





Figure R4.A.2. Waste Management Area S-SX.

**Table R4.1.** Assessment Monitoring Network, Constituent List, and Sampling Frequency for WMA S-SX.

Well ID	Well Name	Purpose	WAC Compliant	Constituents of Interest				Supporting Constituents										
				Specific Conductance (a)	Chromium (total, filtered)	Nitrate	Technetium-99 (d)	Temperature (a)	pH (a)	Turbidity (a)	Water Level (a)	Alkalinity	Anions (b)	Metals (filtered) (c)	Tritium (d)	Uranium (d)	Low-Level Gamma Scan (d)	
A4975	299-W22-44	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
A4976	299-W22-45	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
C4667	299-W22-47	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
B8812	299-W22-48	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
B8813	299-W22-49	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
B8814	299-W22-50	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
C4969	299-W22-69	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
C4970	299-W22-72	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
C3115	299-W22-80	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
C3123	299-W22-81	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
C3124	299-W22-82	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
C3126	299-W22-83	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
C3398	299-W22-84	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
C3399	299-W22-85	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
C4971	299-W22-86	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
A4984	299-W23-15	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
B8809	299-W23-19	Downgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	A
C3112	299-W23-20	Upgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-
C3113	299-W23-21	Upgradient	C	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	A	A	-

**Footnotes**  
 (a) Field measurement.  
 (b) Anions - Analytes include but not limited to chloride, nitrate, sulfate, and fluoride.  
 (c) Metals - Analytes include but not limited to calcium, potassium, magnesium, and sodium.  
 (d) Not regulated under RCRA; co-contaminant to aid in determination of groundwater flow rate and direction and to support CERCLA and AEA monitoring.

**Codes**  
 N = Well construction is not compliant with WAC 173-160 resource protection requirements  
 C = Well is constructed as a WAC 173-160 resource protection well  
 A = To be sampled annually  
 Q = To be sampled quarterly

WELL SUMMARY SHEET		Start Date: <sup>24 3 24</sup> 1-27-06	Page 1 of 3
Well ID: C4964		Well Name: 299-W22-1e9	
Location: NW of S Plant		Project: 200-UP1-0U Monitoring Wells	
Prepared By: Robin Henderson	Date: 3-2-06	Reviewed By: L.A. Walker	Date: 3/8/06
Signature: Robin Henderson		Signature: L.A. Walker	
CONSTRUCTION DATA		GEOLOGIC/HYDROLOGIC DATA	
Description	Diagram	Depth in Feet	Lithologic Description
9" x 6" dual wall temp drill casing		0	0' - 1' Gravel
			1' - 5' Sand
			5' - 20' Gravelly Sand
6" stainless steel type 304/304L protective casing set 0.45 ft above well casing			20' - 46' Sand
4" ss. type 304/304L riser pipe: +230 -> 238.03			46' - 55' Sandy Gravel
4" ss. type 304/304L 2 1/2" slot wire wrap screen: 238.03 -> 273.05			55' - 60' Gravel
			60' - 66' Sand
			66' - 68' Sandy Gravel
			68' - 90' Sand
4" ss type 304/304L sump: 273.05 -> 276.03			90' - 92' Sandy Silt
			92' - 100' Sand
Portland Cement Grout: 0 -> 10.57			100' - 105' Sandy Silt
		105' - 115' Silty Sand	
Granular Bentonite: 10.57 -> 222.51		115' - 130' Sand	
		125	130' - 141' Sandy Silt
			141' - 144' Silty Sand w/ Caliche
			144' - 147' Gravelly Silt

WELL SUMMARY SHEET		Start Date 1-27-06	Page 2 of 3
		Finish Date 3-6-06	
Well ID: C4969		Well Name: 299-W22-109	
Location NW of S Plant		Project 200-02100 Monitoring Wells	
Prepared By: Robin Henderson	Date: 3-2-06	Reviewed By: L.D. Walker	Date 3/8/06
Signature: Robin Henderson		Signature: L.D. Walker	
CONSTRUCTION DATA		GEOLOGIC/HYDROLOGIC DATA	
Description	Diagram	Depth in Feet	Lithologic Description
Granular Bentonite: 10.57 → 222.51		150	147' → 155' silty sandy gravel 155' → 160' Sandy Gravel 160' → 175' Gravelly Sand
Bentonite Pellet Seal: 222.51 → 228.00		175	175' → 186' Sandy Gravel 186' → 187' Gravel 187' → 195' Sandy Gravel 195' → 200' Gravel
10-20 Colorado Silica Sand: 228.00 → 281.16		200	200' → 212' Sandy Gravel 212' → 230' Gravel
Bentonite Pellet Seal: 281.16 → 286.25		225	230' → 302' Sandy Gravel
Colorado Silica Sand back fill: 286.25 → 376.55		250	Static groundwater level: 236.05 ft bgs (3-2-06)
		275	

WELL SUMMARY SHEET		Start Date: 1-27-06	Page 3 of 3
		Finish Date: 3-11-06	
Well ID: C4969		Well Name: 299-W22-69	
Location: NW of S Plant		Project: 200-UP-100 Monitoring Wells	
Prepared By: Robin Henderson	Date: 3-2-06	Reviewed By: L.D. Walker	Date: 3/8/06
Signature: Robin Henderson		Signature: L.D. Walker	
CONSTRUCTION DATA		GEOLOGIC/HYDROLOGIC DATA	
Description	Diagram	Depth In Feet	Lithologic Description
Colorado Silica Sand Backfill: 286.25 → 376.55		300	302' → 316' Silty Sandy Gravel
			316' → 325' Gravelly Sand
			325' → 336' Sand
			336' → 358' Sandy Gravel
			358' → 372' Gravelly Sand
			372' → 375' Sand
			375' → 376.8' Sandy Gravel
All depths are in feet below ground surface			
All temporary casing was removed from ground			

WELL SUMMARY SHEET		Start Date: 2-22-06	Page 1 of 3
		Finish Date: 3-21-06	
Well ID: C4970		Well Name: 299-W22-72	
Location: NW of S Plant		Project: 200-UP-1 OU Monitoring Wells	
Prepared By: Robin Henderson	Date: 3-21-06	Reviewed By: L.D. Walker	Date: 5/11/06
Signature: Robin Henderson		Signature: L.D. Walker	
CONSTRUCTION DATA		GEOLOGIC/HYDROLOGIC DATA	
Description	Diagram	Depth In Feet	Lithologic Description
9" x 6" dual wall temp drill casing		0	0+1.5' Sandy Gravel
6" S.S. type 304/304L protective casing set 1 ft above well casing		15'→18' Silty Sand	
4" S.S. type 304/304L riser pipe: +2.00' → 236.98'		18'→24' Howard Fm. Sand	
4" S.S. type 304/304L 20 slot wire wrap screen: 236.98' → 272.00'		24'→25' slightly silty gravelly Sand	
4" S.S. type 304/304L sump: 272.00' → 274.98'		25'→35' Sand	
Portland Cement Grout: 0 → 10.25'		50'→55' Sandy Gravel	
Granular Bentonite: 10.25' → 219.17'		55'→82' Sand	
		75'→82' slightly silty sand	
		82'→90' slightly silty sand	
		90'→96' silty sand	
		96'→103' slightly silty sand	
		103'→108' silty sand	
		108'→112' slightly silty sand	
		112'→120' Sand	
	120'→126' Silty Sand		
	126'→130' Sandy silt		
	130'→137' silty sand		
	137'→142' Sandy silt		
	142'→146' silt		

WELL SUMMARY SHEET		Start Date: 2-22-06	Page 2 of 3
		Finish Date: 5-21-06	
Well ID: C4970		Well Name: 299-W22-72	
Location: NW of S Plant		Project: 200-02-10V monitoring wells	
Prepared By: Robin Henderson	Date: 3-4-06	Reviewed By: L.D. Walker	Date: 5-11-06
Signature: Robin Henderson		Signature: L.D. Walker	
CONSTRUCTION DATA		GEOLOGIC/HYDROLOGIC DATA	
Description	Diagram	Depth in Feet	Lithologic Description
Granular Bentonite: 10.25' → 219.17'		150	166' → 170' Silty Sand
Bentonite Pellet Seal: 219.17' → 224.80'		175	170' → 202' Silt
10-20 mesh w/size star Colorado Silica Sand Filter pack: 224.80' → 250.70'		200	208' → 211' Sandy Silt
Coated Bentonite Pellet Seal: 250.70' → 255.67'		225	211' → 215' Silt
Colorado Silica Sand backfill: 255.67' → 257.4'		250	215' → 223' Gravely Silt
		275	223' → 225' Silty Sand
			225' → 228' Silty Gravel
			228' → 232' Silty Sandy Gravel
			232' → 237' Sand
			237' → 250' Sandy Gravel
			250' → 255' Gravel
			255' → 290' Sandy Gravel
			290' → 295' Gravel
			295' → 300' Silty Gravel
Static groundwater level: 237.10 ft bgs (2-27-06)			

WELL SUMMARY SHEET		Start Date: 2-23-06	Page 3 of 3	
		Finish Date: 3-21-06		
Well ID: C4970		Well Name: 299-W22-72		
Location: NW of S Plant		Project: 200-UP-1 OU Monitoring Wells		
Prepared By: Robin Henderson	Date: 3-21-06	Reviewed By: L.D. Walker	Date: 5/11/06	
Signature: Robin Henderson		Signature: <i>[Signature]</i>		
CONSTRUCTION DATA		GEOLOGIC/HYDROLOGIC DATA		
Description	Diagram	Depth in Feet	Lithologic Description	
Colorado Silice Sand backfill: 285.67' → 357.8'		300	300' → 305' Gravel 305' → 316' Sand	
			316' → 322' Sandy Gravel	
			325	322' → 328' Silty Sandy Gravel 328' → 331' Sandy Gravel
				331' → 342' Gravelly Sand
				342' → 357.8' (TD) Sandy Gravel
			350	
				TD = 357.8'
			360	
			375	
All depths are in feet below ground surface				
All temporary casing was removed from ground				

WELL SUMMARY SHEET		Start Date: 3-10-06	Page <u>1</u> of <u>3</u>	
		Finish Date: 4-27-06		
Well ID: C4971	Well Name: 299-W27-56			
Location: NW OF S Plant	Project: 200-02-1 DU monitoring wells			
Prepared By: Robin Henderson	Date: 4-27-06	Reviewed By: L.D. Walker	Date: 5-11-06	
Signature: Robin Henderson		Signature: L.D. Walker		
CONSTRUCTION DATA		GEOLOGIC/HYDROLOGIC DATA		
Description	Diagram	Depth in Feet	Lithologic Description	
6" S.S. monument set 1.0' above perm. Casing		0	0' → 12' Sand	
4" S.S. type 304/3041 riser pipe: +2.00 → 231.44 ft.		25	12' → 16' Gravelly Sand 16' → 21' Sand 21' → 42' Silty Sand	
4" S.S. type 304/3041 wire-wrap 20 slot screen: 231.44' → 246.53		50	42' → 46' Gravelly Sand 46' → 61' Silty Sand	
4" S.S. type 304/3041 cump: 246.53' → 269.52'		75	61' → 72' Sand 72' → 75' slightly silty sand 75' → 80' sand 80' → 123' slightly silty sand	
Portland Cement Grout: 0 → 10.54		100		
Granular Bentonite: 10.54 → 217.83'		125	123' → 126' sandy silt 126' → 157' silt	

WELL SUMMARY SHEET		Start Date: 3/10-06	Page 2 of 3
		Finish Date: 4/27-06	
Well ID: C4971		Well Name: 294-W22-86	
Location: NW of S Plant		Project: 200-UP1 OU Monitoring Wells	
Prepared By: Robin Henderson	Date: 4-27-06	Reviewed By: L.D. Walker	Date: 5/11/06
Signature: <i>Robin Henderson</i>		Signature: <i>L.D. Walker</i>	
CONSTRUCTION DATA		GEOLOGIC/HYDROLOGIC DATA	
Description	Diagram	Depth in Feet	Lithologic Description
Granular Bentonite: 10.54' → 217.83'		150	157' → 159' Gravelly silt
			159' → 167' Sandy silt w/ Caliche
Bentonite Pellets: 217.83' → 223.33'		175	167' → 187' Silt
			187' → 193' Silty sand
Colorado Silica Sand (10-20 slot): 223.33' → 275.75'		200	193' → 196' Gravelly Silty Sand
			196' → 201' Sandy silt
			201' → 205' Sand
			205' → 211' Gravelly Sandy silt
			211' → 216' Silty Sandy Gravel
			216' → 222' slightly silty gravelly sand
Coated Bentonite Pellets: 275.75' → 281.10'	225	222' → 226' Silt	
		226' → 235' Sand	
		235' → 237' Gravelly Sand	
Colorado Silica Sand backfill (10-20 slot): 281.10' → 350.00'	250	237' → 248' Sandy Gravel	
		248' → 241' Sand	
		275	241' → 249' Sandy Gravel

WELL SUMMARY SHEET		Start Date: 3-10-06	Page 3 of 3
		Finish Date: 4-27-06	
Well ID: C4971		Well Name: 299-W22-96	
Location: NW of S Plant		Project: 200-102-100 Monitoring Wells	
Prepared By: Robin Henderson	Date: 4-27-06	Reviewed By: L.D. Walker	Date: 5/1/06
Signature: Robin Henderson		Signature: L.D. Walker	
CONSTRUCTION DATA		GEOLOGIC/HYDROLOGIC DATA	
Description	Diagram	Depth in Feet	Lithologic Description
Colorado Silica Sand (10-20 slot) backfill: 291.10' → 350.00		299'	299' → 312' Sand
		312'	312' → 325' Sandy Gravel
		325'	350' TD = 350'
Total drilled depth: 350.0 Ft bgs		225'	
static water level: 234.19 (4-6-06)		350'	
All depths are in feet below ground surface			
All temp. casing was removed from the ground			

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