

Appendix F

Monitoring Well Development Sheets and Groundwater Sample Data Sheets

**River Terrace Remedial Investigation
July, November, December 1999 and January 2000**

Monitoring Well Development Sheets

WELL DEVELOPMENT DATA SHEET

Project Number: _____		Well Number (ie. MW1): <u>MW-15</u>					
Project Name: <u>Elmer's Fuel Pumps</u>		Date/Time Initiating Development: <u>6/25/99 18:00</u>					
Client: <u>APEC</u>		Sampler: <u>Steve R. Smith</u>					
Well Information							
Casing Diameter: <u>2</u>		a) (59) Depth of Well (ft): <u>39.2</u>					
(60) Well Dry or Wet <u>Wet</u>		b) (54) Depth to Water (ft): <u>18.57</u>					
Number Volumes Purged (typically 5): <u>4.5</u>		c) Water Column (ft): <u>20.63</u>					
		d) Calc. Purge Vol. (gal): <u>10.17</u>					
Calculating Purge Volume							
Well Casing Diameter	Multiply c) by	Sand Pack Diameter	Multiply c) by				
2	0.16	8	0.71				
4	0.65	10	1				
6	1.47	12	1.28				
Example 1 - purging only well casing volume You have 2-inch casing and 6 foot water column One Purge Volume = $16 \times 6 = 96$ gallons water		Note: assuming sand pack has 29% porosity Example 2 - purging well casing and sand pack volume You have 2-inch casing, 8-inch sand pack, and 6 foot water column One purge Volume = $(16 \times 6) + (0.71 \times 6) = 5.22$					
FIELD MEASUREMENTS							
Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Other
18:15	5	8.43	0.486	7.0	drift	very	
18:20	7	8.65	0.501	6.8	"	"	
18:40	8	8.72	0.521	6.9	"	"	
Total Volume Purged: <u>8</u> gal							
Odor: <u>None noted</u>				Free Product (y/n): <u>N</u>			
Purge/Surge Method: <u>(disposable bailer)</u> teflon bailer, submersible pump, slug etc.)				Sheen(y/n): <u>N</u>			
Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)							
<u>Good - none</u>							
(55) Production Rate (gal/min)							
Remarks (well recovery, unusual conditions/observations): <u>Bailed down quickly. Approx 6"/bailer</u> <u>following baildown. Very slow recharge</u>							
Signed/Sampler: <u>Steve R. Smith</u>				Date: <u>25 Jun 99</u>			
(Printed name)							
Signed/Reviewer: _____				Date: _____			
(Printed name)							

WELL DEVELOPMENT DATA SHEET

Project Number: _____		Well Number (ie. MW1) <u>MW-17</u>	
Project Name: <u>RIVER VIEW TERRACE RV Park</u>		Date/Time Initiating Development: <u>6/25/99 18:00</u>	
Client: <u>ADEC</u>		Sampler: <u>Cox/Rum</u>	
		<u>Developer</u>	

Well Information			
Casing Diameter: <u>2</u>	a) (59) Depth of Well (ft): <u>35.5</u>		
(60) Well Dry or Wet <u>wet</u>	b) (54) Depth to Water (ft): <u>14.12</u>		
Number Volumes Purged (typically 5): <u>1.1</u>	c) Water Column (ft): <u>21.3</u>		
	d) Calc. Purge Vol. (gal): <u>1 vol = 18.5</u>		

Calculating Purge Volume			
Well Casing Diameter	Multiply c) by:	Sand Pack Diameter	Multiply c) by:
2	0.16	8	0.71
4	0.65	10	1
6	1.47	12	1.28

Example 1 - purging only well casing volume

You have 2-inch casing and 6 foot water column

One Purge Volume = 16 x 6 = 96 gallons water

Example 2 - purging well casing and sand pack volume

You have 2-inch casing, 8-inch sand pack, and 6 foot water column

One purge Volume = (.16 x 6) + (0.71 x 6) = 5.22

FIELD MEASUREMENTS							
Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Other
1945	15	8.46	661	6.1	10.5	11	N/A
2000	18	8.05	581	6.2			
2018	21	8.45	572	6.1			

Total Volume Purged: <u>21</u>	Free Product (y/n): <u>N</u>
Odor: <u>None noted</u>	Sheen(y/n): <u>N</u>

Purge/Surge Method (disposable bailer, teflon bailer, submersible pump, slug etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good - none

(55) Production Rate (gal/min)

Remarks (well recovery, unusual conditions/observations):

Good recovery

Signed/Sampler: <u>Mike Cox</u>	Date: <u>25 June 99 20:20</u>
(Printed name)	
Signed/Reviewer: _____	Date: _____
(Printed name)	

Project Number: _____		Well Number (ie. MW1) <u>M-101A</u>	
Project Name: <u>Pillar Terrace RV Park</u>		Date/Time Initiating Development: <u>1/50 26 Jun 99</u>	
Client: <u>ADFC</u>		Sampler: <u>Mike Cox / Sybil / Rust</u> <i>Developer</i>	

Well Information			
Casing Diameter: <u>2"</u>	a) (59) Depth of Well (ft): <u>15.89</u>		
(60) Well Dry or Wet <u>Wet</u>	b) (54) Depth to Water (ft): <u>7.96</u>		
Number Volumes Purged (typically 5): <u>3.63</u>	c) Water Column (ft): <u>7.91</u>		
	d) Calc. Purge Vol. (gal): <u>689</u>		

Calculating Purge Volume			
Well Casing Diameter	Multiply c) by	Sand Pack Diameter	Multiply c) by
2	0.16	8	0.71
4	0.65	10	1
6	1.47	12	1.28

Note: assuming sand pack has 29% porosity

Example 1 - purging only well casing volume

You have 2-inch casing and 6 foot water column.

One Purge Volume = $16 \times 6 = 96$ gallons water

Example 2 - purging well casing and sand pack volume

You have 2-inch casing, 8-inch sand pack, and 6 foot water column.

One purge Volume = $(.16 \times 6) + (0.71 \times 6) = 5.22$

FIELD MEASUREMENTS							
Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Other
1203	2	5.4	285	7.9	low	very	/
1245	13	6.02	210	8.0	"	"	/
1252	17	5.93	203	7.7	low	moderate	/
1300	22	5.91	202	7.6	low	"	/
1305	25	5.93	202	7.5	low	"	/

Total Volume Purged: <u>28 gal</u>	Free Product (y/n): <u>N</u>
Odor: <u>none reported</u>	Sheen(y/n): <u>P</u>

Purge/Surge Method (disposable bailer, teflon bailer, submersible pump, slug etc.)
Combination of bailer and peristaltic pump simultaneously

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)
Good - none

(55) Production Rate (gal/min)

Remarks (well recovery, unusual conditions/observations): Very good recovery

Signed/Sampler: <u>John Reed</u>	Date: <u>26 Jun 99</u>
(Printed name) <u>John Reed</u>	
Signed/Reviewer: _____	Date: _____
(Printed name) _____	

WELL DEVELOPMENT DATA SHEET

Project Number: _____		Well Number (ie. MW1): <u>MW-21</u>	
Project Name: <u>River Terrace</u>		Date/Time Initiating Development: <u>Sept 21/2000</u>	
Client: <u>ADEC</u>		Sampler: <u>Ruth Cox</u> <u>Developer</u>	

Well Information			
Casing Diameter: <u>2</u>	a) Depth of Well (ft): <u>19.65</u>		
	b) Depth to Water (ft): <u>15.32</u>		
Number Volumes Purged (typically 5): <u>5</u>	c) Water Column (ft): <u>4.33</u>		
<u>Borehole is 8" dia.</u>	d) Calc. Purge Vol. (gal): <u>1 vol. = 3.75</u>		

Calculating Purge Volume			
Well Casing Diameter	Multiply c) by	Sand Pack Diameter	Multiply c) by
2	0.16	8	0.71
4	0.65	10	1
6	1.47	12	1.28

5 vols. = 18.75

Example 1 - purging only well casing volume
You have 2-inch casing and 6 foot water column.
One Purge Volume = 16 x 6 = 96 gallons water

Example 2 - purging well casing and sand pack volume
You have 2-inch casing, 8-inch sand pack, and 6 foot water column.
One purge Volume = (.16 x 6) + (0.71 x 6) = 5.22

FIELD MEASUREMENTS							
Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (°F)	Color	Turbidity	DO
2200	4	6.41	0.845	7.5	Brown	2999	5.12
2230	10	6.58	0.438	7.4	Brown	2999	7.84
2247	12	6.14	0.434	7.5	Brown	2999	8.41
2302	14	6.13	0.434	7.5	Brown	2999	8.45

REDOX
5
50

Total Volume Purged: <u>20 gals.</u>	Free Product (y/n): <u>NN</u>
Odor: <u>None noted</u>	Sheen(y/n): <u>NN</u>
Purge/Surge Method (<u>disposable bailer</u> , teflon bailer, submersible pump, slug etc.)	
Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.) <u>Good. None</u>	
Remarks (well recovery, unusual conditions/observations): 	

Signed/Sampler: <u>Steve Root</u>	Date: <u>1 Sept 2000</u>
(Printed name): <u>Steve Root</u>	
Signed/Reviewer: _____	Date: _____
(Printed name): _____	

WELL DEVELOPMENT DATA SHEET

Project Number: <u>77-013-02</u>		Well Number (ie MW1): <u>MW-23</u>	
Project Name: <u>RIVER TERRACE</u>		Date/Time Initiating Development: <u>9/1/99</u>	
Client: <u>ADEC</u>		Sampler: <u>MDC</u>	

Well Information			
Casing Diameter: <u>2"</u>		a) Depth of Well (ft): <u>22.00'</u>	
Number Volumes Purged (typically 5): <u>5</u>		b) Depth to Water (ft): <u>18.33</u>	
<u>3' Boring Diameter</u>		c) Water Column (ft): <u>3.67</u>	
		d) Calc. Purge Vol (gal): <u>3.2</u>	

Calculating Purge Volume			
Well Casing Diameter	Multiply c) by	Sand Pack Diameter	Multiply c) by
2	0.16	8	0.71
4	0.65	10	1
6	1.47	12	1.28

Note: assuming sand pack has 29% porosity

Example 1 - purging only well casing volume
 You have 2-inch casing and 6 foot water column
 One Purge Volume = 16 x 6 = 96 gallons water

Example 2 - purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6 foot water column.
 One purge Volume = (.16 x 6) + (0.71 x 6) = 5.22

Initial bailer Redox = over-range

FIELD MEASUREMENTS							
Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (°F)	Color	Turbidity	Other
0900	5	5.76	.351	7.5	brn.	7999	4.62
0916	7.5	6.49	.319	6.9	brn	7999	5.39
0928	10	6.49	.307	6.8	brn.	7999	6.10
0939	12.5	6.43	.287	6.9	brn.	7999	7.24
0948	16	6.39	.260	6.9	brn.	7999	6.88

Total Volume Purged: <u>16 gals.</u>		Free Product (y/n): <u>N</u>
Odor: <u>None noted</u>	Sheen(y/n): <u>N</u>	
Purge/Surge Method: <u>(disposable bailer)</u> , teflon bailer, submersible pump, slug etc.)		
Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)		
<u>Good. New</u>		
Remarks (well recovery, unusual conditions/observations):		
<u>Good recovery</u>		
<u>Final Redox is 150.</u>		
Signed/Sampler:	Date	
(Printed name)		
Signed/Reviewer:	Date	
(Printed name)		

Project Number: <u>77-013-02</u>	Well Number (ie. MW1): <u>MW -25</u>
Project Name: <u>RIVER TERRACE</u>	Date/Time Initiating Development: <u>9/2/99</u>
Client: <u>ADEC</u>	Sampler: <u>MDX</u> <u>0915</u>

Well Information			
Casing Diameter: <u>2" w/8" Borehole</u>	a) Depth of Well (ft): <u>21.60'</u>	b) Depth to Water (ft): <u>15.48'</u>	c) Water Column (ft): <u>6.12</u>
Number Volumes Purged (typically 5): <u>5</u>	d) Calc. Purge Vol. (gal): <u>5.3</u>		

Calculating Purge Volume			
Well Casing Diameter	Multiply c) by	Sand Pack Diameter	Multiply c) by
2	0.16	8	0.71
4	0.65	10	1
6	1.47	12	1.28

* 5 = 26.6 gallons

Note: assuming sand pack has 29% porosity

Example 1 - purging only well casing volume

You have 2-inch casing and 6 foot water column.

One Purge Volume = $16 \times 6 = 96$ gallons water

Example 2 - purging well casing and sand pack volume

You have 2-inch casing, 8-inch sand pack, and 6 foot water column.

One purge Volume = $(.16 \times 6) + (0.71 \times 6) = 5.22$

FIELD MEASUREMENTS							
Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (°F)	Color	Turbidity	DO Other
0955	6	6.55	.611	76	6.25	7999	4.12
1010	12	6.34	.562	7.3	Brown	7999	3.58
1025	18	6.25	.539	7.2	Brown	7999	3.91
1042	24	6.23	.535	7.1	Brown	7999	4.05
1050	27	6.32	.538	7.1	Brown	7999	4.35

Total Volume Purged: <u>27 gals</u>	Free Product (y/n): <u>N</u>
Odor: <u>None noted</u>	Sheen(y/n): <u>N</u>
Purge/Surge Method: <u>(disposable bailer)</u> teflon bailer, submersible pump, slug etc.)	
Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.): <u>Good New</u>	
Remarks (well recovery, unusual conditions/observations): <u>Good recovery</u>	

Signed/Sampler: _____	Date: _____
(Printed name)	
Signed/Reviewer: _____	Date: _____
(Printed name)	

WELL DEVELOPMENT DATA SHEET

Project Number:		Well Number (ie. MW1)	MW-27
Project Name:	River Terrace	Date/Time Initiating Development:	5 Nov 99, 1717
Client:	ADEC	Sampler:	SR, ml
		Developer	

Well Information	
Casing Diameter: 1.25"	a) Depth of Well (ft): 6.95
	b) Depth to Water (ft): 5.40
Number Volumes Purged (typically 5): 1	c) Water Column (ft): 1.55
	d) Calc. Purge Vol. (gal): .1

Calculating Purge Volume			
Well Casing Diameter	Multiply c) by	Sand Pack Diameter	Multiply c) by
2	0.16	8	0.71
4	0.65	10	1
6	1.47	12	1.28

Example 1 - purging only well casing volume
You have 2-inch casing and 6 foot water column
One Purge Volume = $16 \times 6 = 96$ gallons water

Example 2 - purging well casing and sand pack volume
You have 2-inch casing, 8-inch sand pack, and 6 foot water column.
One purge Volume = $(16 \times 6) + (0.71 \times 6) = 5.22$

FIELD MEASUREMENTS							
Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Other
1717	.1	5.9	.591	7.3	Dark brn.	>999	

Total Volume Purged: .1 gal.	Free Product (y/n): N
Odor: None noted	Sheen (y/n): N

Purge/Surge Method (disposable bailer, teflon bailer, submersible pump, slug etc.)
Peristaltic

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good Drive point with flush-mount cover

Remarks (well recovery, unusual conditions/observations):

Extremely slow recovery. Purged dry

Signed/Sampler: Scott Ruch	Date: 5 Nov 99
(Printed name)	
Signed/Reviewer:	Date:
(Printed name)	

WELL DEVELOPMENT DATA SHEET

Project Number: _____		Well Number (ie. MW1): <u>MW-30</u>	
Project Name: <u>River Terrace</u>		Date/Time Initiating Development: <u>5 Nov 99</u> <u>1923</u>	
Client: <u>APEC</u>		Sampler: <u>SR, ML</u>	
Developer: _____			

Well Information			
Casing Diameter: <u>2"</u>	a) Depth of Well (ft): <u>17.59</u>		
	b) Depth to Water (ft): <u>17.37</u>		
Number Volumes Purged (typically 5): <u>.5</u>	c) Water Column (ft): <u>.22</u>		
	d) Calc. Purge Vol. (gal): <u>.2</u>		

Calculating Purge Volume			
Well Casing Diameter	Multiply ci by:	Sand Pack Diameter	Multiply ci by:
2	0.16	8	0.71
4	0.65	10	1
6	1.47	12	1.28

5 vol. = 1 gal.

Example 1 - purging only well casing volume
 You have 2-inch casing and 6 foot water column
 One Purge Volume = $16 \times 6 = 96$ gallons water

Example 2 - purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6 foot water column.
 One purge Volume = $(16 \times 6) + (0.71 \times 6) = 5.22$

FIELD MEASUREMENTS							
Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Other
1923	<u>26</u>	<u>7.80</u>	<u>.453</u>	<u>6.4</u>	<u>6cm.</u>	<u>7999</u>	

Total Volume Purged: <u>.1 gal.</u>	Free Product (y/n): <u>N</u>
Odor: <u>None noted</u>	Sheen(y/n): <u>N</u>
Purge/Surge Method: <u>(disposable bailer, teflon bailer, submersible pump, slug etc.)</u>	
Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.): <u>Good Now</u>	
Remarks (well recovery, unusual conditions/observations): <u>Extremely slow recovery</u>	
Signed/Sampler: <u>Stat-Rent</u>	Date: <u>5 Nov 99</u>
(Printed name) <u>Stat-Rent</u>	
Signed/Reviewer: _____	Date: _____
(Printed name): _____	

WELL DEVELOPMENT DATA SHEET

Project Number: _____		Well Number (ie. MW1): <u>MW-32</u>	
Project Name: <u>River Terrace</u>		Date/Time Initiating Development: <u>5 Nov 99 1810</u>	
Client: <u>ADEC</u>		Sampler: <u>SR, mc</u>	
Developer: _____			

Well Information			
Casing Diameter: <u>2"</u>	a) Depth of Well (ft): <u>21.51</u>		
	b) Depth to Water (ft): <u>18.82</u>		
Number Volumes Purged (typically 5): <u>5</u>	c) Water Column (ft): <u>2.69</u>		
	d) Calc. Purge Vol. (gal): <u>2.3</u>		

Calculating Purge Volume			
		<u>5 vols. = 11.7 gal.</u>	
Well Casing Diameter	Multiply c) by	Sand Pack Diameter	Multiply c) by
2	0.16	8	0.71
4	0.65	10	1
6	1.47	12	1.28

Example 1 - purging only well casing volume
 You have 2-inch casing and 6 foot water column
 One Purge Volume = $16 \times 6 = 96$ gallons water

Example 2 - purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6 foot water column.
 One purge Volume = $(.16 \times 6) + (0.71 \times 6) = 5.22$

FIELD MEASUREMENTS							
Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Other
<u>1810</u>	<u>.25</u>	<u>6.79</u>	<u>.349</u>	<u>6.4</u>	<u>brown</u>	<u>7999</u>	
<u>1816</u>	<u>2.5</u>	<u>6.25</u>	<u>.294</u>	<u>6.4</u>	<u>brown</u>	<u>7999</u>	
<u>1822</u>	<u>5</u>	<u>5.97</u>	<u>.280</u>	<u>6.3</u>	<u>brown</u>	<u>7999</u>	
<u>1827</u>	<u>7.5</u>	<u>5.86</u>	<u>.270</u>	<u>6.3</u>	<u>brown</u>	<u>7999</u>	
<u>1837</u>	<u>12</u>	<u>5.86</u>	<u>.269</u>	<u>6.2</u>	<u>brown</u>	<u>7999</u>	

Total Volume Purged: 12 gal.

Odor: None noted

Purge/Surge Method: disposable bailer, teflon bailer, submersible pump, slug etc.)

Free Product (y/n): N

Sheen (y/n): N

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

Good. New

Remarks (well recovery, unusual conditions/observations):

Rain to good recovery

Signed/Sampler: <u>Scott Rued</u>	Date: <u>5 Nov 99</u>
(Printed name) <u>Scott Rued</u>	
Signed/Reviewer: _____	Date: _____
(Printed name) _____	

July 1999

Groundwater Sample Data Sheets

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-000-02 Sample Location (ie. MW1): MW-16
 Project Name: River Terrace Sample ID (ie. 95BIA WG003): 99-RT-001-GW
 Client: ADEC Date Sample Collected: 7/7/99
 Sampler: Ruth Cox Time sampled: 13:50

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 21.16
 Other: ☐ b) Water Depth (ft): 17.98
 c) Water Column (ft): 3.18
 d) Calc. Purge Vol. (gal): 1 vol = 2.77 gal
3 vols = 8.31 gal

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Note: assuming sand pack has 28% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1306	3	5.24	.462	7.7	6.0	999+	—	3.34	—
1321	6	5.98	.360	6.9	5.0	72.7	—	3.74	—
1344	9	6.04	.354	7.2	5.0	999+	125	3.66	3.42

Total Volume Purged: 9.5 gallons Free Product (y/n): 0
 Odor: NONE Sheen (y/n): 0
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

GOOD

Remarks (well recovery, unusual conditions/observations): GOOD recovery
Ferrous iron field test = 0

Duplicate Sample ID: NA
 Split Sample ID: NA

Signed: [Signature] Date: 7/7/99
 Signed/reviewer: NA Date: NA

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-009-02 Sample Location (ie. MW1): MW-14 ³⁵
 Project Name: Pegor Road River Terrace Sample ID (ie. 95BIA WG003): MW-14 99-RT-C04-AW
 Client: ADEC Date Sample Collected: 7-7-99
 Sampler: Cox/Ruth Time sampled: 1700

Well Information

Groundwater: ☒ Casing Diameter (in): 1.125 2" a) Well Depth (ft): 19.82
 Other: _____ b) Water Depth (ft): 13.29
 c) Water Column (ft): 6.53 ^{AA}
 d) Calc. Purge Vol. (gal): 1 vol = 5.66 1.04
3 vols = 17.04 3.12

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = 0.16 X 6 = 0.96 gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (°F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1540	6	7.33	451	6.3	brn.	999+	AA	1.46	
1633	10	6.56	294	7.0	lt. brn.	544	AA	5.10	
1652	12	6.14	295	6.0	ult. brn.	504	185	3.99	AA
						AA			

Total Volume Purged: 12 gal. Free Product (y/n): N
 Odor: remoted Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations):

slow recovery

Ferrus iron is 0

Duplicate Sample ID: _____
 Split Sample ID: AA

Signed: [Signature] Date: 7-7-99
 Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-009-02 Sample Location (ie. MW1): MW-11
 Project Name: Roger Road River TERRACE Sample ID (ie. 95BIA WG003): 99-RT-005-GW
 Client: ADEC Date Sample Collected: 7-7-99
 Sampler: MC & SR Time sampled: 19:30

Well Information

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 15.25
 Other: _____ b) Water Depth (ft): 4.50
 c) Water Column (ft): 10.75
 d) Calc. Purge Vol. (gal): 1 vol = 1.72
3 vols = 5.16

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
19:00	2	7.58	0.288	9.3	Milky	739		11.32	
19:08	5	7.53	0.288	8.7	Milky	776		1.32	
19:12	8	7.48	0.285	7.2	Milky	999+	190	1.38	
19:15									

Total Volume Purged: 9 Free Product (y/n) ☒
 Odor: None noted Sheen (y/n) ☒
 Purge Method (disposable bailer, Teflon bailer, submersible pump, etc.) _____

Sample Method (disposable bailer, Teflon bailer, submersible pump, etc.) _____

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

GOOD

Remarks (well recovery, unusual conditions/observations):

GOOD Recovery

Field ferrrous iron = 0

Duplicate Sample ID: _____
 Split Sample ID: _____

Signed: [Signature]

Date: 7/7/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 17-009-02 Sample Location (ie. MW1): MW-1C Deep
 Project Name: Peger Road River Terrace Sample ID (ie. 95BIA WG003): 99-RT-007-CW
 Client: ADEC Date Sample Collected: 7/8/99
 Sampler: Cox/Path Time sampled: 14:20

Well Information

Groundwater: _____ Casing Diameter (in): 1.25 a) Well Depth (ft): 44.99
 Other: _____ b) Water Depth (ft): 14.78
 c) Water Column (ft): 30.21
 d) Calc. Purge Vol. (gal): 3.1
3 vol's = 9.2 gallons

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (°F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1227	3	8.43	.558	9.6		477		3.70	
1317	4	8.56	.532	10.3		563		2.50	

Total Volume Purged: * 4.5 gallons Free Product (y/n): 0
 Odor: _____ Sheen (y/n): _____
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.): _____

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.): _____

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

GOOD

Remarks (well recovery, unusual conditions/observations):

Purged ~ 4.5 gallons in 3 hours.
Very slow recharge. Well ASSUMED to be purged dry. Sample collected after recharge.

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: _____

Date: _____

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 47-009-02 Sample Location (ie. MW1): ANW-13
 Project Name: Pager Road River Terrace Sample ID (ie. 95BIA WG003): 99RT-008-GW
 Client: ADEP ARCC Date Sample Collected: 7-8-99
 Sampler: SR Time sampled: 1530

Groundwater: ☒ Casing Diameter (in): 1.25 a) Well Depth (ft): 13.20
 Other: ✓ b) Water Depth (ft): 8.38
 c) Water Column (ft): 4.82
 d) Calc. Purge Vol. (gal): 48 = 1 vol.
1.5 = 7 vol.

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 25% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (°F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1445	1.5	6.68	6.51	6.7	brn.	999+	—	3.43	✓
1500	1.0	6.28	6.58	5.0	brn.	"	—	3.80	✓
1517	1.75	6.20	6.38	5.3	brn.	"	— 10	3.83	✓

Total Volume Purged: 1.75 gal. Free Product (y/n): N
 Odor: none noted Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Remarks (well recovery, unusual conditions/observations): Good
Fair to good recovery Find test ferrous iron = 0.8

Duplicate Sample ID: ✓
 Split Sample ID: ✓

Signed: [Signature] Date: 7-8-99

Signed/reviewer: ✓ Date: 7-8-99

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-009-02 Sample Location (ie. MW1): MW-20
 Project Name: Pegor Road River Terrace Sample ID (ie. 95BIA WG003): 99-RT-010-GW
 Client: ADEC Date Sample Collected: 7/8/99
 Sampler: _____ Time sampled: 18:15

Well Information

Groundwater: _____ Casing Diameter (in): 2" a) Well Depth (ft): 6.59
 Other: _____ 3.458 .7328 b) Water Depth (ft): 2.01
1.116 3 c) Water Column (ft): 4.58
2748 2.7984 d) Calc. Purge Vol. (gal): 0.73
4580 3 vcl's = 2.8 gallons
7328

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note - assuming sand pack has 29% porosity

Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
<u>17:52</u>	<u>1</u>	<u>6.4</u>	<u>0.334</u>	<u>9.9</u>	<u>Clear</u>	<u>0</u>		<u>0.90</u>	
<u>18:02</u>	<u>2</u>	<u>6.20</u>	<u>0.329</u>	<u>9.2</u>	<u>Clear</u>	<u>0</u>		<u>0.79</u>	
<u>18:06</u>	<u>3</u>	<u>6.18</u>	<u>0.327</u>	<u>8.7</u>	<u>Clear</u>	<u>0</u>	<u>-15</u>	<u>0.68</u>	

Total Volume Purged: 4 gallons Free Product (y/n): ()
 Odor: _____ Sheen (y/n): ()
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.): _____

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.): _____

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

GOOD

Remarks (well recovery, unusual conditions/observations):

FIELD Iron = 3.8 mg/L

GOOD

Recovery

Duplicate Sample ID: 99-RT-010-GW @ 18:20

Split Sample ID: 99-RT-010-GW @ 18:25

Signed: M. J. D. L.

Date: 7/8/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-009-02 Sample Location (ie. MW1): MW-7
 Project Name: Pager Road RIVER TERRACE Sample ID (ie. 95BIA WG003): 99-RT-016-GW
 Client: ADEC Date Sample Collected: 7/8/99
 Sampler: Cox/Ruth Time sampled: 21:30

Well Information

Groundwater: _____ Casing Diameter (in): 2" a) Well Depth (ft): 8.73
 Other: _____ b) Water Depth (ft): 2.43
 c) Water Column (ft): 6.30
 d) Calc. Purge Vol. (gal): 1.01
3 vol's = 3.03 gallons

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
21:12	1.5	6.24	0.235	6.9	BRN	999		1.31	
21:20	4.0	6.03	0.238	6.2	BRN	999		1.09	
21:28	6.0	5.93	0.241	6.1	BRN	999		1.45	

Total Volume Purged: 6.0 Free Product (y/n): 0

Odor: _____ Sheen (y/n): 0

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

REDOX OUT OF BATTERY'S

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

GOOD

Remarks (well recovery, unusual conditions/observations):

GOOD Recovery

Duplicate Sample ID: 99-RT-017-GW @ 21:35 QC

Split Sample ID: 99-RT-018-GW @ 21:40 QA

Signed: M. L. D. L. Date: 7/8/99

Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-000-02 Sample Location (ie. MW1): MW-9
 Project Name: Pager Road RIVER TERRACE Sample ID (ie. 95BIA WG003): 99-R7-020-GW
 Client: ADEC Date Sample Collected: 7-9-99
 Sampler: _____ Time sampled: 1745

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 19.12
 Other: _____ b) Water Depth (ft): 13.61
 c) Water Column (ft): 5.51
 d) Calc. Purge Vol. (gal): 0.88
3 vol's = 2.6 gallons

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (°F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1730	1.5	6.45	.327	8.5	1+ b.m.	994+	—	1.12	—
1737	3.0	6.35	.327	7.0	"	"	—	0.78	—
1743	5.0	6.35	.307	6.7	"	"	—	0.68	—

Total Volume Purged: 5 gal Free Product (y/n): N
 Odor: None noted Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations):

Good recovery

Redox instrument not functional.
Field Ferrous Iron test = 4.7

Duplicate Sample ID: _____

Split Sample ID: _____

MS/MSD on PAH

Signed: Alan P. Ford

Date: 7-9-99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-000-02 Sample Location (ie. MW1): MW-10
 Project Name: Peger Road River Terrace Sample ID (ie. 95BIA WG003): 99-RT-022-GW
 Client: ADEC Date Sample Collected: 7-9-99
 Sampler: _____ Time sampled: _____

Well Information

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 14.69
 Other: _____ b) Water Depth (ft): 7.69
 c) Water Column (ft): 7.60
 d) Calc. Purge Vol. (gal): 1 vol. = 1.16
3 vols = 3.48

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (°F)	Color	Turbidity	Redox	Dissolved O ₂	Other
<u>7:22 PM</u>	<u>1.5</u>	<u>6.37</u>	<u>330</u>	<u>7.6</u>	<u>brn.</u>	<u>994+</u>		<u>1.92</u>	
<u>7:26 PM</u>	<u>2.5</u>	<u>6.36</u>	<u>426</u>	<u>6.4</u>	<u>brn</u>	<u>999+</u>		<u>1.74</u>	
<u>7:34 PM</u>	<u>4.0</u>	<u>6.36</u>	<u>439</u>	<u>6.2</u>	<u>brn</u>	<u>999+</u>		<u>2.60</u>	

Total Volume Purged: 4 gallons

Odor: None noted

Free Product (y/n): 0

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.): REDOX FIELD Instrument is inoperable

Sheen (y/n): 0

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.): FIELD Ferris Iron = 1 mg/L

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.): Good

Remarks (well recovery, unusual conditions/observations): Good Recovery

Duplicate Sample ID: _____

Split Sample ID: 10

Signed: W. P. Duff

Date: 7/9/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-009-02 Sample Location (ie. MW1): MW-8
 Project Name: Peggy Road River Tunnel Sample ID (ie. 95BIA WG003): 99-RT-024-CW
 Client: ADEC Date Sample Collected: 7/10/99
 Sampler: SBC, Inc Time sampled: 1:35

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 11.99
 Other: 4'44" b) Water Depth (ft): 2.55
114" c) Water Column (ft): 9.44
5664 d) Calc. Purge Vol. (gal): 1.5
4440 + 5104 = 9544 30ds = 4.5 gallons

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (°F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1112	1.5	6.20	367	8.6	1.5 cm	948		1.83	
1116	3	6.12	326	8.2	"	999+		1.51	
1120	4.5	6.11	330	7.7	"	999+		1.65	

Total Volume Purged: 4.5 gals Free Product (y/n): N
 Odor: None noted Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Remarks (well recovery, unusual conditions/observations):

Good recovery

Ferric iron field test = 0.6
Redox instrument not operating

Duplicate Sample ID: 11
 Split Sample ID: 11

Signed: [Signature] Date: 7-10-99
 Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-009-02 Sample Location (ie. MW1): MW-17
 Project Name: Pager Road RIVER TERRACE Sample ID (ie. 95BIA WG003): 99-RT-026-6W
 Client: ADEC Date Sample Collected: 7/10/99
 Sampler: Cox/Ruth Time sampled: 1400

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 35.70
 Other: 23.16 b) Water Depth (ft): 12.54
11.16 c) Water Column (ft): 23.16
13896 d) Calc. Purge Vol. (gal): 3.7
27160 3000 3 vol's = 161

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1340	4	8.36	522	6.8	ben.	999+		1.28	
1352	8	8.33	533	5.7	ben.	999+	11	1.34	11
1400	12	8.34	533	5.6	ben.	999+	11	1.03	11
	16								

Total Volume Purged: 12 gals. Free Product (y/n): N
 Odor: none detected Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good Field Ferric Iron tests Redox instrument malfunction

Remarks (well recovery, unusual conditions/observations):

Good recovery

Duplicate Sample ID: _____

Split Sample ID: NE

Signed: [Signature]

Date: 7-10-99

Signed/reviewer: _____

Date: _____

September 1999

Groundwater Sample Data Sheets

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-013-02 Sample Location (eg. MW-6): MW-16
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-031-GW
 Client: ADEC Date Sample Collected: Aug 9/2/99
 Sampler: Ruth/Cox Time sampled: 1840

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): ~21.00
 Other: _____ b) Water Depth (ft): 17.86
 c) Water Column (ft): 3.14
 d) Calc. 1 Purge Vol. (gal): 0.5
 e) 3 Purge Vols. (gal): 1.5

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (°F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1830	0.5	6.68	.331	8.1	milky	172	155	2.10	
1832	1.0	6.52	.302	7.4	"	322	160	2.21	
1836	1.5	6.47	.314	7.1	"	268	160	2.50	

Total Volume Purged (gal): 1.5 Free Product (y/n): N
 Odor: None noted Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):

FIELD IRON = ϕ

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

Good

Remarks (well recovery, unusual conditions/observations):

Moderately slow recovery.

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: _____

Date: 2 Sep 99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-013-02

Sample Location (eg. MW-6):

MW-22Project Name: River Terrace

Sample ID (eg. 99-RT-013-GW):

99-RT-033-GWClient: ADEC

Date Sample Collected:

Aug 9/2/99Sampler: Ruth/Cox

Time sampled:

2020

Well Information

Groundwater: Y Casing Diameter (in): 2"a) Well Depth (ft): 22.42b) Water Depth (ft): 15.63c) Water Column (ft): 6.79d) Calc. 1 Purge Vol. (gal): 1.1e) 3 Purge Vols. (gal): 3.3

Other: _____

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (°F)	Color	Turbidity	Redox	Dissolved O ₂	Other
2001	1.25	6.96	.359	7.0	hcn	7999	Overrange	5.92	
2006	2.25	6.96	.359	6.9	"	7999	"	6.04	
2012	3.5	6.64	.349	7.0	"	7999	"	6.47	

Total Volume Purged (gal): 3.5Free Product (y/n): NOdor: None notedSheen (y/n): NPurge Method: (disposable bailer) (teflon bailer, submersible pump, etc.):FIELD Iron = ϕ (Too Silty to read)Sample Method: (disposable bailer) (teflon bailer, submersible pump, etc.):

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

GOOD

Remarks (well recovery, unusual conditions/observations):

Good recovery, Very silty. Ferrus iron field test = ϕ

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: [Signature]Date: 2 Sep 1999

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-013-02 Sample Location (eg. MW-6): MW-24
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-036-GW
 Client: ADEC Date Sample Collected: 9/3/99
 Sampler: Ruth/Cox Time sampled: 0850

Well Information

Groundwater: ✓ Casing Diameter (in): 2" a) Well Depth (ft): 12.65
 Other: _____ b) Water Depth (ft): 4.03
 c) Water Column (ft): 8.62
 d) Calc. 1 Purge Vol. (gal): 1.4
 e) 3 Purge Vols. (gal): 4.2

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
0828	1.5	6.47	1.27	12.1	BRN	>999	125	6.18	
0831	3.0	6.72	1.25	11.6	BRN	>999	90	6.28	
0840	4.5	7.01	1.21	10.3	BRN	>999	20	6.11	

Total Volume Purged (gal): 4.5 Free Product (y/n): N
 Odor: None Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.): _____

Field Iron = ϕ (very silty)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.): _____

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

GOOD

Remarks (well recovery, unusual conditions/observations):

POOR / SLOW RECOVERY

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: _____

Date: _____

9/3/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 77-013-02 Sample Location (eg. MW-6): MW-26
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-038-GW
 Client: ADEC Date Sample Collected: 9/3/99
 Sampler: Ruth/Cox Time sampled: 1210

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 11.20
 Other: _____ b) Water Depth (ft): 5.13
 c) Water Column (ft): 6.07
 d) Calc. 1 Purge Vol. (gal): 0.97
 e) 3 Purge Vols. (gal): 2.9

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1147	1	6.98	0.072	12.2	BRN	>999	105	6.62	
1150	2	6.98	0.042	11.9	BRN	>999	10	6.47	
1153	3.5	7.02	0.059	12.1	BRN	>999	5	5.73	

Total Volume Purged (gal): 3 Free Product (y/n): N
 Odor: NONE Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):

Field Iron = 0

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

GOOD

Remarks (well recovery, unusual conditions/observations):

MODERATE

Duplicate Sample ID: _____
 Split Sample ID: _____

Signed: [Signature] Date: 9/3/99
 Signed/reviewer: _____ Date: _____

October 1999

Groundwater Sample Data Sheets

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): SB-1-Deep
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-66-GW
 Client: ADEC Date Sample Collected: 28 Oct 99
 Sampler: Ruth/Cox Time sampled: 1620

Well Information

Groundwater: ☒ Casing Diameter (in): 1" a) Well Depth (ft): 49
 Other: _____ b) Water Depth (ft): 9.85
 c) Water Column (ft): 39.15
 d) Calc. 1 Purge Vol. (gal): 6.3 2.7
 e) 3 Purge Vols. (gal): 18.9 8.2

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 8) = 5.22$ gallons water

Field Measurements

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
<u>1431</u>	<u>1</u>	<u>8.07</u>	<u>.677</u>	<u>5.9</u>	<u>lt. brn</u>	<u>253</u>	<u>-86.1</u>	<u>423</u>	
<u>1545</u>	<u>5</u>	<u>8.40</u>	<u>.682</u>	<u>3.4</u>	<u>lt. brn</u>	<u>193</u>	<u>-97.7</u>	<u>4.84</u>	
<u>1610</u>	<u>8.5</u>	<u>8.34</u>	<u>.673</u>	<u>4.3</u>	<u>lt. brn</u>	<u>153</u>	<u>-96.3</u>	<u>3.39</u>	

Total Volume Purged (gal): 8.5 Free Product (y/n): N
 Odor: None noted Sheen (y/n): N

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

GOOD

Remarks (well recovery, unusual conditions/observations):

V. slow recovery

Duplicate Sample ID: _____
 Split Sample ID: _____

Signed: [Signature] Date: 28 Oct 99

Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW 3A
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-041-GW
 Client: ADEC Date Sample Collected: Oct 99 10/26/99
 Sampler: Ruth/Cox Time sampled: 1330

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 15
 Other: _____ b) Water Depth (ft): 4.67
 c) Water Column (ft): 10.33
 d) Calc. 1 Purge Vol. (gal): 1.65
 e) 3 Purge Vols. (gal): 5 gallons

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 8-foot water column.
 One Purge Volume = $0.16 \times 8 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 8-foot water column.
 One Purge Volume = $(0.16 \times 8) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1315	2	7.5	0.37	6	12.5	7499	-31.9	4.9	
1320	3.5	7.6	0.39	6	"	7466	-36.8	4.9	
1324	5	7.6	0.39	7	"	7424	-36.2	3.8	

Total Volume Purged (gal): 5 Free Product (y/n): N
 Odor: None Sheen (y/n): N

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

Good

826.9
216

Remarks (well recovery, unusual conditions/observations):

Good recovery

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: _____

[Signature]

Date: _____

10/26/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-5
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-47A-GW
 Client: ADEC Date Sample Collected: 26 Oct 99
 Sampler: Ruth/Cox Time sampled: _____

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 5.5
 Other: _____ b) Water Depth (ft): 4.67
 c) Water Column (ft): 0.83
 d) Calc. 1 Purge Vol. (gal): 0.14
 e) 3 Purge Vols. (gal): 0.4

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 8-foot water column.
 One Purge Volume= $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume= $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

DRY
IN
26 OCT 99
no sample

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other

Total Volume Purged (gal): _____ Free Product (y/n): _____
 Odor: _____ Sheen (y/n): _____

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

GOOD

Remarks (well recovery, unusual conditions/observations):

DRY

Duplicate Sample ID: _____
 Split Sample ID: _____

Signed: M. J. DRL

Date: 10/26/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-7
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT- 46 -GW
 Client: ADEC Date Sample Collected: 26 Oct 99
 Sampler: Ruth/Cox Time sampled: 1545

Well Information

Groundwater: ☒ Casing Diameter (in): 2 1/2 a) Well Depth (ft): 9
 Other: _____ b) Water Depth (ft): 4.62
 c) Water Column (ft): 4.38
 d) Calc. 1 Purge Vol. (gal): 0.7
 e) 3 Purge Vols. (gal): 2.1

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1537	1	6.46	.252	6.1	brn	523	31.8	3.10	
1539	2	6.49	.256	6.0	brn.	7999	29.3	3.65	
1542	3	6.20	.248	6.2	brn.	7999	30.6	3.00	

Total Volume Purged (gal): 3 Free Product (y/n): N
 Odor: None noted Sheen (y/n): N

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

Good

Remarks (well recovery, unusual conditions/observations):

Good recovery

Duplicate Sample ID: _____
 Split Sample ID: _____

Signed: [Signature] Date: 10/26/99
 Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-9
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-60-GW
 Client: ADEC Date Sample Collected: 27 Oct 99
 Sampler: Ruth/Cox Time sampled: 1645

Well Information

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 19.5
 Other: _____ b) Water Depth (ft): 15.03
 c) Water Column (ft): 4.47
 d) Calc. 1 Purge Vol. (gal): 0.72
 e) 3 Purge Vols. (gal): 2.16

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1635	1.5	6.65	.343	7.3	Bcn	999	21.1	2.78	
1637	3	6.68	.317	7.5	Bcn	7999	20.0	2.71	
1639	4.5	6.72	.301	7.5	Bcn	7999	20.3	2.27	

Total Volume Purged (gal): 4.5 Free Product (y/n): _____
 Odor: _____ Sheen (y/n): _____

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

WALKER
Ruth/Cox

Fe = 2.0 mg/L

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

GOOD

Remarks (well recovery, unusual conditions/observations):

GOOD

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: _____

Date: 10/27/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-11
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-042-GW
 Client: ADEC Date Sample Collected: Oct 99 10/26/99
 Sampler: Ruth/Cox Time sampled: 1400

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 15.5
 Other: _____ b) Water Depth (ft): 2.85
 c) Water Column (ft): 12.65
 d) Calc. 1 Purge Vol. (gal): 2.02
 e) 3 Purge Vols. (gal): 6.1

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	NOT RECORDED Dissolved O ₂	Other
1347	2	7.5	0.17	6	brn.	918	7.55	6.01	
1352	4	7.5	0.23	7.2	brn.	880	7.42	5.60	
1355	6.5	7.5	0.24	7.4	BRN	999	-26.0	4.77	

Total Volume Purged (gal): 6.5 Free Product (y/n): N
 Odor: None noted Sheen (y/n): N

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

Good

Remarks (well recovery, unusual conditions/observations):

Good recovery

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: _____

[Signature]

Date: _____

10/26/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-13
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-48-GW
 Client: ADEC Date Sample Collected: 26 Oct 99
 Sampler: Ruth/Cox Time sampled: 1807

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 15
 Other: _____ b) Water Depth (ft): 10.55
 c) Water Column (ft): 4.45
 d) Calc. 1 Purge Vol. (gal): 0.71
 e) 3 Purge Vols. (gal): 2.14

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 8-foot water column.
 One Purge Volume = $0.16 \times 8 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 8-foot water column.
 One Purge Volume = $(0.16 \times 8) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other

BAILED DRY NO MEASUREMENTS

Total Volume Purged (gal): -0- Free Product (y/n): N
 Odor: None noted Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
DISPOSABLE BAILER 82608 AKK AKK
 Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

Good

Remarks (well recovery, unusual conditions/observations):

Bailed dry

Duplicate Sample ID: _____
 Split Sample ID: _____

Signed: [Signature] Date: 26 Oct 99
 Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-15
Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-39-GW
Client: ADEC Date Sample Collected: Oct 99 10/26
Sampler: Ruth/Cox Time sampled: 1030

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 40.5
Other: _____ b) Water Depth (ft): 12.56
c) Water Column (ft): ~~28~~ 27.94
d) Calc. 1 Purge Vol. (gal): 4.47
e) 3 Purge Vols. (gal): 13.4

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
You have 2-inch casing and 6-foot water column.
One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
Example 2- purging well casing and sand pack volume
You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
One Purge Volume = $(0.16 \times 6) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
0920	5	8.4	0.59	5	BRN	2999	-92.7	3.0	
0958	10	8.9	0.58	4	BRN.	2999	-109.2	3.4	
1023	13.5	9.0	0.58	3	BRN	2999	-113.5	5.3	

Total Volume Purged (gal): 13.5 Free Product (y/n): N
Odor: None Sheen (y/n): N

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

GOOD

Remarks (well recovery, unusual conditions/observations): fairly slow recovery. Very silty.

Duplicate Sample ID: _____

Split Sample ID: _____

8260B / CAT on / Anion

Signed: _____

Date: 10/26/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-18
Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-48 -GW
Client: ADEC Date Sample Collected: 26 Oct 99
Sampler: Ruth/Cox Time sampled: 1745

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 36
Other: _____ b) Water Depth (ft): 9.41
c) Water Column (ft): 26.59
d) Calc. 1 Purge Vol. (gal): 4.3
e) 3 Purge Vols. (gal): 12.8

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.18
4	0.85
8	1.47

Example 1- purging only well casing volume
You have 2-inch casing and 8-foot water column.
One Purge Volume = $0.18 \times 8 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 2- purging well casing and sand pack volume
You have 2-inch casing, 8-inch sand pack, and 8-foot water column.
One Purge Volume = $(0.18 \times 8) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1725	5	8.19	0.664	4.9	BRN	432	-78.0	4.94	
1735	13	8.55	0.667	4.8	BRN	999	-93.1	3.42	
Bailed Dry Prior to Collecting 3rd Parameter of Field Measurements									

Total Volume Purged (gal): 13 Free Product (y/n): _____

Odor: _____ Sheen (y/n): _____

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):

DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):

DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

GOOD

Remarks (well recovery, unusual conditions/observations):

MODERATE to Slow

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: _____

Date: 10/26/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-20
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-061 -GW
 Client: ADEC Date Sample Collected: 27 Oct 99
 Sampler: Ruth/Cox Time sampled: 1730

Well Information

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 6.6
 Other: _____ b) Water Depth (ft): 4.25
 c) Water Column (ft): 2.35
 d) Calc. 1 Purge Vol. (gal): 0.38
 e) 3 Purge Vols. (gal): 1.1

Calculating Purge Volumes

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1722	1.5	6.38	328	5.1	Brn	7999	29.0	3.38	
1724	3.0	6.42	336	5.2	Brn	7999	27.2	3.87	
1726	4.0	6.43	340	5.4	Brn	7999	25.3	4.27	

Total Volume Purged (gal): 4 Free Product (y/n): N
 Odor: None noted Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER FILLING = 3

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):
Good

Remarks (well recovery, unusual conditions/observations):
MODERATE Recovery

Duplicate Sample ID: _____
 Split Sample ID: _____

Signed: M. Cox D. H. Date: 10/27/99
 Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-22
Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-OSC-GW
Client: ADEC Date Sample Collected: 26 Oct 99
Sampler: Ruth/Cox Time sampled: 1840 4

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 22.5
Other: _____ b) Water Depth (ft): 15.03
c) Water Column (ft): 7.47
d) Calc. 1 Purge Vol. (gal): 1.2
e) 3 Purge Vols. (gal): 3.60

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
You have 2-inch casing and 6-foot water column.
One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
Example 2- purging well casing and sand pack volume
You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
One Purge Volume = $(0.16 \times 6) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1823	1.5	7.04	.347	5.6	brn.	7999	12.0	6.99	
1829	2.5	6.82	.348	6.1	brn.	7999	12.5	7.59	
1838	4	6.96	.345	6.0	brn.	7999	12.4	6.56	

Total Volume Purged (gal): 4 Free Product (y/n): N
Odor: None Detected Sheen (y/n): N

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):
Good

Remarks (well recovery, unusual conditions/observations):
Good

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: [Signature]

Date: 26 Oct 99

Signed/reviewer: _____

Date: _____

[Signature]

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-24
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-040-GW
 Client: ADEC Date Sample Collected: Oct 99 10/26/99
 Sampler: Ruth/Cox Time sampled: 1140

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 13
 Other: _____ b) Water Depth (ft): 3.31
 c) Water Column (ft): 9.63
 d) Calc. 1 Purge Vol. (gal): 1.5
 e) 3 Purge Vols. (gal): 4.60

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.55
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 25% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1120	1.5	7.1	1.3	7	BRN	7999	-0.3	9.5	
1125	3.0	7.1	1.2	6	BRN	7999	-0.3	5.0	
1130	4.5	7.1	1.2	7	BRN	7999	-3.3	3.7	

Total Volume Purged (gal): 5.0 Free Product (y/n): N
 Odor: None Sheen (y/n): N

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

GOOD

Remarks (well recovery, unusual conditions/observations):

MODERATE Recovery

Duplicate Sample ID: _____
 Split Sample ID: _____

8260 B, CARBON/ANION

Signed: M. D. D.

Date: 10/26/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-26
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT- 59 -GW
 Client: ADEC Date Sample Collected: 27 Oct 99
 Sampler: Ruth/Cox Time sampled: 1605

Well Information

Groundwater: ☒ Casing Diameter (in): 2" a) Well Depth (ft): 11.5
 Other: _____ b) Water Depth (ft): 4.65
 c) Water Column (ft): 6.85
 d) Calc. 1 Purge Vol. (gal): 1.1
 e) 3 Purge Vols. (gal): 3.3

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 8-foot water column.
 One Purge Volume = $0.16 \times 8 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 8-foot water column.
 One Purge Volume = $(0.16 \times 8) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1550	1.5	6.95	086	6.1	1m	7999	1.3	6.40	
1555	3	6.91	081	5.9	br-	7999	5.2	6.91	
1600	5	6.90	071	6.0	br n	7999	0.3	6.23	

Total Volume Purged (gal): 5 Free Product (y/n): _____

Odor: _____ Sheen (y/n): _____

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):

DISPOSABLE BAILER

Ferrous FE 0 10/27/99

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):

DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

GOOD

Remarks (well recovery, unusual conditions/observations):

GOOD

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: M. L. D. L.

Date: 10/27/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): NW-27
Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-077-GW
Client: ADEC Date Sample Collected: 8 Nov 99
Sampler: Ruth/Cox Time sampled: 1930

Well Information

Groundwater: ☒ Casing Diameter (in): 1 a) Well Depth (ft): 6.95'
Other: _____ b) Water Depth (ft): 3.62
c) Water Column (ft): 3.33
d) Calc. 1 Purge Vol. (gal): 23
e) 3 Purge Vols. (gal): 69

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
You have 2-inch casing and 6-foot water column.
One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 2- purging well casing and sand pack volume
You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1358	.1	6.50	1659	5.9	hcn	> 900	-14.4		

Total Volume Purged (gal): 21 Free Product (y/n): N
Odor: None noted Sheen (y/n): N

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):

~~DISPOSABLE BAILER~~

Peristaltic pump

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):

~~DISPOSABLE BAILER~~

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

Good. New

Remarks (well recovery, unusual conditions/observations):

No DO measurement due to lack of water

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: _____

Date: _____

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-30
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-076 -GW
 Client: ADEC Date Sample Collected: 8 Nov 99
 Sampler: Ruth/Cox Time sampled: 1905

Well Information

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 17.60
 Other: _____ b) Water Depth (ft): 16.48
 c) Water Column (ft): 1.12
 d) Calc. 1 Purge Vol. (gal): 1.18
 e) 3 Purge Vols. (gal): 3.54

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 8-foot water column.
 One Purge Volume= 0.16 X 8 = 0.96 gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 8-foot water column.
 One Purge Volume= (0.16 X 8) + (0.71 X 8) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1423	1.25	7.13	674	6.3	hcn	109	-53		
1432	1	7.68	703	5.2	hcn	121	-64		

Total Volume Purged (gal): 1 Free Product (y/n): N
 Odor: None noted Sheen (y/n): N

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

Good. New

Remarks (well recovery, unusual conditions/observations):

Very slow recovery. Too little water for DO measurement

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: Mark Ruth

Date: 8 Nov 99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-32
 Project Name: River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-072 -GW
 Client: ADEC Date Sample Collected: 8 Nov Oct 99
 Sampler: Ruth/Cox Time sampled: _____

Well Information

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 21.51
 Other: _____ b) Water Depth (ft): 18.95
 c) Water Column (ft): 2.56
 d) Calc. 1 Purge Vol. (gal): .41
 e) 3 Purge Vols. (gal): 1.23

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1541	1	6.60	.340	5.3	h.c.	7999	27.3		
1546	2	6.32	.300	5.5	h.c.	7999	34.7		
1548	2.75	6.30	.295	5.6	h.c.	7999	34.5		

Total Volume Purged (gal): 275 Free Product (y/n): NN
 Odor: none noted Sheen (y/n): NN

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

Good. h.c.

why no D.O. present?

Remarks (well recovery, unusual conditions/observations):

Good recovery

Duplicate Sample ID: _____
 Split Sample ID: 1A

Signed: Law Ruth

Date: 8 Nov 99

Signed/reviewer: _____

Date: _____

November 1999

Groundwater Sample Data Sheets

GROUNDWATER SAMPLE DATA SHEET									
Project Number: _____			Sample Location (eg. MW-6): <u>Artesian Well</u>						
Project Name: <u>River Terrace</u>			Sample ID (eg. 99-RT-013-GW): <u>99-RT-071 -GW</u>						
Client: <u>ADEC</u>			Date Sample Collected: <u>8 Nov Oct 99</u>						
Sampler: <u>Ruth/Cox</u>			Time sampled: <u>1520</u>						
Groundwater Information									
Groundwater ☒		Casing Diameter (in): <u>NA</u>		a) Well Depth (ft): _____					
Other: _____				b) Water Depth (ft): _____					
				c) Water Column (ft): <u>NA</u>					
				d) Calc. 1 Purge Vol. (gal): _____					
				e) 3 Purge Vols. (gal): _____					
Calculating Purge Volume									
Well Casing Diameter		Multiply c) by:		Sand Pack Diameter		Multiply c) by:			
2	0.16	8	0.71						
4	0.65	10	1						
6	1.47	12	1.28						
Example 1- purging only well casing volume You have 2-inch casing and 6-foot water column. One Purge Volume = $0.16 \times 6 = 0.96$ gallons water				Note: assuming sand pack has 20% porosity Example 2- purging well casing and sand pack volume You have 2-inch casing, 8-inch sand pack, and 8-foot water column. One Purge Volume = $(0.16 \times 8) + (0.71 \times 8) = 6.22$ gallons water					
FIELD MEASUREMENTS									
Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
Total Volume Purged (gal): <u>20 minutes (tap on)</u>		Free Product (y/n): <u>N</u>							
Odor: <u>no H₂S</u>		Sheen (y/n): <u>N</u>							
Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):									
DISPOSABLE BAILER <u>Turn on tap. Laundry room sink</u>									
Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):									
DISPOSABLE BAILER <u>Tap</u>									
Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):									
<u>NA</u>									
Remarks (well recovery, unusual conditions/observations):									
<u>NA For caution / Arsenic balance only.</u>									
Duplicate Sample ID: _____									
Split Sample ID: _____									
Signed: <u>[Signature]</u>					Date: <u>8 Nov 99</u>				
Signed/reviewer: _____					Date: _____				

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): MW-29
 Project Name River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT-0274-GW
 Client: ADEC Date Sample Collected: 8 Nov 99
 Sampler: Ruth/Cox Time sampled: 1830

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 14.29
 Other: _____ b) Water Depth (ft): 13.36
 c) Water Column (ft): .93
 d) Calc. 1 Purge Vol. (gal): .15
 e) 3 Purge Vols. (gal): .45

Calculating Purge Volume			
Well Casing Diameter	Multiply c) by:	Sand Pack Diameter	Multiply c) by:
2	0.16	8	0.71
4	0.65	10	1
6	1.47	12	1.28

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $1.16 \times 6 = 0.96$ gallons water

Note: Assuming sand pack has 28% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS									
Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1458	.25	7.25	.301	5.2	brn.	114	1.2		
1503	.45	7.04	.408	6.7	brn.	93	-3.5		

Total Volume Purged (gal): .5 Free Product (y/n): N
 Odor: None noted Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):
 DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

Good - None

Remarks (well recovery, unusual conditions/observations):

Dry after purging .5 gal.
Very slow recovery. Too little water for DO measurement

Duplicate Sample ID: 99-RT-075-GW time 1900
 Split Sample ID: _____

Signed: Mark Ruth Date: 8 Nov 99
 Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (eg. MW-6): mw-31
 Project Name River Terrace Sample ID (eg. 99-RT-013-GW): 99-RT- 073 -GW
 Client: ADEC Date Sample Collected: 8 Nov 99
 Sampler: Ruth/Cox Time sampled: 1615

Well Information

Groundwater: ☒ Casing Diameter (in) 2 a) Well Depth (ft): 16.43
 Other: _____ b) Water Depth (ft): 15.31
 c) Water Column (ft): 1.12
 d) Calc. 1 Purge Vol. (gal): 1.18
 e) 3 Purge Vols. (gal): 3.54

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.15
4	0.65
6	1.47

Example 1: purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $1.16 \times 6 = 6.96$ gallons water

Sand Pack Diameter	Multiply c) by:
3	3.71
10	1
12	1.28

Note: assuming sand pack has 28% porosity
 Example 2: purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (total gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1605	2.5	6.70	.524	6.6	brn	7999	10.8		
1610	1	6.52	.535	6.9	brn	7999	11.2		
1613	2	6.57	.533	6.9	brn	7999	11.7		
	8.2								

Total Volume Purged (gal): 2 Free Product (y/n): N
 Odor: unnoticed Sneeze (y/n): N

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.):

DISPOSABLE BAILER

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.):

DISPOSABLE BAILER

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

Good New

Remarks (well recovery, unusual conditions/observations):

Tool bit water for DO measurements

Duplicate Sample ID: _____

Split Sample ID: NA

Signed: [Signature]

Date: 8 Nov 99

Signed/reviewer:

Date:

December 1999

Groundwater Sample Data Sheets

GROUNDWATER SAMPLE DATA SHEET

Project Number: 20058 Sample Location (ie. MW1): MW-3A
 Project Name: River Terrace (Dec. Qtly. Sampling) Sample ID (e.g. 99-RT-069-GW): 99-RT-088-GW
 Client: ADEC Date Sample Collected: 0950
 Sampler: Ruth/Cox Time sampled: 12/14/99

Well Information

Groundwater: ✓ Casing Diameter (in): 2" ✓ a) Well Depth (ft): 15
 b) Water Depth (ft): 5.29
 Other: _____ c) Water Column (ft): 9.71
 d) Calc. Purge Vol. (gal): 1.55
 e) Three Purge Vols. (gals): 4.7

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
0937	1.5	6.53	.246	3.4	4.6 cm	111		4.67	
0942	3	7.14	.275	4.2	"	589		6.74	
0950	5.5	7.29	.294	4.4	"	999		5.34	

Total Volume Purged: 5.5 Free Product (y/n): N
 Odor: N Sheen (y/n): N
 Purge Method: disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method: disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations): Redox meter inoperative

Duplicate Sample ID: _____
 Split Sample ID: _____

Signed: M. D. L.

Date: 12/14/99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 20058 Sample Location (ie. MW1): MW-9
 Project Name: River Terrace (Dec. Qtly. Sampling) Sample ID (e.g. 99-RT-069-GW): 99-RT-099-GW
 Client: ADEC Date Sample Collected: 14 Dec 99
 Sampler: Ruth/Cox Time sampled: 1745

Well Information

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 19.5
 Other: ☐ b) Water Depth (ft): 14.89
 c) Water Column (ft): 4.61
 d) Calc. Purge Vol. (gal): 0.74
 e) Three Purge Vols. (gals): 2.2

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.55
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	★ Redox	Dissolved O ₂	Other
1730	1	6.59	.277	7.2	brn.	7999		3.00	
1733	2	6.46	.268	7.3	brn.	7999		3.36	
1735	3	6.45	.264	7.3	brn.	7999		3.59	

Total Volume Purged: 3 gals. Free Product (y/n): N
 Odor: N Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.) Ferric Iron = 5.6 mg/L

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations): * Redox meter inoperative

V. Good recovery

Duplicate Sample ID:
 Split Sample ID:

Signed: [Signature] Date: 14 Dec 99
 Signed/reviewer: Date:

GROUNDWATER SAMPLE DATA SHEET

Project Number: 20058 Sample Location (ie. MW1): MW-14
 Project Name: River Terrace (Dec. Qtly. Sampling) Sample ID (e.g. 99-RT-069-GW): 99-RT-095-GW
 Client: ADEC Date Sample Collected: 14 Dec 99
 Sampler: Ruth/Cox Time sampled: 1555

Well Information

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 13.87 20
 Other: _____ b) Water Depth (ft): 13.87
 c) Water Column (ft): 6.13
 d) Calc. Purge Vol. (gal): 0.98
 e) Three Purge Vols. (gals): 3.0

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1546	1	7.83	.415	4.2	brn.	741		3.49	
1548	2	6.94	.433	4.3	"	799		5.77	
1550	3	6.97	.444	4.7	"	799		5.55	

Total Volume Purged: 3 gals Free Product (y/n): ✓
 Odor: N Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations): flux meter inoperative

Duplicate Sample ID: _____
 Split Sample ID: _____

Signed: [Signature] Date: 14 Dec 99
 Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 20058 Sample Location (ie. MW1): MW-21
 Project Name: River Terrace (Dec. Qtly. Sampling) Sample ID (e.g. 99-RT-069-GW): 99-RT-069-GW
 Client: ADEC Date Sample Collected: 13 Dec 99
 Sampler: Ruth/Cox Time sampled: 1710

Well Information

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 20
 Other: ☐ b) Water Depth (ft): 15.71
 c) Water Column (ft): 4.29
 d) Calc. Purge Vol. (gal): 0.69
 e) Three Purge Vols. (gals): 2.1

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume = 0.16 X 6 = 0.96 gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1657	0.5	6.71	392	3.3	brn.	54	10.4	6.98	
1701	1.5	6.61	390	4.2	"	53	16.7	5.15	
1703	2.25	6.64	391	4.6	"	53	14.1	4.34	

Total Volume Purged: 2.25 gals. Free Product (y/n): N
 Odor: N Sheen (y/n): N
 Purge Method: disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method: disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations):

Good - Scir

Duplicate Sample ID: _____

Split Sample ID: _____

Signed: [Signature]

Date: 13 Dec 99

Signed/reviewer: _____

Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 20058 Sample Location (ie. MW1): MW-23
 Project Name: River Terrace (Dec. Qtly. Sampling) Sample ID (e.g. 99-RT-069-GW): 99-RT-083-GW
 Client: ADEC Date Sample Collected: 13 Dec 99
 Sampler: Ruth/Cox Time sampled: 1630

Well Information

Groundwater: ✓ Casing Diameter (in): 2 a) Well Depth (ft): 22
 Other: _____ b) Water Depth (ft): 18.70
 c) Water Column (ft): 3.3
 d) Calc. Purge Vol. (gal): 0.5
 e) Three Purge Vols. (gals): 1.6

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume= $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume= $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1612	.5	6.65	.240	6.8	Brn.	46	33.1	5.80	
1615	1	6.02	.202	3.0	"	64	45.5	5.10	
1619	2	6.03	.199	2.9	"	220	48.3	5.19	

Total Volume Purged: 2 gals. Free Product (y/n): N
 Odor: N Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations):

Good recovery

Duplicate Sample ID: _____
 Split Sample ID: _____

Signed: Sharon Reed

Date: 13 Dec 99

Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 20058 Sample Location (ie. MW1): MW-25
 Project Name: River Terrace (Dec. Qtly. Sampling) Sample ID (e.g. 99-RT-069-GW): 99-RT-086-GW
 Client: ADEC Date Sample Collected: 14 Dec 99
 Sampler: Ruth/Cox Time sampled: 0910

Well Information

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 22
 Other: ☐ b) Water Depth (ft): 15.81
 c) Water Column (ft): 6.19
 d) Calc. Purge Vol. (gal): 0.99
 e) Three Purge Vols. (gals): 3.0

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	★ Redox	Dissolved O ₂	Other
0850	1	5.42	.232	5.1	6m.	7999		6.74	
0858	2	5.98	.225	4.9	"	7999		8.94	
0906	3	5.99	.224	4.6	"	7999		9.64	

Total Volume Purged: 3 gals Free Product (y/n): N
 Odor: N Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations): ★ Redox meter not working (Error 4, keypad error)

Good recovery

Duplicate Sample ID: 99-RT-087-GW time 0930
 Split Sample ID:

Signed: / Bob Ruth Date: 14 Dec 99
 Signed/reviewer: Date:

GROUNDWATER SAMPLE DATA SHEET

Project Number: 20058 Sample Location (ie. MW1): Mw-27
 Project Name: River Terrace (Dec. Qtly. Sampling) Sample ID (e.g. 99-RT-069-GW): 99-RT-091-GW
 Client: ADEC Date Sample Collected: 14 Dec 99
 Sampler: Ruth/Cox Time sampled: 1130

Well Information

Groundwater: ☒ Casing Diameter (in): 1 a) Well Depth (ft): 7.0
 Other: ☐ b) Water Depth (ft): 1.83
 c) Water Column (ft): 5.17
 d) Calc. Purge Vol. (gal): 0.83
 e) Three Purge Vols. (gals): 2.5

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1338	.2	6.24	.536	2.4	1+.brn.	31		7.80	
1343	.4	6.64	.480	2	"	31	11.3	9.78	

Total Volume Purged: 0.8 gals Free Product (y/n): N
 Odor: N Sheen (y/n): N

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.): Peristaltic Pump
Purged Dry After 0.8 gallons (12/13/99 - Purged)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.): disposable bailer

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):

Good

Remarks (well recovery, unusual conditions/observations):

V. Poor recovery

Duplicate Sample ID: JK

Split Sample ID:

Signed: Shawn Ruth

Date: 14 Dec 99

Signed/reviewer:

Date:

GROUNDWATER SAMPLE DATA SHEET

Project Number: 20058 Sample Location (ie. MW1): MW-30
 Project Name: River Terrace (Dec. Qtly. Sampling) Sample ID (e.g. 99-RT-069-GW): 99-RT-079-GW
 Client: ADEC Date Sample Collected: 13 Dec 99
 Sampler: Ruth/Cox Time sampled: 1415

Well Information

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 17.59
 Other: ☐ b) Water Depth (ft): 14.91
 c) Water Column (ft): 2.68
 d) Calc. Purge Vol. (gal): 0.43
 e) Three Purge Vols. (gals): 1.3

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1355	2.5	7.00	.600	3.5	clear	177	22.2	4.79	
1402	1	7.06	.617	4.1	clear	4323	-25.7	4.78	
1405	1.5	7.26	.618	4.6	clear	21	-28.3	4.84	

Total Volume Purged: 1.5 Free Product (y/n): N
 Odor: None Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations)

MODERATE

Duplicate Sample ID:
 Split Sample ID:

Signed: M. D. [Signature] Date: 12/13/99
 Signed/reviewer: Date:

GROUNDWATER SAMPLE DATA SHEET

Project Number: 20058 Sample Location (ie. MW1): MW-32
 Project Name: River Terrace (Dec. Qtly. Sampling) Sample ID (e.g. 99-RT-069-GW): 99-RT-082-GW
 Client: ADEC Date Sample Collected: 13 Dec 99
 Sampler: Ruth/Cox Time sampled: 1545

Well Information

Groundwater: ☒ Casing Diameter (in): 2 a) Well Depth (ft): 21.51
 Other: ☐ b) Water Depth (ft): 19.38
 c) Water Column (ft): 2.13
 d) Calc. Purge Vol. (gal): 0.34
 e) Three Purge Vols. (gals): 1.0

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1530	.25	6.80	.244	3.5	11.6m	38	44.9	5.03	
1533	.50	5.94	.246	3.9	"	41	46.8	4.72	
1536	.75	5.72	.246	4.4	"	39	46.1	4.86	

Total Volume Purged: 1 gal. Free Product (y/n): N
 Odor: N Sheen (y/n): N
 Purge Method: disposable bailer (teflon bailer, submersible pump, etc.)
 Sample Method: disposable bailer (teflon bailer, submersible pump, etc.)
 Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.):
Good
 Remarks (well recovery, unusual conditions/observations):
Good recovery
 Duplicate Sample ID: /
 Split Sample ID: /

Signed: Mind D 24 Date: 12/13/99
 Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 20058 Sample Location (ie. MW1): MW-12
 Project Name: River Terrace (Dec. Qtly. Sampling) Sample ID (e.g. 99-RT-069-GW): 99-RT-107-GW
 Client: ADEC Date Sample Collected: 12/15/99
 Sampler: Ruth/Cox Time sampled: 1150

Well Information

Groundwater: ✓ Casing Diameter (in): 2 a) Well Depth (ft): 8
 Other: _____ b) Water Depth (ft): 2.57
 c) Water Column (ft): 5.43
 d) Calc. Purge Vol. (gal): 0.9
 e) Three Purge Vols. (gals): 2.6

Calculating Purge Volume

Well Casing Diameter	Multiply c) by
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column.
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 8) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1142	1		.534						
1145	2								
ERROR MESSAGE ON HORIBA - NO MEASUREMENTS									

Total Volume Purged: 3 Free Product (y/n): NN
 Odor: N Sheen (y/n): NN
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Remarks (well recovery, unusual conditions/observations): Good
GOOD

Duplicate Sample ID: _____
 Split Sample ID: _____

Signed: M. D. L.

Date: 12/15/99

Signed/reviewer:

Date:

GROUNDWATER SAMPLE DATA SHEET

Project Number: 20058 Sample Location (ie. MW1): MW-8
 Project Name: River Terrace (Dec. Qtly. Sampling) Sample ID (e.g. 99-RT-069-GW): 99-RT-105-GW
 Client: ADEC Date Sample Collected: _____
 Sampler: Ruth/Cox Time sampled: 1045

Well Information

Groundwater: Y Casing Diameter (in): 2" a) Well Depth (ft): 12.5
 Other: _____ b) Water Depth (ft): 2.23
 c) Water Column (ft): 10.27
 d) Calc. Purge Vol. (gal): 1.64
 e) Three Purge Vols. (gals): 5

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1036	2	7.32	.221	4.7	brn.	2999		5.98	
1040	4	6.42	.220	4.6	"	2999		7.06	
1042	6	6.30	.224	4.8	"	2999		5.69	

Total Volume Purged: 6 gals Free Product (y/n): N
 Odor: N Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Ferrous iron = 0.4 mg/L

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations): # Redox meter inoperative

V. Good recovery

Duplicate Sample ID: _____
 Split Sample ID: _____

Signed: [Signature] Date: 15 Dec 99

Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 20058 Sample Location (ie. MW1): Mw-5
 Project Name: River Terrace (Dec. Qtly. Sampling) Sample ID (e.g. 99-RT-069-GW): 99-RT-102-GW
 Client: ADEC Date Sample Collected: 15 Dec 99
 Sampler: Ruth/Cox Time sampled: 0905

Well Information

Groundwater: / Casing Diameter (in): 2" a) Well Depth (ft): 5.5
 Other: b) Water Depth (ft): 1.98
 c) Water Column (ft): 3.52
 d) Calc. Purge Vol. (gal): 0.6
 e) Three Purge Vols. (gals): 1.7

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Example 1- purging only well casing volume
 You have 2-inch casing and 6-foot water column
 One Purge Volume = $0.16 \times 6 = 0.96$ gallons water

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 28% porosity
 Example 2- purging well casing and sand pack volume
 You have 2-inch casing, 8-inch sand pack, and 6-foot water column.
 One Purge Volume = $(0.16 \times 6) + (0.71 \times 6) = 5.22$ gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other
0856	1.75	5.57	182	2.5	brn.	581		10.80	
0858	1.5	5.69	146	2.8	"	7999		12.34	
0902	2.5	5.64	141	2.6	"	7999		12.76	

Total Volume Purged: 2.5 gals. Free Product (y/n): N
 Odor: N Sheen (y/n): N
 Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations).

* Redox meter inoperative

Good recovery

Duplicate Sample ID:
 Split Sample ID:

Signed: [Signature]

Date: 15 Dec 99

Signed/reviewer:

Date:

January 2000

Groundwater Sample Data Sheets