HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION WEEKLY REPORT
Williams AFB ST012

Site No.: 9101-11-0001

Week Ending 09 December 2016

I. SITE SUBCONTRACTOR SUMMARY

Company	Sat	Sun	Mon	Tue	Wed	Thu	Fri
Amec Foster Wheeler			X	X	X	X	X
Terra Therm							
MP Environmental			X		X	X	X
Yellow Jacket	X	X	X	X	X	X	X

II. SCHEDULE / SITE ACTIVITIES REVIEW

A. SEE Demolition - None

B. Well Drilling and Development

- Completed the following wells:
  1. UWBZ40/LSZ59
  2. LSZ60
- Began development of completed wells

C. EBR Construction - None

D. Containment System Construction

- Continue wiring power from panel to process equipment area
- Plumbing chemical injection system.

E. Sampling/Monitoring

- SEE/EBR well LNAPL monitoring/removal

F. SVE System Operation/Optimization

- Routine operation
- Operated the flame-oxidizer in parallel with the thermal oxidizer.
    1. There were fifteen shutdowns of the thermal oxidizer this week.
        a. On 03 December 2016, the thermal oxidizer shut down due to a high lower explosive limit (LEL) alarm. The system was down until 05 December 2016, when the thermal oxidizer was restarted. The thermal oxidizer shut down three additional times on 05 December 2016 due to a high LEL alarm. After the fourth shutdown, the thermal oxidizer was restarted successfully.
        b. On 06 December 2016, the thermal oxidizer shut down two times due to a high LEL alarm. The thermal oxidizer was shut down by the operator to troubleshoot LEL alarm issues. After the operator shutdown, the thermal oxidizer was restarted successfully.
        c. On 07 December 2016, the thermal oxidizer was shut down two times by the operator for critical system checks and to troubleshoot LEL alarm issues. After the operator shutdown, the thermal oxidizer was restarted. The thermal oxidizer shut down due to a high LEL alarm. The thermal oxidizer was restarted successfully.
        d. On 08 December 2016, the thermal oxidizer was shut down by the operator for critical system checks and to troubleshoot LEL alarm issues. After the operator shutdown, the thermal oxidizer was restarted. The thermal oxidizer shut down two times due to a high LEL alarm with the operator present. The thermal oxidizer was restarted.
        e. On 08 December 2016, the thermal oxidizer shut down an additional time with the operator absent and remained off until restarted successfully on 09 December 2016.
    2. There were no shutdowns of the flame oxidizer this week.

III. SVE OPERATING DATA

A. Thermal Oxidizer Destruction Efficiency/Mass Removal Summary

The destruction efficiency and mass removal calculations for the thermal oxidizer are tabulated below. A correction factor was applied to PID readings based on available analytical data and corresponding PID data. This factor is updated each time new analytical data is available and may retroactively alter previously reported data.

Date Period Began	Date Period Ended	Days in Period	Time Thermal Oxidizer Operated	Thermal Oxidizer Uptime	Influent Concentration (PID)	Influent Concentration (Adjusted PID)[c]	Effluent Concentration (PID)	Effluent Concentration (Adjusted PID)[c,a]	Calculated Destruction Efficiency[a]	Flowrate into Oxidizer (End of Period)[c]	Estimated VOC Mass Removed[b]	Average Daily Removal Rate[b]	Estimated VOC Mass Released to Atmosphere[b]	Average VOC Mass Released to Atmosphere[b]
---	---	days	hrs	%	ppmv	mg/m^3	ppmv	mg/m^3	%	scfm	lbs/period	lbs/day	lbs/period	lbs/day
4/7/2016	4/15/2016	7	112	63%	560	10,776	4.6	4.2	99.96%	1,396	6,312	847	2	0.33
4/15/2016	4/21/2016	6	147	100%	342	6,581	1.0	0.9	99.99%	1,571	5,692	929	0.8	0.13
4/21/2016	4/29/2016	8	188	99%	296	5,696	2.6	2.4	99.96%	1,396	5,600	711	2.3	0.29
4/29/2016	5/5/2016	6	130	90%	179	3,445	1.6	1.5	99.96%	1,396	2,342	390	1.0	0.16
5/5/2016	5/20/2016	15	323	90%	394	7,582	0.5	0.5	99.99%	1,047	9,605	640	0.6	0.04
5/20/2016	5/26/2016	6	146	100%	699	14,913	42.2	38	99.74%	698	5,693	936	14.6	2.40
5/26/2016	6/2/2016	7	166	99%	340	7,254	62.2	56	99.22%	698	3,149	450	24.5	3.50
6/2/2016	6/10/2016	8	164	85%	679	10,931	1.2	1.1	99.99%	1,309	8,791	1,099	0.9	0.11
6/10/2016	6/17/2016	7	167	99%	462	7,438	12.7	12	99.85%	1,047	4,872	696	7.5	1.08
6/17/2016	6/24/2016	7	165	98%	179	2,882	0.6	0.5	99.98%	1,466	2,611	373	0.5	0.07
6/24/2016	6/27/2016	3	74	100%	431	8,516	0.0	0.0	>99.99%	1,920	4,533	1,470	0.0	0.00
6/27/2016	6/29/2016	2	47	100%	N/A	8,516	N/A	0.0	>99.99%	1,152	1,727	882	0.0	0.00
6/29/2016	7/8/2016	9	215	100%	697	13,772	0.2	0.3	>99.99%	524	5,812	649	0.1	0.01
7/8/2016	7/14/2016	6	128	89%	1080	23,314	1.3	1.8	99.99%	489	5,467	911	0.4	0.07
7/14/2016	7/22/2016	8	56	29%	848	18,306	7.6	10	99.94%	698	2,680	335	1.5	0.19
7/22/2016	7/29/2016	7	163	97%	636	16,947	10.2	14	99.92%	628	6,499	928	5.3	0.76
7/29/2016	8/4/2016	6	84	58%	681	18,146	1.5	2	99.99%	1,466	8,370	1,395	0.9	0.16
8/4/2016	8/11/2016	7	168	100%	475	17,982	1.2	2	99.99%	698	7,899	1,128	0.7	0.10
8/11/2016	8/18/2016	7	120	71%	476	18,020	1.6	2	99.99%	768	6,221	889	0.8	0.11
8/18/2016	8/25/2016	7	168	100%	285	10,789	2.2	3	99.97%	628	4,266	609	1.2	0.17
8/25/2016	9/1/2016	7	167	99%	498	17,548	1.4	2	99.99%	489	5,368	767	0.6	0.08
9/1/2016	9/8/2016	7	169	100%	986	34,744	3.7	5	99.99%	986	21,689	3,080	3.2	0.45
9/8/2016	9/15/2016	7	145	87%	605	21,319	12.5	17	99.92%	419	4,850	697	3.9	0.56
9/15/2016	9/22/2016	7	169	100%	454	15,821	18.4	72 *	99.55%	419	4,195	596	19.0	2.69
9/22/2016	9/29/2016	7	167	99%	475	16,553	18.5	72 *	99.57%	628	6,503	929	28.2	4.04
9/29/2016	10/6/2016	7	166	99%	805	15,402	1.9	7 *	99.95%	628	6,015	859	2.9	0.41
10/6/2016	10/13/2016	7	165	98%	578	11,059	1.1	4 *	99.96%	489	3,343	478	1.3	0.18
10/13/2016	10/20/2016	7	136	81%	620	8,440	18.8	73 *	99.13%	441	1,896	271	16.4	2.35
10/20/2016	10/27/2016	7	170	100%	699	9,516	1.8	7 *	99.93%	494	2,994	423	2.2	0.31
10/27/2016	11/3/2016	7	166	100%	631	16,204	0.8	3 *	99.98%	524	5,280	763	1.0	0.15
11/3/2016	11/10/2016	7	173	100%	602	15,459	1.2	5 *	99.97%	489	4,899	680	1.5	0.21

Date Period Began	Date Period Ended	Days in Period	Time Thermal Oxidizer Operated	Thermal Oxidizer Uptime	Influent Concentration (PID)	Influent Concentration (Adjusted PID)[c]	Effluent Concentration (PID)	Effluent Concentration (Adjusted PID)[f,g]	Calculated Destruction Efficiency[a]	Flowrate into Oxidizer (End of Period)[e]	Estimated VOC Mass Removed[b]	Average Daily Removal Rate[b]	Estimated VOC Mass Released to Atmosphere[b]	Average VOC Mass Released to Atmosphere[b]
11/10/2016	11/18/2016	8	160	86%	911	30,993 *	9.6	37 *	99.88%	517	9,604	1,233	11.6	1.48
11/18/2016	11/23/2016	5	55	46%	387	13,166 *	1.2	5 *	99.96%	725	1,967	393	0.7	0.14
11/23/2016	12/1/2016	8	88	46%	581	19,766 *	6.0	23 *	99.88%	667	4,349	544	5.1	0.64
12/1/2016	12/9/2016	8	135	70%	97	3,283 *	4.7	18 *	99.44%	578	960	120	5.3	0.67

Notes:

% - percent
hrs - hours
JP-4 - jet petroleum fuel grade four
lbs - pounds
mg/m^3 - milligrams per cubic meter
ppmv - parts per million by volume
scfm - standard cubic feet per minute
TPH - total petroleum hydrocarbons
PID - photoionization detector
SVE - soil vapor compound
VOC - volatile organic compound

* Concentration and associated calculated values may change after receipt of subsequent analytical data.

(a) Calculated destruction efficiencies are calculated using a single sampling event for each week, not using the average influent and effluent results.

(b) Mass and volumes are calculated based on laboratory data for TPH reported as JP-4. As has been the basis for previous calculations at ST012, the average molecular weight of TPH as JP-4 is assumed equivalent to xylene (106.168 grams per mole). The assumed liquid density of the fuel is 6.57 lbs per gallon.

(c) The influent PID correction factor calculation has been revised to reflect a three-value rolling average (the average of the correction factor for the analytical sample collected one event prior, the current event, and one event after). The correction factor for 11 March 2016 has been removed as anomalous during the post-steam operation period based on the subsequent six months of correction factors calculated. The average for the 07 April through 21 April 2016 period incorporates only 25 April and 23 May 2016 correction factors.

(e) To address inconsistencies in influent PID and flow rate measurements, system piping was changed on 13 October 2016. Flow rate measurements prior to this date are reported in acfm, and after this date are reported in scfm.

(f) An incorrect correction factor was used to calculate the Effluent Concentration (Adjusted PID) for the period between 24 June and 8 September 2016. The value has been corrected for that period.

(g) The effluent PID correction factor for the 15 September 2016 sample was anomalous compared to historical values. An average of correction factors from samples before and after this date was used.

B. Flame Oxidizer Destruction Efficiency/Mass Removal Summary

The destruction efficiency and mass removal calculations for the flame oxidizer are tabulated below. A correction factor was applied to PID readings based on available analytical data and corresponding PID data. This factor is updated each time new analytical data is available and may retroactively alter previously reported data.

Date Period Began	Date Period Ended	Days in Period	Time Flame Oxidizer Operated[d]	Flame Oxidizer Uptime[a]	Influent Concentration (PID)	Influent Concentration (Adjusted PID)[b]	Effluent Concentration (PID)	Effluent Concentration (Adjusted PID)	Calculated Destruction Efficiency[b]	Flowrate into Oxidizer (End of Period)	Estimated VOC Mass Removed[c]	Average Daily Removal Rate[c]	Estimated VOC Mass Released to Atmosphere[c]	Average VOC Mass Released to Atmosphere[c]
---	---	days	hrs	%	ppmv	mg/m^3	ppmv	mg/m^3	%	scfm	lbs/period	lbs/day	lbs/period	lbs/day
8/4/2016	8/11/2016	7	107	64%	509	13,710	17.1	1.1	99.99%	768	4,219	603	0.3	0.05
8/11/2016	8/18/2016	7	91	54%	428	11,528	16.4	1.1	99.99%	768	3,018	431	0.3	0.04
8/18/2016	8/25/2016	7	78	46%	483	13,009	8.9	0.6	>99.99%	838	3,184	455	0.1	0.02
8/25/2016	9/1/2016	7	112	67%	433	10,103	5.6	0.4	>99.99%	768	3,256	465	0.1	0.02
9/1/2016	9/8/2016	7	102	61%	414	9,660	7.2	0.5	>99.99%	942	3,477	497	0.2	0.02
9/8/2016	9/15/2016	7	140	83%	868	20,253	13.6	0.9	>99.99%	1,047	11,121	1,589	0.5	0.07
9/15/2016	9/22/2016	7	149	89%	499	10,431	13.1	1.2 *	99.99%	1,047	6,096	871	0.7	0.10
9/22/2016	9/29/2016	7	158	94%	682	14,256	3.9	0.3 *	>99.99%	1,222	10,311	1,473	0.2	0.04
9/29/2016	10/6/2016	7	119	71%	834	11,860	3.1	0.3 *	>99.99%	977	5,166	738	0.1	0.02
10/6/2016	10/13/2016	7	167	99%	593	8,433	2.4	0.2 *	>99.99%	1,012	5,339	763	0.1	0.02
10/13/2016	10/20/2016	7	117	70%	331	3,364	13.7	1.2 *	99.96%	597	880	126	0.3	0.05
10/20/2016	10/27/2016	7	170	100%	379	3,852	1.4	0.1 *	>99.99%	653	1,602	226	0.1	0.01
10/27/2016	11/3/2016	7	100	60%	444	7,478	0.5	0.0 *	>99.99%	669	1,874	271	0.0	0.00
11/3/2016	11/10/2016	7	174	100%	877	14,770	2.0	0.2 *	>99.99%	689	6,633	915	0.1	0.01
11/10/2016	11/18/2016	8	190	100%	816	16,967 *	27.0	2.4 *	99.99%	715	8,635	1,091	1.2	0.15
11/18/2016	11/23/2016	5	116	100%	582	12,102 *	1.3	0.1 *	>99.99%	715	3,760	778	0.0	0.01
11/23/2016	12/1/2016	8	190	99%	661	13,744 *	33.3	2.9 *	99.98%	719	7,034	879	1.5	0.19
12/1/2016	12/9/2016	8	193	100%	1146	23,829 *	70.8	6.2 *	99.97%	679	11,698	1,455	3.1	0.38

Notes:

% - percent
hrs - hours
JP-4 - jet petroleum fuel grade four
lbs - pounds
mg/m^3 - milligrams per cubic meter
ppmv - parts per million by volume
scfm - standard cubic feet per minute
TPH - total petroleum hydrocarbons
PID - photoionization detector
SVE - soil vapor compound
VOC - volatile organic compound

* Concentration and associated calculated values may change after receipt of subsequent analytical data.

(a) Discrepancies in runtime clocks for the flame oxidizer have been observed since restart. The system is being observed and diagnosed. The primary blower hours are currently used to calculate uptime.

(b) Calculated destruction efficiencies are calculated using a single sampling event for each week, not using the average influent and effluent results.

(c) Mass and volumes are calculated based on laboratory data for TPH reported as JP-4. As has been the basis for previous calculations at ST012, the average molecular weight of TPH as JP-4 is assumed equivalent to xylene (106.168 grams per mole). The assumed liquid density of the fuel is 6.57 lbs per gallon.

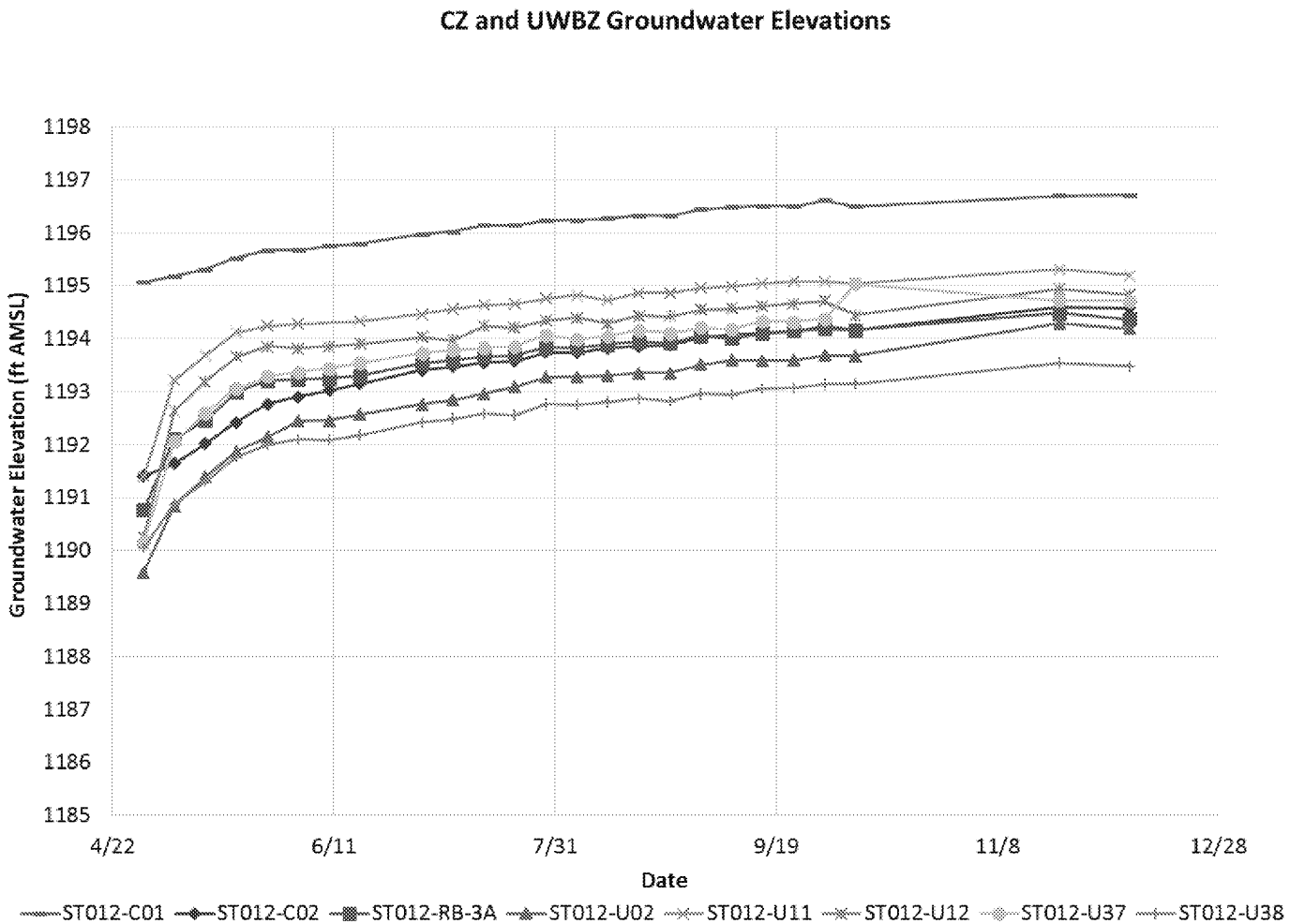
(d) An error in hour recording caused an anomaly in hours that the flame oxidizer operated for the weeks ending 25 August and 2 September. The operation hours were estimated based on the flame oxidizer temperature chart recorder.

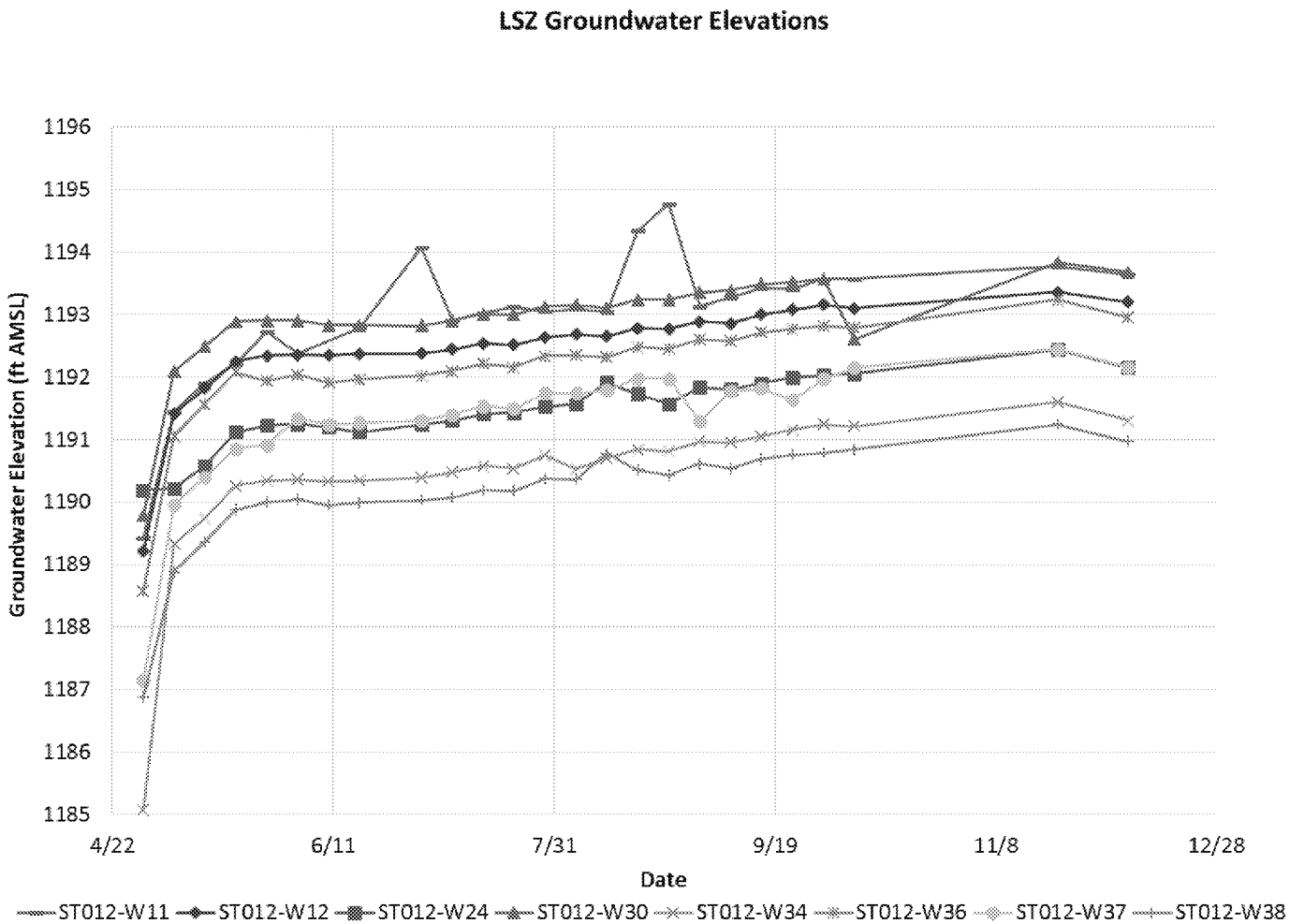
(e) To address inconsistencies in influent PID and flow rate measurements, system piping was changed on 13 October 2016. Flow rate measurements prior to this date are reported in acfm, and after this date are reported in scfm.

(f) The influent PID correction factor calculation has been revised to reflect a three-value rolling average (the average of the correction factor for the analytical sample collected one event prior, the current event, and one event after).

IV. GROUNDWATER ELEVATION MONITORING

Groundwater elevations monitored since the shutdown of the final extraction phase of SEE (29 April 2016). Starting with the week ending 7 October 2016, groundwater elevation monitoring will be performed monthly at all perimeter monitoring locations, except ST012-W11 and ST012-W37, which will be monitored weekly based on continued LNAPL recovery. Monthly perimeter well monitoring will continue until the startup of the planned active containment extraction system, at which time the monitoring frequency will be as described in the ST012 Field Variance Memorandum 5, Extraction and Treatment System Construction. The next monitoring event will be completed during the week ending 23 December 2016.



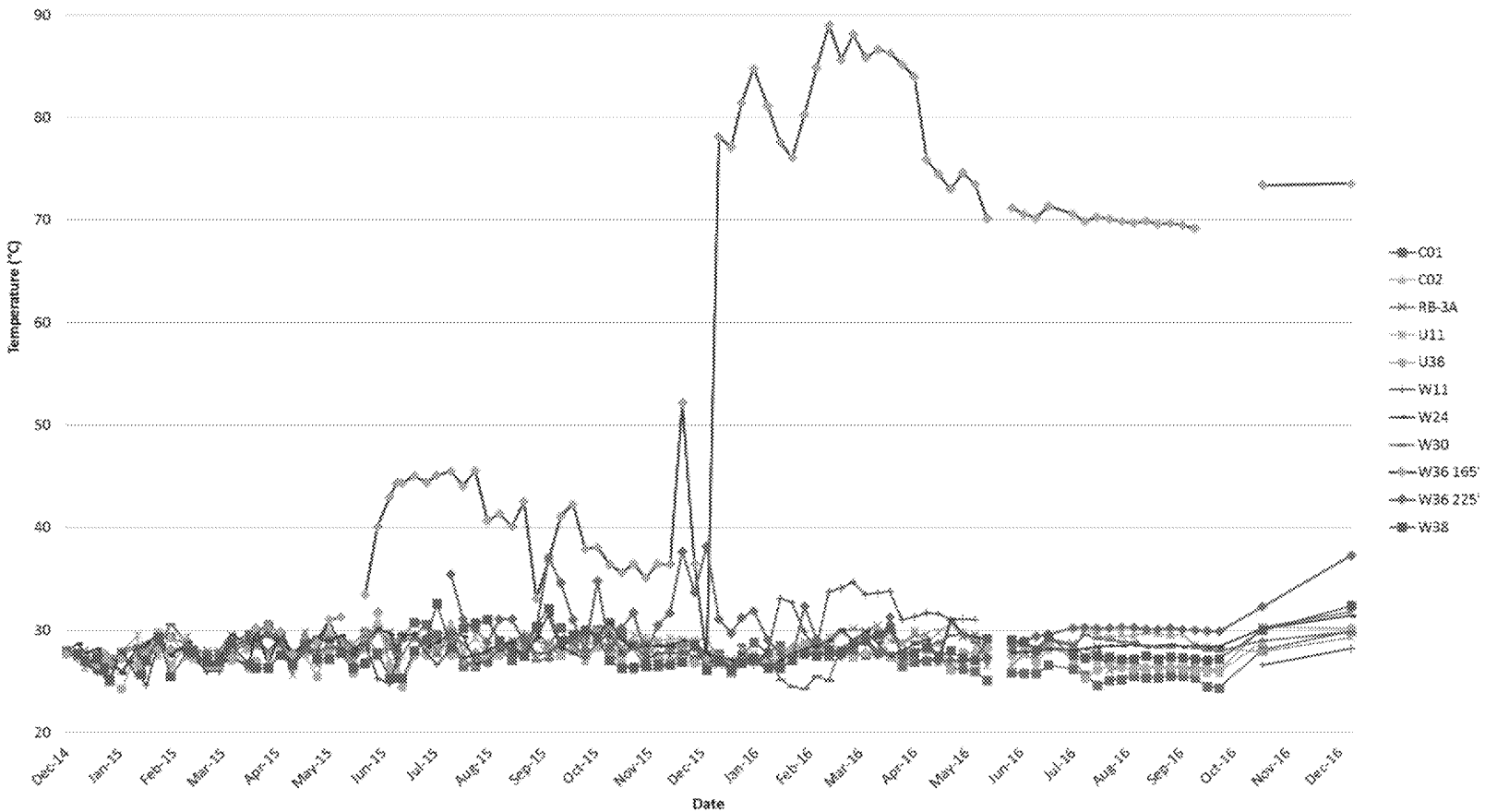


Note: Increased groundwater elevation in ST012-W11 on 19 August and 26 August 2016 are suspected to be influenced by LNAPL in the monitoring well caused by malfunctioning measuring equipment.

V. SUBSURFACE TEMPERATURE MONITORING

A. Perimeter Monitoring Well Temperatures

The next monitoring event will be completed during the week ending 13 January 2016.



Notes:

1. Thermocouples are measured at approximate depths as follows (in feet below top of casing) : C01=162; C02=168; RB-3A=161; U11=180; U38=164; W24=230; W30=231; W36=225; W11=228; and W38=228.
2. Existing permanent thermocouples were removed for maintenance on 30 September 2016. Readings after 30 September 2016 have been taken with a portable manually placed thermocouple.

VI. SEE TEMPERATURE MONITORING POINTS

This section will be updated periodically with new temperature monitoring point (TMP) data.

Depth (ft BTOC)	TMP01 (°F)				TMP02 (°F)				TMP04[a] (°F)				TMP05 (°F)				TMP06 (°F)				TMP07 (°F)				Boiling Point (°F)[b]
	S-16	O-16	N-16	D-16	S-16	O-16	N-16	D-16	S-16	O-16	N-16	D-16	S-16	O-16	N-16	D-16	S-16	O-16	N-16	D-16	S-16	O-16	N-16	D-16	
100	117	124	124	128	95	92	89	92	47	120	124	119	116	119	125	127	111	116	120	124					213
120		86	---	---	89	92	91	91	63	152	152	145	152	153	157	163					99	100	96	74	213
130					90	93	92	92																	213
140	208	207	204	210	93	93	93	93	79	174	172	165	195	197	199	204	205	207	210	214	104	108	105	113	213
145					92	95	94	94																	213
150	221	222	218	225	96	96	95	97	78	167	169	165					211	214	217	221	111	114	114	125	214
155					96	97	96	99																	220
160	239	248	243	248	97	98	97	100	79	173	174	170	37	33	---	---					123	126	130	135	226
165					---	97	---	102																	231
170	238	244	239	242	99	101	100	102	90	190	192	189					210	212	217	225	144	147	147	154	236
175					101	103	102	105																	241
180	251	253	249	252	103	107	105	108	103	211	213	210					212	213	220	---	176	178	176	181	246
185					107	110	109	112																	250
190					113	114	105	116	108	223	236	225									222	218	216	218	255
195		263	252	249	116	118	117	120																	259
200					---	119	---	123	128	258	249	250									283	252	244	246	262
205					123	125	125	128																	266
210					127	128	131	136	129	246	213	220									263	263	254	254	269
215					132	136	138	145																	272
220					133	139	144	149	132	264	257	250									271	249	244	239	275
225					138	146	152	161																	277
230					141	149	156	164	173	335	233	306									262	229	227	229	280
235					132	141	145	152		NR		NR													282
242					118	126	128	132									225	221	216	220	233	197	193	190	284

Depth (ft BTOC)	TMP08 (°F)				TMP10 (°F)				TMP11 (°F)				TMP13[b] (°F)				TMP16 (°F)				Boiling Point (°F)[c]
	S-16	O-16	N-16	D-16	S-16	O-16	N-16	D-16	S-16	O-16	N-16	D-16	S-16	O-16	N-16	D-16	S-16	O-16	N-16	D-16	
100	88	99	88	99	90	92	92	89	94	100	106	101	130	153	135	136	115	115	124	123	213
120	89	99	89	99	111	111	113	113	129	139	142	142					145	157	159	160	213
130	90	97	90	97	130	125	125	124	160	162	164	164	186	186	186	184	165	180	181	180	213
140	92	95	92	95	134	131	130	130	177	178	178	180					174	199	193	196	213
145	89	90	89	90					177	181	182	183	205	204	205	202	187	201	197	199	213
150	97	100	97	100					183	182	183	184					178	200	199	199	214
155	99	105	99	105	113	108	112	115	181	177	179	178	209	209	208	207	181	199	196	197	220
160	105	109	105	109	109	106	111	---	176	175	176	179					187	191	195	194	226
165	112	113	112	113	109	106	113	116	167	171	172	174	224	224	224	222	187	196	204	200	231
170	114	124	114	124	106	110	114	116	164	169	173	176					192	204	209	211	236
175	130	133	130	133	122	100	--	--	161	166	171	176	233	235	235	232	197	214	213	216	241
180	137	148	137	148	120	113	117	116	164	168	172	177					196	218	218	221	246
185	137	147	137	147	136	132	135	135	174	174	177	183	242	245	247	243	205	226	228	229	250
190	144	147	144	147	150	139	138	136	193	194	196	200					205	238	239	242	255
195	143	147	143	147	157	151	151	147	207	207	208	212	254	257	257	256	217	248	248	248	259
200	114	119	114	119	171	48	--	---	217	222	223	224					232	256	255	250	262
205	138	152	138	152	184	176	174	171	292	233	232	231	261	264	263	261	241	264	259	258	266
210	149	151	149	151	181	174	169	166	234	239	237	236					230	258	253	250	269
215	148	147	148	147	179	174	167	166	242	234	230	230	260	259	257	255	240	249	249	246	272
220	145	147	145	147	174	166	172	171	219	224	221	220					227	236	235	232	275
225	141	150	141	150	166	171	172	173	213	206	206	206	242	240	--	---	206	219	215	214	277
230	141	148	141	148	145	170	163	166	192	186	186	190					175	195	199	196	280
235	144	148	144	148	129	132	134	139	162	168	170	170	202	203	203	203	161	174	177	175	282
242	138	146	138	146	134	122	134	141	142	141	151	152					130	157	156	157	284

ft BTOC - feet below top of casing
°F – degrees Fahrenheit
NR - not recorded due to instrumentation malfunction

[a] During SEE operations, TMP04 became non-functional as of June 2015. Data collected from this TMP will be closely monitored for erroneous readings.
[b] During SEE operations, TMP13 was compromised in March and July of 2015. Select sensors were repaired, however, readings from this TMP are very close to boiling and are considered suspect.
[c] Estimated boiling points by elevation are based on an assumed groundwater elevation of 149 ft below ground surface.

VII. LNAPL MONITORING

A. Perimeter LNAPL Thickness (ft)

Starting with the week ending 7 October 2016, groundwater elevation monitoring will be performed monthly at all perimeter monitoring locations, except ST012-W11 and ST012-W37, which will be monitored weekly based on continued LNAPL recovery. Monthly perimeter well monitoring will continue until the startup of the expected active containment extraction system.

Monitoring Well	11/18/2016			11/25/2016			12/02/2016			12/09/2016		
	Before bailing/ pumping	After Bailing/ pumping	Weekly Gallons Removed	Before bailing/ pumping	After Bailing/ pumping	Weekly Gallons Removed	Before bailing/ pumping	After bailing/ pumping	Weekly Gallons Removed	Before bailing/ pumping	After bailing/ pumping	Weekly Gallons Removed
CZ												
ST012-C01	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
ST012-C02	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
UWBZ												
ST012-U02	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
ST012-U11	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
ST012-U12	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
ST012-U37	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
ST012-U38	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
ST012-RB-3A	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
LSZ												
ST012-W11	2.45	0.01	15	2.08	2.08	0.00	---	---	---	4.32	0.00	5.00
ST012-W12	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
ST012-W24	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
ST012-W30	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
ST012-W34	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
ST012-W36	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00
ST012-W37	14.66	0.00	25	6.42	6.42	0.00	---	---	---	14.08	0.00	47.00
ST012-W38	---	---	---	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00

B. LNAPL Monitoring and Removal

The table included with this report as Attachment 1 summarizes the removal and monitoring performed at LNAPL screened wells.

VIII. WASTE GENERATION AND RECYCLING

No site-derived waste or recyclable material was removed this week.

IX. TWO WEEK LOOK AHEAD

A. SEE Demolition - None

B. EBR Construction – None

C. Containment System Construction

1. Completion of active containment system construction detailed in Field Variance Memo 05

D. Well Drilling/Development

1. Continued logging and installation of well locations detailed in Field Variance Memo 04

E. Sampling/Monitoring Activities

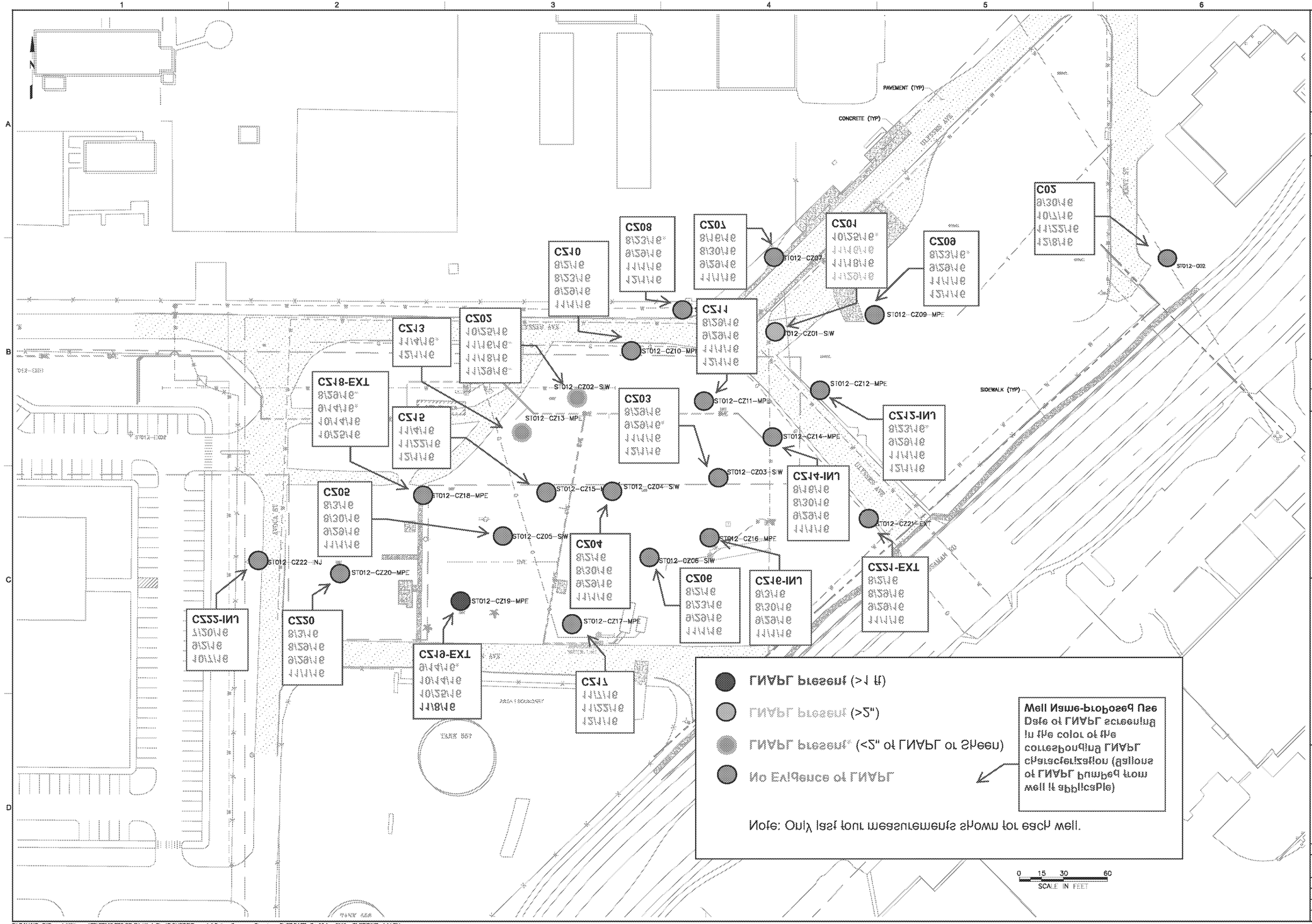
1. Pumping and bailing to remove NAPL from SEE wells
2. Continued NAPL screening in SEE extraction and injection wells
3. Phase 2 well sampling

F. SVE System Operation/Optimization

1. Continue operation of flame oxidizer and thermal oxidizer with SVE system

X. ATTACHMENTS

1. LNAPL Screening Figures based on table in Attachment 1
2. LNAPL Monitoring and Removal Table
3. Draft boring logs for completed characterization wells
   a. UWBZ40/LSZ59
   b. LSZ60



NO.	DATE	DR	REVISION	CHK	APVD	BY	APVD
DSGN							

REMEDIAL DESIGN/ REMEDIAL ACTION WORK PLAN
ST012-FORMER WILLIAMS AIR FORCE BASE
MESA, ARIZONA

DRAWING STATUS
CONSTRUCTION RFP DRAWINGS

amec foster wheeler
Environment & Infrastructure, Inc.
511 Congress Street, Suite 200
Portland, ME 04112
(207) 775 - 5401

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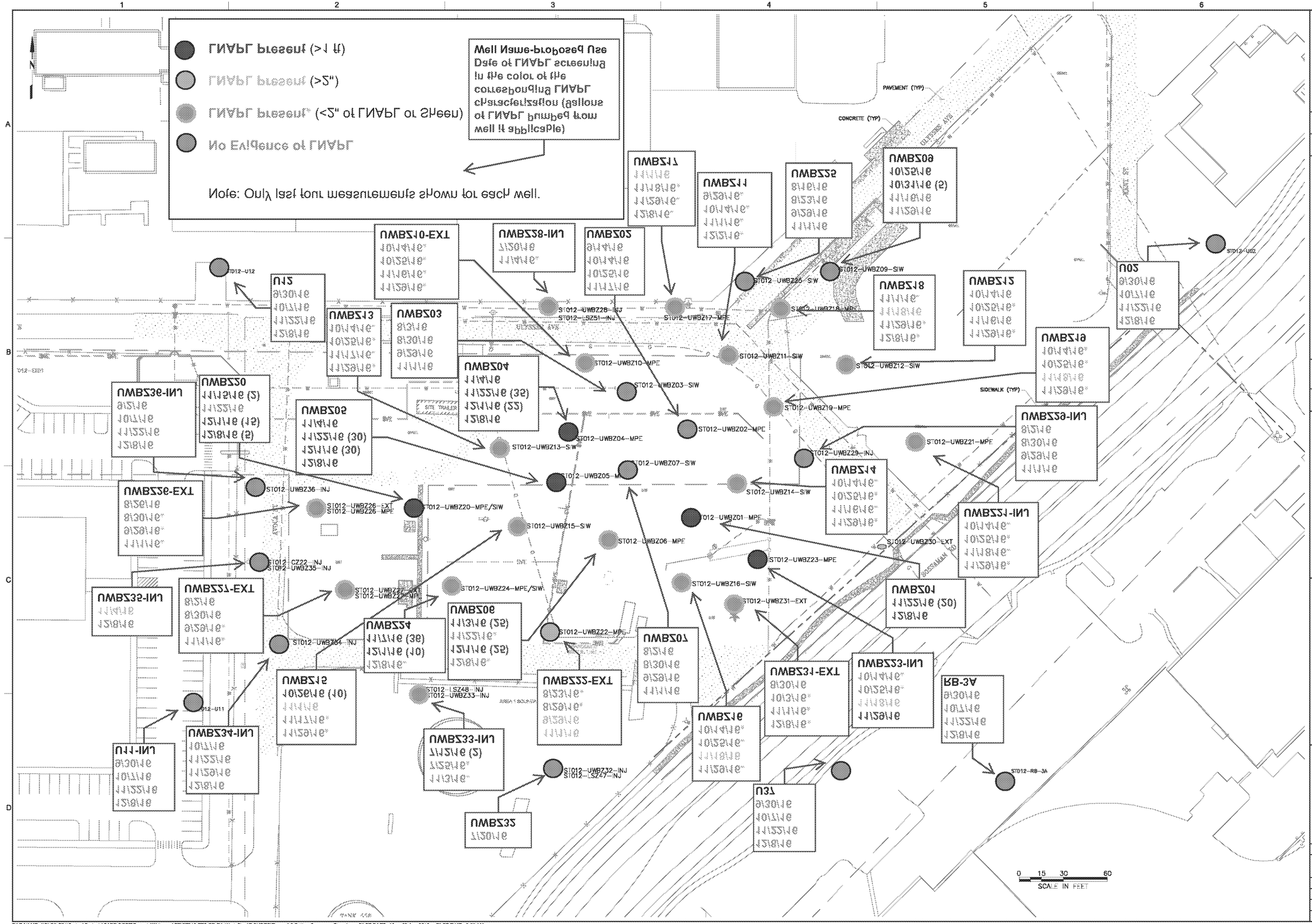
FILE NAME: Z:\Projects\Williams AFB\ST012 FFS-RD-RA Work Plan\FIGURES\Figure 1.1 Drilling Sequence Plan.dwg PLOT DATE: Fri, 05 Aug 2016 PLOT TIME: 4:14 PM



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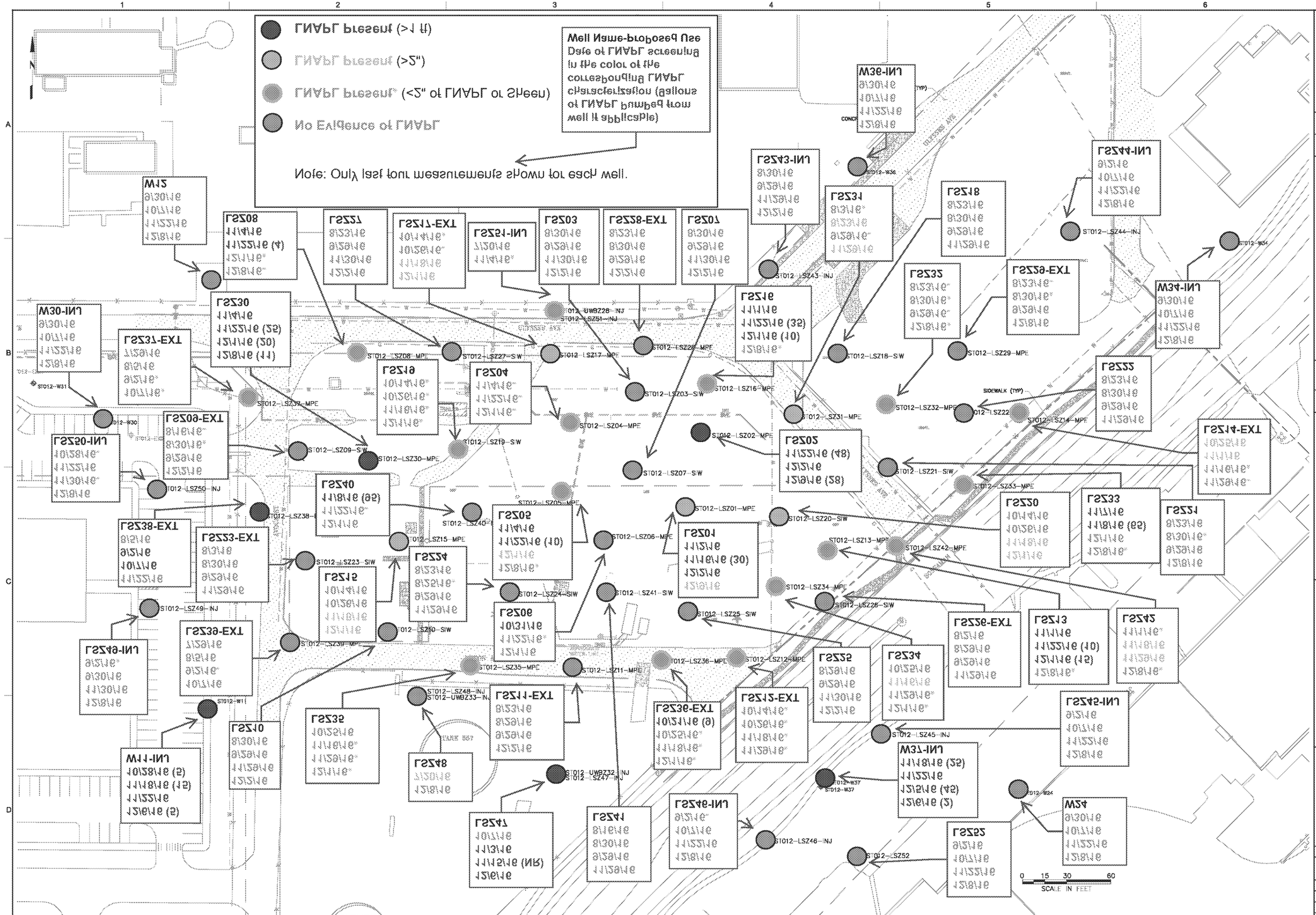
FILE NAME: \\PLD2-FS1\Project\Projects\CADD-PORT\Projects\W-Illams AFB\ST012 FFS-RD-RA-Work-Plan\FIGURES\Figure 1.2 Drilling Sequence Plan.dwg PLOT DATE: Mon, 08 Aug 2016 PLOT TIME: 9:25 AM



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ST012-FORMER WILLIAMS AIR FORCE BASE
MESA, ARIZONA

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FILE NAME: Z:\Projects\Williams AFB\ST012 FFS-RD-RA-Work Plan\FIGURES\Figure 1.3 Drilling Sequence Plan.dwg PLOT DATE: Fri, 05 Aug 2016 PLOT TIME: 4:15 PM

Attachment 2. LNAPL Monitoring and Removal

The following table summarizes the removal and monitoring performed at LNAPL screened wells. LNAPL monitoring of wells was prioritized based on expected future usage of each well as part of EBR. Subsequent LNAPL monitoring/removal frequency was prioritized based on the amount of LNAPL, the observed LNAPL recharge, and the temperature of each well. LNAPL monitoring and removal was initially conducted weekly at wells with LNAPL and the frequency has been reduced in some locations depending on whether LNAPL returns after pumping/bailing.

Dual screened wells (UWBZ28/LSZ51, UWBZ32/LSZ47, and UWBZ33/LSZ48, and CZ22/UWBZ35) are not routinely checked for LNAPL due to the packers installed between the two screen intervals and the associated air line and injection piping. Periodically, when collecting groundwater samples or doing maintenance work on the packers, LNAPL measurements have been collected. If LNAPL is observed while packers are temporarily removed, LNAPL is assumed to originate from the screened interval(s) that had positive dye test results in soil during well installation.

Any additional wells that are monitored in future weeks will be included on this table:

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	7/19/2016	N	Y	NM	146 (2)	0.3 (1)	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	145 (2)	0.08 (1)	N	Y	---	---	---	0
	8/2/2016	N	Sheen	144 (2)	144 (2)	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Y	NM	144 (2)	0.02 (1)	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	147 (2)	0.04 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
	8/29/2016	N	Y	NM	147 (2)	0.06 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 (2)	0.17 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	146 (2)	0.08 (1)	N	Y	---	---	---	0
	11/16/2016	N	Y	---	145 (2)	0.20 (1)	N	Y	---	---	---	0
	11/18/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
CZ01	11/29/2016	N	Y	NM	145 (2)	0.17 (1)	N	Y	---	---	---	0
	7/12/2016	N	N	---	144 (2)	---	N	N	---	---	---	0
	7/27/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/23/2016	N	Y	NM	147 (2)	0.25 (1)	N	Y	---	---	---	0
	8/29/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	9/14/2016	N	Y	NM	147 (2)	0.25 (1)	N	Y	---	---	---	0
	10/14/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	10/25/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	11/16/2016	N	Sheen	150 (2)	150 (2)	Sheen	N	Sheen	---	---	---	0
	11/18/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
CZ02	11/29/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/11/2016	N	N	---	142 (2)	---	N	N	---	---	---	0
	7/27/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	9/29/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	11/1/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
CZ03	12/1/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	7/27/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
CZ04	11/1/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/28/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
CZ05	11/1/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	7/11/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/28/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/23/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
CZ06	11/1/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	7/13/2016	N	Y	NM	142 (2)	0.04 (1)	N	Y	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	7/25/2016	N	Y	143.5 (2)	144 (2)	0.50 (1)	N	Y	---	---	---	0
	8/2/2016	N	Y	NM	144 (2)	0.01 (1)	N	Y	---	---	---	0
	8/16/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
CZ07	11/1/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	7/13/2016	N	Y	NM	147 (2)	0.04 (1)	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	146 (2)	0.02 (1)	N	Y	---	---	---	0
	8/2/2016	N	Sheen	146 (2)	146 (2)	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	NM (2)	146 (2)	0.02 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	NM (2)	146 (2)	0.02 (1)	N	Y	---	---	---	0
	9/29/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	11/1/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
CZ08	12/1/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	6/22/2016	N	Y	NR	NR	0.13 (1)	N	Y	---	---	---	0
	7/18/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/25/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	8/23/2016	N	Y	---	146 (2)	0.08 (1)	N	Y	---	---	---	0
	9/29/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	11/1/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
CZ09	12/1/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	6/23/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	Sheen	146 (2)	146 (2)	Sheen	N	Sheen	---	---	---	0
	7/27/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/23/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
CZ10	11/1/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	5/23/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	7/7/2016	N	Sheen	---	NM	---	N	Sheen	---	---	---	0
	7/12/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/27/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/16/2016	N	Y	NM	148 (2)	0.01 (1)	N	Y	---	---	---	0
	8/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	11/1/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
CZ11	12/1/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	5/13/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/7/2016	N	Y	149 (2)	NM	NM	Y	N	NR	NR	NR	1
	6/23/2016	N	N	---	---	---	N	N	---	---	---	0
	6/29/2016	N	N	NM	156 (2)	NM	N	N	---	---	---	0
	7/13/2016	N	Y	143 (2)	150 (2)	7 (1)	N	Y	---	---	---	0
	7/19/2016	N	Sheen	---	146 (2)	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	---	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	Sheen	---	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/17/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	8/23/2016	N	Y	NM	146 (2)	0.02 (1)	N	Y	---	---	---	0
	9/29/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	11/1/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
CZ12	12/1/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	11/4/2016	N	Sheen	---	148 (2)	Sheen	N	Sheen	---	---	---	0
CZ13	12/1/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	5/22/2016	N	N	---	---	---	N	N	---	---	---	0
	5/26/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/7/2016	N	Y	148 (2)	NM	NM	Y	N	NR	NR	NR	3
	6/22/2016	N	N	---	---	---	N	N	---	---	---	0
	6/29/2016	N	Sheen	152 (2)	152 (2)	Sheen	N	Sheen	---	---	---	0
	7/7/2016	N	Sheen	---	NM	---	N	Sheen	---	---	---	0
	7/11/2016	N	Sheen	142 (2)	142 (2)	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
CZ14	11/1/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	11/4/2016	N	N	---	147 (2)	---	N	N	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	11/22/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
CZ15	12/1/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	5/19/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/7/2016	N	Y	151 (2)	NM	NM	Y	N	151	NR	NR	1
	6/22/2016	N	N	---	---	---	N	N	---	---	---	0
	6/29/2016	N	N	---	152 (2)	---	N	N	---	---	---	0
	7/11/2016	N	N	---	141 (2)	---	N	N	---	---	---	0
	7/25/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
CZ16	11/1/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	11/7/2016	N	NM	NM	149 (2)	NM	N	NM	---	---	---	0
	11/22/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
CZ17	12/1/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	5/31/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/15/2016	N	N	NM	149 (2)	NM	N	N	---	---	---	0
	6/22/2016	N	Y	NM	NM	0.13 (1)	N	Y	---	---	---	0
	6/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	7/12/2016	N	Y	---	144 (2)	0.02 (1)	N	Y	---	---	---	0
	7/28/2016	N	Y	---	148 (2)	0.01 (1)	N	Y	---	---	---	0
	8/3/2016	N	Y	---	148 (2)	0.01 (1)	N	Y	---	---	---	0
	8/10/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	NM	147 (2)	0.01 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 (2)	0.01 (1)	N	Y	---	---	---	0
	8/29/2016	N	Y	NM	147 (2)	0.01 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	148 (2)	0.02 (1)	N	Y	---	---	---	0
	10/14/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	10/25/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
CZ18	11/9/2016(9)	---	---	---	---	---	---	---	---	---	---	0
	5/31/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/22/2016	N	N	---	NM	---	N	N	---	---	---	0
	6/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	7/12/2016	N	Sheen	147 (2)	147 (2)	Sheen	N	Sheen	---	---	---	0
	7/28/2016	N	Y	NM	147 (2)	0.01 (1)	N	Y	---	---	---	0
	8/3/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	8/15/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/23/2016	N	Y	NM	149 (2)	0.01 (1)	N	Y	---	---	---	0
	8/30/2016	---	---	---	---	---	---	---	---	---	---	0
	9/14/2016	N	Y	NM	148 (2)	0.01 (1)	N	Y	---	---	---	0
	10/14/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	10/25/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	11/8/2016	N	Y	NM	148 (2)	1.5 (1)	N	Y	---	---	---	0
CZ19	11/9/2016(9)	---	---	---	---	---	---	---	---	---	---	0
	7/12/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/28/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/3/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
CZ20	11/1/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	7/20/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/25/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	11/1/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
CZ21*	11/9/2016(9)	---	---	---	---	---	---	---	---	---	---	0
	7/20/2016	N	N	---	---	---	N	N	---	---	---	0
	9/2/2016(5)	Y	N	---	143.64	---	N	N	---	---	---	0
	9/2/2016(6)	Y	N	---	143.58	---	N	N	---	---	---	0
	10/7/2016(5)	Y	N	---	143.06	---	N	N	---	---	---	0
	10/7/2016(6)	Y	N	---	143.06	---	N	N	---	---	---	0
CZ22/	11/4/2016(7)	Y	Y	142.98	143.64	0.66	N	N	---	---	---	0
UWBZ35*	12/8/2016(6)	Y	N	---	144.69	---	N	N	---	---	---	0
	11/22/2016	N	Y	145 (2)	148 (2)	3 (1)	Y	Y	147 (2)	148 (2)	1 (1)	20
UWBZ01	12/8/2016	N	Y	146.6 (2)	148 (2)	1.4 (1)	N	Y	---	---	---	0
	7/12/2016	N	Y	142 (2)	169 (2)	27 (1)	Y	N	NR	NR	0	25
	7/27/2016	N	Y	NM	149 (2)	0.25 (1)	N	Y	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	8/2/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/26/2016	N	N	---	152 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	150 (2)	---	N	N	---	---	---	0
	9/14/2016	N	N	---	151 (2)	---	N	N	---	---	---	0
	10/14/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	10/25/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	11/17/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
UWBZ02	11/29/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/27/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/3/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
UWBZ03	11/1/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	11/4/2016	N	Y	144 (2)	155 (2)	11 (1)	N	Y	---	---	---	0
	11/22/2016	N	Y	144 (2)	149 (2)	5 (1)	Y	Y	NR	147 (2)	0.5 (1)	35
	12/1/2016	N	Y	146 (2)	152 (2)	6 (1)	Y	Y	NR	149 (2)	0.8 (1)	22
UWBZ04	12/8/2016	N	Y	147.2 (2)	149 (2)	1.8 (1)	N	Y	---	---	---	0
	11/4/2016	N	Y	145 (2)	154 (2)	9 (1)	N	Y	---	---	---	0
	11/22/2016	N	Y	144 (2)	149 (2)	5 (1)	Y	Y	NR	147 (2)	0.3 (1)	30
	12/1/2016	N	Y	146 (2)	151 (2)	5 (1)	Y	Y	NR	148 (2)	0.4 (1)	30
UWBZ05	12/8/2016	N	Y	146.5 (2)	148 (2)	1.5 (1)	N	Y	---	---	---	0
	11/1/2016	N	Y	138 (2)	153 (2)	15 (1)	N	Y	---	---	---	0
	11/3/2016	N	Y	138 (2)	153 (2)	15 (1)	Y	Y	NR	148 (2)	<0.01 (1)	25
	11/22/2016	N	Sheen	146 (2)	146 (2)	Sheen	Y	Sheen	---	---	---	0
	12/1/2016	N	Y	139 (2)	153 (2)	14 (1)	Y	Y	NR	148 (2)	0.6 (1)	25
UWBZ06	12/8/2016	N	Sheen	147 (2)	147 (2)	Sheen	Y	Sheen	---	---	---	0
	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	7/27/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
UWBZ07	11/1/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	7/19/2016	N	Y	---	144 (2)	0.4 (1)	N	Y	---	---	---	0
	7/25/2016	N	Y	---	145 (2)	0.33 (1)	N	Y	---	---	---	0
	8/2/2016	N	Y	---	145 (2)	0.01 (1)	N	Y	---	---	---	0
	8/12/2016	N	Sheen	145 (2)	145 (2)	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	NM	147 (2)	0.04 (1)	N	Y	---	---	---	0
	8/26/2016	N	Y	NM	150 (2)	0.01 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	150 (2)	0.5 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	151 (2)	0.01 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 (2)	0.13 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	147 (2)	1.83 (1)	N	Y	---	---	---	0
	10/31/2016	N	Y	145 (2)	147 (2)	2 (1)	Y	Y	NR	147 (2)	<0.01 (1)	5
	11/16/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
UWBZ09	11/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/3/2016	N	Y	143 (3)	NM	NM	Y	N	NR	NR	NR	13
	6/23/2016	N	N	---	---	---	N	N	---	---	---	0
	6/29/2016	N	Y	151 (2)	151 (2)	0.08 (1)	N	Y	---	---	---	0
	7/12/2016	N	Y	142 (2)	152 (2)	10 (1)	N	Y	---	---	---	0
	7/13/2016	N	Y	NR	NR	NR	Y	N	NR	NR	0	18
	7/27/2016	N	Y	NM	148 (2)	0.2 (1)	N	Y	---	---	---	0
	8/2/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	NM	148 (2)	0.2 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 (2)	0.25 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	149 (2)	0.02 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	148 (2)	0.25 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	149 (2)	0.02 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	149 (2)	0.04 (1)	N	Y	---	---	---	0
	11/16/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
UWBZ10	11/29/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	7/18/2016	N	Y	142 (2)	158 (2)	16 (1)	N	Y	---	---	---	0
	7/29/2016	N	Y	144 (2)	151 (2)	7 (1)	Y	N	NR	148	0	20

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	8/3/2016	N	Y	NM	149 (2)	0.2 (1)	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	148 (2)	0.2 (1)	N	Y	---	---	---	0
	8/15/2016	N	Y	146 (2)	148 (2)	2 (1)	N	Y	---	---	---	0
	8/18/2016	N	Y	146 (2)	147 (2)	1 (1)	Y	Y	147 (2)	147 (2)	0.01 (1)	10
	8/26/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	148 (2)	0.1 (1)	N	Y	---	---	---	0
	9/29/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
	11/1/2016	N	Y	NM	146 (2)	0.08 (1)	N	Y	---	---	---	0
UWBZ11	12/2/2016	N	Sheen	146 (2)	146 (2)	Sheen	N	Sheen	---	---	---	0
	7/19/2016	N	Sheen	145 (2)	145 (2)	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Y	NM	145 (2)	0.1 (1)	N	Y	---	---	---	0
	8/2/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/16/2016	N	Y	NM	146 (2)	0.02 (1)	N	Y	---	---	---	0
	8/29/2016	N	Sheen	NM	145 (2)	Sheen	N	Sheen	---	---	---	0
	9/14/2016	N	Y	NM	147 (2)	0.02 (1)	N	Y	---	---	---	0
	10/14/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	10/25/2016	N	Y	146 (2)	146 (2)	Sheen	N	Sheen	---	---	---	0
	11/16/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
UWBZ12	11/29/2016	N	Sheen	147 (2)	147 (2)	Sheen	N	Sheen	---	---	---	0
	7/7/2016	N	Y	NM	NM	<0.02 (1)	N	Y	---	---	---	0
	7/12/2016	N	Y	140 (2)	165 (2)	25 (1)	N	Y	---	---	---	0
	7/13/2016	N	Y	NR	NR	NR	Y	N	NR	NR	0	40
	7/27/2016	N	Y	NM	148 (2)	0.4 (1)	N	Y	---	---	---	0
	8/3/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/15/2016	N	Y	---	149 (2)	0.02 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	---	148 (2)	0.02 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	---	148 (2)	0.02 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	---	148 (2)	0.02 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	---	149 (2)	0.08 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	---	148 (2)	0.08 (1)	N	Y	---	---	---	0
	11/17/2016	N	Y	---	147 (2)	0.08 (1)	N	Y	---	---	---	0
UWBZ13	11/29/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	7/7/2016	N	Y	NM	NM	0.02 (1)	N	Y	---	---	---	0
	7/11/2016	N	Y	NM	144 (2)	0.02 (1)	N	Y	---	---	---	0
	7/25/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/17/2016	N	Y	NM	148 (2)	0.25 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 (2)	0.01 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	148 (2)	0.01 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
	11/16/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
UWBZ14	11/29/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	7/12/2016	N	Y	140 (2)	170 (2)	30 (1)	N	Y	---	---	---	0
	7/18/2016	N	Y	140 (2)	150 (2)	10 (1)	Y	N	NR	147 (2)	0	55
	7/27/2016	N	Y	147 (2)	152 (2)	5 (1)	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	149 (2)	0.08 (1)	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	148 (2)	0.6 (1)	N	Y	---	---	---	0
	8/15/2016	N	Y	146 (2)	149 (2)	3 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	146 (2)	149 (2)	3 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 (2)	0.17 (1)	N	Y	---	---	---	0
	9/6/2016	N	Y	147 (2)	152 (2)	5 (1)	N	Y	---	---	---	0
	9/8/2016	N	Y	147 (2)	152 (2)	5 (1)	Y	Y	---	145 (2)	0.4 (2)	25
	9/14/2016	N	Y	NM	148 (2)	0.25 (1)	N	Y	---	---	---	0
	9/20/2016	N	Y	NM	148 (2)	0.02 (1)	N	Y	---	---	---	0
	9/26/2016	N	Y	NM	148 (2)	0.02 (1)	N	Y	---	---	---	0
	10/4/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	10/14/2016	N	Y	148 (2)	152 (2)	4 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	146 (2)	0.67 (1)	N	Y	---	---	---	0
	10/26/2016	N	Y	148	152 (2)	4 (1)	Y	Y	NM	149	0.04 (2)	10
	11/1/2016	N	Y	NM	148 (2)	0.25 (1)	N	Y	---	---	---	0
	11/17/2016	N	Y	NM	147 (2)	0.13 (1)	N	Y	---	---	---	0
UWBZ15	11/29/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
	7/11/2016	N	Y	NM	143 (2)	0.02 (1)	N	Y	---	---	---	0
	7/25/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/16/2016	N	Y	NM	146 (2)	0.01 (1)	N	Y	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	8/30/2016	N	Y	NM	146 (2)	0.01 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	150 (2)	0.08 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	149 (2)	0.02 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	148 (2)	0.02 (1)	N	Y	---	---	---	0
	11/18/2016	N	Y	NM	148 (2)	0.21 (1)	N	Y	---	---	---	0
UWBZ16	11/29/2016	N	Y	NM	149 (2)	0.08 (1)	N	Y	---	---	---	0
	7/25/2016	N	Y	143 (2)	150 (2)	7 (1)	N	Y	---	---	---	0
	8/3/2016	N	Y	143 (2)	150 (2)	7 (1)	Y	N	NR	142 (2)	0 (1)	36
	8/10/2016	N	Sheen	150 (2)	150 (2)	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	146 (2)	148 (2)	2 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	146 (2)	148 (2)	2 (1)	N	Y	---	---	---	0
	8/30/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	9/6/2016	N	Y	145 (2)	149 (2)	4 (1)	N	Y	---	---	---	0
	9/9/2016	N	Y	145 (2)	149 (2)	4 (1)	Y	N	NR	145 (2)	0.6 (1)	15
	9/14/2016	N	Y	146 (2)	146 (2)	Sheen	N	Sheen	---	---	---	0
	9/20/2016	N	Y	NM	146 (2)	0.5 (1)	N	Y	---	---	---	0
	9/26/2016	N	Y	NM	146 (2)	0.5 (1)	N	Y	---	---	---	0
	10/4/2016	N	Y	NM	147 (2)	0.02 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 (2)	0.83 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	147 (2)	0.83 (1)	N	Y	---	---	---	0
	11/1/2016	N	Y	NM	149 (2)	1.33 (1)	N	Y	---	---	---	0
	11/18/2016	N	Sheen	147 (2)	147 (2)	Sheen	N	Sheen	---	---	---	0
	11/29/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
UWBZ17	12/8/2016	N	Y	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	6/22/2016	N	Y	NM	NM	3 (1)	N	Y	---	---	---	0
	6/30/2016	N	Y	147 (2)	NM	NM	Y	N	NR	NR	0	20
	7/19/2016	N	Y	NM	145 (2)	0.2 (1)	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	145 (2)	0.7 (1)	N	Y	---	---	---	0
	8/2/2016	N	Sheen	145 (2)	145 (2)	Sheen	N	Sheen	---	---	---	0
	8/12/2016	N	Sheen	145 (2)	145 (2)	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	145 (2)	147 (2)	2 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	146 (2)	148 (2)	2 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 (2)	0.02 (1)	N	Y	---	---	---	0
	9/6/2016	N	Y	NM	145 (2)	0.13 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	148 (2)	0.13 (1)	N	Y	---	---	---	0
	9/20/2016	N	Y	146 (2)	147 (2)	1 (1)	N	Y	---	---	---	0
	9/26/2016	N	Y	146 (2)	147.5 (2)	1.5 (1)	N	Y	---	---	---	0
	10/4/2016	N	Y	147 (2)	148.6 (2)	1.6 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 (2)	0.5 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	147 (2)	0.5 (1)	N	Y	---	---	---	0
	11/1/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
	11/18/2016	N	Y	NM	147 (2)	0.21 (1)	N	Y	---	---	---	0
	11/29/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
UWBZ18	12/8/2016	N	Sheen	147 (2)	147 (2)	Sheen	N	Sheen	---	---	---	0
	6/6/2016	N	Y	150 (2)	NM	NM	Y	N	NR	NR	0	1
	6/22/2016	N	Y	NM	NM	3 (1)	N	Y	---	---	---	0
	7/11/2016	N	Y	138 (2)	164 (2)	26 (1)	N	Y	---	---	---	0
	7/12/2016	N	Y	142 (2)	162 (2)	20 (1)	Y	N	NR	144 (2)	0	28
	7/25/2016	N	Y	NM	147 (2)	0.2 (1)	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	147 (2)	0.02 (1)	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	147 (2)	0.02 (1)	N	Y	---	---	---	0
	8/16/2016	N	Y	147 (2)	148 (2)	1 (1)	N	Y	---	---	---	0
	8/26/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	147 (2)	0.02 (1)	N	Y	---	---	---	0
	9/14/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	10/14/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
	11/18/2016	N	Y	NM	147 (2)	0.17 (1)	N	Y	---	---	---	0
UWBZ19	11/29/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
	11/7/2016	N	Y	141 (2)	162 (2)	21 (1)	N	Y	---	---	---	0
	11/15/2016	N	Y	146 (2)	147 (2)	1 (1)	Y	N	---	146 (2)	0	2
	11/22/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	12/1/2016	N	Y	140 (2)	148 (2)	8 (1)	Y	Y	145 (2)	147 (2)	2 (1)	15
UWBZ20	12/8/2016	N	Y	146 (2)	148 (2)	2 (1)	Y	Y	147 (2)	147 (2)	Sheen	5
	5/26/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/14/2016	N	Y	148 (2)	NM	NM	Y	N	NR	NR	0	24
	6/23/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/29/2016	N	Y	155 (2)	157.5 (2)	2.5 (1)	N	Y	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	7/7/2016	N	Y	NM	NM	0.08 (1)	N	Y	---	---	---	0
	7/29/2016	N	Y	146 (2)	152 (2)	6 (1)	Y	N	NR	148 (2)	0.1 (1)	20
	8/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/10/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	NM	147 (2)	0.01 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 (2)	0.01 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 (2)	Sheen	N	Sheen	---	---	---	0
	9/14/2016	N	Y	NM	147 (2)	0.04 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	148 (2)	0.04 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	147 (2)	0.01 (1)	N	Y	---	---	---	0
	11/18/2016	N	Sheen	147 (2)	147 (2)	Sheen	N	Sheen	---	---	---	0
UWBZ21	11/29/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
	5/19/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/8/2016	N	Y	149 (2)	NM	NM	Y	N	NR	NR	0	1
	6/29/2016	N	Y	147 (2)	147.5 (2)	0.5 (1)	N	Y	---	---	---	0
	7/7/2016	N	Y	NM	NM	0.02 (1)	N	Y	---	---	---	0
	7/12/2016	N	Y	NM	146 (2)	0.04 (1)	N	Y	---	---	---	0
	7/28/2016	N	Y	NM	150 (2)	0.4 (1)	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	150 (2)	0.02 (1)	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	149 (2)	0.04 (1)	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	147 (2)	0.2 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	8/29/2016	N	Y	NM	147 (2)	0.01 (1)	N	Y	---	---	---	0
	9/29/2016	N	Y	NM	148 (2)	0.25 (1)	N	Y	---	---	---	0
	11/1/2016	N	Y	NM	148 (2)	0.25 (1)	N	Y	---	---	---	0
UWBZ22	11/14/2016(9)	---	---	---	---	---	---	---	---	---	---	0
	5/18/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/9/2016	N	Y	148 (2)	NM	NM	Y	N	NR	NR	0	35
	6/29/2016	N	Y	153 (2)	154.5 (2)	1.5 (1)	N	Y	---	---	---	0
	7/11/2016	N	Y	142 (2)	148 (2)	6 (1)	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	149 (2)	0.8 (1)	N	Y	---	---	---	0
	8/2/2016	N	Y	NM	149 (2)	0.02 (1)	N	Y	---	---	---	0
	8/10/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	146 (2)	149 (2)	3 (1)	N	Y	---	---	---	0
	8/22/2016	N	Y	146 (2)	149 (2)	3 (1)	Y	N	---	148 (2)	0	15
	8/26/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	9/14/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	10/14/2016	N	Y	---	149 (2)	0.02 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	---	148 (2)	0.02 (1)	N	Y	---	---	---	0
	11/18/2016	N	Y	---	150 (2)	0.54 (1)	N	Y	---	---	---	0
UWBZ23	11/29/2016	N	Y	146 (2)	148 (2)	2 (1)	N	Y	---	---	---	0
	11/7/2016	N	Y	146 (2)	155 (2)	9 (1)	Y	Y	NR	148 (2)	<0.01 (1)	36
	12/1/2016	N	Y	147 (2)	149 (2)	2 (1)	Y	Y	NR	148 (2)	0.2 (1)	10
UWBZ24	12/8/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	7/19/2016	N	Sheen	145 (2)	145 (2)	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/16/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/23/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
UWBZ25	11/1/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	6/29/2016	N	Y	141.5 (2)	170 (2)	28.5 (1)	N	Y	---	---	---	0
	7/5/2016	Y	Y	140.4	167.1	26.61	Y	Y	142.2	162.9	20.7	10
	7/6/2016	Y	Y	142	163	20.99	Y	Y	147.3	147.8	0.45	40
	7/12/2016	N	Y	NM	142 (2)	0.17 (1)	N	Y	---	---	---	0
	7/28/2016	N	Y	147 (2)	148 (2)	1 (1)	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	148 (2)	0.01 (1)	N	Y	---	---	---	0
	8/12/2016	N	Y	NM	148 (2)	0.04 (1)	N	Y	---	---	---	0
	8/16/2016	N	Y	NM	148 (2)	0.2 (1)	N	Y	---	---	---	0
	8/26/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/30/2016	N	Y	---	148 (2)	0.1 (1)	N	Y	---	---	---	0
	9/29/2016	N	Y	---	147 (2)	0.08 (1)	N	Y	---	---	---	0
	11/1/2016	N	Y	---	147 (2)	0.08 (1)	N	Y	---	---	---	0
UWBZ26	11/30/2016(9)	---	---	---	---	---	---	---	---	---	---	0
	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/8/2016	N	Y	143 (2)	NM	NM	Y	N	NR	NR	NR	32
	6/29/2016	N	Y	148 (2)	148 (2)	0.02 (1)	N	Y	---	---	---	0
	7/12/2016	N	N	---	143 (2)	---	N	N	---	---	---	0
	7/28/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	147 (2)	---	N	N	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	8/30/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	9/29/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	11/1/2016	N	Y	NM	148 (2)	0.01 (1)	N	Y	---	---	---	0
UWBZ27	11/14/2016(9)	---	---	---	---	---	---	---	---	---	---	0
UWBZ28/ LSZ51*	7/20/2016	N	N	NM	NM	---	N	N	---	---	---	0
	11/4/2016(7)	N	Sheen	NM	146 (2)	Sheen	N	Sheen	---	---	---	0
	7/20/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/27/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
UWBZ29	11/1/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
UWBZ30	11/17/2016(9)	---	---	---	---	---	---	---	---	---	---	0
	7/20/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	7/25/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/16/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	10/3/2016	N	Y	NM	146 (2)	0.01 (1)	N	Y	---	---	---	0
	11/1/2016	N	Y	NM	146 (2)	0.02 (1)	N	Y	---	---	---	0
UWBZ31	12/8/2016	N	Sheen	146 (2)	146 (2)	Sheen	N	Sheen	---	---	---	0
	7/20/2016	N	N	NM	NM	---	N	N	---	---	---	0
	8/23/2016(6)	N	N	---	146 (2)	---	N	N	---	---	---	0
	10/7/2016(6)	Y	N	---	145.4 (2)	---	N	N	---	---	---	0
	11/3/2016(7)	Y	Y	145.39	147.50 (2)	2.11	N	Y	---	---	---	0
UWBZ32/ LSZ47*	11/15/2016(7)	Y	Y	144.45	147.52 (2)	3.07	Y	N	NR	NR	NR	NR
	12/6/2016(6)	Y	Y	136.58	172.98 (2)	36.40	Y	N	NR	NR	NR	NR
	7/12/2016(5)	Y	Y	144.90	146.55	1.65	Y	Y	145.2	145.4	0.13	2
	7/25/2016(5)	N	Sheen	NM	NM	Sheen	Y	Sheen	---	---	---	0
UWBZ33/ LSZ48*	11/3/2016(7)	Y	Sheen	NM	144.60	Sheen	Y	Sheen	---	---	---	0
	12/8/2016(6)	N	N	---	144.45	---	N	N	---	---	---	0
	7/20/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	144.49	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	144.55	---	N	N	---	---	---	0
	8/19/2016	Y	N	---	144.42	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	144.38	---	N	N	---	---	---	0
	9/16/2016	Y	N	---	144.27	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	144.26	---	N	N	---	---	---	0
	11/22/2016	Y	N	---	143.80	---	N	N	---	---	---	0
	11/29/2016	N	N	---	142	---	N	N	---	---	---	0
UWBZ34	12/8/2016	Y	N	---	144.03	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	144.31	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	144.07	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	144.21	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	144.02	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	143.85	---	N	N	---	---	---	0
	11/22/2016	Y	N	---	143.35	---	N	N	---	---	---	0
UWBZ36	12/8/2016	Y	N	---	143.64	---	N	N	---	---	---	0
	11/2/2016	N	Y	NM	NM	15	N	Y	---	---	---	0
	11/16/2016	N	Y	147 (2)	149 (2)	2 (1)	Y	N	---	145 (2)	---	30
	12/2/2016	N	Y	142 (2)	149 (2)	7 (1)	N	Y	---	---	---	0
LSZ01	12/9/2016	N	Y	146.2 (2)	147 (2)	0.8 (1)	N	Y	---	---	---	0
	11/22/2016	N	Y	134 (2)	149 (2)	15 (1)	Y	Y	NR	147 (2)	0.5	48
	12/2/2016	N	Y	137 (2)	148 (2)	11 (1)	N	Y	---	---	---	0
LSZ02	12/9/2016	N	Y	142 (2)	148 (2)	6 (1)	Y	Y	NR	147 (2)	<0.08 (1)	28
	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/28/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/3/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	11/30/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
LSZ03	12/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	11/4/2016	N	Y	NM	146 (2)	0.04 (1)	N	Y	---	---	---	0
	11/22/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
LSZ04	12/1/2016	N	Sheen	146 (2)	146 (2)	Sheen	N	Sheen	---	---	---	0
	11/4/2016	N	Y	145 (2)	154 (2)	9 (1)	N	Y	---	---	---	0
	11/22/2016	N	Y	145 (2)	147 (2)	2 (1)	Y	Y	146 (2)	147.1 (2)	1.1 (1)	10
	12/1/2016	N	Y	NM	147 (2)	0.7 (1)	N	Y	---	---	---	0
LSZ05	12/8/2016	N	Y	147 (2)	148 (2)	0.08 (1)	N	Y	---	---	---	0
	10/31/2016	N	Y	134 (2)	154 (2)	20 (1)	Y	Y	NR	147 (2)	0.01 (1)	70
	11/22/2016	N	Sheen	NM	147 (2)	Sheen	N	Sheen	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
LSZ06	12/1/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/28/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	11/30/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
LSZ07	12/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	11/4/2016	Y	Y	144.66	161.10	16.44	N	Y	---	---	---	0
	11/22/2016	N	Y	146 (2)	147.2 (2)	1.2 (1)	Y	Y	NR	147 (2)	0.2 (1)	4
	12/1/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
LSZ08	12/8/2016	N	Y	---	147 (2)	0.08 (1)	N	Y	---	---	---	0
	5/26/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/29/2016	N	Y	152 (2)	152 (2)	<0.08 (1)	N	Y	---	---	---	0
	7/7/2016	N	Y	NM	NM	0.02 (1)	N	Y	---	---	---	0
	7/12/2016	N	Sheen	144 (2)	144 (2)	Sheen	N	Sheen	---	---	---	0
	7/27/2016	N	Y	NM	149 (2)	0.1 (1)	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	148 (2)	0.1 (1)	N	Y	---	---	---	0
	8/12/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	NM	149 (2)	0.04 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	149 (2)	0.02 (1)	N	Y	---	---	---	0
	9/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
LSZ09	12/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	7/12/2016	N	N	---	142 (2)	---	N	N	---	---	---	0
	7/28/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	11/29/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
LSZ10	12/2/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/1/2016	N	Y	NM	NM	NM	Y	N	NR	NR	0	10 (4)
	6/29/2016	N	N	---	147	---	N	N	---	---	---	0
	7/7/2016	N	Y	NM	NM	<0.02 (1)	N	Y	---	---	---	0
	7/11/2016	N	Y	NM	145 (2)	0.08 (1)	N	Y	---	---	---	0
	7/28/2016	N	N	---	150 (2)	---	N	N	---	---	---	0
	8/3/2016	N	N	---	150 (2)	---	N	N	---	---	---	0
	8/16/2016	N	N	---	150 (2)	---	N	N	---	---	---	0
	8/23/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
LSZ11	11/15/2016(9)	---	---	---	---	---	---	---	---	---	---	0
	5/19/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/14/2016	N	Y	NM	NM	NM	Y	N	NR	NR	0	50
	6/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/29/2016	N	Y	148 (2)	158 (2)	10 (1)	Y	Y	NR	NR	<0.08 (1)	25
	7/12/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	7/25/2016	N	Y	---	148 (2)	0.2	N	Y	---	---	---	0
	8/2/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	NM	150 (2)	0.02 (1)	N	Y	---	---	---	0
	8/26/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	149 (2)	0.01 (1)	N	Y	---	---	---	0
	9/14/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	10/14/2016	N	Y	NM	149 (2)	0.02 (1)	N	Y	---	---	---	0
	10/26/2016	N	Y	NM	149 (2)	0.08 (1)	N	Y	---	---	---	0
	11/18/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
LSZ12	11/29/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	11/1/2016	N	Y	142 (2)	151 (2)	9 (1)	N	Y	---	---	---	0
	11/22/2016	N	Y	144 (2)	147 (2)	3 (1)	Y	Y	146 (2)	147 (2)	1 (1)	10
	12/1/2016	N	Y	143 (2)	149 (2)	6 (1)	Y	Y	NR	147 (2)	0.8 (1)	15
LSZ13	12/8/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	5/18/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/13/2016	N	Y	144 (2)	NM	NM	Y	N	NR	NR	0	26
	6/29/2016	N	N	---	150 (2)	---	N	N	---	---	---	0
	7/7/2016	N	Y	145 (2)	166 (2)	21 (1)	Y	Y	148 (2)	NR	NR	35
	7/25/2016	N	Y	NM	147 (2)	0.2 (1)	N	Y	---	---	---	0
	8/2/2016	N	Y	NM	148 (2)	0.2 (1)	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	148 (2)	0.04 (1)	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	149 (2)	0.58 (1)	N	Y	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	8/23/2016	N	Y	NM	149 (2)	0.5 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	149 (2)	0.04 (1)	N	Y	---	---	---	0
	9/6/2016	N	Y	NM	150 (2)	0.33 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	149 (2)	0.5 (1)	N	Y	---	---	---	0
	9/20/2016	N	Y	NM	148 (2)	0.5 (1)	N	Y	---	---	---	0
	9/26/2016	N	Y	NM	149 (2)	0.7 (1)	N	Y	---	---	---	0
	10/4/2016	N	Y	NM	149 (2)	0.17 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	149 (2)	0.08 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	148 (2)	0.75 (1)	N	Y	---	---	---	0
	11/1/2016	N	Y	NM	150 (2)	0.25 (1)	N	Y	---	---	---	0
	11/16/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
LSZ14	11/29/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	7/12/2016	N	Y	135 (2)	NM	>35 (1)	N	Y	---	---	---	0
	7/14/2016	N	Y	144 (2)	159 (2)	15 (1)	Y	N	NR	147 (2)	Sheen	100
	7/25/2016	N	Y	NM	147 (2)	0.2 (1)	N	Y	---	---	---	0
	8/3/2016	N	Sheen	147 (2)	147 (2)	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	147 (2)	147 (2)	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/23/2016	N	N	---	148 (2)	0.01 (1)	N	Y	---	---	---	0
	8/30/2016	N	Sheen	147 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	9/14/2016	N	Y	NM	148 (2)	0.04 (1)	N	Y	---	---	---	0
	10/14/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	10/26/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	11/18/2016	N	Y	NM	149 (2)	0.3 (1)	N	Y	---	---	---	0
LSZ15	12/1/2016	N	Y	NM	148 (2)	0.3 (1)	N	Y	---	---	---	0
	11/1/2016	N	Y	138 (2)	149 (2)	11 (1)	N	Y	---	---	---	0
	11/22/2016	N	Y	139 (2)	148 (2)	9 (1)	Y	Y	146.6 (2)	147 (2)	0.4 (1)	35
	12/1/2016	N	Y	141 (2)	148 (2)	7 (1)	Y	Y	146 (2)	147 (2)	1 (1)	10
LSZ16	12/8/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/2/2016	N	Y	130 (2)	NM	NM	Y	N	NR	NR	0	50 (4)
	6/23/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/29/2016	N	Y	150 (2)	150 (2)	0.08 (1)	N	Y	---	---	---	0
	7/12/2016	N	Y	NM	145 (2)	0.08 (1)	N	Y	---	---	---	0
	7/27/2016	N	Y	NM	148 (2)	0.2 (1)	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	148 (2)	0.2 (1)	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	148 (2)	0.04 (1)	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	148 (2)	0.04 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 (2)	0.04 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	148 (2)	0.13 (1)	N	Y	---	---	---	0
	10/26/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	11/18/2016	N	Y	NM	149 (2)	0.3 (1)	N	Y	---	---	---	0
LSZ17	12/1/2016	N	Y	NM	148 (2)	0.2 (1)	N	Y	---	---	---	0
	7/18/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/25/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/16/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/23/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
LSZ18	11/29/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/7/2016	N	Y	NM	NM	0.02 (1)	N	Y	---	---	---	0
	7/12/2016	N	Y	NM	144 (2)	0.04 (1)	N	Y	---	---	---	0
	7/27/2016	N	Y	NM	148 (2)	0.2 (1)	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	148 (2)	0.2 (1)	N	Y	---	---	---	0
	8/10/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 (2)	0.04 (1)	N	Y	---	---	---	0
	8/29/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	147 (2)	0.04 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	149 (2)	0.02 (1)	N	Y	---	---	---	0
	10/26/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	11/16/2016	N	Sheen	150 (2)	150 (2)	Sheen	N	Sheen	---	---	---	0
LSZ19	12/1/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	7/7/2016	N	Sheen	---	NM	---	N	Sheen	---	---	---	0
	7/11/2016	N	Sheen	142 (2)	142 (2)	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	8/16/2016	N	Y	NM	149 (2)	0.01 (1)	N	Y	---	---	---	0
	8/30/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	9/14/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	10/26/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	10/26/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	11/18/2016	N	Y	NM	150 (2)	0.25 (1)	N	Y	---	---	---	0
LSZ20	12/1/2016	N	Y	NM	149 (2)	0.2 (1)	N	Y	---	---	---	0
	7/19/2016	N	Sheen	144 (2)	144 (2)	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	146 (2)	146 (2)	Sheen	N	Sheen	---	---	---	0
	8/3/2016	N	Sheen	146 (2)	146 (2)	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/23/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/30/2016	N	Sheen	146 (2)	146 (2)	Sheen	N	Sheen	---	---	---	0
	9/29/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
LSZ21	12/8/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	7/25/2016	N	Sheen	148	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/3/2016	N	Sheen	148	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/12/2016	N	Sheen	148	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	N	---	150 (2)	---	N	N	---	---	---	0
	8/23/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
LSZ22	11/29/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	5/26/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/20/2016	N	N	---	151 (2)	---	N	N	---	---	---	0
	6/29/2016	N	N	---	152 (2)	---	N	N	---	---	---	0
	7/7/2016	N	N	---	NM	---	N	N	---	---	---	0
	7/12/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	7/28/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
LSZ23	11/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	7/12/2016	N	N	---	142 (2)	---	N	N	---	---	---	0
	7/20/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	7/28/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	8/3/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	8/12/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/23/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/25/2016	N	N	NM	147 (2)	0.01 (1)	N	Y	---	---	---	0
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
LSZ24	11/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	7/11/2016	N	Sheen	143 (2)	143 (2)	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/16/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	11/30/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
LSZ25	12/2/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	5/16/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/14/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	6/29/2016	N	N	---	153 (2)	---	N	N	---	---	---	0
	7/11/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	7/25/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
LSZ26	11/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	7/27/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/3/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/23/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	11/30/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
LSZ27	12/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/3/2016	N	Y	146	NM	NM	Y	N	NR	NR	0	5
	6/23/2016	N	N	---	NM	---	N	N	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	6/29/2016	N	N	---	151 (2)	---	N	N	---	---	---	0
	7/12/2016	N	Sheen	145 (2)	145 (2)	Sheen	N	Sheen	---	---	---	0
	7/27/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/16/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/23/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
LSZ28	12/2/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	5/18/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/6/2016	N	Y	142 (2)	NM	NM	Y	Y	NR	NR	NR	3
	6/29/2016	N	Y	152 (2)	152 (2)	<0.01 (1)	N	Y	NR	NR	NR	0
	7/20/2016	N	N	---	150 (2)	---	N	N	---	---	---	0
	7/25/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/23/2016	N	Y	NM	149 (2)	0.01 (1)	N	Y	---	---	---	0
	8/30/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
LSZ29	12/8/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	11/4/2016	N	Y	144 (2)	156 (2)	12 (1)	N	Y	---	---	---	0
	11/22/2016	N	Y	133 (2)	148 (2)	15 (1)	Y	Y	NR (2)	148 (2)	0.6 (1)	25
	12/1/2016	N	Y	145 (2)	151 (2)	6 (1)	Y	Y	NR (2)	148 (2)	0.1 (1)	20
LSZ30	12/8/2016	N	Y	146 (2)	148 (2)	2 (1)	Y	Y	NR (2)	148 (2)	0.08 (1)	11
	6/6/2016	N	Y	151 (2)	NM	NM	Y	N	NR	NR	0	20
	7/25/2016	N	Y	NM	145 (2)	0.2 (1)	N	Y	---	---	---	0
	8/3/2016	N	Sheen	145 (2)	145 (2)	Sheen	N	Sheen	---	---	---	0
	8/23/2016	N	Y	NM	146 (2)	0.5 (1)	N	Y	---	---	---	0
	9/29/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
LSZ31	11/29/2016	N	Y	NM	144 (2)	0.5 (1)	N	Y	---	---	---	0
	7/25/2016	N	Y	144.8 (2)	145 (2)	1.2 (1)	N	Y	---	---	---	0
	8/2/2016	N	Y	NM (2)	147 (2)	0.02 (1)	N	Y	---	---	---	0
	8/12/2016	N	Y	NM (2)	147 (2)	0.02 (1)	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	146 (2)	0.1 (1)	N	Y	---	---	---	0
	9/29/2016	N	Y	NM	147 (2)	0.08 (1)	N	Y	---	---	---	0
LSZ32	12/8/2016	N	Y	NM	146 (2)	0.08 (1)	N	Y	---	---	---	0
	11/7/2016	Y	Y	142.22	170 (8)	>27.8 (1)	N	Y	---	---	---	0
	11/8/2016	Y	Y	142.22	170 (8)	>27.8 (1)	Y	Y	149.4	149.81	0.41	65
	12/1/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
LSZ33	12/8/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	5/17/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/14/2016	N	Y	148 (2)	NM	NM	Y	N	NR	NR	0	38
	6/29/2016	N	Y	152 (2)	152 (2)	<0.08 (1)	N	Y	---	---	---	0
	7/11/2016	N	Y	NM	145 (2)	0.08 (1)	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	149 (2)	0.2 (1)	N	Y	---	---	---	0
	8/2/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	NM (2)	149 (2)	0.01 (1)	N	Y	---	---	---	0
	8/26/2016	N	Y	NM (2)	148 (2)	0.01 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM (2)	148 (2)	0.01 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	NM (2)	148 (2)	0.04 (1)	N	Y	---	---	---	0
	10/14/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	10/25/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	11/16/2016	N	Y	---	150 (2)	0.17 (1)	N	Y	---	---	---	0
	11/29/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
LSZ34	12/1/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	6/29/2016	N	Y	147 (2)	NM	NM	Y	N	NR	NR	0	65
	7/12/2016	N	Y	140 (2)	168 (2)	28 (1)	N	Y	---	---	---	0
	7/18/2016	N	Y	143 (2)	149 (2)	6 (1)	Y	N	NR	146 (2)	Sheen	35
	7/25/2016	N	Y	NM	149 (2)	0.2 (1)	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	150 (2)	0.08 (1)	N	Y	---	---	---	0
	8/12/2016	N	Y	NM	149 (2)	0.06 (1)	N	Y	---	---	---	0
	8/16/2016	N	Y	146 (2)	149 (2)	3 (1)	N	Y	---	---	---	0
	8/22/2016	N	Y	146 (2)	149 (2)	3 (1)	Y	N	---	149 (2)	0	10
	8/23/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	149 (2)	0.06 (1)	N	Y	---	---	---	0
	9/14/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	10/14/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
	10/25/2016	N	N	---	149 (2)	---	N	N	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	11/16/2016	N	Sheen	149 (2)	149 (2)	Sheen	N	Sheen	---	---	---	0
	11/29/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
LSZ35	12/1/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	5/19/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/10/2016	N	Y	144 (2)	NM	NM	Y	N	NR	NR	0	86
	6/29/2016	N	Y	152 (2)	152 (2)	0.08 (1)	N	Y	---	---	---	0
	7/7/2016	N	Y	NM	NM	0.06 (1)	N	Y	---	---	---	0
	7/11/2016	N	Y	NM	145 (2)	0.08 (1)	N	Y	---	---	---	0
	8/2/2016	N	Y	NM	145 (2)	0.04 (1)	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	145 (2)	0.04 (1)	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	146 (2)	0.01 (1)	N	Y	---	---	---	0
	8/26/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	148 (2)	0.17 (1)	N	Y	---	---	---	0
	9/14/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	10/14/2016	N	Y	148 (2)	151 (2)	3 (1)	N	Y	---	---	---	0
	10/16/2016	N	Y	148 (2)	151 (2)	3 (1)	N	Y	---	---	---	0
	10/21/2016	N	Y	148 (2)	151 (2)	3 (1)	Y	Y	NM	150	Sheen	9
	10/25/2016	N	Sheen	150 (2)	150 (2)	Sheen	N	Sheen	---	---	---	0
	11/18/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
LSZ36	12/1/2016	N	Sheen	148 (2)	148 (2)	Sheen	N	Sheen	---	---	---	0
	5/23/2016	Y	Y	138.40	185.80	47.40	N	Y	---	---	---	0
	5/24/2016	Y	Y	NR	NR	NR	Y	Y	145.1	161.7	16.56	60
	5/25/2016	Y	Y	NR	NR	NR	Y	Y	148.6	149.60	1.05	25
	5/25/2016	Y	Y	148.45	149.51	1.06	N	Y	---	---	---	0
	5/26/2016	Y	Y	148.46	149.5	1.04	N	Y	---	---	---	0
	5/26/2016	Y	Y	148.42	149.54	1.12	N	Y	---	---	---	0
	5/27/2016	Y	Y	148.31	149.5	1.19	N	Y	---	---	---	0
	5/31/2016	Y	Y	148.31	149.49	1.18	N	Y	---	---	---	0
LSZ37	6/2/2016	Y	Y	NR	NR	NR	Y	Y	149.12	150.11	0.99	17
	6/3/2016	Y	Y	148.66	148.70	0.04	N	Y	---	---	---	0
	7/1/2016	Y	N	---	148.58	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	148.45	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	148.29	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.45	---	N	N	---	---	---	0
	9/2/2016	Y	Y	148.11	148.16	0.05	N	Y	---	---	---	0
	10/7/2016	Y	Y	147.86	147.92	0.06	N	Y	---	---	---	0
	11/17/2016(9)	---	---	---	---	---	---	---	---	---	---	0
	5/23/2016	Y	Y	145.33	156.19	10.86	N	Y	---	---	---	0
	5/24/2016	Y	Y	NR	NR	NR	Y	Y	148.5	149.58	1.08	15
	5/25/2016	Y	Y	148.55	149.70	1.15	N	Y	---	---	---	0
	5/25/2016	Y	Y	148.47	149.66	1.19	N	Y	---	---	---	0
	5/26/2016	Y	Y	148.51	149.76	1.25	N	Y	---	---	---	0
	5/26/2016	Y	Y	148.42	149.61	1.19	N	Y	---	---	---	0
	5/27/2016	Y	Y	148.34	149.58	1.24	N	Y	---	---	---	0
	5/31/2016	Y	Y	148.33	149.61	1.28	N	Y	---	---	---	0
LSZ38	6/3/2016	Y	Y	148.41	149.62	1.21	N	Y	---	---	---	0
	7/1/2016	Y	N	---	148.33	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	148.22	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	148.02	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.65	---	N	N	---	---	---	0
	9/2/2016	Y	Y	147.87	149.07	1.20	N	Y	---	---	---	0
	10/7/2016	Y	Y	147.62	148.81	1.19	N	Y	---	---	---	0
	11/22/2016	Y	Y	147.30	148.50	1.20	N	Y	---	---	---	0
	11/29/2016(9)	---	---	---	---	---	---	---	---	---	---	0
	5/19/2016	Y	Y	NR	NR	NR	N	Y	---	---	---	0
	5/23/2016	Y	Y	135.78	191.02	55.24	N	Y	---	---	---	0
	5/26/2016	Y	Y	135.91	191.2	55.29	N	Y	---	---	---	0
	6/1/2016	Y	Y	135.85	190.8	54.95	Y	Y	150.16	152.45	2.29	80
	6/1/2016	Y	Y	148.49	150.82	2.33	N	Y	---	---	---	0
	6/1/2016	Y	Y	148.71	151.09	2.38	N	Y	---	---	---	0
	6/3/2016	Y	Y	148.71	151.11	2.40	N	Y	---	---	---	0
LSZ39	7/1/2016	Y	N	---	149.18	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	149.05	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	148.81	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.83	---	N	N	---	---	---	0
	9/2/2016	Y	Y	148.71	148.78	0.07	N	Y	---	---	---	0
	10/7/2016	Y	N	---	148.50	---	N	N	---	---	---	0
	11/15/2016(9)	---	---	---	---	---	---	---	---	---	---	0
	11/8/2016	N	Y	132 (2)	166 (2)	34 (1)	Y	Y	NM	147 (2)	0.08 (1)	95
	11/22/2016	N	Sheen	146 (2)	146 (2)	Sheen	N	Sheen	---	---	---	0
LSZ40	12/1/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	7/20/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	7/28/2016	N	N	---	150 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	150 (2)	---	N	N	---	---	---	0
	8/16/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	148 (2)	---	N	N	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	9/29/2016	N	N	---	149 (2)	---	N	N	---	---	---	0
LSZ41	11/29/2016	N	N	---	148 (2)	---	N	N	---	---	---	0
	7/19/2016	N	Y	143 (2)	151 (2)	8 (1)	N	Y	---	---	---	0
	7/29/2016	N	Y	143 (2)	149 (2)	6 (1)	Y	Y	NR	148 (2)	0.5 (1)	36
	8/3/2016	N	Y	NM	148 (2)	0.04 (1)	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	148 (2)	0.02 (1)	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	148 (2)	0.04 (1)	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 (2)	0.5 (1)	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 (2)	0.02 (1)	N	Y	---	---	---	0
	9/6/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	147 (2)	0.04 (1)	N	Y	---	---	---	0
	9/20/2016	N	Y	NM	147 (2)	0.5 (1)	N	Y	---	---	---	0
	9/26/2016	N	Y	NM	147 (2)	0.5 (1)	N	Y	---	---	---	0
	10/4/2016	N	Y	NM	148 (2)	0.08 (1)	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	148 (2)	0.04 (1)	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	146 (2)	0.08 (1)	N	Y	---	---	---	0
	11/1/2016	N	Y	NM	146 (2)	0.04 (1)	N	Y	---	---	---	0
	11/18/2016	N	Y	NM	147 (2)	0.38 (1)	N	Y	---	---	---	0
	11/29/2016	N	Y	NM	147 (2)	0.2 (1)	N	Y	---	---	---	0
LSZ42	12/8/2016	N	Sheen	146 (2)	146 (2)	Sheen	N	Sheen	---	---	---	0
	7/20/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	7/25/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	8/2/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
	8/16/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	8/30/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 (2)	---	N	N	---	---	---	0
	11/29/2016	N	N	---	145 (2)	---	N	N	---	---	---	0
LSZ43*	12/2/2016	N	N	---	147 (2)	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	144.70	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	150.33	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	150.12	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	150.15	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	150.14	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	149.70	---	N	N	---	---	---	0
	11/22/2016	Y	N	---	149.25	---	N	N	---	---	---	0
LSZ44*	12/8/2016	Y	N	---	149.57	---	N	N	---	---	---	0
	6/27/2016	Y	N	---	151.61	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	148.94	---	N	N	---	---	---	0
	7/11/2016	Y	N	---	145.00	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	148.89	---	N	N	---	---	---	0
	7/22/2016	Y	N	---	148.65	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.73	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	148.46	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	148.27	---	N	N	---	---	---	0
	11/22/2016	Y	N	---	147.81	---	N	N	---	---	---	0
LSZ45*	12/8/2016	Y	N	---	148.16	---	N	N	---	---	---	0
	6/27/2016	Y	N	---	148.05	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	147.95	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	147.87	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	147.71	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	147.73	---	N	N	---	---	---	0
	9/2/2016	Y	Y	147.47	147.48	0.01	N	Y	---	---	---	0
	10/7/2016	Y	N	---	147.27	---	N	N	---	---	---	0
	11/22/2016	Y	N	---	146.85	---	N	N	---	---	---	0
LSZ46*	12/8/2016	Y	N	---	147.21	---	N	N	---	---	---	0
	6/14/2016	Y	N	---	145.67	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	145.93	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	145.85	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	145.74	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	145.69	---	N	N	---	---	---	0
	9/2/2016	Y	Y	145.50	145.51	0.01	N	Y	---	---	---	0
	9/30/2016	Y	N	---	145.37	---	N	N	---	---	---	0
	11/30/2016	Y	N	---	144.27	---	N	N	---	---	---	0
LSZ49*	12/8/2016	Y	N	---	145.30	---	N	N	---	---	---	0
	6/14/2016	Y	N	---	145.26	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	144.70	---	N	N	---	---	---	0
	7/15/2016	Y	Y	144.60	146.82	2.22	N	Y	---	---	---	0
	7/29/2016	Y	Y	144.48	146.69	2.21	N	Y	---	---	---	0
	8/5/2016	Y	N	---	144.42	---	N	N	---	---	---	0
	8/12/2016	Y	Y	144.42	146.62	2.20	N	Y	---	---	---	0
	8/19/2016	Y	Y	144.46	146.56	2.10	N	Y	---	---	---	0
	8/26/2016	Y	N	---	144.36	---	N	N	---	---	---	0
	9/2/2016	Y	Y	144.20	146.44	2.24	Y	N	---	147.00	0	5
	9/9/2016	Y	Y	144.78	144.81	0.03	N	Y	---	---	---	0
	9/16/2016	Y	N	---	144.69	---	N	N	---	---	---	0
	9/23/2016	Y	Y	144.60	144.68	0.08	N	Y	---	---	---	0
	9/30/2016	Y	N	---	144.55	---	N	N	---	---	---	0

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/ Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
	10/7/2016	Y	Y	144.57	144.62	0.05	N	Y	---	---	---	0
	10/21/2016	Y	Y	144.49	144.54	0.05	N	Y	---	---	---	0
	10/28/2016	Y	Y	144.21	144.27	0.06	N	Y	---	---	---	0
	11/30/2016	Y	Sheen	144.15	144.15	Sheen	N	Sheen	---	---	---	0
LSZ50*	12/8/2016	Y	N	---	144.45	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	149.00	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	148.89	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	148.71	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.74	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	148.50	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	148.26	---	N	N	---	---	---	0
	11/22/2016	Y	N	---	148.01	---	N	N	---	---	---	0
LSZ52*	12/8/2016	Y	N	---	148.15	---	N	N	---	---	---	0

NM = Not measured due to temperature interference.
NR = Not recorded.
--- = No NAPL present. Measurement not performed.
* = Newly installed well.

Notes:
(1) LNAPL estimated using PTFE bailer, not interface probe.
(2) Depth measured using a bailer.
(3) Depth measured using a tagline.
(4) LNAPL recovered included water.
(5) Dual screened well location monitored for LNAPL in the upper interval only.
(6) Dual screened well location monitored for LNAPL in the lower interval only.
(7) Dual screened well location was monitored after packer were pulled from well.
(8) Depth to water couldn't be determined via interface probe due to water temperatures exceeding probe limits at the depth recorded.
(9) Extraction well pump installed for active containment system. Regular monitoring and removal of LNAPL ceases at this well due to access issues.

Project Name: ST012

Boring ID: LSZ-59/UWBZ40

Project Number: 9101110001 **Date:** 12-1-16

Boring Location:	LSZ-57	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-1-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-3-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	136	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
0						Air Knifed to 10'
5						
10			3.7		SC	**CLAYEY SAND,** 70% fine to medium grained, subrounded to subangular sand, 30% clay, uncemented, nonplastic to low plasticity, red to brown, slightly moist, no odor, no stains
15			6.3			
20			4.2			
					SM	**SILTY SAND,** 70% fine to coarse grained, subrounded to subangular sand, 30% silt, uncemented, nonplastic, brown, slightly moist, no odor, no stains
			4.1			
25						

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Project Name: ST012

Boring ID: LSZ-59/UWBZ40

Project Number: 9101110001 **Date:** 12-1-16

Boring Location:	LSZ-57	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-1-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-3-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	136	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
25			4.6		SM	**SILTY SAND,** continued note: silt content increased at 28'
30			4.1		SW-SM	**WELL GRADED SAND WITH SILT,** 85% fine to coarse grained, subrounded to subangular sand, 10% silt, 5% fine grained, subrounded to subangular gravel note: silt lens about 1' thick at 34'
35			3.3			
					SM	**SILTY SAND,** 65% fine to medium grained sand, 35% silt, uncemented to weakly cemented, nonplastic, brown, slightly moist, no odor, no stains
40			3.7		ML	**SILT,** 60% silt, 40% fine grained sand, uncemented to weakly cemented, nonplastic to low plasticity, brown, slightly moist, no odor, no stains
45			3.3		CL	**CLAY,** 90% clay, 10% fine grained sand, weakly to moderately cemented, medium plasticity, light red to brown, slightly moist, no odor, no stains note: sand content increased at 46'
50					ML	**SILT,** 70% silt (some clay), 30% fine to medium grained sand, uncemented, nonplastic to low plasticity, slightly moist, no odor, no stains

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Project Name: ST012

Boring ID: LSZ-59/UWBZ40

Project Number: 9101110001 **Date:** 12-1-16

Boring Location:	LSZ-57	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-1-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-3-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	136	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
50			2.2		ML	**SILT,** continued note: clay lens 6" thick at 50'
					SC	**CLAYEY SAND,** 75% fine to medium grained sand, 25% clay (some silt), uncemented, nonplastic, brown, slightly moist, no odor, no stains
55			3.5			note: cementation increased at 58'
60			2.6		CL	**CLAY,** 80% clay, 20% fine grained sand, uncemented to weakly cemented, medium plasticity, brown, slightly moist to moist, no odor, no stains
65			2.0			
					SM	**SILTY SAND,** 80% fine to medium grained, subrounded to subangular sand, 20% silt, uncemented, nonplastic, brown, slightly moist, no odor, no stains
70			1.5			note: cementation increased at 70'
					SC	**CLAYEY SAND,** 85% fine to medium grained, subrounded to subangular sand, 15% clay (some silt), uncemented, nonplastic, red to brown, slightly moist, no odor, no stains
75						note: clay content decreased at 75'

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Project Name: ST012

Boring ID: LSZ-59/UWBZ40

Project Number: 9101110001 **Date:** 12-1-16

Boring Location:	LSZ-57	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-1-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-3-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	136	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
75			5.2		SC	**CLAYEY SAND,** continued
					CL	**CLAY,** 70% clay, 30% fine to medium grained sand, uncemented to weakly cemented, medium to low plasticity, red to brown, slightly moist, no odor, no stains
						note: clay content increased, sand content decreased at 79'
80			4.7			
						note: cementation increased at 83'
85			2.3			
					SM	**SILTY SAND,** 80% fine to medium grained, subrounded to subangular sand, 20% silt, uncemented, nonplastic, brown, slightly moist, no odor, no stains
						note: clay lens about 1' thick at 88'
90			0.7			
						note: clayey sand lens about 6" thick at 92'
						note: cementation increased at 94'
95			1.4			
					ML	**SILT WITH SAND,** 65% silt (some clay), 35% fine grained sand, uncemented, nonplastic to low plasticity, brown, slight moist, no odor, no stains
100						

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Project Name: ST012

Boring ID: LSZ-59/UWBZ40

Project Number: 9101110001 **Date:** 12-1-16

Boring Location:	LSZ-57	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-1-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-3-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	136	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
100			0.0		CL	**CLAY WITH SAND,** 70% clay (some silt), 30% fine grained sand, uncemented, low to medium plasticity, red to brown, slightly moist to moist, no odor, no stains note: silt with sand lens at 105'
105			0.0		SM	**SILTY SAND,** 85% fine to medium grained sand, 15% silt, uncemented, nonplastic, brown, slightly moist, no odor, no stains
110			0.0		CL	**CLAY WITH SAND,** 70% clay (some silt), 30% fine grained sand, uncemented, low to medium plasticity, brown, slightly moist to moist, no odor, no stains
115			4.7		SC	**CLAYEY SAND,** 65% fine to medium grained sand, 35% clay (some silt), uncemented, nonplastic to low plasticity, brown, slightly moist, no odor, no stains
120					SM	**SILTY SAND,** 70% fine to medium grained, subrounded to subangular sand, 25% silt, 5% fine grained, subangular to subrounded gravel, uncemented, nonplastic, brown, slightly moist, no odor, no stains
125			3.5		CL	**CLAY,** 80% clay (some silt), 20% fine grained sand, uncemented, medium plasticity, brown to red, slightly moist to moist, no odor, no stains

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Project Name: ST012

Boring ID: LSZ-59/UWBZ40

Project Number: 9101110001 **Date:** 12-1-16

Boring Location:	LSZ-57	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-1-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-3-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	136	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
125			4.1		CL	**CLAY,** continued
					SC	**CLAYEY SAND,** 80% fine to medium grained sand, 20% clay (some silt), uncemented, low plasticity, brown, slightly moist, no odor, no stains
130			0.9			note: clay content increased (40%) at 130'
						note: clay lens about 6" thick at 132'
135			1.2			
					SW-SM	**WELL GRADED SAND WITH GRAVEL & SILT,** 75% fine to coarse grained sand, 15% fine to coarse grained gravel (few cobbles), 10% silt, uncemented, nonplastic, brown, wet, no odor, no stains
140			1.1		SC	**CLAYEY SAND,** 80% fine to coarse grained sand, 20% clay (some silt), uncemented, nonplastic, red to brown, moist to wet, no odor, no stains
						note: silty sand lens about 1' thick at 143'
145			1.0		SW-SM	**WELL GRADED SAND WITH SILT,** 90% fine to coarse grained, subrounded to subangular sand, 10% silt, uncemented, nonplastic, brown, wet, no odor, no stains
						note: gravel content increased at 147'
150						

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Project Name: ST012

Boring ID: LSZ-59/UWBZ40

Project Number: 9101110001 **Date:** 12-1-16

Boring Location:	LSZ-57	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-1-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-3-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	136	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
150			0.6		SW-SM	**WELL GRADED SAND WITH SILT,** continued
					SC	**CLAYEY SAND WITH GRAVEL,** 65% fine to coarse grained, subrounded to subangular sand, 20% fine to coarse grained, subrounded to subangular gravel, 15% clay, uncemented, nonplastic to low plasticity, brown, moist to wet, no odor, no stains
						note: gravel content decreased at 154'
155			3.5		CL	**CLAY,** 95% clay, 5% fine grained sand, uncemented to weakly cemented, medium to high plasticity, brown to red, moist, no odor, no stains
160			2.6			note: cementation increased & sand content increased at 160'
165			2.1		SM	**SILTY SAND,** 70% fine to medium grained sand, 30% silt, uncemented, nonplastic, brown, wet, no odor, no stains
170			3.6		SW	**WELL GRADED SAND WITH GRAVEL,** 70% fine to coarse grained, subangular to subrounded sand, 25% fine to coarse grained, subangular gravel, 5% silt, uncemented, nonplastic, brown, wet, no odor, no stains
175						

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Project Name: ST012

Boring ID: LSZ-59/UWBZ40

Project Number: 9101110001 **Date:** 12-1-16

Boring Location:	LSZ-57	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-1-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-3-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	136	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
175			1.6		SC	**CLAYEY SAND,** 60% predominantly fine grained sand, 40% clay (some silt), uncemented, low plasticity, brown, moist, no odor, no stains
					SW-SC	**WELL GRADED SAND WITH CLAY & GRAVEL,** 70% fine to coarse grained, subrounded to subangular sand, 20% fine to coarse grained, subrounded to subangular sand (few cobbles), 10% clay (some silt), uncemented, nonplastic, brown, wet, no odor, no stains
180			0.3			
						note: fines increased at 183'
					CL	**CLAY,** 90% clay (some silt), 10% fine grained sand, uncemented, medium to high plasticity, red to brown, moist, no odor, no stains
185			1.2			
190			0.0			
						note: sand content increased at 194'
195			0.0			
						note: sand content increased at 198'
200						

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Project Name: ST012

Boring ID: LSZ-59/UWBZ40

Project Number: 9101110001 **Date:** 12-1-16

Boring Location:	LSZ-57	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-1-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-3-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	136	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
200			0.0		CL	**CLAY,** continued
						note: clay content increased at 202'
205			0.5			
					SW-SM	**WELL GRADED SAND WITH SILT & GRAVEL,** 75% fine to coarse grained, subrounded to subangular sand, 15% fine to coarse grained, subrounded to subangular gravel, 10% silt (some clay), uncemented, nonplastic, brown, wet, no odor, no stains
210			0.3			
					CL	**CLAY WITH SAND,** 60% clay, 40% fine to medium grained sand, uncemented to weakly cemented, low to medium plasticity, red to brown, moist, no odor, no stains
215			0.6			
						note: clay content increased at 216'
						note: cementation increases at 218'
220			1.1		SW-SM	**WELL GRADED SAND WITH SILT,** 85% fine to coarse grained, subrounded to subangular sand, 10% silt, 5% fine grained, subrounded to subangular gravel
					CL	**CLAY**
225						

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Project Name: ST012

Boring ID: LSZ-59/UWBZ40

Project Number: 9101110001 **Date:** 12-1-16

Boring Location:	LSZ-57	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-1-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-3-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	136	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
225			0.0		CL	**CLAY,** 90% clay, 10% fine grained sand, uncemented (strongly cemented nodules), medium plasticity, red to brown, moist, no odor, no stains
					SC	**CLAYEY SAND,** 60% fine grained sand, 40% clay (some silt), uncemented, low plasticity, brown to red, moist, no odor, no stains
230			0.0			Total Depth = 230'
235						
240						
245						
250						

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Project Name: ST012

Boring ID: LSZ-60

Project Number: 9101110001 **Date:** 12-5-16

Boring Location:	LSZ-60	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-5-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-5-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
0						Air Knifed to 15'
5						
10						
15			0.0		SM	**SILTY SAND,** 70% fine to medium grained sand, 30% silt (some clay), uncemented, nonplastic, brown, slightly moist, no odor, no stains note: well graded sand lens about 1' thick at 116'
20			0.0			note: fines increased, weakly cemented at 21'
25						note: clay content increased at 24'

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Project Name: ST012

Boring ID: LSZ-60

Project Number: 9101110001 **Date:** 12-5-16

Boring Location:	LSZ-60	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-5-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-5-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
25					SM	**SILTY SAND,** continued
					SC	**CLAYEY SAND,** 80% fine to medium grained, subrounded to subangular sand, 20% clay (some silt), uncemented, nonplastic, red to brown, slightly moist, no odor, no stains
30			0.0			
						note: strongly cemented nodule up to 2" in diameter at 31'
						note: poorly graded sand with silt lens about 1' thick at 32'
					CL	**CLAY,** 70% clay (some silt), 30% fine grained sand, uncemented, medium plasticity, brown, slightly moist, no odor, no stains
35			0.0			
					SM	**SILTY SAND,** 70% fine grained sand, 30% silt, uncemented, nonplastic, brown, slightly moist, no odor, no stains
						note: fines increased at 39'
40			0.0			
						note: fines decreased at 42'
45			0.0			
						note: strongly cemented nodules about 4" thick at 46'
						note: fines increased at 48'
50						

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Project Name: ST012

Boring ID: LSZ-60

Project Number: 9101110001 **Date:** 12-5-16

Boring Location:	LSZ-60	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-5-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-5-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
50			0.0		SM	**SILTY SAND,** continued note: clay lens about 1' thick at 51'
55			0.0		ML	**SILT,** 80% silt, 20% fine grained sand, uncemented, low plasticity, brown, slightly moist, no odor, no stains
60			1.7		CL	**CLAY,** 75% clay, 25% fine grained sand, weakly cemented, medium plasticity, red to brown, slightly moist, no odor, no stains
65					SC	**CLAYEY SAND,** 70% fine to medium grained sand, 30% clay, weakly cemented, nonplastic to low plasticity, brown, slightly moist, no odor, no stains
			1.4		CL	**CLAY,** 70% clay, 30% fine grained sand, uncemented, medium to low plasticity, brown, slightly moist, no odor, no stains
70			1.4		SM	**SILTY SAND,** 70% fine to medium grained sand, 30% silt (some clay), uncemented, nonplastic, brown, slightly moist, no odor, no stains note: cementation increased at 69'
75						

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Project Name: ST012

Boring ID: LSZ-60

Project Number: 9101110001 **Date:** 12-5-16

Boring Location:	LSZ-60	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-5-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-5-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
75			1.3		SM	**SILTY SAND,** continued note: clay lens about 6" thick at 78'
80			0.3		SP-SM	**POORLY GRADED SAND WITH SILT,** 90% fine to medium grained, subrounded to subangular sand, 10% silt, uncemented, nonplastic, brown, slightly moist, no odor, no stains
					SW-SM	**WELL GRADED SAND WITH SILT,** 85% fine to coarse grained, subrounded to subangular sand, 10% silt, 5% fine to coarse grained gravel, uncemented, nonplastic, brown, slightly moist, no odor, no stains
85			2.3		CL	**CLAY,** 90% clay, 10% fine grained sand, uncemented, medium plasticity, red to brown, moist, no odor, no stains note: cementation increased at 85'
90			1.9			
					SM	**SILTY SAND,** 65% fine grained sand, 35% silt (some clay), uncemented, nonplastic to low plasticity, brown, slightly moist, no odor, no stains
95			2.2			note: poorly graded sand lens about 1' thick at 96'
					CL	**CLAY,** 85% clay, 15% fine grained sand, uncemented, medium plasticity, brown to red, slightly moist to moist, no odor, no stains note: cementation increased at 99'
100						

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Project Name: ST012

Boring ID: LSZ-60

Project Number: 9101110001 **Date:** 12-5-16

Boring Location:	LSZ-60	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-5-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-5-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
100			1.7		CL	**CLAY,** continued
105			2.0			note: sand & silt content increased at 105' note: clay content increased at 106'
110			0.2			
					SP-SM	**POORLY GRADED SAND WITH SILT,** 90% fine to medium grained, subrounded to subangular sand, 10% silt, uncemented, nonplastic, brown, slightly moist, no odor, no stains note: gravel content increased (5% - 10%), fine to coarse grained, subrounded to subangular at 113'
115			0.6			
					CL	**CLAY,** 85% clay, 15% fine grained sand, strongly cemented nodules, medium plasticity, brown to red, slightly moist, no odor, no stains
120			2.6			note: well graded sand lens about 1' thick (possible sluff) at 122' note: silty sand lens about 1' thick (possible sluff) at 123' note: cementation decreased, moisture increased at 124'
125						

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Project Name: ST012

Boring ID: LSZ-60

Project Number: 9101110001 **Date:** 12-5-16

Boring Location:	LSZ-60	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-5-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-5-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
125			1.5		CL	**CLAY,** continued
130			0.0			note: cementation increased at 132'
						note: silty sand lens about 1' thick at 134'
135			0.0			
					SM	**SILTY SAND,** 85% fine to medium grained sand, 15% silt, uncemented, nonplastic, brown, moist to wet, no odor, no stains
					SW-SM	**WELL GRADED SAND WITH SILT & GRAVEL,** 70% fine to coarse grained, subrounded to subangular sand, 20% fine to coarse grained, subrounded to subangular gravel, 10% silt, uncemented, nonplastic, brown, wet, no odor, no stains
140			0.0			
						note: gravel content decreased at 143'
145			0.3			
					CL	**CLAY,** 90% clay, 10% fine grained sand, uncemented to weakly cemented, medium plasticity, red to brown, moist, no odor, no stains
150						

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Project Name: ST012

Boring ID: LSZ-60

Project Number: 9101110001 **Date:** 12-5-16

Boring Location:	LSZ-60	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-5-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-5-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
150			0.2		SC	**CLAYEY SAND,** 70% fine to medium grained sand, 30% clay, uncemented, low plasticity, red to brown, moist to wet, no odor, no stains
					SW-SM	**WELL GRADED SAND WITH SILT,** 60% fine to coarse grained, subrounded to subangular sand, 30% fine to coarse grained, subrounded to subangular gravel, 10% silt, uncemented, nonplastic, brown, wet, no odor, no stains
155			0.0			
					CL	**CLAY,** 90% clay, 10% fine grained sand, uncemented, medium to high plasticity, brown to red, moist, no odor, no stains
160			0.0			
					SC	**CLAYEY SAND,** 70% fine to medium grained sand, 30% clay, uncemented, low plasticity, brown, moist to wet, no odor, no stains
165			0.0			
					CL	**CLAY,** 100% clay, uncemented, high plasticity, slightly moist to moist, no odor, no stains
						note: sand content increased at 169'
170			0.0			note: clay content increased at 170'
175						note: sand content increased at 175'

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Project Name: ST012

Boring ID: LSZ-60

Project Number: 9101110001 **Date:** 12-5-16

Boring Location:	LSZ-60	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-5-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-5-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
175			8.7		CL	**CLAY,** continued
					SW-SM	**WELL GRADED SAND WITH SILT & GRAVEL,** 65% fine to coarse grained, subrounded to subangular sand, 25% fine to coarse grained, subrounded to subangular gravel, 10% silt (some clay), uncemented, nonplastic, brown, wet, no odor, no stains
					SP-SM	**POORLY GRADED SAND WITH SILT,** 70% fine to medium grained, subrounded to subangular sand, 30% silt, uncemented, nonplastic, brown, wet, no odor, no stains
180			0.0			
					CL	**CLAY,** 85% clay, 15% fine grained sand, uncemented, medium plasticity, brown to red, no odor, no stains
185			0.2			
190			1.6		SC	**CLAYEY SAND,** 60% fine to medium grained sand, 40% clay (some silt), uncemented, low plasticity, brown, moist to wet, no odor, no stains
195			3.4		CL	**CLAY,** 90% clay, 10% fine grained sand, uncemented, medium plasticity, red to brown, moist, no odor, no stains
					SC	**CLAYEY SAND,** 80% fine grained sand, 40% clay, uncemented, low plasticity, brown to red, moist to wet, no odor, no stains
200						

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Project Name: ST012

Boring ID: LSZ-60

Project Number: 9101110001 **Date:** 12-5-16

Boring Location:	LSZ-60	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-5-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-5-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
200			3.7		CL	**CLAY,** 90% clay, 10% fine grained sand, uncemented, medium plasticity, brown to red, moist, no odor, no stains
205			0.0			
					SC	**CLAYEY SAND,** 60% fine to medium grained, subrounded to subangular sand, 40% clay (some silt), uncemented, low plasticity, brown, moist to wet
210			1.4			note: clay content decreased at 210'
					SW-SC	**WELL GRADED SAND WITH CLAY & GRAVEL,** 70% fine to coarse grained, subrounded to subangular sand, 20% predominantly fine grained, subrounded to subangular gravel, 10% clay (some silt), uncemented, nonplastic, brown, wet, no odor, no stains
215			0.1			
					SC	**CLAYEY SAND,** 70% fine to medium grained, subrounded to subangular sand, 30% clay, uncemented, nonplastic to low plasticity, brown, moist to wet, no odor, no stains
						note: 6" thick lens of clay at 219'
220			0.0		SM	**SILTY SAND,** 80% fine to medium grained, subrounded to subangular sand, 20% silt (some clay), uncemented, nonplastic, brown, moist to wet, no odor, no stains
225						

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Project Name: ST012

Boring ID: LSZ-60

Project Number: 9101110001 **Date:** 12-5-16

Boring Location:	LSZ-60	**Logged By:**	K. Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	12-5-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	12-5-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	8" Casing
Depth to Water (ft bgs):	146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes
225			0.0		SM	**SILTY SAND,** continued
					SW-SM	**WELL GRADED SAND WITH CLAY,** 90% fine to coarse grained, subrounded to subangular sand, 10% clay, uncemented, nonplastic, brown, wet, no odor, no stains
230			0.0			Total Depth = 230'
235						
240						
245						
250						

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