APPENDIX L

Total Well Depth (TWD) =		1	0.44		1/100 ft
Depth to Ground Water (DGW) =			10.39		1/100 ft
Length of Water Column (LWC) = T\	WD - DGW	= _		0.05	1/100 ft
1 Casing Volume (OCV) = LWC x	0.163	= _		0.01	gallons
5 Casing Volumes =		0.0)4		gallons
Method of Well Development			N/A	4	

Page 1 of 1

gallons

Date Started (mo/day/	yr) <u>7/27/2007</u>	Date Completed (mo/day/yr)	7/27/2007
Field Personnel			
Site Name		Guterl Steel	
Earth Tech Job #		100657	
Well ID #		600S	
Investigative Area	BKG (A05B)		
Weather Conditions		overcast, showers	
Air Temperature		65-70	°F

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	DO (%)	рН	ORP (mV)	Specific Conductivity (µmhos/cm)	Turbidity (NTU)/Color	Water Level (ft BTIC)	Remarks

Total Volume of Water Removed

COMMENTS/OBSERVATIONS: WELL IS DRY. NOT DEVELOPE
--

Page1_	_ of _	1

Date Started (mo/da	ay/yr) 7/27/2007	Date Completed (mo/day/yr)	7/27/2007
Field Personnel			
Site Name		Guterl Steel	
Earth Tech Job #		100657	
Well ID #		600D	
Investigative Area	BKG (A05B)		
Weather Conditions	3	overcast, showers	_
Air Temperature		65-70	°F

Total Well Depth (TWD) =		2	24.79			
Depth to Ground Water (DGW) =	-		10.83	1/100 ft		
Length of Water Column (LWC) = T	WD - DGW =	= .	13.96	1/100 ft		
1 Casing Volume (OCV) = LWC x	0.163	= .	2.28	gallons		
5 Casing Volumes =		11.3	38	gallons		
Method of Well Development	Method of Well Developmentpurge/surge with elect					
Total Volume of Water Removed			50	gallons		

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	DO (%)	рН	ORP (mV)	Specific Conductivity (µmhos/cm)	Turbidity (NTU)/Color	Water Level (ft BTIC)	Remarks
9:00	-	-	-	-	-	-	-	-	10.83	
9:10	1	10	11.46	0.90	7.47	27.1	7.927	1230 / lt. gray	13.71	
9:15	1	15	11.55	0.41	7.51	1.6	8.031	256 / It. gray	13.45	
9:20	1	20	11.42	2.15	7.43	-13.5	8.380	743 / It. gray	13.49	
9:25	1	25	11.39	1.92	7.42	-21.5	8.450	180 / lt. gray	13.56	
9:30	1	30	11.45	0.79	7.37	-25.9	8.579	541 / lt. gray	13.63	
9:35	1	35	11.44	0.47	7.35	-30.0	8.574	211 / lt. gray	13.69	
9:40	1	40	11.43	0.36	7.32	-32.0	8.597	130 / lt. gray-clear	13.70	
9:45	1	45	11.42	0.34	7.3	-33.8	8.619	60 / clear	13.75	
9:50	1	50	11.43	0.30	7.29	-35.5	8.642	35 / clear	13.75	
						i i				

COMMENTS/OBSERVATIONS: At 9:30, after recording parameters move pump to center of screen.

Date Started (mo/day	y/yr) <u>7/26/2007</u>	Date Completed (mo/day/yr)	7/26/2007
Field Personnel _			
Site Name		Guterl Steel	
Earth Tech Job #		100657	
Well ID #		601D	
Investigative Area	A04A		
Weather Conditions		sunny, breezy	

Air Temperature

Total Well Depth (TWD) =		22.58				
Depth to Ground Water (DGW) =		10.7		1/100 ft		
Length of Water Column (LWC) = T	WD - DGW =	1	11.88	1/100 ft		
1 Casing Volume (OCV) = LWC x	0.163 =		1.94	gallons		
5 Casing Volumes =		9.68		gallons		
Method of Well Development	purge/surg	ge with elect	ric submersi	ble pump		
Total Volume of Water Removed		50		gallons		

Page 1 of 1

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	DO (%)	рН	ORP (mV)	Specific Conductivity (µmhos/cm)	Turbidity (NTU)/Color	Water Level (ft BTIC)	Remarks
13:45	-	-	-	-	-	-	=	-	10.70	
13:55	1	10	14.36	1.05	7.67	-51.0	1.267	1125 / gray	11.89	
14:00	1	15	14.26	0.12	8.00	-71.5	1.243	342 / It. gray	11.70	
14:05	1	20	14.34	0.08	8.01	-76.3	1.260	365 / It. gray	11.72	
14:10	1	25	14.58	0.07	7.33	-65.4	1.199	481 / It. gray	11.75	
14:15	1	30	14.51	0.06	7.65	-89.2	1.218	58 / It. gray	11.82	
14:20	1	35	14.47	0.07	7.78	-96.6	1.220	38 / It. gray	11.92	
14:25	1	40	14.51	0.05	7.63	-80.0	1.224	30 / clear	11.89	
14:30	1	45	14.54	0.05	7.60	-82.9	1.236	18 / clear	11.88	
14:35	1	50	14.51	0.05	7.54	-81.0	1.236	18 / clear	11.89	

COMMENTS/OBSERVATIONS: At 14:15, done with surge and move pump to center of screen. Air bubbles are noted in the tubing (no explanation); pump is well below water level.

Page	1	of	1

Date Started (mo/da	y/yr) 7/26/2007 Date Completed (mo/day/yr) 7/26/2007
Field Personnel	
Site Name	Guterl Steel
Earth Tech Job #	100657
Well ID #	602D
Investigative Area	A04A
Weather Conditions	sunny, breezy
Air Temperature	85-90 °F

Total Well Depth (TWD) =	2	22.10	1/100 ft				
Depth to Ground Water (DGW) =	ī	9.97	1/100 ft				
Length of Water Column (LWC) = T	WD - DGW =	12.13	1/100 ft				
1 Casing Volume (OCV) = LWC x	0.163 =	1.98	gallons				
5 Casing Volumes =	9.8	39	gallons				
Method of Well Development	Method of Well Development purge/surge with electric submersible p						
Total Volume of Water Removed		50	gallons				

_		Temperature (°C)	(%)	pН	ORP (mV)	Specific Conductivity (µmhos/cm)	Turbidity (NTU)/Color	Water Level (ft BTIC)	Remarks
_	-	-	-	-	-	-	-	9.97	
1	10	13.13	0.47	7.36	-45.0	1.683	844 / gray	13.14	
1	15	13.31	0.25	7.13	-50.1	1.727	145 / It. gray	12.40	
1	20	13.23	0.27	7.11	-64.8	1.774	762 / It. gray	12.59	
1	25	13.57	1.13	7.19	-75.7	1.716	1175 / It. gray	12.14	
1	30	13.42	0.40	7.05	-78.6	1.706	392 / It. gray	12.54	
1	35	13.38	0.26	7.04	-79.5	1.725	104 / It. gray	12.55	
1	40	13.48	0.16	7.06	-78.2	1.731	30 / clear	12.55	
1	45	13.49	0.17	7.02	-80.2	1.728	20 / clear	12.55	
1	50	13.47	0.16	7.19	-86.2	1.731	18 / clear	12.55	
	1 1 1 1 1 1 1 1	1 20 1 25 1 30 1 35 1 40 1 45	1 20 13.23 1 25 13.57 1 30 13.42 1 35 13.38 1 40 13.48 1 45 13.49	1 15 13.31 0.25 1 20 13.23 0.27 1 25 13.57 1.13 1 30 13.42 0.40 1 35 13.38 0.26 1 40 13.48 0.16 1 45 13.49 0.17	1 15 13.31 0.25 7.13 1 20 13.23 0.27 7.11 1 25 13.57 1.13 7.19 1 30 13.42 0.40 7.05 1 35 13.38 0.26 7.04 1 40 13.48 0.16 7.06 1 45 13.49 0.17 7.02	1 15 13.31 0.25 7.13 -50.1 1 20 13.23 0.27 7.11 -64.8 1 25 13.57 1.13 7.19 -75.7 1 30 13.42 0.40 7.05 -78.6 1 35 13.38 0.26 7.04 -79.5 1 40 13.48 0.16 7.06 -78.2 1 45 13.49 0.17 7.02 -80.2	1 15 13.31 0.25 7.13 -50.1 1.727 1 20 13.23 0.27 7.11 -64.8 1.774 1 25 13.57 1.13 7.19 -75.7 1.716 1 30 13.42 0.40 7.05 -78.6 1.706 1 35 13.38 0.26 7.04 -79.5 1.725 1 40 13.48 0.16 7.06 -78.2 1.731 1 45 13.49 0.17 7.02 -80.2 1.728	1 15 13.31 0.25 7.13 -50.1 1.727 145 / lt. gray 1 20 13.23 0.27 7.11 -64.8 1.774 762 / lt. gray 1 25 13.57 1.13 7.19 -75.7 1.716 1175 / lt. gray 1 30 13.42 0.40 7.05 -78.6 1.706 392 / lt. gray 1 35 13.38 0.26 7.04 -79.5 1.725 104 / lt. gray 1 40 13.48 0.16 7.06 -78.2 1.731 30 / clear 1 45 13.49 0.17 7.02 -80.2 1.728 20 / clear	1 15 13.31 0.25 7.13 -50.1 1.727 145 / lt. gray 12.40 1 20 13.23 0.27 7.11 -64.8 1.774 762 / lt. gray 12.59 1 25 13.57 1.13 7.19 -75.7 1.716 1175 / lt. gray 12.14 1 30 13.42 0.40 7.05 -78.6 1.706 392 / lt. gray 12.54 1 35 13.38 0.26 7.04 -79.5 1.725 104 / lt. gray 12.55 1 40 13.48 0.16 7.06 -78.2 1.731 30 / clear 12.55 1 45 13.49 0.17 7.02 -80.2 1.728 20 / clear 12.55

COMMENTS/OBSERVATIONS: At 15:20 after taking readings, stop surging and place pump at center of screen.

Date Started (mo/day/yı	7/27/2007 Date Completed (mo/day/yr) 7/27/2007	,					
Field Personnel							
Site Name	Guterl Steel						
Earth Tech Job #	100657						
Well ID #	603D						
Investigative Area	A04A						
Weather Conditions	humid cloudy + rain showers						
Air Temperature	70-75 °F						

Total Well Depth (TWD) =		22.65*					
Depth to Ground Water (DGW) =		7.30					
Length of Water Column (LWC) = T	WD - DGW =	15.3	5** 1/100 ft				
1 Casing Volume (OCV) = LWC x	0.163 =	2.5	0 gallons				
5 Casing Volumes =		12.51	gallons				
Method of Well Development	purge/surg	bmersible pump					
Total Volume of Water Removed		45	gallons				

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	DO (%)	рН	ORP (mV)	Specific Conductivity (µmhos/cm)	Turbidity (NTU)/Color	Water Level (ft BTIC)	Remarks
10:30	-	-	-	-	-	-	=	-	7.30	
10:40	stop pump and	let recharge, su	rge while rechai	ging		-	=	-	21.60	
10:45	start pump and	surge	-	-	-	-	-	-	9.64	
10:50	stop pump and let recharge - hook up to YSI			-	-	-	-	-	21.81	
11:00	start pump and	surge	-	-	-	-	=	-	7.53	
11:02	1	15	12.36	3.35	7.27	22.0	1.390	864 / gray	11.95	
11:07	1	20	11.74	2.32	7.16	18.2	1.409	663 / gray	14.90	
11:12	1	25	12.14	2.15	7.19	16.0	1.383	364 / gray	16.41	
11:17	1	30	12.2	1.70	7.15	6.1	1.268	1156 / gray	17.61	
11:22	1	35	11.95	1.09	7.06	-11.7	1.328	109 / gray	18.02	
11:27	1	40	11.96	1.01	7.06	-17.6	1.323	54 / clear	17.91	
11:32	1	45	11.96	1.01	7.05	-19.0	1.325	49 / clear	-	

COMMENTS/OBSERVATIONS: At 11:17, stopped surge and set pump at center of screen. * The Total Well Depth was 22.20 ft at the start of well development. The Total Well Depth at the end of well development was 22.65. **The ending TWD is used in calculating length of water column.

Page 1 of 1

Total Well Depth (TWD) =		18.08	1/100 ft
Depth to Ground Water (DGW) =		5.92	1/100 ft
Length of Water Column (LWC) = T	WD - DGW =	12.16	1/100 ft
1 Casing Volume (OCV) = LWC x	0.163 =	1.98	gallons
5 Casing Volumes =	9.	91	gallons
Method of Well Development	purge/surge \	with electric submersi	ble pump

100

Page 1 of 1

gallons

Date Started (mo/da	y/yr) 7/25/2007 Date Completed (mo/day/yr) 7/25/2007
Field Personnel	
Site Name	Guterl Steel
Earth Tech Job#	100657
Well ID #	604D
Investigative Area	A04D
Weather Conditions	partly cloudy and windy
Air Temperature	75-80 °F

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	DO (%)	рН	ORP (mV)	Specific Conductivity (µmhos/cm)	Turbidity (NTU)/Color	Water Level (ft BTIC)	Remarks
14:36	<1	20	14.16	0.94	7.58	128.0	1.691	1161 / gray	9.52	
14:46	<1	30	14.39	1.59	7.34	86.0	1.688	640 / gray	9.72	
14:56	<1	40	14.38	1.78	7.09	81.0	1.668	227 / gray	9.72	
15:01	<1	45	14.48	1.17	7.09	82.4	1.659	92 / gray	9.74	•
15:06	<1	50	14.4	0.75	7.27	88.7	1.651	100 / gray	9.78	
15:13	<1	55	14.28	0.54	7.34	89.0	1.645	75 / gray	9.78	
15:20	<1	60	14.4	0.44	7.48	94.5	1.637	44 / clear	9.78	
15:27	>1	65	14.38	0.35	7.66	78.1	1.627	58 / clear	9.78	*start truck
15:36	>1	75	14.3	0.35	7.32	87.1	1.612	298 / gray	10.72	
15:45	>1	85	14.29	0.20	7.19	66.4	1.616	249 / gray	10.75	
15:54	>1	95	14.26	0.18	7.18	48.3	1.604	205 / clear	10.68	
15:59	>1	100	14.32	0.20	7.22	48.9	1.599	117 / clear	10.73	

Total Volume of Water Removed

COMMENTS/OBSERVATIONS: * At 15:27, started truck which caused the pump to pump faster.

Date Started (mo/day/yr	7/19/2007 Date Completed (mo/day/yr) 7/19/2007
Field Personnel	
Site Name	Guterl Steel
Earth Tech Job #	100657
Well ID #	605D
Investigative Area	A04B
Weather Conditions	muggy and cloudy
Air Temperature	75°F

Total Well Depth (TWD) =		1	8.5	1/100 ft
Depth to Ground Water (DGW) =			3.8	1/100 ft
Length of Water Column (LWC) = 1	WD - DGW =	= .	14.7	1/100 ft
1 Casing Volume (OCV) = LWC x	0.163	= .	2.40	gallons
5 Casing Volumes =		11.9	98	gallons
Method of Well Development		_		
	purge wit	th electr	ric submersible pump	
Total Volume of Water Removed			55	gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	DO (%)	рН	ORP (mV)	Specific Conductivity (µmhos/cm)	Turbidity (NTU)/Color	Water Level (ft BTIC)	Remarks
14:30	1	2	16.80	-	7.74	-	0.957	5.46	-	
14:48	1	9.5	17.90	1.43	7.75	-34.3	0.890	gray-cloudy	-	
15:02	1	14.5	16.08	3.19	7.56	-44.4	0.851	964 / gray-turbid	-	
15:07	1	19.5	16.28	1.21	7.46	-34.0	0.832	137 / gray-clearing	5.00	
15:11	1	24.5	15.72	0.78	7.35	-22.1	0.840	>1000 / gray	4.93	
15:20	1	35	15.46	0.01	7.27	-13.4	0.834	>1000 / gray	4.95	
15:25	1	40	16.87	0.51	7.29	-2.7	0.789	866 / gray	4.95	
15:30	1	45	16.57	0.61	7.31	29.0	0.800	93 / It. gray	5.02	
15:35	1	50	16.41	0.48	7.12	41.4	0.803	39.1 / clear	5.02	
15:40	1	55	16.38	0.50	7.09	45.0	0.806	28.0 / clear	5.02	

COMMENTS/OBSERVATIONS: Used surge block, purged (raising and lowering pump during purging). Water clears if pump sits in place and is not surged. At 15:30 moved pump to middle of screen.

Date Started (mo/day/yi	7/26/2007 Date Completed (mo/day/yr) 7/26/2007	
Field Personnel		_
Site Name	Guterl Steel	
Earth Tech Job #	100657	
Well ID #	606D	
Investigative Area	A03	
Weather Conditions	sunny, lt. breeze	
Air Temperature	75-80 °F	

Total Well Depth (TWD) =		2	2.6		1/100 ft
Depth to Ground Water (DGW) =			7.81		1/100 ft
Length of Water Column (LWC) = T	WD - DGW =	:		14.79	1/100 ft
1 Casing Volume (OCV) = LWC x	0.163	=		2.41	gallons
5 Casing Volumes =		12.0)5		gallons
Method of Well Development	purge/s	surge wi	th electric	c submersil	ole pump
Total Volume of Water Removed			50		gallons

Page 1 of 1

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	DO (%)	рН	ORP (mV)	Specific Conductivity (µmhos/cm)	Turbidity (NTU)/Color	Water Level (ft BTIC)	Remarks
10:20	-	-	-	-	-	-	-	-	7.81	
10:30	1	10	13.72	2.86	7.73	-75.2	1.399	655 / brown	10.36	hook up YSI
10:35	1	15	13.37	2.69	7.35	-83.0	1.390	435 / brown	10.38	
10:40	1	20	14.14	2.77	7.4	-86.4	1.450	1075 / brown	10.29	
10:45	1	25	13.54	2.69	7.38	-102.7	1.512	1094 / brown	10.46	
10:50	1	30	13.73	0.97	7.35	-108.1	1.538	360 / brown	10.52	
10:55	1	35	13.72	0.59	7.36	-114.5	1.554	275 / It. brown-gray	10.55	
11:00	1	40	13.73	0.34	7.35	-119.1	1.569	244 / It. brown-gray	10.56	
11:05	1	45	13.7	0.18	7.41	-129.3	1.589	177 / It. brown-gray	10.58	
11:10	1	50	13.7	0.07	7.33	-133.7	1.605	139 / lt. brown-gray	10.60	

COMMENTS/OBSERVATIONS: At 10:45 after readings, place pump at center of screen.

Date Started (mo/day/yr)	10/11/2007 Date Completed (mo/day/yr)	10/11/2007
Field Personnel		
Site Name	Guterl Steel	
Earth Tech Job #	100657	_
Well ID #	606DR	
Investigative Area	A03	
Weather Conditions	cool, partly cloudy	
Air Temperature	60	°F

Total Well Depth (TWD) =	20.	90	1/100 ft
Depth to Ground Water (DGW) =		7.81	1/100 ft
Length of Water Column (LWC) = TWE	D - DGW =	13.09	1/100 ft
1 Casing Volume (OCV) = LWC x 0).163 = <u> </u>	2.13	gallons
5 Casing Volumes =	10.67		_gallons
Method of Well Development	purge/surge wi	th electric submersible	e pump
Total Volume of Water Removed		60	gallons

Page 1 of 1

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	DO (%)	рН	ORP (mV)	Specific Conductivity (µmhos/cm)	Turbidity (NTU)/Color	Water Level (ft BTIC)	Remarks
9:55	-	-	-	-	-	-	-	-	7.81	
9:56	-	-	-	-	-	-	-	-		Dry, stop pump
10:00	-	-	-	-	-	-	-	-	11.00	start pump
10:04	-	-	-	-	-	-	-	-	20.90	Dry, stop pump
10:16	-	-	-	-	-	-	-	-	7.72	start pump
10:20	1	20	-	-	-	-	-	-	20.50	stop pump
10:30	1	25	12.78	3.04	9.05	-90.0	2.012	1130 / gray	11.80	pump on, hook up Y
10:35	1	30	13.44	1.61	9.13	-88.3	1.909	1102 / gray	15.96	
10:40	1	35	13.08	1.40	9.23	-94.4	1.981	405 / gray	17.38	
10:45	1	40	13.00	2.43	9.26	-96.4	2.015	160 / It. gray	17.80	
10:50	1	45	13.02	1.54	9.19	-95.8	2.058	44.5 / It. gray	17.56	
10:55	1	50	13.07	1.53	9.14	-95.0	2.035	28.5 / It. gray	17.70	slight sulfur smel
11:00	1	55	13.06	1.56	9.12	-93.1	2.047	26.8 / It. gray	17.84	
11:05	1	60	13.05	1.47	9.06	-93.4	2.05	23.4 / It. gray	17.81	

COMMENTS/OBSERVATIONS: Surged for 25 gallons. At 10:40 after readings, set pump at center of screen.

Date Started (mo/day/yr)	7/26/2007 Date Completed (mo/day/yr) 7/26/2007
Field Personnel	
Site Name	Guterl Steel
Earth Tech Job #	100657
Well ID #	607D
Investigative Area	A03
Weather Conditions	sunny, breezy
Air Temperature	70-80 °F

Total Well Depth (TWD) =		19.78	1/100 ft
Depth to Ground Water (DGW) =		8.03	1/100 ft
Length of Water Column (LWC) = T	WD - DGW =	11.79	5 1/100 ft
1 Casing Volume (OCV) = LWC x	0.163 =	1.92	gallons
5 Casing Volumes =	!	9.58	gallons
Method of Well Development	purge/surge	with electric sub	mersible pump
Total Volume of Water Removed		50	gallons

Page 1 of 1

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	DO (%)	рН	ORP (mV)	Specific Conductivity (µmhos/cm)	Turbidity (NTU)/Color	Water Level (ft BTIC)	Remarks
9:04	-	-	-	-	-	-	-	-	8.03	
9:14	1	10	12.8	0.33	7.68	-160.4	1.289	1160 / gray	12.86	hook up YS
9:19	1	15	13.48	0.26	7.64	-167.1	1.284	606 / gray	12.52	
9:24	1	20	13.43	0.21	7.55	-169.3	1.286	300 / gray	12.29	
9:29	1	25	13.40	0.19	7.48	-170.8	1.290	200 / gray	12.29	
9:34	1	30	13.39	0.19	7.4	-172.9	1.293	126 / lt. gray	12.31	
9:39	1	35	13.39	0.23	7.38	-176.1	1.295	88 / It. gray	12.36	
9:44	1	40	13.39	0.28	7.34	-178.1	1.298	72 / It. gray	12.34	
9:49	1	45	13.37	0.25	7.32	-180.6	1.300	67 / lt/ gray	12.36	
9:54	1	50	13.37	0.24	7.31	-183.2	1.303	49 / It. gray	12.38	

COMMENTS/OBSERVATIONS: At 9:14 noted sulfur smell. At 9:19 after readings set pump in the center of the screen. Background 30 cpm. Well surged on 7/20/07, surged for 15 gallons on 7/26/07 then placed pump in center of screen. *Surge block (2 in. diameter PVC, 6 in. in length) stuck in the bottom of this well.