

**Monday July 14, 2008**

**399-2-22**

**C6202**

**Site Activities**

Attend POD. Rig and equipment was set-up on the location. The borehole was advanced from the surface to 15 ft bgs and the casing was advanced from the surface to 5 ft bgs. Six grab samples were collected. Drilling was stopped due to a sheared pin. Crew arranged for a new pin to be shipped. RCT coverage was provided. The RCT reported readings at or below background. IH daily coverage was provided and the reading was less than detect.

**Sampling Performed**

A total of 6 grab samples were taken. A sample summary table is attached.

**Current Depths (ft bgs)**

Borehole 15  
7 5/8" single wall temporary casing 5  
Expected total depth = ~ 58  
Depth to water: ~ 26 ft

**Borehole Log Summary (ft bgs)**

0-0.5 gravel drill pad  
0.5-6 gravelly sand  
6-15 sandy gravel

**Plan**

Repair rig and complete the borehole.

Monday July 14, 2008

399-2-8

C6185

### Site Activities

Well development was performed at this well today. The pump and tremmie were removed from the borehole before the rig was moved from the well. See well development summary table for more information. Drawdown and recovery tests were recorded using transducer 5217. XD measurements were taken before pump was turned on and after recovery tests were performed.

#### Well Development Summary:

	<b>XD Initial (feet below water)</b>	<b>XD Final (feet below water)</b>	<b>Final Conductivity (<math>\mu</math>S)</b>	<b>Final pH</b>	<b>Starting Turbidity (NTU)</b>	<b>Final Turbidity (NTU)</b>	<b>Intake Depth (BGS)</b>	<b>Pump Rate (gpm)</b>	<b>Total Pumped (gal)</b>
<b>Test 1:</b>	8.971	8.962	476	7.56	764	1.63	40.0	50	1316
<b>Test 2:</b>	12.279	12.282	478	8.09	105	3.72	50.0	86	1533

	<b>Static Water Level (BGS)</b>	<b>Depth to Bottom (BGS)</b>
Start of Job:	29.5	56.4
End of Job:	29.5	56.4

#### Current Depths (ft bgs)

Bentonite pellets: 61.7 – 57.0  
10-20 silica sand: 57.0 – 28.6  
40-140 silica sand: 28.6 – 10.2  
Bentonite chips: 10.2 – 3.0  
Temporary 10-20 sand: 3.0 - 0

25 ft pvc screen (0.020") and end cap: 56.3 – 31.0  
4" ID pvc casing: 31.0 – ~5.0 ft ags

Borehole: 0  
~~7 5/8" single wall temporary casing: 0~~

#### Plan

No more work is scheduled. The surface pad has been poured and completed.

**Monday July 14, 2008**

**399-3-31**

**C6214**

### **Site Activities**

Well completion activities were initiated and completed at this borehole location today. Bentonite pellets were added to the borehole from 62.9 ft bgs to 59.8 ft bgs. The permanent pvc casing and screen was tripped into the hole, with the ERTs and thermistors taped to the outside. ERT string #16 was used for this well. The bottom of the well was set at 59.6 ft bgs, placing the ERTs at 58.6 for the first string and 33.6 for the second. The thermistors ran from 58.6 ft to 2.9 ft bgs. 10-20 silica sand was added to the borehole from 59.8 ft bgs to 51.2 ft bgs. This was followed by coated bentonite pellets which were added from 51.2 ft bgs to 46.0 ft bgs. 40-140 silica sand was added from 46.0 ft bgs to 9.2 ft bgs and bentonite chips were added from 9.2 ft to 3.6 ft bgs. A temporary placement of 10-20 silica sand was added from 3.6 ft bgs to surface. All temporary casing was removed from the borehole.

The centralizers were placed at the bottom of the sump and just below the screen, and the screen was surged at one interval.

### **Current Depths (ft bgs)**

Bentonite pellets: 62.9 – 59.8  
10-20 silica sand: 59.8 – 51.2  
Bentonite pellets: 51.2 – 46.0  
40-140 silica sand: 46.0 – 9.2  
Bentonite chips: 9.2 – 3.6  
Temporary 10-20 sand: 3.6 - 0

4 ft pvc sump and end cap: 59.6 – 55.2  
2 ft pvc screen (0.020"): 55.2 – 53.2  
4" ID pvc casing: 53.2 – ~5.0 ft ags

Borehole: 0  
~~7 5/8" single wall temporary casing: 0~~

### **Plan**

No work is currently scheduled for this well until development activities take place.

Tuesday July 15, 2008

399-2-7

C6184

### Site Activities

Well development was performed at this well today. The pump and tremmie were removed from the borehole before the rig was moved from the well. See well development summary table for more information. Drawdown and recovery tests were recorded using transducer 5217. XD measurements were taken before pump was turned on and after recovery tests were performed.

#### Well Development Summary:

	<b>XD Initial (feet below water)</b>	<b>XD Final (feet below water)</b>	<b>Final Conductivity (<math>\mu</math>S)</b>	<b>Final pH</b>	<b>Starting Turbidity (NTU)</b>	<b>Final Turbidity (NTU)</b>	<b>Intake Depth (BGS)</b>	<b>Pump Rate (gpm)</b>	<b>Total Pumped (gal)</b>
<b>Test 1:</b>	8.813	8.835	480	7.56	299	1.16	40.0	50	1380
<b>Test 2:</b>	16.042	16.023	475	7.69	322	2.66	50.0	86	1171

	<b>Static Water Level (BGS)</b>	<b>Depth to Bottom (BGS)</b>
Start of Job:	29.85	56.6
End of Job:	29.9	56.6

#### Current Depths (ft bgs)

Bentonite pellets: 62.0 – 56.7  
10-20 silica sand: 56.7 – 28.0  
40-140 silica sand: 28.0 – 9.7  
Bentonite chips: 9.7 – 2.6  
Temporary 10-20 sand: 2.6 - 0

25 ft pvc screen (0.020") and end cap: 56.3 – 31.0  
4" ID pvc casing: 31.0 – ~5.0 ft ags

Borehole: 0

~~7 5/8" single wall temporary casing: 0~~

#### Plan

No more work is scheduled. The surface pad has been poured and completed.

**Tuesday July 15, 2008**

**399-2-23**

**C6207**

### **Site Activities**

Well completion was initiated and completed at this borehole today. Bentonite pellets were added from 59.7 to 57.1 ft bgs. The permanent screen and casing was added to the borehole, with ERT string #19 being used. The bottom of the well was set at 56.3 ft bgs, with the ERTs and thermistors running from 33.5 to 3 ft bgs. 10-20 silica sand was added from 57.1 to 26.5 ft bgs, and 40-140 silica sand was added from 26.5 to 9.6 ft bgs. Bentonite chips were placed in the borehole from 9.6 to 3.0 ft bgs. 10-20 silica sand was placed from 3.0 to 2.0 ft bgs to prevent cave in of the hole. This material will be removed before surface completion activities take place. All temporary casing was removed from the borehole.

The centralizers were placed at the bottom of the sump and above the screen, and the screen was surged at two intervals.

### **Current Depths (ft bgs)**

Bentonite pellets: 59.7 – 57.1

10-20 silica sand: 57.1 – 26.5

40-140 silica sand: 26.5 – 9.6

Bentonite chips: 9.6 – 3.0

Temporary 10-20 sand: 3.0 – 2.0

25 ft pvc screen (0.020") and end cap: 56.3 – 31.0

4" ID pvc casing: 31.0 – ~5.0 ft ags

Borehole: 0

~~7 5/8" single wall temporary casing: 0~~

### **Plan**

No work is currently scheduled for this well until development activities take place.

**Tuesday July 15, 2008**

**399-2-27**

**C6204**

**Site Activities**

Well completion began at this borehole today. The casing jacks were setup on the borehole and the bentonite pellets were added from 59.6 to 58.0 ft bgs.

**Current Depths (ft bgs)**

Bentonite pellets: 59.6 – 58.0

Borehole: 58

7 5/8" single wall temporary casing: 57

**Plan**

Well completion activities will resume tomorrow.

**Wednesday July 16, 2008**

**399-2-22**

**C6202**

**Site Activities**

Attend the POD. Resumed drilling. The borehole was advanced from 45 to 65 ft bgs and the casing was advanced 45 to 60 ft bgs. Total depth was reached for this borehole. Seven grab samples were collected. RCT coverage was provided. The RCT reported readings at or below background. IH coverage was provided and the reading was less than detect.

**Sampling Performed**

A total of 7 grab samples were taken. A sample summary table is attached.

**Current Depths (ft bgs)**

Borehole 65  
7 5/8" single wall temporary casing 60  
Expected total depth = ~ 58  
Depth to water: ~ 26 ft

**Borehole Log Summary (ft bgs)**

0-0.5 gravel drill pad  
0.5-6 gravelly sand  
6-25 sandy gravel  
25-35 no recovery  
35-56 sandy gravel  
56-65 silt

**Plan**

Log the borehole and install a well.

**Wednesday July 16, 2008**

**399-2-11**

**C6188**

**Site Activities**

Attend POD. Rig and equipment was set-up on the location. The borehole and casing was advanced from the surface to 45 ft bgs. Twelve grab samples were collected. RCT coverage was provided. The RCT reported readings at or below background. IH daily coverage was provided and the reading was less than detect.

**Sampling Performed**

A total of 12 grab samples were taken. A sample summary table is attached.

**Current Depths (ft bgs)**

Borehole 45  
7 5/8" single wall temporary casing 45  
Expected total depth = ~ 58  
Depth to water: ~ 26 ft

**Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0.5-9	gravelly sand
9-29.5	silty sandy gravel
29.5-32	silt
32-45	sandy gravel

**Plan**

Complete the borehole.

**Wednesday July 16, 2008**

**399-3-27**

**C6204**

### **Site Activities**

Well completion resumed today. The permanent screen and casing was set at 56.4 ft bgs, with ERTs and thermistors set at 33.5 ft bgs. ERT string #20 was used. 10-20 silica sand was added to the borehole from 58.0 to 28.7 ft bgs, with 40-140 sand added from 28.7 to 9.7 ft bgs. Bentonite chips were added from 9.7 ft to 2.5 ft bgs. A temporary placement of 10-20 silica sand was added from 2.5 ft bgs to surface. This material will be removed prior to surface completion. All temporary casing was removed from the borehole.

Centralizers were placed at the bottom and top of the screen and the screen was surged in two separate intervals.

### **Current Depths (ft bgs)**

Bentonite pellets: 59.6 – 58.0

10-20 silica sand: 58.0 – 28.7

40-140 silica sand: 28.7 – 9.7

Bentonite chips: 9.7 – 2.5

Temporary 10-20 sand: 2.5 – 0

25 ft pvc screen (0.020") and end cap: 56.4 – 31.0

4" ID pvc casing: 31.0 - ~5 ft ags

Borehole: 0

~~7 5/8" single wall temporary casing: 0~~

### **Plan**

No work is scheduled until well development takes place.

Wednesday July 16, 2008

399-2-23

C6207

**Site Activities**

Well development was performed at this well today. The pump and tremmie were removed from the borehole before the rig was moved from the well. See well development summary table for more information. Drawdown and recovery tests were recorded using transducer 5217. XD measurements were taken before pump was turned on and after recovery tests were performed.

**Well Development Summary:**

	<b>XD Initial (feet below water)</b>	<b>XD Final (feet below water)</b>	<b>Final Conductivity (<math>\mu</math>S)</b>	<b>Final pH</b>	<b>Starting Turbidity (NTU)</b>	<b>Final Turbidity (NTU)</b>	<b>Intake Depth (BGS)</b>	<b>Pump Rate (gpm)</b>	<b>Total Pumped (gal)</b>
<b>Test 1:</b>	5.787	5.782	452	7.69	>1000	2.41	40.0	50	1407
<b>Test 2:</b>	15.740	15.718	459	7.76	329	4.49	50.0	86	1477

	<b>Static Water Level (BGS)</b>	<b>Depth to Bottom (BGS)</b>
Start of Job:	30.1	56.3
End of Job:	30.1	56.3

**Current Depths (ft bgs)**

Bentonite pellets: 59.7 – 57.1  
10-20 silica sand: 57.1 – 26.5  
40-140 silica sand: 26.5 – 9.6  
Bentonite chips: 9.6 – 3.0  
Temporary 10-20 sand: 3.0 – 2.0

25 ft pvc screen (0.020”) and end cap: 56.3 – 31.0  
4” ID pvc casing: 31.0 – ~5.0 ft ags

Borehole: 0  
~~7 5/8” single wall temporary casing: 0~~

**Plan**

No more work is scheduled until surface completion activities are done.

**Thursday July 17, 2008**

**399-2-11**

**C6188**

**Site Activities**

Attend POD. Drilling resumed. The borehole was advanced from 45 to 65 ft bgs and the casing was advanced from 45 to 60 ft bgs. Five grab samples were collected. Total depth was reached for this borehole. RCT coverage was provided. The RCT reported readings at or below background.

**Sampling Performed**

A total of 5 grab samples were taken. A sample summary table is attached.

**Current Depths (ft bgs)**

Borehole 65  
7 5/8" single wall temporary casing 60  
Expected total depth = ~ 58  
Depth to water: ~ 29 ft

**Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0.5-9	gravelly sand
9-29.5	silty sandy gravel
29.5-32	silt
32-48	sandy gravel
48-55.5	gravel
55.5-65	silt

**Plan**

Install the well.

**Thursday July 17, 2008**

**399-2-10**

**C6187**

**Site Activities**

Attend the POD. Set up the rig and equipment on location and began drilling. The borehole was advanced from the surface to 65 ft bgs and the casing was advanced the surface to 60 ft bgs. Total depth was reached for this borehole. Twenty-one grab samples were collected. RCT coverage was provided. The RCT reported readings at or below background.

**Sampling Performed**

A total of 21 grab samples were taken. A sample summary table will follow.

**Current Depths (ft bgs)**

Borehole 65  
7 5/8" single wall temporary casing 60  
Expected total depth = ~ 58  
Depth to water: ~ 29 ft

**Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0-10	gravelly sand
10-24	silty sandy gravel
24-26	silt
26-37.5	sandy gravel
37.5-42	silt
42-52	sandy gravel
52-56	gravel
56-65	silt

**Plan**

Install a well.

**Thursday July 17, 2008**

**399-2-27**

**C6211**

**Site Activities**

Attend POD. Rig and equipment was set-up on the location. The borehole and casing was advanced from the surface to 25 ft bgs. Nine grab samples were collected. IH coverage was provided and the reading was less than detect.

**Sampling Performed**

A total of 9 grab samples were taken. A sample summary table will follow.

**Current Depths (ft bgs)**

Borehole 25  
7 5/8" single wall temporary casing 25  
Expected total depth = ~ 58  
Depth to water: ~ 26 ft

**Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0.5-20	sandy gravel
20-25	silty sandy gravel

**Plan**

Complete the borehole.

Friday July 18, 2008

399-3-30

C6214

### Site Activities

Well development was performed at this well today. The pump and tremmie were removed from the borehole before the rig was moved from the well. See well development summary table for more information. Drawdown and recovery tests were recorded using transducer 5217. XD measurements were taken before pump was turned on and after recovery tests were performed.

#### Well Development Summary:

XD Initial (feet below water)	XD Final (feet below water)	Final Conductivity ( $\mu$ S)	Final pH	Starting Turbidity (NTU)	Final Turbidity (NTU)	Intake Depth (BGS)	Pump Rate (gpm)	Total Pumped (gal)
15.928	15.887	474	7.56	2.46	0.42	46	55	2080

	Static Water Level (BGS)	Depth to Bottom (BGS)
Start of Job:	30.9	60.1
End of Job:	30.9	60.0

#### Current Depths (ft bgs)

Bentonite pellets: 62.9 – 59.8  
10-20 silica sand: 59.8 – 51.2  
Bentonite pellets: 51.2 – 46.0  
40-140 silica sand: 46.0 – 9.2  
Bentonite chips: 9.2 – 3.6  
Temporary 10-20 sand: 3.6 - 0

4 ft pvc sump and end cap: 59.6 – 55.2  
2 ft pvc screen (0.020"): 55.2 – 53.2  
4" ID pvc casing: 53.2 – ~5.0 ft ags

Borehole: 0  
~~7 5/8" single wall temporary casing: 0~~

#### Plan

No more work is scheduled. The surface pad has been poured and completed.

Thursday July 17, 2008

399-2-20

C6198

### Site Activities

Well development was performed at this well today. The pump and tremmie were removed from the borehole before the rig was moved from the well. See well development summary table for more information. Drawdown and recovery tests were recorded using transducer 5217. XD measurements were taken before pump was turned on and after recovery tests were performed.

### Well Development Summary:

	<b>XD Initial (feet below water)</b>	<b>XD Final (feet below water)</b>	<b>Final Conductivity (<math>\mu</math>S)</b>	<b>Final pH</b>	<b>Starting Turbidity (NTU)</b>	<b>Final Turbidity (NTU)</b>	<b>Intake Depth (BGS)</b>	<b>Pump Rate (gpm)</b>	<b>Total Pumped (gal)</b>
<b>Test 1:</b>	7.223	7.183	459	7.63	1000	3.43	40.0	50	1475
<b>Test 2:</b>	18.633	18.571	469	7.62	354	5.52	50.0	86	1364

	<b>Static Water Level (BGS)</b>	<b>Depth to Bottom (BGS)</b>
Start of Job:	30.6	56.7
End of Job:	30.6	56.7

### Current Depths (ft bgs)

Bentonite pellets: 59.6 – 56.7  
10-20 silica sand: 56.7 – 28.8  
40-140 silica sand: 28.8 – 9.3  
Bentonite chips: 9.3 – 3.0  
Temporary 10-20 sand: 3.0 - 0

25 ft pvc screen (0.020") and end cap: 56.3 – 31.0  
4" ID pvc casing: 31.0 – ~5.0 ft ags

Borehole: 0  
~~7-5/8" single wall temporary casing: 0~~

### Plan

No more work is scheduled. The surface pad has been poured and completed.

Thursday July 17, 2008

399-2-16

C6193

### Site Activities

Well development was performed at this well today. The pump and tremmie were removed from the borehole before the rig was moved from the well. See well development summary table for more information. Drawdown and recovery tests were recorded using transducer 5217. XD measurements were taken before pump was turned on and after recovery tests were performed.

#### Well Development Summary:

	<b>XD Initial (feet below water)</b>	<b>XD Final (feet below water)</b>	<b>Final Conductivity (<math>\mu</math>S)</b>	<b>Final pH</b>	<b>Starting Turbidity (NTU)</b>	<b>Final Turbidity (NTU)</b>	<b>Intake Depth (BGS)</b>	<b>Pump Rate (gpm)</b>	<b>Total Pumped (gal)</b>
<b>Test 1:</b>	8.867	8.837	471	7.59	>1000	3.97	40.0	50	1467
<b>Test 2:</b>	17.096	17.021	469	7.57	224	7.57	50.0	86	1397

	<b>Static Water Level (BGS)</b>	<b>Depth to Bottom (BGS)</b>
Start of Job:	30.2	56.4
End of Job:	30.3	56.4

#### Current Depths (ft bgs)

Bentonite pellets: 61.7 – 57.2  
10-20 silica sand: 57.2 – 27.8  
40-140 silica sand: 27.8 – 10.0  
Bentonite chips: 10.0 – 2.7  
Temporary 10-20 sand: 2.7 - 0

25 ft pvc screen (0.020") and end cap: 56.3 – 31.0  
4" ID pvc casing: 31.0 – ~5.0 ft ags

Borehole: 0  
~~7 5/8" single wall temporary casing: 0~~

#### Plan

No more work is scheduled. The surface pad has been poured and completed.

Thursday July 17, 2008

399-3-27

C6204

### Site Activities

Well development was performed at this well today. The pump and tremmie were removed from the borehole before the rig was moved from the well. See well development summary table for more information. Drawdown and recovery tests were recorded using transducer 5217. XD measurements were taken before pump was turned on and after recovery tests were performed.

Note: an error with the pH meter did not allow for pH to be taken during the first test. A new meter was used for the second test.

### Well Development Summary:

	<b>XD Initial (feet below water)</b>	<b>XD Final (feet below water)</b>	<b>Final Conductivity (<math>\mu</math>S)</b>	<b>Final pH</b>	<b>Starting Turbidity (NTU)</b>	<b>Final Turbidity (NTU)</b>	<b>Intake Depth (BGS)</b>	<b>Pump Rate (gpm)</b>	<b>Total Pumped (gal)</b>
<b>Test 1:</b>	7.941	7.932	480	N/A	817	1.13	40.0	50	1524
<b>Test 2:</b>	2.511	2.501	481	7.51	36.0	0.97	50.0	84	1313

	<b>Static Water Level (BGS)</b>	<b>Depth to Bottom (BGS)</b>
Start of Job:	30.3	56.8
End of Job:	30.3	56.8

### Current Depths (ft bgs)

Bentonite pellets: 59.6 – 58.0

10-20 silica sand: 58.0 – 28.7

40-140 silica sand: 28.7 – 9.7

Bentonite chips: 9.7 – 2.5

Temporary 10-20 sand: 2.5 – 0

25 ft pvc screen (0.020") and end cap: 56.8 – 31.4

4" ID pvc casing: 31.4 - ~5 ft ags

Borehole: 0

~~7 5/8" single wall temporary casing: 0~~

### Plan

Surface completion is still needed at this well location.

**Friday July 18, 2008**

**399-2-27**

**C6211**

**Site Activities**

Drilling resumed from 25 ft bgs. Advanced hole to 63.5 ft bgs and casing to 60 ft bgs. Total depth was reached on this hole. 10 grab samples were collected. IH and RCT coverage was provided with all readings being non-detect.

**Sampling Performed**

A total of 10 grab samples were taken. A sample summary table is attached.

**Current Depths (ft bgs)**

Borehole 63.5  
7 5/8" single wall temporary casing 60  
Expected total depth = ~ 58  
Depth to water: ~ 26 ft

**Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0.5-20	sandy gravel
20-25	silty sandy gravel
25-35	silty sandy gravel
35-45	sandy gravel
45-55	no recovery
55-57.5	silty gravel
57.5 – 63.5	silt

**Plan**

Well construction will begin Monday morning following the POD.

**Friday July 18, 2008**

**399-3-32**

**C6215**

**Site Activities**

Began drilling at this location. Borehole was advanced from surface to 63.0 ft bgs. Casing was advanced from surface to 60 ft bgs. Total depth was reached on this borehole. 25 samples were collected. RCT and IH checks were performed with all readings non-detect.

**Sampling Performed**

A total of 25 grab samples were taken. A sample summary table is attached.

**Current Depths (ft bgs)**

Borehole 63.0  
7 5/8" single wall temporary casing 60  
Expected total depth = ~ 58  
Depth to water: ~ 26 ft

**Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0.5-7	sandy gravel
7-28	silty sandy gravel
28-29	silt
29-56	sandy gravel
56-63	silt

**Plan**

Well construction will begin Monday morning following the POD.

**Monday July 21, 2008**

**399-2-27**

**C6211**

### **Site Activities**

Well completion began today. The bentonite pellets were added from 63.4 ft to 59.0 ft bgs. The permanent screen and casing was tripped-in to the borehole, with the bottom of the sump set at 58.5 ft bgs. ERTs and thermistors were attached to the permanent well from 58.5 to surface, with ERT string #21 being used. 10-20 silica sand was added to a depth 50.5 ft bgs.

Centralizers were placed at the bottom of the sump and just below the screen and the screen was surged at one interval.

### **Current Depths (ft bgs)**

Bentonite pellets: 63.4 – 59.0

10-20 silica sand: 59.0 – 50.5

2 ft sump and end cap: 58.5 – 56.1

2 ft pvc screen (0.020"): 56.1 – 54.1

4" ID pvc casing: 54.1 - ~6 ft ags

Borehole: 50.5

7 5/8" single wall temporary casing: 51.5

### **Plan**

Well construction will continue tomorrow morning.

**Tuesday July 22, 2008**

**399-2-27 (C6211)**

**Site Activities**

Well completion resumed today. Continued adding 10-20 silica sand to a depth 52.0 ft bgs. During addition of bentonite pellets from 52 to 47 ft bgs, bridging occurring at approximately 34 ft in area of lower and upper string ERT/thermistor overlap. Construction was stopped and well casing removed from hole. After removal ERT/thermistor strings were tested and showed proper function.

Hole will be cleaned out and construction will be reinitiated later.

**399-3-23 (C6194)**

**Site Activities**

Well construction restarted and completed today. Bottom pellets had been placed on 7/17/08. Completed addition of 10-20 sand, 40-140 sand, bentonite chips. Centralizers placed on end cap and directly above top of screen. ERT/thermistor strings attached from 33.5 ft bgs to surface. Upper and lower portion of screened interval surged.

**Completion Depths (ft bgs)**

Bentonite pellets: 65.2 – 56.3

10-20 silica sand: 56.3 – 29

40-140 sand: 29 - 10.2

Bentonite chips: 10.2 – 3

Fill sand to temporarily stabilize top of hole: 3 - surface

End cap: 56.4 – 56.0

PVC Screen: 56.0-31.0

Blank PVC casing: 31- surface

Current PVC casing stickup: 6 ft

**399-3-24 (C6199)**

Well construction began today. Setup and added bentonite pellets to bottom of hole. Bottom of casing at 56.3 ft bgs.

**Completion Depths (ft bgs)**

Bentonite pellets: 63.4 – 57.6

**Plan**

Well construction will continue tomorrow morning.

**Tuesday July 22, 2008**  
**399-2-25**  
**C6209**

**Site Activities**

Began drilling at this borehole location today. Rig and equipment had been set-up yesterday. Borehole was advanced from surface to 67 ft bgs, casing was advanced from surface to 60 ft bgs. A total of 50 samples were collected. RCT checks were performed on an AM/PM basis with all readings at or below background. IH checked the borehole following lunch with readings non-detect.

Following the last split-spoon samples taken, bentonite pellets were added to the borehole to prevent transmission through mud layers. Current depth is 62.5 ft bgs. Stoller set-up to geophysically log the borehole tonight.

**Sampling Performed**

A total of 50 grab samples were taken. A sample summary table will follow.

**Current Depths (ft bgs)**

Borehole	62.5	7 5/8" single wall temporary casing	60
Expected total depth =	~ 180	Depth to water:	~ 30 ft

**Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0.5-6.5	gravelly sand
6.5-10	silty sandy gravel
10-12.5	gravelly sand
12.5-15	silty gravel
15-19	gravelly sand
19-20	silty gravel
20-21.5	gravelly sand
21.5-23	silty gravel
23-29	sandy gravel
29-31	silty gravel
31-39	silty sandy gravel
39-43.5	silt
43.5-47.5	silty gravel
47.5-49	silt
49-49.5	sandy gravel
49.5-50	silty sandy gravel
50-52.5	silt
52.5-53	gravelly sand
53-70	silt

**Plan**

Geophysical logging is expected to be completed tomorrow morning. Drilling will resume from 62.5 ft bgs with the 8" casing.

**Wednesday July 23, 2008**  
**399-2-25**  
**C6209**

**Site Activities**

Continued drilling at this location. 8" casing was tripped-in to the borehole to 62.5 ft bgs. The borehole was advanced from 62.5 ft to 90 ft bgs, and the 8" casing was advanced from 62.5 ft to 85 ft bgs. RCT check showed all readings at or below background and IH checks showed all readings as non-detect. A total of 9 samples were collected.

**Sampling Performed**

A total of 9 grab samples were taken. A sample summary table will follow.

**Current Depths (ft bgs)**

Borehole	90	9 5/8" single wall temporary casing	60
7 5/8" single wall temporary casing	85	Expected total depth =	~ 180
Depth to water:	~ 30 ft		

**Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0.5-6.5	gravelly sand
6.5-10	silty sandy gravel
10-12.5	gravelly sand
12.5-15	silty gravel
15-19	gravelly sand
19-20	silty gravel
20-21.5	gravelly sand
21.5-23	silty gravel
23-29	sandy gravel
29-31	silty gravel
31-39	silty sandy gravel
39-43.5	silt
43.5-47.5	silty gravel
47.5-49	silt
49-49.5	sandy gravel
49.5-50	silty sandy gravel
50-52.5	silt
52.5-53	gravelly sand
53-70	silt
70-71	sand (possible slough material)
71-86	silty sandy gravel

**Plan**

Drilling will resume tomorrow morning in an attempt to reach the RLM.

**Wednesday July 23, 2008**

**399-3-23 (C6194)**

**Site Activities**

Well construction began and completed today. Completed addition of bentonite pellets, 10-20 sand, 40-140 sand and bentonite chips. Centralizers placed on end cap and above as well as below screen. Screened interval surged.

**Completion Depths (ft bgs)**

Coated Bentonite pellets:	62.1 – 59.8
10-20 silica sand:	59.8 – 39.3
Coated Bentonite pellets:	39.3 – 36.9
10-20 silica sand:	36.9 – 28.3
Bentonite chips:	28.3 – 3.7
Temporary 40-140 sand:	3.7 – ground surface
4" ID End cap and sump:	59.4 – 35.0
4" ID PVC Screen:	35.0 – 30.0
Blank PVC casing:	30.0 – 0.0
PVC casing stickup:	5 ft ags

**Plan**

Well construction will continue tomorrow morning.

**Wednesday July 23, 2008**

**399-3-24 (C6199)**

**Site Activities**

Well construction was continued from yesterday and completed today. Bottom bentonite pellets had been placed on 7/22/08. Completed addition of well casing, 10-20 sand pack, 40-140 sand pack for ERT probes, bentonite chips for surface seal. Centralizers placed on end cap and directly above top of screen. ERT/thermistor strings attached from 33.5 ft bgs to surface. Upper and lower portion of screened interval surged.

**Completion Depths (ft bgs)**

Bentonite pellets: 63.4 – 57.3

10-20 silica sand: 57.3 – 29

40-140 sand: 29 - 9.8

Bentonite chips: 9.8 – 3

Fill sand to temporarily stabilize top of hole: 3 – slightly below surface

End cap: 56.4 – 56.0

25 ft PVC 20-slot Screen: 56.0 - 31.0

Blank PVC casing: 31- surface

Current PVC casing stickup: 5 ft

**Plan**

Well construction will begin at a new location tomorrow morning.

Thursday July 24, 2008

**399-2-11 (C6188)**

**Site Activities**

Well construction started and completed today. Bottom of hole measured at 63.1 ft bgs. Completed addition of bottom pellets, 10-20 sand, 40-140 sand, and bentonite chips. Centralizers placed on end cap and directly above top of screen. ERT/thermistor strings attached from 33.5 ft bgs to surface. Upper and lower portion of screened interval surged.

**Completion Depths (ft bgs)**

Bentonite pellets: 63.1 – 57

10-20 silica sand: 57 – 29

40-140 sand: 29 - 10.2

Bentonite chips: 10.2 – 3.1

Fill sand to temporarily stabilize top of hole: 3.1 - surface

End cap: 56.4 – 56.0

PVC Screen: 56.0-31.0

Blank PVC casing: 31- surface

Current PVC casing stickup: 5 ft

**399-3-28 (C6205)**

**Site Activities**

Well construction was started today. Bottom of the borehole measured at 61.2 ft bgs. Bottom bentonite pellets placed from 61.2 – 57.9 ft bgs. Minor plugging of pellets at bottom of drive casing was cleared during emplacement. To eliminate further problems, pellets only brought up to 57.8 ft bgs. Completed addition of well casing with centralizers placed on end cap and directly above top of screen. ERT/thermistor strings attached from 33.5 ft bgs to surface. Completed pouring 10-20 sand pack to 45.1 ft bgs. Surge of lower screen interval was completed.

**Completion Depths (ft bgs)**

Bentonite pellets: 61.2 – 57.8

Current 10-20 silica sand: 57.8 – 45.1

End cap: 56.4 – 56.0

25 ft PVC 20-slot Screen: 56.0 - 31.0

Blank PVC casing: 31- surface

Current PVC casing stickup: 4 ft

**Plan**

Well construction will resume tomorrow morning.

**Thursday July 24, 2008**  
**399-2-25**  
**C6209**

**Site Activities**

Drilling continued from 90 ft bgs. The borehole was advanced from 90 ft to 130 ft bgs, and the temporary 8" casing was advanced to 123 ft bgs. RCT AM check reported all readings at or below background and the morning IH check reported all readings non-detect. A total of 29 samples were collected.

Stoller moved onto the borehole for geophysical logging.

**Sampling Performed**

A total of 29 grab samples were taken. A sample summary table is attached.

**Current Depths (ft bgs)**

Borehole	130	9 5/8" single wall temporary casing	60
7 5/8" single wall temporary casing	123	Expected total depth =	~ 180
Depth to water:	~ 30 ft		

**Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0.5-6.5	gravelly sand
6.5-10	silty sandy gravel
10-12.5	gravelly sand
12.5-15	silty gravel
15-19	gravelly sand
19-20	silty gravel
20-21.5	gravelly sand
21.5-23	silty gravel
23-29	sandy gravel
29-31	silty gravel
31-39	silty sandy gravel
39-43.5	silt
43.5-47.5	silty gravel
47.5-49	silt
49-49.5	sandy gravel
49.5-50	silty sandy gravel
50-52.5	silt
52.5-53	gravelly sand
53-70	silt
70-71	sand (possible slough material)
71-121	silty sandy gravel
121-128	silt
128-130	sandy silt

**Plan**

Drilling will resume tomorrow following the completion of drilling activities at borehole C6217.

**Thursday July 24, 2008**

**399-2-30**

**C6217**

**Site Activities**

Drilling began at this location after the RLM was reached at borehole C6209. The borehole was advanced from surface to 25 ft bgs, and the temporary 8" casing was advanced from surface to 15 ft bgs. RCt check showed all readings at or below background. A total of 18 samples were collected.

**Sampling Performed**

A total of 18 grab samples were taken. A sample summary table is attached.

**Current Depths (ft bgs)**

Borehole 25  
7 5/8" single wall temporary casing 15  
Expected total depth = ~ 65  
Depth to water: ~ 30 ft

**Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0.5-4	sandy gravel
4-5	sand
5-6.5	sandy gravel
6.5-11	silty sandy gravel
11-18	silty gravel
18-20	silty sandy gravel
20-25	sandy gravel

**Plan**

Drilling will resume tomorrow morning following the POD.

**Friday July 25, 2008**

**399-3-28 (C6205)**

**Site Activities**

Well construction was resumed today.

Surging of the upper screened interval was completed and the 10 – 20 mesh silica topped out at 25.75 ft bgs. 40-140 mesh silica had been added to the borehole and temporary casing back-pulled to a stick up of +10 ft above ground surface, when a completion rig malfunction concerning the hydraulic oil pump/holding tank temporarily suspended further activities until Monday (July 28, 2008).

**Completion Depths (ft bgs)**

Bentonite pellets: 61.2 – 57.8  
10 – 20 silica sand: 57.8 – 25.75  
40 – 140 silica sand: 25.75 – TBD  
Bentonite chips: TBD  
Portland cement: TBD

End cap: 56.4 – 56.0  
25 ft PVC 20-slot Screen: 56.0 - 31.0  
Blank PVC casing: 31- surface  
Current PVC casing stickup: 4 ft

**Plan**

Well construction will resume Monday (July 28, 2008) morning following the POD (0600 hrs).

**Friday July 25, 2008**  
**399-2-25**  
**C6209**

**Site Activities**

Drilling continued from 130 ft bgs. The borehole was advanced to a total depth of 171 ft bgs, where refusal was reached. The temporary 6" casing was advanced to a depth of 167 ft bgs. RCT check reported all readings at or below background. A total of 24 samples were collected.

Equipment was moved to allow Stoller to geophysically log the hole this weekend.

**Sampling Performed**

A total of 24 grab samples were taken. A sample summary table is attached.

**Current Depths (ft bgs)**

Borehole	171	9 5/8" single wall temporary casing	60
7 5/8" single wall temporary casing	123	5 7/8" single wall temporary casing	167
Expected total depth = ~ 180		Depth to water: ~ 30 ft	

**Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0.5-6.5	gravelly sand
6.5-10	silty sandy gravel
10-12.5	gravelly sand
12.5-15	silty gravel
15-19	gravelly sand
19-20	silty gravel
20-21.5	gravelly sand
21.5-23	silty gravel
23-29	sandy gravel
29-31	silty gravel
31-39	silty sandy gravel
39-43.5	silt
43.5-47.5	silty gravel
47.5-49	silt
49-49.5	sandy gravel
49.5-50	silty sandy gravel
50-52.5	silt
52.5-53	gravelly sand
53-70	silt
70-71	sand (possible slough material)
71-121	silty sandy gravel
121-128	silt
128-162	sandy silt
162-163	silt (clay)
163-171	clay/very weathered basalt

**Plan**

Well construction will begin when construction plan becomes available.

**Friday July 25, 2008**

**399-2-30**

**C6217**

### **Site Activities**

Drilling resumed from 25 ft bgs. The borehole was advanced from 25 to a total depth of 64 ft bgs. The temporary 8" casing was advanced from 15 to 59 ft bgs. AM RCT check showed all readings at or below background, and the IH check had all readings as non-detect. A total of 17 samples were collected today.

### **Sampling Performed**

A total of 17 grab samples were taken. A sample summary table is attached.

### **Current Depths (ft bgs)**

Borehole 64  
7 5/8" single wall temporary casing 59  
Expected total depth = ~ 65  
Depth to water: ~ 30 ft

### **Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0.5-4	sandy gravel
4-5	sand
5-6.5	sandy gravel
6.5-11	silty sandy gravel
11-18	silty gravel
18-20	silty sandy gravel
20-35	silty sandy gravel
35-36	silty gravel
36-47	gravelly sand
47-52	silt
52-55.5	gravelly sand
55.5-64	silt

### **Plan**

Well construction will begin when a construction plan is received.

**Monday July 28, 2008**

**399-2-10**

**C6187**

**Site Activities**

Following the morning POD, set up the rig over the borehole and deepened the hole to 67.5 ft bgs. The temporary casing was advanced from 60 to 65 ft bgs. The drill rig then moved off the hole and Stoller setup to geophysically log the addition.

**Current Depths (ft bgs)**

Borehole 67.5  
7 5/8" single wall temporary casing 65  
Expected total depth = ~ 58  
Depth to water: ~ 29 ft

**Borehole Log Summary (ft bgs)**

0-0.5	gravel drill pad
0-10	gravelly sand
10-24	silty sandy gravel
24-26	silt
26-37.5	sandy gravel
37.5-42	silt
42-52	sandy gravel
52-56	gravel
56-67.5	silt

**Plan**

Well construction will take place as soon as a well design is approved.

**Monday July 28, 2008**

**399-2-27**

**C6211**

**Site Activities**

After finishing at C6187, moved rig over borehole to re-drill to 60 ft bgs. Advanced borehole from 45 to 63.2 ft bgs. The temporary casing was advanced from 35 to 60 ft bgs. The drill rig was then moved to C6215 for well construction.

**Current Depths (ft bgs)**

Borehole 63  
7 5/8" single wall temporary casing 60  
Expected total depth = ~ 60  
Depth to water: ~ 30 ft

**Plan**

Well construction will begin when a construction plan is received.

**Monday July 28, 2008**

**399-3-32**

**C6215**

### **Site Activities**

Began well construction activities. The bentonite fill was placed from 62 to 58.0 ft bgs. The permanent casing and screen was tripped in with the bottom of the well set at 56.6 ft bgs. 10-20 silica sand was placed from 58.0 to 47.4 ft bgs. A 2 ft bentonite seal was placed from 47.4 to 46.0 ft bgs, with more 10-20 sand being added from 46.0 to 39.6 ft bgs. A second seal of bentonite pellets was placed from 39.6 to 34.2 ft bgs. Bentonite was added from 34.2 ft to 3.0 ft bgs. All temporary casing was removed from the borehole.

The screen was surged at one interval and centralizers were placed at the bottom of the sump and the top of the screen.

### **Current Depths (ft bgs)**

Bentonite chips: 62.0 - 58.0

10-20 silica sand: 58.0 – 47.4

Bentonite pellets: 47.4 – 46.0

10-20 silica sand: 46.0 – 39.6

Bentonite pellets: 39.6 – 3.0

12-ft sump and end cap: 56.6 – 44.2

2-ft screen (0.020): 44.2 - 42.2

4" PVC riser: 42.2 - ~4 ft ags

Borehole: 3

~~7 5/8" single wall temporary casing: 0~~

### **Plan**

Well development will take place later this week.

**Monday July 28, 2008**  
**399-3-28 (C6205)**

**Site Activities**

Well construction was completed today.

The 40-140 silica was placed down-hole as well as the bentonite chips (depths listed below). All temporary casing was removed from the ground. C6205 is currently awaiting well development and final flush mount well pad construction.

**Completion Depths (ft bgs)**

Bentonite pellets: 61.2 – 57.8

10 – 20 silica sand: 57.8 – 25.75

40 – 140 silica sand: 25.75 – 10.3

Bentonite chips: 10.3 - 3

Portland cement: To be placed at a later time. Three feet of 40-140 silica was added as a place holder.

End cap: 56.4 – 56.0

25 ft PVC 20-slot Screen: 56.0 - 31.0

Blank PVC casing: 31- surface

Current PVC casing stickup: 4 ft

**399-2-22 (C6202)**

**Site Activities**

Well construction was begun today. However, due to a miscommunication between the Drilling Contactor and the Geologist concerning the well design, as well as a bridging of material, the PVC screen and riser pipe were pulled from the ground. Regrettably, in the process of pulling the screen from the hole, the screen pulled apart, leaving ~ 20 ft of PVC screen in the ground (both the thermistors and the ERT with pulled out of the hole without incident). Drilling Contractors will re-drill the C6202 borehole tomorrow morning. Upon finishing the re-drill, well construction activities will begin again.

**Completion Depths (ft bgs)**

N/A

**399-2-27 (C6211)**

**Site Activities**

Well construction was begun today.

The 10-20 silica, bentonite pellets, and a portion of the 40-140 silica were placed down-hole (depths listed below) today. The well has also been sufficiently surged and the filter pack settled. The remainder of the 40-140 silica and bentonite chips will be placed tomorrow. 15 ft of temporary casing has been removed from the borehole. 50.7 ft remains in the ground.

Thermistors and ERT (# 0021) were installed per the well design. Construction will continue tomorrow morning.

**Completion Depths (ft bgs)**

10 – 20 silica sand: 62.2 – 51.4

Bentonite Pellets: 51.4 – 46.4

40 – 140 silica sand: 46.4 – TBD

Bentonite chips: TBD

Portland cement: To be placed at a later time.

End cap: 59.1 – 58.7

2 ft PVC 20-slot Screen: 58.7 – 56.7

Blank PVC casing: 56.7- surface

Current PVC casing stickup: TBD ft

**Plan**

Activities will resume Tuesday (July 29, 2008) morning following the POD (0600 hrs) for C6211 [well construction] and C6202 [re-drilling/well construction].

**Tuesday July 29, 2008**

**399-2-22**

**C6202**

### **Site Activities**

Set up rig over borehole. Cleaned out borehole from yesterday, retrieved all PVC screen left in the hole from yesterday. Advanced the borehole from 34 ft to 61.7 ft bgs. Advanced the temporary casing from 40 to 60 ft bgs.

After hole was cleaned out, well construction began at this borehole. Bentonite pellets were added from 61.7 to 59.5 ft bgs. The permanent pvc screen and casing was tripped into the borehole, with the bottom of the well set at 58.9 ft bgs. Thermistors and ERTs were placed from 34.1 ft bgs to surface. ERT string #26 was used on this well. 10-20 sand was added from 59.5 to 29.5 ft bgs, and 40-140 silica sand was added from 29.5 to 9 ft bgs. Bentonite chips were placed in the borehole from 9 ft bgs to surface. The excess bentonite chips will be removed to 3 ft bgs prior to surface completion.

Centralizers were placed at the bottom of the sump and at the top of the screen, and the screen was surged at two separate intervals.

### **Current Depths (ft bgs)**

Bentonite pellets: 61.7 - 59.5  
10-20 silica sand: 59.5 – 29.5  
40-140 silica sand: 29.5 – 9.0  
Bentonite chips: 9.0 – 0.0

25-ft screen (0.020 slot) and end cap: 58.9 - 33.4  
4" pvc riser: 33.4 - ~4 ft ags

Borehole: 0  
~~7 5/8" single wall temporary casing: 0~~

### **Plan**

Well development will take place later this week.

**Tuesday July 29, 2008**

**399-2-30**

**C6217**

**Site Activities**

Began well construction activities. Bentonite fill was placed from 64.0 to 60.0 ft bgs. The permanent casing and screen was tripped in with the bottom of the well set at 58.9 ft bgs. 10-20 silica sand was placed from 60.0 to 52.0 ft bgs. A 5 ft bentonite seal was placed from 52.0 to 47.0 ft bgs. 10-140 silica sand was placed from 47.0 to 10.0 ft bgs. Bentonite was added from 10.0 ft to 3.0 ft bgs. All temporary casing was removed from the borehole.

The screen was surged at one interval and centralizers were placed at the bottom of the sump and the top of the screen.

**Current Depths (ft bgs)**

Bentonite pellets: 64.0 - 60.0  
10-20 silica sand: 60.0 – 52.0  
Bentonite pellets: 52.0 – 47.0  
10-140 silica sand: 47.0 – 10.0  
Bentonite chips: 10.0 – 3.0

3-ft sump and end cap: 58.9 – 56.0  
2-ft screen (0.020): 56.0 – 54.0  
4" PVC riser: 54.0 - ~6 ft ags

Borehole: 3  
~~7 5/8" single wall temporary casing: 0~~

**Plan**

Well development will take place later this week.

**Tuesday July 29, 2008**

**399-2-27**

**C6211**

**Site Activities**

Resumed well construction activities. 10-140 silica sand was placed from 47.0 to 10.0 ft bgs. Bentonite was added from 10.0 ft to 3.0 ft bgs. All temporary casing was removed from the borehole.

**Completion Depths (ft bgs)**

10 – 20 silica sand: 62.2 – 51.4

Bentonite Pellets: 51.4 – 46.4

40 – 140 silica sand: 46.4 – 10.0

Bentonite chips: 10.0 – 3.0

Portland cement: To be placed at a later time.

End cap: 59.1 – 58.7

2 ft PVC 20-slot Screen: 58.7 – 56.7

Blank PVC casing: 56.7- surface

Current PVC casing stickup: ~6 ft

**Plan**

Well development will take place later this week.

Wednesday July 30, 2008

399-2-30

C6217

**Site Activities**

Well development was performed at this well today. The pump and tremmie were removed from the borehole before the rig was moved from the well. See well development summary table for more information. Drawdown and recovery tests were recorded using transducer 5217. XD measurements were taken before pump was turned on and after recovery tests were performed.

**Well Development Summary:**

	<b>XD Initial (feet below water)</b>	<b>XD Final (feet below water)</b>	<b>Final Conductivity (<math>\mu</math>S)</b>	<b>Final pH</b>	<b>Starting Turbidity (NTU)</b>	<b>Final Turbidity (NTU)</b>	<b>Intake Depth (BGS)</b>	<b>Pump Rate (gpm)</b>	<b>Total Pumped (gal)</b>
<b>Test 1:</b>	15.403	15.420	496	7.70	13.1	1.44	50.0	26	446

	<b>Static Water Level (BGS)</b>	<b>Depth to Bottom (BGS)</b>
Start of Job:	30.74	59.3
End of Job:	30.73	59.3

**Current Depths (ft bgs)**

Bentonite pellets: 64.0 - 60.0  
10-20 silica sand: 60.0 – 52.0  
Bentonite pellets: 52.0 – 47.0  
10-140 silica sand: 47.0 – 10.0  
Bentonite chips: 10.0 – 3.0

3-ft sump and end cap: 58.9 – 56.0  
2-ft screen (0.020): 56.0 – 54.0  
4" PVC riser: 54.0 - ~0.8 ags

Borehole: 3  
~~7 5/8" single wall temporary casing: 0~~

**Plan**

No more work is scheduled until surface completion activities are done.

**Wednesday July 30, 2008**

**399-3-32**

**C6215**

**Site Activities**

The well was prepared for final well development today. The pump intake was set at 41.7' bgs.

**Well Development Summary:**

	<b>Static Water Level (BGS)</b>	<b>Depth to Bottom (BGS)</b>
Start of Job:	33.2	58.3
End of Job:	n/a	n/a

**Current Depths (ft bgs)**

Bentonite chips: 62.0 - 58.0

10-20 silica sand: 58.0 – 47.4

Bentonite pellets: 47.4 – 46.0

10-20 silica sand: 46.0 – 39.6

Bentonite pellets: 39.6 – 3.0

12-ft sump and end cap: 56.6 – 44.2

2-ft screen (0.020): 44.2 - 42.2

4" PVC riser: 42.2 – ground surface

**Plan**

Well development will take place tomorrow.

**Wednesday July 30, 2008**

**399-2-10**

**C6187**

### **Site Activities**

Following the morning POD, began well construction activities. Bentonite fill was placed from 66.8 to 62.0 ft bgs. The permanent casing and screen was tripped in with the bottom of the well set at 60.0 ft bgs. ERT string # 0027 and thermistors were set at 58.5 ft bgs. The second set of ERTs were set at 33.5 ft bgs. 10-20 silica sand was placed from 62.0 to 31.7 ft bgs. 10-140 silica sand was placed from 31.7 to 10.0 ft bgs. Bentonite was added from 10.0 ft to 3.0 ft bgs. All temporary casing was removed from the borehole.

The screen was surged at two intervals and centralizers were placed at the bottom of the sump and the top of the screen.

### **Current Depths (ft bgs)**

Bentonite pellets: 66.8 – 62.0  
10-20 silica sand: 62.0 – 31.7  
40-140 silica sand: 31.7 – 10.0  
Bentonite chips: 10.0 – 3.0

End cap: 60.0 – 59.6  
25-ft screen (0.020): 59.6 – 34.7  
4" PVC riser: 34.7 – 5.3' ags

### **Plan**

Well development will take place sometime Thursday or Friday this week.

**Wednesday July 30, 2008**

**399-2-25**

**C6209**

### **Site Activities**

Well construction was initiated at this borehole location today. Bentonite pellets were added from 170.8 ft to 138.6 ft bgs, with bentonite chips added from 138.6 to 125.0 ft bgs. The permanent PVC screen and casing was tripped-in to the borehole from 124.9 ft bgs to 8 ft ags. 20-40 silica sand was added from 125.0 ft to 60.3 ft bgs. All of the temporary 6" and 8" casing was removed from the borehole. Bentonite pellets were added from 60.3 to 57.7 ft and bentonite chips were placed from 57.7 to 55.5 ft bgs.

Centralizers were every 20 feet from the bottom of the sump to 20 feet bgs. The screen was surged at 3 separate intervals.

### **Current Depths (ft bgs)**

Bentonite pellets: 170.8-138.6

Bentonite chips: 138.6-125.0

20-40 mesh silica sand: 125.0-60.3

Bentonite pellets: 60.3-57.7

Bentonite chips: 57.7-55.5

Borehole 55.5

9 5/8" single wall temporary casing 60

~~7 5/8" single wall temporary casing 0~~

~~5 7/8" single wall temporary casing 0~~

Expected total depth = ~ 180

Depth to water: ~ 30 ft

### **Plan**

Well construction will resume tomorrow.

**Thursday July 31, 2008**

**399-2-25**

**C6209**

### **Site Activities**

Well construction resumed this morning following the POD. Bentonite chips were added from 55.0 to 3.0 ft bgs. All temporary casing and shoe were removed from the borehole. Well construction is now complete at this location. The rig was moved off the borehole in preparation for exit scanning and removal from the site. An RCT scanned all the 6" and 8" casing this morning for clearance to leave site. All readings were at or below background.

### **Current Depths (ft bgs)**

Bentonite pellets: 170.8-138.6

Bentonite chips: 138.6-125.0

20-40 mesh silica sand: 125.0-60.3

Bentonite pellets: 60.3-57.7

Bentonite chips: 57.7-3.0

4" 2.5 ft PVC sump with end cap: 124.9 – 122

4" PVC screen, 60 ft, 0.010": 122 - 62

4" PVC riser: 62 - ~3.5 ft ags

Borehole 3.0

~~9 5/8" single wall temporary casing 0~~

~~7 5/8" single wall temporary casing 0~~

~~5 7/8" single wall temporary casing 0~~

### **Plan**

Well development is planned for tomorrow. Surface completion will follow.

Thursday, July 31, 2008  
399-3-32  
C6215

**Site Activities**

Well development activities took place at this well. The pump and tremmie were removed from the borehole post development. See well development summary table below for detailed information. Drawdown and recovery tests were recorded using a 20 psi transducer #5217. XD was taken before and after development activities.

**Final Well Development Parameters**

Interval #	Intake Depth (bgs)	DTW (ft bgs)	DTB (ft bgs)	XD Initial (ft below water)	XD Final (ft below water)	Conductivity (mS)	pH	Turbidity Initial (NTU)	Turbidity Final (NTU)
1	41	30.6	58.6	5.57	5.56	0.483	7.4	514	7.99
2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Screen interval: 42-44 ft bgs

**Plan**

Continue work as scheduled.

Thursday, July 31, 2008  
399-2-27  
C6211

**Site Activities**

Well development activities took place at this well. The pump and tremmie were removed from the borehole post development. See well development summary table below for detailed information. Drawdown and recovery tests were recorded using a 20 psi transducer #5217. XD was taken before and after development activities.

**Final Well Development Parameters**

Interval #	Intake Depth (bgs)	DTW (ft bgs)	DTB (ft bgs)	XD Initail (ft below water)	XD Final (ft below water)	Conductivity (mS)	pH	Turbidity (NTU)
1	51	30.6	59.15	14.44	14.34	5	7.68	8.36
2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Plan**

Continue work as scheduled.

Thursday, July 31, 2008  
399-2-22  
C6202

**Site Activities**

Well development activities took place at this well. The pump and tremmie were removed from the borehole post development. See well development summary table below for detailed information. Drawdown and recovery tests were recorded using a 20 psi transducer #5217. XD was taken before and after development activities.

**Final Well Development Parameters**

Interval #	Intake Depth (bgs)	DTW (ft bgs)	DTB (ft bgs)	XD Initail (ft below water)	XD Final (ft below water)	Turbidity (NTU)	Temp (°C)	DO (mg/L)	pH	Conductivity (mS)
1	40.2	30.4	59	5.33	5.28	1000	18.9	8.21	7.46	0.488
2	50.2	30.4	59	5.29	5.29	>1000	18.8	8.24	7.64	0.491

Screen interval: 33.4-58.5 ft bgs

**Plan**

Continue work as scheduled.

Thursday, July 31, 2008  
399-2-26  
C6210

**Site Activities**

Well development activities took place at this well. The pump and tremmie were removed from the borehole post development. See well development summary table below for detailed information. Drawdown and recovery tests were recorded using a 20 psi transducer #5217. XD was taken before and after development activities.

**Final Well Development Parameters**

Interval #	Intake Depth (bgs)	DTW (ft bgs)	DTB (ft bgs)	XD Initail (ft below water)	XD Final (ft below water)	Turbidity (NTU)	Temp (°C)	DO (mg/L)	pH	Conductivity (mS)
1	41.5	30.7	59.7	4.72	4.64	1.82	18.9	8.15	7.36	0.511

Screen interval: 30-35 ft bgs

**Plan**

Continue work as scheduled.

Thursday, July 31, 2008  
399-2-10  
C6287

**Site Activities**

Well development activities took place at this well. The pump and tremmie were removed from the borehole post development. See well development summary table below for detailed information. Drawdown and recovery tests were recorded using a 20 psi transducer #5217. XD was taken before and after development activities.

**Environmental Screening as of July 31, 2008**

RCT covered AM/PM checks. RCT reported elevated readings from the 5/16" cable on the pump-installation rig. Readings were taken from a large area smear therefore producing higher readings than a single surveyed section of cable. Single surveyed sections (approximately 10-15cm in length) of the cable produced no elevated readings.

RCT readings are as follows:

2k dpm above background beta/gamma w/ Thermo using large area wipe. No report on quantitative tech smear.

700 dpm above background alpha w/ Thermo; Decayed to background within 1 hour.

**Environmental Screening as of August 1, 2008.**

A follow up screening was performed and the cable and related working surfaces were reported to be at or below background for beta, gamma and alpha with a Thermo.

**Final Well Development Parameters**

Interval #	Intake Depth (bgs)	DTW (ft bgs)	XD Initail (ft below water)	XD Final (ft below water)	Turbidity (NTU)	Temp (°C)	DO (mg/L)	pH	Conductivity (mS)
1	41	30.7	6.05	6.07	8.36	18.8	8.45	7.46	0.502
2	51	30.7	6.1	6.08	1.58	18.8	8.74	7.67	0.501

Screen interval: 34.7-59.6 ft bgs

**Plan**

Continue work as scheduled.

Friday, August 01, 2008  
399-3-23  
C6194

**Site Activities**

Well development activities took place at this well. The upper development interval was pumped on the previous day (Thursday, July 31, 2008). Work was halted due to a lack of purge water truck availability. The lower development interval was pumped on today. The pump and tremmie were removed from the borehole post development. See well development summary table below for detailed information. Drawdown and recovery tests were recorded using a 20 psi transducer #5217. XD was taken before and after development activities.

**Final Well Development Parameters**

Interval #	Date	Intake Depth (bgs)	DTW (ft bgs)	DTB (ft bgs)	XD Initial (ft below water)	XD Final (ft below water)	Turbidity (NTU)	Temp (°C)	DO (mg/L)	pH	Conductivity (mS)
1	7/31/08	41.5	33.7	57	6.76	6.74	270	18.1	8.64	7.53	0.498
2	8/1/08	51.5	31	57	6.86	6.84	25	17.1	7.63	7.63	0.502

Screen interval: 31-56 ft bgs

**Plan**

Continue work as scheduled.

Friday, August 01, 2008  
399-3-24  
C6199

**Site Activities**

Well development activities took place at this well. The pump and tremmie were removed from the borehole post development. See well development summary table below for detailed information. Drawdown and recovery tests were recorded using a 20 psi transducer #5217.

**Final Well Development Parameters**

Interval #	Intake Depth (bgs)	DTW (ft bgs)	DTB (ft bgs)	XD Initail (ft below water)	XD Final (ft below water)	Turbidity (NTU)	Temp (°C)	DO (mg/L)	pH	Conductivity (mS)
1	41.3	29.9	56.7	6.69	N/A	3.41	17.6	8.94	7.52	0.503
2	51.3	30	56.7	N/A	6.84	7.08	17.6	9.09	7.59	0.501

Screen interval: 31-56 ft bgs

**Plan**

Continue work as scheduled.

Friday, August 01, 2008  
399-3-28  
C6205

**Site Activities**

Well development activities took place at this well. The pump and tremmie were removed from the borehole post development. See well development summary table below for detailed information. Drawdown and recovery tests were recorded using a 20 psi transducer #5217. XD was taken before and after development activities.

**Final Well Development Parameters**

Interval #	Intake Depth (bgs)	DTW (ft bgs)	DTB (ft bgs)	XD Initail (ft below water)	XD Final (ft below water)	Turbidity (NTU)	Temp (°C)	DO (mg/L)	pH	Conductivity (mS)
1	41	30.7	57	5.11	N/A	2.97	18.6	8.36	7.6	0.486
2	51	30.9	57	N/A	5.9	6.98	18.7	8.67	7.7	0.499

Screen interval: 31-56 ft bgs

**Plan**

Continue work as scheduled.

Friday, August 01, 2008  
399-2-11  
C6188

**Site Activities**

Well development activities took place at this well. The pump and tremmie were removed from the borehole post development. See well development summary table below for detailed information. Drawdown and recovery tests were recorded using a 20 psi transducer #5217.

**Final Well Development Parameters**

Interval #	Intake Depth (bgs)	DTW (ft bgs)	DTB (ft bgs)	XD Initail (ft below water)	XD Final (ft below water)	Turbidity (NTU)	Temp (°C)	DO (mg/L)	pH	Conductivity (mS)
1	41.3	30.1	56.5	6.69	N/A	0.85	18.2	8.59	7.52	0.507
2	51.3	30.1	57.5	N/A	6.69	6.29	18.2	9	7.67	0.504

Screen interval: 31-56 ft bgs

**Plan**

Continue work as scheduled.

Friday August 01, 2008

399-2-25

C6209

### Site Activities

Well development was initiated at this well location today. The pump and tremmie were not removed from the well before the rig was moved from the well. The rig was moved off site, but the pump and tremmie were left in the well as development will continue next week. See well development summary table for more information. Drawdown and recovery tests were recorded using transducer 5217. XD measurements were taken before pump was turned on and after recovery tests were performed.

### Well Development Summary:

	<b>XD Initial (feet below water)</b>	<b>XD Final (feet below water)</b>	<b>Final Conductivity (<math>\mu</math>S)</b>	<b>Final pH</b>	<b>Starting Turbidity (NTU)</b>	<b>Final Turbidity (NTU)</b>	<b>Intake Depth (BGS)</b>	<b>Pump Rate (gpm)</b>	<b>Total Pumped (gal)</b>
<b>Test 1:</b>	15.277	15.256	278	8.36	>1000	16.2	70.0	20	1078
<b>Test 2:</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

	<b>Static Water Level (BGS)</b>	<b>Depth to Bottom (BGS)</b>
Start of Job:	30.5	124.5
End of Job:	N/A	N/A

### Current Depths (ft bgs)

Bentonite pellets: 170.8-138.6  
Bentonite chips: 138.6-125.0  
20-40 mesh silica sand: 125.0-60.3  
Bentonite pellets: 60.3-57.7  
Bentonite chips: 57.7-3.0  
4" 2.5 ft PVC sump with end cap: 124.9 – 122  
4" PVC screen, 60 ft, 0.010": 122 - 62  
4" PVC riser: 62 - ~3.5 ft ags

Borehole 3.0  
~~9 5/8" single wall temporary casing 0~~  
~~7 5/8" single wall temporary casing 0~~  
~~5 7/8" single wall temporary casing 0~~

### Plan

Well development will continue Tuesday, August 5. There are two development stages left.