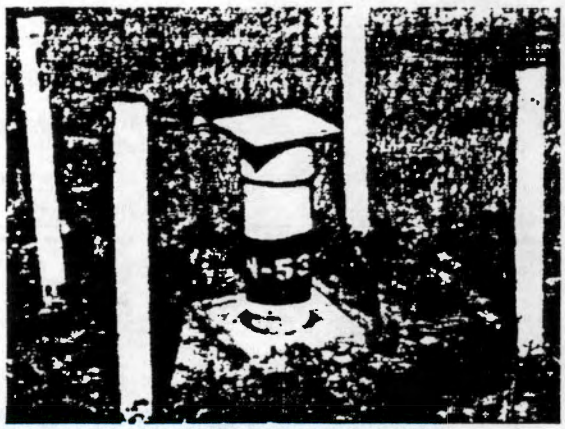


- Elevation of reference point: (top of casing) [461.76-ft]
- Height of reference point above ground surface [3.0-ft]
- Depth of surface seal [0-20-ft]
- Type of surface seal: Cement grout
- 12-in casing to 20-ft pulled and grouted
- I.D. of riser pipe: [8-in]
- Type of riser pipe: Carbon steel, ND-~51-ft
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Elevation/depth top of seal
- Type of seal: Not documented
- Depth bottom of casing: [~51-ft] Pulled back to expose screen
- 8-in telescoping screen 51-71-ft
- Depth bottom of borehole [74-ft]

Drawing By: RKL/1#N-53.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-53



WELL DESIGNATION	:	199-N-53
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N ND W ND
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jul85
DEPTH DRILLED (GS)	:	74-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	61.0-ft Jun85; 68.1-ft, Jun90
CASING DIAMETER	:	8-in carbon steel, 3.0-51-ft
ELEV TOP CASING	:	461.76-ft
ELEV GROUND SURFACE	:	458.8-ft
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	51-71-ft, 8-in telescoping
COMMENTS	:	FIELD INSPECTION, 15Aug89, Carbon steel casing. 2-ft round pad, 4 posts, capped, and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 11Sep85-22Jun90
PUMP TYPE	:	None
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

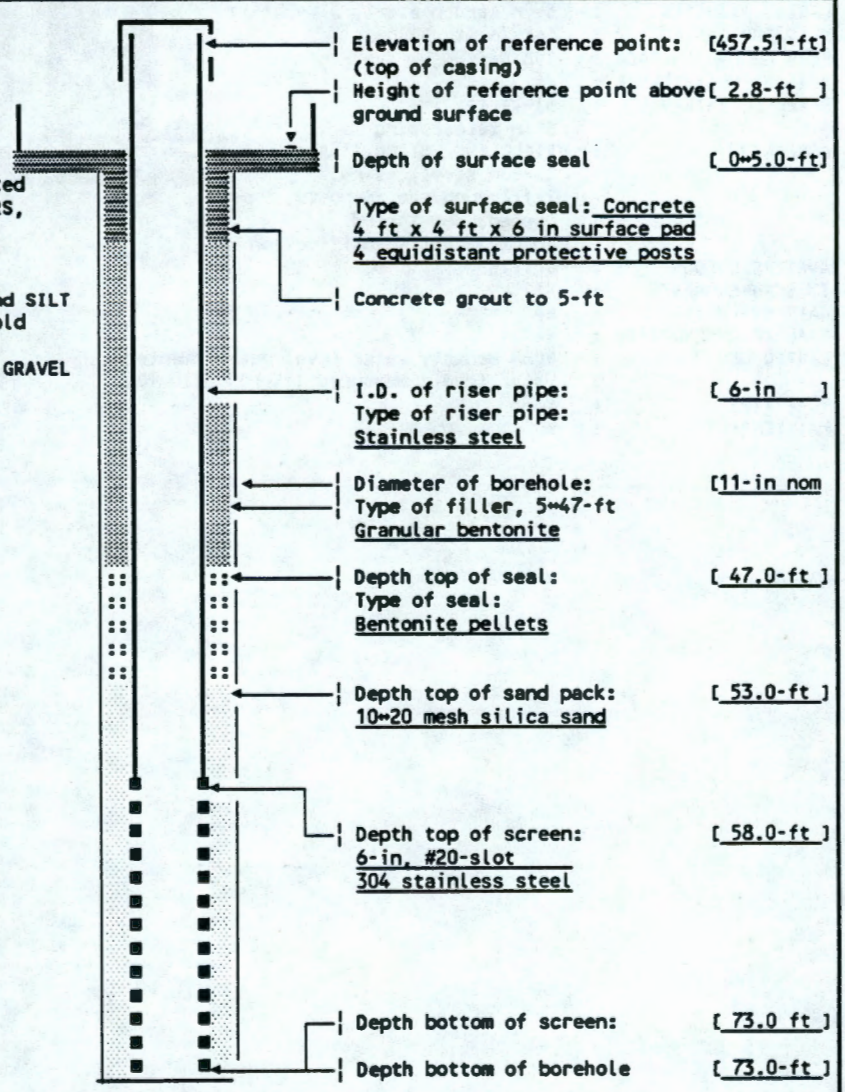
Drilling Method: Cable tool	Sample Method: Hard tool
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: O. Amos	WA State Lic Nr: Not documented
Drilling Company: Associated Well Drill	Company Location: Not documented
Date Started: 03Jun87	Date Complete: 17Jun87

WELL NUMBER: 199-N-54	TEMPORARY WELL NO: 1310-N #2
Hanford N-Area Coordinates: N/S N 6,772	E/W W 6,153
State Coordinates: N ND	E ND
Start Card #: Not documented	T___ R___ S___
Elevation Ground surface (ft): 454.7 Estimated	

Depth to water: 60.0-ft Jun87
(Ground surface) 64.0-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

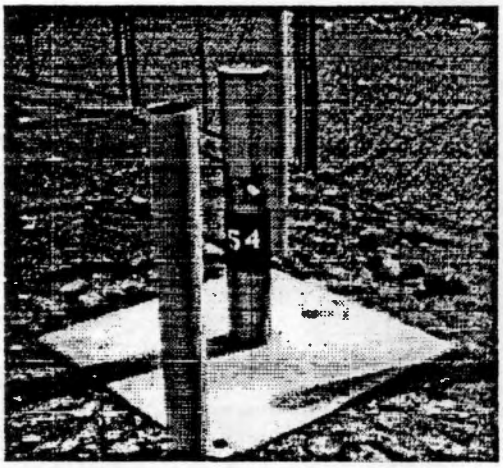
0-25: Sandy GRAVEL, unconsolidated backfill material, BOULDERS, COBBLES, PEBBLES, SAND and some SILT
25-49: Dark grey sandy GRAVEL COBBLES, PEBBLES, SAND and SILT
49-60: Coarse SAND, top of Ringold Fm @ 49-ft
60-73: Dary greyish brown sandy GRAVEL



Drawing By: RKL/1#N#54.ASB Date:_____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-54



WELL DESIGNATION	:	199-N-54
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 6,772 W 6,153
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jun87
DEPTH DRILLED (GS)	:	73-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	60.0-ft Jun85; 64.0-ft, Jul91
CASING DIAMETER	:	6-in 304 stainless steel, +2-58-ft
ELEV TOP CASING	:	457.51-ft
ELEV GROUND SURFACE	:	454.7-ft, Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	58-73-ft 6-in 304 stainless steel, #20-slot
COMMENTS	:	FIELD INSPECTION, 25Apr91; Stainless steel casing. 4x4-ft concrete pad, 4 posts, 1 removable, capped and locked, brass cap in pad with well ID.
AVAILABLE LOGS	:	Geologist; driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 23May88-30Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

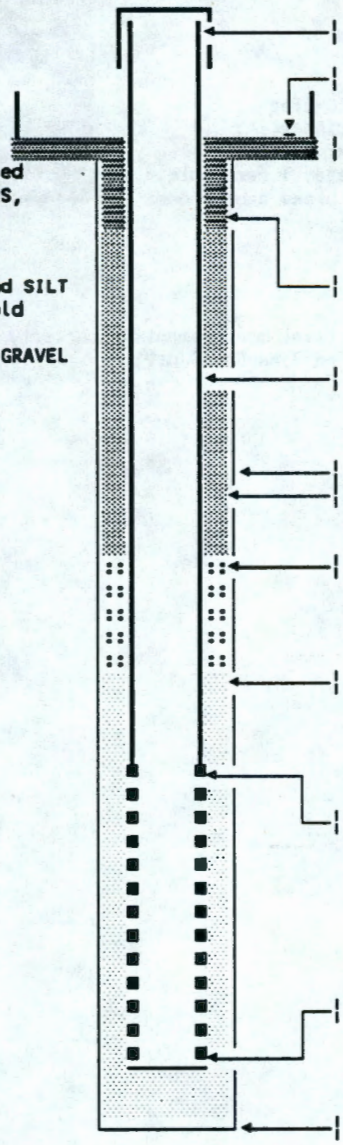
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool	WELL NUMBER: 199-N-55	TEMPORARY WELL NO: 1310-N #3
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford N-Area Coordinates: N/S N 6,687	E/W W 6,153
Driller's Name: L. Cordon	WA State Lic Nr: Not documented	State Coordinates: N ND	E ND
Drilling Company: Associated Well Drill	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 03Jun87	Date Complete: 17Jun87	Elevation Ground surface (ft): 455.0 Estimated	

Depth to water: 60.0-ft Jun87
(Ground surface) 65.6-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-30: Sandy GRAVEL, unconsolidated backfill material, BOULDERS, COBBLES, PEBBLES, SAND and some SILT
25-49: Dark grey sandy GRAVEL COBBLES, PEBBLES, SAND and SILT
49-60: Coarse SAND, top of Ringold Fm @ 49-ft
60-75: Dary greyish brown sandy GRAVEL

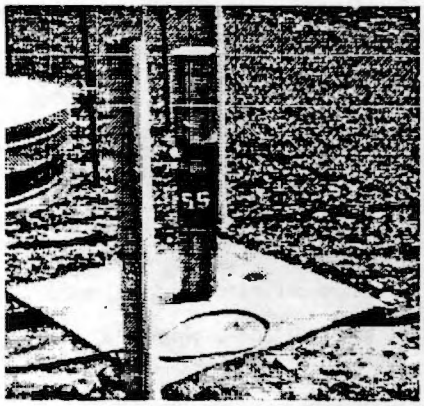


- Elevation of reference point: [457.85-ft] (top of casing)
- Height of reference point above ground surface [2.9-ft]
- Depth of surface seal [0-5.0-ft]
- Type of surface seal: Cement 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
- Concrete grout to 5-ft
- I.D. of riser pipe: [6-in] Type of riser pipe: Stainless steel
- Diameter of borehole: [11-in nom
- Type of filler, 5-47-ft Granular bentonite
- Depth top of seal: [47.0-ft] Type of seal: Bentonite pellets
- Depth top of sand pack: [52.5-ft] 10-20 mesh silica sand
- Depth top of screen: [58.0-ft] 6-in, #20-slot 304 stainless steel
- Depth bottom of screen: [73.0 ft]
- Depth bottom of borehole: [75.0-ft]

Drawing By: RKL/1#N#55.ASB Date:_____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-55



WELL DESIGNATION	:	199-N-55
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 6,687 W 6,153
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jun87
DEPTH DRILLED (GS)	:	75-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	60.0-ft Jun85; 65.6-ft, Jul91
CASING DIAMETER	:	6-in 304 stainless steel, +2-58-ft
ELEV TOP CASING	:	457.85-ft
ELEV GROUND SURFACE	:	455.0-ft
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	58-73-ft 6-in 304 stainless steel, #20-slot
COMMENTS	:	FIELD INSPECTION, 25Apr91; Stainless steel casing. 4x4-ft concrete pad, 4 posts, 1 removable, capped and locked, brass cap in pad with well ID.
AVAILABLE LOGS	:	Geologist; driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 22May88-30Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

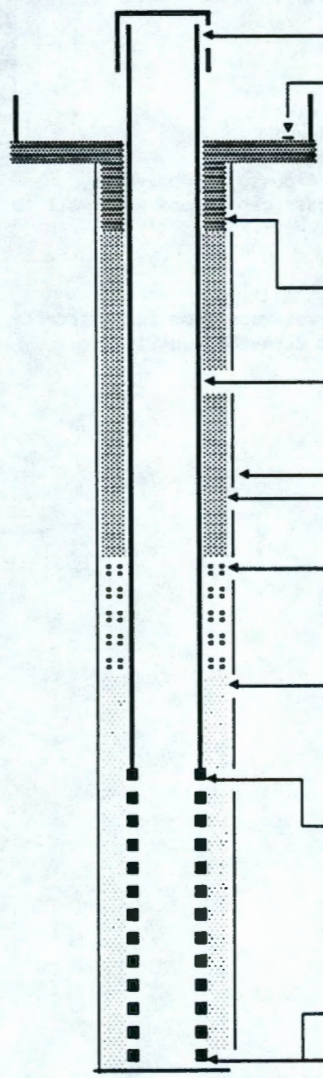
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool	WELL NUMBER: 199-N-56	TEMPORARY WELL NO: 1310-N #1
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford N-Area Coordinates: N/S N 6,998	E/W W 6,206
Driller's Name: O. Amos	WA State Lic Nr: Not documented	State Coordinates: N ND	E ND
Drilling Company: Associated Well Drill	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 11Jun87	Date Complete: 25Jun87	Elevation Ground surface (ft): 454.3 Estimated	

Depth to water: 61.0-ft Jun87
(Ground surface) 65.5-ft Jul91

GENERALIZED Geologist's STRATIGRAPHY Log

0-46: Sandy GRAVEL
46-60: Silty sandy GRAVEL, Ringold Contact @ 46-ft
60-70: Medium SAND
70-74: Gravelly SAND

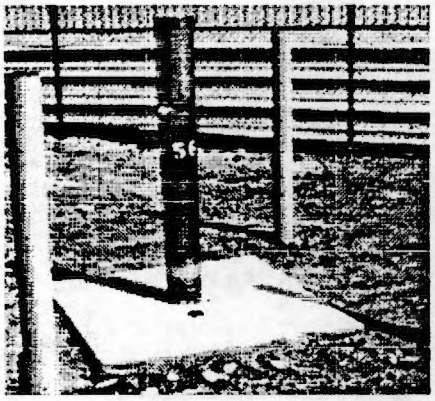


Elevation of reference point: [458.09-ft]
(top of casing)
Height of reference point above ground surface [3.8-ft]
Depth of surface seal [0-4.5-ft]
Type of surface seal: Concrete
4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts
Concrete grout to 4.5-ft
I.D. of riser pipe: [6-in]
Type of riser pipe:
Stainless steel
Diameter of borehole: [11-in nom
Type of filler, 4.5-47.5-ft
Granular bentonite
Depth top of seal: [47.5-ft]
Type of seal:
Bentonite pellets
Depth top of sand pack: [53.5-ft]
10-20 mesh silica sand
Depth top of screen: [59.0-ft]
6-in, #20-slot
304 stainless steel
Depth bottom of screen: [74.0 ft]
Depth bottom of borehole [74.0-ft]

Drawing By: RKL/1#N#56.ASB Date:_____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-56



WELL DESIGNATION	:	199-N-56
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 6,998 W 6,206
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jun87
DEPTH DRILLED (GS)	:	74-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	61.0-ft Jun87; 65.5-ft, Jul91
CASING DIAMETER	:	6-in 304 stainless steel, +0-58-ft
ELEV TOP CASING	:	458.09-ft
ELEV GROUND SURFACE	:	454.3-ft
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	59-74-ft, 6-in 304 stainless steel, #20-slot
COMMENTS	:	FIELD INSPECTION, 25Apr91; Stainless steel casing. 4x4-ft concrete pad, 4 posts, 1 removable, capped and locked, brass cap in pad with well ID.
AVAILABLE LOGS	:	Geologist;
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 23May88-30Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

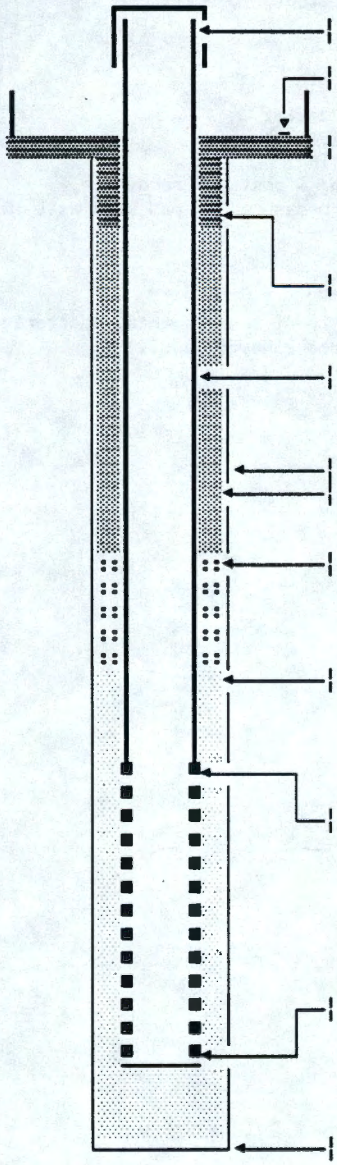
Drilling Method: Cable tool	Sample Method: Hard tool
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: L. Cordon	WA State Lic Nr: Not documented
Drilling Company: Associated Well Drill	Company Location: Not documented
Date Started: 12Jun87	Date Complete: 25Jun87

WELL NUMBER: 199-N-57	TEMPORARY WELL NO: 1310-N #6
Hanford N-Area Coordinates: N/S N 6,558	E/W W 5,887
State Coordinates: N ND	E ND
Start Card #: Not documented	T___ R___ S___
Elevation Ground surface (ft): 455.5 Estimated	

Depth to water: 60.0-ft Jun87
(Ground surface) 65.2-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-60: Sandy GRAVEL
Ringold contact @ 57-ft
60-76: Gravelly silty SAND



Elevation of reference point: [457.76-ft]
(top of casing)

Height of reference point above ground surface [2.3-ft]

Depth of surface seal [0-5.0-ft]

Type of surface seal: Cement
4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts

Concrete grout to 5-ft

I.D. of riser pipe: [6-in]
Type of riser pipe:
Stainless steel

Diameter of borehole: [11-in nom
Type of filler, 5-47-ft
Granular bentonite

Depth top of seal: [47.0-ft]
Type of seal:
Bentonite pellets

Depth top of sand pack: [52.0-ft]
10-20 mesh silica sand

Depth top of screen: [58.0-ft]
6-in, #20-slot
304 stainless steel

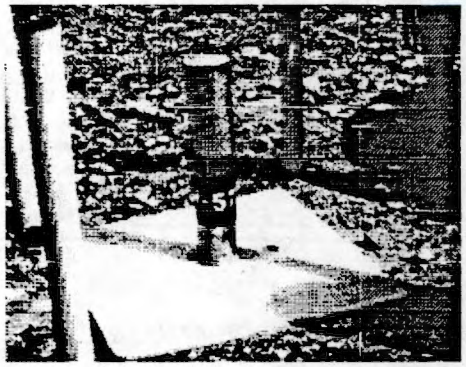
Depth bottom of screen: [73.0 ft]

Depth bottom of borehole: [76.0-ft]

Drawing By: RKL/1#N#57.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-57



WELL DESIGNATION	:	199-N-57
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N, 1324-N/NA Assessment
HANFORD COORDINATES	:	N-Area N 6,558 W 5,887
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jun87
DEPTH DRILLED (GS)	:	76-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	60.0-ft Jun85; 65.2-ft, Jul91
CASING DIAMETER	:	6-in 304 stainless steel, 0-58-ft
ELEV TOP CASING	:	457.76-ft
ELEV GROUND SURFACE	:	455.5-ft
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	58-73-ft 6-in 304 stainless steel, #20-slot
COMMENTS	:	FIELD INSPECTION, 25Apr91; Stainless steel casing. 4x4-ft concrete pad, 4 posts, 1 removable, capped and locked, brass cap in pad with well ID.
AVAILABLE LOGS	:	Geologist;
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 23May88-30Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: R. Robinson/L. Watkins
Drilling Company: Kaiser Engineers
Date Started: 14Sep87

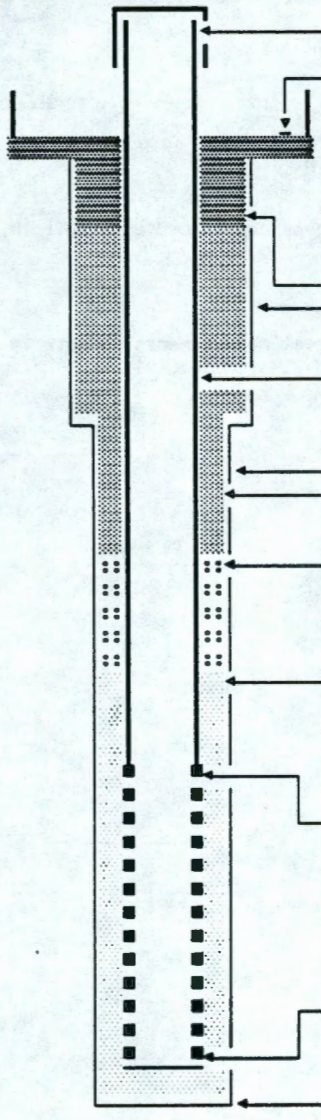
Sample Method: Dart bailer
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Richland, WA
Date Complete: 19Nov87

WELL NUMBER: 199-N-58
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 5,428 E/W W 5,867
State Coordinates: N ND E ND
Start Card #: Not documented T R S
Elevation Ground surface (ft): 459.58 Brass cap

Depth to water: 59.4-ft Oct87
(Ground surface) 69.2-ft Sep90

GENERALIZED STRATIGRAPHY Geologist's Log

0-17: Silty sandy GRAVEL (Excavated by backhoe)
17-30: Sandy GRAVEL
30-35: Sandy GRAVEL
35-57: Silty sandy GRAVEL
57-60: Ringold Fm contact
60-71: Sandy GRAVEL



Elevation of reference point: [462.88-ft] (top of casing)
Height of reference point above ground surface [3.3-ft]
Depth of surface seal [0-3.3-ft]
Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
Concrete grout to 3.3-ft
Diameter of borehole, 0-17-ft [13-in nom]
I.D. of riser pipe: [6-in]
Type of riser pipe: Stainless steel
Diameter of borehole, 17-70-ft [11-in nom
Type of filler, 3.3-44.5-ft Granular bentonite
Depth top of seal: [44.5-ft]
Type of seal: Bentonite pellets
Depth top of sand pack: [49.5-ft]
10-20 mesh silica sand
Depth top of screen: [55.4-ft]
6-in, #20-slot, 304 stainless steel
Depth bottom of screen: [70.4 ft]
Depth bottom of borehole: [71.0-ft]

Drawing By: RKL/1#N#58.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-58

WELL DESIGNATION	:	199-N-58
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1324-N/NA
HANFORD COORDINATES	:	N-Area N 5,428 W 5,867
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Nov87
DEPTH DRILLED (GS)	:	71-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	59.4-ft Oct87; 69.2-ft, Sep90
CASING DIAMETER	:	6-in 304 stainless steel, +0-55.4-ft
ELEV TOP CASING	:	462.88-ft
ELEV GROUND SURFACE	:	459.58 (Brass cap)
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	55.5-70.4-ft, 6-in 304 stainless steel #20-slot
COMMENTS	:	FIELD INSPECTION,
AVAILABLE LOGS	:	Geologist; driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 04Dec87-26Sep90
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

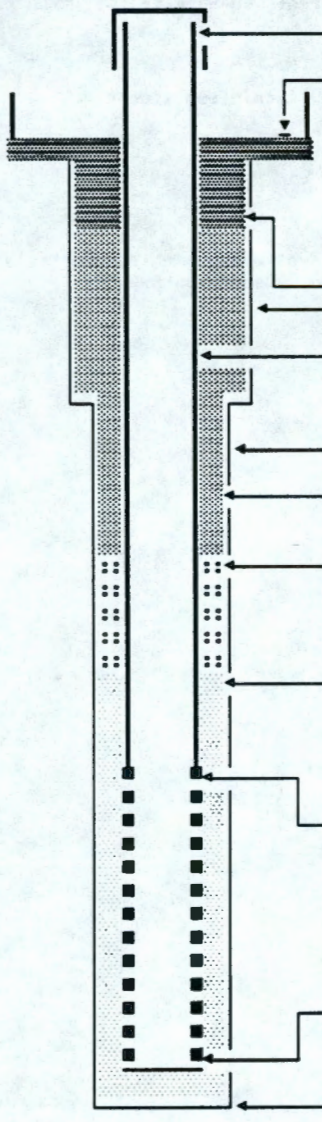
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Dart bailer	WELL NUMBER: 199-N-59	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford N-Area Coordinates: N/S N 5,176	E/W W 5,858
Driller's Name: O. Amos	WA State Lic Nr: 1224	State Coordinates: N ND	E ND
Drilling Company: Kaiser Engineers	Company Location: Richland, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 21Sep87	Date Complete: 19Nov87	Elevation Ground surface (ft): 457.58 Brass cap	

Depth to water: 59.4-ft Sep87
(Ground surface) 66.6-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-20: Sity sandy GRAVEL
(Excavated by backhoe)
20-63: Sandy GRAVEL
63-65: Ringold Fm contact
65-70: Silty sandy GRAVEL
70-72.5: Silty SAND

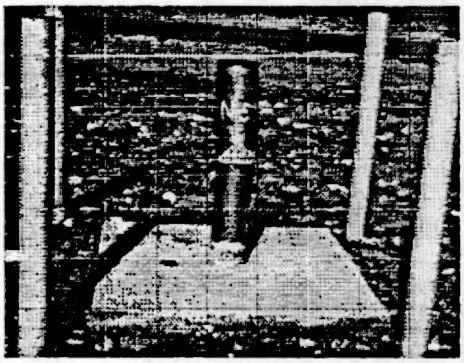


- Elevation of reference point: [459.53-ft] (top of casing)
- Height of reference point above ground surface [2.0-ft]
- Depth of surface seal [0-3.0-ft]
- Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
- Concrete grout to 3.0-ft
- Diameter of borehole, 0-20.5-ft [13-in nom]
- I.D. of riser pipe: [6-in] Type of riser pipe: Stainless steel
- Diameter of borehole, 20.5-72.5-ft [11-in nom
- Type of filler, 3.3-45.0-ft Granular bentonite
- Depth top of seal: [50.0-ft] Type of seal: Bentonite pellets
- Depth top of sand pack: [56.5-ft] 10-20 mesh silica sand
- Depth top of screen: [56.5-ft] 6-in, #20-slot, 304 stainless steel
- Depth bottom of screen: [71.5 ft]
- Depth bottom of borehole: [72.5-ft]

Drawing By: RKL/1#N#59.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-59



WELL DESIGNATION	:	199-N-59
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1324-N/NA
HANFORD COORDINATES	:	N-Area N 5,176 W 5,858
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Nov87
DEPTH DRILLED (GS)	:	72.5-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	59.5-ft Oct87; 66.6-ft, Jul91
CASING DIAMETER	:	6-in 304 stainless steel, +0-56.5-ft
ELEV TOP CASING	:	459.53-ft
ELEV GROUND SURFACE	:	457.58 (Brass cap)
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	56.5-71.5-ft, 6-in 304 stainless steel #20-slot
COMMENTS	:	FIELD INSPECTION, 31Aug89; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable, capped and locked, brass cap in pad with well ID.
AVAILABLE LOGS	:	Geologist;
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 04Dec87-30Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

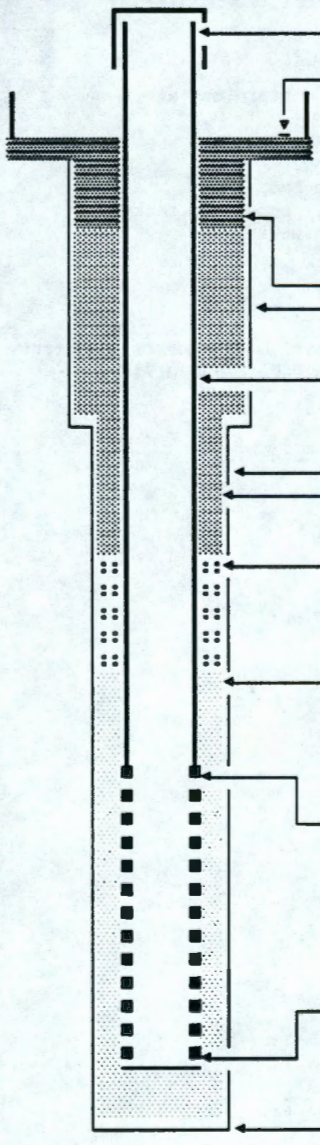
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Dart bailer	WELL NUMBER: 199-N-60	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford N-Area Coordinates: N/S N 5,351	E/W W 5,867
Driller's Name: L. Watkins	WA State Lic Nr: 1271	State Coordinates: N ND	E ND
Drilling Company: Kaiser Engineers	Company Location: Richland, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 12Oct87	Date Complete: 19Nov87	Elevation Ground surface (ft): 459.37 Brass cap	

Depth to water: 60.3-ft Oct87
(Ground surface) 68.2-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's Log

0-20: Silty sandy GRAVEL (Excavated by backhoe)
20-25: Silty sandy GRAVEL
25-63: Sandy GRAVEL
63-65: Ringold Fm contact
65-72: Silty gravelly SAND



- Elevation of reference point: [461.94-ft] (top of casing)
- Height of reference point above ground surface [2.6-ft]
- Depth of surface seal [0-3.25-ft]
- Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
- Concrete grout to 3.25-ft
- Diameter of borehole, 0-20-ft [13-in nom]
- I.D. of riser pipe: [6-in] Type of riser pipe: Stainless steel
- Diameter of borehole, 20-72-ft [11-in nom
- Type of filler, 3.25-44.5-ft Granular bentonite
- Depth top of seal: [44.5-ft] Type of seal: Bentonite pellets
- Depth top of sand pack: [49.5-ft] 10-20 mesh silica sand
- Depth top of screen: [55.0-ft] 6-in, #20-slot, 304 stainless steel
- Depth bottom of screen: [70.25-ft]
- Depth bottom of borehole: [72.0-ft]

Drawing By: RKL/1#N#60.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-60

WELL DESIGNATION	:	199-N-60
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1324-N/NA
HANFORD COORDINATES	:	N-Area N 5,351 W 5,867
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Nov87
DEPTH DRILLED (GS)	:	72-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	60.3-ft Oct87; 68.2-ft, Jul91
CASING DIAMETER	:	6-in 304 stainless steel, +2-55.0-ft
ELEV TOP CASING	:	461.94-ft
ELEV GROUND SURFACE	:	459.37 (Brass cap)
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	55.0-70.25-ft, 6-in 304 stainless steel #20-slot
COMMENTS	:	FIELD INSPECTION,
AVAILABLE LOGS	:	Geologist; driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 04Dec87-31Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: O. Amos
Drilling Company: Kaiser Engineers
Date Started: 28Sep87

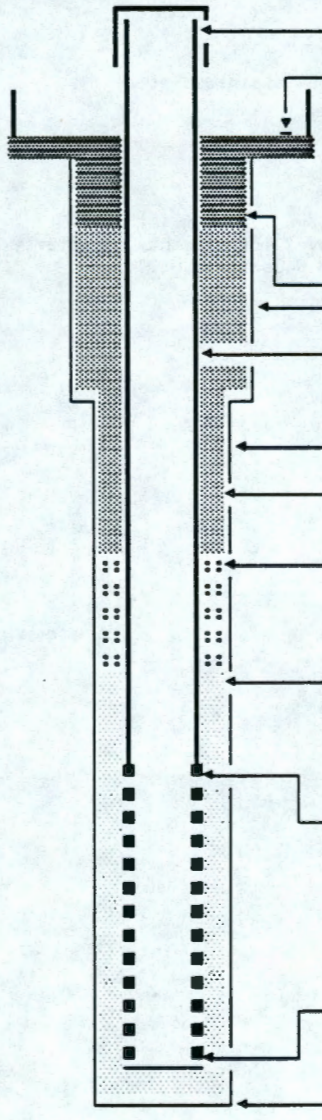
Sample Method: Dart bailer
Additives Used: Not documented
WA State Lic Nr: 1224
Company Location: Richland, WA
Date Complete: 19Nov87

WELL NUMBER: 199-N-61
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 5,320 E/W W 5,570
State Coordinates: N ND E ND
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 459.70 Brass cap

Depth to water: 55.1-ft Oct87
(Ground surface) 68.5-ft Apr90

GENERALIZED STRATIGRAPHY Log — Geologist's

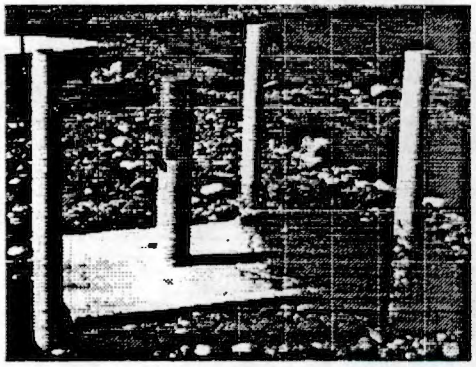
0-20: Sity sandy GRAVEL (Excavated by backhoe)
20-25: Sandy GRAVEL
25-45: Silty sandy GRAVEL
45-55: Sandy GRAVEL
55-59: Silty sandy GRAVEL
59-65: Ringold Fm contact
65-67.5: Fine SAND



Elevation of reference point: [462.02-ft] (top of casing)
Height of reference point above ground surface [2.3-ft]
Depth of surface seal [0-4.5-ft]
Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
Concrete grout to 4.5-ft
Diameter of borehole, 0-~20-ft [13-in nom]
I.D. of riser pipe: [6-in]
Type of riser pipe: Stainless steel
Diameter of borehole, ~20-67.5-ft [11-in nom
Type of filler, 4.5-41.5-ft Granular bentonite
Depth top of seal: [41.5-ft]
Type of seal: 1/4-in Volclay Bentonite pellets
Depth top of sand pack: [47.0-ft]
10-20 mesh silica sand
Depth top of screen: [51.5-ft]
6-in, #20-slot, 304 stainless steel
Depth bottom of screen: [66.6 ft]
Depth bottom of borehole: [67.5-ft]

Drawing By: RKL/1#N#61.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-61



WELL DESIGNATION	:	199-N-61
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1324-N/NA
HANFORD COORDINATES	:	N-Area N 5,320 W 5,570
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Nov87
DEPTH DRILLED (GS)	:	67.5-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	55.1-ft Oct87; 68.5-ft, Apr90 (Below documented bottom of screen)
CASING DIAMETER	:	6-in 304 stainless steel, ~+2-51.5-ft
ELEV TOP CASING	:	462.02-ft
ELEV GROUND SURFACE	:	459.70 (Brass cap)
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	51.5-66.6-ft, 6-in 304 stainless steel #20-slot
COMMENTS	:	FIELD INSPECTION, 31Aug89; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable, capped and locked, brass cap in pad with well ID.
AVAILABLE LOGS	:	Geologist;
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; water level below screen. Water levels measured 04Dec87-24Apr90
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

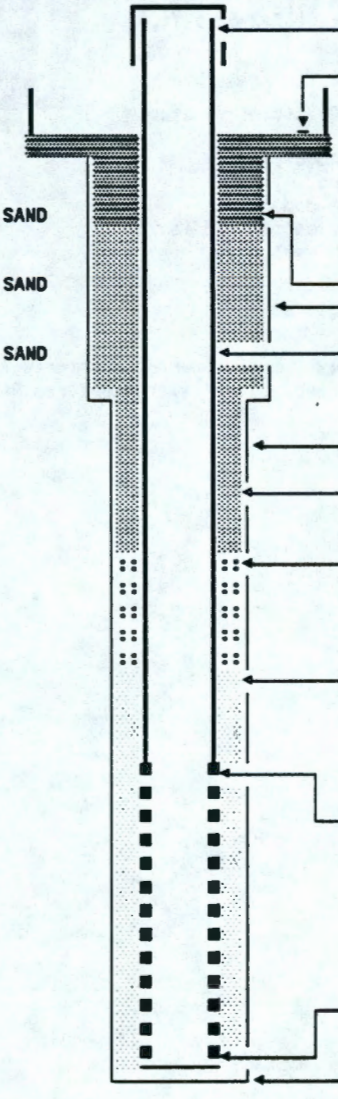
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Dart bailer	WELL NUMBER: 199-N-62	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford N-Area Coordinates: N/S N 6,822	E/W W 5,565
Driller's Name: O. Amos	WA State Lic Nr: 1224	State Coordinates: N ND	E ND
Drilling Company: Kaiser Engineers	Company Location: Richland, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 13Oct87	Date Complete: 19Nov87	Elevation Ground surface (ft): 461.4 Estimated	

Depth to water: 66.1-ft Oct87
(Ground surface) 70.8-ft Jul91

GENERALIZED Geologist's STRATIGRAPHY Log

0-20: Sandy GRAVEL
(Excavated by backhoe)
20-35: Slightly silty gravelly SAND
34-39: Silty sandy GRAVEL
(BOULDER 35.5-38.5-ft)
39-49: Slightly silty gravelly SAND
49-54: Gravelly SAND
54-64: Sandy GRAVEL
64-74: Slightly silty gravelly SAND
(Ringold @ 64-ft)
74-78.5: Gravelly SAND



Elevation of reference point: [463.59-ft]
(top of casing)

Height of reference point above ground surface [2.2-ft]

Depth of surface seal [0-4.5-ft]

Type of surface seal: Concrete
4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts

Concrete grout to 4.5-ft

Diameter of borehole, 0-20.5-ft [13-in nom]

I.D. of riser pipe: [6-in]
Type of riser pipe:
Stainless steel

Diameter of borehole, 20.5-78.5-ft [11-in nom

Type of filler, 4.5-52.0-ft
Granular bentonite

Depth top of seal: [52.0-ft]
Type of seal:
Bentonite pellets

Depth top of sand pack: [58.5-ft]
10-20 mesh silica sand

Depth top of screen: [63.5-ft]
6-in, #20-slot, 304
stainless steel

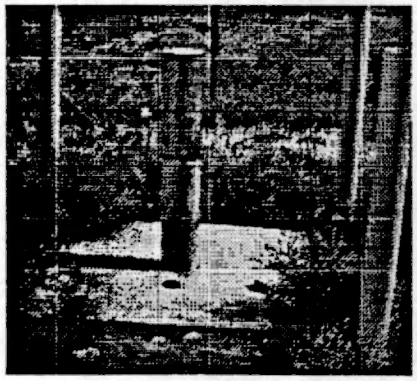
Depth bottom of screen: [78.5 ft]

Depth bottom of borehole: [78.5-ft]

Drawing By: RKL/1#N#62.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-62



WELL DESIGNATION	:	199-N-62
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 6,822 W 5,565
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Nov87
DEPTH DRILLED (GS)	:	78.5-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	66.1-ft Oct87; 70.8-ft Jul91
CASING DIAMETER	:	6-in 304 stainless steel, +1.5-63.5-ft
ELEV TOP CASING	:	463.59-ft
ELEV GROUND SURFACE	:	461.4-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	63.5-78.5-ft, 6-in 304 stainless steel #20-slot
COMMENTS	:	FIELD INSPECTION, 31Aug89; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable, capped and locked, brass cap in pad with well ID.
AVAILABLE LOGS	:	Geologist;
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 27May86-30Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

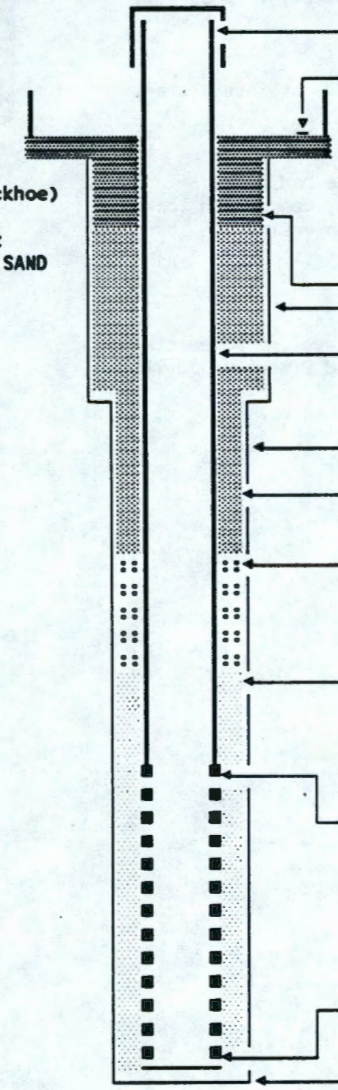
Drilling Method: Cable tool	Sample Method: Hard tool
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: O. Amos	WA State Lic Nr: 1224
Drilling Company: Kaiser Engineers	Company Location: Richland, WA
Date Started: 05Oct87	Date Complete: 19Nov87

WELL NUMBER: 199-N-63	TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 6,833	E/W W 5,231
State Coordinates: N ND	E ND
Start Card #: Not documented	T R S
Elevation Ground surface (ft): Not documented	

Depth to water: 69.6-ft Oct87
(top-of-casing) 76.2-ft Jul91

GENERALIZED STRATIGRAPHY Geologist's Log

0-20: Silty sandy GRAVEL
(0-16-ft excavated by backhoe)
20-69: Sandy GRAVEL
Ringold contact at 61-ft
69-79: Slightly silty gravelly SAND
79-81: Coarse to fine SAND



- Elevation of reference point: [466.70-ft] (top of casing)
- Height of reference point above ground surface [ND]
- Depth of surface seal [0-4.5-ft]
- Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
- Concrete grout to 4.5-ft
- Diameter of borehole, 0-~20-ft [13-in nom]
- I.D. of riser pipe: [6-in]
  Type of riser pipe: Stainless steel
- Diameter of borehole, ~20-81-ft [11-in nom
- Type of filler, 4.5-54.5-ft Granular bentonite
- Depth top of seal: [54.5-ft]
  Type of seal: Bentonite pellets
- Depth top of sand pack: [60.0-ft]
  10-20 mesh silica sand
- Depth top of screen: [66.0-ft]
  6-in, #20-slot, 304 stainless steel
- Depth bottom of screen: [81.0 ft]
- Depth bottom of borehole: [81.0-ft]

Drawing By: RKL/1#N#63.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-63

WELL DESIGNATION	:	199-N-63
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 6,833 W 5,231
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Nov87
DEPTH DRILLED (GS)	:	81.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	69.6-ft Oct87; 76.2-ft, Jul91 (top-of-casing)
CASING DIAMETER	:	6-in 304 stainless steel, +2.0-66.0-ft
ELEV TOP CASING	:	466.70-ft
ELEV GROUND SURFACE	:	ND
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	66.0-81.0-ft, 6-in 304 stainless steel #20-slot
COMMENTS	:	FIELD INSPECTION,
AVAILABLE LOGS	:	Geologist; driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 27May88-30Jul91
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

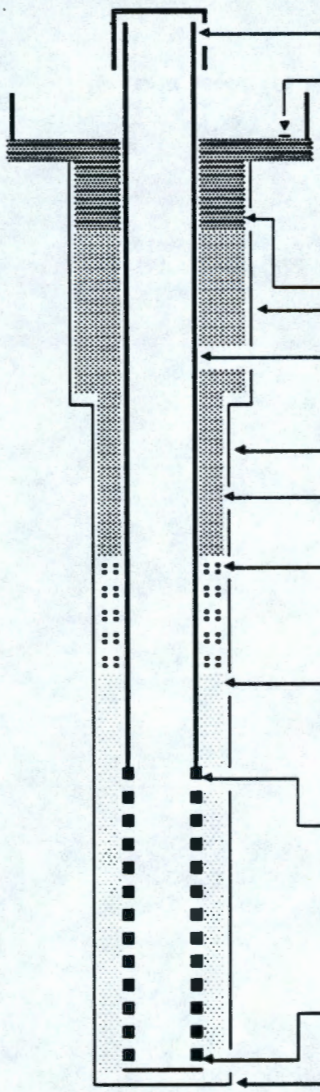
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool	WELL NUMBER: 199-N-64	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford N-Area Coordinates: N/S N 6,825	E/W W 4,981
Driller's Name: L. Watkins	WA State Lic Nr: Not documented	State Coordinates: N ND	E ND
Drilling Company: Kaiser Engineers	Company Location: Richland, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 15Oct87	Date Complete: 19Nov87	Elevation Ground surface (ft): 452.2 Estimated	

Depth to water: 58.5-ft Oct87
(Ground surface) 62.0-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-19: Not documented
(Excavated by backhoe)
20-49: Sandy GRAVEL
49-64: Silty sandy GRAVEL
Ringold contact at 63-ft
64-69.5: Slightly gravelly SAND

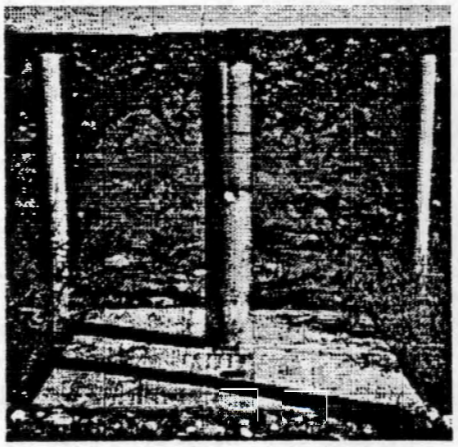


- Elevation of reference point: [454.63-ft] (top of casing)
- Height of reference point above ground surface [2.45-ft]
- Depth of surface seal [0-4.3-ft]
- Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
- Concrete grout to 4.3-ft
- Diameter of borehole, 0-~20-ft [13-in nom]
- I.D. of riser pipe: [6-in] Type of riser pipe: Stainless steel
- Diameter of borehole, ~20-69.5-ft [11-in nom
- Type of filler, 4.3-44.5-ft Bentonite crumbles
- Depth top of seal: [44.5-ft] Type of seal: Volcaly pellets
- Depth top of sand pack: [49.0-ft] 10-20 mesh silica sand
- Depth top of screen: [54.0-ft] 6-in, #20-slot, 304 stainless steel
- Depth bottom of screen: [69.0 ft]
- Depth bottom of borehole: [69.5-ft]

Drawing By: RKL/1#N#64.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-64



WELL DESIGNATION	:	199-N-64
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 6,825 W 4,981
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Nov87
DEPTH DRILLED (GS)	:	69.5-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	58.5-ft Oct87; 62.0-ft, Jul91
CASING DIAMETER	:	6-in 304 stainless steel, +2.0-54.0-ft
ELEV TOP CASING	:	454.63-ft
ELEV GROUND SURFACE	:	452.2-ft, Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	54.0-69.0-ft, 6-in 304 stainless steel #20-slot
COMMENTS	:	FIELD INSPECTION, 28Mar90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable capped and locked, brass cap in pad with well ID.
AVAILABLE LOGS	:	Geologist; driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 27May88-31Jul91
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: L. Watkins/O. Amos
Drilling Company: Kaiser Engineers
Date Started: 27Oct87

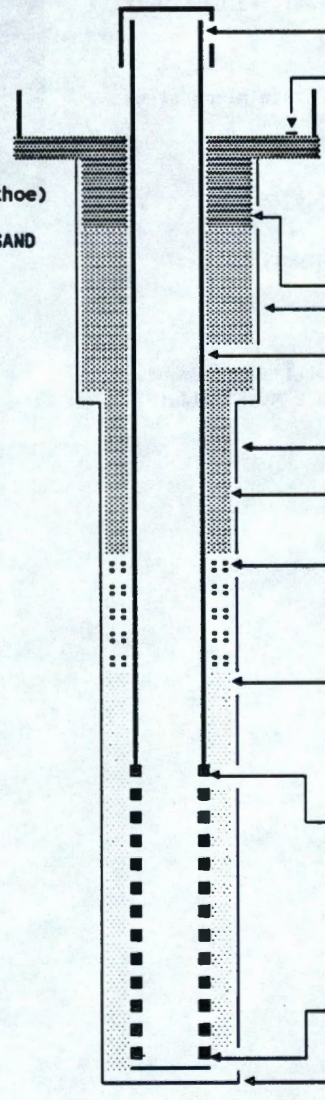
Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: ND/1224
Company Location: Richland, WA
Date Complete: 19Nov87

WELL NUMBER: 199-N-65
TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 6,610 E/W W 4,892
State Coordinates: N ND E ND
Start Card #: Not documented T R S
Elevation Ground surface (ft): 453.8 Estimated

Depth to water: 58.8-ft Oct87
(Ground surface) 63.0-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-60: Silty sandy GRAVEL
(0-15-ft excavated by backhoe)
Ringold contact at 48-ft
60-65: Slightly silty gravelly SAND
65-69: Silty sand GRAVEL
69-71: Gravelly SAND

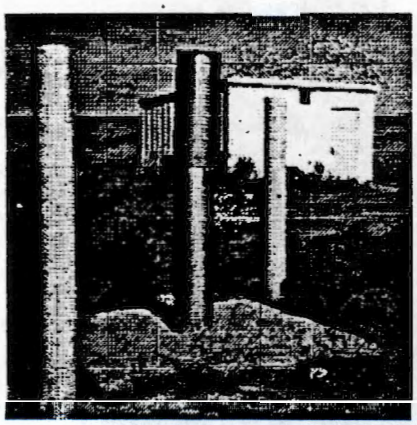


Elevation of reference point: [456.44-ft]
(top of casing)
Height of reference point above ground surface [2.6-ft]
Depth of surface seal [0-5.5-ft]
Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
Concrete grout to 5.5-ft
Diameter of borehole, 0-~20-ft [13-in nom]
I.D. of riser pipe: [6-in]
Type of riser pipe: Stainless steel
Diameter of borehole, ~20-71-ft [11-in nom]
Type of filler, 5.5-45.0-ft Granular bentonite
Depth top of seal: [45.0-ft]
Type of seal: Bentonite pellets
Depth top of sand pack: [49.5-ft]
10-20 mesh silica sand
Depth top of screen: [56.0-ft]
6-in, #20-slot, 304 stainless steel
Depth bottom of screen: [71.0 ft]
Depth bottom of borehole: [71.0-ft]

Drawing By: RKL/1#N#65.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-65



WELL DESIGNATION	:	199-N-65
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N-Area N 6,610 W 4,892
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Nov87
DEPTH DRILLED (GS)	:	71.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	58.8-ft Oct87; 63.9-ft, Jul91
CASING DIAMETER	:	6-in 304 stainless steel, +2.6-56.0-ft
ELEV TOP CASING	:	456.44-ft
ELEV GROUND SURFACE	:	453.8-ft, Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	56.0-71.0-ft, 6-in 304 stainless steel #20-slot
COMMENTS	:	FIELD INSPECTION, 28Mar90; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable, capped and locked, brass cap in pad with well ID.
AVAILABLE LOGS	:	Geologist; driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements; Water levels measured 27May88-31Jul91
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 2 9 3

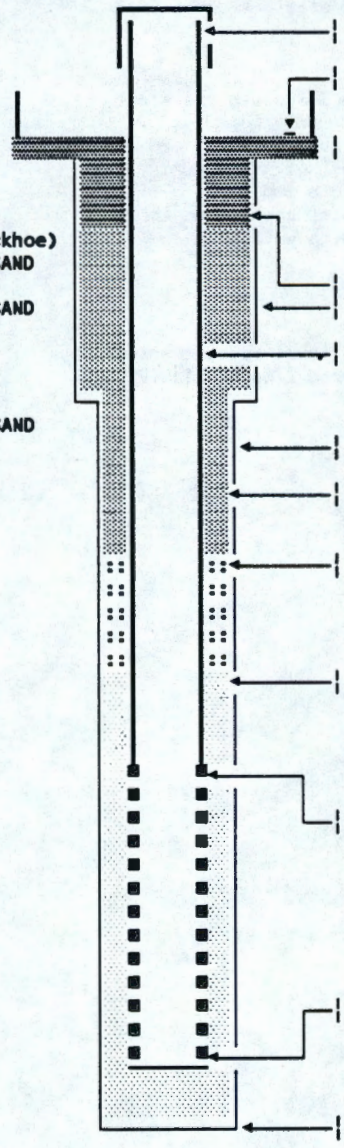
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool	WELL NUMBER: 199-N-66	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford N-Area Coordinates: N/S N 6,327	E/W W 5,040
Driller's Name: O. Amos	WA State Lic Nr: 1224	State Coordinates: N ND	E ND
Drilling Company: Kaiser Engineers	Company Location: Richland, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 14Oct87	Date Complete: 19Nov87	Elevation Ground surface (ft): 463.4 Estimated	

Depth to water: 67.5-ft Oct87
(Ground surface) 73.5-ft Jul91

GENERALIZED STRATIGRAPHY Geologist's Log

0-10: Silty sandy GRAVEL
10-15: Sandy GRAVEL
15-19: Silty sandy GRAVEL
(0-20-ft excavated by backhoe)
19-24: Slightly silty gravelly SAND
24-34: Sandy GRAVEL
34-39: Slightly silty gravelly SAND
39-44: Sandy GRAVEL
44-49: Gravelly SAND
49-59: Sandy GRAVEL
Ringold at 53-ft
59-64: Slightly silty gravelly SAND
64-69: Sandy GRAVEL
69-74: Gravelly SAND
74-80: Sandy GRAVEL



Elevation of reference point: [465.25-ft]
(top of casing)

Height of reference point above ground surface [1.9-ft]

Depth of surface seal [0-5.0-ft]

Type of surface seal: Concrete
4 ft x 4 ft x 6 in surface pad
4 equidistant protective posts

Concrete grout to 5.0-ft

Diameter of borehole, 0-~16-ft [13-in nom]

I.D. of riser pipe: [6-in]
Type of riser pipe:
Stainless steel

Diameter of borehole, ~16-80-ft [11-in nom

Type of filler, 5.0-52.0-ft
Granular bentonite

Depth top of seal: [52.0-ft]
Type of seal:
Bentonite pellets

Depth top of sand pack: [57.5-ft]
10-20 mesh silica sand

Depth top of screen: [63.0-ft]
6-in, #20-slot, 304
stainless steel

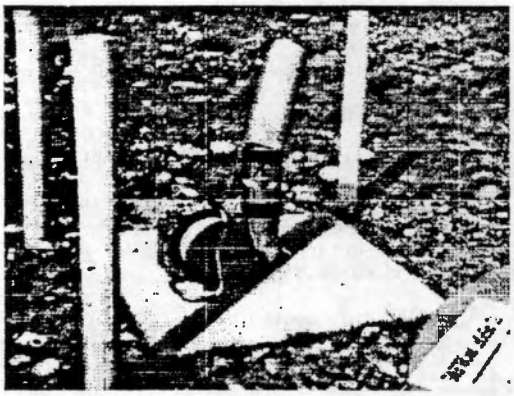
Depth bottom of screen: [78.0 ft]

Depth bottom of borehole: [80.0-ft]

Drawing By: RKL/1#N#66.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-66



WELL DESIGNATION	:	199-N-66
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N
HANFORD COORDINATES	:	N-Area N 6,327 W 5,040
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Nov87
DEPTH DRILLED (GS)	:	80.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	67.5-ft Oct87; 73.5-ft, Jul91
CASING DIAMETER	:	6-in 304 stainless steel, +1.9-63.0-ft
ELEV TOP CASING	:	465.25-ft
ELEV GROUND SURFACE	:	463.4-ft, Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	63.0-78.0-ft, 6-in 304 stainless steel #20-slot
COMMENTS	:	FIELD INSPECTION, 26Apr91; Stainless steel casing. 4-ft x 4-ft concrete pad, 4 posts, 1 removable capped and locked, brass cap in pad with well ID.
AVAILABLE LOGS	:	Geologist; driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 27May88-31Jul91
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

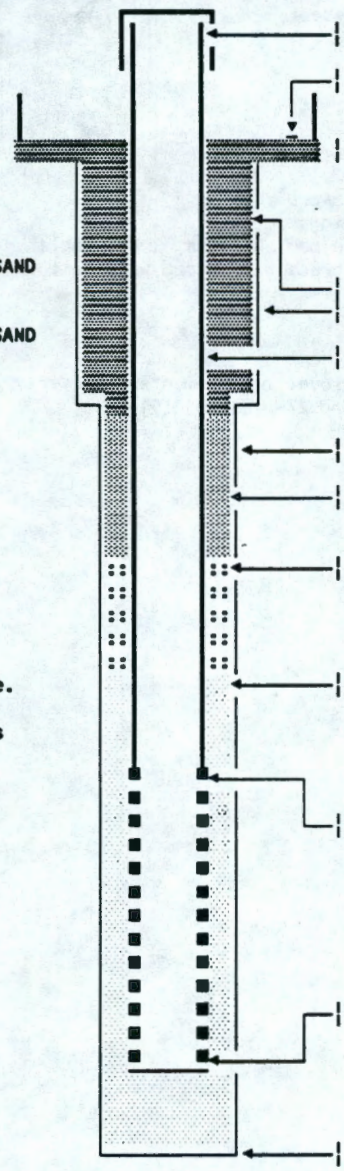
Drilling Method: Cable tool	Sample Method: Hard tool	WELL NUMBER: 199-N-67	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford N-Area Coordinates: N/S N 7,438	E/W W 5,970
Driller's Name: O. Amos	WA State Lic Nr: 1224	State Coordinates: N ND	E ND
Drilling Company: Kaiser Engineers	Company Location: Richland, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 16Feb88	Date Complete: 02Mar88	Elevation Ground surface (ft): 456.8 Brass cap	

Depth to water: 65.0-ft Feb88
(Ground surface) 68.4-ft Jul91

GENERALIZED Geologist's STRATIGRAPHY Log

0-14: Sandy GRAVEL
14-19: Silty sandy GRAVEL
19-24: Gravelly silty SAND
24-39 Silty sandy GRAVEL
39-43: Slightly silty gravelly SAND
43-54: Silty sandy GRAVEL
Ringold contact at 43-ft
54-59: Slightly silty gravelly SAND
59-74: Silty sandy GRAVEL
74-79: Sandy GRAVEL

DRILLING NOTE:
Well drilled in radiation zone. Contamination encountered while drilling. Field readings of 3-10,000 dpm 40-75-ft



Elevation of reference point: [458.46]
(top of casing)

Height of reference point above ground surface [1.7-ft]

Depth of surface seal [0-20-ft]

Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts

Concrete grout to 20-ft

Diameter of borehole, 0-~19-ft [13-in nom]

I.D. of riser pipe: [6-in]
Type of riser pipe: Stainless steel

Diameter of borehole, ~19-79-ft [11-in nom

Type of filler, 20-49.5-ft
Granular bentonite

Depth top of seal: [49.5-ft]
Type of seal: Bentonite pellets

Depth top of sand pack: [54.5-ft]
10-20 mesh silica sand

Depth top of screen: [60.5-ft]
6-in, #20-slot, 304 stainless steel

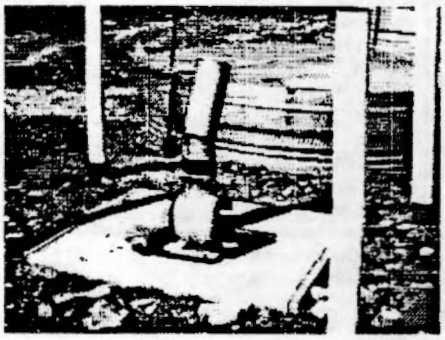
Depth bottom of screen: [76.0 ft]

Depth bottom of borehole: [79.0-ft]

Drawing By: RKL/1#N#67.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-67



WELL DESIGNATION	:	199-N-67
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N
HANFORD COORDINATES	:	N-Area N 7,438 W 5,970
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Mar88
DEPTH DRILLED (GS)	:	79.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	65.0-ft Feb88; 68.4-ft, Jul91
CASING DIAMETER	:	6-in 304 stainless steel, +2.0-60.5-ft
ELEV TOP CASING	:	458.46-ft
ELEV GROUND SURFACE	:	456.77-ft Brass cap
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	60.5-76.0-ft, 6-in 304 stainless steel #20-slot
COMMENTS	:	FIELD INSPECTION, 26Apr91; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable capped and locked, brass cap in pad with well ID.
AVAILABLE LOGS	:	Geologist; driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 19Dec88-31Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: L. Watkins	WA State Lic Nr: Not documented
Drilling Company: Kaiser Engineers	Company Location: Richland, WA
Date Started: 29Apr88	Date Complete: 07Jun88

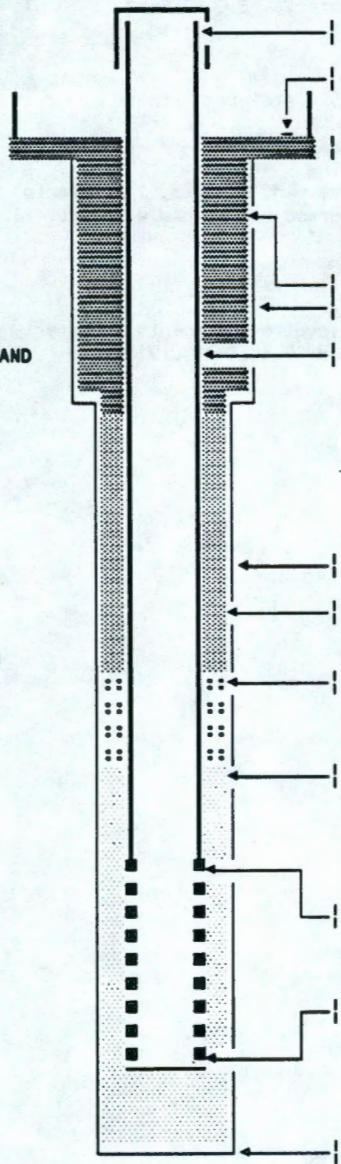
WELL NUMBER: 199-N-69	TEMPORARY WELL NO:
Hanford N-Area Coordinates: N/S N 7,443	E/W W 6,008
State Coordinates: N ND	E ND
Start Card #: Not documented	T R S
Elevation Ground surface (ft): 457.4 Brass cap	

Depth to water: 67.5-ft May88
(Ground surface) 69.1-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-9: Silty sandy GRAVEL
9-19: Sandy GRAVEL
19-24: Gravelly SAND
24-29 Sandy GRAVEL
29-42: Gravelly SAND
42-49: Sandy GRAVEL
Ringold contact at 42-ft
49-54: Silty sandy GRAVEL
54-64: Slightly silty gravelly SAND
64-84: Silty sandy GRAVEL
84-89: Sandy GRAVEL
89-94: Slightly gravelly SAND
94-99: Gravelly silty SAND
99-101: Silty sandy GRAVEL
101-104: CLAY

DRILLING NOTE:
Contamination encountered
~50-100+-ft, 100-500 cpm on GM

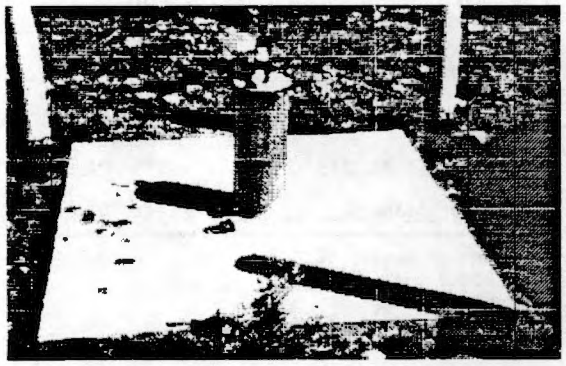


- Elevation of reference point: (top of casing) [458.84]
- Height of reference point above ground surface [1.4-ft]
- Depth of surface seal [0-20-ft]
- Type of surface seal: Concrete 4 ft x 4 ft x 6 in surface pad 4 equidistant protective posts
- Cement grout, 2-21-ft
- Diameter of borehole, 0-~20-ft [13-in nom]
- I.D. of riser pipe: [6-in]
- Type of riser pipe: Stainless steel
- Diameter of borehole, ~20-104-ft [11-in nom]
- Type of filler, 21-76-ft: Bentonite slurry
- Depth top of seal: [76.0-ft]
- Type of seal: Bentonite pellets
- Depth top of sand pack: [78.5-ft]
- 20-40 mesh silica sand
- Depth top of screen: [90.0-ft]
- 6-in, #10-slot, 304 stainless steel
- Depth bottom of screen: [100.0-ft]
- Depth bottom of borehole: [104.0-ft]

Drawing By: RKL/1#N#69.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-69



WELL DESIGNATION	:	199-N-69
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1301-N
HANFORD COORDINATES	:	N-Area N 7,443 W 6,008
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jun88
DEPTH DRILLED (GS)	:	104.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	67.5-ft May88; 69.1-ft, Jul91
CASING DIAMETER	:	6-in 304 stainless steel, +2.5-90.0-ft
ELEV TOP CASING	:	458.84-ft
ELEV GROUND SURFACE	:	457.43-ft Brass cap
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	90.0-100.0-ft, 6-in 304 stainless steel #10-slot
COMMENTS	:	FIELD INSPECTION, 26Apr91; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable capped and locked, brass cap in pad with well ID. Located in radiation zone.
AVAILABLE LOGS	:	Geologist; driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 19Dec88-31Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

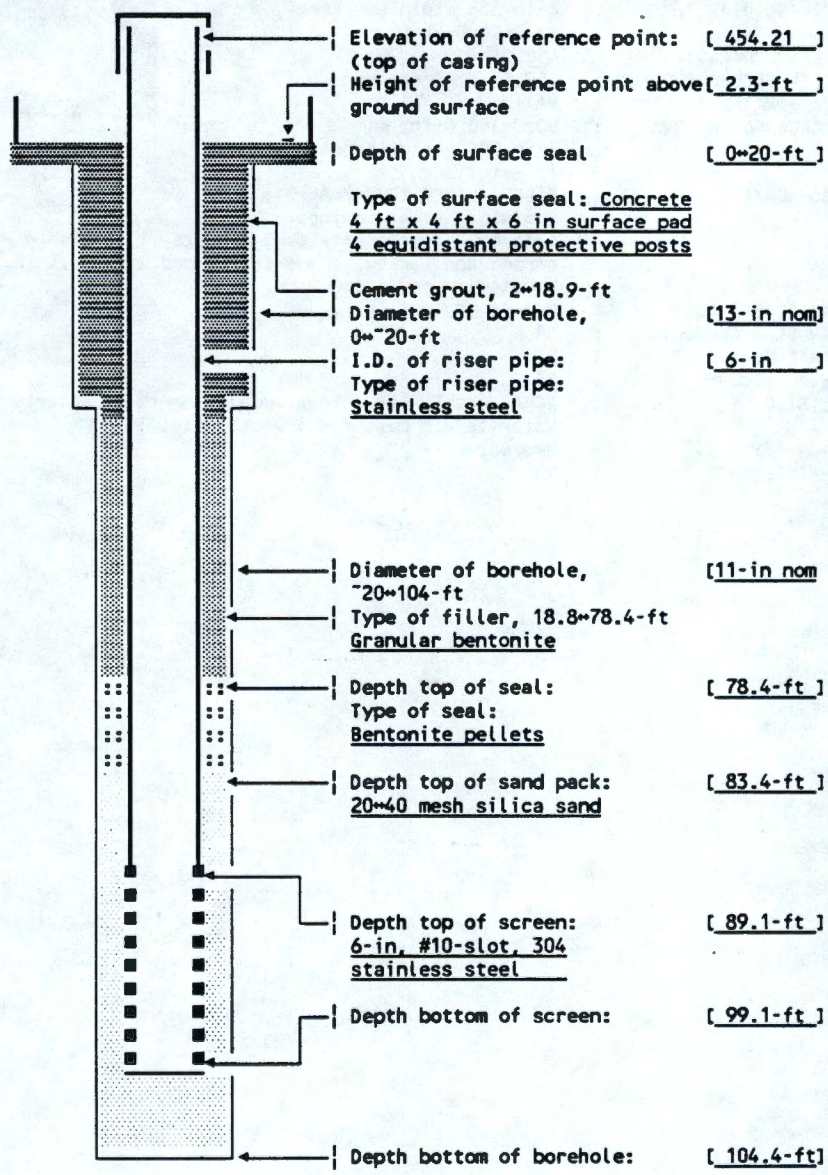
Drilling Method: Cable tool	Sample Method: Hard tool	WELL NUMBER: 199-N-70	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford N-Area Coordinates: N/S N 8,375	E/W W 4,414
Driller's Name: C. Walmsley/F. Murphy	WA State Lic Nr: Not documented	State Coordinates: N ND	E ND
Drilling Company: Kaiser Engineers	Company Location: Richland, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 18Apr88	Date Complete: 01Jun88	Elevation Ground surface (ft): 451.9 Brass cap	

Depth to water: 58.8-ft Jun88
(Ground surface) 62.6-ft Jul91

GENERALIZED STRATIGRAPHY Log — Geologist's

0-9: Gravelly silty SAND
9-24: Silty sandy GRAVEL
24-37: Sandy GRAVEL
Ringold contact at 37-ft
37-69: Silty sandy GRAVEL
69-74: Gravelly silty SAND
74-104: Silty sandy GRAVEL
104 : Gravelly SILT (CLAY)

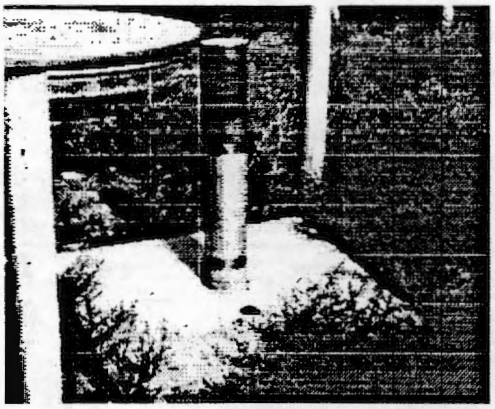
DRILLING NOTE:
No contamination encountered



Drawing By: RKL/1#N#70.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 199-N-70



WELL DESIGNATION	:	199-N-70
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1325-N
HANFORD COORDINATES	:	N-Area N 8,375 W 4,414
LAMBERT COORDINATES	:	N ND E ND
DATE DRILLED	:	Jun88
DEPTH DRILLED (GS)	:	104.4-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	58.8-ft Jun88; 62.6-ft, Jul91
CASING DIAMETER	:	6-in 304 stainless steel, +2.9-89.1-ft
ELEV TOP CASING	:	454.21-ft
ELEV GROUND SURFACE	:	451.88-ft Brass cap
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	89.1-99.1-ft, 6-in 304 stainless steel #10-slot
COMMENTS	:	FIELD INSPECTION, 25Apr91; Stainless steel casing. 4-ft by 4-ft concrete pad, 4 posts, 1 removable capped and locked, brass cap in pad with well ID.
AVAILABLE LOGS	:	Geologist; driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	RCRA monthly water level measurements, quarterly sampling; Water levels measured 19Sep88-31Jul91
PUMP TYPE	:	Hydrostar
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

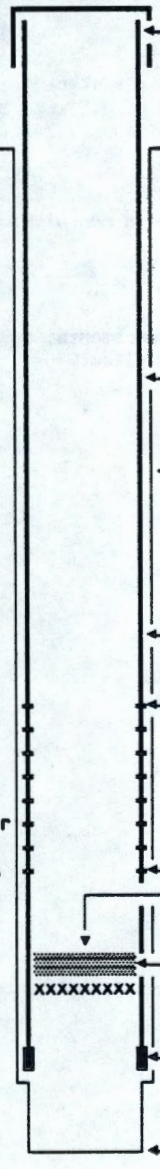
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 699-63-90	TEMPORARY WELL NO: 699-62.5-90
Drilling Fluid Used: Water	Additives Used: Driller's mud	Hanford Coordinates: N/S N 62,892	E/W W 90,264
Driller's Name: Baker/Row	WA State Lic Nr: Not documented	State Coordinates: N 467,962	E 2,204,900
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T ___ R ___ S ___
Date Started: 13Aug48	Date Complete: 16Dec48	Elevation Ground surface (ft): 507.8 Estimated	

Depth to water: 114.0-ft Dec48
(Ground surface) 106.8-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: SAND and BOULDERS
10-22: Basalt BOULDERS, some GRAVEL
22-30: Coarse basalt GRAVEL
30-42: Fine black SAND and GRAVEL
42-45: Basalt GRAVEL
45-47: Coarse GRAVEL
47-55: BOULDERS and coarse GRAVEL
55-60: Coarse GRAVEL
60-62: BOULDERS
62-120: Coarse black SAND and GRAVEL
120-125: Fine black SAND, CLAY and SILT
125-135: SAND and coarse GRAVEL
135-138; Coarse GRAVEL, SAND and CLAY
138-165: CLAY, SAND and GRAVEL
165-172: Basalt GRAVEL, SAND and SILT
172-175: GRAVEL, SAND, CLAY and SILT binder
175-185: Gray SAND, GRAVEL, SILT and CLAY binder
185-194: GRAVEL, SAND, SILT-CLAY binder
194-205: 3-in GRAVEL, SAND, SILT binder
205-210: Fine GRAVEL, fine to coarse SAND and SILT CLAY
210-212: 3-in GRAVEL, SAND, SILT and CLAY binder
212-215: Fine GRAVEL, fine SAND and CLAY binder
215-220: SAND, GRAVEL and SILT
220-235: Small GRAVEL, SAND, SILT binder
235-236: Medium GRAVEL 25%, coarse SAND 35%, fine SAND 25% and 15% SILT and CLAY
236-238: B. BASALT, SAND and SILT - very little GRAVEL
238-250: BASALT
250-253: Solid BASALT and white volcanic ASH

REMEDIATION:
Nov76, by Bultena
Set wooden and cement plug



- Elevation of reference point: [509.73-ft] (top of casing)
- Height of reference point above ground surface [1.9-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8.0-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Depth top of perforations: [95-ft]
- Description of perforations: 115-147-ft, 5 holes/ft; 95-115-ft, not documented
- Depth bottom of perforations: [147-ft]
- Depth to bottom, 163.8-ft 21Aug91
- Cement-wooden plug set to ~160-ft
- Depth bottom of casing: [238-ft]
- Depth bottom of borehole: [253-ft]

Drawing By: RKL/6#63#90.ASB Date: ___

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-63-90

WELL DESIGNATION : 699-63-90
CERCLA UNIT : 100-BC-5 Background
RCRA FACILITY : NA
HANFORD COORDINATES : N 62,892 W 90,264
LAMBERT COORDINATES : N 467,962 E 2,204,900
DATE DRILLED : Aug-Dec48
DEPTH DRILLED (GS) : 253-ft
MEASURED DEPTH (GS) : 163.84-ft, 21AugJun91
DEPTH TO WATER (GS) : 114.0-ft, Aug52;
106.8-ft, 21Aug91
CASING DIAMETER : 8-in, +1.9-238-ft
ELEV TOP CASING : 509.73-ft
ELEV GROUND SURFACE : 507.8-ft Estimated
PERFORATED INTERVAL : 95-147-ft
TV 98-160-ft
SCREENED INTERVAL : NA
COMMENTS : FIELD INSPECTION, 27Feb91,
Carbon steel casing,
pump hanger holes, no pad, no posts,
capped, and locked.
No permanent identification.
Not in radiation zone.
OTHER:
AVAILABLE LOGS : Driller
TV SCAN COMMENTS : 21Jun91, depths referenced to ground surface;
Depth to bottom: 163.4-ft, sandy.
Depth to water: 104.3-ft, some floating debris. Water clear, a lot of dislodged scale and suspended debris.
Vadose casing some corrosion/scale rust; submerged casing fairly heavy corrosion/scale/rust. Perforations start at 98.4-ft to not determined.
The well needs cleaning.
20Aug91;
Depth to bottom: 163.7-ft, sandy.
Depth to water: 106.6-ft, some floating debris. Water clear.
Vadose casing clean; submerged casing clean. Perforations start at 98.4-ft to 160.4-ft, 2 cuts/rd/ft. Most were open and clean even above water.
The well looks very good.
DATE EVALUATED : NA
EVAL RECOMMENDATION : NA
LISTED USE : Sampled 1989 for ^{3}H, NO_3,;
water levels measured 09Jan49-11Jun91
PUMP TYPE : Electric submersible, intake set at 112.2-ft (top-of-casing)
MAINTENANCE : 31May91; pulled pump. No contamination encountered.
21Jun91; TV run.
13Aug91; Brushed casing and bailed debris. No contamination encountered.
16Aug91; Developed well to <5 NTU.
20Aug91; TV run.
21Aug91; Installed electric submersible pump.

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Not documented
Drilling Company: Not documented
Date Started: Not documented

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: Not documented

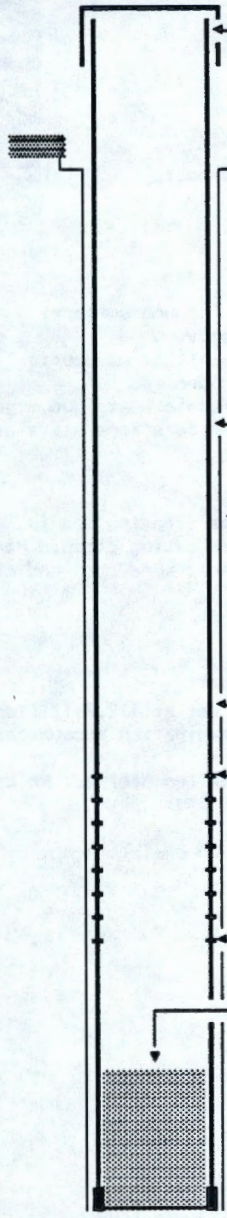
WELL NUMBER: 699-65-72
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 64,452 E/W W 72,156
State Coordinates: N 469,569 E 2,223,004
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 538.0 Estimated

Depth to water: Not documented
(Ground surface) 137.6-ft Sep91

GENERALIZED STRATIGRAPHY Driller's Log

0-216: Not documented

REMEDIATION:
Jun74, by Bigham
Perforated 137-157-ft



Elevation of reference point: [540.28-ft]
(top of casing)
Height of reference point above ground surface [2.3-ft]

Depth of surface seal [ND]

Type of surface seal:
Has concrete pump pad
apparently not continous

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [12.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [13-in nom]

Type of filler:
Not documented

Depth top of perforations: [137-ft]
Description of perforations:
137-157-ft, 6 cuts/ft

Depth bottom of perforations: [157-ft]

Depth to bottom, 171.2-ft
16Sep91

Depth bottom of casing: [216-ft]
Depth bottom of borehole: [216-ft]

Drawing By: RKL/6#65#72.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-65-72

WELL DESIGNATION : 699-65-72
CERCLA UNIT : 100-BC-5 Background
RCRA FACILITY : NA
HANFORD COORDINATES : N 64,452 W 72,156
LAMBERT COORDINATES : N 469,569 E 2,223,004
DATE DRILLED : ND
DEPTH DRILLED (GS) : 216-ft
MEASURED DEPTH (GS) : 171.2-ft, 16Sep91
DEPTH TO WATER (GS) : 137.6-ft, 16Sep91
CASING DIAMETER : 12-in, +2.3-216-ft
ELEV TOP CASING : 540.28-ft
ELEV GROUND SURFACE : 538.0-ft Estimated
PERFORATED INTERVAL : 137-157-ft
SCREENED INTERVAL : NA
COMMENTS : FIELD INSPECTION, 25Feb91,
Carbon steel, pump hanger holes,
pump pad present, no posts.
Capped and locked.
No permanent identification. Not in radiation zone.
OTHER:
AVAILABLE LOGS : Driller
TV SCAN COMMENTS : 20Aug91;
Depth to bottom: 171.6-ft, silty.
Depth to water: 138.1-ft, some floating debris. Water clear, with some dislodged scale and suspended debris.
Vadose casing, some corrosion/scale/rust;
submerged casing heavy corrosion/scale/rust near bottom.
Perforations not detectable. The well needs cleaning.
13Sep91;
Depth to bottom: 171.6-ft, sandy.
Depth to water: 138.4-ft, some floating debris. Water clear, some suspended debris.
Vadose casing clean, pitted from 55-ft to water surface; submerged casing clean.
Perforations start at 138.8-ft to not detectable, most were open and clean.
Unable to determine number of slots.
DATE EVALUATED : NA
EVAL RECOMMENDATION : NA
LISTED USE : Sampled 1989 for ^{3}H, U, ^{129}I, NO_3,;
water levels measured 15Feb49-03Jun91
PUMP TYPE : Electric submersible, intake set at 146.3-ft (top-of-casing)
MAINTENANCE : 19Aug91; pulled pump. No contamination encountered.
20Aug91; TV run.
03Sep91; Brushed casing and bailed debris. No contamination encoouontered.
12Sep91; Developed well to <5 NTU.
13Sep91; TV run.
16Sep91; Installed electric submersible pump.

9 2 1 2 5 8 0 0 3 0 5

WELL CONSTRUCTION AND COMPLETION SUMMARY

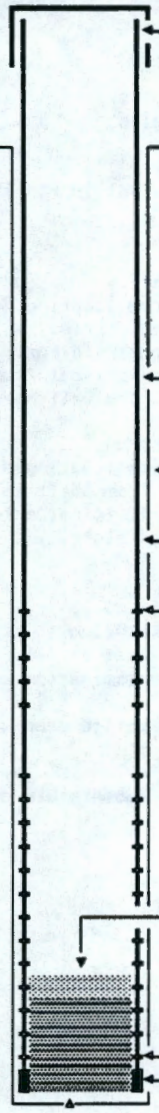
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 699-65-83	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 64,944	E/W W 82,961
Driller's Name: Rodda	WA State Lic Nr: Not documented	State Coordinates: N 470,033	E 2,212,197
Drilling Company: Bach Drilling Co	Company Location: Yakima, WA	Start Card #: Not documented	T___ R___ S___
Date Started: 27Mar67	Date Complete: 03Apr67	Elevation Ground surface (ft): 482.5 Estimated	

Depth to water: 81.1-ft Mar67
(Ground surface) 81.9-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-5: SAND, GRAVEL & COBBLES
5-20: Loose SAND & GRAVEL
20-25: Lightly cemented SAND & GRAVEL
25-55: Loose SAND & GRAVEL
55-75: Open GRAVEL
75-80: Open GRAVEL some SAND
80-85: SAND & GRAVEL
85-90: Mostly very fine SAND, GRAVEL and CLAY
90-100: Fine SAND, some GRAVEL
100-115: SAND & GRAVEL
115-121: SAND

REMEDIATION
Nov76, by Bultena
Set cement plug to 117-ft



Elevation of reference point: [485.63-ft]
(top of casing)

Height of reference point above ground surface [3.1-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [6.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [7-in nom]

Type of filler:
Not documented

Depth top of perforations: [60-ft]
Description of perforations:
86-120-ft, 6 holes/ft
60-80-ft, 6 holes/ft

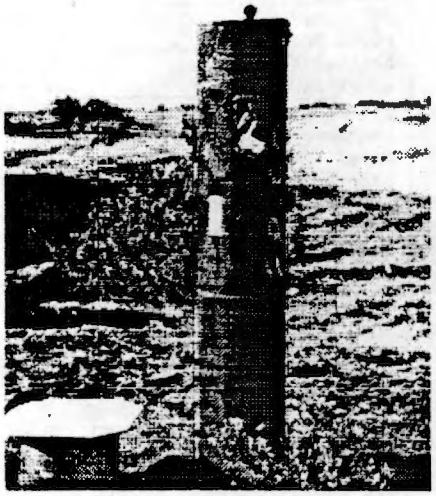
Depth to bottom, 115.1-ft
21Aug91

Depth bottom of perforations: [120-ft]
Depth bottom of casing: [121-ft]
Depth bottom of borehole: [121-ft]
1-ft cement plug in bottom set by driller

Drawing By: RKL/6#65#83.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-65-83



WELL DESIGNATION :	699-65-83
CERCLA UNIT :	100-BC-5 Background
RCRA FACILITY :	NA
HANFORD COORDINATES :	N 64,944 W 82,961
LAMBERT COORDINATES :	N 470,033 E 2,212,197
DATE DRILLED :	Mar-Apr67
DEPTH DRILLED (GS) :	121-ft
MEASURED DEPTH (GS) :	115.1-ft, 21Aug91
DEPTH TO WATER (GS) :	81.1-ft, Mar67; 81.9-ft, 21Aug91
CASING DIAMETER :	6-in, +3.1-121-ft
ELEV TOP CASING :	485.63-ft
ELEV GROUND SURFACE :	482.5-ft Estimated
PERFORATED INTERVAL :	60-120-ft
SCREENED INTERVAL :	NA
COMMENTS :	FIELD INSPECTION, 25Feb91, Carbon steel, pump hanger hole, no pad, no posts. Capped and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS :	Driller
TV SCAN COMMENTS :	21Jun91, depths referenced to ground surface; Depth to bottom: 115.5-ft, silty. Depth to water: 83.0-ft, some floating debris, (sample filter). Water clear, some dislodged scale and suspended debris. Vadose casing had light scale just above water. Submerged casing very dirty and scaly. Perforations start at 60.7-ft to not determined, 4 cuts/rd/ft. The well needs cleaning. 20Aug91; Depth to bottom: 115.2-ft, sandy. Depth to water: 81.7-ft,surface clean. Water clear. Vadose casing clean; submerged casing clean. Perforations start at 59.0-ft to not determined, 42 cuts/rd/ft. Open above and below water. This well is in good shape except for some heavy algae below water.
DATE EVALUATED :	NA
EVAL RECOMMENDATION :	NA
LISTED USE :	Sampled 1989 for ^{3}H, NO_3,; water levels measured 25Sep67-03Jun91
PUMP TYPE :	Electric submersible, intake set at 91.6-ft, (top-of-casing).
MAINTENANCE :	06Jun91; Pulled pump. No contamination encountered. 21Jun91; TV run. 12Aug91; Brushed casing and bailed debris. No contamination encountered. 15Aug91; Developed well to <5 NTU. 20Aug91; TV run. 21Aug91; Installed electric submersible pump.

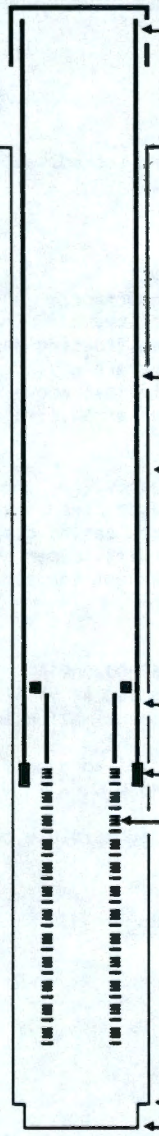
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 699-66-64 / TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 66,483 E/W W 64,249
Driller's Name: Baker	WA State Lic Nr: Not documented	State Coordinates: N 471,620 E 2,230,905
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 15May72	Date Complete: 02Jun72	Elevation Ground surface (ft): 503.0 Estimated

Depth to water: 102-ft May72
(Ground surface) 101.8-ft Sep91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: COBBLES, SAND, GRAVEL
10-45: SAND, COBBLES, GRAVEL
45-60: Packed SAND & GRAVEL
60-96: SAND, COBBLES, GRAVEL
96-102: SAND. GRAVEL
102-112: SAND, COBBLES, GRAVEL
112-118: Not documented



Elevation of reference point: [505.92-ft]
(top of casing)

Height of reference point above ground surface [2.9-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [6.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [7-in nom]

Type of filler:
Not documented

Depth bottom of casing: [96-ft]
(Pulled back to expose screen)

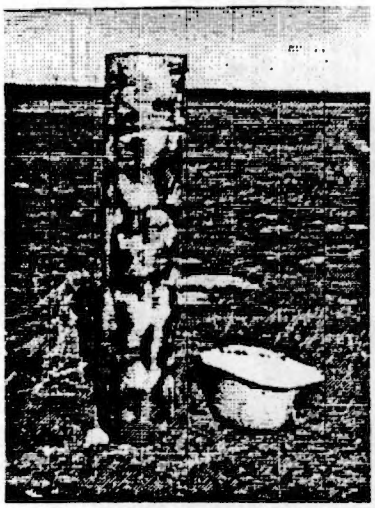
Screen
96-116-ft .050-slot ARMCO iron
5-ft blank on top with lead packer

Drilled depth borehole bottom: [118-ft]
Measured depth, 119.1-ft
16Sep91

Drawing By: RKL/6#66#64.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-66-64



WELL DESIGNATION :	699-66-64
CERCLA UNIT :	100-KR-4 Background
RCRA FACILITY :	NA
HANFORD COORDINATES :	N 66,483 W 64,249
LAMBERT COORDINATES :	N 471,620 E 2,230,905
DATE DRILLED :	May-Jun72
DEPTH DRILLED (GS) :	118-ft
MEASURED DEPTH (GS) :	119.1-ft, 16Sep91
DEPTH TO WATER (GS) :	102.0-ft, May72; 101.8-ft, 16Sep91
CASING DIAMETER :	6-in, +2.9-96-ft, pulled back from 118-ft
ELEV TOP CASING :	505.92-ft
ELEV GROUND SURFACE :	503.0-ft Estimated
PERFORATED INTERVAL :	NA
SCREENED INTERVAL :	96-116-ft, .050-slot ARMCO iron
COMMENTS :	FIELD INSPECTION, 25Feb91, Carbon steel, pump hanger hole, no pad, no posts. Capped and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS :	Driller
TV SCAN COMMENTS :	08Aug91; Depth to bottom: 119.0-ft, sandy. Depth to water: 101.7-ft, some floating debris. Water clear with some suspended debris. Vadose casing light corrosion/scale/rust, some pitting just above screen; submerged casing clean. Continous wrap screen from 98.8-ft to not determined. Screen cruddy, needs cleaning.
DATE EVALUATED :	NA
EVAL RECOMMENDATION :	NA
LISTED USE :	Sampled 1989 for ^{3}H, U, ^{90}Sr, ^{129}I, NO_3,; water levels measured 05Oct72-11Jun91
PUMP TYPE :	Electric submersible, intake set at 110.7-ft, (top-of-casing).
MAINTENANCE :	06Aug91; Pulled pump. No contamination encountered. 08Aug91; TV run. 22Aug91; Brushed casing and bailed debris. No contamination encountered. 04Sep91; Developed well to <5 NTU. 16Sep91; Installed electric submersible pump.

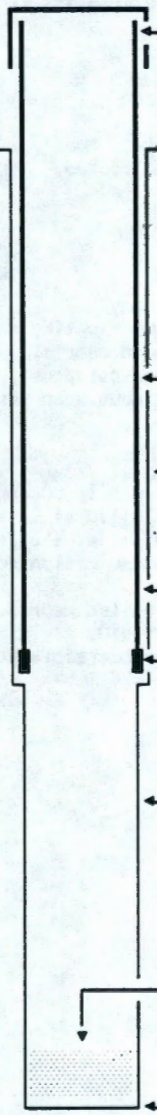
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Air rotary	Sample Method: Air returns	WELL NUMBER: 699-66-91 / TEMPORARY WELL NO: UGB-4
Drilling Fluid Used: None	Additives Used: None	Hanford Coordinates: N/S N 65,708 E/W W 90,879
Driller's Name: Not documented	WA State Lic Nr: Not documented	State Coordinates: N 470,776 E 2,204,278
Drilling Company: Soil Sampling Ser.	Company Location: Puyallup, WA	Start Card #: Not documented T___ R___ S___
Date Started: Not documented	Date Complete: May73	Elevation Ground surface (ft): 464.6 Estimated

Depth to water: 102-ft May72
(Ground surface) 63.4-ft Sep91

GENERALIZED STRATIGRAPHY — Geologist's Log

0-4: Cse GRAVEL w/fine SAND & SILT
4-6: COBBLES & cse GRAVEL w/fine SAND
6-10: Med GRAVEL w/fine SAND & SILT
10-22: Med to cse GRAVEL w/fine SAND
22-26: Fine to cse GRAVEL
26-28: Cse SAND w/fine to cse GRAVEL
28-38: Cse GRAVEL w/SILT
40-44: Med GRAVEL w/SILT
44-58: Fine to cse GRAVEL w/silt (brown SILT at 57 ft)
58-60: Fine GRAVEL w/fine silty SAND
60-78: Cse to med GRAVEL w/fine SAND
78-82: SAND and SILT w/cse GRAVEL
82-98: Med to cse sandy GRAVEL
98-163: BASALT
163-165: CLAY
165-170: Green SAND, CLAY and basalt GRAVEL
170-175: Fine SAND and CLAY
175-178: Fine SAND, SILT and CLAY
178-185: Fine to cse GRAVEL (Brown SILT at 184 ft
185-190: Fine to cse GRAVEL with green SAND

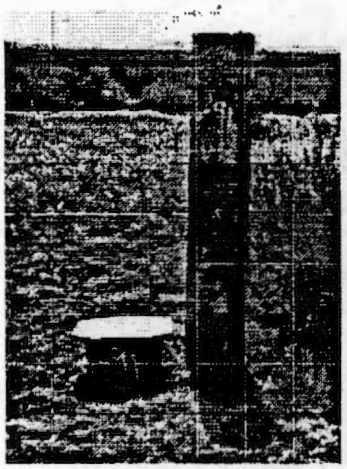


Elevation of reference point: [467.75-ft] (top of casing)
Height of reference point above ground surface [3.1-ft]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [6.0-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [7-in nom]
Type of filler: Not documented
Depth bottom of casing: [98-ft]
Open hole, 6-in diameter
Depth to bottom, 182.5-ft 11Sep91
Depth bottom of borehole: [190-ft]

Drawing By: RKL/6#66#91.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-66-91



WELL DESIGNATION	:	699-66-91
CERCLA UNIT	:	100-BC-5 Background
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 65,708 W 90,879
LAMBERT COORDINATES	:	N 470,776 E 2,204,278
DATE DRILLED	:	May73
DEPTH DRILLED (GS)	:	190-ft
MEASURED DEPTH (GS)	:	182.5-ft, Sep91
DEPTH TO WATER (GS)	:	102-ft, May72; 632.4-ft, Sep91
CASING DIAMETER	:	6-in, from +3.1-98-ft
ELEV TOP CASING	:	467.75-ft
ELEV GROUND SURFACE	:	464.6-ft, Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 09Aug91, Carbon steel casing. No pad, No posts, capped, not locked. No permanent identification. OTHER:
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	20Aug91; Depth to bottom: 181.8-ft, silty. Depth to water: 62.7-ft, some floating debris. Water clear with some dislodged scale and suspended debris. Vadose and submerged casing some corrosion/scale/rust. Casing ended at 97.8-ft, open hole below that. The casing needs cleaning. 13Sep91; Depth to bottom: Not determined. Depth to water: 63.3-ft, some floating debris. Water murky at top, clearer near bottom of casing.. Vadose casing clean; submerged casing clean. Camera only run to bottom of casing.
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Not sampled 1989; water levels measured 15Oct73-11Jun91
PUMP TYPE	:	None documented
MAINTENANCE	:	20Aug91; TV run. 29Aug91; Brushed casing and bailed debris. 11Sep91; Developed well to <5 NTU. 13Sep91; TV run

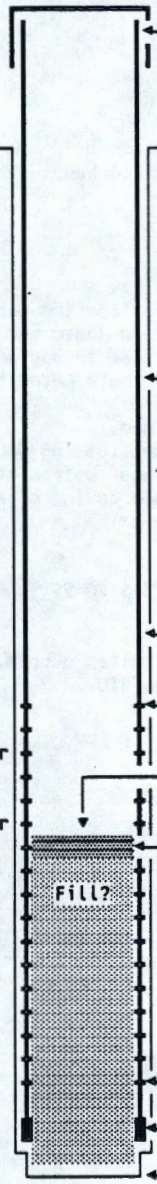
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 699-67-86 / TEMPORARY WELL NO: 699-67-87 #5
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 66,996 E/W W 85,997
Driller's Name: Jacobsen	WA State Lic Nr: Not documented	State Coordinates: N 472,077 E 2,209,156
Drilling Company: Haden Drilling Co	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 20Aug62	Date Complete: 15Oct62	Elevation Ground surface (ft): 470.6 Estimated

Depth to water: 71.0-ft Aug62
(Ground surface) 69.8-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: SAND and GRAVEL with SILT
15-20: BOULDERS (Driller used dynamite)
20-30: Basalt GRAVEL
30-80: GRAVEL w/cse SAND, SILT binder
80-90: Cse & fine black SAND, 98% fine
90-95: GRAVEL down to fine SAND
95-100: Cse & fine SAND, 50% fine
100-110: GRAVEL down to fine SAND
110-120: Cse and fine SAND
120-125: GRAVEL & cse SAND
125-130: Cse & 75% fine SAND
130-135: Fine SAND w/GRAVEL
135-140: GRAVEL to 80% fine SAND
140-150: GRAVEL to fine SAND, w/SILT
150-165: GRAVEL to fine SAND
165-170: GRAVEL to fine SAND w/SILT
170-175: GRAVEL w/cse SAND & some SILT
175-210: GRAVEL w/fine SAND & SILT
210-220: GRAVEL to fine SAND w/SILT & traces of CLAY
220-247: GRAVEL w/SAND, SILT binder
247-250: SILT w/some SAND
250-265: SILT and CALICHE
265-300: GRAVEL w/SAND, SILT binder
300-315: GRAVEL to fine SAND
315-395: GRAVEL w/fine SAND, SILT binder (Gas coming from hole, oil scum on top of water)
395-450: GRAVEL - fine SAND, SILT binder
450-460: GRAVEL, fine SAND, CLAY, trace SILT
460-465: Silty CLAY w/GRAVEL
465-467: Silty CLAY

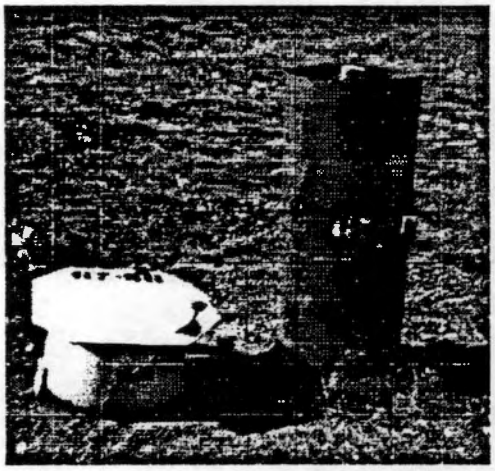


- Elevation of reference point: [472.39-ft] (top of casing)
- Height of reference point above ground surface [1.8-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8.0-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Depth top of perforations: [60-ft]
- Description of perforations: 60-460-ft, 6 cuts/ft
- Depth to bottom, 99.1-ft 02Aug91
- Cement plug at 100-ft Installation not documented
- Depth bottom of perforations: [460-ft]
- Depth bottom of casing: [464-ft]
- Depth bottom of borehole: [467-ft]

Drawing By: RKL/6#67#86.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-67-86



WELL DESIGNATION :	699-67-86
CERCLA UNIT :	100-BC-5 Background
RCRA FACILITY :	NA
HANFORD COORDINATES :	N 66,996 W 85,997
LAMBERT COORDINATES :	N 472,077 E 2,209,156
DATE DRILLED :	Aug-Oct62
DEPTH DRILLED (GS) :	467-ft
MEASURED DEPTH (GS) :	99.1-ft, 02Aug91
DEPTH TO WATER (GS) :	71.0-ft, Aug62; 69.8-ft, 02Aug91
CASING DIAMETER :	8-in, from +1.8-464-ft
ELEV TOP CASING :	472.39-ft
ELEV GROUND SURFACE :	470.6-ft Estimated
PERFORATED INTERVAL :	60-460-ft
SCREENED INTERVAL :	NA
COMMENTS :	FIELD INSPECTION, 25Feb91, Carbon steel, pump hanger hole, no pad, no posts. Capped and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS :	Driller
TV SCAN COMMENTS :	21Jun91, depths referenced to ground surface; Depth to bottom: 98.4-ft, sandy. Depth to water: 68.9-ft, some floating debris. Water clear, no dislodged scale or suspended debris. Vadose casing clean, submerged casing light corrosion/scale/rust. Perforations start at 66.6-ft to not determined, visible below water. The well doesn't need cleaning.
DATE EVALUATED :	NA
EVAL RECOMMENDATION :	NA
LISTED USE :	Sampled 1989 for ^{3}H, NO_3,; water levels measured 17Oct62-11Jun91
PUMP TYPE :	Electric submersible, intake set at 81.8-ft, (top-of-casing).
MAINTENANCE :	31May91; Pulled pump. No contamination encountered. 21Jun91; TV run. 02Aug91; Installed electric submersible pump.

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 699-70-68 / TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 70,123 E/W W 68,357
Driller's Name: Gentz/Row	WA State Lic Nr: Not documented	State Coordinates: N 475,249 E 2,226,788
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: 20May54	Date Complete: 06Jul54	Elevation Ground surface (ft): 524.4 Estimated

Depth to water: 126.5-ft Jul54
(Ground surface) 123.8-ft Sep91

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: BOULDERS - SAND and SILT
15-20: BOULDERS and GRAVEL
20-25: COBBLES and GRAVEL
25-30: Coarse GRAVEL
30-35: Fine and coarse black SAND
35-40: Black SAND and GRAVEL
40-50: Black SAND
50-55: SAND, small and coarse GRAVEL
55-60: GRAVEL, small to coarse - SAND
60-70: SAND and GRAVEL
70-80: SAND and GRAVEL layers
80-100: GRAVEL and SAND
100-105: SAND
105-149: GRAVEL and SAND

Elevation of reference point: [526.21-ft]
(top of casing)
Height of reference point above ground surface [1.8-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [8.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Type of filler:
Not documented

Depth top of perforations: [126-ft]
Description of perforations:
Not documented

Depth to bottom, 145.1-ft, 16Sep91

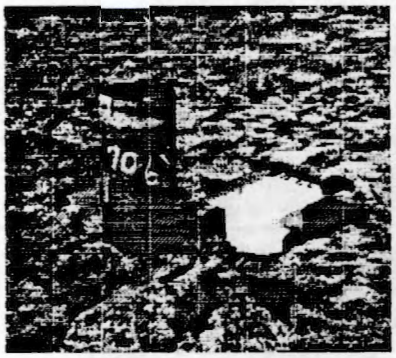
Installation not documented
Cement plug at 146-ft
Depth bottom of perforations: [147-ft]

Depth bottom of casing: [149-ft]
Depth bottom of borehole: [149-ft]

Drawing By: RKL/6#70#68.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-70-68



WELL DESIGNATION :	699-70-68
CERCLA UNIT :	100-KR-4 Background
RCRA FACILITY :	NA
HANFORD COORDINATES :	N 70,123 W 68,357
LAMBERT COORDINATES :	N 475,249 E 2,226,788
DATE DRILLED :	May-Jul54
DEPTH DRILLED (GS) :	149-ft
MEASURED DEPTH (GS) :	145.1-ft, 16Sep91
DEPTH TO WATER (GS) :	126.5-ft, Jul54; 123.8-ft 16Sep91
CASING DIAMETER :	8-in, from +1.8-149-ft
ELEV TOP CASING :	526.21-ft
ELEV GROUND SURFACE :	524.4-ft Estimated
PERFORATED INTERVAL :	126-147-ft
SCREENED INTERVAL :	NA
COMMENTS :	FIELD INSPECTION, 25Feb91, Carbon steel, pump hanger holes, no pad, no posts. Capped and locked. No permanent identification. Not in a radiation zone. OTHER:
AVAILABLE LOGS :	Driller
TV SCAN COMMENTS :	08Aug91; Depth to bottom: 145.7-ft, silty. Depth to water: 123.0-ft, some floating debris. Water clear with some dislodged scale and suspended debris. Vadose casing light corrosion/scale/rust; submerged casing fairly heavy corrosion/scale/rust. Perforations start at 117.1-ft to not determined. The well needs cleaning. 13Spe91; Depth to bottom: 144.7-ft, sandy. Depth to water: 123.7-ft, a little floating debris. Water clear. Vadose casing clean, some pitting 117-123-ft; submerged casing clean. Perforations start at 117.8-ft to not determined at 1 cut/rd/ft. Most perforations were open and clean. to 160.4-ft, 2 cuts/rd/ft.
DATE EVALUATED :	NA
EVAL RECOMMENDATION :	NA
LISTED USE :	Sampled 1989 for ^{3}H, NO_3,; water levels measured 31Aug55-11Jun91
PUMP TYPE :	Electric submersible, intake set at 132.2-ft (top-of-casing)
MAINTENANCE :	06Aug91; Pulled pump. No contamination encountered. 08Aug91; TV run. 23Aug91; Brushed casing and bailed debris. No contamination encountered. 05Sep91; Developed well to <5 NTU. 13Sep91; TV run. 16Sep91; Installed electric submersible pump.

9 2 1 2 5 8 0 0 3 1 5

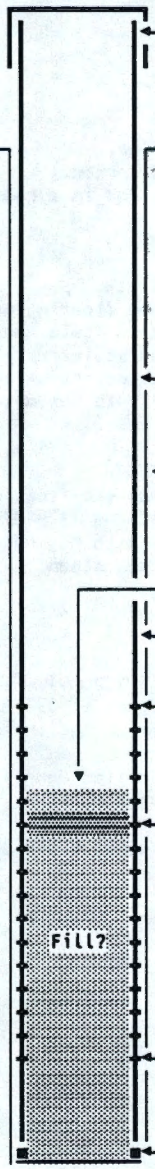
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 699-71-77	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 70,996	E/W W 76,997
Driller's Name: Richards/Wilcox	WA State Lic Nr: Not documented	State Coordinates: N 476,100	E 2,218,146
Drilling Company: Haden Drilling	Company Location: Not documented	Start Card #: Not documented	T ___ R ___ S ___
Date Started: 27Aug62	Date Complete: 11Sep62	Elevation Ground surface (ft): 469.9 Estimated	

Depth to water: 67.0-ft Sep62
(Ground surface) 70.6-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-5: COBBLES & GRAVEL, little SAND/SILT
5-20: GRAVEL, some SAND, trace SILT
20-60: GRAVEL, SAND some SILT
60-75: GRAVEL, SAND, trace SILT
75-85: GRAVEL and SAND
85-95: GRAVEL and SAND w/SILT
95-115: GRAVEL with SAND
115-130: GRAVEL w/SAND, trace SILT
130-135: GRAVEL and SAND
135-140: Cemented SAND and GRAVEL
140-145: GRAVEL, SAND & some SILT w/bits of blue CLAY
145-175: GRAVEL w/SAND and some SILT
175-180: GRAVEL and SAND
180-195: SILT w/SAND
195-200: SAND & SILT
200-210: SILT & CLAY
215-220: SILT & SAND
220-225: SILT & SAND, trace of GRAVEL
225-244: SAND & SILT
244-247: Small GRAVEL w/SAND & SILT
247-255: SAND & SILT w/GRAVEL
255-280: SILT & SAND
280-291: SAND & SILT
291-300: GRAVEL w/SAND & SILT
300 : SAND & GRAVEL, trace of SILT



Elevation of reference point: [472.28-ft]
(top of casing)

Height of reference point above ground surface [2.4-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing (If present) [ND]

I.D. of riser pipe: [8.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: 9-in nom

Depth to bottom, 122.9-ft
02Aug91

Type of filler:
Not documented

Depth top of perforations: [60-ft]
Description of perforations:
60-160-ft, 3 holes/ft
160-288-ft, 4 holes/ft

Cement plug at 125-ft
Installation not documented

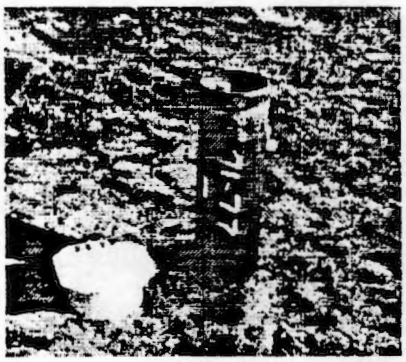
Depth bottom of perforations: [288-ft]

Depth bottom of casing: [300-ft]
Depth bottom of borehole: [300-ft]

Drawing By: RKL/6#71#77.ASB Date: ___

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-71-77



WELL DESIGNATION :	699-71-77
CERCLA UNIT :	100-BC-5 Background
RCRA FACILITY :	NA
HANFORD COORDINATES :	N 70,996 W 76,997
LAMBERT COORDINATES :	N 476,100 E 2,218,146
DATE DRILLED :	Aug-Sep62
DEPTH DRILLED (GS) :	300-ft
MEASURED DEPTH (GS) :	122.9-ft, 02Aug91
DEPTH TO WATER (GS) :	67.0-ft, Sep62; 70.6-ft, 02Aug91
CASING DIAMETER :	8-in, from +2.4-300-ft
ELEV TOP CASING :	472.28-ft
ELEV GROUND SURFACE :	469.9-ft Estimated
PERFORATED INTERVAL :	60-288-ft
SCREENED INTERVAL :	NA
COMMENTS :	FIELD INSPECTION, 26Feb91, Carbon steel, pump hanger hole, no pad, no posts. Capped and locked. No permanent identification. Not in a radiation zone. OTHER:
AVAILABLE LOGS :	Driller
TV SCAN COMMENTS :	10Jun91, depths referenced to ground surface; Depth to bottom: 124.0-ft, silty. Depth to water: 69.6-ft, some floating debris. Water clear, no dislodged scale, some suspended debris. Vadose and submerged casing very light corrosion/scale/rust. Perforations start at 58.4-ft to not determined, 4 cuts/rd/ft. The well is in good shape, a lot of perforations were visible above water. The well doesn't need cleaning.
DATE EVALUATED :	NA
EVAL RECOMMENDATION :	NA
LISTED USE :	Sampled 1989 for ^{3}H, U, ^{129}I, NO_3,; water levels measured 05Nov62-11Jun91
PUMP TYPE :	Electric submersible, intake set at 89.5-ft (top-of-casing).
MAINTENANCE :	06Jun91; Pulled pump. No contamination encountered. 10Jun91; TV run. 02Aug91; Installed electric submersible pump.

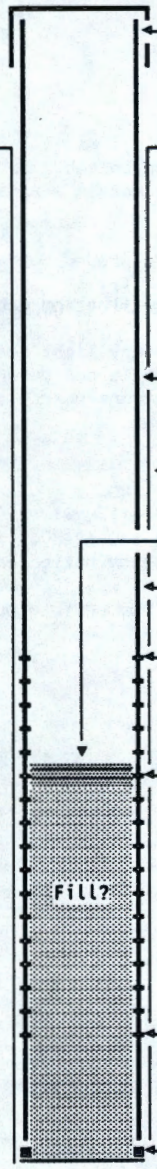
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 699-72-73	TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 72,038	E/W W 73,222
Driller's Name: Owens/Miller	WA State Lic Nr: Not documented	State Coordinates: N 477,152	E 2,221,918
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 11Sep61	Date Complete: 21Sep61	Elevation Ground surface (ft): 480.7 Estimated	

Depth to water: 80.0-ft Sep61
(Ground surface) 81.0-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-5: COBBLES
5-30: GRAVEL, COBBLES
30-35: BOULDERS & GRAVEL
35-40: COBBLES, GRAVEL
40-55: GRAVEL & COBBLES
55-80: SAND, GRAVEL & COBBLES
80-90: GRAVEL, COBBLES
90-115: Cemented GRAVEL, COBBLES
115-120: GRAVEL and SAND
120-155: Cemented GRAVEL & COBBLES
155-165: GRAVEL & COBBLES
165-167: Cemented GRAVEL & COBBLES
167-175: CLAY (grey & brown)
175-180: Hard CLAY (grey)
180-200: Brown CLAY



Elevation of reference point: [482.57-ft]
(top of casing)

Height of reference point above ground surface [1.9-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [8.0-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Depth to bottom, 134.7-ft
02Aug91

Type of filler:
Not documented

Depth top of perforations: [60-ft]
Description of perforations:
60-176-ft, 6 cuts/ft

Cement plug at 135-ft
Installation not documented

Depth bottom of perforations: [176-ft]

Depth bottom of casing: [200-ft]
Depth bottom of borehole: [200-ft]

Drawing By: RKL/6#72#73.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-72-73

WELL DESIGNATION : 699-72-73
CERCLA UNIT : 100-BC-5 Background
RCRA FACILITY : NA
HANFORD COORDINATES : N 72,038 W 73,222
LAMBERT COORDINATES : N 477,152 E 2,221,918
DATE DRILLED : Sep61
DEPTH DRILLED (GS) : 200-ft
MEASURED DEPTH (GS) : 134.7-ft 02Aug91
DEPTH TO WATER (GS) : 80.0-ft, Sep61;
81.0-ft, 02Aug91
CASING DIAMETER : 8-in, from +1.9-200-ft
ELEV TOP CASING (ft): 482.57-ft
ELEV GROUND SURFACE : 480.7-ft Estimated
PERFORATED INTERVAL : 60-176-ft
SCREENED INTERVAL : NA
COMMENTS : FIELD INSPECTION, 26Feb91,
Carbon steel, pump hanger hole,
no pad, no posts. Capped and locked.
No permanent identification. Not in radiation zone.
OTHER:
AVAILABLE LOGS : Driller
TV SCAN COMMENTS : 10Jun91, depths referenced to ground surface;
Depth to bottom: 134.2-ft, silty.
Depth to water: 80.7-ft, some floating debris. Water clear, no dislodged scale, some suspended debris. The water was murky toward the bottom.
Vadose and submerged casing light corrosion/rust/scale.
Perforations start at 60-ft to not determined, 4 cuts/rd/ft. The well is in pretty good shape. It is questionable whether it needs cleaning, .. don't think so.
DATE EVALUATED : NA
EVAL RECOMMENDATION : NA
LISTED USE : Sampled 1989 for ^{3}H, ^{129}I, NO_3,;
water levels measured 04Dec61-11Jun91
PUMP TYPE : Electric submersible, intake set at 99.1-ft, (top-of-casing)
MAINTENANCE : 06Jun91; Pulled pump. No contamination encountered.
10Jun91; TV run.
02Aug91; Installed electric submersible pump.

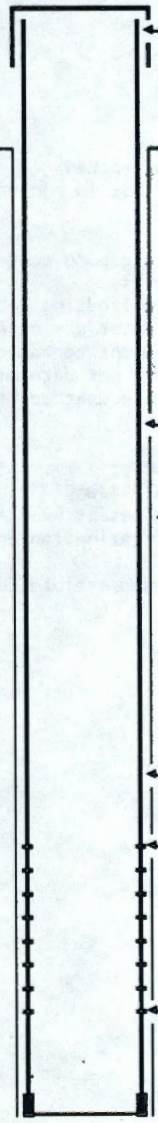
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 699-72-88 / TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 72,100 E/W W 87,500
Driller's Name: Not documented	WA State Lic Nr: Not documented	State Coordinates: N 477,200 E 2,207,650
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented T___ R___ S___
Date Started: Not documented	Date Complete: Not documented	Elevation Ground surface (ft): 435.0 Estimated

Depth to water: Not documented
(Ground surface) 31.4-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-52: Not documented

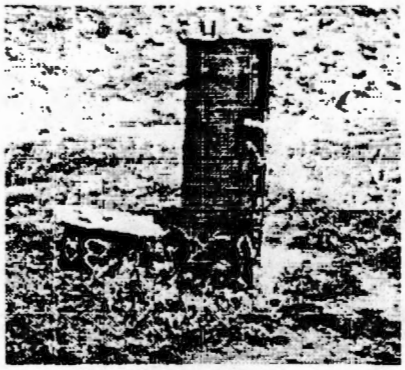


- Elevation of reference point: [437.37-ft] (top of casing)
- Height of reference point above ground surface [2.4-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8.0-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Depth top of perforations: [33-ft]
- Description of perforations: Not documented
- Depth bottom of perforations: [48-ft]
- Depth bottom of casing: [ND]
- Depth bottom of borehole: [52-ft]
- Depth to bottom, 51.2-ft 25Feb91

Drawing By: RKL/6#72#88.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-72-88



WELL DESIGNATION :	699-72-88
CERCLA UNIT :	100-BC-5 Background
RCRA FACILITY :	NA
HANFORD COORDINATES :	N 72,100 W 87,500
LAMBERT COORDINATES :	N 477,200 E 2,207,650
DATE DRILLED :	ND
DEPTH DRILLED (GS) :	52-ft
MEASURED DEPTH (GS) :	51.1-ft, 02Aug91
DEPTH TO WATER (GS) :	31.4-ft, 02Aug91
CASING DIAMETER :	8-in , from +2.4-ND-ft
ELEV TOP CASING :	437.37-ft
ELEV GROUND SURFACE :	435.0-ft Estimated
PERFORATED INTERVAL :	33-48-ft
SCREENED INTERVAL :	NA
COMMENTS :	FIELD INSPECTION, 25Feb91, Carbon steel, pump hanger hole, no pad, no posts. Capped and locked. No permanent identification. Not in a radiation zone. OTHER:
AVAILABLE LOGS :	None
TV SCAN COMMENTS :	21Jun91, depths referenced to ground surface; Depth to bottom: 50.8-ft, sandy. Depth to water: 30.2-ft, some floating debris. Water clear. Vadose casing clean; submerged casing very light corrosion/scale/rust. Perforations start at 32.5-ft to not determined, 4 cuts/rd/ft. At 3.6-ft it looked like there was a liner inside the 8-in casing, couldn't tell what size. At 23.6-ft there was what appeared to be another step-down in size of the casing. Couldn't tell what size it was. Well doesn't need cleaning.
DATE EVALUATED :	NA
EVAL RECOMMENDATION :	NA
LISTED USE :	Sampled 1989 for ^{3}H, NO_3,; water levels measured 20May53-11Jun91
PUMP TYPE :	Electric submersible, intake set at 47.3-ft (top-of-casing).
MAINTENANCE :	31May91; Pulled pump. No contamination encountered. 21Jun91; TV run. 02Aug91; Installed electric submersible pump.

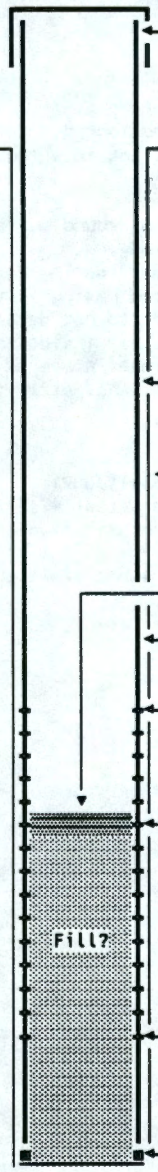
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 699-72-92	TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 71,890	E/W W 91,963
Driller's Name: Owens/Miller	WA State Lic Nr: Not documented	State Coordinates: N 476,956	E 2,203,178
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 25Aug61	Date Complete: 11Sep61	Elevation Ground surface (ft): 449.4 Estimated	

Depth to water: 60.0-ft Sep61
(Ground surface) 46.9-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-20: GRAVEL, SAND, COBBLES
20-35: SAND, GRAVEL & COBBLES
35-45: BOULDERS
45-50: GRAVEL & BOULDERS
50-55: GRAVEL & COBBLES
55-60: GRAVEL
60-65: SAND & GRAVEL
65-75: GRAVEL & COBBLES
75-80: GRAVEL, BOULDERS to SAND & SILT
80-95: COBBLES
95-110: Heaving SAND & GRAVEL
110-120: SAND & GRAVEL
120-125: SILT, SAND & BOULDERS
125-135: SAND & GRAVEL
135-140: SILT, SAND & COBBLES/BOULDERS
140-145: SILT & GRAVEL
145-155: SAND & GRAVEL
155-170: Cemented GRAVEL & COBBLES
170-185: COBBLES, SAND
185-200: Cemented GRAVEL
200 : GRAVEL & COBBLES



Elevation of reference point: [452.22-ft]
(top of casing)
Height of reference point above ground surface [2.8-ft]

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
(If present)

I.D. of riser pipe: [8.0 in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [9-in nom]

Depth to bottom, 88.8-ft
21Aug91

Type of filler:
Not documented

Depth top of perforations: [44-ft]
Description of perforations:
44-195-ft, 6 cuts/ft

Cement plug at 90-ft
Installation not documented

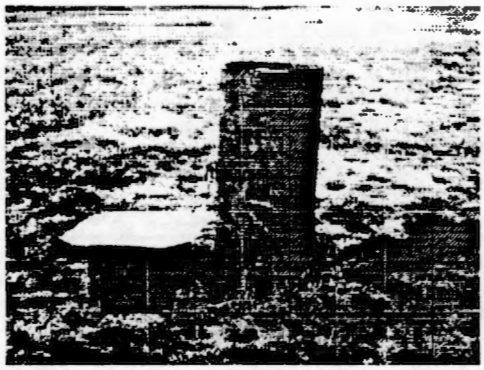
Depth bottom of perforations: [195-ft]

Depth bottom of casing: [200-ft]
Depth bottom of borehole: [200-ft]

Drawing By: RKL/6#72#92.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-72-92



WELL DESIGNATION :	699-72-92
CERCLA UNIT :	100-BC-5 Background
RCRA FACILITY :	NA
HANFORD COORDINATES :	N 71,890 W 91,963
LAMBERT COORDINATES :	N 476,956 E 2,203,178
DATE DRILLED :	Aug-Sep61
DEPTH DRILLED (GS) :	200-ft
MEASURED DEPTH (GS) :	88.8-ft, 21Aug91
DEPTH TO WATER (GS) :	60.0-ft, Sep61; 46.9-ft, 21Aug91
CASING DIAMETER :	8-in, from +2.8-200-ft
ELEV TOP CASING :	452.22-ft
ELEV GROUND SURFACE :	449.4-ft Estimated
PERFORATED INTERVAL :	44-195-ft
SCREENED INTERVAL :	NA
COMMENTS :	FIELD INSPECTION, 25Feb91, Carbon steel casing, pump hanger hole, no pad, no posts. Capped and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS :	None
TV SCAN COMMENTS :	21Jun91, depths referenced to ground surface; Depth to bottom: 88.2-ft, sand and gravel. Depth to water: 44.6-ft, some floating debris. Water clear, some dislodged scale. Vadose casing clean; submerged casing light corrosion/scale/rust. Perforations start at 44.0-ft to not determined. Most of the perfs were visible below water. It is questionable whether the well should be cleaned. 20Aug91; Depth to bottom: 89.6-ft, sandy. Depth to water: 47.6-ft, surface clean. Water clear. Vadose casing clean; submerged casing clean. Perforations start at 44.6-ft to 88.9-ft, 4 cuts/rd/ft. This well is in very good shape.
DATE EVALUATED :	
EVAL RECOMMENDATION :	
LISTED USE :	Sampled 1989 for ^{3}H, NO_3, water levels measured, 19Sep91-11Jun91
PUMP TYPE :	Electric submersible, intake set at 54.9-ft, (top-of-casing).
MAINTENANCE :	31May91; Pulled pump. No contamination encountered. 21Jun91; TV run. 14Aug91; Brushed casing and bailed debris. No contamination encountered. 19Aug91; Developed well to <5 NTU. 20Aug91; TV run. 21Aug91; Installed electric submersible pump.

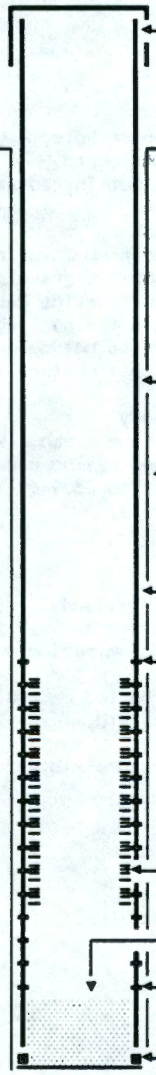
WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 699-73-61	TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 73,195	E/W W 60,527
Driller's Name: Richards/Wilcox	WA State Lic Nr: Not documented	State Coordinates: N 478,341	E 2,234,610
Drilling Company: Haden Drilling	Company Location: Not documented	Start Card #: Not documented	T___ R___ S___
Date Started: 11Sep62	Date Complete: 17Sep62	Elevation Ground surface (ft): 529.8 Estimated	

Depth to water: 127.0-ft Sep62
(Ground surface) 129.8-ft Aug91

GENERALIZED STRATIGRAPHY — Driller's Log

0-5: SILT & SAND, GRAVEL w/COBBLES
5-10: GRAVEL & COBBLES
10-25: GRAVEL, SAND & COBBLES
25-40: Basalt GRAVEL, w/SAND & SILT
40-50: Coarse SAND & GRAVEL w/fine SAND & SILT
50-60: SAND w/1-in GRAVEL
60-115: Basalt GRAVEL w/SAND, some SILT
115-120: GRAVEL
120-125: SAND
125-135: SAND & GRAVEL
135-150: GRAVEL & SAND w/trace SILT

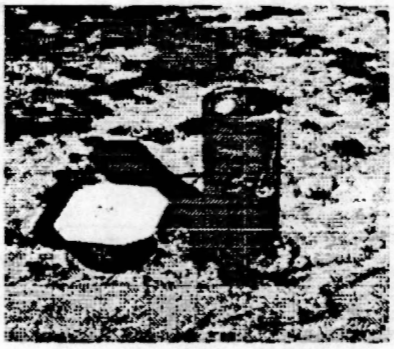


- Elevation of reference point: [531.53-ft] (top of casing)
- Height of reference point above ground surface [1.7-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8.0-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Depth top of perforations: [107-ft]
- Description of perforations: 107-146-ft, 6 cuts/rd/ft
- May have screen 95-135-ft TV 108.6-ND-ft
- Depth to bottom, 146.3-ft, 21Aug91
- Depth bottom of perforations: [146-ft]
- Depth bottom of casing: [150-ft]
- Depth bottom of borehole: [150-ft]

Drawing By: RKL/6#73#61.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-73-61



WELL DESIGNATION	:	699-73-61
CERCLA UNIT	:	100-KR-4 Background
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 73,195 W 60,527
LAMBERT COORDINATES	:	N 478,341 E 2,234,610
DATE DRILLED	:	Sep62
DEPTH DRILLED (GS)	:	150-ft
MEASURED DEPTH (GS)	:	146.3-ft, 21Aug91
DEPTH TO WATER (GS)	:	127.0-ft, Sep62; 129.8-ft 21Aug91
CASING DIAMETER	:	8-in, +1.7-150-ft
ELEV TOP CASING	:	531.53-ft
ELEV GROUND SURFACE	:	529.8-ft Estimated
PERFORATED INTERVAL	:	107-146-ft
SCREENED INTERVAL	:	May have screen 95-135-ft? TV 108.6-ft to not determined
COMMENTS	:	FIELD INSPECTION, 26Feb91, Carbon steel, pump hanger holes, no pad, no posts. Capped and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	08Aug91; Depth to bottom: 145.7-ft, sandy. Depth to water: 129.6-ft, some floating debris. Water clear, some suspended debris. Vadose casing clean; submerged casing clean. No perforations. Continous wrap screen, 108.6-ft to not determined. Screen was clean. This well was in good shape. It doesn't need cleaning.
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Sampled 1989 for ^{3}H, U, ^{129}I, NO_3, water level measured 19Oct62-11Jun91
PUMP TYPE	:	Electric submersible, intake set at 143.6-ft, (top-of-casing).
MAINTENANCE	:	06Aug91; Pulled pump. No contamination encountered. 08Aug91; TV run. 21Aug91; Installed electric submersible pump.

WELL CONSTRUCTION AND COMPLETION SUMMARY

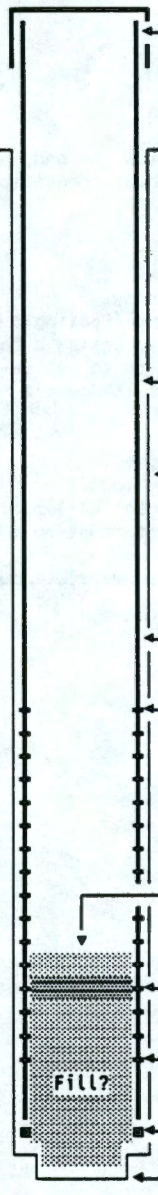
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 699-77-54 / TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Bentonite	Hanford Coordinates: N/S N 76,700 E/W W 54,100
Driller's Name: Hatch	WA State Lic Nr: Not documented	State Coordinates: N 481,863 E 2,241,028
Drilling Company: Hatch Drilling Co.	Company Location: Pasco, WA	Start Card #: Not documented T R S
Date Started: 06May57	Date Complete: 24May57	Elevation Ground surface (ft): 479.2 Estimated

Depth to water: 80.0-ft May57
(Ground surface) 81.7-ft Sep91

GENERALIZED STRATIGRAPHY — Driller's Log

0-15: COBBLES & BOULDERS
(Large BOULDER at 8 ft)
15-25: COBBLES & GRAVEL
25-35: loose GRAVEL (Added bentonite)
35-40: GRAVEL
40-41: GRAVEL - SILT streaks
41-50: GRAVEL & COBBLES
50-60: GRAVEL (Added bentonite)
60-75: loose GRAVEL (Added bentonite)
(Possible perched water - 62 ft)
75-80: Loose GRAVEL & SAND
80-90: Loose fine GRAVEL
90-95: GRAVEL - SAND
95-105: Cemented GRAVEL
105-115: Cemented GRAVEL & SAND
115-118: Packed SAND & GRAVEL
118-130: Heaving SAND w/GRAVEL
130-135: SAND & small GRAVEL
135-145: SAND - small GRAVEL, CLAY
(Added bentonite)
145-150: GRAVEL - SAND
150-152: Clean GRAVEL
152 : Brown CLAY

REMEDIATION:
Apr 80, by Bultena,
Set cement plug to 117-ft

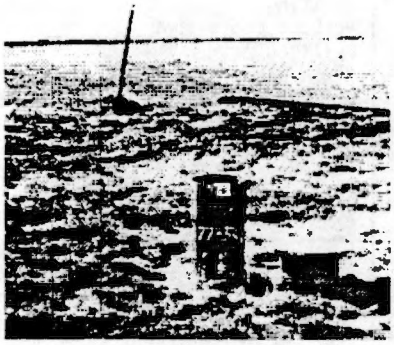


- Elevation of reference point: [480.59-ft] (top of casing)
- Height of reference point above ground surface [1.4-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8.0-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Depth top of perforations: [70-ft]
- Description of perforations: 70-120-ft, 6 cuts/ft
- Depth to bottom, 116.0-ft 16Sep91
- Cement plug at 117-ft
- Depth bottom of perforations: [120-ft]
- Depth bottom of casing: [150-ft]
- Depth bottom of borehole: [152-ft]

Drawing By: RKL/6#77#54.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-77-54



WELL DESIGNATION :	699-77-54
CERCLA UNIT :	100-KR-4 Background
RCRA FACILITY :	NA
HANFORD COORDINATES :	N 76,700 W 54,100
LAMBERT COORDINATES :	N 481,863 E 2,241,028
DATE DRILLED :	May57
DEPTH DRILLED (GS) :	152-ft
MEASURED DEPTH (GS) :	116.0-ft, 16Sep91
DEPTH TO WATER (GS) :	80.0-ft, May57; 81.7-ft, 16Sep91
CASING DIAMETER :	8-in, from +1.4-150-ft
ELEV TOP CASING :	480.59-ft
ELEV GROUND SURFACE :	479.2-ft Estimated
PERFORATED INTERVAL :	70-120-ft
SCREENED INTERVAL :	NA
COMMENTS :	FIELD INSPECTION, 26Feb91, Carbon steel, pump hanger hole, no pad, no posts. Capped and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS :	None
TV SCAN COMMENTS :	08Aug91; Depth to bottom: 115.2-ft, sandy. Depth to water: 81.4-ft, some floating debris. Water clear with some dislodged scale and suspended debris. Vadose casing some corrosion/scale/rust; submerged casing, light to heavy corrosion/scale/rust. Perforations start at 62.6-ft to not determined at 6 cts/ft/rd. Perforations clean and open above water, some open below water. The well needs cleaning. 13Sep91; Depth to bottom: 115.5-ft, sandy. Depth to water: 81.4-ft, some floating debris. Water clear. Vadose casing clean, some pitting just above water; submerged casing clean. Perforations start at 60.0-ft to not determined, 4 cuts/rd/ft. They are open and clear.
DATE EVALUATED :	NA
EVAL RECOMMENDATION :	NA
LISTED USE :	Sampled 1989 for ^{3}H, NO_3, water level measurad 07Jun57-14Jun91
PUMP TYPE :	Electric submersible, intake set at 89.2-ft (top-of-casing).
MAINTENANCE :	06Aug91; Pulled pump. No contamination encountered. 08Aug91; TV run. 26Aug91; Brushed casing and bailed debris. No contamination encountered. 09Sep91; Developed well to <5 NTU. 13Sep91; TV run. 16Sep91; Installed electric submersible pump.

9 2 1 2 5 8 0 0 3 2 7

WELL CONSTRUCTION AND COMPLETION SUMMARY

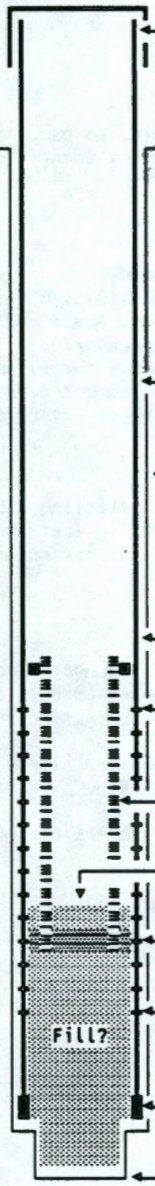
Drilling Method: Cable tool	Sample Method: Hard tool (nom)	WELL NUMBER: 699-78-62 / TEMPORARY WELL NO:
Drilling Fluid Used: Water	Additives Used: Not documented	Hanford Coordinates: N/S N 77,750 E/W W 62,300
Driller's Name: Swain	WA State Lic Nr: Not documented	State Coordinates: N 482,900 E 2,233,000
Drilling Company: Hatch Drilling Co.	Company Location: Pasco, WA	Start Card #: Not documented T___ R___ S___
Date Started: 18Apr57	Date Complete: 16May57	Elevation Ground surface (ft): 468.0 Estimated

Depth to water: 63.0-ft May57
(Ground surface) 71.8-ft Sep91

GENERALIZED STRATIGRAPHY — Driller's Log

0-1: TOP sandy
1-2: Large loose GRAVEL
2-5: Small cemented GRAVEL
5-10: Small cemented GRAVEL
10-15: Small BOULDERS and large loose GRAVEL
15-25: Small GRAVEL cemented
25-44: Loose GRAVEL
44-55: Small cemented GRAVEL
55-61: Cemented GRAVEL hard
61-63: Sandy CLAY soft
63-70: Cemented GRAVEL hard
70-75: Layers of GRAVEL and CLAY
75-91: GRAVEL
91-93: Green SAND
93-95: GRAVEL
95-100: Green SAND and GRAVEL
100-105: Green SAND
105-125: SAND and GRAVEL
125-130: SAND - GRAVEL - CLAY
130-145: Sandy CLAY and GRAVEL
145-150: Sandy CLAY

REMEDIATION:
Jun74, by Bultena,
Set screen to 107.5-ft

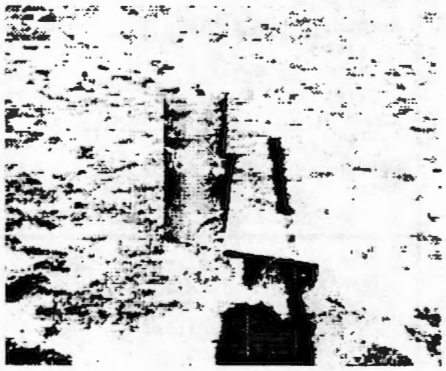


- Elevation of reference point: [469.88-ft] (top of casing)
- Height of reference point above ground surface [1.9-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8.0-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: Not documented
- Depth top of perforations: [70-ft]
- Description of perforations: 70-120-ft, 6 cuts/ft
- Screen, 67.5-107.5-ft #15 galvanized with neoprene packer
- Depth to bottom, 106.3-ft 16Sep91
- Cement plug at about 107-ft
- Depth bottom of perforations: [120-ft]
- Depth bottom of casing: [134-ft]
- Depth bottom of borehole: [152-ft]

Drawing By: RKL/6#78#62.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-78-62



WELL DESIGNATION :	699-78-62
CERCLA UNIT :	100-KR-4 Background
RCRA FACILITY :	NA
HANFORD COORDINATES :	N 77,750 W 62,300
LAMBERT COORDINATES :	N 482,900 E 2,233,000
DATE DRILLED :	Apr-May57
DEPTH DRILLED (GS) :	152-ft
MEASURED DEPTH (GS) :	106.3-ft, 16Sep91
DEPTH TO WATER (GS) :	63.0-ft, May57; 71.8-ft, 16Sep91
CASING DIAMETER :	8-in, +1.9-134-ft
ELEV TOP CASING :	469.88-ft
ELEV GROUND SURFACE :	468.0-ft Estimated
PERFORATED INTERVAL :	70-120-ft
SCREENED INTERVAL :	67.5-107.5-ft, #15 galvanized
COMMENTS :	FIELD INSPECTION, 26Feb91, Carbon steel, pump hanger hole, no pad, no posts. Capped and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS :	None
TV SCAN COMMENTS :	08Aug91; Depth to bottom: 101.0-ft, sandy. Depth to water: 71.5-ft, some floating debris. Water clear with some suspended debris. Vadose casing some corrosion/scale/rust near top of screen; submerged casing clean. Continous wrap screen at 69.9-ft to not determined. The top 0.5-ft of screen looks bent or driven on, it is not breached. The well needs cleaning. 13Sep91; Depth to bottom: 106.0-ft, sandy. Depth to water: 71.8-ft, some floating debris. Water clear with some suspended debris. Vadose casing clean, some pitting 55-ft to water; submerged casing clean. Perforations start at 66.6-ft to top of screen, 4 cuts/rd/ft. Continous wrap screen, 69.9-106.0-ft, screen was clean.
DATE EVALUATED :	NA
EVAL RECOMMENDATION :	NA
LISTED USE :	Sampled 1989 for NO_3, water level measured 07Jun57-14Jun91
PUMP TYPE :	Electric submersible, intake set at 83.0-ft, (top-of-casing).
MAINTENANCE :	06Aug91; Removed pump. No contamination encountered. 08Aug91; TV run. 28Aug91; Brushed casing and screen and bailed debris. No contamination encountered. 10Sep91; Developed well to <5 NTU. 13Sep91; TV run. 16Sep91; Installed electric submersible pump.

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: E. Wilcox/M. Richards
Drilling Company: Haden Drilling Co
Date Started: 17Sep61

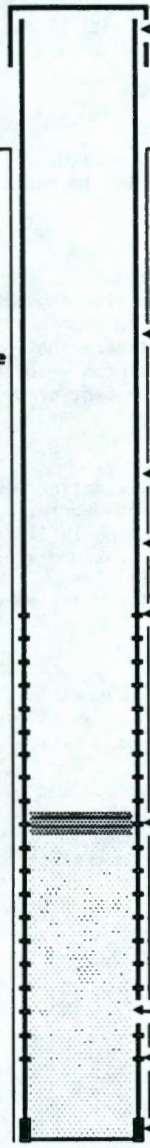
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 24Sep62

WELL NUMBER: 699-81-58
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 81,004 E/W W 57,993
State Coordinates: N 486,157 E 2,237,124
Start Card #: Not documented T ___ R ___ S ___
Elevation Ground surface (ft): 437.6 Estimated

Depth to water: 47.0-ft Sep62
(Ground surface) 43.1-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-5: GRAVEL and COBBLES with SAND
5-10: Large GRAVEL with SAND and trace of SILT
10-14: 3-in minus GRAVEL
14-15: BOULDERS
15-20: BOULDERS and GRAVEL
20-25: Large GRAVEL and COBBLE with some SAND and trace of SILT
25-30: 3-in minus GRAVEL with some trace of SILT, coarse SAND and fine SAND, stray COBBLES
30-41: SAND & GRAVEL
41-45: Cemented SAND & GRAVEL
45-55: 3-in minus GRAVEL with fine and coarse SAND and traces of brownish gray SILT
55-60: 1 1/8-in minus GRAVEL with fine SAND and brownish gray SILT
60-65: Light gray SAND and GRAVEL
65-70: SAND
70-85: 1-in minus GRAVEL with fine-coarse SAND and trace SILT
85-90: SAND and GRAVEL
90-95: SAND and GRAVEL, light brown SILT
95-100: Tan SILT
100-110: SILT w/ little SAND & 3/4-in minus GRAVEL, light brown
110-125: SILT w/ some SAND, lumps of SILT & a few pea GRAVEL, brown
125-140: Tan SILT
140-147: Light gray-green SILT w/ flakes of GRAVEL
147-150: SAND, GRAVEL

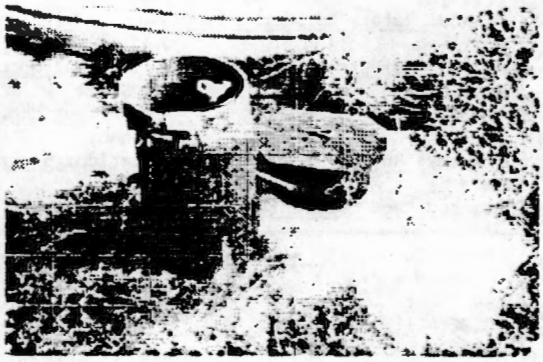


Elevation of reference point: [439.55-ft] (top of casing)
Height of reference point above ground surface [2.0-ft]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: None documented
Elevation/depth top of seal
Type of seal: None documented
Depth top of perforations: [35-ft]
Description of perforations: 35-88-ft, 2 cuts/rd/ft; 89-148-ft, 4 cuts/rd/ft
Cement plug at 84-ft
Installation not documented
Assumed Sand fill
Depth bottom of perforations: [148-ft]
Depth bottom of casing: [150-ft]
Depth bottom of borehole: [150-ft]

Drawing By: RKL/6#81-58.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-81-58



WELL DESIGNATION	:	699-81-58
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	1324-N/NA, 1325-N
HANFORD COORDINATES	:	N 81,004 W 57,993
LAMBERT COORDINATES	:	N 486,157 E 2,237,124
DATE DRILLED	:	Oct62
DEPTH DRILLED (GS)	:	150-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	47.0-ft, Sep62; 43.1-ft, 30Jul91
CASING DIAMETER	:	8-in carbon steel, +2.0-150-ft
ELEV TOP CASING	:	439.55-ft
ELEV GROUND SURFACE	:	437.6-ft, Estimated
PERFORATED INTERVAL	:	35-148-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 30Aug89 Carbon steel casing. No pad, No posts, capped and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 19Oct62-30Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	10-11Apr80; Brushed casing to plug at 84-ft and bailed debris

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Rotary-Diamond core
Drilling Fluid Used: Bentonite mud
Driller's Name: Not documented
Drilling Company: Boyles Bros
Date Started: Not documented

Sample Method: Wireline core
Coring Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Spokane, WA
Date Complete: Core Apr82

WELL NUMBER: 699-81-62
TEMPORARY WELL NO: BH-17
Hanford Coordinates: N/S N 80,813 E/W W 62,072
State Coordinates: N 485,955.78 E 2,233,046.02
Start Card #: Not documented T14N R26E S 26-NW 1/4 of SE 1/4
Elevation Ground surface (ft): 440.0 (Ground surface)

Depth to water: 44.0-ft Apr82
(Ground surface) 28.5-ft Feb91

GENERALIZED STRATIGRAPHY Geologist's Log

0-520: Not documented
520-527: CONGLOMERATE
527-644.5: BASALT
644.5-684.6: TUFFSTONE
684.6-863.5: BASALT
863.5-915: TUFFSTONE-CLAYSTONE
915-976.5: BASALT
976.5-977.4: CLAYSTONE
977.4-1272: BASALT
1272-1331: Tuffaceous CLAYSTONE and SANDSTONE
1331-1471: BASALT

Elevation of reference point: [441.46-ft] (top of casing)
Height of reference point above ground surface [1.45-ft]
Depth of surface seal [110-ft]
Type of surface seal: 2-ft concrete pad, 6-in casing grouted 0-110-ft.
I.D. of surface casing: [6-in]
I.D. of riser pipe: [1.75-in]
Type of riser pipe: Carbon steel
Diameter of surface hole: [7-in nom]
Diameter of borehole: 110-536-ft [6-in]
4-in casing cemented to 536-ft
Diameter of borehole: 536-1,011-ft [3.03-in]
2½-in casing cemented 0-1,1011-ft
Cemented from 0-1,331-ft
1.9-in ID AW casing 0-1,331-ft
Diameter of borehole: 1,331-1,471-ft [1.89-in]
Grouted back to bottom of casing
Depth bottom of borehole: [1,471 ft]

Drawing By: RKL/6#81#62.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-81-62

WELL DESIGNATION	:	699-81-62
CERCLA UNIT	:	100-KR-4 Background
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 80,813 W 62,072
LAMBERT COORDINATES	:	N 485,955.78 E 2,233,046.02
DATE DRILLED	:	Core-Apr82
DEPTH DRILLED (GS)	:	1,471-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	44.0-ft, Apr82; 28.5-ft, 27Feb91
CASING DIAMETER	:	1.9-in, +1.5.8-1,331-ft
ELEV TOP CASING	:	441.46-ft
ELEV GROUND SURFACE	:	440.0-ft Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 27Feb91, Carbon steel, round cement pad, no posts. Capped and locked. No permanent identification. Not in radiation zone. OTHER:
AVAILABLE LOGS	:	Geologist
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Not sampled 1989 water level measured 20Jun90
PUMP TYPE	:	None
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Miller/Owens
Drilling Company: Not documented
Date Started: 22Sep61

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 29Sep61

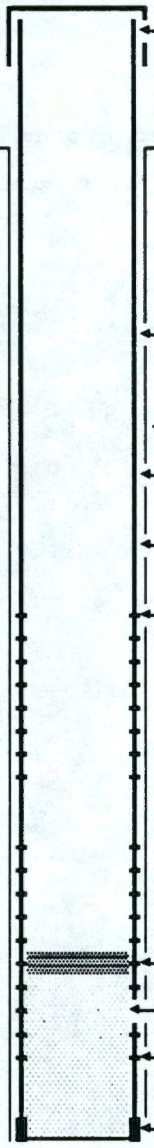
WELL NUMBER: 699-89-35
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 88,767 E/W W 35,221
State Coordinates: N 493,978 E 2,259,876
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 395.6 Estimated

Depth to water: 27.0-ft Oct62
(Ground surface) 25.6-ft Aug90
373.1 TOC Jul91

GENERALIZED STRATIGRAPHY Driller's Log

0-10: SILT and 12 in COBBLES
10-15: SILT and 10 in COBBLES
15-30: COBBLES and BOULDERS
30-35: GRAVEL and COBBLES
35-40: GRAVEL and BOULDERS
40-45: SAND, GRAVEL and BOULDERS
45-55: SAND, GRAVEL with fine SAND 47-54 ft
55-75: CLAY

REMEDIATION:
M. Bultena, 1976
Cleaned out well to 64-ft and cemented bottom



Elevation of reference point: [397.46-ft] (top of casing)
Height of reference point above ground surface [1.9-ft]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing (If present) [ND]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: None documented
Elevation/depth top of seal
Type of seal: None documented
Depth top of perforations: [20-ft]
Description of perforations: 20-45 and 55-73-ft, 6 cuts/ft
Cement plug 64-ft
Sand fill
Depth bottom of perforations: [73-ft]
Depth bottom of casing: [75-ft]
Depth bottom of borehole: [75-ft]

Drawing By: RKL/6#89-35.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-89-35

WELL DESIGNATION	:	699-89-35
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 88,767 W 35,221
LAMBERT COORDINATES	:	N 493,978 E 2,259,876
DATE DRILLED	:	Sep61
DEPTH DRILLED (GS)	:	73.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	27.0-ft, Oct62; 22.5-ft, Jul91;
CASING DIAMETER	:	8-in carbon steel, from +1.9-75-ft
ELEV TOP CASING	:	397.46-ft
ELEV GROUND SURFACE	:	395.6-ft, Estimated
PERFORATED INTERVAL	:	20-73-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 14Jun90, Carbon steel casing. No pad, No posts, capped and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 04Dec61-26Jul91
PUMP TYPE	:	None documented
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

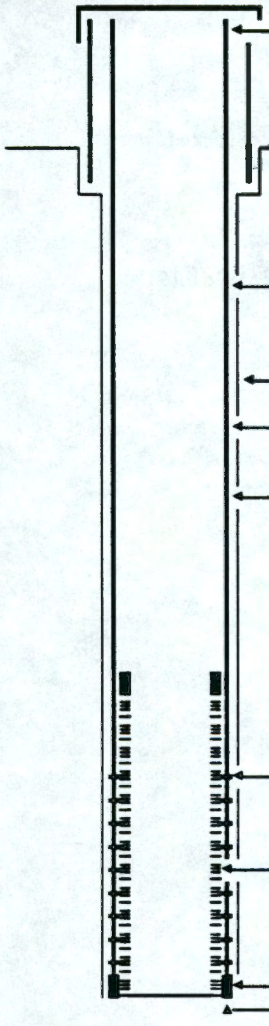
Drilling Method: Not doumented	Sample Method: Not documented	WELL NUMBER: 699-90-45	TEMPORARY WELL NO:
Drilling Fluid Used: Not documented	Additives Used: Not documented	Hanford Coordinates: N/S N 89,626	E/W W 45,276
Driller's Name: Not documented	WA State Lic Nr: Not documented	State Coordinates: N 494,811	E 2,249,819
Drilling Company: Not documented	Company Location: Not documented	Start Card #: Not documented	T ___ R ___ S ___
Date Started: Not documented	Date Complete: Not documented	Elevation Ground surface (ft): 421.3 Estimated	

Depth to water: 38.0-ft 1986
(Top casing) 37.1-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

None available

REMEDIATION:
1986, by Ludtke
Added 1 gallon bleach

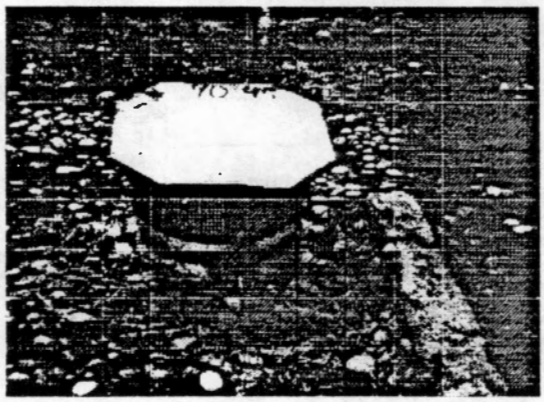


- Elevation of reference point: [422.15-ft] (top of casing)
- Height of reference point above ground surface [0.9-ft]
- Depth of surface seal [ND]
- Type of surface seal: 8-in gal. casing
- I.D. of surface casing [ND]
- I.D. of riser pipe: [6-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [7-in nom]
- Type of filler: None documented
- Elevation/depth top of seal
- Type of seal: None documented
- Perforated 37-42-ft
- Telescoping screen 32-42-ft, 20-slot with neoprene packer
- Depth bottom of casing: [ND]
- Depth bottom of borehole [42-ft]

Drawing By: RKL/6#69-45.ASB Date: ____

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-90-45



WELL DESIGNATION	:	699-90-45
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 89,626 W 45,276
LAMBERT COORDINATES	:	N 494,811 E 2,249,819
DATE DRILLED	:	ND
DEPTH DRILLED (GS)	:	42.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	30.0-ft, 1986; 37.1-ft, Jul91
CASING DIAMETER	:	8-in galvanized, depth not documented 6-in carbon steel, +0.9-ND-ft
ELEV TOP CASING	:	422.15-ft
ELEV GROUND SURFACE	:	421.3-ft, Estimated
PERFORATED INTERVAL	:	37-42-ft
SCREENED INTERVAL	:	Telescoping, 32-42-ft, #20-slot, neoprene packer
COMMENTS	:	FIELD INSPECTION, 07Jun90, Carbon steel casing. No pad, No posts, capped and locked. No permanent identification.
AVAILABLE LOGS	:	None
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 11Dec61-26Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 3 3 7

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Not documented
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: Smith/Wilcox	WA State Lic Nr: Not documented
Drilling Company: Haden Drilling	Company Location: Not documented
Date Started: 15Oct62	Date Complete: 17Oct62

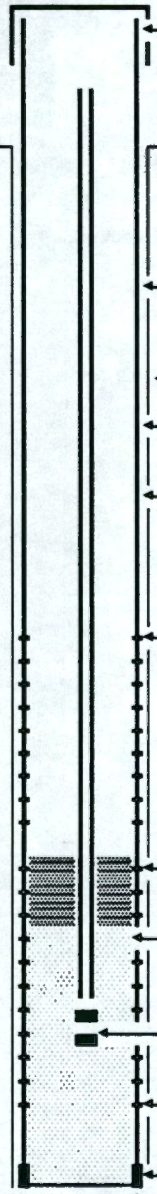
WELL NUMBER: 699-96-49	TEMPORARY WELL NO:
Hanford Coordinates: N/S N 96,388	E/W W 49,232
State Coordinates: N 501,563	E 2,245,846
Start Card #: Not documented	T___ R___ S___
Elevation Ground surface (ft): 417.5 Estimated	

Depth to water: 40.0-ft Oct62
(Ground surface) 33.5-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: GRAVEL and BOULDERS
10-15: 3 in minus GRAVEL with some coarse and fine SAND, trace of SILT
15-25: 2 in minus GRAVEL with some fine and coarse SAND, trace of SILT
25-55: 3 in minus GRAVEL and fine SAND and SILT
55-60: Fine SAND with some coarse SAND and fine GRAVEL
65-70: SAND and SILT with little fine GRAVEL
70-75: Sandy SILT with bit of hard lumps of SILT and fine GRAVEL
75-80: Sandy SILT with bit of hard lumps of SILT
80-90: SAND and SILT with shale SILT and CALICHE
90-100: Sandy SILT with fine CALICHE

REMEDIATION:
Oct74, by Bultena
Removed piezometers, cleaned well out to 100-ft.
Jun77, by Bigham
Set piezometer 79-89-ft and cement plug 60-70-ft.



- Elevation of reference point: [419.29-ft] (top of casing)
- Height of reference point above ground surface [1.8-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing [ND]
- I.D. of riser pipe: [8&1.5-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: None documented
- Elevation/depth top of seal
- Type of seal: None documented
- Top of perforations: [28-ft]
- Description of perforations: 28-58-ft, 6 cuts/rd/ft; 60-96-ft, 1 cut/rd, spiral
- Cement plug 60-70-ft
- Fill or sand pack not documented; Sand pack assumed
- Piezometer, 1½-in ID 79-89-ft, 60-slot screen
- Bottom of perforations: [96-ft]
- Depth bottom of casing: [ND]
- Depth bottom of borehole [100-ft]

Drawing By: RKL/6#96-49.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-96-49

WELL DESIGNATION	:	699-96-49
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 96,388 W 48,232
LAMBERT COORDINATES	:	N 501,563 E 2,245,846
DATE DRILLED	:	Oct62
DEPTH DRILLED (GS)	:	100-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	40.0-ft, Oct62; 33.5-ft, 29Jul91
CASING DIAMETER	:	8-in carbon steel, +1.8-ND (~100-ft)
ELEV TOP CASING	:	419.29-ft
ELEV GROUND SURFACE	:	417.5-ft, Estimated
PERFORATED INTERVAL	:	28-58-ft and 60-96-ft
SCREENED INTERVAL	:	Piezometer, 1-1/2in, 79-89-ft, 60-slot
COMMENTS	:	FIELD INSPECTION, 07Jun90, Carbon steel casing. No pad, No posts, capped and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 22Oct62-29Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool	Sample Method: Hard tool (nom)
Drilling Fluid Used: Water	Additives Used: Not documented
Driller's Name: Wilcox/Smith	WA State Lic Nr: Not documented
Drilling Company: Haden Drilling	Company Location: Not documented
Date Started: 11Oct62	Date Complete: 16Oct62

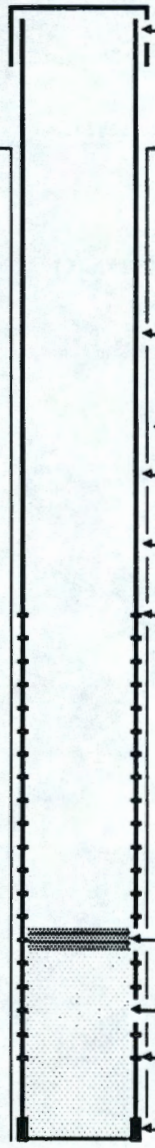
WELL NUMBER: 699-97-43	TEMPORARY WELL NO:
Hanford Coordinates: N/S N 97,143	E/W W 43,241
State Coordinates: N 502,334	E 2,251,835
Start Card #: Not documented	T ___ R ___ S ___
Elevation Ground surface (ft): 419.3 Estimated	

Depth to water: 42.5-ft Oct62
(Ground surface) 39.2-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-10: 3 in minus GRAVEL with coarse and fine SAND, little SILT
10-20: 3 in minus GRAVEL with coarse and fine SAND and SILT
20-30: 3 in minus GRAVEL with coarse and fine SAND
30-35: 8 in minus GRAVEL and fine SILT and SAND
35-40: Fine SAND with trace of coarse SAND and 1 in GRAVEL and SILT
40-50: 3 in GRAVEL with coarse and fine SAND, trace of SILT
50-55: CLAY and SILT with GRAVEL
55-65: CLAY SILT with bits of fine GRAVEL
65-70: CLAY, SILT with bits of coarse SAND and hard SILT
70-85: SAND and hard SILT
85-100: SAND and CALICHE

REMEDIATION:
1976 by Bultena
Cleaned well , removed piezometers and installed cement plug to nominal 83-ft.

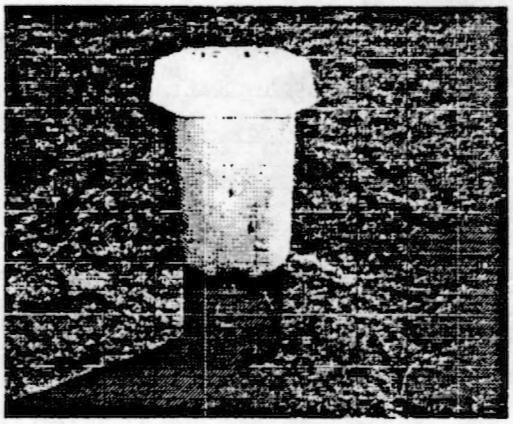


- Elevation of reference point: [421.01-ft] (top of casing)
- Height of reference point above ground surface [1.7-ft]
- Depth of surface seal [ND]
- Type of surface seal: None documented
- I.D. of surface casing (If present) [ND]
- I.D. of riser pipe: [8-in]
- Type of riser pipe: Carbon steel
- Diameter of borehole: [9-in nom]
- Type of filler: None documented
- Elevation/depth top of seal
- Type of seal: None documented
- Depth top of perforations: [25-ft]
- Description of perforations: 25-49-ft, 6 cuts/rd/ft; 50-97-ft, 4 cuts rd/ft
- Cement plug at 83-ft
- Sand fill
- Depth bottom of perforations: [97-ft]
- Depth bottom of casing: [ND]
- Depth bottom of borehole: [100-ft]

Drawing By: RKL/6#97-43.ASB Date: ___

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-97-43



WELL DESIGNATION	:	699-97-43
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 97,143 W 43,241
LAMBERT COORDINATES	:	N 502,334 E 2,251,835
DATE DRILLED	:	Oct62
DEPTH DRILLED (GS)	:	100-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	42.5-ft, Oct62; 39.2-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +1.7-ND
ELEV TOP CASING	:	421.01-ft
ELEV GROUND SURFACE	:	419.3-ft, Estimated
PERFORATED INTERVAL	:	25-97-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 07Jun90, Carbon steel casing. No pad, No posts, capped and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 22Oct62-29Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Not doumented
Drilling Fluid Used: Not documented
Driller's Name: Not documented
Drilling Company: Not documented
Date Started: Not documented

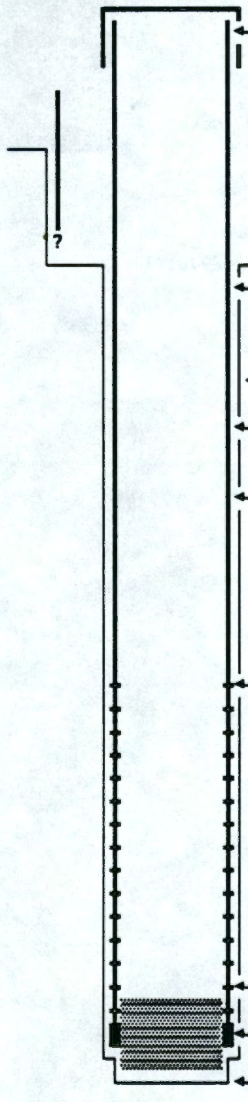
Sample Method: Not documented
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: Not documented

WELL NUMBER: 699-97-51A
TEMPORARY WELL NO: 699 97-50
Hanford Coordinates: N/S N 97,238 E/W W 50,507
State Coordinates: N 502,410 E 2,249,568
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 401.2 Estimated

Depth to water: 21.0-ft ND
(Ground surface) 17.2-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

None available

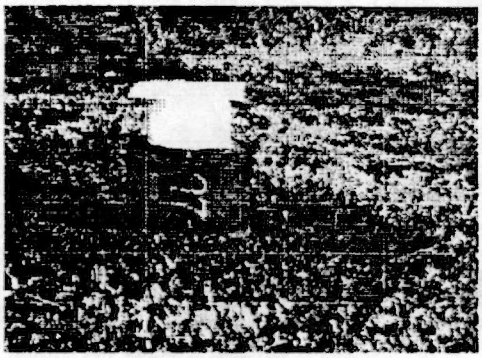


Elevation of reference point: [402.49-ft]
(top of casing)
Height of reference point above ground surface [1.3-ft]
Depth of surface seal [ND]
Type of surface seal: None documented
I.D. of surface casing [14-in]
I.D. of riser pipe: [8-in]
Type of riser pipe: Carbon steel
Diameter of borehole: [9-in nom]
Type of filler: None documented
Elevation/depth top of seal
Type of seal: None documented
Top of perforations: [12-ft]
12-39-ft, 3 cuts/ft
Cement plug at 38-ft
Depth bottom of casing: [ND]
Depth bottom of borehole [40-ft nom]

REMEDIATION:
1976, by Bultena
Cleaned well to 40-ft
1980 by Bultena
Set cement plug in bottom

Drawing By: RKL/6#97-51A.ASB Date:
Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-97-51A



WELL DESIGNATION	:	699-97-51A
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 97,238 W 50,507
LAMBERT COORDINATES	:	N 502,410 E 2,249,568
DATE DRILLED	:	ND
DEPTH DRILLED (GS)	:	~40-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	21.0-ft, ND; 17.2-ft, Jul91
CASING DIAMETER	:	8-in carbon steel, +1.3-ND 14-in carbon steel, ~1-ft-ND
ELEV TOP CASING	:	402.49-ft
ELEV GROUND SURFACE	:	401.2-ft Estimated
PERFORATED INTERVAL	:	12-39-ft
SCREENED INTERVAL	:	NA
COMMENTS	:	FIELD INSPECTION, 07Jun90, Carbon steel casing. No pad, No posts, capped and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 07Jan63-29Jul91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

9 2 1 2 5 8 0 0 3 4 3

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Not doumented
Drilling Fluid Used: Not documented
Driller's Name: Not documented
Drilling Company: Not documented
Date Started: Not documented

Sample Method: Not documented
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: May43

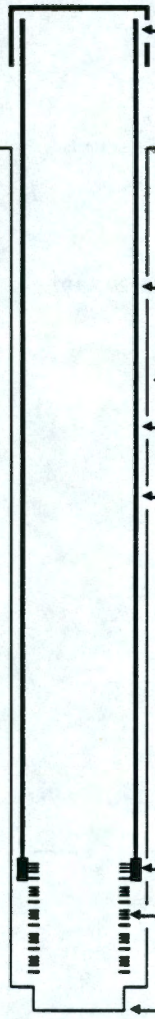
WELL NUMBER: 699-101-488
TEMPORARY WELL NO: Test Well #7
Hanford Coordinates: N/S N 101,465 E/W W 47,884
State Coordinates: N 506,633 E 2,247,278
Start Card #: Not documented T___ R___ S___
Elevation Ground surface (ft): 389.0 Estimated

Depth to water: 7.0-ft May43
(Ground surface) 5.5-ft Jul91

GENERALIZED STRATIGRAPHY — Driller's Log

0-35: BOULDERS, COBBLES with some SAND and SANDY CLAY in the openings
35-46: Fine SAND and COBBLES with scattered BOULDERS
46-48: SAND with medium and coarse GRAVEL

REMEDIATION:
1986, by Ludtke
Added 1 gallon bleach



Elevation of reference point: [390.15-ft]
(top of casing)
Height of reference point abov [1.1-ft]
ground surface

Depth of surface seal [ND]

Type of surface seal:
None documented

I.D. of surface casing [ND]
I.D. of riser pipe: [6-in]
Type of riser pipe:
Carbon steel

Diameter of borehole: [7-in nom]

Type of filler:
None documented

Elevation/depth top of seal
Type of seal: None documented

Depth bottom of casing: [43-ft]

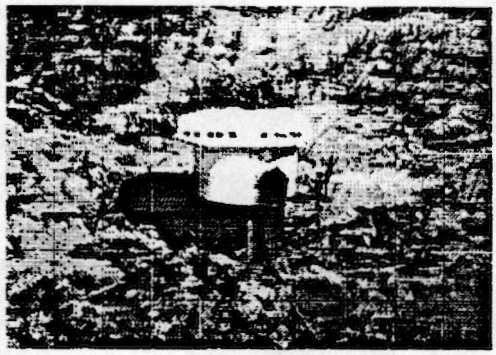
Telescoping screen
43-47-ft

Depth bottom of borehole [48-ft]

Drawing By: RKL/6#10148B.ASB Date:

Reference: HANFORD WELLS

SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS
RESOURCE PROTECTION WELL - 699-101-48B



WELL DESIGNATION	:	699-101-48B
CERCLA UNIT	:	100-Aggregate Area
RCRA FACILITY	:	NA
HANFORD COORDINATES	:	N 101,465 W 47,884
LAMBERT COORDINATES	:	N 506,633 E 2,247,278
DATE DRILLED	:	May43
DEPTH DRILLED (GS)	:	48.0-ft
MEASURED DEPTH (GS)	:	ND
DEPTH TO WATER (GS)	:	7.0-ft, May43; 5.5-ft, Jul91
CASING DIAMETER	:	6-in carbon steel, +1.1-43-ft
ELEV TOP CASING	:	390.15-ft
ELEV GROUND SURFACE	:	389.0-ft, Estimated
PERFORATED INTERVAL	:	NA
SCREENED INTERVAL	:	Telescoping, 43-47-ft
COMMENTS	:	FIELD INSPECTION, 07Jun90, Carbon steel casing. No pad, No posts, capped and locked. No permanent identification.
AVAILABLE LOGS	:	Driller
TV SCAN COMMENTS	:	NA
DATE EVALUATED	:	NA
EVAL RECOMMENDATION	:	NA
LISTED USE	:	Water levels measured 12Jul73-05Jun91
PUMP TYPE	:	Electric submersible
MAINTENANCE	:	ND

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