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Revision 2

100 Area Stratigraphic Database Development

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

CH2MHILL
Plateau Remediation Company

P.O. Box 1600
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M. J. Hartman
CH2M HILL Plateau Remediation Company

Date Published
September 2011

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Environmental Calculation Cover Page

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Project: Soil & Groundwater Remediation Project **Date: 29 August, 2012**

Calculation Title & Description: 100 Area Stratigraphic Database Development

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Revision No.	Description	Date	Affected Pages
0	Initial Issue	8/4/2011	All
1	Revised Hanford/Ringold contacts in 199-B3-52 and C7842. Added wells 199-K-198 and -199.	11/3/2011	Table A-1
2	Corrected some surface elevation errors; revised contact depths for several wells; added about 40 wells. Added more explanation of the software applications and calculations.	8/29/2012	All

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Terms

GPS	Global Positioning System
Hf	Hanford formation
NAVD88	North American Vertical Datum of 1988
NDE	Not deep enough
NP	Not present
RE or Re	Ringold formation unit E
RPGW	Resource protection well structure field inspection report
RUM	Ringold formation upper mud unit
SU	Casing stickup (above ground surface)
TOC	Top of casing elevation
WCSR	well construction summary report
WIDL	Well Information Data Lookup (database)
WSS	well summary sheet

1 Purpose

The purpose of this environmental calculation brief is to document the process for determining elevations of geologic contacts based on data from wells in the 100 Area of the Hanford Site. The end result is a set of data that can be used to construct geologic maps and cross sections of the region north of Gable Mountain and Gable Butte and south of the Columbia River.

2 Methodology

This section provides the steps and associated calculation approach.

2.1 Compile Land Surface Elevations

The first step was to compile a listing of the elevation of land surface at each well location, in meters above the North American Vertical Datum of 1988 (NAVD88). These data are stored in an Excel spreadsheet. These elevations were derived from data in the Well Information Data Lookup (WIDL) database, in the order of preference listed below, and the type of land surface elevation is recorded in the spreadsheet.

a) Surveyed marker on the well pad ("Disc Z")
b) Global Positioning System (GPS) elevation of land surface
c) Surveyed top of casing elevation minus measured casing stickup height (with a preference for information from 1) as-built, 2) inspection report, or 3) other documentation that was closest to the original construction date and/or consistent through time)
d) Surveyed top of casing elevation minus assumed 0.914 m (3-ft) assumed casing stickup height

2.2 Identify Elevations of Geologic Contacts

Geologic data for Hanford Site wells are available from a variety of sources (Section 3.0). Using available data, staff compiled a list of depths to geologic contacts in the Excel spreadsheet. These depths were available in feet below land surface.

The geologic contact between gravels of the Hanford formation and Ringold unit E is often difficult to distinguish. Some geologist's borehole logs, and most older driller's logs, do not allow for a contact determination. Staff used the following characteristics to pick contacts, where data allowed:

- Higher basalt content (i.e., > 60% basalt gravel and sand) in Hanford formation
- Less coarse sand/granules in Ringold unit E
- Ringold gravels generally more oxidized and reddish brown to yellow-brown in color, compared to Hanford formation's gray or salt-and-pepper
- Open framework gravels in Hanford formation
- Ringold unit E may be cemented and more consolidated (slower drilling rates) than Hanford formation
- Increases in borehole geophysical total gamma log, corresponding to increases in silt/clay, and or felsic rich minerals, sometime can be used to identify Ringold E.
- In saturated sediment, aquifer testing results sometimes can be helpful in differentiating Hanford from Ringold gravel.

"Mud" (silt and clay) units in the Ringold Formation are easier to distinguish in geologic logs, geophysical logs, and in many driller's logs. The shallowest mud unit in the Ringold Formation is informally called the Ringold upper mud (RUM).

Virtually all of the wells drilled to deeper horizons (e.g., Ringold lower mud unit; basalt and interbeds) are decades old, and their borehole logs lack detail. The logs were re-examined and contacts picked out, where possible.

Where the rationale for identifying a geologic contact is not obvious, the geologist makes a note in a "comments" column of the spreadsheet.

The Excel spreadsheet was set up to convert depths in feet to depths in meters, and then subtract the depths from the surface elevations to yield elevations of geologic contacts.

3 Assumptions and Inputs

Input to this calculation included the following.

- Borehole geologic logs
- Borehole geophysical logs
- Driller's logs
- Survey information from WIDL
- Well construction reports, well summary sheets, and well inspection sheets from WIDL
- Aquifer testing results

4 Software Applications

A Microsoft Excel 2007®[1] spreadsheet was used to store data and perform calculations described in Section 2, using the default calculation formulae available in that software..

4.1 Description

Software Title: Microsoft® Excel 2007

Software Version: 2007

Hanford Information System Number: 1915

Workstation Type and property number: HLAN Standard Workstation #WC96718

4.2 Software Installation and Checkout

Calculations are presented and discussed in Section 5. The Microsoft® Excel 2007 spreadsheet is attached in Appendix A. Inclusion of the calculation spreadsheet files in their complete configuration is exempt from the validation and verification requirements of PRC-PRO-IRM-309.

4.3 Statement of Valid Software Application

Microsoft® Excel 2007 is approved software for use in performing calculations at Hanford and the calculations were performed within the limitations of the software as approved, and consistent with the requirements of PRC-PRO-IRM-309.

[1] Microsoft Excel is a registered product of the Microsoft Corporation.

5 Calculation

Table 1 shows a portion of the spreadsheet with formulae visible, as an example of how calculations were performed.

Well name, well identification number, surface elevation, elevation control, and reference for the source of casing stickup information are input to columns A through E. Drill depth in feet is input to column F and the spreadsheet converts depth to meters (column G) and calculates the elevation of the bottom of the borehole (column H). This elevation is rounded for use in another column.

For boreholes where the available information allows identification of the top of Ringold formation unit E, the depth to the geologic contact in feet is input to column I. Notes on the source of the identification are recorded in column L. The spreadsheet converts depth to units of meters in column J and calculates elevation in column K.

For boreholes where the available information allows identification of the Ringold upper mud unit, the depth in feet is input to column M and the source noted in column P. The spreadsheet converts depth to units of meters in column N and calculates elevation in column O.

If the depth to Ringold unit E or the Ringold upper mud is unknown, one of the following are input to the appropriate columns:

- X = not enough information to identify the contact
- NP = the geologic unit is known to be not present at that location
- NDE = the borehole was not deep enough to reach the geologic contact

In cases where a borehole is not deep enough to indentify a contact, a value of "less than the elevation of the bottom of the borehole" is inserted (e.g., Cell O3).

Appendix A lists wells, surface elevations, depths and elevations of geologic contacts, and comments.

6 Results/Conclusions

Appendix A presents results of this calculation. These data will be used to construct maps and cross sections of 100 Area geology.

7 References

PRC-PRO-IRM-309, Rev. 1, Change 0, 11/29/2010, "Controlled Software Management," CH2M HILL Plateau Remediation Company, Richland, Washington.

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Table 1. Example of Calculation Spreadsheet

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Well Name	Well ID	Surface Elev. (m)	Elevation Control	Reference	Drill Depth (ft)	Drill Depth (m)	Bottom Elev. (m)	Depth to RE (ft)	Depth to RE (m)	Hf/Re Elev. (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev. (m)	RUM Depth Data Source	Notes
2	199-B2-12	A4550	133.93	Disc Z		178.8	=CONVERT(F2,"ft","m")	=ROUND((C2-G2),1)	12.5	=CONVERT(I2,"ft","m")	=C2-J2	borehole log (GRAM)	149.5	=CONVERT(M2,"ft","m")	=C2-N2	borehole log (GRAM)	RUM depth reinterpreted; RE uncertain
3	199-B2-13	A4551	127.69	Disc Z		40	=CONVERT(F3,"ft","m")	=ROUND((C3-G3),1)	X	X	X	N/A	NDE	NDE	="<"&H3	N/A	
4	199-B2-14	C7665	134.30	Disc Z		152.3	=CONVERT(F4,"ft","m")	=ROUND((C4-G4),1)	33	=CONVERT(I4,"ft","m")	=C4-J4	borehole and geophysical logs (Williams)	143.7	=CONVERT(M4,"ft","m")	=C4-N4	borehole log (GRAM)	
5	199-B2-15	C7783	134.27	Disc Z		193.8	=CONVERT(F5,"ft","m")	=ROUND((C5-G5),1)	30	=CONVERT(I5,"ft","m")	=C5-J5	borehole and geophysical logs (Williams)	143.7	=CONVERT(M5,"ft","m")	=C5-N5		
6	199-B2-16	C7784	133.37	Disc Z		155.2	=CONVERT(F6,"ft","m")	=ROUND((C6-G6),1)	32	=CONVERT(I6,"ft","m")	=C6-J6	borehole and geophysical logs (Williams)	147	=CONVERT(M6,"ft","m")	=C6-N6		
7	199-B3-1	A4552	134.58	TOC (134.882 m) - 0.98 ft SU	1991 RPGW	63	=CONVERT(F7,"ft","m")	=ROUND((C7-G7),1)	X	X	X	N/A	NDE	NDE	="<"&H7	N/A	Cursory log shows undifferentiated sediments; RE pick in SGW-44022 does not appear to be support by log
8	199-B3-2	A9505	135.43	TOC (135.905 m) - 1.55 ft SU		790	=CONVERT(F8,"ft","m")	=ROUND((C8-G8),1)	X	X	X	N/A	153	=CONVERT(M8,"ft","m")	=C8-N8	SGW-44022	Basalt at 656 ft. Appears to be nothing in the cursory log to support the RE pick in SGW-44022.

Abbreviations defined in Appendix A

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Appendix A

Stratigraphic Information for Hanford Site 100 Area Wells

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Appendix A
Stratigraphic Information for Hanford Site 100 Area Wells

Table A-1 lists over 800 wells in the 100 Area and the 600 Area north of Gable Mountain and Gable Butte. The table provides elevations of geologic contacts. Wells are sorted by well name.

A.1 Explanation of Table A-1

Well Name – These are the common well names used at Hanford. Well names beginning 199-BX-YY are located in the 100-B/C Area, 199-K-X in the 100-K Area, etc. Well names 699-xx-yy are in the 600 Area, xx indicates relative north coordinate, and yy indicates relative west coordinate.

Well ID – Unique well identification number

Surface Elevation is the elevation of land surface in meters above the NAVD88.

Elevation Control provides information on the source of the Surface Elevation number. In nearly all cases these values were derived from the Well Information Data Lookup (WIDL) database. Notations in this column include the following:

- Brass survey marker – GPS survey of brass cap (disc z not available in WIDL)
- Disc z – WIDL field corresponding to surveyed elevation of the brass disc in the concrete well pad
- Ground surface – survey elevation converted from National Geodetic Vertical Datum of 1929 to NAVD88.
- Staking survey – approximate elevation when well location was determined.
- "TOC – xx ft SU" – Top of casing elevation (as surveyed; data in WIDL) minus casing stickup (SU).
- Well survey report – in a few cases the elevation was not listed in WIDL vertical elevation query, but a well survey report was available

Reference – This field provides additional information on the source of the ground surface elevation

- RPGW – Resource protection well structure field inspection report
- WCSR – well construction summary report
- WSS – well summary sheet

Drill Depth – Total depth of borehole at time of drilling. Drilling records provide this in feet. Converted to meters using the Excel "CONVERT()" function.

Depth to RE – Depth below surface to top of Ringold unit E.

- NDE = Borehole not deep enough to reach contact
- X = Not determined (insufficient data)

Hf/Re Elev. – Elevation of geologic contact between Hanford and Ringold unit E in meters NAVD88.

Ringold E Depth Data Source – Comment on how the contact was determined

- Borehole log (GRAM) or (Freestone), etc. – Interpretation of the borehole log by staff from GRAM, Inc. or Freestone Environmental Services
- N/A = not applicable (contact not determined)
- WCS = well construction summary
- Entries in this column also include document references. See Appendix A reference list

Depth to RUM -- Depth below surface to top of Ringold upper mud unit (i.e., shallowest silt/clay)

RUM Elev. – Elevation of top of shallowest mud (silt/clay) in the Ringold Formation, in meters NAVD88.

RUM Depth Data Source – Comment on how the contact was determined

Notes – Additional supporting information

A.2 References

BHI-00953, 1996, *Well Summary Report: 100-HR-3 and 100-KR-4 Interim Remedial Action Wells*, Bechtel Hanford, Inc., Richland, Washington.

DOE/RL-93-37, 1994, *Limited field investigation report for the 100-BC-5 Operable Unit*, U.S. Department of Energy, Richland, Washington.

DOE/RL-93-43, 1994, *Limited Field Investigation Report for the 100-HR-3 Operable Unit*, U.S. Department of Energy, Richland, Washington.

DOE/RL-2008-42, 2009, *Hydrogeological Summary Report for 600 Area Between 100-D and 100-H for the 100-HR-3 Groundwater Operable Unit.* U.S. Department of Energy, Richland, Washington.

PNL-6728, 1988, *Geohydrologic Characterization of the Area Surrounding the 183-H Solar Evaporation Basins*, Pacific Northwest Laboratory, Richland, Washington.

SGW-40781, 2009, *100-HR-3 Remedial Process Optimization Modeling Data Package*, CH2M HILL Plateau Remediation Company, Richland, Washington.

SGW-44022, 2010, *Geohydrologic Data Package in Support of 100-BC-5 Modeling*, CH2M HILL Plateau Remediation Company, Richland, Washington.

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Depth (m)	Elev bottom (m)	Depth to RE (ft)	Depth to RE (m)	Hf/Re Elev. (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev. (m)	RUM Depth Data Source	Notes
199-B2-12	A4550	133.93	Disc Z		178.8	54.5	79.4	12.5	3.8	130.1	borehole log (GRAM)	149.5	45.6	88.4	borehole log (GRAM)	RUM depth reinterpreted; RE uncertain
199-B2-13	A4551	127.69	Disc Z		40	12.2	115.5	X	X	X	N/A	NDE	NDE	<115.5	N/A	
199-B2-14	C7665	134.30	Disc Z		152.3	46.4	87.9	33	10.1	124.2	borehole and geophysical logs (Williams)	143.7	43.8	90.5	borehole log (GRAM)	
199-B2-15	C7783	134.27	Disc Z		193.8	59.1	75.2	30	9.1	125.1	borehole and geophysical logs (Williams)	143.7	43.8	90.5	borehole log (GRAM)	
199-B2-16	C7784	133.37	Disc Z		155.2	47.3	86.1	32	9.8	123.6	borehole and geophysical logs (Williams)	147	44.8	88.6	borehole log (GRAM)	
199-B3-1	A4552	134.58	TOC (134.882 (m) - 0.98 ft SU	Based on 1991 RPGW	63	19.2	115.4	X	X	X	N/A	NDE	NDE	<114.8	N/A	Cursory log shows undifferentiated sediments; revised depth takes assumed stickup into account, RE pick in SGW-44022 does not appear to be support by log
199-B3-2	A9505	135.43	TOC (135.905 (m) - 1.55 ft SU		790	240.8	-105.4	X	X	X	N/A	153	46.6	88.8	SGW-44022	Basalt at 656 ft. Appears to be nothing in the cursory log to support the RE pick in SGW-44022, elevation takes stickup into account
199-B3-46	A4553	134.73	Disc Z		66.77	20.4	114.4	50	15.2	119.5	borehole log (GRAM)	NDE	NDE	<114.4	N/A	Hf/RE contact not well defined in borehole log, fewer basalt cobbles at 50 ft bgs
199-B3-47	A4554	133.85	Disc Z		61	18.6	115.3	X	X	X	N/A	NDE	NDE	<115.3	N/A	
199-B3-50	C7506	143.02	Disc Z		183.3	55.9	87.2	91	27.7	115.3	borehole log (GRAM)	177	53.9	89.1	borehole log (GRAM)	
199-B3-51	C7785	134.04	Disc Z		156.2	47.6	86.4	13	4.0	130.1	borehole log (GRAM)	149.5	45.6	88.5	borehole log (GRAM)	
199-B3-52	C7843	134.66	Disc Z		60	18.3	116.4	27	8.2	126.4	borehole and geophysical logs (Williams)	NDE	NDE	<116.4	borehole log (GRAM)	100-BC vadose borehole completed as temporary well. RE pick uncertain.
199-B4-1	A4555	141.20	TOC (141.6 (m) - 1.3 ft SU		90	27.4	113.8	X	X	X	N/A	NDE	NDE	<113.8	N/A	well did not reach RUM, cursory log shows undifferentiated sediments, elevation takes stickup into account
199-B4-10	A5542	144.69	Disc Z		23.5	7.2	137.5	X	X	X	N/A	NDE	NDE	<137.5	N/A	
199-B4-14	C7786	144.97	Disc Z		95.8	29.2	115.8	NDE	NDE	<115.8	N/A	NDE	NDE	<115.8	N/A	
199-B4-15	C7846	144.26	Disc Z		84.3	25.7	118.6	NDE	NDE	<118.6	N/A	NDE	NDE	<118.6	N/A	100-BC vadose borehole completed as temporary well
199-B4-2	A5539	141.35	TOC (141.653 (m) - 1.0 ft SU		90	27.4	113.9	X	X	X	N/A	NDE	NDE	<113.9	N/A	Cursory log shows undifferentiated sediments, elevation takes stickup into account
199-B4-3	A4556	141.31	TOC (141.758 (m) - 1.46 ft SU		91	27.7	113.6	X	X	X	N/A	NDE	NDE	<113.6	N/A	Cursory log shows undifferentiated sediments, elevation takes stickup into account
199-B4-4	A4557	144.63	TOC (145.365 (m) - 2.4 ft SU		105	32.0	112.6	X	X	X	N/A	NDE	NDE	<112.6	N/A	Hf/RE not identified in cursory log, undifferentiated sediments, elevation takes stickup into account
199-B4-5	A5540	147.06	Disc Z		97.17	29.6	117.4	X	X	X	N/A	NDE	NDE	<117.4	N/A	Cursory log shows undifferentiated sediments
199-B4-6	A4558	147.02	Disc Z		97.41	29.7	117.3	X	X	X	N/A	NDE	NDE	<117.3	N/A	Cursory log shows undifferentiated sediments
199-B4-7	A5541	147.07	Disc Z		96.52	29.4	117.7	X	X	X	N/A	NDE	NDE	<117.7	N/A	Cursory log shows undifferentiated sediments
199-B4-8	A4559	144.46	Disc Z		90.4	27.6	116.9	88	26.8	117.6	borehole log (GRAM)	NDE	NDE	<116.9	N/A	RE interpreted to be 8 ft deeper than shown in SGW-44022, pronounced lithologic change at 88 ft bgs
199-B4-9	A4560	143.81	Disc Z		92.8	28.3	115.5	X	X	X	N/A	NDE	NDE	<115.5	N/A	RE contact not identified in borehole log
199-B5-1	A4561	139.16	TOC (139.892 (m) - 2.4 ft SU		151	46.0	93.1	X	X	X	N/A	NDE	NDE	<93.0	N/A	Hf/RE not identified in cursory log in well construction and completion summary, elevation takes stickup into account
199-B5-2	A4562	139.80	Disc Z		75	22.9	116.9	NDE	NDE	<116.9	N/A	NDE	NDE	<116.9	N/A	
199-B5-5	C7505	135.42	Disc Z		214.8	65.5	69.9	53	16.2	119.3	borehole log (GRAM)	205	62.5	72.9	borehole log (GRAM)	
199-B5-6	C7507	144.97	Disc Z		195.5	59.6	85.4	93	28.3	116.6	borehole log (GRAM)	191	58.2	86.8	borehole log (GRAM)	
199-B5-8	C8244	153.93	Disc Z		230.6	70.3	83.6	196	59.7	94.2	borehole and geophysical logs (Williams)	222.5	67.8	86.1	borehole log	
199-B8-6	A4563	145.02	Disc Z		91	27.7	117.3	NDE	NDE	<117.3	borehole and geophysical logs (Williams)	NDE	NDE	<117.3	N/A	Basalt dominated sediments to TD. SGW-44022 shows RE at 78 ft bgs but that seems unlikely
199-B8-9	C7508	150.99	Disc Z		219.5	66.9	84.1	115	35.1	115.9	borehole log (GRAM)	211.5	64.5	86.5	borehole log (GRAM)	Hf/RE not identified in log
199-B9-1	A4564	151.37	TOC (152.253 (m) - 2.9 ft SU		117	35.7	115.7	X	X	X	N/A	NDE	NDE	<115.7	N/A	SGW-44022 shows RE at 88 ft; does not appear to supported by driller's log; elevation takes stickup into account
199-B9-2	A4565	151.73	Disc Z		118	36.0	115.8	NDE	NDE	<115.8	borehole log (GRAM). See note	NDE	NDE	<115.8	N/A	RE interpretation in SGW-44022 (from DOE/RL-93-37) unlikely as sediments from 88 ft bgs to TD described in borehole log as 80 - 90% basalt cobbles (more likely Hanford fm). SGW-44022 interpretation not based on slug test as proposed depth is above water table, no discontinuities in gross gamma log at proposed depth
199-B9-3	A4566	150.41	Disc Z		109	33.2	117.2	NDE	NDE	<117.2	borehole log (GRAM). See note	NDE	NDE	<117.2	N/A	RE interpretation in SGW-44022 (from DOE/RL-93-37) unlikely as sediments from 88 ft bgs to TD described in borehole log as 80% basalt cobbles (more likely Hanford fm), no discontinuity in gross gamma log at interpreted depth
199-D2-10	C7089	120.30	Disc Z		31	9.4	110.8	NP	NP	NP	N/A	26.0	7.9	112.4	borehole log (GRAM)	Hf/RE not identified in log, appears to transition from Hf directly to RUM
199-D2-11	C5394	143.45	Disc Z		114	34.7	108.7	90.1	27.5	116.0	SGW-40781	110.0	33.5	109.9	SGW-40781	
199-D2-12	C7090	120.57	Disc Z		34	10.4	110.2	NP	NP	NP	N/A	28.2	8.6	112.0	borehole log (GRAM)	
199-D2-5	A4567	140.51	TOC (141.303 (m) - 2.6 ft SU		95	29.0	111.6	X	X	X	N/A	90.0	27.4	113.1	drillers log (GRAM)	
199-D2-6	A4568	143.36	Disc Z		110.7	33.7	109.6	75.0	22.9	120.5	borehole log (GRAM)	102.9	31.4	112.0	borehole log (GRAM)	
199-D2-8	C3040	143.61	Disc Z		100.9	30.8	112.9	50.5	15.4	128.2	borehole log (Freestone)	NDE	NDE	<112.9	N/A	minor disrepancy with SGW-40781 interpretation of RE elevation of 128.1
199-D3-3	C3312	143.20	Disc Z		114	34.7	108.5	64.0	19.5	123.7	SGW-40781	113.5	34.6	108.6	SGW-40781	
199-D3-4	C3314	143.25	Disc Z		114.2	34.8	108.4	67.6	20.6	122.6	SGW-40781	113.0	34.4	108.8	SGW-40781	
199-D3-5	C7620	144.05	Disc Z		112.2	34.2	109.9	87.0	26.5	117.5	borehole log (GRAM)	104.0	31.7	112.4	borehole log (GRAM)	
199-D4-1	B2895	143.25	Disc Z		105	32.0	111.2	55.0	16.8	126.5	borehole log (GRAM)	98.0	29.9	113.4	borehole log (GRAM)	
199-D4-10	B8068	143.44	Disc Z		97.9	29.8	113.6	54.0	16.5	127.0	borehole log (GRAM)	97.0	29.6	113.9	borehole log (GRAM)	
199-D4-101	C7580	143.61	Disc Z		109.9	33.5	110.1	63	19.2	124.4	borehole log (GRAM)	105	32.0	111.6	borehole log (GRAM)	
199-D4-11	B8069	143.38	Disc Z		97.1	29.6	113.8	56.0	17.1	126.3	borehole log (GRAM)	95.5	29.1	114.3	borehole log (GRAM)	
199-D4-12	B8070	143.50	Disc Z		98.7	30.1	113.4	60.0	18.3	125.2	borehole log (GRAM)	97.0	29.6	113.9	borehole log (GRAM)	
199-D4-13	B8071	142.94	Disc Z		101	30.8	112.2	51.0	15.5	127.4	borehole log (GRAM)	91.0	27.7	115.2	borehole log (GRAM)	
199-D4-14	B8072	143.47	Disc Z		101.9	31.1	112.4	43.0	13.1	130.4	borehole log (GRAM)	97.0	29.6	113.9	borehole log (GRAM)	
199-D4-15	B8073	143.66	Disc Z		105	32.0	111.7	50.0	15.2	128.4	borehole log (GRAM)	100.0	30.5	113.2	borehole log (GRAM)	
199-D4-16	B8110	143.43	Disc Z		101.7	31.0	112.4	56.0	17.1	126.4	borehole log (GRAM)	97.9	29.8	113.6	borehole log (GRAM)	
199-D4-17	B8459	143.37	Disc Z		102.9	31.4	112.0	58.0	17.7	125.7	borehole log (GRAM)	97.0	29.6	113.8	borehole log (GRAM)	
199-D4-18	B8460	142.98	Disc Z		101.9	31.1	111.9	15.0	4.6	138.4	borehole log (GRAM)	95.5	29.1	113.9	borehole log (GRAM)	
199-D4-19	B8746	143.12	Disc Z		110.5	33.7	109.4	61.5	18.7	124.4	borehole log	110.0	33.5	109.6	SGW-40781	
199-D4-2	B8058	143.75	Disc Z		100	30.5	113.3	X	X	X	N/A	97.5	29.7	114.0	borehole log (GRAM)	Hf/RE not identified in log

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Depth (m)	Elev bottom (m)	Depth to RE (ft)	Depth to RE (m)	Hf/Re Elev. (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev (m)	RUM Depth Data Source	Comments
199-D4-20	B8750	143.56	Disc Z		107.5	32.8	110.8	63.0	19.2	124.4	SGW-40781	105.0	32.0	111.6	SGW-40781	
199-D4-21	B8755	143.65	Disc Z		99	30.2	113.5	49.0	14.9	128.7	SGW-40781	97.5	29.7	113.9	SGW-40781	
199-D4-22	B8778	144.03	Disc Z		101	30.8	113.2	58.0	17.7	126.4	borehole log (GRAM)	98.0	29.9	114.2	borehole log (GRAM)	
199-D4-23	B8779	140.39	Disc Z		88	26.8	113.6	45.0	13.7	126.7	borehole log (GRAM)	83.0	25.3	115.1	borehole log (GRAM)	
199-D4-24	B8975	143.20	Disc Z		101	30.8	112.4	44.0	13.4	129.8	borehole log (GRAM)	98.5	30.0	113.2	borehole log (GRAM)	
199-D4-25	B8976	143.51	Disc Z		106	32.3	111.2	51.5	15.7	127.8	borehole log (GRAM)	101.5	30.9	112.6	borehole log (GRAM)	
199-D4-26	B8977	143.46	Disc Z		105	32.0	111.5	59.0	18.0	125.5	borehole log (GRAM)	101.0	30.8	112.7	borehole log (GRAM)	
199-D4-27	B8978	143.63	Disc Z		105	32.0	111.6	56.0	17.1	126.6	borehole log (GRAM)	101.0	30.8	112.8	borehole log (GRAM)	
199-D4-28	B8979	143.52	Disc Z		102	31.1	112.4	56.0	17.1	126.5	borehole log (GRAM)	98.5	30.0	113.5	borehole log (GRAM)	
199-D4-29	B8980	143.81	Disc Z		102	31.1	112.7	58.0	17.7	126.1	borehole log (GRAM)	98.0	29.9	113.9	borehole log (GRAM)	
199-D4-3	B8059	143.67	Disc Z		102	31.1	112.6	57.0	17.4	126.3	borehole log (GRAM)	98.0	29.9	113.8	borehole log (GRAM)	
199-D4-30	B8981	143.82	Disc Z		97	29.6	114.3	54.0	16.5	127.4	borehole log (GRAM)	97.0	29.6	114.3	borehole log (GRAM)	
199-D4-31	B8982	143.88	Disc Z		98	29.9	114.0	54.0	16.5	127.4	borehole log (GRAM)	97.0	29.6	114.3	borehole log (GRAM)	
199-D4-32	B8983	143.68	Disc Z		101	30.8	112.9	52.0	15.8	127.8	borehole log (GRAM)	98.0	29.9	113.8	borehole log (GRAM)	
199-D4-33	B8984	143.71	Disc Z		103	31.4	112.3	50.0	15.2	128.5	borehole log (GRAM)	99.5	30.3	113.4	borehole log (GRAM)	
199-D4-34	B8985	143.58	Disc Z		104	31.7	111.9	56.0	17.1	126.5	borehole log (GRAM)	99.5	30.3	113.2	borehole log (GRAM)	
199-D4-35	B8986	143.52	Disc Z		102	31.1	112.4	58.0	17.7	125.8	borehole log (GRAM)	97.0	29.6	114.0	borehole log (GRAM)	
199-D4-36	B8987	143.52	Disc Z		102	31.1	112.4	47.0	14.3	129.2	borehole log (GRAM)	98.0	29.9	113.6	borehole log (GRAM)	
199-D4-37	B8988	143.52	Disc Z		102	31.1	112.4	55.0	16.8	126.8	borehole log (GRAM)	98.0	29.9	113.6	borehole log (GRAM)	
199-D4-38	B8989	142.81	Disc Z		102	31.1	111.7	54.5	16.6	126.2	borehole log (GRAM)	98.0	29.9	112.9	borehole log (GRAM)	
199-D4-39	B8990	143.19	Disc Z		102	31.1	112.1	50.0	15.2	127.9	borehole log (GRAM)	97.5	29.7	113.5	borehole log (GRAM)	
199-D4-4	B8060	143.42	Disc Z		106	32.3	111.1	56.8	17.3	126.1	borehole log (GRAM)	97.5	29.7	113.7	borehole log (GRAM)	
199-D4-40	C3270	143.57	Disc Z		100.6	30.7	112.9	54.0	16.5	127.1	borehole log (GRAM)	98.0	29.9	113.7	borehole log (GRAM)	
199-D4-41	C3271	143.48	Disc Z		101	30.8	112.7	54.0	16.5	127.0	borehole log (GRAM)	98.6	30.1	113.4	borehole log (GRAM)	
199-D4-42	C3272	143.51	Disc Z		104.83	32.0	111.6	47.0	14.3	129.2	borehole log (GRAM)	100.5	30.6	112.9	borehole log (GRAM)	
199-D4-43	C3273	143.46	Disc Z		102	31.1	112.4	54.0	16.5	127.0	borehole log (GRAM)	100.0	30.5	113.0	borehole log (GRAM)	
199-D4-44	C3274	143.34	Disc Z		103	31.4	111.9	56.0	17.1	126.3	borehole log (GRAM)	100.5	30.6	112.7	borehole log (GRAM)	
199-D4-45	C3275	143.28	Disc Z		106	32.3	111.0	55.0	16.8	126.5	borehole log (GRAM)	97.0	29.6	113.7	borehole log (GRAM)	
199-D4-46	C3276	143.17	Disc Z		104	31.7	111.5	53.0	16.2	127.0	borehole log (GRAM)	101.0	30.8	112.4	borehole log (GRAM)	
199-D4-47	C3277	143.16	Disc Z		102.2	31.2	112.0	56.0	17.1	126.1	borehole log (GRAM)	98.0	29.9	113.3	borehole log (GRAM)	
199-D4-48	C3278	143.00	Disc Z		108	32.9	110.1	57.0	17.4	125.6	borehole log (GRAM)	104.0	31.7	111.3	borehole log (GRAM)	
199-D4-49	C3279	143.24	Disc Z		100.1	30.5	112.7	58.0	17.7	125.6	borehole log (GRAM)	98.0	29.9	113.4	borehole log (GRAM)	
199-D4-5	B8061	143.31	Disc Z		101	30.8	112.5	57.0	17.4	125.9	borehole log (GRAM)	96.2	29.3	114.0	borehole log (GRAM)	
199-D4-50	C3280	143.12	Disc Z		98.1	29.9	113.2	57.0	17.4	125.7	borehole log (GRAM)	97.5	29.7	113.4	borehole log (GRAM)	
199-D4-51	C3281	143.15	Disc Z		99.7	30.4	112.8	60.0	18.3	124.9	borehole log (GRAM)	98.0	29.9	113.3	borehole log (GRAM)	
199-D4-52	C3282	143.17	Disc Z		99.7	30.4	112.8	59.5	18.1	125.0	borehole log (GRAM)	98.0	29.9	113.3	borehole log (GRAM)	
199-D4-53	C3283	143.14	Disc Z		97.3	29.7	113.5	54.0	16.5	126.7	borehole log (GRAM)	97.0	29.6	113.6	borehole log (GRAM)	
199-D4-54	C3284	143.17	Disc Z		98.3	30.0	113.2	59.0	18.0	125.2	borehole log (GRAM)	97.5	29.7	113.5	borehole log (GRAM)	
199-D4-55	C3285	143.19	Disc Z		99.5	30.3	112.9	61.0	18.6	124.6	borehole log (GRAM)	98.0	29.9	113.3	borehole log (GRAM)	
199-D4-56	C3286	143.10	Disc Z		97.5	29.7	113.4	53.0	16.2	126.9	borehole log (GRAM)	97.2	29.6	113.5	borehole log (GRAM)	
199-D4-57	C3287	143.16	Disc Z		98.15	29.9	113.2	X	X	X	N/A	98.2	29.9	113.2	borehole log (GRAM)	Hf/RE not identified in log
199-D4-58	C3288	143.34	Disc Z		106.69	32.5	110.8	X	X	X	N/A	102.7	31.3	112.0	borehole log (GRAM)	Hf/RE not identified in log
199-D4-59	C3289	143.22	Disc Z		102.2	31.2	112.1	X	X	X	N/A	100.0	30.5	112.7	borehole log (GRAM)	Hf/RE not identified in log
199-D4-6	B8064	143.28	Disc Z		101	30.8	112.5	53.5	16.3	127.0	borehole log (GRAM)	96.0	29.3	114.0	borehole log (GRAM)	
199-D4-60	C3290	143.18	Disc Z		101	30.8	112.4	62.0	18.9	124.3	borehole log (GRAM)	101.0	30.8	112.4	borehole log (GRAM)	
199-D4-61	C3291	143.10	Disc Z		102	31.1	112.0	62.0	18.9	124.2	borehole log (GRAM)	102.0	31.1	112.0	borehole log (GRAM)	
199-D4-62	C3292	143.19	Disc Z		109.7	33.4	109.8	61.0	18.6	124.6	borehole log (GRAM)	109.0	33.2	110.0	borehole log (GRAM)	
199-D4-63	C3293	143.29	Disc Z		111.2	33.9	109.4	61.0	18.6	124.7	borehole log (GRAM)	110.0	33.5	109.8	borehole log (GRAM)	
199-D4-64	C3294	143.32	Disc Z		111	33.8	109.5	65.0	19.8	123.5	borehole log (GRAM)	110.5	33.7	109.6	borehole log (GRAM)	
199-D4-65	C3295	143.32	Disc Z		112	34.1	109.2	62.0	18.9	124.4	borehole log (GRAM)	111.0	33.8	109.5	borehole log (GRAM)	
199-D4-66	C3296	143.33	Disc Z		110.2	33.6	109.7	62.5	19.1	124.3	borehole log (GRAM)	110.6	33.7	109.6	borehole log (GRAM)	
199-D4-67	C3297	143.28	Disc Z		111	33.8	109.4	61.0	18.6	124.7	borehole log (GRAM)	111.0	33.8	109.4	borehole log (GRAM)	
199-D4-68	C3298	143.07	Disc Z		110.55	33.7	109.4	60.0	18.3	124.8	SGW-40781	112.0	34.1	108.9	SGW-40781	
199-D4-69	C3299	143.08	Disc Z		108.24	33.0	110.1	59.0	18.0	125.1	SGW-40781	110.0	33.5	109.6	SGW-40781	
199-D4-7	B8065	143.36	Disc Z		96.0	29.3	114.1	56.0	17.1	126.3	borehole log	NDE	NDE	<114.1	N/A	
199-D4-70	C3300	143.13	Disc Z		106.93	32.6	110.5	61.0	18.6	124.5	SGW-40781	110.5	33.7	109.5	SGW-40781	
199-D4-71	C3301	143.12	Disc Z		109.41	33.3	109.8	60.0	18.3	124.8	SGW-40781	110.5	33.7	109.4	SGW-40781	
199-D4-72	C3302	143.00	Disc Z		109.95	33.5	109.5	59.0	18.0	125.0	SGW-40781	111.0	33.8	109.2	SGW-40781	
199-D4-73	C3303	143.15	Disc Z		110.5	33.7	109.5	60.5	18.4	124.7	SGW-40781	111.5	34.0	109.2	SGW-40781	
199-D4-74	C3304	142.90	Disc Z		110.94	33.8	109.1	60.0	18.3	124.6	SGW-40781	111.5	34.0	108.9	SGW-40781	
199-D4-75	C3305	143.07	Disc Z		111.7	34.0	109.0	59.5	18.1	124.9	SGW-40781	113.5	34.6	108.5	SGW-40781	
199-D4-76	C3306	142.97	Disc Z		111.15	33.9	109.1	60.5	18.4	124.5	SGW-40781	112.5	34.3	108.7	SGW-40781	
199-D4-77	C3307	142.93	Disc Z		110.01	33.5	109.4	60.5	18.4	124.5	SGW-40781	111.0	33.8	109.1	SGW-40781	
199-D4-78	C3308	142.98	Disc Z		113	34.4	108.5	61.0	18.6	124.4	SGW-40781	112.0	34.1	108.8	SGW-40781	
199-D4-79	C3309	143.63	Disc Z		115.1	35.1	108.5	63.0	19.2	124.4	SGW-40781	113.0	34.4	109.2	SGW-40781	
199-D4-8	B8066	143.34	Disc Z		99	30.2	113.2	55.5	16.9	126.4	borehole log (GRAM)	96.0	29.3	114.1	borehole log (GRAM)	
199-D4-80	C3310	143.43	Disc Z		113	34.4	109.0	61.0	18.6	124.8	SGW-40781	112.8	34.4	109.0	SGW-40781	
199-D4-81	C3311	143.33	Disc Z		112.8	34.4	108.9	61.5	18.7	124.6	SGW-40781	112.5	34.3	109.1	SGW-40781	
199-D4-82	C3313	143.23	Disc Z		115	35.1	108.2	65.0	19.8	123.4	SGW-40781	113.5	34.6	108.6	SGW-40781	
199-D4-83	C3315	142.89	Disc Z		98	29.9	113.0	X	X	X	N/A	97.0	29.6	113.3	borehole log (GRAM)	Hf/RE not identified in log
199-D4-84	C3316	143.63	Disc Z		103.5	31.5	112.1	58.0	17.7	125.9	borehole log (GRAM)	101.5	30.9	112.7	borehole log (GRAM)	
199-D4-85	C3317	143.31	Disc Z		115	35.1	108.3	X	X	X	N/A	111.0	33.8	109.5	borehole log (GRAM)	Hf/RE not identified in log
199-D4-86	C3318	142.60	Disc Z		112.5	34.3	108.3	97.0	29.6	113.0	borehole log (GRAM)	110.0	33.5	109.1	borehole log (GRAM)	
199-D4-87	C3799	143.44	Disc Z		89.54	27.3	116.2	X	X	X	N/A	97.2	29.6	113.8	SGW-40781	Hf/RE not identified in log
199-D4-88	C3800	143.40	Disc Z		98.0	29.9	113.5	X	X	X	N/A	NDE	NDE	<113.5	N/A	
199-D4-89	C3801	143.53	Disc Z		95.42	29.1	114.4	65.0	19.8	123.7	SGW-40781	97.0	29.6	114.0	SGW-40781	
199-D4-9	B8067	143.60	Disc Z		97.5	29.7	113.9	57.0	17.4	126.2	borehole log (GRAM)	96.5	29.4	114.2	borehole log (GRAM)	
199-D4-90	C4686	143.45	Disc Z		101.5	30.9	112.5	57.0	17.4	126.1	borehole log	99.0	30.2	113.3	borehole log	
199-D4-91	C4687	143.45	Disc Z		99.7	30.4	113.1	56.2	17.1	126.3	borehole log	97.3	29.6	113.8	borehole log	
199-D4-92	C4688	143.52	Disc Z		106.6	32.5	111.0	56.7	17.3	126.2	borehole log	102.5	31.2	112.3	borehole log	
199-D4-93	C4689	143.33	Disc Z		105.3	32.1	111.2	51.0	15.5	127.8	borehole log	101.8	31.0	112.3	borehole log	
199-D4-94	C7075	143.33	Brass Survey Marker		102.7	31.3	112.0	57.0	17.4	126.0	borehole log (GRAM)	98.5	30.0	113.3	borehole log (GRAM)	
199-D4-95	C7083	143.37	Disc Z		121.4	37.0	106.4	67	20.4	122.9	borehole log (GRAM)	115.5	35.2	108.2	borehole log (GRAM)	
199-D4-96	C7084	144.20	Disc Z		106.5	32.5	111.7	59	18.0	126.2	borehole log (GRAM)	100	30.5	113.7	borehole log (GRAM)	
199-D4-97	C7085	143.87	Disc Z		110	33.5	110.3	60	18.3	125.6	borehole log (GRAM)	104.5	31.9	112.0	borehole log (GRAM)	
199-D4-98	C7086	143.10	Disc Z		111	33.8	109.3	59	18.0	125.1	borehole log (GRAM)	102.8	31.3	111.8	borehole log (GRAM)	
199-D4-99	C7087	143.20	Disc Z		116.2	35.4	107.8	61	18.6	124.6	borehole log (GRAM)	109.5	33.4	109.8	borehole log (GRAM)	

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Depth (m)	Elev bottom (m)	Depth to RE (ft)	Depth to RE (m)	Hf/Re Elev. (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev. (m)	RUM Depth Data Source	Notes
199-D5-100	C7516	143.47	Brass Survey Marker - Final Survey Report		28.6	8.7	134.8	NDE	NDE	<134.6	N/A	NDE	NDE	<134.6	N/A	Abandoned horizontal well reached 28.6 vertical ft depth
199-D5-101	C7583	143.83	Disc Z		114.3	34.8	109.0	X	X	X	N/A	108	32.9	110.9	borehole log (GRAM)	
199-D5-102	C5398	143.81	Disc Z		113.5	34.6	109.2	48.5	14.8	129.0	borehole log (GRAM)	108.0	32.9	110.9	SGW-40781	
199-D5-103	C5399	143.61	Disc Z		117	35.7	107.9	60.0	18.3	125.3	SGW-40781	110.7	33.7	109.9	SGW-40781	
199-D5-104	C5400	144.05	Disc Z		116	35.4	108.7	X	X	X	N/A	110.3	33.6	110.4	SGW-40781	Hf/RE not identified in log
199-D5-106	C5511	143.67	Disc Z		107.2	32.7	111.0	50.0	15.2	128.4	SGW-40781	NDE	NDE	<111.0	N/A	
199-D5-107	C5577	144.09	Disc Z		104	31.7	112.4	X	X	X	N/A	101.0	30.8	113.3	borehole log (GRAM)	Hf/RE not identified in log
199-D5-108	C5578	144.38	Disc Z		106	32.3	112.1	75.0	22.9	121.5	N/A	103.0	31.4	113.0	N/A	
199-D5-109	C5579	144.02	Disc Z		104.1	31.7	112.3	73.0	22.3	121.8	SGW-40781	104.1	31.7	112.3	SGW-40781	
199-D5-110	C5580	144.12	Disc Z		102.5	31.2	112.9	68.0	20.7	123.4	SGW-40781	100.5	30.6	113.5	SGW-40781	
199-D5-111	C5581	144.11	Disc Z		101.7	31.0	113.1	70.0	21.3	122.8	SGW-40781	100.0	30.5	113.6	SGW-40781	
199-D5-112	C5582	143.99	Disc Z		93.85	28.6	115.4	68.0	20.7	123.3	SGW-40781	NDE	NDE	<115.4	N/A	SGW-40781 RUM elev. in m amsl is in error (should be >28.6)
199-D5-113	C5583	143.99	Disc Z		102	31.1	112.9	68.0	20.7	123.3	SGW-40781	100.5	30.6	113.4	SGW-40781	
199-D5-114	C5584	144.36	Disc Z		104.3	31.8	112.6	73.0	22.3	122.1	SGW-40781	104.3	31.8	112.6	SGW-40781	
199-D5-115	C5585	144.39	Disc Z		105	32.0	112.4	73.0	22.3	122.1	SGW-40781	104.0	31.7	112.7	SGW-40781	
199-D5-116	C5586	144.42	Disc Z		104.5	31.9	112.6	74.0	22.6	121.9	SGW-40781	104.0	31.7	112.7	SGW-40781	
199-D5-117	C5587	144.39	Disc Z		91.6	27.9	116.5	73.5	22.4	122.0	SGW-40781	NDE	NDE	<116.5	N/A	
199-D5-118	C5588	144.37	Disc Z		104.5	31.9	112.5	73.5	22.4	122.0	SGW-40781	104.0	31.7	112.7	SGW-40781	
199-D5-119	C5933	144.01	Disc Z		113.6	34.6	109.4	74.0	22.6	121.5	borehole log (GRAM)	110.0	33.5	110.5	borehole log (GRAM)	
199-D5-12	A4569	143.74	TOC (144.168 (m) - 1.4 ft 5U		91	27.7	116.0	48.0	14.6	129.1	SGW-40781	89.0	27.1	116.6	SGW-40781	RE depth may not be accurate (from driller's log)
199-D5-120	C5934	143.66	Disc Z		112.4	34.3	109.4	53.0	16.2	127.5	borehole log (GRAM)	108.0	32.9	110.7	borehole log (GRAM)	
199-D5-121	C5935	143.77	Disc Z		111.8	34.1	109.7	63.0	19.2	124.6	borehole log (GRAM)	107.0	32.6	111.2	borehole log (GRAM)	
199-D5-122	C5936	143.67	Disc Z		112.3	34.2	109.4	74.0	22.6	121.1	borehole log (GRAM)	107.7	32.8	110.8	borehole log (GRAM)	
199-D5-123	C6387	144.17	Disc Z		123.7	37.7	106.5	X	X	X	N/A	120.0	36.6	107.6	borehole log	
199-D5-125	C6389	143.99	Disc Z		111.8	34.1	109.9	75.0	22.9	121.1	borehole log (GRAM)	106.8	32.6	111.4	borehole log (GRAM)	
199-D5-126	C6390	143.63	Disc Z		114.1	34.8	108.8	X	X	X	N/A	110.0	33.5	110.1	borehole log	
199-D5-127	C7591	143.83	Disc Z		109	33.2	110.6	64	19.5	124.3	borehole log (GRAM)	106	32.3	111.5	borehole log (GRAM)	
199-D5-128	C7612	143.15	Disc Z		106.6	32.5	110.7	62	18.9	124.3	borehole log (GRAM)	99	30.2	113.0	borehole log (GRAM)	
199-D5-129	C7600	143.34	Disc Z		113.5	34.6	108.7	60	18.3	125.1	borehole log (GRAM)	105.5	32.2	111.2	borehole log (GRAM)	
199-D5-13	A4570	143.65	Disc Z		97.3	29.7	114.0	51.0	15.5	128.1	borehole log	91.0	27.7	115.9	borehole log	
199-D5-130	C7590	142.40	Disc Z		101.4	30.9	111.5	48	14.6	127.8	borehole log (GRAM)	95	29.0	113.4	borehole log (GRAM)	
199-D5-131	C7601	143.75	Disc Z		116.4	35.5	108.3	55	16.8	127.0	borehole log (GRAM)	109	33.2	110.5	borehole log (GRAM)	
199-D5-132	C7622	144.36	Disc Z		112	34.1	110.2	51	15.5	128.8	borehole log (GRAM)	106	32.3	112.1	Geologic & geophysical logs (Williams)	
199-D5-133	C7621	143.44	Disc Z		112	34.1	109.3	53.0	16.2	127.3	borehole log (GRAM)	104	31.7	111.7	geophysical log (Williams)	
199-D5-134	C7624	143.68	Disc Z		270	82.3	61.4	53.0	16.2	127.5	borehole log (Williams)	108.5	33.1	110.6	borehole log (Williams)	
199-D5-14	A4571	143.85	Disc Z		101.0	30.8	113.1	X	X	X	N/A	NDE	NDE	<113.1	N/A	
199-D5-140	C7866	143.95	Disc Z		112.9	34.4	109.5	48	14.6	129.3	borehole log (GRAM)	108	32.9	111.0	borehole log (GRAM)	
199-D5-141	C7625	144.21	Disc Z		316.7	96.5	47.7	59	18.0	126.2	borehole log (Williams)	112	34.1	110.1	borehole log (Williams)	
199-D5-142	C7857	143.16	Disc Z		89.8	27.4	115.8	45	13.7	129.4	borehole log (Williams)	NDE	NDE	<115.8	borehole log (Williams)	
199-D5-143	C8375	143.71	Disc Z		118	36.0	107.7	57	17.4	126.3	borehole log (Williams)	105	32.0	111.7	borehole and geophysical logs (Williams)	
199-D5-144	C8668	143.77	Disc Z		115.6	35.2	108.5	75	22.9	120.9	borehole and geophysical logs (Williams)	108.5	33.1	110.7	borehole log	
199-D5-15	A4572	143.90	Disc Z		101.8	31.0	112.9	46.0	14.0	129.9	borehole log (GRAM)	101.0	30.8	113.1	borehole log (GRAM)	
199-D5-16	A4573	144.45	Disc Z		98.0	29.9	114.6	X	X	X	N/A	NDE	NDE	<114.6	N/A	
199-D5-17	A4574	143.26	Disc Z		115	35.1	108.2	X	X	X	N/A	103.5	31.5	111.7	borehole log (GRAM)	Hf/RE not identified in log
199-D5-18	A4575	142.58	Disc Z		100.5	30.6	111.9	X	X	X	N/A	99.0	30.2	112.4	SGW-40781	
199-D5-19	A4576	141.99	Disc Z		95	29.0	113.0	72.0	21.9	120.0	borehole and geophysical logs (Williams)	94.5	28.8	113.2	SGW-40781	Hf/RE contact is questionable
199-D5-20	A4577	142.97	Disc Z		103.3	31.5	111.5	X	X	X	N/A	101.0	30.8	112.2	SGW-40781	
199-D5-32	C4185	143.14	Disc Z		105.78	32.2	110.9	X	X	X	N/A	105.0	32.0	111.1	SGW-40781	
199-D5-33	C4186	143.41	Disc Z		104.18	31.8	111.7	55.0	16.8	126.6	SGW-40781	103.0	31.4	112.0	SGW-40781	
199-D5-34	C4187	144.52	Disc Z		107.45	32.8	111.8	54.0	16.5	128.1	SGW-40781	105.0	32.0	112.5	SGW-40781	
199-D5-36	B8744	143.12	Disc Z		103	31.4	111.7	47.0	14.3	128.8	SGW-40781	98.0	29.9	113.2	SGW-40781	
199-D5-37	B8745	143.07	Disc Z		99.5	30.3	112.7	46.0	14.0	129.0	SGW-40781	94.5	28.8	114.3	SGW-40781	
199-D5-38	B8747	143.96	Disc Z		110	33.5	110.4	54.0	16.5	127.5	SGW-40781	105.0	32.0	112.0	SGW-40781	
199-D5-39	B8748	143.98	Disc Z		108	32.9	111.1	50.0	15.2	128.7	Borehole log	103.0	31.4	112.6	SGW-40781	some uncertainty in Hf/RE contact
199-D5-40	B8749	143.98	Disc Z		109.5	33.4	110.6	74.0	22.6	121.4	SGW-40781	106.0	32.3	111.7	SGW-40781	
199-D5-41	B8751	143.43	Disc Z		109.5	33.4	110.1	50.0	15.2	128.2	SGW-40781	104.5	31.9	111.6	SGW-40781	
199-D5-42	B8752	143.85	Disc Z		109.5	33.4	110.5	48.0	14.6	129.2	SGW-40781	106.0	32.3	111.5	SGW-40781	
199-D5-43	B8753	143.84	Disc Z		112.5	34.3	109.6	66.0	20.1	123.7	borehole log (GRAM)	107.0	32.6	111.2	SGW-40781	
199-D5-44	B8754	142.66	Disc Z		100	30.5	112.2	47.5	14.5	128.2	SGW-40781	95.2	29.0	113.6	SGW-40781	
199-D5-92	C4583	142.48	Disc Z		99.1	30.2	112.3	55.0	16.8	125.7	borehole log (GRAM)	98.0	29.9	112.6	borehole log (GRAM)	
199-D5-93	C4672	143.61	Disc Z		109	33.2	110.4	X	X	X	N/A	109.0	33.2	110.4	SGW-40781	Hf/RE not identified in log
199-D5-97	C5390	143.72	Disc Z		113.5	34.6	109.1	X	X	X	N/A	109.0	33.2	110.5	SGW-40781	Hf/RE not identified in log
199-D5-98	C5391	142.97	Disc Z		113.4	34.6	108.4	57.0	17.4	125.6	SGW-40781	108.0	32.9	110.1	SGW-40781	
199-D5-99	C5392	143.99	Disc Z		115	35.1	108.9	X	X	X	N/A	109.5	33.4	110.6	SGW-40781	Hf/RE not identified in log
199-D6-1	C7592	144.22	Disc Z		107	32.6	111.6	62	18.9	125.3	borehole log (GRAM)	101	30.8	113.4	borehole log (GRAM)	
199-D6-2	C7607	133.72	Disc Z		80.4	24.5	109.2	44	13.4	120.3	borehole log (GRAM)	77	23.5	110.3	borehole log (GRAM)	
199-D6-3	C7623	143.93	Brass Survey Marker		110.5	33.7	110.2	60	18.3	125.6	borehole log (GRAM)	101.6	31.0	113.0	borehole log (GRAM)	
199-D7-3	C7599	135.38	Disc Z		89.3	27.2	108.2	NP	NP	NP	N/A	84	25.6	109.8	borehole log (GRAM)	RE not present
199-D7-4	C7594	133.76	Disc Z		77.5	23.6	110.1	44	13.4	120.3	borehole log (GRAM)	74	22.6	111.2	borehole log (GRAM)	
199-D7-5	C7608	131.43	Disc Z		63.5	19.4	112.1	NP	NP	NP	N/A	54	16.5	115.0	borehole log (GRAM)	
199-D7-6	C7611	125.01	Disc Z		43.8	13.4	111.7	30	9.1	115.9	N/A	36.5	11.1	113.9	borehole log (GRAM)	
199-D8-101	C7852	136.38	Disc Z		72	21.9	114.4	X	X	X	N/A	NDE	NDE	<114.4	N/A	RE not determinable
199-D8-4	A4579	143.22	Disc Z		103.4	31.5	111.7	X	X	X	N/A	103.4	31.5	111.7	SGW-40781	Hf/RE not identified in log
199-D8-5	A4580	138.17	Disc Z		87.2	26.6	111.6	44.4	13.5	124.6	borehole log (GRAM)	83.0	25.3	112.9	borehole log (GRAM)	
199-D8-53	A4581	132.89	Disc Z		69.44	21.2	111.7	40.0	12.2	120.7	borehole log (GRAM)	69.0	21.0	111.9	SGW-40781	
199-D8-54A	A4582	134.93	Disc Z		78	23.8	111.2	65.0	19.8	115.1	borehole log (GRAM)	76.0	23.2	111.8	SGW-40781	
199-D8-54B	A4583	134.92	Disc Z		144	43.9	91.0	35.0	10.7	124.3	borehole log (GRAM)	76.0	23.2	111.8	SGW-40781	
199-D8-55	A4584	135.60	Disc Z		74	22.6	113.0	35.0	10.7	124.9	SGW-40781	69.0	21.0	114.6	SGW-40781	
199-D8-68	B2772	134.82	Disc Z - Final Survey		80	24.4	110.4	NP	NP	NP	N/A	75.0	22.9	112.0	SGW-40781	RE not present
199-D8-69	B2773	130.53	Disc Z		62	18.9	111.6	NP	NP	NP	N/A	57.5	17.5	113.0	SGW-40781	RE not present
199-D8-70	B2774	131.95	Disc Z		74	22.6	109.4	NP	NP	NP	N/A	71.0	21.6	110.3	SGW-40781	RE not present
199-D8-71	B2775	133.72	Disc Z		81	24.7	109.0	NP	NP	NP	N/A	77.0	23.5	110.2	SGW-40781	RE not present

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Depth (m)	Elev Bottom (m)	Depth to RS (ft)	Depth to RE (m)	Hf/Re Elev (m)	Ringold E Depth Data Source	Depth to SUM (ft)	Depth to SUM (m)	SUM Elev (m)	SUM Depth Data Source	Notes
199-D8-72	C3829	140.75	Disc Z		95.02	29.0	111.8	51.5	15.7	125.0	borehole log (GRAM)	93.5	28.5	112.2	borehole log (GRAM)	
199-D8-73	C4474	141.79	Disc Z		92.62	28.2	113.6	52.5	16.0	125.8	borehole log (GRAM)	89.5	27.3	114.5	borehole log (GRAM)	
199-D8-88	C4536	141.10	Disc Z		97.87	29.8	111.3	52.0	15.8	125.2	borehole log (GRAM)	96.0	29.3	111.8	borehole log (GRAM)	
199-D8-89	C7091	138.09	Disc Z		84.8	25.8	112.2	52	15.8	122.2	borehole log (GRAM)	78	23.8	114.3	borehole log (GRAM)	
199-D8-90	C7092	125.96	Disc Z		56.4	17.2	108.8	NP	NP	NP	N/A	51	15.5	110.4	borehole log (GRAM)	RE not present
199-D8-91	C7093	123.74	Disc Z		46.5	14.2	109.6	NP	NP	NP	N/A	42	12.8	110.9	borehole log (GRAM)	RE not present
199-D8-93	C7095	120.40	Disc Z		21	6.4	114.0	X	X	X	N/A	16	4.9	115.5	borehole log (GRAM)	Hf/RE not identified in log
199-D8-94	C7096	120.29	Disc Z		31.3	9.5	110.7	X	X	X	N/A	26.3	8.0	112.3	borehole log (GRAM)	Hf/RE not identified in log
199-D8-95	C7589	141.81	Disc Z		104.4	31.8	110.0	58	17.7	124.1	borehole log (GRAM)	97	29.6	112.2	borehole log (GRAM)	
199-D8-96	C7603	140.48	Disc Z		101.5	30.9	109.5	65	19.8	120.7	borehole log (GRAM)	97	29.6	110.9	borehole log (GRAM)	
199-D8-97	C7582	140.85	Disc Z		104.3	31.8	109.1	X	X	X	N/A	92.5	28.2	112.7	borehole log (GRAM)	
199-D8-98	C7602	138.03	Disc Z		91.4	27.9	110.2	NP	NP	NP	N/A	85	25.9	112.1	borehole log (GRAM)	RE not present
199-D8-99	C7593	136.54	Disc Z		88.9	27.1	109.4	57	17.4	119.2	borehole log (GRAM)	84	25.6	110.9	borehole log (GRAM)	
199-F1-2	A4586	121.47	Disc Z		37.5	11.4	110.0	NP	NP	NP	N/A	35.0	10.7	110.8	borehole log (GRAM)	RE not present
199-F2-3	A5642	121.84	TOC (122.753 (m) - 3.0 ft 5U Assumed		48	14.6	107.2	X	X	X	N/A	46.7	14.2	107.6	well summary sheet (GRAM)	Hf/RE not identified in log
199-F5-1	A4587	124.27	TOC (124.574 (m) - 1.0 ft 5U		67	20.4	103.8	X	X	X	N/A	62.0	18.9	105.4	well summary sheet (GRAM)	Hf/RE not identified in log
199-F5-2	A4588	126.47	TOC (126.895 (m) - 1.4 ft 5U		100	30.5	96.0	75.0	22.9	103.6	As-built (GRAM)	76.0	23.2	103.3	well summary sheet (GRAM)	Possible remnant of RE
199-F5-3	A4589	125.13	TOC (125.56 (m) - 1.4 ft 5U		90	27.4	97.7	NP	NP	NP	N/A	65	19.8	105.3	well summary sheet (M. Hartman)	
199-F5-4	A4590	126.47	TOC (126.642 (m) - 0.55 ft 5U		115	35.1	91.4	X	X	X	N/A	50.0	15.2	111.2	well summary sheet (M. Hartman)	Hf/RE not identified in log
199-F5-43A	A4592	120.61	Disc Z		49.7	15.1	105.5	X	X	X	N/A	47.5	14.5	106.1	borehole log (GRAM)	Hf/RE not identified in log
199-F5-43B	A4593	120.43	Disc Z		190	57.9	62.5	X	X	X	N/A	43	13.1	107.3	well summary sheet (M. Hartman)	Hf/RE not identified in log
199-F5-45	A4595	126.37	Disc Z		52.6	16.0	110.3	X	X	X	N/A	51.5	15.7	110.7	borehole log (GRAM)	Hf/RE not identified in log
199-F5-46	A4596	127.19	Disc Z		57	17.4	109.8	X	X	X	N/A	56.5	17.2	110.0	borehole log (GRAM)	Hf/RE not identified in log
199-F5-47	A4597	127.84	Disc Z		63.5	19.4	108.5	X	X	X	N/A	62.5	19.1	108.8	borehole log (GRAM)	Hf/RE not identified in log
199-F5-48	A4598	127.29	Disc Z		55	16.8	110.5	18.0	5.5	121.8	borehole log (GRAM)	52.0	15.8	111.4	borehole log (GRAM)	Possible remnant of RE
199-F5-49	A5680	126.42	Disc Z		35.7	10.9	115.5	x	x	x	Borehole log, GRAM, Inc. interpretation	NDE	NDE	NDE	Borehole log, GRAM, Inc. interpretation	Possible remnant of Ringold unit E.
199-F5-5	A4599	125.88	TOC - 3 ft 5U	assumed stickup	100	30.5	95.4	X	X	X	N/A	72	21.9	103.9	drillers log (M. Hartman)	Hf/RE not identified in log
199-F5-52	C7790	127.62	Disc Z		73.8	22.5	105.1	NP	NP	NP	N/A	66	20.1	107.5	borehole log (GRAM)	RE not present
199-F5-53	C7791	125.11	Disc Z		116	35.4	89.7	NP	NP	NP	N/A	54.5	16.6	108.5	borehole log (GRAM)	RE not present
199-F5-54	C7792	126.62	Disc Z		77.4	23.6	103.0	NP	NP	NP	N/A	69.8	21.3	105.3	borehole log (GRAM)	RE not present
199-F5-55	C7970	126.81	Disc Z		50	15.2	111.6	X	X	X	N/A	NDE	NDE	<111.6	N/A	Hf/RE not identified in log
199-F5-56	C7972	127.22	Disc Z		50.9	15.5	111.7	X	X	X		NDE	NDE	<111.7	N/A	Hf/RE not identified in log
199-F5-6	A4600	126.55	TOC (127.036 (m) - 1.6 ft 5U	Based on 1997 RPGW	192	58.5	68.0	X	X	X	N/A	69.0	21.0	105.5	well summary sheet (M. Hartman)	Hf/RE not identified in log
199-F6-1	A4602	123.60	Disc Z		53	16.2	107.4	X	X	X	N/A	50.0	15.2	108.4	borehole log (GRAM)	Hf/RE not identified in log
199-F7-1	A4603	118.66	TOC (119.349 (m) - 2.27 ft 5U	Based on 1997 RPGW	150	45.7	72.9	X	X	X	N/A	30.0	9.1	109.5	well summary sheet (M. Hartman)	Hf/RE not identified in log
199-F7-3	A4605	120.49	Disc Z		33	10.1	110.4	17.0	5.2	115.3	borehole log (GRAM)	29.0	8.8	111.7	borehole log (GRAM)	Possible remnant of Ringold Unit E
199-F8-1	A4606	124.06	TOC (124.729 (m) - 2.2 ft 5U		57	17.4	106.7	25.0	7.6	116.4	borehole log (GRAM)	45.0	13.7	110.3	well summary sheet (M. Hartman)	Possible remnant of Ringold Unit E
199-F8-2	A4607	125.45	TOC (126.22 (m) - 2.54 ft 5U	Based on 1994 RPGW	55	16.8	108.7	X	X	X	N/A	54.0	16.5	109.0	well summary sheet (M. Hartman)	Hf/RE not identified in log
199-F8-3	A4608	121.95	Disc Z		34	10.4	111.6	X	X	X	N/A	30.0	9.1	112.8	borehole log (GRAM)	Hf/RE not identified in log
199-F8-4	A4609	125.37	Disc Z		47.5	14.5	110.9	X	X	X	N/A	46.5	14.2	111.2	borehole log (GRAM)	Hf/RE not identified in log
199-F8-7	C6834	123.17	Disc Z		35	10.7	112.5	X	X	X	N/A	32.0	9.8	113.4	borehole log (GRAM)	Hf/RE not identified in log
199-H1-1	C7585	123.52	Disc Z		41.1	12.5	111.0	NP	NP	NP	N/A	33.8	10.3	113.2	borehole log (GRAM)	RE not present
199-H1-2	C7584	128.13	Disc Z		54.5	16.6	111.5	NP	NP	NP	N/A	45.6	13.9	114.2	borehole log (GRAM)	RE not present
199-H1-20	C7113	121.11	Disc Z		57.7	17.6	103.5	NP	NP	NP	N/A	38	11.6	109.5	borehole log (GRAM)	RE not present
199-H1-21	C7111	121.38	Disc Z		39.8	12.1	109.3	16.0	4.9	116.5	borehole log (GRAM)	33	10.1	111.3	borehole log (GRAM)	
199-H1-25	C7478	122.96	Disc Z		39.5	12.0	110.9	X	X	X	N/A	32	9.8	113.2	borehole log (GRAM)	
199-H1-27	C7480	123.57	Disc Z		41.2	12.6	111.0	NP	NP	NP	N/A	35	10.7	112.9	borehole log (GRAM)	RE not present
199-H1-3	C7581	128.56	Disc Z		48.5	14.8	113.8	X	X	X	N/A	42	12.8	115.8	borehole log (GRAM)	
199-H1-32	C7100	127.46	Disc Z		51.4	15.7	111.8	X	X	X	N/A	43	13.1	114.4	borehole log (GRAM)	
199-H1-33	C7105	126.09	Disc Z		45	13.7	112.4	X	X	X	N/A	39	11.9	114.2	borehole log (GRAM)	
199-H1-34	C7108	125.36	Disc Z		44.9	13.7	111.7	X	X	X	N/A	38	11.6	113.8	borehole log (GRAM)	
199-H1-35	C7106	125.57	Disc Z		48	14.6	110.9	X	X	X	N/A	41	12.5	113.1	borehole log (GRAM)	
199-H1-36	C7102	125.46	Disc Z		46.5	14.2	111.3	X	X	X	N/A	39	11.9	113.6	borehole log (GRAM)	
199-H1-37	C7099	126.05	Disc Z		46.4	14.1	111.9	NP	NP	NP	N/A	46.4	14.1	111.9	borehole log (GRAM)	RE not present
199-H1-38	C7098	126.24	Disc Z		47.5	14.5	111.8	NP	NP	NP	N/A	42	12.8	113.4	borehole log (GRAM)	RE not present
199-H1-39	C7109	125.57	Disc Z		44	13.4	112.2	NP	NP	NP	N/A	38	11.6	114.0	borehole log (GRAM)	RE not present
199-H1-4	C7604	127.88	Disc Z		48.5	14.8	113.1	NP	NP	NP	N/A	41	12.5	115.4	borehole log (GRAM)	RE not present
199-H1-40	C7104	125.95	Disc Z		44.4	13.5	112.4	NP	NP	NP	N/A	39.5	12.0	113.9	borehole log (GRAM)	RE not present
199-H1-42	C7107	124.62	Disc Z		44	13.4	111.2	NP	NP	NP	N/A	41	12.5	112.1	borehole log (GRAM)	RE not present
199-H1-43	C7492	125.35	Disc Z		49	14.9	110.4	NP	NP	NP	N/A	43	13.1	112.2	borehole log (GRAM)	RE not present
199-H1-45	C7477	127.90	Disc Z		61.08	18.6	109.3	X	X	X	borehole log (GRAM)	56	17.1	110.8	borehole log (GRAM)	Well data not conclusive. Adjacent well 699-97-41 detected no RE. Both wells had minimal drawdown on development
199-H1-5	C7610	123.99	Disc Z		46.5	14.2	109.8	15	4.6	119.4	borehole log (GRAM)	42.5	13.0	111.0	borehole log (GRAM)	
199-H1-6	C7606	125.44	Disc Z		47	14.3	111.1	NP	NP	NP	borehole log (GRAM)	36.5	11.1	114.3	borehole log (GRAM)	RE not present
199-H1-7	C7630	124.80	Disc Z		37	11.3	113.5	NP	NP	NP	borehole log (GRAM)	31.5	9.6	115.2	borehole log (GRAM)	RE not present
199-H2-1	C7631	123.35	Disc Z		189	57.6	65.7	NP	NP	NP	borehole log (Williams)	35	10.7	112.7	borehole log (Williams)	RE not present
199-H3-1	A4610	129.13	TOC (129.648 (m) - 1.7 ft 5U		75	22.9	106.3	NP	NP	NP	N/A	56.0	17.1	112.1	Drill log; PNL-6728	Hf/RE not identified in log
199-H3-10	C7640	128.25	Disc Z		230.8	70.3	57.9	NP	NP	NP	N/A	55.0	16.8	111.5	borehole log (Williams)	
199-H3-11	C7863	130.21	Disc Z		54.6	16.6	113.6	NP	NP	NP	borehole log (GRAM)	NDE	NDE	<113.4	N/A	RE not present
199-H3-25	C7110	127.79	Disc Z		61.3	18.7	109.1	NP	NP	NP	N/A	56	17.1	110.7	borehole log (GRAM)	RE not present
199-H3-26	C7115	127.30	Disc Z		56.3	17.2	110.1	NP	NP	NP	borehole log (GRAM)	NDE	NDE	<110.1	N/A	RE not present
199-H3-27	C7114	128.36	Disc Z		61.9	18.9	109.5	NP	NP	NP	N/A	57	17.4	111.0	borehole log (GRAM)	RE not present
199-H3-2A	A4611	128.05	Disc Z		56	17.1	111.0	NP	NP	NP	N/A	54.0	16.5	111.6	Geo log; PNL-6728	Hf/RE not identified in log
199-H3-2B	A4612	128.01	TOC (128.716 (m) - 2.3 ft 5U		58	17.7	110.3	NP	NP	NP	N/A	57.0	17.4	110.6	Geo log; PNL-6728	Hf/RE not identified in log
199-H3-2C	A4613	128.02	TOC (128.662 (m) - 2.1 ft 5U		155	47.2	80.8	NP	NP	NP	N/A	55.0	16.8	111.3	Geo log; PNL-6728	Hf/RE not identified in log
199-H3-3	B2778	128.05	Disc Z		53.6	16.3	111.7	NP	NP	NP	N/A	49.0	14.9	113.1	Mehlhorn; BHI-00953	RE not present
199-H3-4	B2779	126.46	Disc Z		49	14.9	111.5	NP	NP	NP	N/A	45.0	13.7	112.7	Mehlhorn; BHI-00953	RE not present
199-H3-5	B2780	126.29	Disc Z		49.9	15.2	111.1	NP	NP	NP	N/A	45.5	13.9	112.4	Mehlhorn; BHI-00953	RE not present

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Comments	Reference	Drill Depth (ft)	Drill Depth (m)	Elev bottom (m)	Depth to RE (ft)	Depth to RE (m)	Hf/RE Elev (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM elev (m)	RUM Depth Data Source	Notes
199-H3-6	C7626	128.53	Disc Z		61.6	18.8	109.8	NP	NP	NP	N/A	54.5	16.6	111.9	borehole log (GRAM)	RE not present
199-H3-7	C7627	129.07	Brass Survey Marker		59	18.0	111.1	NP	NP	NP	N/A	52.5	16.0	113.1	borehole log (GRAM)	RE not present
199-H3-9	C7639	126.36	Disc Z		218.1	66.5	59.9	NP	NP	NP	N/A	50.0	15.2	111.1	borehole log (GRAM)	RE not present
199-H4-1	A5685	128.48	TOC - 3 ft SU	assumed stickup	75	22.9	105.6	X	X	X	N/A	55.0	16.8	111.7	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-10	A4614	123.70	TOC (124.462 (m) - 2.5 ft SU		38	11.6	112.1	X	X	X	N/A	38.0	11.6	112.1	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-11	A4615	127.68	Disc Z		53	16.2	111.5	X	X	X	N/A	59.0	18.0	109.7	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-12A	A4616	126.47	Disc Z		48	14.6	111.8	X	X	X	N/A	51.0	15.5	110.9	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-12B	A4617	126.46	TOC (127.223 (m) - 2.5 ft SU		51	15.5	110.9	X	X	X	N/A	50.5	15.4	111.1	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-12C	A4618	126.34	TOC (127.226 (m) - 2.9 ft SU		220	67.1	59.3	X	X	X	N/A	50.0	15.2	111.1	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-13	A4619	127.98	TOC (128.65 (m) - 2.2 ft SU	WHC-SD-ER-TI-006	61	18.6	109.4	X	X	X	N/A	59.0	18.0	110.0	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-14	A4620	128.61	TOC (129.376 (m) - 2.5 ft SU		53	16.2	112.5	X	X	X	N/A	59.0	18.0	110.6	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-15A	A4621	124.63	TOC (125.302 (m) - 2.2 ft SU		46	14.0	110.6	X	X	X	N/A	44.0	13.4	111.2	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-15B	A4622	124.54	TOC (125.212 (m) - 2.2 ft SU		44	13.4	111.1	X	X	X	N/A	43.0	13.1	111.4	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-15C	A5689	124.64	TOC (125.215 (m) - 1.9 ft SU		330	100.6	24.1	X	X	X	N/A	46.0	14.0	110.6	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-16	A4626	129.82	TOC (130.491 (m) - 2.2 ft SU		61	18.6	111.2	NP	NP	NP	Drill/Borehole Log (PNNL)	61	18.6	111.2	Drill/Borehole Log (PNNL)	Log describes all cuttings as mostly basaltic gravel, bottom assumed to be RUM, RE in other boreholes doesn't contain clay
199-H4-17	A4627	128.34	TOC (128.922 (m) - 1.9 ft SU		41.5	12.6	115.7	NP	NP	NP	Drill/Borehole Log (PNNL)	45	13.7	114.6	Drill/Borehole Log (PNNL)	Log describes all sand and gravel as predominantly basalt. Clay balls in last foot of hard tool drilling indicates RUM near bottom of borehole. RE in other boreholes does not contain clay.
199-H4-18	A4628	129.10	Disc Z		51	15.5	113.6	NP	NP	NP	Drill/Borehole Log (PNNL)	50	15.2	113.9	Drill/Borehole Log (PNNL)	Log describes all sand and gravel as predominantly basalt. Clay balls in last foot of hard tool drilling indicates RUM near bottom of borehole. RE in other boreholes does not contain clay.
199-H4-2	A5686	128.21	TOC (130.491 (m) - 2.2 ft SU		386	117.7	10.6	X	X	X	N/A	65.0	19.8	108.4	Drill log; PNL-6728	Hf/RE not identified in log
199-H4-3	A4629	128.48	TOC (129.299 (m) - 2.7 ft SU		57.7	17.6	110.9	50.0	15.2	113.2	N/A	NDE	NDE	<110.9	Drill log; PNL-6728	Uncertain whether contact identified as "Ringold" is RE or RUM. since "caliche" identifed deeper, assumed to be RE
199-H4-46	A4632	129.38	Disc Z		61.5	18.7	110.6	X	X	X	N/A	61.0	18.6	110.8	Lindemann; log/DOE/RL-93-43	Hf/RE not identified in log
199-H4-48	A4634	129.97	Disc Z		62	18.9	111.1	40.0	12.2	117.8	well summary sheet (GRAM)	62.0	18.9	111.1	Lindemann; log/DOE/RL-93-43	Hf/RE contact uncertain
199-H4-49	A4635	129.62	Disc Z		60	18.3	111.3	X	X	X	N/A	55.0	16.8	112.9	Lindemann; log/DOE/RL-93-43	Hf/RE not identified in log
199-H4-5	A4636	127.33	TOC (128.058 (m) - 2.4 ft SU		60	18.3	109.0	X	X	X	N/A	48.0	14.6	112.7	Drill log; PNL-6728	Hf/RE not identified in log
199-H4-6	A4637	128.67	TOC (129.069 (m) - 1.3 ft SU		55	16.8	111.9	X	X	X	N/A	NDE	NDE	<111.9	Drill log; PNL-6728	
199-H4-63	B2776	127.60	Disc Z		63.9	19.5	108.1	X	X	X	N/A	57.0	17.4	110.2	well summary sheet (GRAM)	Hf/RE not identified in log
199-H4-64	B2777	125.29	Disc Z		56.5	17.2	108.1	35.0	10.7	114.6	well summary sheet (GRAM)	48.0	14.6	110.7	well summary sheet (GRAM)	
199-H4-65	B8759	128.82	Disc Z		53	16.2	112.7	X	X	X	N/A	50.0	15.2	113.6	well summary sheet (GRAM)	Hf/RE not identified in log
199-H4-69	C7485	129.39	Disc Z		63.83	19.5	109.9	NP	NP	NP	N/A	60	18.3	111.1	borehole log (GRAM)	RE not present
199-H4-7	A4638	128.76	Disc Z		55	16.8	112.0	X	X	X	N/A	54.0	16.5	112.3	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-70	C7483	129.60	Disc Z		61.4	18.7	110.9	NP	NP	NP	N/A	56	17.1	112.5	borehole log (GRAM)	RE not present
199-H4-71	C7487	129.78	Disc Z		71	21.6	108.1	NP	NP	NP	N/A	62	18.9	110.9	borehole log (GRAM)	RE not present
199-H4-72	C7488	128.39	Disc Z		61.25	18.7	109.7	NP	NP	NP	N/A	56	17.1	111.3	borehole log (GRAM)	RE not present
199-H4-73	C7484	129.31	Disc Z		71	21.6	107.7	NP	NP	NP	N/A	64.5	19.7	109.7	borehole log (GRAM)	RE not present
199-H4-74	C7598	125.36	Disc Z		46	14.0	111.3	30	9.1	116.2	borehole log (GRAM)	38	11.6	113.8	borehole log (GRAM)	
199-H4-75	C7597	128.54	Disc Z		59.2	18.0	110.5	40	12.2	116.4	borehole log (GRAM)	50	15.2	113.3	borehole log (GRAM)	
199-H4-76	C7587	129.66	Disc Z		56.4	17.2	112.5	X	X	X	N/A	47.5	14.5	115.2	borehole log (GRAM)	Hf/RE not identified in log
199-H4-77	C7605	127.89	Disc Z		51	15.5	112.3	NP	NP	NP	N/A	42.5	13.0	114.9	borehole log (GRAM)	RE not present
199-H4-78	C7588	129.54	Disc Z		64.1	19.5	110.0	8.5	2.6	127.0	borehole log (GRAM)	59.5	18.1	111.4	borehole log (GRAM)	
199-H4-79	C7586	131.30	Disc Z		65	19.8	111.5	48	14.6	116.7	borehole log (GRAM)	59.5	18.1	113.2	borehole log (GRAM)	
199-H4-8	A4639	128.60	TOC (129.206 (m) - 2.0 ft SU		55	16.8	111.8	X	X	X	N/A	48.0	14.6	114.0	Geo log; PNL-6728	Hf/RE not identified in log
199-H4-80	C7595	129.34	Disc Z		74.3	22.6	106.7	40	12.2	117.2	borehole log (GRAM)	67	20.4	108.9	borehole log (GRAM)	
199-H4-81	C7596	124.79	Disc Z		44.4	13.5	111.3	NP	NP	NP	N/A	39	11.9	112.9	borehole log (GRAM)	RE not present
199-H4-82	C7609	129.60	Disc Z		59.1	18.0	111.6	NP	NP	NP	N/A	53	16.2	113.4	borehole log (GRAM)	RE not present
199-H4-83	C7861	126.48	Disc Z		48.6	14.8	111.7	NP	NP	NP	N/A	NDE	NDE	<111.7	N/A	RE not present
199-H4-84	C7860	128.66	Disc Z		42.3	12.9	115.8	NP	NP	NP	N/A	NDE	NDE	<115.8	N/A	RE not present
199-H4-9	A4640	128.28	TOC (128.615 (m) - 1.1 ft SU		51	15.5	112.7	X	X	X	N/A	46.5	14.2	114.1	Geo log; PNL-6728	Hf/RE not identified in log
199-H5-1A	A4641	128.17	Disc Z		57	17.4	110.8	X	X	X	N/A	52.0	15.8	112.3	Geo log; DOE/RL-93-43	Hf/RE not identified in log
199-H6-2	C7489	129.02	Disc Z		60.7	18.5	110.5	NP	NP	NP	N/A	50	15.2	113.8	borehole log (GRAM)	RE not present
199-H6-3	C7628	128.40	Brass Survey Marker		67.4	20.5	107.9	NP	NP	NP	N/A	60	18.3	110.1	borehole log (GRAM)	RE not present; RUM contact transitional
199-H6-4	C7629	127.46	Brass Survey Marker		63	19.2	108.3	X	X	X	N/A	55.5	16.9	110.5	geophysical logs (Williams)	RE not determinable, but possibly present
199-K-10	A5738	142.63	TOC (142.787 (m) - 0.5 ft SU	WHC-SD-ER-TI-006	171	52.1	90.5	X	X	X	N/A	164	50.0	92.6	well summary sheet (GRAM)	Hf/RE not identified in cursory log in WCS
199-K-106A	A9842	142.55	Disc Z		190	57.9	84.6	21.0	6.4	136.1	borehole log (Freestone)	162.5	49.5	93.0	borehole log (GRAM)	
199-K-107A	A9843	142.63	Disc Z		**95.2**	29.0	113.6	19.0	5.8	136.8	borehole log (Freestone)	NDE	NDE	<113.6	N/A	
199-K-108A	A9844	142.77	Disc Z		**93.5**	28.5	114.3	30.0	9.1	133.6	borehole log (Freestone)	NDE	NDE	<114.3	N/A	
199-K-109A	A9828	142.81	Disc Z		165.9	50.6	92.2	38.5	11.7	131.1	borehole log (Freestone)	155	47.2	95.6	borehole log (GRAM)	
199-K-11	A4643	142.71	TOC (143.224 (m) - 1.7 ft SU		170	51.8	90.9	45.0	13.7	129.0	borehole log (Freestone)	165	50.3	92.4	borehole log (GRAM)	35 ft could be Hf/RE contact
199-K-110A	A9829	142.97	Disc Z		93.1	28.4	114.6	40.0	12.2	130.8	Based on lithology in drive sample (Freestone)	NDE	NDE	<114.6	N/A	35.5 ft also possible Hf/Re contact if fill/native material contact
199-K-111A	A9830	140.97	Disc Z		185	56.4	84.6	26.0	7.9	133.0	borehole log (Freestone)	155.3	47.3	93.6	borehole log (GRAM)	
199-K-112A	B2799	126.49	Disc Z		54	16.5	110.0	12.0	3.7	122.8	borehole log (Freestone)	48	14.6	111.9	borehole log (GRAM)	Top of RE based on lith of sand fraction
199-K-113A	B2800	125.94	Disc Z		48	14.6	111.3	22.0	6.7	119.2	borehole log (Freestone)	41	12.5	113.4	borehole log (GRAM)	Hf/RE contact based on low basalt content below 22 ft
199-K-114A	B2801	125.73	Disc Z		51	15.5	110.2	24.0	7.3	118.4	borehole log (Freestone)	41	12.5	113.2	borehole log (GRAM)	Hf/RE contact based on low basalt below 24 ft
199-K-115A	B2802	126.58	Disc Z		61	18.6	108.0	16.0	4.9	121.7	borehole log (Freestone)	54	16.5	110.1	borehole log (GRAM)	
199-K-116A	B2803	129.94	Disc Z		92.6	28.2	101.7	14.0	4.3	125.7	borehole log (Freestone)	87	26.5	103.4	borehole log (GRAM)	
199-K-117A	B2804	127.08	Disc Z		73	22.3	104.8	14.0	4.3	122.8	borehole log (Freestone)	68	20.7	106.4	borehole log (GRAM)	
199-K-118A	B2805	130.06	Disc Z		81	24.7	105.4	19.0	5.8	124.3	borehole log (Freestone)	75.5	23.0	107.1	borehole log (GRAM)	Hf/RE contact based on 15% mafics in sand below 19 ft
199-K-119A	B2806	132.57	Disc Z		92	28.0	104.5	16.0	4.9	127.7	borehole log (Freestone)	89	27.1	105.4	borehole log (GRAM)	
199-K-120A	B2807	125.21	Disc Z		101	30.8	94.4	3.0	0.9	124.3	borehole log (Freestone)	96	29.3	95.9	borehole log (GRAM)	
199-K-121A	B2808	142.15	Disc Z		98.65	30.1	112.1	54.0	16.5	125.7	borehole log (Freestone)	96	29.3	112.9	borehole log (GRAM)	Hf/RE contact based on 15% mafics in sand below 54 ft
199-K-122A	B2809	142.43	Disc Z		101	30.8	111.6	39.0	11.9	130.5	borehole log (Freestone)	100	30.5	112.0	borehole log (GRAM)	
199-K-123A	B2810	142.84	Disc Z		98	29.9	113.0	38.0	11.6	131.3	borehole log (Freestone)	NDE	NDE	<113.0	N/A	
199-K-124A	B2811	143.02	Disc Z		100.91	30.8	112.3	65.0	19.8	123.2	borehole log (Freestone)	NDE	NDE	<112.3	N/A	
199-K-125A	B8559	130.17	Disc Z		78	23.8	106.4	29.0	8.8	121.3	borehole log (Freestone)	75	22.9	107.3	borehole log (GRAM)	
199-K-126	B8760	139.73	Disc Z		90	27.4	112.3	52.0	15.8	123.9	borehole log (Freestone)	NDE	NDE	<112.3	N/A	
199-K-127	C3662	132.17	Disc Z		103	31.4	100.8	15.0	4.6	127.6	borehole log (Freestone)	NDE	NDE	<100.8	N/A	missing page from borehole log, uncertain RE elevation
199-K-128	C3663	143.60	Disc Z		93.4	28.5	115.1	45.0	13.7	129.9	borehole log (Freestone)	97.9	29.8	113.8	borehole log (GRAM)	
199-K-129	C4117	126.59	Disc Z		49.5	15.1	111.5	24.0	7.3	119.3	borehole log (Freestone)	48	14.6	112.0	borehole log (GRAM)	Hf/RE contact based on mention of quartzite below 24 ft
199-K-130	C4120	133.66	Disc Z		78.9	24.0	109.6	28.0	8.5	125.1	borehole log (Freestone)	NDE	NDE	<109.6	N/A	
199-K-131	C4561	134.41	Disc Z		99.3	30.3	104.1	30.0	9.1	125.3	borehole log (Weekes)	98	29.9	104.5	borehole log (Weekes)	

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Depth (m)	Elev Unconf (m)	Depth to RE (ft)	Depth to RE (m)	Hf/Ns Elev (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev (m)	RUM Depth Data Source	Notes
199-K-132	C4670	135.96	Disc Z		88	26.8	109.1	27.0	8.2	127.7	borehole log (Freestone)	NDE	NDE	<109.1	N/A	
199-K-133	C4734	139.54	Disc Z		99	30.2	109.4	51.5	15.7	123.8	borehole log (Freestone)	NDE	NDE	<109.4	N/A	
199-K-134	C4735	140.17	Disc Z		99	30.2	110.0	60.0	18.3	121.9	borehole log (Freestone)	NDE	NDE	<110.0	N/A	
199-K-135	C4736	140.09	Disc Z		113.4	34.6	105.5	50.0	15.2	124.9	borehole log (Freestone)	113.4	34.6	105.5	borehole log (GRAM)	
199-K-136	C4737	139.74	Disc Z		104	31.7	108.0	50.0	15.2	124.5	borehole log (Freestone)	NDE	NDE	<108.0	N/A	
199-K-137	C5112	142.40	Disc Z		107.95	32.9	109.5	23.0	7.0	135.4	borehole log (Freestone)	NDE	NDE	<109.5	N/A	
199-K-138	C5113	134.22	Disc Z		98	29.9	104.4	30.0	9.1	125.1	borehole log (Freestone)	NDE	NDE	<104.4	N/A	
199-K-139	C5114	142.81	Disc Z		108.4	33.0	109.8	43.0	13.1	129.7	borehole log (Freestone)	NDE	NDE	<109.8	N/A	Hf/RE contact based on color and felsic content of sand below 33 ft
199-K-140	C5115	142.56	Disc Z		108	32.9	109.6	40.0	12.2	130.4	borehole log (Freestone)	NDE	NDE	<109.6	N/A	Hf/RE contact based on low maphic content in sands of 50 ft sample
199-K-141	C5303	141.57	Disc Z		113.8	34.7	106.9	40.0	12.2	129.4	borehole log (Freestone)	NDE	NDE	<106.9	N/A	Hf/RE contact based on low maphic content in sands below 40 ft
199-K-142	C5304	141.79	Disc Z		115.7	35.3	106.5	38.0	11.6	130.2	borehole log (Freestone)	NDE	NDE	<106.5	N/A	Difficult pick for Hf/RE contact
199-K-143	C5305	135.74	Disc Z		95	29.0	106.8	50.0	15.2	120.5	borehole log (Freestone)	NDE	NDE	<106.8	N/A	difficult pick, could be 27 ft for Hf/RE contact
199-K-144	C5360	126.40	Disc Z		107.1	32.6	93.8	11.0	3.4	123.0	borehole log (Freestone)	97	29.6	96.8	borehole log (Freestone)	Hf/RE contact based on lith, color
199-K-145	C5361	125.51	Disc Z		123.7	37.7	87.8	4.0	1.2	124.3	borehole log (Freestone)	118	36.0	89.5	borehole log (GRAM)	Hf/RE contact based on lith, color
199-K-146	C5362	128.42	Disc Z		57.9	17.6	110.8	17.0	5.2	123.2	borehole log (Freestone)	53	16.2	112.3	borehole log (GRAM)	Hf/RE contact based on sand content; alternative interpretation is no Hf exists here
199-K-147	C5363	135.07	Disc Z		84.1	25.6	109.4	27.0	8.2	126.8	borehole log (Freestone)	79	24.1	111.0	borehole log (GRAM)	
199-K-148	C5364	138.12	Disc Z		108.8	33.2	105.0	50.0	15.2	122.9	borehole log (Freestone)	100	30.5	107.6	borehole log (GRAM)	Hf/RE contact based on sand lithology
199-K-149	C5365	139.98	Disc Z		113.2	34.5	105.5	X	X	X	N/A	106	32.3	107.7	borehole log (Cabbage)	Nf/RE contact not identified
199-K-150	C5366	139.38	Disc Z		117.5	35.8	103.6	54.0	16.5	122.9	borehole log (Freestone)	112.0	34.1	105.2	borehole log (GRAM)	Difficult pick for Hf/RE contact, 54 ft chosen based on color change and lith change
199-K-151	C5367	139.81	Disc Z		118.8	36.2	103.6	55.0	16.8	123.0	borehole log (Freestone)	115.0	35.1	104.8	borehole log (GRAM)	sand fraction lithology below 55 ft changed from 60% basalt sands to 10% basalt sands
199-K-152	C5368	140.25	Disc Z		118.6	36.1	104.1	45.0	13.7	126.5	borehole log (Freestone)	116	35.4	104.9	borehole log (GRAM)	
199-K-153	C5369	137.41	Disc Z		104.6	31.9	105.5	40.0	12.2	125.2	borehole log (Freestone)	100	30.5	106.9	borehole log (GRAM)	Hf/RE contact based on low basalt content for sand beginning with 40' grab sample
199-K-154	C5370	137.20	Disc Z		107.9	32.9	104.3	40.0	12.2	125.0	borehole log (Freestone)	102	31.1	106.1	borehole log (GRAM)	
199-K-155	C5371	137.84	Staking Survey	Well survey report	32.6	9.9	127.9	NDE	NDE	NDE	N/A	NDE	NDE	NDE	N/A	
199-K-156	C5372	140.48	Disc Z		172.2	52.5	88.0	30.0	9.1	131.3	borehole log (Freestone)	166	50.6	89.9	borehole log (GRAM)	
199-K-157	C5373	138.84	Disc Z		143.3	43.7	95.2	30.0	9.1	129.7	borehole log (Freestone)	139	42.4	96.5	borehole log (GRAM)	
199-K-158	C5484	145.50	Disc Z		115.5	35.2	110.3	41.0	12.5	133.0	borehole log (Freestone)	NDE	NDE	<110.3	N/A	
199-K-159	C5937	138.95	Disc Z		117	35.7	103.3	60	18.3	120.7	borehole log (Freestone)	110.0	33.5	105.4	borehole log (GRAM)	Hf/RE contact based on color and lith change in log
199-K-160	C5938	139.22	Disc Z		118	36.0	103.3	55	16.8	122.5	borehole log (Freestone)	113.0	34.4	104.8	borehole log (Freestone)	Difficult pick for Hf/RE contact, chosen based on color and lith change for gravel, low on detail
199-K-161	C5939	126.48	Disc Z - Final Survey		56.5	17.2	109.3	28.0	8.5	117.9	borehole log (Freestone)	51	15.5	110.9	borehole log (GRAM)	Hf/RE contact based on geo note in log
199-K-162	C5940	125.42	Disc Z		133.6	40.7	84.7	10.0	3.0	122.4	borehole log (Freestone)	128	39.0	86.4	borehole log (GRAM)	Hf/RE based on sand lith; alternative contact could be 30 ft
199-K-163	C6172	137.95	Disc Z		113.7	34.7	103.3	40.0	12.2	125.8	borehole log (Freestone)	110	33.5	104.4	borehole log (GRAM)	
199-K-164	C6386	141.34	Disc Z		119	36.3	105.1	39.0	11.9	129.5	borehole log (Freestone)	112	34.1	107.2	borehole log (Freestone)	Hf/RE based on drilling rate change and low mafics percent below 40'
199-K-165	C6451	145.46	Disc Z		180.2	54.9	90.5	28.8	8.8	136.7	borehole log (Freestone)	176	53.6	91.8	borehole log (GRAM)	
199-K-166	C6452	144.54	Disc Z		170.65	52.0	92.5	26.9	8.2	136.3	borehole log (Freestone)	168.25	51.3	93.3	borehole log (GRAM)	
199-K-167	C6453	145.47	Brass Survey Marker - Final Survey Report		37	11.3	134.2	NDE	NDE	<134.2	N/A	NDE	NDE	<134.2	N/A	borehole did not reach RE contact
199-K-168	C6454	142.59	Disc Z		166.8	50.8	91.8	43.0	13.1	129.5	borehole log (Freestone)	160	48.8	93.8	borehole log (GRAM)	Hf/RE based on geo notes, lower mafics in sand below 43ft
199-K-169	C6744	141.86	Disc Z		142	43.3	98.6	70.0	21.3	120.5	borehole log (Freestone)	132	40.2	101.6	borehole log (GRAM)	borehole log indicated RE at 45 ft bgs, does not agree with lithologic description, however
199-K-170	C6745	142.03	Brass Survey Marker - Final Survey Report		151	46.0	96.0	45.0	13.7	128.3	borehole log (Freestone)	149	45.4	96.6	borehole log (GRAM)	
199-K-171	C6746	144.22	Disc Z		153.6	46.8	97.4	60.0	18.3	125.9	borehole log (Freestone)	148	45.1	99.1	borehole log (GRAM)	
199-K-172	C6747	144.26	Disc Z		140	42.7	101.6	60.0	18.3	126.0	borehole log (Freestone)	132	40.2	104.0	borehole log (GRAM)	
199-K-173	C7016	145.63	Disc Z		181	55.2	90.5	35.0	10.7	135.0	borehole log (Freestone)	174.5	53.2	92.4	borehole log (GRAM)	
199-K-174	C7061	148.19	Disc Z		132.5	40.4	107.8	50.0	15.2	132.9	borehole log (Freestone)	NDE	NDE	<108.5	borehole log (Freestone)	
199-K-175	C7062	153.25	Disc Z		148.5	45.3	108.0	60.0	18.3	135.0	borehole log (Freestone)	NDE	NDE	<108.0	borehole log (Freestone)	
199-K-178	C7149	136.40	Disc Z		133.6	40.7	95.7	30.0	9.1	127.3	borehole log (Freestone)	129	39.3	97.1	borehole log (Freestone)	
199-K-179	C7150	140.24	Disc Z		146	44.5	95.7	40.0	12.2	128.1	borehole log (Freestone)	141	43.0	97.3	borehole log (Freestone)	
199-K-180	C7151	146.98	Disc Z		154.5	47.1	99.9	65.0	19.8	127.2	borehole log (Freestone)	152	46.3	100.6	borehole log (Freestone)	Hf/RE contact based on geologist comment
199-K-181	C7464	135.98	Disc Z		136	41.5	94.5	20.0	6.1	129.9	borehole log (Freestone)	131	39.9	96.1	borehole log (Freestone)	Hf/RE contact based on sand lith beginning 20 ft
199-K-182	C7476	142.45	Disc Z		127	38.7	103.7	50	15.2	127.2	borehole log (Freestone)	123	37.5	105.0	geophysical logs (GRAM, Inc.)	Hf/RE contact in geo notes, based on lith of gravels
199-K-183	C7683	140.33	Brass Survey Marker - Final Survey Report		152.5	46.5	93.8	21	6.4	133.9	Geologic & geophysical logs (Williams)	147.5	45.0	95.4	borehole log (Freestone)	
199-K-184	C7684	142.84	Disc Z - Final Survey		216.1	65.9	77.0	55	16.8	126.1	Geologic & geophysical logs (Williams)	162.8	49.6	93.2	borehole log (GRAM)	Hf/RE contact uncertain
199-K-185	C7685	134.62	Brass Survey Marker - Final Survey Report		138.5	42.2	92.4	27	8.2	126.4	borehole log (Freestone)	133.5	40.7	93.9	borehole log (Freestone)	Carbonate cement in places
199-K-186	C7686	145.45	Disc Z - Final Survey		167	50.9	94.5	46.5	14.2	131.3	Geologic & geophysical logs (Williams)	162	49.4	96.1		
199-K-187	C7687	155.38	Brass Survey Marker - Final Survey Report		202.4	61.7	93.7	68.5	20.9	134.5	borehole log (Freestone)	197.5	60.2	95.2	borehole log (Freestone)	
199-K-188	C7688	151.07	Disc Z - Final Survey		235	71.6	79.4	60	18.3	132.8	borehole log (GRAM)	183	55.8	95.3		
199-K-189	C7689	142.23	Brass Survey Marker - Final Survey		159	48.5	93.8	37	11.3	130.9	Geologic & geophysical logs (Williams)	154	46.9	95.3	borehole log (Freestone)	RE contact transitional gravels
199-K-190	C7690	135.39	Brass Survey Marker - Final Survey		138	42.1	93.3	33	10.1	125.3	Geologic & geophysical logs (Williams)	133	40.5	94.9	borehole log (Freestone)	Hf/RE contact uncertain
199-K-191	C7691	143.86	Brass Survey Marker - Final Survey Report		158	48.2	95.7	40	12.2	131.7	Geologic & geophysical logs (Williams)	153.3	46.7	97.1	borehole log (Freestone)	Hf/RE contact transitional gravels
199-K-192	C7692	134.06	Disc Z		192.9	58.8	75.3	22	6.7	127.3	Geologic & geophysical logs (Williams)	142	43.3	90.8	Geologic & geophysical logs (Williams)	Hf/RE contact uncertain
199-K-193	C7693	144.88	Disc Z - Final Survey		166	50.6	94.3	46	14.0	130.9	borehole log (GRAM)	161	49.1	95.8	borehole log (GRAM)	Hf/RE contact transitional gravels
199-K-194	C7694	146.48	Disc Z - Final Survey		147.3	44.9	101.6	65	19.8	126.7	borehole log (GRAM)	141.4	43.1	103.4	borehole log (GRAM)	
199-K-195	C7695	146.87	Disc Z - Final Survey		230.5	70.3	76.6	48	14.6	132.2	Geologic & geophysical logs (Williams)	178.2	54.3	92.6	borehole log (GRAM)	
199-K-196	C7696	133.96	Disc Z		139.8	42.6	91.3	36.0	11.0	123.0	borehole log (Lewallen)	132.5	40.4	93.6	borehole log (Lewallen)	
199-K-197	C7697	125.14	Disc Z		108.3	33.0	92.1	3.3	1.0	124.1	borehole log (Lewallen)	101	30.8	94.4	borehole log (Lewallen)	
199-K-198	C7698	123.93	Disc Z		101.5	30.9	93.0	X	X	X	N/A	93.6	28.5	95.4	borehole log (Erb)	Hf/RE contact not identifiable from log
199-K-199	C7699	124.94	Disc Z		103.1	31.4	93.5	X	X	X	N/A	95	29.0	96.0	Geologic & geophysical logs (Williams)	Hf/RE contact possibly 30 to 50 ft; gradational contact
199-K-200	C7831	135.91	Disc Z		59.3	18.1	117.8	27	8.2	127.7	Geologic & geophysical logs (Williams)	NDE	NDE	<117.8	borehole log (GRAM)	Hf/RE contact transitional gravels
199-K-201	C7832	133.36	Disc Z		60.4	18.4	115.0	26	7.9	125.4	borehole log (GRAM)	NDE	NDE	<115.0	borehole log (GRAM)	

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Depth (m)	Elev bottom (m)	Depth to RE (ft)	Depth to RE (m)	Hf/Re Elev. (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev. (m)	RUM Depth Data Source	Notes
199-K-21	A4650	129.07	TOC (129.561 (m) - 1.6 ft SU		50	15.2	113.8	25	7.6	121.5	1955 log (Freestone)	NDE	NDE	<113.8	borehole log (Freestone)	Hf/RE contact based on limited description
199-K-22	A4651	129.55	TOC (130.408 (m) - 2.8 ft SU		50	15.2	114.3	23	7.0	122.5	borehole log (Freestone)	NDE	NDE	<114.3	borehole log (Freestone)	Hf/RE contact based on middle of 5 ft "non documented" zone between boulder-rich and "cobbles, fine sand" units
199-K-25	A5743	144.07	TOC (145.229 (m) - 3.8 ft SU	Based on 1995 RPGW	76	23.2	120.9	25	7.6	136.5	N/A	NDE	NDE	<121.2	N/A	Hf/RE contact based on limited detail in 1953 well log
199-K-27	A4653	142.60	TOC (143.274 (m) - 2.2 ft SU	Based on 1994 WCSR	90	27.4	115.2	67	20.4	122.2	geophysical logs (GRAM, Inc.)	NDE	NDE	<114.9	N/A	neutron density log shows distinct anomaly at 67 ft
199-K-28	A4654	142.33	TOC (143.062 (m) - 2.4 ft SU	WCH-SD-ER-TI-006	90	27.4	114.9	65	19.8	122.5	geophysical logs (GRAM, Inc.)	NDE	NDE	<114.7	N/A	cemented gravel at 65 ft bgs assumed to be RE
199-K-29	A5480	142.52	TOC (143.493 (m) - 3.2 ft SU	WCH-SD-ER-TI-006	90	27.4	115.1	40	12.2	130.3	borehole log (Freestone)	NDE	NDE	<115.1	N/A	
199-K-30	A4655	142.34	TOC (143.132 (m) - 2.6 ft SU	WCH-SD-ER-TI-006	90	27.4	114.9	40	12.2	130.1	borehole log (Freestone)	NDE	NDE	<114.8	N/A	"tight sand, gravel cobbles" interp as RE - lack of detail in log lack of boulders below 40 ft indicate possible Hf/RE contact - lack of detail in log
199-K-32A	A4657	135.47	Disc Z		69	21.0	114.4	27.0	8.2	127.2	borehole log (Freestone)	NDE	NDE	<114.4	N/A	
199-K-32B	A4658	135.84	Disc Z		176	53.6	82.2	36.0	11.0	124.9	borehole log (Freestone)	136	41.5	94.4	geophysical logs (GRAM, Inc.)	based on detailed geo log contacts
199-K-33	A4659	135.33	Disc Z		66.6	20.3	115.0	X	X	X	N/A	NDE	NDE	<115.0	N/A	Hf/RE not identified in log
199-K-34	A4660	142.75	Disc Z		90.6	27.6	115.1	22.0	6.7	136.0	borehole log (Freestone)	NDE	NDE	<115.1	N/A	
199-K-35	A4661	150.84	Disc Z		117	35.7	115.2	45.0	13.7	137.1	borehole log (Freestone)	NDE	NDE	<115.2	N/A	
199-K-36	A4662	150.79	Disc Z - Original Survey		90.6	27.6	123.2	62.0	18.9	131.9	borehole log (Freestone)	NDE	NDE	<123.2	N/A	
199-K-37	A4663	134.76	Disc Z		69.3	21.1	113.6	30.5	9.3	125.5	borehole log (Freestone)	NDE	NDE	<113.6	N/A	Hf/RE contact based on chg from sandy to silty gravel - poor log
199-N-103A	A9988	140.32	Disc Z		105	32.0	108.3	59.0	18.0	122.3	borehole and geophysical logs (Williams)	102.0	31.1	109.2	#REF!	qualitative RE pick based on geo and geophysical logs
199-N-104A	A9989	141.34	Disc Z		91.5	27.9	113.5	57	17.4	124.0	borehole log (GRAM)	NDE	NDE	<113.5	N/A	
199-N-105A	B2408	139.62	Disc Z		98	29.9	109.8	43.0	13.1	126.5	borehole log (GRAM)	96.0	29.3	110.4	borehole log (GRAM)	
199-N-106A	B2538	144.63	Disc Z		121	36.9	107.7	58.0	17.7	126.9	borehole log (GRAM)	119.0	36.3	108.4	borehole log (GRAM)	
199-N-107A	B2536	141.26	Brass Survey Marker	1996 WCSR	76	23.2	118.1	44	13.4	127.8	borehole log (GRAM)	NDE	NDE	<117.1	N/A	Hf/RE not identified in log
199-N-108A	B2537	140.25	Disc Z		72.5	11.9	128.4	39	11.9	128.4	Geologic Borehole Log (Williams)	NDE	NDE	NDE	N/A	
199-N-121	C4473	122.38	Disc Z		42.5	13.0	109.4	8.0	2.4	119.9	borehole log (GRAM)	41.0	12.5	109.9	borehole log (GRAM)	
199-N-122	C4954	122.33	Disc Z		48	14.6	107.7	14.0	4.3	118.1	borehole log (GRAM)	44.5	13.6	108.8	borehole log (GRAM)	
199-N-123	C4955	123.10	Disc Z		54	16.5	106.6	11.5	3.5	119.6	borehole log (GRAM)	52.8	16.1	107.0	borehole log (GRAM)	
199-N-136	C5042	122.06	Brass Survey Marker - Final Survey Report		25.8	7.9	114.2	12	3.7	118.4	borehole log (GRAM)	NDE	NDE	<114.2	N/A	Hf/RE not identified in log
199-N-137	C5043	122.00	Brass Survey Marker - Final Survey Report		25.8	7.9	114.1	16	4.9	117.1	borehole log (GRAM)	NDE	NDE	<114.1	N/A	Hf/RE not identified in log
199-N-142	C5048	122.20	Brass Survey Marker - Final Survey Report		25.5	7.8	114.4	14	4.3	117.9	borehole log (GRAM)	NDE	NDE	<114.4	N/A	
199-N-143	C5049	122.26	Brass Survey Marker - Final Survey Report		25.8	7.9	114.4	14	4.3	118.0	borehole log (GRAM)	NDE	NDE	<114.4	N/A	
199-N-144	C5050	122.25	Brass Survey Marker - Final Survey Report		25.7	7.8	114.4	14	4.3	118.0	borehole log (GRAM)	NDE	NDE	<114.4	N/A	
199-N-145	C5051	122.08	Brass Survey Marker - Final Survey Report		26	7.9	114.2	10	3.0	119.0	borehole log (GRAM)	NDE	NDE	<114.2	N/A	
199-N-160	C6178	122.08	Brass Survey Marker - Final Survey Report		26	7.9	114.2	15	4.6	117.5	borehole log (GRAM)	NDE	NDE	<114.4	N/A	
199-N-161	C6179	122.13	Brass Survey Marker - Final Survey Report		25.2	7.7	114.4	12	3.7	118.5	borehole log (GRAM)	NDE	NDE	<114.3	N/A	
199-N-162	C6180	122.24	Brass Survey Marker - Final Survey Report		26	7.9	114.3	11	3.4	118.9	borehole log (GRAM)	NDE	NDE	<114.3	N/A	
199-N-163	C6181	122.22	Brass Survey Marker - Final Survey Report		26	7.9	114.3	14	4.3	118.0	borehole log (GRAM)	NDE	NDE	<114.3	N/A	
199-N-164	C6182	122.18	Brass Survey Marker - Final Survey Report		25.4	7.7	114.4	13	4.0	118.2	borehole log (GRAM)	NDE	NDE	<114.4	N/A	
199-N-167	C7032	140.70	Brass Survey Marker - Final Survey Report		83	25.3	115.4	49.0	14.9	125.8	borehole log (GRAM)	NDE	NDE	<115.4	N/A	
199-N-169	C7034	140.76	Brass Survey Marker - Final Survey Report		83	25.3	115.5	43.0	13.1	127.7	borehole log (GRAM)	NDE	NDE	<115.5	N/A	
199-N-170	C7035	140.79	Brass Survey Marker - Final Survey Report		83.5	25.5	115.3	42.0	12.8	128.0	borehole log (GRAM)	NDE	NDE	<115.3	N/A	
199-N-171	C7036	140.96	Brass Survey Marker - Final Survey Report		84	25.6	115.4	50.5	15.4	125.6	borehole log (GRAM)	NDE	NDE	<115.4	N/A	
199-N-172	C7037	140.56	Brass Survey Marker - Final Survey Report		82	25.0	115.6	44.0	13.4	127.1	borehole log (GRAM)	NDE	NDE	<115.6	N/A	
199-N-173	C7038	123.46	Brass Survey Marker - Final Survey Report		45.2	13.8	109.7	9.0	2.7	120.7	borehole log (GRAM)	45	13.7	109.7	borehole log (GRAM)	
199-N-174	C7039	122.07	Brass Survey Marker		20.8	6.3	115.7	14.0	4.3	117.8	borehole log (GRAM)	NDE	NDE	<115.7	N/A	
199-N-176	C7041	121.96	TOC - 0.6 ft SU	Based on 2009 WSS	18.6	5.7	116.3	16.00	4.9	117.1	borehole log (GRAM)	NDE	NDE	<116.3	N/A	
199-N-177	C7042	121.91	Brass Survey Marker		18.4	5.6	116.3	14.50	4.4	117.5	borehole log (GRAM)	NDE	NDE	<116.3	N/A	
199-N-178	C7043	122.07	Brass Survey Marker		18.7	5.7	116.4	16.00	4.9	117.2	borehole log (GRAM)	NDE	NDE	<116.4	N/A	
199-N-179	C7044	122.03	Brass Survey Marker		20	6.1	115.9	NDE	NDE	<115.9	N/A	NDE	NDE	<115.9	N/A	
199-N-180	C7045	122.00	TOC - 0.6 ft SU	Based on 2009 WSS	18.8	5.7	116.3	15.50	4.7	117.3	borehole log (GRAM)	NDE	NDE	<116.3	N/A	
199-N-181	C7046	121.95	Brass Survey Marker		19.3	5.9	116.1	15.00	4.6	117.4	borehole log (GRAM)	NDE	NDE	<116.1	N/A	
199-N-182	C8184	140.52	Disc Z		154	46.9	93.6	57.00	17.4	123.1	Borehole/Geophysical Logs	102	31.1	109.4	Borehole/Geophysical Logs	Rfwie pick complicated by Hf/RF transitional character
199-N-183	C8185	140.24	Disc Z		117.4	35.8	104.5	57.00	17.4	122.9	Borehole/Geophysical Logs	109	33.2	107.0	Borehole/Geophysical Logs	Rfwie pick complicated by Hf/RF transitional character
199-N-184	C8186	140.53	Disc Z		108	32.9	107.6	60.50	18.4	122.1	Borehole/Geophysical Logs	100.5	30.6	109.9	Borehole/Geophysical Logs	Rfwie pick complicated by Hf/RF transitional character
199-N-185	C8187	122.07	Disc Z		92.5	28.2	93.9	23.00	7.0	115.1	Borehole/Geophysical Logs	40	12.2	109.9	Borehole/Geophysical Logs	Rfwie pick complicated by Hf/RF transitional character
199-N-186	C8188	141.39	Disc Z		97.3	29.7	111.7	53.50	16.3	125.1	Borehole/Geophysical Logs	94.5	28.8	112.6	Borehole/Geophysical Logs	Rfwie pick complicated by Hf/RF transitional character/Questional RUM contact (NDE)?
199-N-187	C8189	141.25	Disc Z		94.5	28.8	112.4	40.00	12.2	129.1	Borehole/Geophysical Logs	NDE	NDE	<110.5	Borehole/Geophysical Logs	Rfwie pick complicated by Hf/RF transitional character
199-N-188	C8190	139.31	Disc Z		90	27.4	111.9	43.50	13.3	126.1	Borehole/Geophysical Logs	NDE	NDE	<111.9	Borehole/Geophysical Logs	Rfwie pick complicated by Hf/RF transitional character
199-N-189	C8191	143.64	Disc Z		117.3	35.8	107.9	59.00	18.0	125.7	Borehole/Geophysical Logs	107	32.6	111.0	Borehole/Geophysical Logs	Rfwie pick complicated by Hf/RF transitional character
199-N-2	A4669	140.55	TOC (141.161 (m) - 2.0 ft SU		125	38.1	102.5	X	X	X	N/A	105.0	32.0	108.6	borehole log (GRAM)	Hf/RE not identified in log
199-N-200	C7327	123.44	Brass Survey Marker - Final Survey Report		18.0	5.5	117.9	0.5	0.2	123.3	borehole log (GRAM)	NDE	NDE	<117.9	N/A	
199-N-201	C7326	123.48	Brass Survey Marker - Final Survey Report		26.4	8.1	115.4	NDE	NDE	<115.4	N/A	NDE	NDE	<115.4	N/A	
199-N-202	C7325	123.51	Brass Survey Marker - Final Survey Report		17.1	5.2	118.3	NDE	NDE	<118.3	N/A	NDE	NDE	<118.3	N/A	

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Depth (m)	Elev bottom (m)	Depth to RE (ft)	Depth to RE (m)	Hf/Re Elev. (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev. (m)	RUM Depth Data Source	Notes
199-N-203	C7324	123.50	Brass Survey Marker - Final Survey Report		27.1	8.3	115.2	10.0	3.0	120.4	borehole log (GRAM)	NDE	NDE	<115.2	N/A	
199-N-204	C7323	123.49	Brass Survey Marker - Final Survey Report		16.1	4.9	118.6	NDE	NDE	<118.5	N/A	NDE	NDE	<118.5	N/A	
199-N-205	C7322	123.44	Brass Survey Marker - Final Survey Report		26.2	8.0	115.5	7.5	2.3	121.2	borehole log (GRAM)	NDE	NDE	<115.4	N/A	
199-N-206	C7321	123.38	Brass Survey Marker - Final Survey Report		17.6	5.4	118.0	7.0	2.1	121.2	borehole log (GRAM)	NDE	NDE	<118.0	N/A	
199-N-207	C7320	123.37	Brass Survey Marker - Final Survey Report		27.0	8.2	115.1	0.5	0.2	123.2	borehole log (GRAM)	NDE	NDE	<115.1	N/A	
199-N-208	C7319	123.42	Brass Survey Marker - Final Survey Report		16.2	4.9	118.5	8.0	2.4	121.0	borehole log (GRAM)	NDE	NDE	<118.4	N/A	
199-N-209	C7318	123.44	Brass Survey Marker - Final Survey Report		26.3	8.0	115.4	8.5	2.6	120.9	borehole log (GRAM)	NDE	NDE	<115.4	N/A	
199-N-210	C7317	123.46	Brass Survey Marker - Final Survey Report		16.5	5.0	118.4	2.0	0.6	122.9	borehole log (GRAM)	NDE	NDE	<118.4	N/A	
199-N-211	C7316	123.47	Brass Survey Marker - Final Survey Report		26.2	8.0	115.5	6.0	1.8	121.6	borehole log (GRAM)	NDE	NDE	<115.5	N/A	
199-N-212	C7315	123.44	Brass Survey Marker - Final Survey Report		16.0	4.9	118.6	7.0	2.1	121.3	borehole log (GRAM)	NDE	NDE	<118.5	N/A	
199-N-213	C7314	123.40	Brass Survey Marker - Final Survey Report		26.2	8.0	115.4	10.0	3.0	120.4	borehole log (GRAM)	NDE	NDE	<115.4	N/A	
199-N-214	C7313	123.32	Brass Survey Marker - Final Survey Report		16.0	4.9	118.4	NDE	NDE	<118.4	N/A	NDE	NDE	<118.4	N/A	
199-N-215	C7312	123.25	Brass Survey Marker - Final Survey Report		27.2	8.3	115.0	1.0	0.3	122.9	borehole log (GRAM)	NDE	NDE	<114.9	N/A	
199-N-216	C7311	123.23	Brass Survey Marker - Final Survey Report		16.3	5.0	118.3	12.0	3.7	119.6	borehole log (GRAM)	NDE	NDE	<118.2	N/A	
199-N-217	C7310	123.14	Disc Z		26.7	8.1	115.0	16.0	4.9	118.3	borehole log (GRAM)	NDE	NDE	<115.0	N/A	
199-N-218	C7309	123.16	Brass Survey Marker - Final Survey Report		17.1	5.2	117.9	NDE	NDE	<117.9	N/A	NDE	NDE	<117.9	N/A	
199-N-219	C7308	123.25	Brass Survey Marker - Final Survey Report		27.5	8.4	114.9	NDE	NDE	<114.7	N/A	NDE	NDE	<114.7	N/A	
199-N-220	C7307	123.23	Brass Survey Marker - Final Survey Report		26.2	8.0	115.2	NDE	NDE	<115.2	N/A	NDE	NDE	<115.2	N/A	
199-N-221	C7306	123.30	Brass Survey Marker - Final Survey Report		26.9	8.2	115.1	12.0	3.7	119.6	borehole log (GRAM)	NDE	NDE	<115.0	N/A	
199-N-222	C7305	123.13	Brass Survey Marker - Final Survey Report		17.4	5.3	117.8	NDE	NDE	<117.9	N/A	NDE	NDE	<117.9	N/A	
199-N-223	C7304	123.17	Brass Survey Marker - Final Survey Report		26.7	8.1	115.0	14.0	4.3	118.9	borehole log (GRAM)	NDE	NDE	<115.1	N/A	
199-N-224	C7303	123.26	Brass Survey Marker - Final Survey Report		17.5	5.3	117.9	6.0	1.8	121.4	borehole log (GRAM)	NDE	NDE	<118.0	N/A	
199-N-225	C7302	123.40	Brass Survey Marker - Final Survey Report		26.8	8.2	115.2	6.0	1.8	121.6	borehole log (GRAM)	NDE	NDE	<115.2	N/A	
199-N-226	C7301	123.35	Brass Survey Marker - Final Survey Report		16.0	4.9	118.5	0.0	0.0	123.3	borehole log (GRAM)	NDE	NDE	<118.4	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-227	C7300	123.31	Brass Survey Marker - Final Survey Report		27.5	8.4	114.9	2.0	0.6	122.7	borehole log (GRAM)	NDE	NDE	<114.8	N/A	
199-N-228	C7299	123.23	Brass Survey Marker - Final Survey Report		16.1	4.9	118.3	9.0	2.7	120.5	borehole log (GRAM)	NDE	NDE	<118.3	N/A	
199-N-229	C7298	123.21	Brass Survey Marker - Final Survey Report		26.5	8.1	115.1	NDE	NDE	<115.1	N/A	NDE	NDE	<115.1	N/A	
199-N-230	C7297	123.17	Brass Survey Marker - Final Survey Report		15.8	4.8	118.4	NDE	NDE	<118.3	N/A	NDE	NDE	<118.3	N/A	
199-N-231	C7296	123.09	Brass Survey Marker - Final Survey Report		26.2	8.0	115.1	6.0	1.8	121.3	borehole log (GRAM)	NDE	NDE	<115.0	N/A	
199-N-232	C7295	123.07	Brass Survey Marker - Final Survey Report		16.3	5.0	118.1	10.0	3.0	120.0	borehole log (GRAM)	NDE	NDE	<118.1	N/A	
199-N-233	C7294	123.12	Brass Survey Marker - Final Survey Report		27.3	8.3	114.8	NDE	NDE	<114.8	N/A	NDE	NDE	<114.8	N/A	
199-N-234	C7293	123.21	Brass Survey Marker - Final Survey Report		16.8	5.1	118.1	8.0	2.4	120.8	borehole log (GRAM)	NDE	NDE	<118.0	N/A	
199-N-235	C7328	121.94	Brass Survey Marker - Final Survey Report		16.2	4.9	117.0	9.0	2.7	119.2	borehole log (GRAM)	NDE	NDE	<117.0	N/A	
199-N-236	C7329	121.97	Brass Survey Marker - Final Survey Report		26.6	8.1	113.9	13.0	4.0	118.0	borehole log (GRAM)	NDE	NDE	<113.8	N/A	
199-N-237	C7330	122.07	Brass Survey Marker - Final Survey Report		16.8	5.1	116.9	NDE	NDE	<116.9	N/A	NDE	NDE	<116.9	N/A	
199-N-238	C7331	122.12	Brass Survey Marker - Final Survey Report		26.7	8.1	114.0	16.0	4.9	117.2	borehole log (GRAM)	NDE	NDE	<113.9	N/A	
199-N-239	C7332	122.17	Brass Survey Marker - Final Survey Report		16.9	5.2	117.0	10.0	3.0	119.1	borehole log (GRAM)	NDE	NDE	<117.0	N/A	
199-N-240	C7333	122.22	Brass Survey Marker - Final Survey Report		26.4	8.0	114.2	2.0	0.6	121.6	borehole log (GRAM)	NDE	NDE	<114.1	N/A	
199-N-241	C7334	122.25	Brass Survey Marker - Final Survey Report		16.4	5.0	117.2	NDE	NDE	<117.2	N/A	NDE	NDE	<117.2	N/A	
199-N-242	C7335	122.24	Brass Survey Marker - Final Survey Report		14.5	4.4	117.8	3.0	0.9	121.3	borehole log (GRAM)	NDE	NDE	<117.8	N/A	
199-N-243	C7336	122.28	Brass Survey Marker - Final Survey Report		16.9	5.2	117.1	NDE	NDE	<117.1	N/A	NDE	NDE	<117.1	N/A	
199-N-244	C7337	122.28	Brass Survey Marker - Final Survey Report		26.2	8.0	114.3	4.0	1.2	121.1	borehole log (GRAM)	NDE	NDE	<114.3	N/A	
199-N-245	C7338	122.27	Brass Survey Marker - Final Survey Report		17.3	5.3	117.0	3.0	0.9	121.4	borehole log (GRAM)	NDE	NDE	<117.0	N/A	
199-N-246	C7339	122.28	Brass Survey Marker - Final Survey Report		27.0	8.2	114.0	10.0	3.0	119.2	borehole log (GRAM)	NDE	NDE	<114.0	N/A	
199-N-247	C7340	122.26	Brass Survey Marker - Final Survey Report		18.0	5.5	116.8	5.0	1.5	120.7	borehole log (GRAM)	NDE	NDE	<116.7	N/A	

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Depth (m)	Elev bottom (m)	Depth to RE (ft)	Depth to RE (m)	Hf/Re Elev. (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev. (m)	RUM Depth Data Source	Notes
199-N-248	C7341	122.22	Brass Survey Marker - Final Survey Report		26.8	8.2	114.0	6.0	1.8	120.4	borehole log (GRAM)	NDE	NDE	<114.0	N/A	
199-N-249	C7342	122.17	Brass Survey Marker - Final Survey Report		17.1	5.2	117.0	2.0	0.6	121.6	borehole log (GRAM)	NDE	NDE	<116.9	N/A	
199-N-250	C7343	122.14	Brass Survey Marker - Final Survey Report		27.0	8.2	113.9	2.0	0.6	121.5	borehole log (GRAM)	NDE	NDE	<113.8	N/A	
199-N-251	C7344	122.11	Disc Z		17.0	5.2	116.9	0.0	0.0	122.1	borehole log (GRAM)	NDE	NDE	<116.9	N/A	
199-N-252	C7345	122.08	Disc Z		26.5	8.1	114.0	6.0	1.8	120.2	borehole log (GRAM)	NDE	NDE	<114.0	N/A	
199-N-253	C7346	122.03	Disc Z		17.2	5.2	116.8	0.0	0.0	122.0	borehole log (GRAM)	NDE	NDE	<116.7	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-254	C7347	121.93	Disc Z		26.5	8.1	113.9	2.0	0.6	121.3	borehole log (GRAM)	NDE	NDE	<113.7	N/A	
199-N-255	C7348	121.90	Disc Z		17.2	5.2	116.7	2.0	0.6	121.3	borehole log (GRAM)	NDE	NDE	<116.5	N/A	
199-N-256	C7349	121.84	Disc Z		27.1	8.3	113.6	2.0	0.6	121.2	borehole log (GRAM)	NDE	NDE	<113.4	N/A	
199-N-257	C7350	121.82	Disc Z		17.0	5.2	116.6	0.0	0.0	121.8	borehole log (GRAM)	NDE	NDE	<116.5	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-258	C7351	121.78	Disc Z		26.6	8.1	113.7	0.0	0.0	121.8	borehole log (GRAM)	NDE	NDE	<113.6	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-259	C7352	121.82	Disc Z		17.2	5.2	116.6	0.0	0.0	121.8	borehole log (GRAM)	NDE	NDE	<116.5	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-260	C7353	121.82	Disc Z		26.4	8.0	113.8	2.0	0.6	121.2	borehole log (GRAM)	NDE	NDE	<113.7	N/A	
199-N-261	C7354	121.86	Disc Z		17.7	5.4	116.5	0.0	0.0	121.9	borehole log (GRAM)	NDE	NDE	<116.4	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-262	C7355	121.88	Disc Z		26.3	8.0	113.9	2.0	0.6	121.3	borehole log (GRAM)	NDE	NDE	<113.8	N/A	
199-N-263	C7356	121.88	Disc Z		17.7	5.4	116.5	2.0	0.6	121.3	borehole log (GRAM)	NDE	NDE	<116.4	N/A	
199-N-264	C7357	121.86	Disc Z		26.6	8.1	113.8	2.0	0.6	121.3	borehole log (GRAM)	NDE	NDE	<113.7	N/A	
199-N-265	C7358	121.87	Disc Z		17.3	5.3	116.6	0.0	0.0	121.9	borehole log (GRAM)	NDE	NDE	<116.5	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-266	C7359	121.87	Disc Z		26.9	8.2	113.7	1.0	0.3	121.6	borehole log (GRAM)	NDE	NDE	<113.5	N/A	
199-N-267	C7360	121.86	Disc Z		17.1	5.2	116.6	1.0	0.3	121.6	borehole log (GRAM)	NDE	NDE	<116.6	N/A	
199-N-268	C7361	121.87	Disc Z		26.9	8.2	113.7	2.0	0.6	121.3	borehole log (GRAM)	NDE	NDE	<113.6	N/A	
199-N-269	C7362	121.84	Disc Z		17.5	5.3	116.5	0.0	0.0	121.8	borehole log (GRAM)	NDE	NDE	<116.4	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-270	C7363	121.81	Disc Z		26.5	8.1	113.7	0.0	0.0	121.8	borehole log (GRAM)	NDE	NDE	<113.7	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-271	C7364	121.85	Disc Z - Final Survey		18.0	5.5	116.4	0.0	0.0	121.8	borehole log (GRAM)	NDE	NDE	<116.3	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-272	C7365	121.90	Disc Z		26.8	8.2	113.7	0.0	0.0	121.9	borehole log (GRAM)	NDE	NDE	<113.6	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-273	C7366	121.93	Disc Z		17.7	5.4	116.5	2.0	0.6	121.3	borehole log (GRAM)	NDE	NDE	<116.4	N/A	
199-N-274	C7367	121.94	Disc Z		26.0	7.9	114.0	NDE	NDE	<113.9	N/A	NDE	NDE	<113.9	N/A	
199-N-275	C7368	121.95	Disc Z		17.5	5.3	116.6	3.0	0.9	121.0	borehole log (GRAM)	NDE	NDE	<116.5	N/A	
199-N-276	C7369	121.93	Disc Z - Final Survey		26.3	8.0	113.9	NDE	NDE	<113.8	N/A	NDE	NDE	<113.8	N/A	
199-N-277	C7370	121.83	Disc Z		17.9	5.5	116.4	2.0	0.6	121.2	borehole log (GRAM)	NDE	NDE	<116.3	N/A	
199-N-278	C7371	121.76	Disc Z - Final Survey		26.4	8.0	113.7	2.0	0.6	121.2	borehole log (GRAM)	NDE	NDE	<113.6	N/A	
199-N-279	C7372	121.73	Disc Z		17.7	5.4	116.3	1.0	0.3	121.4	borehole log (GRAM)	NDE	NDE	<116.4	N/A	
199-N-280	C7373	121.69	Disc Z		27.0	8.2	113.5	NDE	NDE	<113.4	N/A	NDE	NDE	<113.4	N/A	
199-N-281	C7374	121.66	Disc Z		18.1	5.5	116.1	4.0	1.2	120.4	borehole log (GRAM)	NDE	NDE	<166.1	N/A	
199-N-282	C7375	121.67	Disc Z		26.8	8.2	113.5	4.0	1.2	120.4	borehole log (GRAM)	NDE	NDE	<113.4	N/A	
199-N-283	C7376	121.62	Disc Z		17.7	5.4	116.2	4.5	1.4	120.2	borehole log (GRAM)	NDE	NDE	<116.2	N/A	
199-N-284	C7377	121.61	Disc Z		25.9	7.9	113.7	4.0	1.2	120.4	borehole log (GRAM)	NDE	NDE	<113.7	N/A	
199-N-285	C7378	121.65	Brass Survey Marker - Final Survey Report		17.7	5.4	116.3	3.0	0.9	120.7	borehole log (GRAM)	NDE	NDE	<116.2	N/A	
199-N-286	C7379	121.68	Brass Survey Marker - Final Survey Report		27.4	8.4	113.3	5.0	1.5	120.2	borehole log (GRAM)	NDE	NDE	<113.3	N/A	
199-N-287	C7380	121.65	Brass Survey Marker - Final Survey Report		17.6	5.4	116.3	4.0	1.2	120.4	borehole log (GRAM)	NDE	NDE	<116.3	N/A	
199-N-288	C7381	121.67	Brass Survey Marker - Final Survey Report		27.1	8.3	113.4	4.5	1.4	120.3	borehole log (GRAM)	NDE	NDE	<113.4	N/A	
199-N-289	C7382	121.74	Brass Survey Marker - Final Survey Report		17.0	5.2	116.6	3.0	0.9	120.8	borehole log (GRAM)	NDE	NDE	<116.5	N/A	
199-N-290	C7383	121.79	Brass Survey Marker - Final Survey Report		27.5	8.4	113.4	2.0	0.6	121.2	borehole log (GRAM)	NDE	NDE	<113.3	N/A	
199-N-291	C7384	121.77	Brass Survey Marker - Final Survey Report		17.3	5.3	116.5	0.0	0.0	121.8	borehole log (GRAM)	NDE	NDE	<116.4	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-292	C7385	121.81	Brass Survey Marker - Final Survey Report		27.5	8.4	113.4	4.0	1.2	120.6	borehole log (GRAM)	NDE	NDE	<113.4	N/A	
199-N-293	C7386	121.80	Brass Survey Marker - Final Survey Report		17.6	5.4	116.4	5.0	1.5	120.3	borehole log (GRAM)	NDE	NDE	<116.3	N/A	
199-N-294	C7387	121.86	Brass Survey Marker - Final Survey Report		27.1	8.3	113.6	6.0	1.8	120.0	borehole log (GRAM)	NDE	NDE	<113.5	N/A	
199-N-295	C7388	121.92	Brass Survey Marker - Final Survey Report		17.9	5.5	116.5	6.0	1.8	120.1	borehole log (GRAM)	NDE	NDE	<116.4	N/A	
199-N-296	C7389	121.93	Brass Survey Marker - Final Survey Report		27.2	8.3	113.6	16.0	4.9	117.1	borehole log (GRAM)	NDE	NDE	<113.6	N/A	
199-N-297	C7390	121.95	Brass Survey Marker - Final Survey Report		17.9	5.5	116.5	7.0	2.1	119.8	borehole log (GRAM)	NDE	NDE	<116.4	N/A	
199-N-298	C7391	121.97	Brass Survey Marker - Final Survey Report		27.4	8.4	113.6	5.0	1.5	120.4	borehole log (GRAM)	NDE	NDE	<113.6	N/A	
199-N-299	C7392	121.97	Brass Survey Marker - Final Survey Report		18.0	5.5	116.5	6.0	1.8	120.1	borehole log (GRAM)	NDE	NDE	<116.4	N/A	
199-N-300	C7393	121.96	Brass Survey Marker - Final Survey Report		27.2	8.3	113.7	16.0	4.9	117.1	borehole log (GRAM)	NDE	NDE	<113.6	N/A	
199-N-301	C7394	121.98	Brass Survey Marker - Final Survey Report		17.5	5.3	116.6	NDE	NDE	<116.6	N/A	NDE	NDE	<116.6	N/A	
199-N-302	C7395	121.99	Brass Survey Marker - Final Survey Report		27.1	8.3	113.7	18.0	5.5	116.5	borehole log (GRAM)	NDE	NDE	<113.7	N/A	
199-N-303	C7396	122.00	Brass Survey Marker - Final Survey Report		16.9	5.2	116.8	3.0	0.9	121.1	borehole log (GRAM)	NDE	NDE	<116.8	N/A	

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Height (m)	Elev Bottom (m)	Depth to RE (ft)	Depth to RE (m)	Hf/Re Elev (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev (m)	RUM Depth Data Source	Comments
199-N-304	C7397	121.98	Brass Survey Marker - Final Survey Report		27.9	8.5	113.5	NDE	NDE	<113.5	N/A	NDE	NDE	<113.5	N/A	
199-N-305	C7398	121.99	Brass Survey Marker - Final Survey Report		17.9	5.5	116.5	6.0	1.8	120.2	borehole log (GRAM)	NDE	NDE	<116.5	N/A	
199-N-306	C7399	121.95	Brass Survey Marker - Final Survey Report		27.6	8.4	113.5	5.0	1.5	120.4	borehole log (GRAM)	NDE	NDE	<113.4	N/A	
199-N-307	C7400	121.95	Brass Survey Marker - Final Survey Report		17.1	5.2	116.7	3.0	0.9	121.0	borehole log (GRAM)	NDE	NDE	<116.7	N/A	
199-N-308	C7401	121.97	Brass Survey Marker - Final Survey Report		26.9	8.2	113.8	3.0	0.9	121.1	borehole log (GRAM)	NDE	NDE	<113.7	N/A	
199-N-309	C7402	122.00	Brass Survey Marker - Final Survey Report		17.8	5.4	116.6	2.0	0.6	121.4	borehole log (GRAM)	NDE	NDE	<116.5	N/A	
199-N-310	C7403	121.99	Brass Survey Marker - Final Survey Report		27.5	8.4	113.6	10.0	3.0	118.9	borehole log (GRAM)	NDE	NDE	<113.6	N/A	
199-N-311	C7404	121.94	Brass Survey Marker - Final Survey Report		17.6	5.4	116.6	3.0	0.9	121.0	borehole log (GRAM)	NDE	NDE	<116.5	N/A	
199-N-312	C7405	121.89	Brass Survey Marker - Final Survey Report		28.0	8.5	113.4	6.0	1.8	120.1	borehole log (GRAM)	NDE	NDE	<113.3	N/A	
199-N-313	C7406	121.85	Brass Survey Marker - Final Survey Report		17.2	5.2	116.6	2.0	0.6	121.2	borehole log (GRAM)	NDE	NDE	<116.6	N/A	
199-N-314	C7407	121.87	Brass Survey Marker - Final Survey Report		26.7	8.1	113.7	4.0	1.2	120.7	borehole log (GRAM)	NDE	NDE	<113.6	N/A	
199-N-315	C7408	121.89	Brass Survey Marker - Final Survey Report		17.5	5.3	116.6	3.0	0.9	121.0	borehole log (GRAM)	NDE	NDE	<116.5	N/A	
199-N-316	C7409	121.91	Brass Survey Marker - Final Survey Report		27.6	8.4	113.5	NDE	NDE	<113.5	N/A	NDE	NDE	<113.5	N/A	
199-N-317	C7410	121.87	Brass Survey Marker - Final Survey Report		17.5	5.3	116.5	NDE	NDE	<116.5	N/A	NDE	NDE	<116.5	N/A	
199-N-318	C7411	121.88	Brass Survey Marker - Final Survey Report		26.8	8.2	113.7	2.0	0.6	121.3	borehole log (GRAM)	NDE	NDE	<113.6	N/A	
199-N-319	C7412	121.88	Brass Survey Marker - Final Survey Report		16.9	5.2	116.7	2.0	0.6	121.3	borehole log (GRAM)	NDE	NDE	<116.7	N/A	
199-N-320	C7413	121.88	Brass Survey Marker - Final Survey Report		27.3	8.3	113.6	3.0	0.9	121.0	borehole log (GRAM)	NDE	NDE	<113.5	N/A	
199-N-321	C7414	121.91	Brass Survey Marker - Final Survey Report		17.9	5.5	116.5	3.0	0.9	121.0	borehole log (GRAM)	NDE	NDE	<116.4	N/A	
199-N-322	C7415	121.91	Brass Survey Marker - Final Survey Report		26.6	8.1	113.8	4.0	1.2	120.7	borehole log (GRAM)	NDE	NDE	<113.8	N/A	
199-N-323	C7416	122.02	Brass Survey Marker - Final Survey Report		17.2	5.2	116.8	2.0	0.6	121.4	borehole log (GRAM)	NDE	NDE	<116.7	N/A	
199-N-324	C7417	122.08	Brass Survey Marker - Final Survey Report		26.8	8.2	113.9	2.0	0.6	121.5	borehole log (GRAM)	NDE	NDE	<113.9	N/A	
199-N-325	C7418	122.07	Brass Survey Marker - Final Survey Report		18.1	5.5	116.6	3.0	0.9	121.2	borehole log (GRAM)	NDE	NDE	<116.5	N/A	
199-N-326	C7419	122.09	Brass Survey Marker - Final Survey Report		26.5	8.1	114.0	2.0	0.6	121.5	borehole log (GRAM)	NDE	NDE	<113.9	N/A	
199-N-327	C7420	122.09	Brass Survey Marker - Final Survey Report		17.9	5.5	116.6	2.0	0.6	121.5	borehole log (GRAM)	NDE	NDE	<116.6	N/A	
199-N-328	C7421	122.10	Brass Survey Marker - Final Survey Report		26.0	7.9	114.2	3.0	0.9	121.2	borehole log (GRAM)	NDE	NDE	<114.4	N/A	
199-N-329	C7422	122.12	Brass Survey Marker - Final Survey Report		16.8	5.1	117.0	3.0	0.9	121.2	borehole log (GRAM)	NDE	NDE	<116.9	N/A	
199-N-330	C7423	122.09	Brass Survey Marker - Final Survey Report		25.9	7.9	114.2	3.0	0.9	121.2	borehole log (GRAM)	NDE	NDE	<114.1	N/A	
199-N-331	C7424	122.09	Brass Survey Marker - Final Survey Report		18.6	5.7	116.4	3.5	1.1	121.0	borehole log (GRAM)	NDE	NDE	<116.3	N/A	
199-N-332	C7425	122.14	Brass Survey Marker - Final Survey Report		26.3	8.0	114.1	0.0	0.0	122.1	borehole log (GRAM)	NDE	NDE	<114.0	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-333	C7426	122.16	Brass Survey Marker - Final Survey Report		17.3	5.3	116.9	2.0	0.6	121.5	borehole log (GRAM)	NDE	NDE	<116.8	N/A	
199-N-334	C7427	122.15	Brass Survey Marker - Final Survey Report		26.3	8.0	114.1	2.0	0.6	121.5	borehole log (GRAM)	NDE	NDE	<114.0	N/A	
199-N-335	C7428	122.13	Brass Survey Marker - Final Survey Report		17.3	5.3	116.9	3.0	0.9	121.2	borehole log (GRAM)	NDE	NDE	<116.7	N/A	
199-N-336	C7429	122.14	Brass Survey Marker - Final Survey Report		26.8	8.2	114.0	4.0	1.2	120.9	borehole log (GRAM)	NDE	NDE	<113.9	N/A	
199-N-337	C7430	122.13	Brass Survey Marker - Final Survey Report		17.4	5.3	116.8	3.0	0.9	121.2	borehole log (GRAM)	NDE	NDE	<116.7	N/A	
199-N-338	C7431	122.10	Brass Survey Marker - Final Survey Report		27.0	8.2	113.9	3.0	0.9	121.2	borehole log (GRAM)	NDE	NDE	<113.8	N/A	
199-N-339	C7432	122.10	Brass Survey Marker - Final Survey Report		17.4	5.3	116.8	6.0	1.8	120.3	borehole log (GRAM)	NDE	NDE	<116.7	N/A	
199-N-340	C7433	122.08	Brass Survey Marker - Final Survey Report		25.9	7.9	114.2	6.0	1.8	120.2	borehole log (GRAM)	NDE	NDE	<114.1	N/A	
199-N-341	C7434	122.15	Brass Survey Marker - Final Survey Report		17.1	5.2	116.9	3.0	0.9	121.2	borehole log (GRAM)	NDE	NDE	<116.8	N/A	
199-N-342	C7435	122.20	Brass Survey Marker - Final Survey Report		28.4	8.7	113.5	n/a			borehole log (GRAM)	NDE	NDE	<113.4	N/A	
199-N-343	C7436	122.25	Brass Survey Marker - Final Survey Report		17.4	5.3	117.0	3.0	0.9	121.3	borehole log (GRAM)	NDE	NDE	<116.9	N/A	
199-N-344	C7437	122.27	Brass Survey Marker - Final Survey Report		27.4	8.4	113.9	2.0	0.6	121.7	borehole log (GRAM)	NDE	NDE	<113.8	N/A	
199-N-345	C7438	122.21	Brass Survey Marker - Final Survey Report		18.1	5.5	116.7	3.0	0.9	121.3	borehole log (GRAM)	NDE	NDE	<116.7	N/A	
199-N-346	C7442	123.61	Brass Survey Marker - Final Survey Report		26.8	8.2	115.4	7.0	2.1	121.5	borehole log (GRAM)	NDE	NDE	<115.4	N/A	
199-N-347	C7441	123.13	Brass Survey Marker - Final Survey Report		26.8	8.2	115.0	7.0	2.1	121.0	borehole log (GRAM)	NDE	NDE	<114.9	N/A	

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Depth (m)	Elev bottom (m)	Depth to RE (ft)	Depth to RE (m)	Hf/Re Elev. (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev. (m)	RUM Depth Data Source	Notes
199-N-348	C7440	123.19	Brass Survey Marker - Final Survey Report		26.5	8.1	115.1	2.0	0.6	122.6	borehole log (GRAM)	NDE	NDE	<115.0	N/A	
199-N-349	C7439	123.17	Brass Survey Marker - Final Survey Report		26.7	8.1	115.0	9.0	2.7	120.4	borehole log (GRAM)	NDE	NDE	<115.0	N/A	
199-N-350	C7443	122.16	Brass Survey Marker - Final Survey Report		26.9	8.2	114.0	11.5	3.5	118.7	borehole log (GRAM)	NDE	NDE	<113.9	N/A	
199-N-351	C7444	122.30	Brass Survey Marker - Final Survey Report		26.9	8.2	114.1	6.0	1.8	120.5	borehole log (GRAM)	NDE	NDE	<114.0	N/A	
199-N-352	C7445	122.18	Brass Survey Marker - Final Survey Report		27.0	8.2	114.0	4.0	1.2	121.0	borehole log (GRAM)	NDE	NDE	<113.9	N/A	
199-N-353	C7446	121.92	Disc Z		26.4	8.0	113.9	0.0	0.0	121.9	borehole log (GRAM)	NDE	NDE	<113.8	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-354	C7447	121.93	Disc Z		26.9	8.2	113.7	3.0	0.9	121.0	borehole log (GRAM)	NDE	NDE	<113.7	N/A	
199-N-355	C7448	121.96	Disc Z		26.6	8.1	113.9	1.0	0.3	121.7	borehole log (GRAM)	NDE	NDE	<113.8	N/A	
199-N-356	C7449	122.00	Disc Z		25.6	7.8	114.2	0.0	0.0	122.0	borehole log (GRAM)	NDE	NDE	<114.2	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-357	C7450	121.83	Disc Z		26.8	8.2	113.7	NDE	NDE	<113.6	N/A	NDE	NDE	<113.6	N/A	
199-N-358	C7451	121.73	Brass Survey Marker - Final Survey Report		26.5	8.1	113.6	NDE	NDE	<113.6	N/A	NDE	NDE	<113.6	N/A	
199-N-359	C7452	121.93	Brass Survey Marker - Final Survey Report		26.9	8.2	113.7	10.0	3.0	118.9	borehole log (GRAM)	NDE	NDE	<113.7	N/A	
199-N-360	C7453	122.09	Brass Survey Marker - Final Survey Report		26.5	8.1	114.0	10.0	3.0	119.0	borehole log (GRAM)	NDE	NDE	<113.9	N/A	
199-N-361	C7454	122.08	Brass Survey Marker - Final Survey Report		27.0	8.2	113.9	6.0	1.8	120.3	borehole log (GRAM)	NDE	NDE	<113.8	N/A	
199-N-362	C7455	122.11	Brass Survey Marker - Final Survey Report		27.1	8.3	113.8	4.0	1.2	120.9	borehole log (GRAM)	NDE	NDE	<113.8	N/A	
199-N-363	C7456	121.99	Brass Survey Marker - Final Survey Report		26.9	8.2	113.8	4.0	1.2	120.8	borehole log (GRAM)	NDE	NDE	<113.8	N/A	
199-N-364	C7457	121.91	Brass Survey Marker - Final Survey Report		26.0	7.9	114.0	4.0	1.2	120.7	borehole log (GRAM)	NDE	NDE	<113.9	N/A	
199-N-365	C7458	122.10	Brass Survey Marker - Final Survey Report		26.4	8.0	114.0	2.0	0.6	121.5	borehole log (GRAM)	NDE	NDE	<114.0	N/A	
199-N-366	C7459	122.17	Brass Survey Marker - Final Survey Report		25.5	7.8	114.4	4.0	1.2	121.0	borehole log (GRAM)	NDE	NDE	<114.4	N/A	
199-N-367	C7463	122.21	Brass Survey Marker - Final Survey Report		27.1	8.3	113.9	3.0	0.9	121.3	borehole log (GRAM)	NDE	NDE	<113.9	N/A	
199-N-368	C7460	122.07	Brass Survey Marker - Final Survey Report		26.2	8.0	114.1	14.5	4.4	117.7	borehole log (GRAM)	NDE	NDE	<113.9	N/A	
199-N-369	C7461	122.13	Brass Survey Marker - Final Survey Report		26.2	8.0	114.1	X	X	X	borehole log (GRAM)	NDE	NDE	<114.1	N/A	
199-N-370	C7462	122.14	Brass Survey Marker - Final Survey Report		26.2	8.0	114.2	NDE	NDE	<114.1	N/A	NDE	NDE	<114.1	N/A	RE from surface to TD, Hf/RE contact presumably eroded away
199-N-41	A4689	139.90	TOC (140.657 (m) - 2.5 ft SU		78	23.8	116.1	45.0	13.7	126.2	WCS-driller's note	NDE	NDE	<116.1	N/A	qualitative (approximate) pick based on drillers note
199-N-43	A5831	137.13	TOC (138.047 (m) - 3.0 ft SU Assumed		78	23.8	113.4	38.0	11.6	125.6	Driller & geophysical logs (Williams)	NDE	NDE	<113.4	N/A	qualitative pick based on geophysical logs and drillers note
199-N-5	A5814	139.37	TOC (139.831 (m) - 1.5 ft SU		125	38.1	101.3	X	X	X	N/A	115.0	35.1	104.3	borehole log (GRAM)	Hf/RE not identified in log
199-N-50	A4693	141.75	TOC (142.423 (m) - 2.2 ft SU		86	26.2	115.5	59.0	18.0	123.8	geophysical logs (Williams)	NDE	NDE	<115.5	N/A	qualitative pick based on geophysical logs
199-N-52	A4695	141.90	TOC (142.514 (m) - 2.0 ft SU		76	23.2	118.7	62.0	18.9	123.0	geophysical logs (Williams)	NDE	NDE	<118.7	N/A	qualitative pick based on geophysical logs
199-N-54	A4697	139.77	Disc Z		73	22.3	117.5	49	14.9	124.8	borehole log (GRAM)	NDE	NDE	<117.5	N/A	
199-N-57	A4700	140.06	Disc Z		76	23.2	116.9	57	17.4	122.7	Driller's note	NDE	NDE	<116.9	N/A	
199-N-61	A4705	141.30	Disc Z		67.5	20.6	120.7	59	18.0	123.3	borehole log (GRAM)	NDE	NDE	<120.7	N/A	
199-N-62	A4706	141.82	Disc Z		78.5	23.9	117.9	64	19.5	122.3	borehole log (GRAM)	NDE	NDE	<117.9	N/A	
199-N-66	A4710	142.42	Disc Z		80	24.4	118.0	53	16.2	126.3	borehole log (GRAM)	NDE	NDE	<118.0	N/A	
199-N-69	A4712	140.61	Disc Z		104	31.7	108.9	42.0	12.8	127.8	borehole log (GRAM)	101.0	30.8	109.8	borehole log (GRAM)	
199-N-70	A4713	138.91	Disc Z		104.4	31.8	107.1	37.0	11.3	127.6	borehole log (GRAM)	104.0	31.7	107.2	borehole log (GRAM)	
199-N-71	A4714	141.23	Disc Z		87	26.5	114.7	55	16.8	124.5	borehole log (GRAM)	NDE	NDE	<114.7	N/A	
199-N-75	A4718	139.33	Disc Z		89.6	27.3	112.0	45	13.7	125.6	borehole and geophysical logs (Williams)	NDE	NDE	<112.0	N/A	qualitative RE pick based on geo and geophysical logs
199-N-77	A5442	139.94	Disc Z		103	31.4	108.5	X	X	X	N/A	97	29.6	110.4	N/A	Hf/RE not identified in log
199-N-80	A4720	139.61	Disc Z		125.5	38.3	101.4	49.0	14.9	124.7	borehole and geophysical logs (Williams)	98.0	29.9	109.7	borehole log (GRAM)	qualitative RE pick based on geo and geophysical logs
199-N-8P	A5816	124.46	TOC (124.675 (m) - 0.7 ft SU	Based on 2007 well attribute report	100	30.5	94.0	X	X	X	N/A	52.0	15.9	108.6	borehole log (GRAM)	Hf/RE not identified in log
199-N-91A	A9877	122.55	Disc Z		59	18.0	104.6	2.0	0.6	121.9	borehole log (GRAM)	44.0	13.4	109.1	borehole log (GRAM)	RE interpreted to be present just below road fill at 2 ft bgs
199-N-92A	A9878	122.10	Disc Z		48	14.6	107.5	X	X	X	N/A	42.0	12.8	109.3	borehole log (GRAM)	Hf/RE not identified in log
199-N-93A	A9879	120.79	Disc Z		43	13.1	107.7	X	X	X	N/A	33.1	10.1	110.7	borehole log (GRAM)	Hf/RE not identified in log
199-N-94A	A9880	121.60	Disc Z		33	10.1	111.5	X	X	X	N/A	36.5	11.1	110.5	borehole log (GRAM)	Hf/RE not identified in log
199-N-95A	A9881	121.61	Ground Surface	converted elevation from NGVD29 to NAVD88 using 1.032 (see BHI-01153, Rev. 0, page 3-2.	49	14.9	106.7	14.0	4.3	117.3	borehole log (GRAM)	38.5	11.7	109.9	borehole log (GRAM)	no vertical survey data, elevation from well summary sheet (395.60 ft), assumed to be ground surface
199-N-96A	A9882	123.64	Disc Z		71	21.6	102.0	X	X	X	N/A	60.0	18.3	105.4	borehole log (GRAM)	Hf/RE not identified in log
199-N-97A	A9883	120.85	Disc Z		46	14.0	106.8	4.5	1.4	119.5	borehole log (Williams)	35.0	18.3	102.6	borehole log (Williams)	
699-100-43B	C5647	122.18	Disc Z		35.1	10.7	111.5	NP	NP	NP	N/A	29.5	9.0	113.2	Weekes; DOE/RL-2008-42	RE not present
699-101-45	C5666	121.81	Disc Z		30.8	9.4	112.4	NP	NP	NP	N/A	25.5	7.8	114.0	Weekes; DOE/RL-2008-42	RE not present
699-101-48C	A9102	119.42	TOC - 0.3 ft SU	Based on WCCS	77	23.5	95.9	X	X	X	N/A	49.0	14.9	104.5	Williams; drill log review 2009	Hf/RE not identified in log, "fine yellow sandstone" assumed to be RUM silts
699-52-17	A8832	122.23	TOC (122.838 (m) - 2.0 ft SU	Based on 2011 RPGW	380	115.8	6.4	X	X	X	N/A	90	27.4	94.8	borehole log (GRAM)	Hf/RE not identified in log, basalt at 380 ft bgs
699-52-18A	A8833	125.49	TOC (126.104 (m) - 2.0 ft SU		90	27.4	98.1	X	X	X	N/A	88	26.8	98.7	well summary sheet (GRAM)	Hf/RE not identified in cursory log in WCS
699-52-18C	A8835	125.42	TOC (126.028 (m) - 2.0 ft SU	Based on 1994 RPGW	107	32.6	92.8	X	X	X	N/A	100	30.5	94.9	well summary sheet (GRAM)	Hf/RE not identified in cursory log in WCS
699-54-18C	A8857	123.56	TOC (123.77 (m) - 0.7 ft SU	Based on 1995 RPGW	355	108.2	15.4	X	X	X	N/A	75	22.9	100.7	well summary sheet (GRAM)	Hf/RE not identified in cursory log in WCS
699-54-18E	A8859	121.22	Disc Z		90	27.4	93.8	X	X	X	N/A	79	24.1	97.1	well summary sheet (GRAM)	Hf/RE not identified in cursory log in WCS
699-57-16	A8892	117.29	TOC (118.202 (m) - 3.0 ft SU Assumed		41	12.5	104.8	X	X	X	N/A	38	11.6	105.7	borehole log (GRAM)	Hf/RE not identified in log
699-57-25B	A8894	126.79	TOC (127.553 (m) - 2.5 ft SU		81	24.7	102.1	X	X	X	N/A	79	24.1	102.7	well summary sheet (GRAM)	Hf/RE not identified in log
699-57-29B	A5268	127.27	TOC (127.875 (m) - 2.0 ft SU		81	24.7	102.6	X	X	X	N/A	81	24.7	102.6	Driller's Log (Williams)	Hf/RE not identified in log

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Depth (m)	Elev (m)	Depth to RE (ft)	Depth to RE (m)	Hf/RE Elev (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev (m)	RUM Depth Data Source	Notes
699-58-24	A5275	127.75	TOC (128.662 (m) - 3.0 ft SU		60	18.3	109.5	NP	NP	NP	N/A	NDE	NDE	NDE	Driller's Log (Williams)	Hf/RE not identified in log
699-59-32	A5276	129.64	TOC (130.342 (m) - 2.3 ft SU		75	22.9	106.8	X	X	X	N/A	NDE	NDE	<106.8	N/A	Hf/RE not identified in cursory log in WCS
699-60-32	A5279	129.67	TOC (130.646 (m) - 3.2 ft SU		85	25.9	103.8	X	X	X	N/A	65	19.8	109.9	well summary sheet (Hartman)	RUM top picked at first clay
699-60-57	A5280	143.44	Disc Z		155	47.2	96.2	X	X	X	N/A	96	29.3	114.2	well summary sheet (GRAM)	Hf/RE not identified in log; basalt encountered at 145 ft bgs
699-60-60	A5282	156.36	Disc Z		128	39.0	117.3	60	18.3	138.1	well summary sheet (GRAM)	98	29.9	126.5	well summary sheet (GRAM)	basalt at 128 ft, RE interpreted to be top of finer sand unit
699-61-26A	A8930	125.12	TOC (126.03 (m) - 3 ft SU Assumed		363	110.6	14.5	24	7.3	117.8	borehole log (GRAM)	74	22.6	102.6	borehole log (GRAM)	Note: log shows depths to bottoms, not tops
699-61-37	A5283	135.06	TOC (136.062 (m) - 3.3 ft SU		76	23.2	111.9	X	X	X	N/A	NDE	NDE	<114.1		
699-61-41	A5284	130.82	TOC (131.793 (m) - 3.2 ft SU		52	15.8	115.0	X	X	X	N/A	40	12.2	118.6	well summary sheet (GRAM)	Hf/RE not identified in cursory log in WCS
699-61-62	A5285	151.76	Disc Z		188	57.3	94.5	X	X	X	N/A	NP	NP	NP	N/A	basalt at 177.8 ft bgs, RUM not present, Hf/RE contact not identified
699-61-66	A5286	159.68	TOC (160.194 (m) - 1.7 ft SU		225	68.6	91.1	X	X	X	N/A	NP	NP	NP	N/A	basalt at 216 ft bgs, RUM not present, Hf/RE contact not identified
699-62-31	A5287	132.42	TOC (133.336 (m) - 3.0 ft SU		84	25.6	106.8	X	X	X	N/A	75	22.9	109.6	well summary sheet (Hartman)	RUM top uncertain; changed from gravel to sand and silt
699-62-43A	A5288	132.20	TOC (132.811 (m) - 2.0 ft SU		78	23.8	108.4	X	X	X	N/A	66	20.1	112.1	well summary sheet (M. Hartman interp)	Hf/RE not identified in log
699-62-43F	A8944	129.31	TOC (130.089 (m) - 2.55 ft SU		81	24.7	104.6	X	X	X	N/A	70	21.3	108.0	well summary sheet (M. Hartman interp)	Hf/RE not identified in log
699-63-25A	A5289	121.23	TOC (121.471 (m) - 0.8 ft SU		110	33.5	87.7	X	X	X	N/A	62	18.9	102.3	well summary sheet (GRAM)	Hf/RE not identified in cursory log in well construction and completion summary
699-63-51	A5290	129.48	TOC (130.409 (m) - 3.06 ft SU		36	11.0	118.5	X	X	X	N/A	25	7.6	121.9	well summary sheet (GRAM)	Hf/RE not identified in cursory log in well construction and completion summary
699-63-55	A5291	130.19	TOC (131.01 (m) - 2.7 ft SU		125	38.1	92.1	65	19.8	110.4	well summary sheet (GRAM)	82	25.0	105.2	well summary sheet (GRAM)	RE top interpreted to be top of sand unit
699-63-58	A5292	150.10	TOC (150.919 (m) - 2.7 ft SU	Based on 1993 RPGW	133	40.5	109.6	110	33.5	116.6	well summary sheet (GRAM)	NP	NP	NP	Driller's log	RE top interpreted to be first cemented interval; Basalt at 120 ft
699-63-89	A8956	156.24	TOC (157.241 (m) - 3.3 ft SU		220	67.1	89.2	100	30.5	125.8	SGW-44022, geophysical logs (GRAM)	NP	NP	NP	N/A	neutron, density, and gamma logs all show strong discontinuity at 100 ft bgs, SGW-44022 (from DOE/RL-93-37) indicates RE found at depth of 110 ft bgs, well drilled to basalt at 209 ft bgs, no evidence of RUM
699-63-90	A5293	156.28	TOC (156.855 (m) - 1.9 ft SU		253	77.1	79.2	105	32.0	124.3	geophysical logs (GRAM)	NP?	NP?	NP?	driller' log unclear	SGW-44022 indicates RE at 135 ft bgs (from DOE/RL-93-37), nothing in cursory log in as-built to support this interpretation. Modest discontinuities in gamma, neutron, and density logs at 105 ft bgs interpreted to represent the top of the RE. Basalt at 238 ft.
699-63-92	A5294	151.84	TOC (152.63 (m) - 2.6 ft SU		186	56.7	95.1	X	X	X	N/A	NP	NP	NP	N/A	basalt at 150 ft bgs, RUM not present, Hf/RE contact not identified
699-63-95	A8958	148.33	TOC (148.776 (m) - 1.45 ft SU		707	215.5	-67.2	X	X	X	N/A	NP	NP	NP	N/A	78 ft to basalt.
699-64-27	A5295	127.04	TOC (127.284 (m) - 0.8 ft SU		84	25.6	101.4	X	X	X	N/A	74	22.6	104.5	well summary sheet (GRAM)	Hf/RE not identified in cursory log in WCS
699-65-50	A5300	142.57	TOC (143.365 (m) - 2.6 ft SU		585	178.3	-35.7	X	X	X	N/A	115	35.1	107.5	well construction summary (GRAM)	Hf/RE not identified in log
699-65-72	A5302	164.97	TOC (165.676 (m) - 2.3 ft SU		216	65.8	99.1	X	X	X	N/A	X	X	X	N/A	No log available
699-65-83	A5303	148.10	TOC (149.047 (m) - 3.1 ft SU		121	36.9	111.2	85	25.9	122.2	geophysical logs (GRAM)	NDE	NDE	<111.2	N/A	SGW-444022 indicates RE at 97 ft bgs (from DOE/RL-93-37), nothing in log in as-built to support this interpretation; discontinuities in density log at 85 ft bgs, neutron log at 82 ft bgs, and gamma log at 87 ft bgs are interpreted to represent top of RE
699-65-95	A5304	137.91	TOC (138.858 (m) - 3.11 ft SU		106	32.3	105.6	X	X	X	N/A	NDE	NDE	<105.6	N/A	Basalt at 56 ft bgs
699-66-103	A5305	142.04	TOC (142.346 (m) - 1.0 ft SU		128	39.0	103.0	X	X	X	N/A	NDE	NDE	<103.0	N/A	Construciton Summary states pump test 26Jan44 540 gpm w/0.6-ft drawdown.
699-66-23	A5306	119.03	TOC (119.593 (m) - 1.85 ft SU		100	30.5	88.5	X	X	X	N/A	55	16.8	102.3	well summary sheet (GRAM)	Hf/RE not identified in cursory log in WCS
699-66-38	A5307	133.30	TOC (133.975 (m) - 2.2 ft SU		150	45.7	87.6	X	X	X	N/A	27	8.2	125.1	well summary sheet (GRAM)	Hf/RE not identified in cursory log in WCS
699-66-39	A5308	138.47	TOC (139.325 (m) - 2.8 ft SU	Based on 1993 RPGW	90	27.4	111.0	X	X	X	N/A	42	12.8	125.7	well summary sheet (GRAM)	Hf/RE not identified in cursory log in WCS
699-66-58	A5309	153.44	TOC (154.402 (m) - 3.16 ft SU		112.5	34.3	119.1	X	X	X	N/A	X	X	X	N/A	Hf/RE not identified in cursory log in WCS
699-66-64	A5310	154.31	TOC (155.194 (m) - 2.9 ft SU		118	36.0	118.3	X	X	X	N/A	X	X	X		
699-66-91	A5311	142.62	TOC (143.566 (m) - 3.1 ft SU		190	57.9	84.7	78	23.8	118.8	geophysical logs (GRAM)	NP	NP	NP	N/A	SGW-44022 indicates possible RE at 57 ft bgs, cursory log in as-built does not support this interpretation. Neutron and density logs show discontinuities at 78 ft bgs (matching a lithology change) interpreted as top of RE. Basalt at 98 ft.
699-67-51	A5312	160.21	TOC (160.884 (m) - 2.2 ft SU		250	76.2	84.0	145	44.2	116.0	well construction summary (GRAM)	210	64.0	96.2	well construction summary (GRAM)	
699-67-77	A8965	149.74	TOC [150.655 (m) assumed] - 3 ft SU (assumed)		X	X	X	X	X	X	N/A	X	X	X	N/A	No log available
699-67-86	A5313	144.47	TOC (145.016 (m) - 1.8 ft SU		467	142.3	2.1	X	X	X	geophysical logs (GRAM)	247	75.3	69.2	well summary sheet (GRAM)	SGW-44022 indicates RE at 79 ft bgs (from DOE/RL-93-37), cursory log in as-built does not support this interpretation, RUM assumed to be first silt layer at 247 ft bgs
699-67-98	A5314	139.17	TOC (139.84 (m) - 2.2 ft SU	Based on 1993 RPGW	185	56.4	82.8	X	X	X	N/A	129	39.3	99.9	well summary sheet (GRAM)	Hf/RE not identified in log; basalt at 185 ft bgs
699-68-105	A5315	138.93	TOC (139.45 (m) - 1.7 ft SU		94	28.7	110.3	X	X	X	N/A	NDE	NDE	<110.3	N/A	
699-69-45	A8967	148.66	TOC (149.432 (m) - 2.53 ft SU		300	91.4	57.2	X	X	X	N/A	135	41.1	107.5	well construction summary (GRAM)	Hf/RE not identified in log
699-71-30	A5320	122.67	TOC (123.132 (m) - 1.5 ft SU		150	45.7	77.0	X	X	X	N/A	37.0	11.3	111.4	well construction summary (GRAM)	Hf/RE not identified in log
699-71-52	A5321	159.94	TOC (160.427 (m) - 1.6 ft SU		210	64.0	95.9	X	X	X	N/A	175	53.3	106.6	well construction summary (GRAM)	Hf/RE not identified in log
699-71-77	A5322	144.23	TOC (144.961 (m) - 2.4 ft SU		300	91.4	52.8	80.0	24.4	119.8	geophysical logs (GRAM)	180	54.9	89.4	well summary sheet (GRAM)	RE interpretation of 94 ft bgs in SGW-44022 (from DOE/RL-93-67) not supported by cursory log in as-built or by geophysical log;, neutron and gamma logs show a discontinuity at 80 ft bgs, which is interpreted to represent the top of the RE; RUM interpretation from borehole log is 3 ft deeper than depth shown in SGW-44022
699-71-85	A8972	127.26	TOC [128.172 (m) assumed] - 3 ft SU (assumed)		X	X	X	X	X	X	N/A	X	X	X	N/A	No log available. Old dug well; filled in
699-72-73	A5323	147.55	TOC (148.125 (m) - 1.9 ft SU		200	61.0	86.6	90	27.4	120.1	well summary sheet (GRAM)	167	50.9	96.6	well summary sheet (GRAM)	RE interpreted to be cemented sediments at 90 ft bgs
699-72-88	A5324	132.37	TOC (133.099 (m) - 2.4 ft SU		X	X	X	X	X	X	N/A	X	X	X	N/A	No log available

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Depth (m)	Elev bottom (m)	Depth to RE (ft)	Depth to RE (m)	Hf/Re Elev. (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev. (m)	RUM Depth Data Source	Notes
699-72-92	A5325	137.51	TOC (138.054 (m) - 1.8 ft SU	Based on 1997 RPGW	200	61.0	76.5	155	47.2	90.3	SGW-44022	NDE	NDE	<72.2	N/A	based on cemented gravels described in cursory drill log in as-built, seems quite deep and interpretation may not be correct, no other useful data (e.g., geophysical logs, etc.)
699-73-61	A5327	162.50	TOC (163.014 (m) - 1.7 ft SU		150	45.7	116.8	X	X	X	N/A	NDE	NDE	<116.8	N/A	borehole did not reach RUM, Hf/RE not identified in log
699-74-23	A8975	114.90	TOC (115.819 (m) - 3.0 ft SU Assumed		50	15.2	99.7	X	X	X	N/A	25.0	7.6	107.3	borehole log (GRAM)	Hf/RE not identified in cursory borehole log
699-74-44	A5328	136.28	TOC (136.703 (m) - 1.4 ft SU		150	45.7	90.6	X	X	X	N/A	55.0	16.8	119.5	Williams; well log	Hf/RE not identified in log
699-74-48	A5329	148.88	TOC (149.417 (m) - 1.75 ft SU		150	45.7	103.2	X	X	X	N/A	124.0	37.8	111.1	Williams; well log	Hf/RE not identified in cursory borehole log
699-75-23A	A8978	115.69	TOC (116.609 (m) - 3.0 ft SU Assumed		35.0	10.7	105.0	X	X	X	N/A	35.0	10.7	105.0	borehole log (GRAM)	RUM at fine sand
699-75-23B	A8979	115.98	TOC (116.892 (m) - 3.0 ft SU Assumed		36.0	11.0	105.0	X	X	X	N/A	36.0	11.0	105.0	borehole log (GRAM)	RUM at fine sand
699-77-36	A5330	126.09	TOC (126.669 (m) - 1.9 ft SU		150	45.7	80.4	X	X	X	N/A	50.0	15.2	110.8	well summary sheet (GRAM)	Hf/RE not identified in log
699-77-54	A5331	146.92	TOC (147.346 (m) - 1.4 ft SU		150	45.7	101.2	95.0	29.0	118.0	well summary sheet (GRAM)	152.0	46.3	100.6	Williams; well log	
699-78-62	A5332	143.62	TOC (144.195 (m) - 1.9 ft SU		150	45.7	97.9	X	X	X	N/A	130	39.6	104.0	well summary sheet (GRAM)	1957 driller's log not sufficient to identify Hf/Re contact
699-80-39B	A8991	123.87	Brass Survey Marker - Final Survey Report		53	16.2	107.7	X	X	X	N/A	43	13.1	110.8	well construction summary (GRAM)	Hf/RE not identified in log
699-80-43P	A8993	126.68	TOC (127.137 (m) - 1.5 ft SU		450	137.2	-10.5	x	x	X	N/A	46.0	14.0	112.7	Williams; well log	
699-80-43Q	A8994	126.41	TOC (126.867 (m) - 1.5 ft SU		232	70.7	55.7	X	X	X	N/A	45.0	13.7	112.7	borehole log (GRAM)	
699-80-43R	A8995	126.45	TOC (126.912 (m) - 1.5 ft SU		140	42.7	83.8	X	X	X	N/A	45.0	13.7	112.7	borehole log (GRAM)	
699-80-43S	A5336	125.28	TOC (125.736 (m) - 1.5 ft SU	WCCS	50	15.2	110.0	X	X	X	N/A	40	12.2	113.1	Drillers log (Williams)	
699-81-38	A5337	124.76	TOC (124.887 (m) - 0.42 ft SU		35.4	10.8	114.0	X	X	X	N/A	X	X	X	N/A	No log available
699-81-58	A5338	134.50	TOC (134.988 (m) - 1.6 ft SU	Average Based on 1991 through 1997 RPGW	150	45.7	88.8	X	X	X	N/A	95.0	29.0	105.5	well summary sheet	
699-81-62	A9000	134.86	TOC (135.305 (m) - 1.45 ft SU		1011	308.2	-173.3	45.0	13.7	121.1	geophysical logs (GRAM)	105	32.0	102.9	geophysical logs (GRAM)	RUM top picked from gamma log (100 ft bgs) and density log (110 ft bgs), RE top picked from density log
699-81-64B	A9002	136.64	Well survey report	confirmed with GI5 surface elevation	38	11.6	125.1	X	X	X	N/A	NDE	NDE	<125.1	N/A	Hf/RE not identified in log
699-83-47	A5341	133.16	TOC (133.704 (m) - 1.8 ft SU		150	45.7	87.4	35.0	10.7	122.5	Williams; well log	95.0	29.0	104.2	Williams; well log	
699-84-59	A9031	140.61	TOC - 3 ft SU	assumed stickup	1001	305.1	-164.5	52	15.8	124.8	geophysical logs (GRAM)	X	X	X	N/A	density log shows inflection at 52 ft bgs, good correspondence with depth to RE in nearby wells, RUM not identified in log, basalt at 524 ft bgs
699-86-60	A9059	138.41	TOC (139.322 (m) - 3.0 ft SU Assumed		531	161.8	-23.4	55	16.8	121.6	borehole log (GRAM)	96.0	29.3	109.1	borehole log (GRAM)	
699-87-55	A5346	140.33	TOC (141.122 (m) - 2.6 ft SU		94	28.7	111.7	61	18.6	121.7	Williams; borehole log	NDE	NDE	<111.7	N/A	
699-89-35	A5348	121.77	TOC (122.35 (m) - 1.9 ft SU		75	22.9	98.9	X	X	X	N/A	55.0	16.8	105.0	well summary sheet (GRAM)	Hf/RE not identified in log
699-91-46A	A5354	127.26	Disc Z		45.5	13.9	113.4	NP	NP	NP	Borehole log	NDE	NDE	NDE	Borehole log	Hf/RE not identified in log
699-93-48A	A5356	133.54	Disc Z		83	25.3	108.2	NP	NP	NP	N/A	73.0	22.3	111.3	Weekes; DOE/RL-2008-42	
699-94-41	C5665	124.96	Disc Z		40.12	12.2	112.7	NP	NP	NP	Borehole Log	35.5	10.8	114.1	Weekes; DOE/RL-2008-42	RE not present
699-94-43	C5661	129.81	Disc Z		60.7	18.5	111.3	45.0	13.7	116.1	Weekes; DOE/RL-2008-42	55.5	16.9	112.9	Weekes; DOE/RL-2008-42	Hf/RE not identified in log
699-95-45	C5660	128.54	Disc Z		50.4	15.4	113.2	X	X	X	N/A	45.3	13.8	114.7	Weekes; DOE/RL-2008-42	Hf/RE not identified in log
699-95-48	C5667	130.69	Disc Z		64.37	19.6	111.1	NP	NP	NP	Borehole Log	59.0	18.0	112.7	Weekes; DOE/RL-2008-42	RE not present
699-95-51	C5663	132.29	Disc Z		71.3	21.7	110.6	X	X	X	N/A	66.0	20.1	112.2	Williams; borehole log	Possible remnant of Ringold Unit E
699-96-41	C5191	129.18	Disc Z		62.2	19.0	110.2	X	X	X	N/A	46.6	14.2	115.0	Williams; borehole log	Hf/Re not identified in log, H Area Bio well
699-96-42	C5192	129.21	Disc Z		52	15.8	113.4	NP	NP	NP	Borehole Log	48.0	14.6	114.6	Williams; borehole log	RE not present. H Area Bio well
699-96-43	A5357	128.71	Disc Z		53.1	16.2	112.5	NP	NP	NP	N/A	45.0	13.7	115.0	Williams; borehole log	RE not present
699-96-44	C4131	129.24	Disc Z		59.6	18.2	111.1	NP	NP	NP	Borehole Log	47.0	14.3	114.9	Williams; borehole log	RE not present. H Area Bio well
699-96-45	C4132	129.19	Disc Z		59.9	18.3	110.9	NP	NP	NP	Borehole Log	47.3	14.4	114.8	Williams; borehole log	RE not present. H Area Bio well
699-96-49	A5358	128.26	TOC (128.805 (m) - 1.8 ft SU		100	30.5	97.8	NP	NP	NP	N/A	61.0	18.6	109.7	Williams; borehole log	Inconclusive (drill log)
699-96-52B	C5668	123.56	Disc Z		46	14.0	109.5	NP	NP	NP	N/A	40.0	12.2	111.4	Weekes; DOE/RL-2008-42	RE not present
699-97-41	C5657	127.59	Disc Z		58.7	17.9	109.7	NP	NP	NP	N/A	54.0	16.5	111.1	Weekes; DOE/RL-2008-42	
699-97-43	A5360	129.08	TOC (129.597 (m) - 1.7 ft SU		100	30.5	98.6	X	X	X	N/A	55.0	16.8	112.3	well summary sheet (GRAM)	Hf/RE not identified in log
699-97-43B	C5664	129.34	Disc Z		53.4	16.3	113.1	NP	NP	NP	N/A	48.0	14.6	114.7	Weekes; DOE/RL-2008-42	RE not present
699-97-43C	C5685	129.41	Disc Z		126	38.4	91.0	NP	NP	NP	N/A	50.5	15.4	114.0	Weekes; DOE/RL-2008-42	RE not present
699-97-45	C5659	126.03	Disc Z		45.7	13.9	112.1	X	X	X	N/A	39.9	12.2	113.9	Weekes; DOE/RL-2008-42	Hf/RE not identified in log
699-97-45B	C5686	125.99	Disc Z		120.4	36.7	89.3	NP	NP	NP	N/A	39.6	12.1	113.9	Weekes; DOE/RL-2008-42	RE not present
699-97-48B	C5662	129.02	Disc Z		59.22	18.1	111.0	NP	NP	NP	N/A	54.0	16.5	112.6	Weekes; DOE/RL-2008-42	RE not present
699-97-48C	C5687	129.07	Disc Z		123	37.5	91.6	NP	NP	NP	N/A	55.0	16.8	112.3	Weekes; DOE/RL-2008-42	RE not present
699-98-43	C5656	122.44	Disc Z		39.5	12.0	110.4	NP	NP	NP	N/A	34.0	10.4	112.1	Weekes; DOE/RL-2008-42	RE not present
699-98-46	C5658	127.37	Disc Z		45.6	13.9	113.5	NP	NP	NP	N/A	40.5	12.3	115.0	Weekes; DOE/RL-2008-42	RE not present
699-98-51	C5669	120.40	Disc Z		30.1	9.2	111.2	NP	NP	NP	N/A	25.0	7.6	112.8	Weekes; DOE/RL-2008-42	RE not present
699-99-41	C5649	125.63	Disc Z		45.6	13.9	111.7	NP	NP	NP	N/A	40.0	12.2	113.4	Weekes; DOE/RL-2008-42	RE not present
699-99-42B	C5648	127.12	Disc Z		51.6	15.7	111.4	NP	NP	NP	N/A	45.5	13.9	113.2	Weekes; DOE/RL-2008-42	RE not present
699-99-44	C5650	124.16	Disc Z		37.5	11.4	112.7	NP	NP	NP	N/A	32.5	9.9	114.3	Weekes; DOE/RL-2008-42	RE not present
B2537	B2537	140.25	Brass Survey Marker	1996 WCSR as revised	72.5	22.1	118.2	X	X	X	N/A	NDE	NDE	<119.2	borehole log (GRAM)	100-N vadose borehole
B2539	B2539	138.34	Brass Survey Marker	1996 WCSR	64.5	19.7	118.7	44	13.4	124.9	N/A	NDE	NDE	<118.7	borehole log (GRAM)	100-N vadose borehole
C5670	C5670	140.88	Disc Z		74.1	22.6	118.3	NDE	NDE	<118.3	N/A	NDE	NDE	<118.3	N/A	100-BC vadose borehole. Appears to be Hf to TD.
C6446	C6447	139.71	Brass Survey Marker		55	16.8	122.9	50	15.2	124.5	Geologic Borehole Log (Williams)	NDE	NDE	<122.9	N/A	Questionable Hf/RE pick. Appears transitional from as shallow as 23 ft (but believe this is really a reworked interval judging from the clean gravel interval deeper in the section.
C6447	C6448	139.85	Brass Survey Marker		40	12.2	127.7	X	X	X	Borehole Log	NDE	NDE	<127.7	N/A	
C6449	C6449	140.05	Brass Survey Marker		54	16.5	123.6	38	11.6	128.5	Geologic Borehole Log (Williams)	NDE	NDE	<123.6	N/A	100-D Chromium Source Investigation
C6450	C6450	138.61	Brass Survey Marker		50	15.2	123.4	46	14.0	124.6	Geologic Borehole Log (Williams)	NDE	NDE	<123.4	N/A	CSI Northern Plume 100-D. RE pick not certain.
C7842	C7842	133.42	Disc Z		55	16.8	116.7	X	X	X	N/A	NDE	NDE	<116.0	N/A	100-BC vadose borehole. Hf/RE not identifiable from logs (Williams)
C7844	C7844	141.36	Disc Z		73.1	22.3	119.1	X	X	X	N/A	NDE	NDE	<118.2	N/A	100-BC vadose borehole. Hf/RE not identifiable from logs (Williams)
C7845	C7845	143.10	Disc Z		78.9	24.0	119.1	NDE	NDE	<119.1	N/A	NDE	NDE	<119.8	N/A	100-BC vadose borehole
C7847	C7847	144.10	Disc Z		13.4	4.1	140.0	NDE	NDE	<140.0	N/A	NDE	NDE	<140.0	N/A	100-BC vadose borehole
C7849	C7849	151.81	Disc Z		107.7	32.8	119.0	NDE	NDE	<119.0	borehole log (GRAM)	NDE	NDE	<120.4	N/A	100-BC vadose borehole; transitional gravels at Hf/RE contact
C7850	C7850	136.39	Brass Survey Marker - Final Survey Report		72.3	22.0	114.4	NP	NP	NP	WSS	NDE	NDE	<114.4	N/A	100-D vadose borehole; RE not present (Williams)

Table A.1. Stratigraphic Information for Hanford Site 100 Area Wells

Well Name	Well ID	Surface Elev (m)	Elevation_Control	Reference	Drill Depth (ft)	Drill Depth (m)	Elev bottom (m)	Depth to RE (ft)	Depth to RE (m)	Hf/Re Elev. (m)	Ringold E Depth Data Source	Depth to RUM (ft)	Depth to RUM (m)	RUM Elev. (m)	RUM Depth Data Source	Notes
C7851	C7851	135.88	Disc Z - Final Survey		69	21.0	114.8	X	X	X	N/A	NDE	NDE	<114.5	N/A	100-D vadose borehole; RE difficult to determine; not enough description
C7855	C7855	144.13	Disc Z		91.2	27.8	116.3	50	15.2	128.9	borehole and geophysical logs (Williams)	NDE	NDE	<116.4	N/A	100-D vadose borehole
C7862	C7862	129.61	Brass Survey Marker - Final Survey Report		52.4	16.0	113.6	NP	NP	NP	N/A	NDE	NDE	<113.6	N/A	100-H vadose borehole
C7864	C7864	128.74	Brass Survey Marker - Final Survey Report		50.8	15.5	113.3	NP	NP	NP	N/A	NDE	NDE	<113.3	N/A	100-H vadose borehole
C8205	C8205	144.32	Disc Z		186.4	56.8	87.5	23	7.0	137.3	borehole log and well summary report (Williams)	170	51.8	92.5	borehole log and well summary report (Williams)	"Grounding" Well for the 100-K Substation
C7883	C7883	145.49	Staking Survey		89.7	27.3	118.1	NDE	NDE	<118.2	N/A	NDE	NDE	<118.2	N/A	100-BC vadose borehole (100-C-7)
C7884	C7884	145.38	Staking Survey		91.1	27.8	117.6	NDE	NDE	<117.6	N/A	NDE	NDE	<117.6	N/A	100-BC vadose borehole (100-C-7)
C7971	C7971	122.14	Disc Z		33.5	10.2	111.9	NP	NP	NP	N/A	29	8.8	113.3	borehole log (GRAM)	100-F vadose borehole; RE not present
C8239	C8239	144.04	Disc Z		82.3	25.1	119.0	NDE	NDE	<119.0	N/A	NDE	NDE	<119.0	N/A	100-BC vadose borehole