

**INTERIM CHANGE NOTICE
(ICN)**

A. Document No.: PNNL-12072 Revision No.: 0 Document Title: RCRA Assessment Plan for Single-Shell Tank Waste Management Area TX-TY at the Hanford Site Document's Original Author: F. N. Hodges and C. J. Chou	Effective Date of ICN: <u>1/23/2002</u>
Change Requested By: Duane G. Horton	
B. Action: Add changes defined in Section D below. Attach this ICN to the front of the document. <i>just in front of the title page. lm</i>	
C. Effect of Change: This ICN updates the assessment plan to reflect the current wells in the monitoring system and the current constituent list for WMA TX-TY. This ICN supplements all previous ICN's.	
D. Reason for Change/Description of Change: Reason for Change: New wells have been constructed at WMA TX-TY and some existing wells have gone dry. Changes to the constituent list are made to correct errors and omissions. Description of Change: See attached.	
E. Document Management Decisions: See Attached Distribution List.	

F. Approval Signatures (Please Sign and Date) Process Quality Department T. G. Walker <i>Thomas G. Walker 2/27/02</i>	Type of Change: (Check one): <input type="checkbox"/> Minor <input checked="" type="checkbox"/> Major X
Approval Authority: SP Luttrell, project management <i>[Signature]</i> Date: <i>2/27/02</i>	
Other Approvals: D. G. Horton, Technical <i>[Signature]</i> 2/7/02 Date: M. J. Hartman, Technical Reviewer <i>Mary J. Hartman 7 Feb 02</i>	

This ICN updates the groundwater monitoring network described in the subject document.

The groundwater monitoring network for single-shell tank Waste Management Area TX-TY currently consists of 15 wells. Figure R1.1.2 shows the monitoring wells in the WMA TX-TY monitoring network and replaces Figure 1.2 (page 1.3), Figure 3.1 (page 3.3), and Figure A.2 (page A.5) in the original plan. The 15 wells in the WMA TX-TY network are listed in Table R1-3.1a, which replaces the Table 3.1a on page 3.2 of the original plan.

Changes to the groundwater monitoring network since the subject assessment plan was written include:

- groundwater monitoring well 299-W15-765 is added to the monitoring network as a new upgradient well replacing well 200-W15-12 which is dry
- monitoring wells 299-W10-27, 299-W14-15, 299-W14-16, 299-W14-17, 299-W14-18, and 299-W15-763 are added to the network as downgradient monitoring wells
- well 299-W14-2 is dropped from the monitoring network because it is dry and replaced with new downgradient well 299-W14-18.

As-built diagrams for the new wells are attached.

Attached Figure R1.1.5 is an updated water table map to replace the water table map shown as Figure 1.5 (page 1.6) in the original plan.

The updated constituent list is shown in Table R1.3.2. This list replaces the list in Table 3.2 (page 3.6) of the original plan. Changes to the constituent list include:

- Removal of total dissolved solids from List A
- Removal of total organic carbon from List B
- Move gross alpha and gross beta from List A to List B
- Move I-129 from List A to List C
- Turbidity is added to List A.

Total dissolved solids is removed from the constituent list because it is a poor indicator parameter compared with turbidity, specific conductance, and alkalinity. Total organic carbon is removed from the constituent list because the carbon tetrachloride plume from Z Plant facilities completely underlies WMA TX-TY such that a release of organics from the WMA would be masked by the carbon tetrachloride plume.

Gross alpha and gross beta are moved from List A to List B and are being analyzed semi-annually because WMA TX-TY is in assessment monitoring and, as such, has samples analyzed for specific isotopes of concern. The indicator parameters gross alpha and gross beta are analyzed semi-annually as a check on the results of analyses for specific isotopes.

Iodine-129 is moved to List C because iodine-129 is only detected in some downgradient wells and is not an appropriate constituent for all wells. Also, turbidity was inadvertently omitted from List A and is, therefore, added to that list.

Table R1.3.1a. Assessment Monitoring Network, Constituent List and Sampling Frequency for WMA TX-TY

Well Name	RCRA Standard	Sampling Frequency ^(a) and Constituent List ^(b)	Comment
299-W10-17	Y	Q – List A SA – List B	
299-W10-26	Y	Q – List A, List C (I-129) SA – List B, List C (gamma scan)	
299-W10-27	Y	Q – List A SA – List B, List C (gamma scan) A – List C (Sr-90)	New downgradient well
299-W14-5	N	Q – List A SA – List B	
299-W14-6	N	Q – List A SA – List B	
299-W14-13	Y	Q – List A, List C (I-129) SA – List B, List C (gamma scan) A – List C (Sr-90)	
299-W14-14	Y	Q – List A SA – List B, List C (gamma scan)	
299-W14-15	Y	Q – List A, List C (I-129) SA – List B	New downgradient well
299-W14-16	Y	Q – List A, List C (I-129) SA – List B	New downgradient, mid-field well
299-W14-17	Y	Q – List A SA – List B	News downgradient, mid-field well
299-W14-18	Y	Q – List A, List C (I-129) SA – List B, List C (gamma scan)	
299-W15-40	Y	Q – List A SA – List B	
299-W15-41	Y	Q – List A SA – List B, List C (I-129) A – List C (Sr-90)	
299-W15-763	Y	Q – List A SA – List B, List C (gamma scan)	New downgradient well
299-W15-765	Y	Q – List A, List C (I-129) SA – List B	New upgradient well
(a) Q = Quarterly, SA = Semiannually, A = Annually.			
(b) Letters refer to Lists in Table R1.3.2. Specific constituents from List C are indicated.			

Table R1.3.2. Analytical Constituents for Waste Management Area TX-TY

List A	List B	List C ^(a)
Turbidity ^(b)	Gross alpha	Strontium-90
Specific conductance ^(b)	Gross beta	Special analyses ^(c)
pH ^(a)		I-129
Temperature ^(b)		Gamma Scan
Inductively coupled plasma metals		
Anions		
Alkalinity		
Technetium-99		
Tritium		
(a) Constituents from List C are individually selected for appropriate wells. (b) Field measured parameter. (c) Non-routine analyses include ruthenium-101, selenium-79, americium-241, and neptunium-237.		

Figure 2.3 in the original assessment plan (Hodges and Chou 2001) shows hydrographs of wells located at WMA T and not WMA TX-TY as originally intended. The figure is corrected and attached Figure R1.2.3 is to replace the original figure on page 2.5. The new hydrographs do not change the discussion in the text.

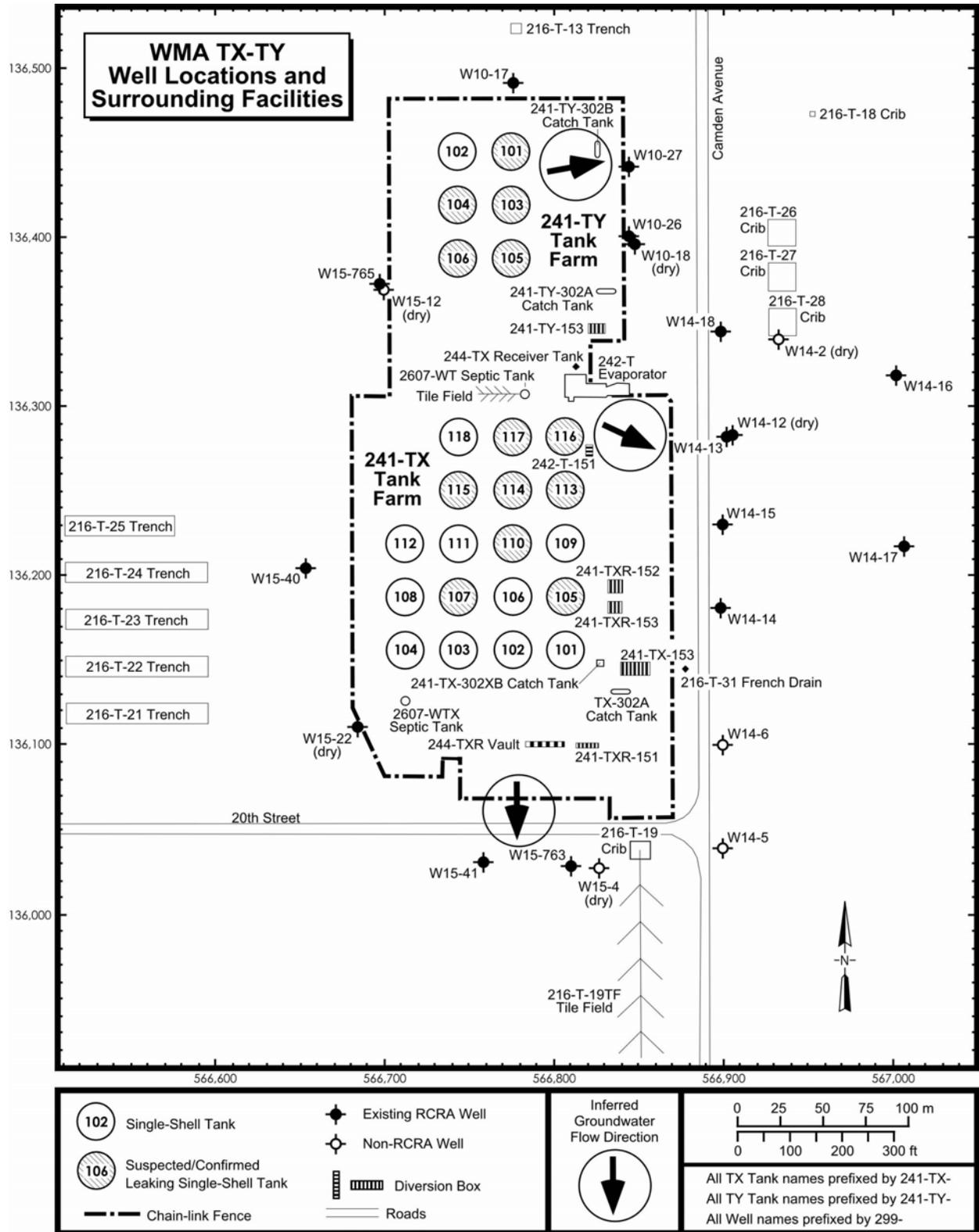
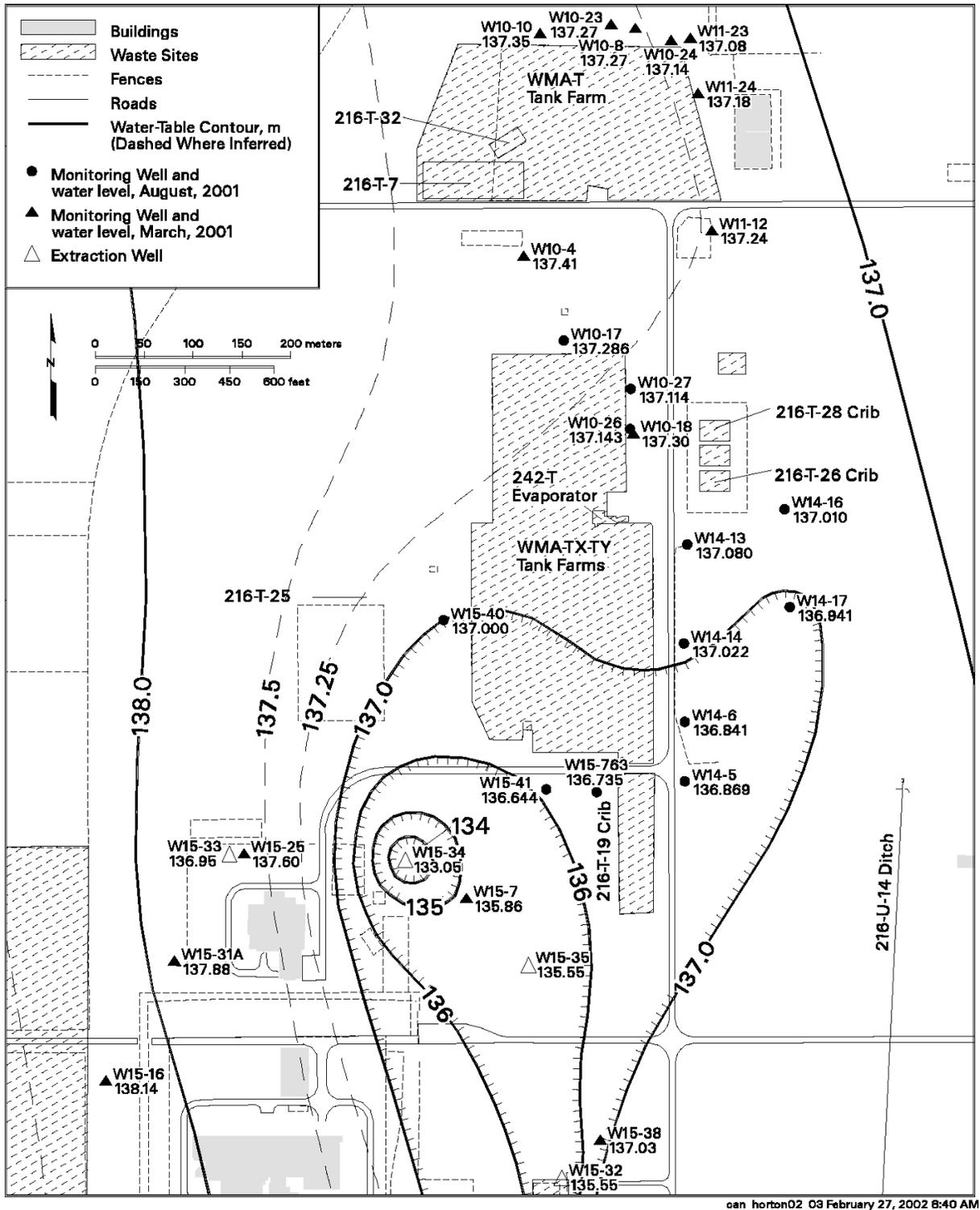


Figure R1.1.2. Map of WMA TX-TY and Wells in the WMA TX-TY Groundwater Monitoring Network



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Figure R1.1.5. Water Table Map, March and August 2001

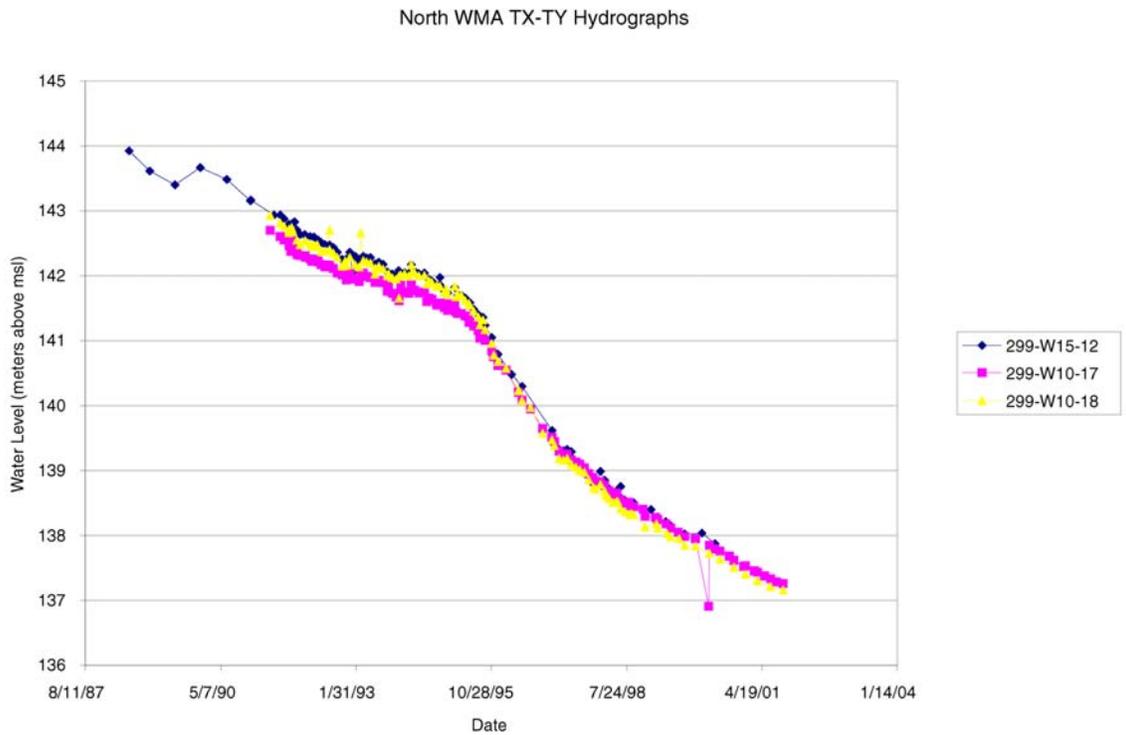
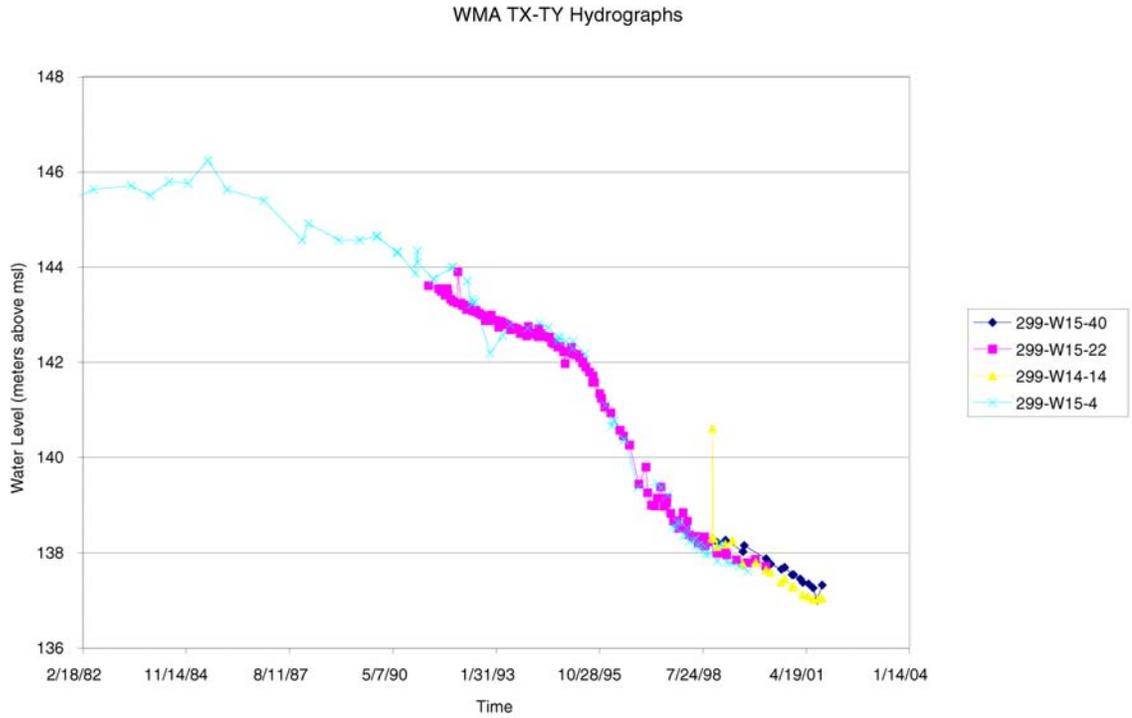
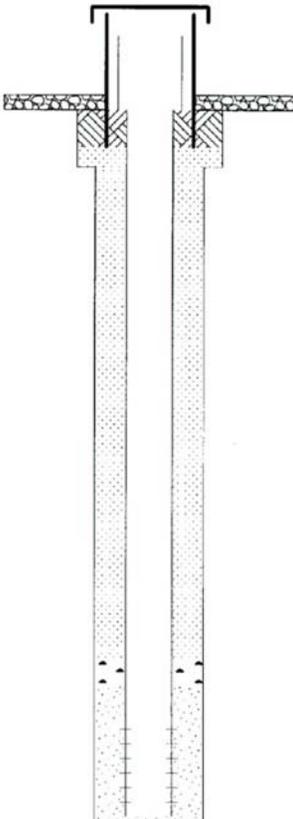
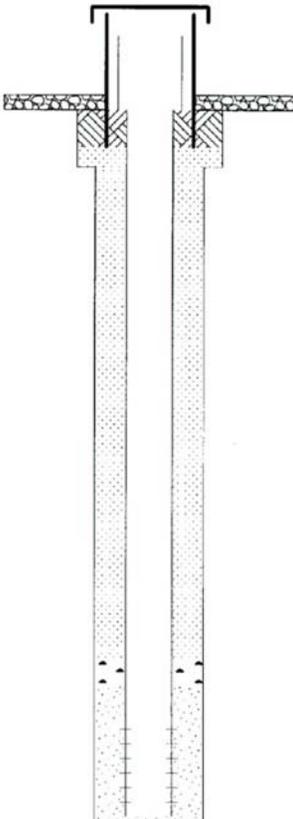
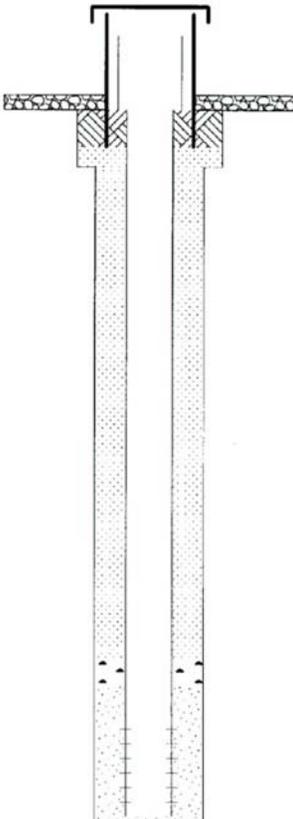


Figure R1.2.3. Hydrographs for Wells at WMA TX-TY

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WELL CONSTRUCTION AND COMPLETION SUMMARY																																													
Drilling Method: Cable Tool/Air Rotary Drilling Fluid Used: NA/Air Driller's Name: M. Wrasplr Drilling Company: RSI Date Started: 17Aug00	Sample Method: Grab/Split Spoon Additives Used: None WA State Lic Nr: 1909 Company Location: Woodland, Ca. Date Completed: 01Sep00	WELL NUMBER: 299-W14-15 Coordinates: N Not documented Coordinates: E Not documented Start Card #: Ro37802 Elevation Ground Surface:	TEMPORARY WELL NO: Not Allowed																																										
Depth to Water: 219.8 ft 05Sep00 (Ground surface) GENERALIZED STRATIGRAPHY Geologist's Log		Elevation of Reference Point: m Height of Reference Point Above Ground Surface: Depth of Surface Seal: 13.5 ft. Type of Surface Seal: 4x4 Concrete Pad																																											
<table border="0" style="width:100%;"> <tr> <td style="width: 50%;"> 0 - 2 ft : Silty SAND 2 - 19 ft : Gravelly Silty SAND 19 - 37 ft : Silty Sandy GRAVEL 37 - 68 ft : SAND 68 - 74 ft : Silty SAND 74 - 88 ft : SAND 88 - 103 ft : Silty SAND 103 - 118 ft : Slightly Silty Gravelly SAND 118 - 123 ft : Slightly Silty SAND 123 - 142 ft : Silty Sandy GRAVEL 142 - 143 ft : SAND 143 - 175 ft : Sandy GRAVEL 175 - 221 ft : Sandy GRAVEL 221 - 260 ft : Silty Sandy GRAVEL </td> <td style="width: 50%; text-align: center;">  </td> </tr> </table>		0 - 2 ft : Silty SAND 2 - 19 ft : Gravelly Silty SAND 19 - 37 ft : Silty Sandy GRAVEL 37 - 68 ft : SAND 68 - 74 ft : Silty SAND 74 - 88 ft : SAND 88 - 103 ft : Silty SAND 103 - 118 ft : Slightly Silty Gravelly SAND 118 - 123 ft : Slightly Silty SAND 123 - 142 ft : Silty Sandy GRAVEL 142 - 143 ft : SAND 143 - 175 ft : Sandy GRAVEL 175 - 221 ft : Sandy GRAVEL 221 - 260 ft : Silty Sandy GRAVEL		<table border="0" style="width:100%;"> <thead> <tr> <th style="text-align: left;">Fill</th> <th style="text-align: left;">Casing</th> <th style="text-align: left;">Screen</th> </tr> </thead> <tbody> <tr> <td>0 - 13.5 ft : 12-inch hole</td> <td>0 - 219.75 ft : 4 inch</td> <td></td> </tr> <tr> <td>Cement Surface Seal</td> <td>4" 304 SS Sch 5 well csg.</td> <td></td> </tr> <tr> <td>13.5 - 20.7 ft : 12-inch hole</td> <td></td> <td></td> </tr> <tr> <td>Granular Bentonite</td> <td></td> <td></td> </tr> <tr> <td>20.7 - 199.3 ft : 9-inch hole</td> <td></td> <td></td> </tr> <tr> <td>Granular Bentonite</td> <td></td> <td></td> </tr> <tr> <td>199.3 - 209.9 ft : 9-inch hole</td> <td></td> <td></td> </tr> <tr> <td>Bentonite Pellets</td> <td></td> <td>219.75 - 254.62 ft</td> </tr> <tr> <td>256.7 - 209.9 ft : 9-inch hole</td> <td></td> <td>4 inch</td> </tr> <tr> <td>10/20 Silica Sand</td> <td></td> <td>SS Wire Wrap .020 slot scrn.</td> </tr> <tr> <td>260 - 256.7 ft : 9-inch hole</td> <td>254.62 - 256.7 ft : 4 inch</td> <td></td> </tr> <tr> <td>10/20 Silica Sand</td> <td>4" SS Sump</td> <td></td> </tr> </tbody> </table>			Fill	Casing	Screen	0 - 13.5 ft : 12-inch hole	0 - 219.75 ft : 4 inch		Cement Surface Seal	4" 304 SS Sch 5 well csg.		13.5 - 20.7 ft : 12-inch hole			Granular Bentonite			20.7 - 199.3 ft : 9-inch hole			Granular Bentonite			199.3 - 209.9 ft : 9-inch hole			Bentonite Pellets		219.75 - 254.62 ft	256.7 - 209.9 ft : 9-inch hole		4 inch	10/20 Silica Sand		SS Wire Wrap .020 slot scrn.	260 - 256.7 ft : 9-inch hole	254.62 - 256.7 ft : 4 inch		10/20 Silica Sand	4" SS Sump	
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Drawing By: JEA Reference: Hanford Wells Revision: 0 Revision Date: 22Sep00 Print Date: 22Sep00																																													

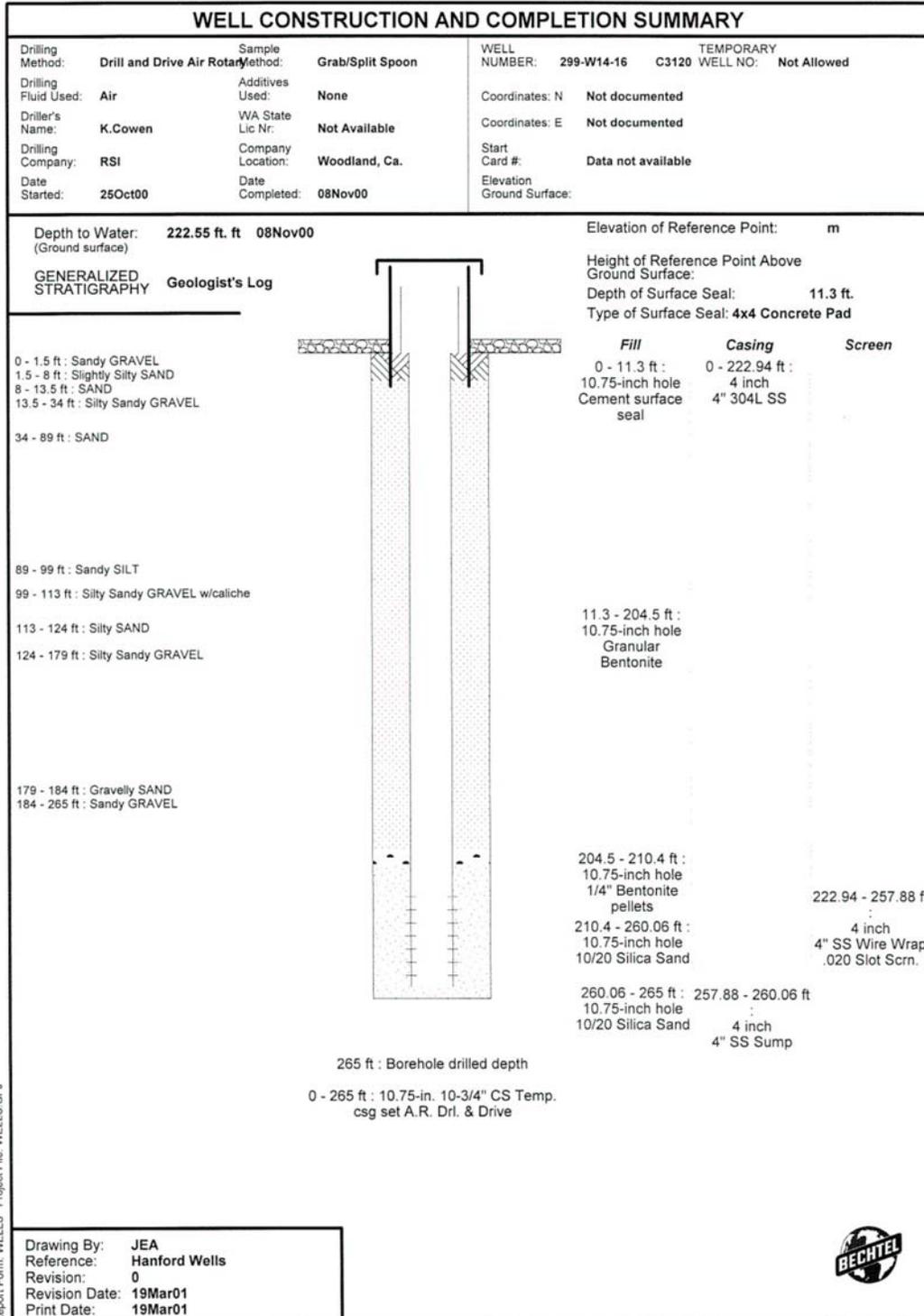
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WELL DESIGNATION	: 299-W14-15
CERCLA UNIT	:
RCRA FACILITY	:
DEPTH DRILLED (GS)	: 260.0 ft
MEASURED DEPTH (GS)	: 260.0 05Sep00
AVAILABLE LOGS	: Geologist
DATE EVALUATED	: Data not available
EVAL RECOMMENDATION	: Data not available
LISTED USE	: RCRA monitoring/sampling
CURRENT USER	: RCRA & Operations
PUMP TYPE	: Hydrostar
MAINTENANCE	: Data not available
COMMENTS	: Cable tool to 20.7 ft w/11-3/4" CS csg Air Rotary from 20.7 to 260 ft w/8-5/8" CS csg.
TV SCAN COMMENTS	:

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Revision: 0
Revision Date: 22Sep00
Print Date: 22Sep00

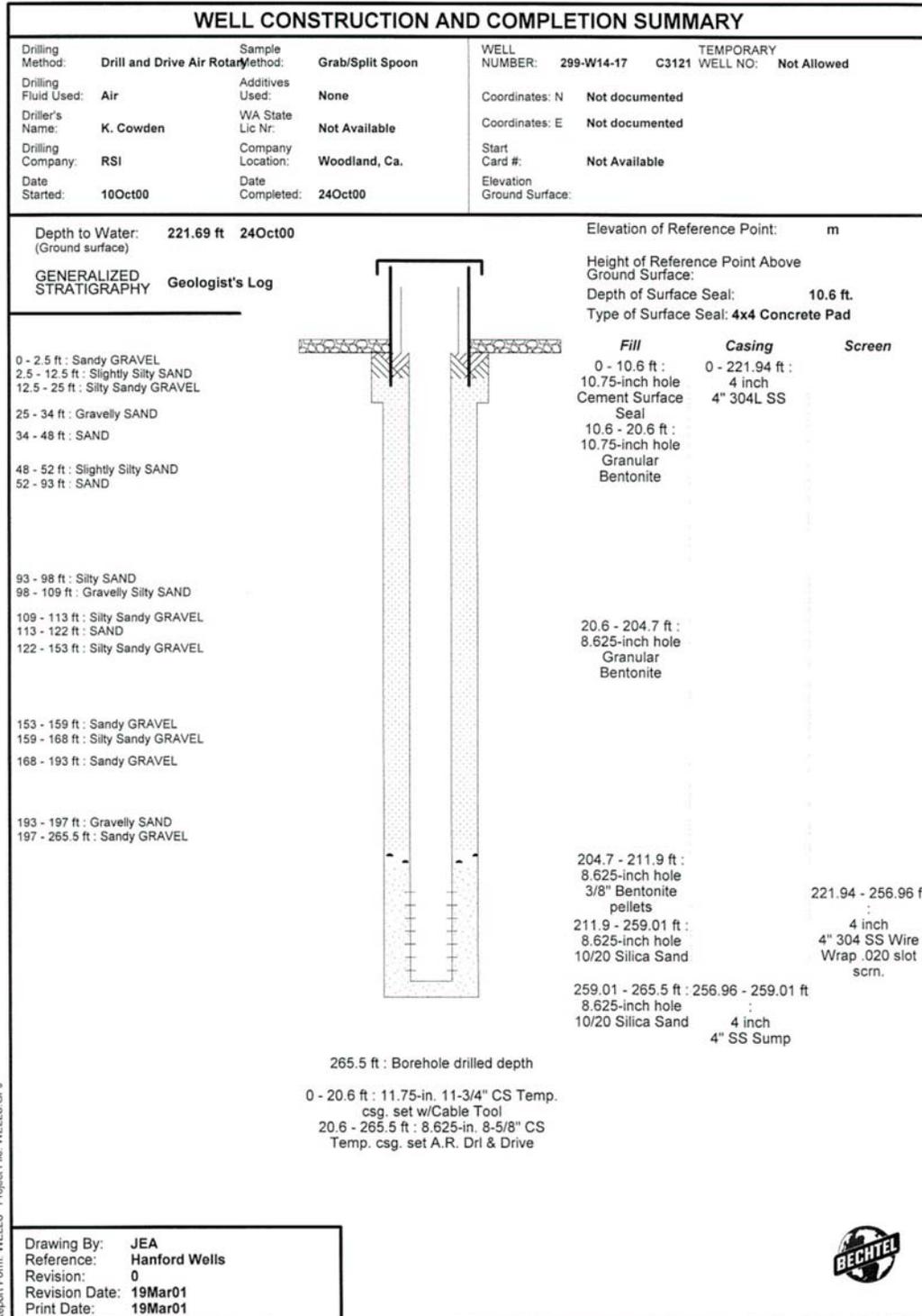


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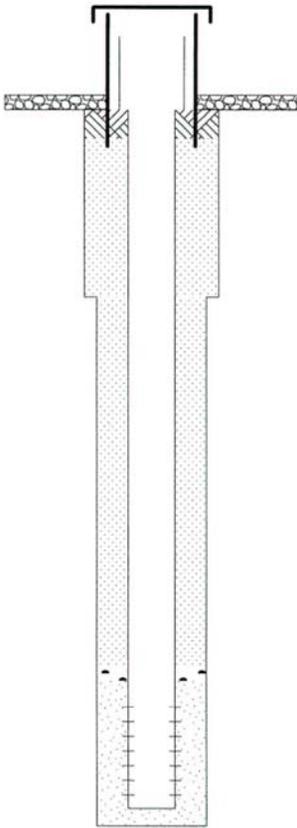
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WELL CONSTRUCTION AND COMPLETION SUMMARY																								
Drilling Method: Cable Tool Drilling Fluid Used: None Driller's Name: M. Waspir Drilling Company: RSI Date Started: 30Aug01	Sample Method: Grab/Split Spoon Additives Used: None WA State Lic Nr: 1909 Company Location: Woodland, Ca. Date Completed: 01Nov01	WELL NUMBER: 299-W14-18 Coordinates: N Not documented Coordinates: E Not documented Start Card #: R037816 Elevation Ground Surface:	TEMPORARY WELL NO: Not Allowed Elevation of Reference Point: m Height of Reference Point Above Ground Surface: Depth of Surface Seal: 10.5 ft Type of Surface Seal: 4x4 Concrete Pad																					
Depth to Water: 220.45 ft 07Nov01 (Ground surface) GENERALIZED STRATIGRAPHY	Geologist's Log																							
0 - 0.5 ft : Drill Pad Material 0.5 - 8 ft : Silty Sand 8 - 13 ft : Sand 13 - 34 ft : Sandy Gravel 34 - 88.5 ft : Sand 88.5 - 114 ft : Sandy Silt 114 - 120 ft : Silty Sand 120 - 125 ft : Sandy Silt 125 - 145 ft : Gravelly Silt 145 - 155 ft : Silty Gravel 155 - 160 ft : Gravelly Silt 160 - 165 ft : Silty Gravel 165 - 190 ft : Gravelly Silt 190 - 200 ft : Sandy Silt 200 - 205 ft : Gravelly Sandy Silt 205 - 210 ft : Silty Gravel 210 - 215 ft : Sandy Silt 215 - 220 ft : Gravelly Silt 220 - 235 ft : Gravelly Sandy Silt 235 - 240 ft : Gravelly Silt 240 - 261.5 ft : Gravelly Sandy Silt	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Fill</th> <th style="text-align: left; border-bottom: 1px solid black;">Casing</th> <th style="text-align: left; border-bottom: 1px solid black;">Screen</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">0 - 10.5 ft : 11-inch hole Cement Surface Seal</td> <td style="padding: 2px;">0 - 218.06 ft : 4 inch 304L SS sch 5 csg</td> <td></td> </tr> <tr> <td style="padding: 2px;">10.5 - 68.6 ft : 11-inch hole Granular Bentonite</td> <td></td> <td></td> </tr> <tr> <td style="padding: 2px;">68.6 - 203.3 ft : 9-inch hole Granular Bentonite</td> <td></td> <td></td> </tr> <tr> <td style="padding: 2px;">203.3 - 208.4 ft : 9-inch hole 1/4" Bentonite Pellets</td> <td></td> <td style="padding: 2px;">218.06 - 253.05 ft</td> </tr> <tr> <td style="padding: 2px;">208.4 - 255.05 ft : 9-inch hole 10/20 Silica Sand</td> <td></td> <td style="padding: 2px;">4 inch 304L SS Wire Wrap .020 slot scrn</td> </tr> <tr> <td style="padding: 2px;">255.05 - 261.5 ft : 9-inch hole 10/20 Silica Sand</td> <td style="padding: 2px;">253.05 - 255.05 ft : 4 inch 304L SS Sump</td> <td></td> </tr> </tbody> </table>	Fill	Casing	Screen	0 - 10.5 ft : 11-inch hole Cement Surface Seal	0 - 218.06 ft : 4 inch 304L SS sch 5 csg		10.5 - 68.6 ft : 11-inch hole Granular Bentonite			68.6 - 203.3 ft : 9-inch hole Granular Bentonite			203.3 - 208.4 ft : 9-inch hole 1/4" Bentonite Pellets		218.06 - 253.05 ft	208.4 - 255.05 ft : 9-inch hole 10/20 Silica Sand		4 inch 304L SS Wire Wrap .020 slot scrn	255.05 - 261.5 ft : 9-inch hole 10/20 Silica Sand	253.05 - 255.05 ft : 4 inch 304L SS Sump		261.5 ft : Borehole drilled depth 0 - 68.6 ft : 11-in. Cable Tool 10-3/4" CS Temp csg to 68.6 ft 68.6 - 261.5 ft : 9-in. Cable Tool 8-5/8" CS Temp csg to 261.5 ft	
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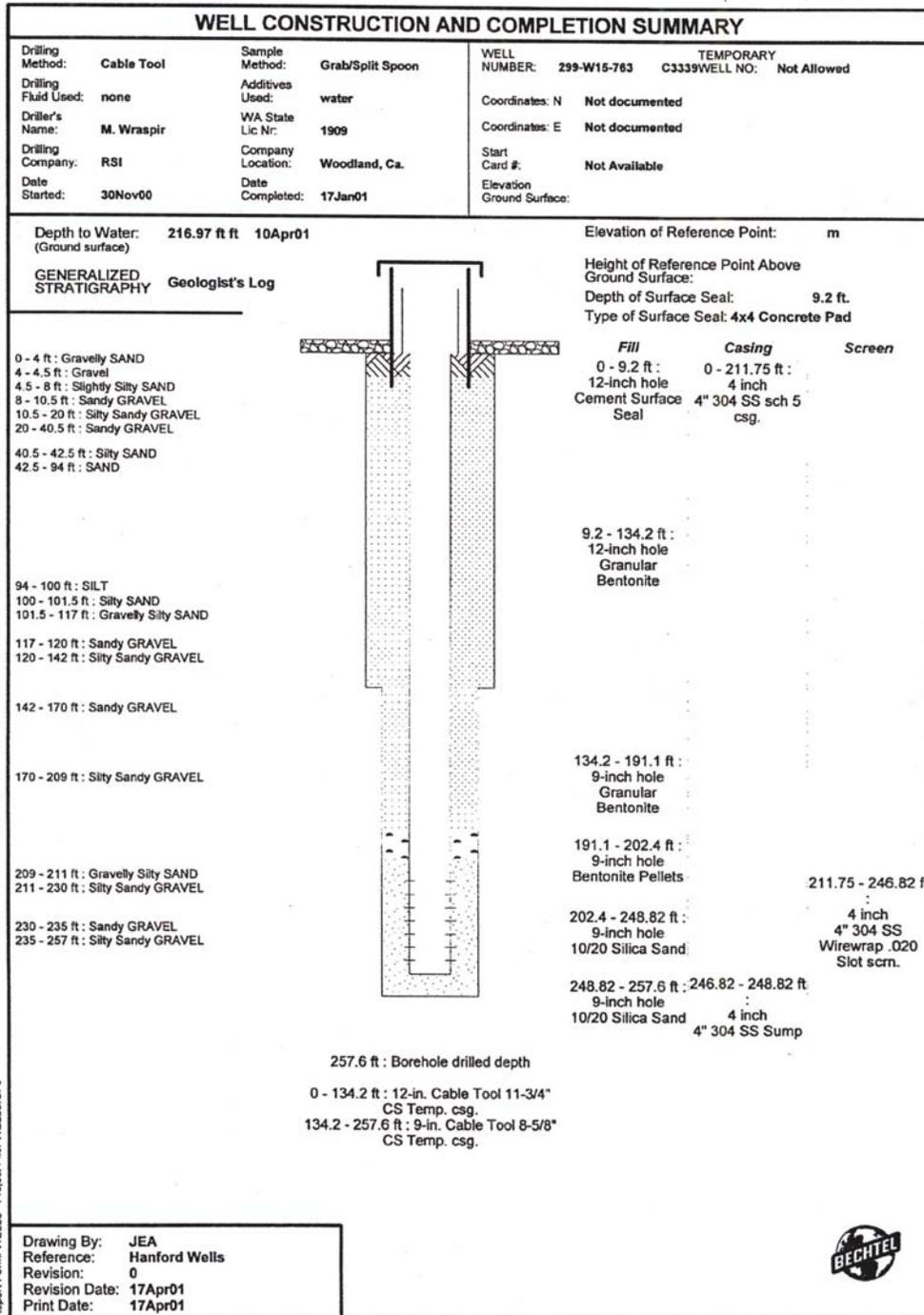
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SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS RESOURCE PROTECTION WELL - 299-W14-18	
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CERCLA UNIT	:
RCRA FACILITY	:
DEPTH DRILLED (GS)	: 261.5 ft
MEASURED DEPTH (GS)	: 255.05 07Nov01
AVAILABLE LOGS	: Geologist & Geophysical
DATE EVALUATED	: Data not available
EVAL RECOMMENDATION	: Data not available
LISTED USE	: RCRA Monitoring
CURRENT USER	: RCRA & Operations
PUMP TYPE	: Not Documented
MAINTENANCE	: Data not available
COMMENTS	: Cable Tool 10-3/4" CS csg to 68.6 ft & 8-5/8" CS csg to 261.5 ft
TV SCAN COMMENTS	:
Drawing By: JEA Reference: Hanford Wells Revision: 0 Revision Date: 13Nov01 Print Date: 13Nov01	

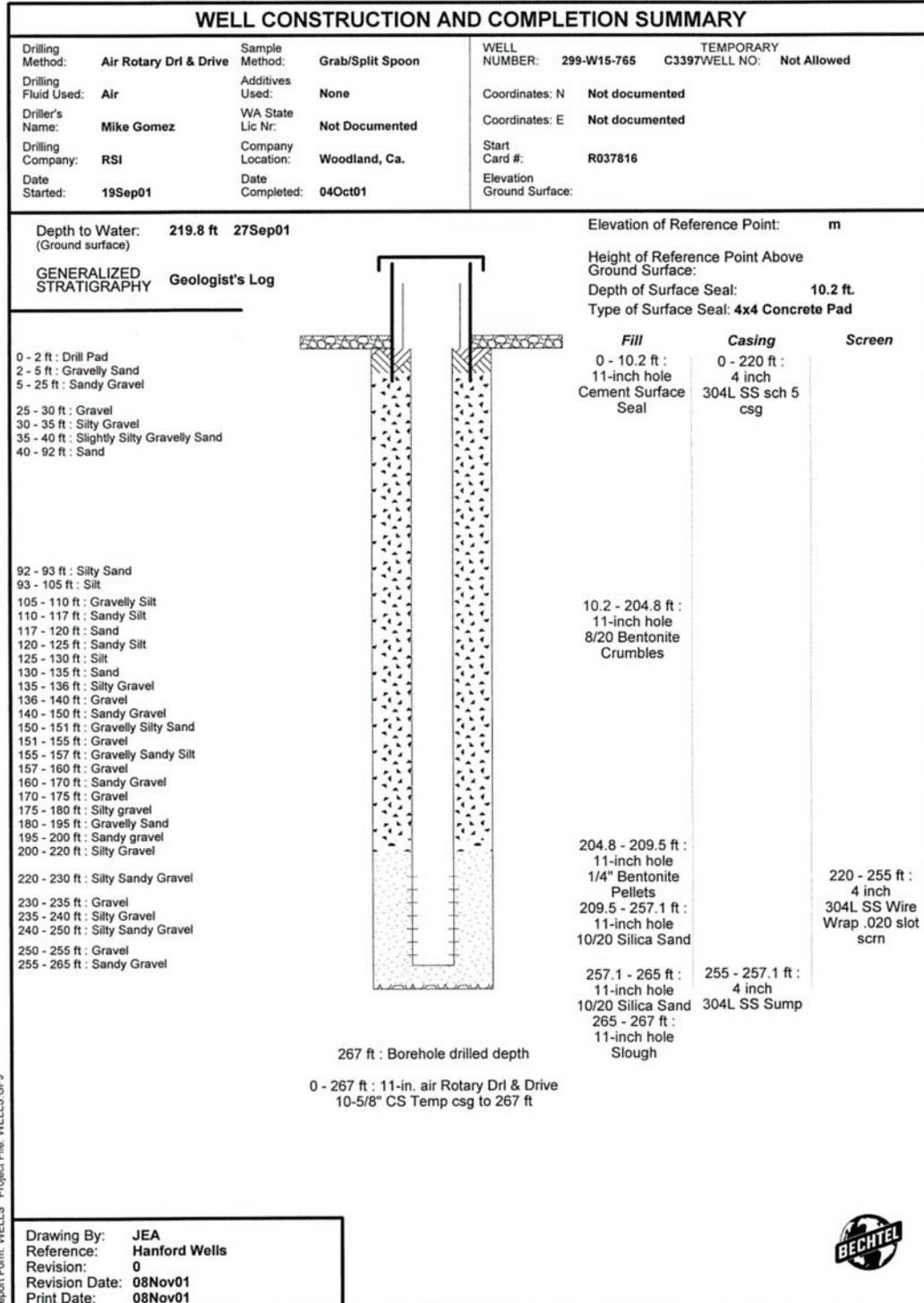
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SUMMARY OF CONSTRUCTION DATA AND FIELD OBSERVATIONS RESOURCE PROTECTION WELL - 299-W15-765	
WELL DESIGNATION	: 299-W15-765
CERCLA UNIT	:
RCRA FACILITY	:
DEPTH DRILLED (GS)	: 267.0 ft
MEASURED DEPTH (GS)	: 257.1 27Sep01
AVAILABLE LOGS	: Geologist & Geophysical
DATE EVALUATED	: Data not available
EVAL RECOMMENDATION	: Data not available
LISTED USE	: RCRA Monitoring
CURRENT USER	: RCRA & Operations
PUMP TYPE	: Not Documented
MAINTENANCE	: Data not available
COMMENTS	: Air Rotary Drg & Drive 10-5/8" CS Temp csg to 265 ft
TV SCAN COMMENTS	:

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