

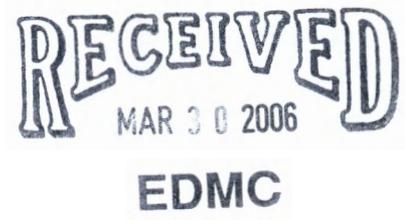
Interim Change Notice  
(ICN)

<b>A. Document No.:</b> PNNL-14301, Rev. 2 <b>Revision No. 2</b> September 2005		<b>Effective Date of ICN:</b> 3/10/06
<b>Document Title:</b> <i>Monitoring Plan for RCRA Groundwater Assessment at the 216-U-12 Crib</i>		
<b>Document's Original Author:</b> B. A. Williams and C. J. Chou		<b>Change Requested By:</b> Bruce A. Williams
<b>B. Action:</b> Make changes in the 216-U-12 crib groundwater quality assessment plan as described in Section D below. Attach this ICN to the front of the document.		
<b>C. Effect of Change:</b> This ICN updates the assessment plan to reflect the current wells in the monitoring system and the current constituent list for 216-U-12 crib in compliance with RCRA assessment monitoring.		
<b>D. Reason for Change/Description of Change:</b>  <b>Reason for Change:</b> One new well, 299-W22-87, was constructed upgradient of the 216-U-12 crib and will be incorporated into the monitoring network. The old upgradient monitoring well, 299-W22-43, had gone dry due to the falling water table and had temporarily been replaced with an older existing upgradient well 299-W22-26. New well 299-W22-87 is a new compliant well that will replace the interim well, 299-W22-26, which is an older non-compliant well structure. The monitoring well list has been modified accordingly to accommodate these changes. The table of well constituents and frequency of sampling has been updated to include the new well.  <b>Description of Change:</b> <ul style="list-style-type: none"> <li>• Replace Figure 1 with revised Figure R1 attached.</li> <li>• Replace Figure 1.1 with revised Figure R1.1 attached.</li> <li>• Replace Table 1.1 with the revised Table R1.1 attached.</li> <li>• Replace Table 1.2 with the revised Table R1.2 attached.</li> <li>• Add to Appendix A the attached Well Construction Summary Report, Well Summary Sheet, Borehole Log, and the Well Survey Data Report for new well 299-W22-87.</li> </ul>		
<b>E. Document Management Decisions:</b> None.		

66656

<b>F. Approval Signatures</b> (Please Sign and Date) Task Manager: <u><i>S. P. Luttrell</i></u> <u>3/20/06</u> S. P. Luttrell	<b>Type of Change: (Check one):</b> <input type="checkbox"/> Minor <input checked="" type="checkbox"/> Major
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**Project Quality Engineer:** *Thomas G. Walker*      Date: 3/20/06  
 T. G. Walker  
**Other Approvals:** *Bruce A. Williams*      Date: 3/17/06  
 B. A. Williams  
*Mary J. Hartman*      Date: 20 Mar 06  
 M. J. Hartman



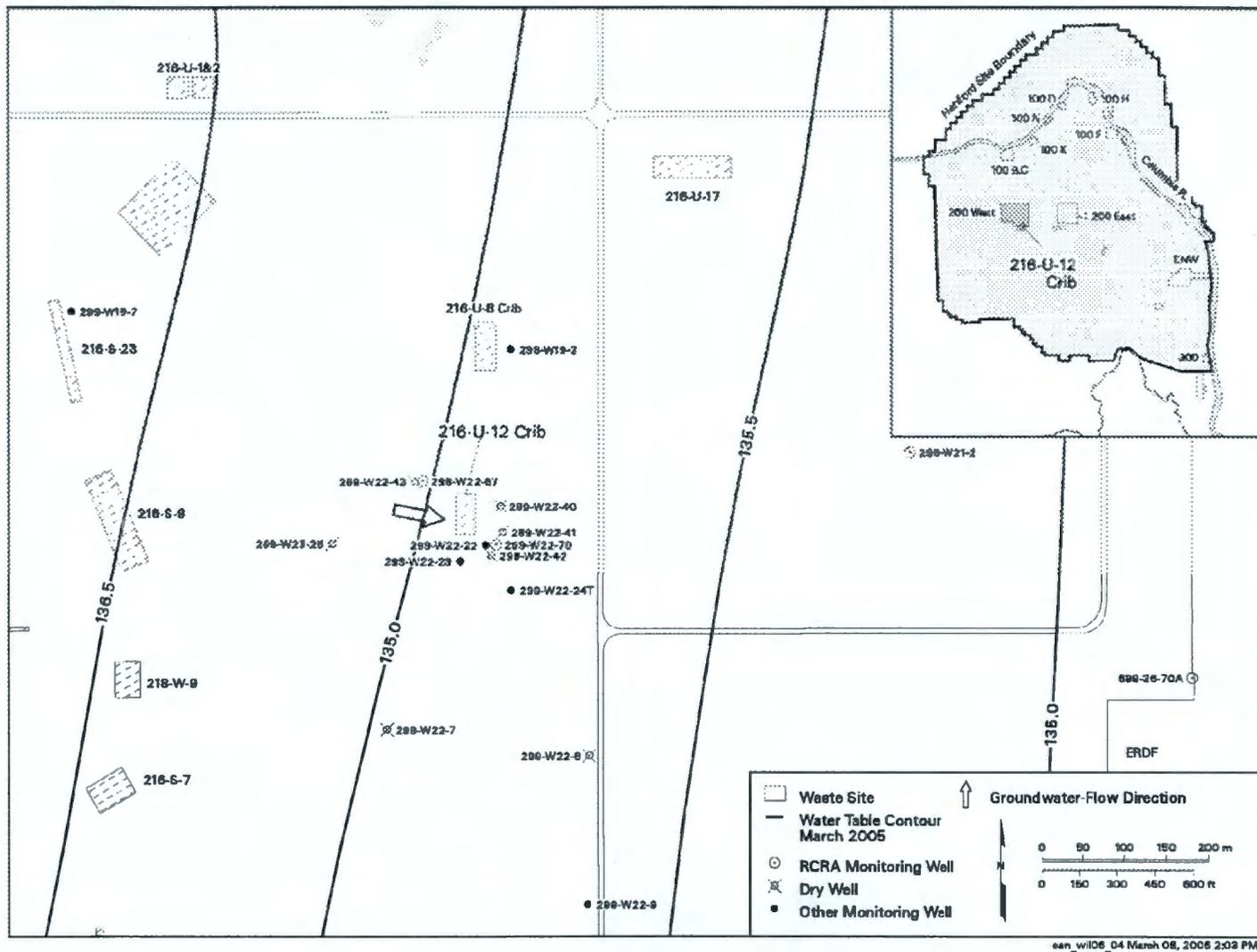


Figure R1. Location of 216-U-12 Crib on the Hanford Site, Washington



**Table R.1.1. 216-U-12 Crib Interim Status Groundwater Monitoring Network**

Well	Well Standard	Unit Monitored	Comment	Other Users
299-W22-87	WAC 173-160	Top of unconfined	Upgradient well location, installed in 2006	CERCLA
299-W22-79	WAC 173-160	Top of unconfined	In current network	CERCLA
699-36-70A	WAC 173-160	Top of unconfined	In current network	CERCLA
299-W21-2	WAC 173-160	Top of unconfined	Installed in CY04 for 200 UP-1 monitoring	CERCLA

**Table R.1.2. Well Constituents and Frequency of Sampling at the 216-U-12 Crib**

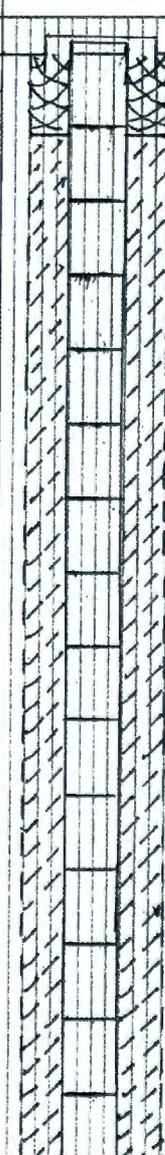
Well Number	Constituents Required Under This Plan			Constituents Supporting Interpretation									
	Arsenic	Chromium (total; filtered)	Nitrate	Alkalinity	Anions <sup>(a)</sup>	Metals (filtered) <sup>(b)</sup>	Technetium-99 <sup>(a,c)</sup>	TDS	pH	Specific conductance	Temperature	Turbidity	Water Levels <sup>(d)</sup>
299-W22-87	A	A	Q	A	Q	A	Q	A	Q	Q	Q	Q	Q
299-W22-79	A	A	Q	A	Q	A	Q	A	Q	Q	Q	Q	Q
699-36-70A	A	A	Q	A	Q	A	Q	A	Q	Q	Q	Q	Q
299-W21-2	A	A	Q	A	Q	A	Q	A	Q	Q	Q	Q	Q

(a) Anions – Analyzed include, but not limited to, chloride, nitrate, sulfate, and fluoride.  
 (b) Metals – Analyzed include, but not limited to, calcium, potassium, magnesium, and sodium.  
 (c) Not regulated under RCRA; co-contaminant analyzed to help determine groundwater flow rate and direction and to support CERCLA and AEA monitoring.  
 (d) Measured before purging well for sampling.  
 A = annually; Q = quarterly.

WELL CONSTRUCTION SUMMARY REPORT				Start Date: 12-14-05			
				Finish Date: 1-25-06			
				Page 1 of 2			
Well ID: C4977		Well Name: 299-W22-B7		Approximate Location: S of U Plant			
Project: 200-UP-7 GW Monitoring Wells		Other Companies: Gram, Inc		Geologist(s): R. Henderson, N. Bowles			
Drilling Company: Layne Christensen		License #: 2695					
Driller: Dave Dewitt							
TEMPORARY CASING AND DRILL DEPTH			DRILLING METHOD	HOLE DIAMETER (in.) / INTERVAL (ft)			
*Size/Grade/Lbs. Per Ft.	Interval	Shoe O.D./I.D.	Auger:	Diameter 9" From 0 to 379.5			
9" dual wall carbon steel	0 - 379.5	9" x 6"	Cable Tool:	Diameter From to			
			Air Rotary:	Diameter From to			
			A.R. w/Sonic:	Diameter From to			
				Diameter From to			
				Diameter From to			
*Indicate Welded (W) - Flush Joint (FJ) Coupled (C) & Thread Design				Diameter From to			
379.5' RT			Drilling Fluid: NA				
Total Drilled Depth: <del>379.5'</del>		Hole Dia @ TD: 9"	Total Amt. Of Water Added During Drilling: NA				
Well Straightness Test Results: passed 12-29-05			Static Water Level: 250.47'	Date: 12-20-05			
GEOPHYSICAL LOGGING							
Sondes (type)	Interval	Date	Sondes (type)	Interval	Date		
Spectral Gamma	0 - 379.5	12-28-05					
COMPLETED WELL							
Size/Wt./Material	Depth	Thread	Slot Size	Type	Interval Annular Seal/Filter Pack	Volume	Mesh Size
2in 5 type 304 stainless steel	2.10 - 290.23	✓	NA	Natural backfill	379.50 - 383.70	-	20
type 304 stainless steel	290.23 - 295.30	✓	0.020" to 0.040"	Colorado silica sand	303.70 - 296.80	72 bag	10-20
type 304 stainless steel	295.30 - 298.33	✓	NA	Bentonite pellets - red soil	296.80 - 290.90	2.5	1/4"
				Colorado silica sand	290.90 - 240.90	30	10-20
				Bentonite pellets - red soil	240.90 - 221.03	2.9	1/4"
OTHER ACTIVITIES							
Aquifer Test:	Date:	Well Decommission:		Yes:	No:	Date:	
Description:	N/A	Description:		N/A			
WELL SURVEY DATA (if applicable) Not yet available -							
Washington State Plane Coordinates:				Protective Casing Elevation:	277.86		
				Brass Survey Marker Elevation:	LOW		
COMMENTS / REMARKS							
4" stainless steel permanent well casing							
Reported By: Robin Henderson		Title: Geologist		Signature: Robin Henderson			
				Date: 12-14-05			

A-6003-658 (04/03)

WELL CONSTRUCTION SUMMARY REPORT				Start Date: 12-14-05			
				Finish Date: 1-25-06			
				Page 2 of 2			
Well ID: C4977		Well Name: 299-W27-87		Approximate Location: S. of U Plant			
Project: 200 UP4 OU Monitoring wells			Other Companies: Gram, Inc				
Drilling Company: Layne Christensen			Geologist(s): R. Henderson Newby				
Driller: Dave Dewoft		License #: 2695					
TEMPORARY CASING AND DRILL DEPTH			DRILLING METHOD	HOLE DIAMETER (in.) / INTERVAL (ft)			
*Size/Grade/Lbs. Per Ft.	Interval	Shoe O.D./I.D.	Auger.	Diameter 9" From 0 to 377.5			
1" x 6" dual wall carbon steel	0 - 377.5	9" x 6"	Cable Tool:	Diameter _____ From _____ to _____			
			Air Rotary:	Diameter _____ From _____ to _____			
			A.R. w/Sonic.	Diameter _____ From _____ to _____			
				Diameter _____ From _____ to _____			
*Indicate Welded (W) - Flush Joint (FJ) Coupled (C) & Thread Design				Diameter _____ From _____ to _____			
			Drilling Fluid: NA				
Total Drilled Depth: 377.5'		Hole Dia @ TD: 9"		Total Amt. Of Water Added During Drilling: NA			
Well Straightness Test Results: Passed 12-21-05		Static Water Level: 250.47'		Date: 12-20-05			
GEOPHYSICAL LOGGING							
Sondes (typo)	Interval	Date	Sondes (typo)	Interval	Date		
Spectral Gamma	0 - 377.5	12-28-05					
COMPLETED WELL							
Size/Wt./Material	Depth	Thread	Slot Size	Type	Interval Annular Seal/Filter Pack	Volume	Mesh Size
Type 304 stainless steel casing	1010 - 250.23			Granular Bentonite	224.08 - 11.58	117	
Type 304 stainless steel screen	250.23 - 285.30			Cement Grout	11.58 - 0	10	
Type 304 stainless steel pump	285.30 - 285.33						
OTHER ACTIVITIES							
Aquifer Test: <del>Not used</del>		Date:	Well Decommission: <del>Not used</del>		Yes:	No:	Date:
Description:			Description:				
WELL SURVEY DATA (if applicable)							
Washington State Plane Coordinates: <del>NA</del>				Protective Casing Elevation:			
				Brass Survey Marker Elevation:			
COMMENTS / REMARKS							
<del>NA</del>							
Reported By: Robin Henderson		Title: Geologist		Signature: Robin Henderson		Date: 12-14-05	

WELL SUMMARY SHEET		Start Date: 12-14-05	Page <u>L</u> of <u>3</u>	
		Finish Date: 1-25-06		
Well ID: <u>C4677</u>		Well Name: <u>299-W22-87</u>		
Location: <u>S of U Plant</u>		Project: <u>200-UP2-00 Monitoring Wells</u>		
Prepared By: <u>Robin Henderson</u>	Date: <u>2-29-05</u>	Reviewed By: <u>L.D. Walker</u>	Date: <u>2/7/06</u>	
Signature: <u>Robin Henderson</u>		Signature: <u>L.D. Walker</u>		
CONSTRUCTION DATA		GEOLOGIC/HYDROLOGIC DATA		
Description	Diagram	Depth in Feet	Lithologic Description	
4" stainless steel type 304 sch. 5 riser pipe: + 2.10' ags → 250.23' ags		0	0' → 1.5' Sandy Gravel 1.5' → 110' Sand	
4" type 304 sch. 5 10-20 slot screen: 250.23' → 285.30		25		
4" stainless steel type 304 sch. 5 sump: 285.30' → 288.33'		50		
Cement Grout: 0' → 11.58'		75		
Granular Bentonite: 11.58' → 234.03'		100		
Protective surface casing, 6" SS set 1.0' above the 4" well casing		125		
Temporary drill casing 9" by 6" dual wall				
				110' → 135' Silty Sand
				135' → 150' Sand

A-6003-643 (03/03)

WELL SUMMARY SHEET		Start Date: 12-14-05		Page 2 of 3		
		Finish Date: 1-25-06				
Well ID: C4977		Well Name: 299-W22-87				
Location: S. of U-Plant		Project: 200-VP-1 OU Monitoring Wells				
Prepared By: Robin Henderson		Date: 2-29-05		Reviewed By: L.D. Walker		
				Date: 2/7/06		
Signature: Robin Henderson		Signature: L.D. Walker				
CONSTRUCTION DATA		GEOLOGIC/HYDROLOGIC DATA				
Description	Diagram	Depth in Feet	Graphic Log	Lithologic Description		
Granular Bentonite: 11.58' → 234.03'		150		150' → 105' silty sand		
					105' → 187' silt	
Bentonite Pellets: 234.05' → 240.35'			175		187' → 195' caliche	
10-20 Colorado Silica sand: 240.35' → 240.90'			200		195' → 200' sand	
					200' → 225' silt	
Bentonite Pellets: 240.90' → 240.80'			225		225' → 245' sandy silt	
Static groundwater depth: 250.47' (12-20-05)			250		245' → 250' gravelly sand	
					250' → 330' sandy gravel	
			275			

A-6003-643 (03/03)

WELL SUMMARY SHEET		Start Date: 12-14-05	Page 3 of 3
		Finish Date: 1-25-06	
Well ID: (4977)	Well Name: 299-W22-87		
Location: S. of U Plant	Project: 200-UR1 OU Monitoring Wells		
Prepared By: Robin Henderson	Date: 12-29-05	Reviewed By: L. D. Walker	Date: 2/7/06
Signature: Robin Henderson		Signature: <i>L.D. Walker</i>	
CONSTRUCTION DATA		GEOLOGIC/HYDROLOGIC DATA	
Description	Diagram	Depth in Feet	Lithologic Description
Colorado Silica Sand backfill: 296.80' → 303.70'		300	
Natural backfill: 303.70' → 379.50'		325	330' → 340' Gravelly Sand
static groundwater: 250.47'		350	340' → 379.5' Sandy Gravel
		375	
		400	
All depths are in feet below ground surface			TD: 379.5' logs
All temporary casing was removed from ground surface			

A-6003-643 (03/03)

BOREHOLE LOG					Page 1 of 5
Well ID: C4917		Well Name: 299-W22-B7		Location: S. of U Plant	
Project: 200 UP] OU Monitoring Wells				Reference Measuring Point: ground surface	
Depth (Ft)	Sample		Graphic Log	Sample Description	Comments
	Type No.	Blows Recovery			
0	Archive			0-1.5' Sandy Gravel, unconsolidated backfill for drill pad. Subrounded to subangular, very fine to med. sand. tan. gravel 45% metamorphic, 35% mafic	Diesel hammer (Becker Hammer) with 9"x6" dual wall drill casing
10	Archive			1.5-7' very fine to med. Sand, tan, possibly from sand dunes. little gravel	1-pint archive grab samples collected every 5 feet.
20	Archive			7-110' Sand of Hanford fm. very fine to very coarse. Some basaltic gravel (less than 2%)	
30	archive			Sand is 45% mafic, 35% felsic, etc. No RGN HCL. Subrounded to rounded.	Rad and organic vapor readings below background with field instruments
40	archive			-20': very fine to medium sand sand is 45% mafic, 35% etc, felsic No RGN w/ HCL	
50	archive			-35': med. to coarse sand. 75% mafic, 25% etc & felsic, very sparse gravel. No RGN w/ HCL	
60	archive			-40': very fine to med. sand, subrounded to subangular. 55% felsic, 45% mafic, very sparse gravel	
70	archive			-45': med. to very coarse sand, NO RGN w/ HCL, subrounded to subangular. sand 50% mafic, 50% felsic/ etc. NO gravel.	
	archive			-50': coarse to very coarse sand with 2% small pebbles, otherwise same comp. as 45'	
	archive			-55': med. to very coarse	
	archive			-60': med. to very coarse sand. 45% felsic/ etc, 55% mafic subrounded to subangular	
	archive			-70': 35% mafic, 45% felsic/ etc; ↓ bright content	

Reported By: Rob'n Henderson	Reviewed By: L.O. Walker
Title: Geologist	Title: Geologist
Signature: Rob'n Henderson	Signature: [Signature]
Date: 12-14-05	Date: 2/7/06

A-6003-642 (03/03)

BOREHOLE LOG					Page <u>2</u> of <u>5</u>
					Date: <u>12-14-05</u>
Well ID: <u>C4977</u>		Well Name: <u>29A-W22-67</u>		Location: <u>S. of U Plant</u>	
Project: <u>200-UP-1 OU Monitoring Wells</u>			Reference Measuring Point: <u>ground surface</u>		
Depth (FL)	Sample		Graphic Log	Sample Description	Comments
	Type No.	Blows Recovery			
80	Archive			- 80': fine to coarse sand, basalt content decreasing. 70% felsic/Qtz & 25% mafic. Subrounded to subangular. NO RXN w/ HCL	Diesel hammer 9" x 6" dual wall drill casing
90	Archive			- 90': very fine to coarse sand, otherwise same as above @ 80'	1-pint archive grab samples collected at 5-foot intervals
	Archive			- 95': very fine to med. sand, slightly silty (3%), mica in sand matrix (2%), sand is 80% felsic/Qtz & 20% mafic	
100	Archive			- 100': very fine to fine sand. ↑ silt to 5% of matrix. sand is 85% felsic/Qtz & 15% mafic. NO RXN w/ HCL. subrounded to rounded.	Rad and organic vapor readings non-detect with field instruments
110	Archive			- 105': ↑ silt to 10% of matrix.	
	Archive			- 110' <del>Sandy Silt</del> Silty sand, very fine to medium sand (15% mafic, 85% felsic/Qtz, 2% mica), subangular to subrounded. NO RXN w/ HCL	
120	Archive			- 115': very fine to coarse sand	
	Archive				
130	Archive				
	Archive			- 135' <del>115'</del> Sand, very fine to medium sand (85% felsic/Qtz, 10% mafic, 2% mica) trace silt. small pebbles (max. size 1/2 inch). NO RXN HCL	
140	Archive			- 140' fine to coarse sand	
	Archive			- 145' inc. in silt to 5% of matrix, sand 95%	
150	Archive				
	Archive			- 150' → 165' Silty sand, sand is very fine to med. & is 85% felsic/Qtz (13% mafic, 2% mica), subrounded to subangular. NO RXN w/ HCL. 35% silt, 65% sand	

Reported By: <u>Robin Henderson</u>	Reviewed By: <u>L.D. Walker</u>
Title: <u>Geologist</u>	Title: <u>Geologist</u>
Signature: <u>Robin Henderson</u> Date: <u>12-14-05</u>	Signature: <u>L.D. Walker</u> Date: <u>2/7/06</u>

A-6003-642 (03/03)

BOREHOLE LOG					Page 3 of 5
Well ID: C4977					Date: 12-14-05
Well Name: 299-W22-87			Location: S. of vPlant		
Project: 200-UP-1 OU MONITORING WELLS			Reference Measuring Point: ground surface		
Depth (Ft.)	Sample		Graphic Log	Sample Description	Comments
	Type No.	Blows Recovery			
160	Archive			-160': decreasing sand, NO RXN w/ HCL	Diesel hammer
	Archive			-165' to 187': Silt of Cold Creek UNIT. strong RXN w/ HCL. 95% qtz/felsic, 4% mafic, 1% mica	9" x 6" steel wall drill casing
170	Archive				1-pint archive grab samples collected at 5-ft. intervals
	Archive				
180	Archive				
	Archive				Rad and organic vapor readings non-detect with field instruments
190	Archive			-187' to 195' Caliche of Upper Ringold. strong RXN w/ HCL	
	Archive			-195' to 200': Sand of Upper Ringold. 85% qtz/felsic, 14% mafic, 1% mica. No RXN w/ HCL. subrounded to subangular. Very sparse metamorphic pebbles (max size 1")	
200	Archive				
	Archive			-200' to 205': Silt. 85% qtz/felsic, 14% mafic, 1% mica. medium tan. No RXN w/ HCL. No gravel.	
210	Archive			-210': silt w/ clay nodules 90% silt 10% clay nodules	
	Archive			-215': clumpy. Fe reduction in clumps.	
220	Archive				
	Archive			225' to 230' Sandy silt. sand is very fine to fine. 70% silt, 30% sand. 85% felsic/Qtz, 14% mafic, 1% mica.	
230	Archive				
	Archive			- coarseness inc. as depth inc well-sorted.	

Reported By: Robin Henderson	Reviewed By: L.O. Walker
Title: Geologist	Title: Geologist
Signature: Robin Henderson Date: 12-14-05	Signature:  Date: 2/7/06

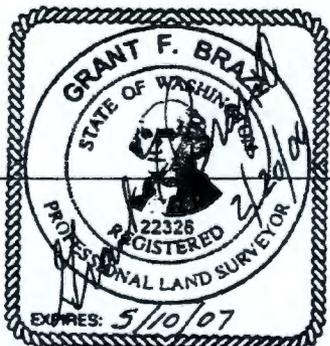
A-6003-642 (03/03)

BOREHOLE LOG				Page 4 of 5	
				Date: 12-15-05	
Well ID: C4977		Well Name: 299-W22-B7		Location: S of U Plant	
Project: 200-UP-1 DU Monitoring Wells			Reference Measuring Point: ground surface		
Depth (Ft.)	Sample		Graphic Log	Sample Description	Comments
	Type No.	Blows Recovery			
240	archive				Died hammer
	archive				9" x 6" dual wall drill casing
				- 245' → 250' gravelly Sand of Unit E of Ringold Fm. May pebble size is 1" very fine to med. sand (55% feldic, 42% & 15% mafic)	1-pint grab samples for archive, every 5-Ft
250	archive			25' gravel, 75% sand	static groundwater level: 250.47 bgs
	archive			- 250' → 230' Sandy Gravel very fine to very coarse sand.	
	split spoon	30%		sand is 85% feldic/late, 12% mafic, 3% mica	258': Split Spoon driven for PNNL sample
260	archive			gravel is 50% mafic, 50% basalt	
	archive			max. cable of 1" subrounded to subangular, 45% gravel & 55% sand	
270	archive			NO RXN w/ HCL	groundwater sample @ 269' bgs HETS No. B1H2K5
	archive				260': Grab sample for Sieve Analysis
280	split spoon	0%			280': Split Spoon 0% recovery
	archive			- 290': highly cemented w/ CO <sub>2</sub> material (strongly RXN to HCL)	280': Grab sample for sieve analysis from the cyclone separator
290	archive				
	archive				groundwater sample @ 299 → 300' bgs HETS No: B1H2K10
300	archive			- 305': increased cable size to 8", slight RXN to HCL	
	archive				
310	archive				
	archive				

Reported By: Robin Henderson	Reviewed By: L.D. Walker
Title: Geologist	Title: Geologist
Signature: Robin Henderson	Signature: L.D. Walker
Date: 12-15-05	Date: 2/7/06

BOREHOLE LOG					Page 5 of 5
Well ID: C497		Well Name: 299-W22-87		Location: S of U Plant	
Project: 200-VP-1 OU Monitoring Wells			Reference Measuring Point: ground surface		
Depth (Ft.)	Sample		Graphic Log	Sample Description	Comments
	Type No.	Blows Recovery			
320	archive				Diesel hammer with 9" x 6" dual wall casing
	archive				groundwater sample from 327' to 331' bgs
330	archive			330' to 340': gravelly sand, v. fine to med. sand (85% felsic/ltc, 12% mica, 3% mica), gravel up to 3" cobble, 15% metamorphic, 20% basalt, 20% gravel, 5% silt, 75% sand	HETS No's B1H3F0 B1H2K7
	archive				
340	archive			340' to 379.5' Sandy Gravel	
	archive			Very fine to very coarse sand, sand 85% felsic/ltc, 12% mica, 3% mica, max cobble of 4", gravel 75% metamorphic, 25% basalt, sandy matrix is subangular to subrounded, 45% gravel, 55% sandy	1-pit grab samples for archive every 5-feet.
	archive				
350	archive			highly cemented w/ carbonate material from 340' to 360', loose sandy gravel after ~ 360'	
	archive				
360	archive				
	archive				
370	archive				
	archive				
	archive				
380	archive				
390					
Reported By: Robin Henderson			Reviewed By: L. D. Walker		
Title: Geologist			Title: Geologist		
Signature: Robin Henderson		Date: 2-22-05	Signature: L. D. Walker		Date: 2/7/06

A-6003-642 (03/03)

<b>WELL SURVEY DATA REPORT</b>					
<b>Project:</b>		<b>Prepared By:</b> S. Wray <b>Company:</b> FGG			
<b>Date Requested:</b> 1/30/06		<b>Requestor:</b> Chris Wright (FH)			
<b>Date of Survey:</b> 2/15/06		<b>Surveyor:</b> N.P. Fastabend FGG Survey Dept.			
<b>ERC Point of Contact:</b>		<b>Survey Co. Point of Contact:</b> G. Brazil, P.L.S.			
<b>Description of Work:</b>  Civil Survey of Groundwater Monitoring Well #C4977 (299-W22-87)		<b>Horizontal Datum:</b> NAD83(91)			
		<b>Vertical Datum:</b> NAVD88			
		<b>Units:</b> METERS			
		<b>Hanford Area Designation:</b> 200W			
<b>Coordinate System:</b> Washington State Plane Coordinates (South Zone)					
<b>Horizontal Control Monuments:</b> 2W-48 (FGG), 2W-143 (FGG)					
<b>Vertical Control Monuments:</b> 2W-48 (FGG), 2W-57 (FGG)					
<b>Well ID</b>	<b>Well Name</b>	<b>Easting</b>	<b>Northing</b>	<b>Elevation</b>	
C4977	299-W22-87	567541.75	134539.88		Center of Casing
				212.022	Top Pump Baseplate, N. Edge
				212.015	Top Casing, N. Edge
				211.274	Brass Survey Marker
<b>Notes:</b>					
EQUIPMENT USED: TRIMBLE GPS 5800 RTK TRIMBLE DiNi 12 LEVEL					
<b>Surveyor Statement:</b> I, Grant F. Brazil, a Professional Land Surveyor registered in the State of Washington (Registration No. 22326), hereby certify that this report is based on a field survey performed in February, 2006 under my direct supervision, and that the data contained here is true and correct.					

Original to:  
 Distribution by DIS: