





























Well Summary

744 Horizon Court, Ste. 140
Grand Junction, CO 81501
970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 3/22/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: BH10/MW-1
Total Depth: 95 feet
Elevation TOC:
Elevation Ground:
Latitude: 39.504388
Longitude: -108.131528
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					
0					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					
18					
20					<p>Gravelly Clay light yellowish brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at 55 to 60 feet.</p>
22					
24					
26					
28					
30					
32					
34					
36					
38					
40					
42					
44					
46					
48					
50					

Fill
Intermixed silt, clay, gravels and cobbles, light gray, moist.

Gravelly Clay
light yellowish brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at 55 to 60 feet.

PID readings collected at end of discharge line
 PID 10 feet 0
 PID 20 feet 0
 PID 30 feet 0
 PID 40 feet 2.3
 PID 50 feet 1.7


Completion Information
 Screened Interval 70-90 feet
 TOS 68 feet
 TOB 2 feet
 Cemented from 0-2 feet

Well Summary

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Grand Junction, CO 81501
970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 3/22/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: BH10/MW-1
Total Depth: 95 feet
Elevation TOC:
Elevation Ground:
Latitude: 39.504388
Longitude: -108.131528
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
52					<p>Static water level after completion was approximately 58 feet.</p>
54					
56					
58					
60					
62					
64					
66					
68					
70					
72					
74					
76					
78					
80					
82					
84					
86					
88					
90				<p>Shale (Bedrock) Dark to very dark gray, brittle, platy, dry, (Wasatch).</p>	
92					
94					
96					
98					
100					
102					

Well Summary

744 Horizon Court, Ste. 140
Grand Junction, CO 81501
970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 6/10/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: MW-1A
Total Depth: 70 feet
Elevation TOC:
Elevation Ground:
Latitude: 39.504402
Longitude: -108.131530
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					Ground Surface
0					
2					
4					
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					
60					
62					
64					
66					
68					
70					
72					
74					

Fill
Intermixed silt, clay, gravels and cobbles, light gray, moist.

Gravelly Clay
Light yellowish brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at approximately 47 feet. Moderate hydrocarbon odor at the discharge line from 45-50 feet.

PID readings were collected at the end of the discharge line.
PID 10 feet 1.2
PID 20 feet 1
PID 30 feet 1.3
PID 40 feet 3.5
PID 50 feet 97.2

Completion Information
Screened Interval 35-70 feet
TOS 32 feet
TOB 1 foot
Cemented from 0-1 foot

Gravels Cobbles Sand Some Silt
Light yellowish brown, saturated, gravels and cobbles in a slightly silty and medium to fine grained sand matrix, gravels consists of both sandstone and shales while the cobbles tend to be composed primarily of sandstone, slight hydrocarbon odor, no staining, had to add water at 50 feet to get the cuttings to the surface due to saturated conditions.

Well Summary

744 Horizon Court, Ste. 140
Grand Junction, CO 81501
970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 5/4/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: MW-2
Total Depth: 70 feet
Elevation TOC:
Elevation Ground:
Latitude: 39.504464
Longitude: -108.131571
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					Ground Surface
0					
2					
4					
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					
60					
62					
64					
66					
68					
70					
72					
74					

Fill
Intermixed silt, clay, gravels and cobbles, light gray, moist.

Gravelly Clay
Light yellowish brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at approximately 47 feet. Slight hydrocarbon odor at the discharge line from 45-50 feet.

PID readings were collected at the end of the discharge line.
PID 10 feet 1.2
PID 20 feet 1
PID 30 feet 1.3
PID 40 feet 3.5
PID 45 feet 72.3

Completion Information
Screened Interval 45-70 feet
TOS 40 feet
TOB 1 foot
Cemented from 0-1 feet

Gravels Cobbles Sand Some Silt
Light yellowish brown, saturated, gravels and cobbles in a slightly silty and medium to fine grained sand matrix, gravels consists of both sandstone and shales while the cobbles tend to be composed primarily of sandstone, no visible odors or staining, had to add water at 48 feet to get the cuttings to the surface due to saturated conditions.

Well Summary

744 Horizon Court, Ste. 140
 Grand Junction, CO 81501
 970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 5/4/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: MW-3
Total Depth: 70 feet
Elevation TOC:
Elevation Ground:
Latitude: 39.504280
Longitude: -108.131494
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					Ground Surface
0					
2					
4					
6					
8					
10					Fill Intermixed silt, clay, gravels and cobbles, light gray, moist.
12					
14					
16					
18					
20					Gravelly Clay light yellowish brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at approximately 47 feet.
22					
24					
26					
28					
30					PID readings were collected at the end of the discharge line. PID 10 feet 1.2 PID 20 feet 1 PID 30 feet 1.3 PID 40 feet 1 PID 50 feet 1.4
32					
34					
36					
38					
40					
42					
44					
46					
48					
50					Completion Information Screened Interval 45-70 feet TOS 43 feet TOB 1 foot Cemented from 0-1 feet
52					
54					
56					
58					
60					
62					
64					Gravels Cobbles Sand Some Silt Light yellowish brown, saturated, gravels and cobbles in a slightly silty and medium to fine grained sand matrix, gravels consists of both sandstone and shales while the cobbles tend to be composed primarily of sandstone, no visible odors or staining, had to add water at 50 feet to get the cuttings to the surface due to saturated conditions.
66					
68					
70					
72					
74					

Well Summary

744 Horizon Court, Ste. 140
 Grand Junction, CO 81501
 970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 5/3-4/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: MW-4
Total Depth: 70 feet
Elevation TOC:
Elevation Ground:
Latitude: 39.504229
Longitude: -108.131639
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					Ground Surface
0					
2					
4					
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					
60					
62					
64					
66					
68					
70					
72					
74					

Fill
 Intermixed silt, clay, gravels and cobbles, light gray, moist.

Gravelly Clay
 Light yellowish brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at approximately 45 feet.

PID readings were collected at the end of the discharge line.
 PID 10 feet 1.4
 PID 20 feet 1.3
 PID 30 feet 1.1
 PID 40 feet 1
 PID 50 feet 12

Completion Information
 Screened Interval 45-70 feet
 TOS 42.5 feet
 TOB 1 foot
 Cemented from 0-1 feet

Gravels Cobbles Sand
 Light yellowish brown, saturated, gravels and cobbles in a medium to fine grained sand matrix, gravels consists of both sandstone and shales while the cobbles tend to be composed primarily of sandstone, no visible odors or staining, Did not have to add water as the well bore is making enough water on it's own to lift the cuttings to the surface.

Well Summary

744 Horizon Court, Ste. 140
Grand Junction, CO 81501
970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 5/3/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: MW-5
Total Depth: 70 feet
Elevation TOC:
Elevation Ground:
Latitude: 39.504091
Longitude: -108.131599
Logged By: M.E. Mumby

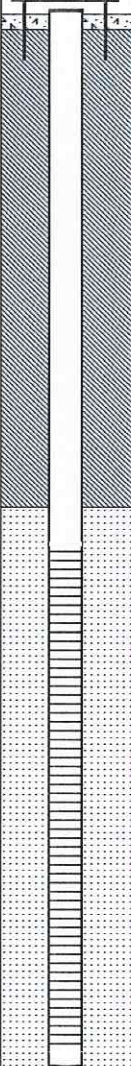
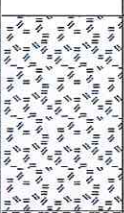
Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					Ground Surface
0					
2					
4					
6					Fill Intermixed silt, clay, gravels and cobbles, light gray, moist.
8					
10					
12					
14					Gravelly Clay light yellowish brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at approximately 50 feet.
16					
18					
20					
22					PID readings were collected at the end of the discharge line.
24					PID 10 feet 1.2
26					PID 20 feet 1
28					PID 30 feet 1.3
30					PID 40 feet 1
32					PID 50 feet 1.4
34					
36					
38					
40					
42					
44					
46					
48					
50					Completion Information
52					Screened Interval 50-70 feet
54					TOS 45 feet
56					TOB 1 foot
58					Cemented from 0-1 feet
60					
62					
64					Gravels Cobbles Sand Some Silt
66					Light yellowish brown, saturated, gravels and cobbles in a slightly silty and medium to fine grained sand matrix, gravels consists of both sandstone and shales while the cobbles tend to be composed primarily of sandstone, no visible odors or staining, had to add water at 50 feet to get the cuttings to the surface due to saturated conditions.
68					
70					
72					
74					

Well Summary

744 Horizon Court, Ste. 140
Grand Junction, CO 81501
970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 6/9/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: MW-6
Total Depth: 70 feet
Elevation TOC:
Elevation Ground:
Latitude: 39.504570
Longitude: -108.131635
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					Ground Surface
0					<p>Fill Intermixed silt, clay, gravels and cobbles, light gray, moist.</p>
2					<p>Gravelly Clay Light yellowish brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at approximately 49 feet.</p> <p>PID readings were collected at the end of the discharge line. PID 10 feet 1.2 PID 20 feet 1 PID 30 feet 1.3 PID 40 feet 2.7 PID 50 feet 2.0</p> <p>Completion Information Screened Interval 35-70 feet TOS 32.7 feet TOB 1 foot Cemented from 0-1 feet</p>
4					
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					
60					
62					
64					
66					
68					
70					
72					
74					
					<p>Gravels Cobbles Sand Some Silt Light yellowish brown, saturated, gravels and cobbles in a slightly silty and medium to fine grained sand matrix, gravels consists of both sandstone and shales while the cobbles tend to be composed primarily of sandstone, no visible odors or staining, had to add water at 48 feet to get the cuttings to the surface due to saturated conditions.</p>

Well Summary

744 Horizon Court, Ste. 140
 Grand Junction, CO 81501
 970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 6/9/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: MW-7
Total Depth: 70 feet
Elevation TOC:
Elevation Ground:
Latitude: 39.504545
Longitude: -108.131970
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					Ground Surface
0					
2					Fill
4					Intermixed silt, clay, gravels and cobbles, light gray, moist.
6					
8					Gravelly Clay
10					Light yellowish brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at approximately 49 feet.
12					
14					
16					
18					
20					PID readings were collected at the end of the discharge line.
22					PID 10 feet 0.8
24					PID 20 feet 1
26					PID 30 feet 1.2
28					PID 40 feet 1.0
30					PID 50 feet 1.3
32					
34					
36					
38					
40					
42					Completion Information
44					Screened Interval 35-70 feet
46					TOS 33 feet
48					TOB 1 foot
50					Cemented from 0-1 feet
52					
54					
56					
58					
60					
62					Gravels Cobbles Sand Some Silt
64					Light yellowish brown, saturated, gravels and cobbles in a slightly silty and medium to fine grained sand matrix, gravels consists of both sandstone and shales while the cobbles tend to be composed primarily of sandstone, no visible odors or staining, had to add water at 48 feet to get the cuttings to the surface due to saturated conditions.
66					
68					
70					
72					Bedrock
74					Medium gray siltstone with interbedded shale (Wasatch)
76					

Well Summary

744 Horizon Court, Ste. 140
Grand Junction, CO 81501
970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 6/9/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: MW-8
Total Depth: 58 feet
Elevation TOC:
Elevation Ground:
Latitude: 39.504117
Longitude: -108.132131
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					Ground Surface
0					
2					
4					
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					
60					
62					
64					

Fill
Intermixed silt, clay, gravels and cobbles, light gray, moist.

Gravelly Clay
Light yellowish brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at approximately 43 feet.

PID readings were collected at the end of the discharge line.
 PID 10 feet 1.4
 PID 20 feet 1.3
 PID 30 feet 1.1
 PID 40 feet 1

Completion Information
 Screened Interval 33-58 feet
 TOS 32.5 feet
 TOB 1 foot
 Cemented from 0-1 feet

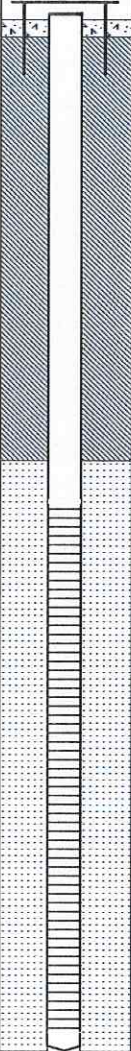

Gravels Cobbles Sand
 Light yellowish brown, saturated, gravels and cobbles in a medium to fine grained sand matrix, gravels consists of both sandstone and shales while the cobbles tend to be composed primarily of sandstone, no visible odors or staining, becomes very sandy from 56 to 58 feet. Only had to add a very small amount of water as the well bore is making quite a bit of water in order to lift the cuttings to the surface.

Well Summary

744 Horizon Court, Ste. 140
Grand Junction, CO 81501
970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 6/10/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: MW-9
Total Depth: 56 feet
Elevation TOC:
Elevation Ground:
Latitude: 39.504522
Longitude: -108.131290
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					Ground Surface
0					<p>Gravelly Clay Light yellowish brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at approximately 43 feet.</p> <p>PID readings were collected at the end of the discharge line. PID 10 feet 1.2 PID 20 feet 1.0 PID 30 feet 8.7</p> <p>Completion Information Screened Interval 26-56 feet TOS 24 feet TOB 1 foot Cemented from 0-1 feet</p>
2					
4					
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					
38					
40					
42					
44					<p>Gravels Cobbles Sand Silt Light yellowish brown, saturated, gravels and cobbles in a medium to fine grained sand/silt matrix, gravels consists of both sandstone and shales while the cobbles tend to be composed primarily of sandstone, no visible odors or staining. Had to add water at approximately 33 feet due to saturated conditions and in order to lift the cuttings to the surface.</p>
46					
48					
50					
52					
54					
56					
58					
60					

Well Summary

744 Horizon Court, Ste. 140
Grand Junction, CO 81501
970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 9/9/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: MW-10 (Dry)
Total Depth: 80 feet
Elevation TOC:
Elevation Ground:
Latitude: 39.504662
Longitude: -108.130945
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					Ground Surface
0					
2					
4					
6					
8					
10					
12					
14					
16					
18					
20					
22					<p>Clay Light yellowish brown to brown, dry, occasional small cobbles (< 1 foot in dia.), starting to see an increase in the size and number of cobbles at approximately 15 feet, grading to a gravelly clay by 20 feet.</p>
24					
26					
28					
30					
32					
34					
36					
38					
40					
42					
44					
46					
48					
50					
52					<p>Gravelly Clay Light yellowish brown to brown, dry, becoming slightly moist at approximately 45 feet, scattered to abundant large cobbles consisting primarily of siltstone and sandstone.</p> <p>PID readings were collected at the end of the discharge line. PID 10 feet 1.0 PID 20 feet 1.1 PID 30 feet 1.0 PID 40 feet 1.1 PID 50 feet 1.0</p> <p>Completion Information: Well was not completed (Dry Hole) Hole plugged with bentonite chips hydrated every 5 feet to surface.</p>
54					
56					
58					
60					
62					
64					
66					
68					
70					
72					
74					
76					
78					
80					

Well Summary

744 Horizon Court, Ste. 140
 Grand Junction, CO 81501
 970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 9/10/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: MW-11
Total Depth: 70 feet
Elevation TOC: 5538.05 feet
Elevation Ground:
Latitude: 39.504509
Longitude: -108.130701
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					Ground Surface
0					
2					
4					
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					
60					
62					
64					
66					
68					
70					
72					

Gravelly Clay

Light yellowish brown to brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at approximately 48 feet, moderate hydrocarbon odor from 50 to 55 feet, no odors below 55 feet.

PID readings were collected at the end of the discharge line.

- PID 10 feet 1.2
- PID 20 feet 1.0
- PID 30 feet 2.0
- PID 40 feet 2.0
- PID 50 feet prior to injection 28.7

Completion Information

- Screened Interval 30 to 70 feet
- TOS 28 feet
- TOB 1 foot
- Cemented from 0-1 feet

Gravels Cobbles Sand Silt

Light yellowish brown, saturated, gravels and cobbles in a medium to fine grained sand/silt matrix, gravels consists of both sandstone and shales while the cobbles tend to be composed primarily of sandstone, no visible odors or staining. Had to add water at approximately 50 feet due to saturated conditions and in order to lift the cuttings to the surface.

Well Summary

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Grand Junction, CO 81501
970-243-3271

Project: Bargath, LLC
Location: Jangles Compressor Station
Date(s): 9/10/2011
Contractor: Himes Drilling Company, Inc.
Rig Type: Schramm T-300
Drilling Method: Air Rotary
Sample Type: Cuttings

Well Name: MW-12
Total Depth: 75 feet
Elevation TOC: 5532.76 feet
Elevation Ground:
Latitude: 39.504339
Longitude: -108.130508
Logged By: M.E. Mumby

Depth	Sample Interval	Recovery	Well Construction	Graphic Log	Material Description
-2					Ground Surface
0					
2					
4					
6					
8					
10					
12					
14					
16					
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					
60					
62					
64					
66					
68					
70					
72					
74					
76					

Gravelly Clay
 Light yellowish brown to brown, dry, scattered large cobbles consisting of sandstone and shale, cobbles are increasing in number and size with depth, starting to see an increase in moisture content at approximately 50 feet, no hydrocarbon odor was noted.

PID readings were collected at the end of the discharge line.
 PID 10 feet 1.2
 PID 20 feet 1.3
 PID 30 feet 2.0
 PID 40 feet 2.0
 PID 50 feet prior to injection 5.2

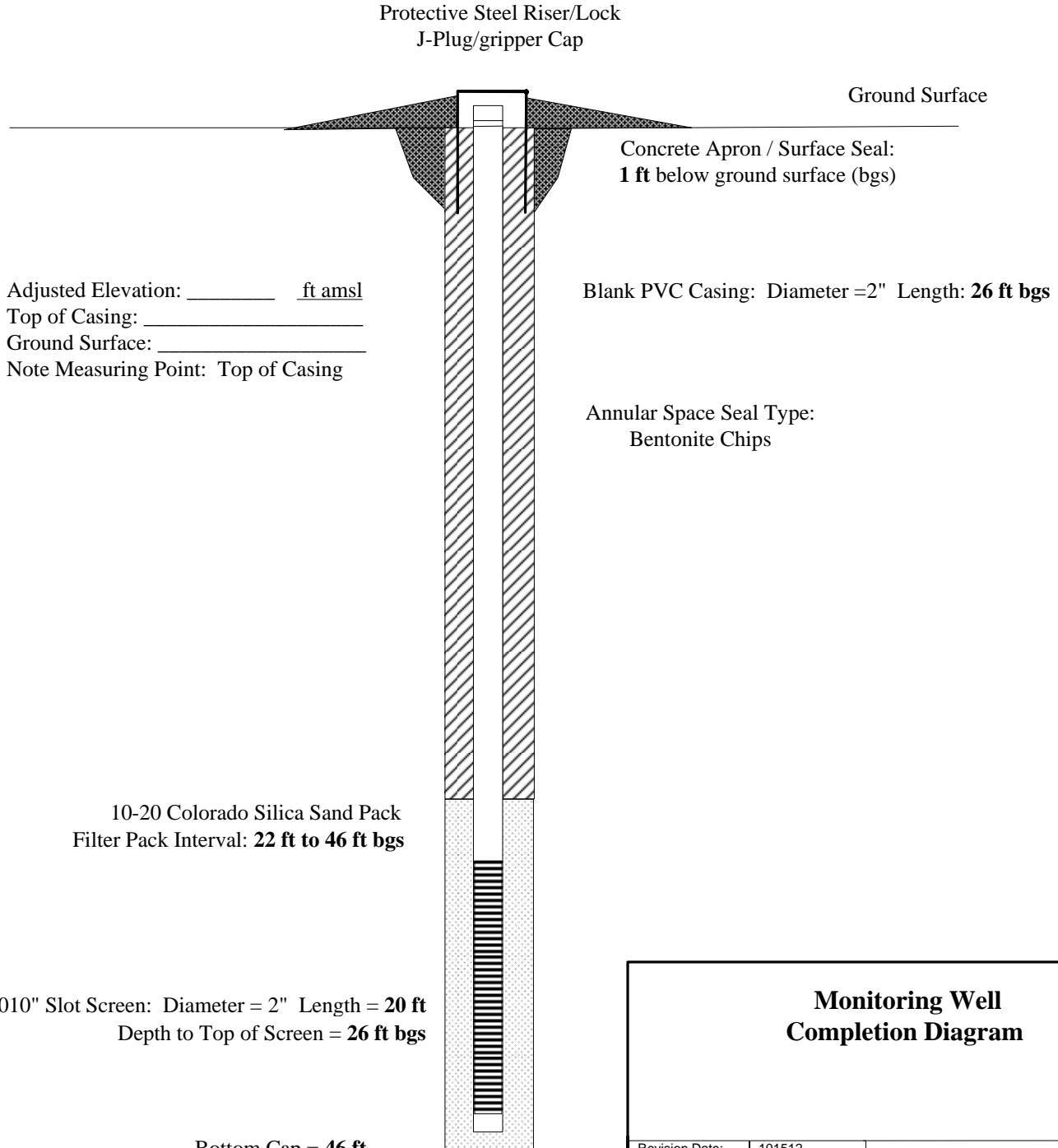
Completion Information
 Screened Interval 35 to 70 feet
 TOS 32 feet
 TOB 1 foot
 Cemented from 0-1 feet

Gravels Cobbles Sand Silt
 Light yellowish brown, saturated, gravels and cobbles in a medium to fine grained sand/silt matrix, gravels consists of both sandstone and shales while the cobbles tend to be composed primarily of sandstone, no visible odors or staining. Had to add water at approximately 50 feet due to saturated conditions and in order to lift the cuttings to the surface.

MONITORING WELL COMPLETION DIAGRAM

Project: Williams Midstream MW Installation
 Location: Jangles Compressor Station
 Contractor: Olsson Associates
 Driller: Shelton Drilling Corp.
 Method: Air Rotary

Monitoring Well No. **MW13**
 Borehole No. 13
 Date: 10/10/12
 Observed By: W. Monroe
 Checked By: T. Dobransky
 Sheet 1 of 1



Adjusted Elevation: _____ ft amsl
 Top of Casing: _____
 Ground Surface: _____
 Note Measuring Point: Top of Casing

Blank PVC Casing: Diameter =2" Length: **26 ft bgs**

Annular Space Seal Type:
 Bentonite Chips

10-20 Colorado Silica Sand Pack
 Filter Pack Interval: **22 ft to 46 ft bgs**

PVC 0.010" Slot Screen: Diameter = 2" Length = **20 ft**
 Depth to Top of Screen = **26 ft bgs**

Bottom Cap = **46 ft**
 Total Depth = **46 ft**

Monitoring Well Completion Diagram

Revision Date:	101512
Revision Number	01
Revised by:	WWM
Approved by:	
Project Number:	012-2174
Scale:	Not to Scale



LOCATION MAP



826 21 1/2 Road
Grand Junction, CO 81505
T: 970.263.7800
F: 970.263.7456

TEST HOLE/WELL LOG

PAGE 1 of 1

Test/Well Number: MW13

Project: Williams Midstream MW Installation

Date: 10/10/12

Project Number: 012-2174

Logged by: W. Monroe

Drilled by: Shelton

Drilling Method: Rotary

Sampling Method: Drill Cuttings

Elevation: TBD

Detector: MiniRay PID

Seal: Bentonite

Grout: NA

Gravel Pack: 10/20 Silica Sand

Hole Diameter: 5 in.

F. L. Meter:

Casing Type: Sch. 40 PVC

Diameter: 2 in.

Length: 26'

DTP: -

DTW: NA

Screen Type: Sch. 40 PVC

Slot: 0.010

Diameter: 2 in.

Length: 20'

Well Depth: 46'

Total Depth: 46'

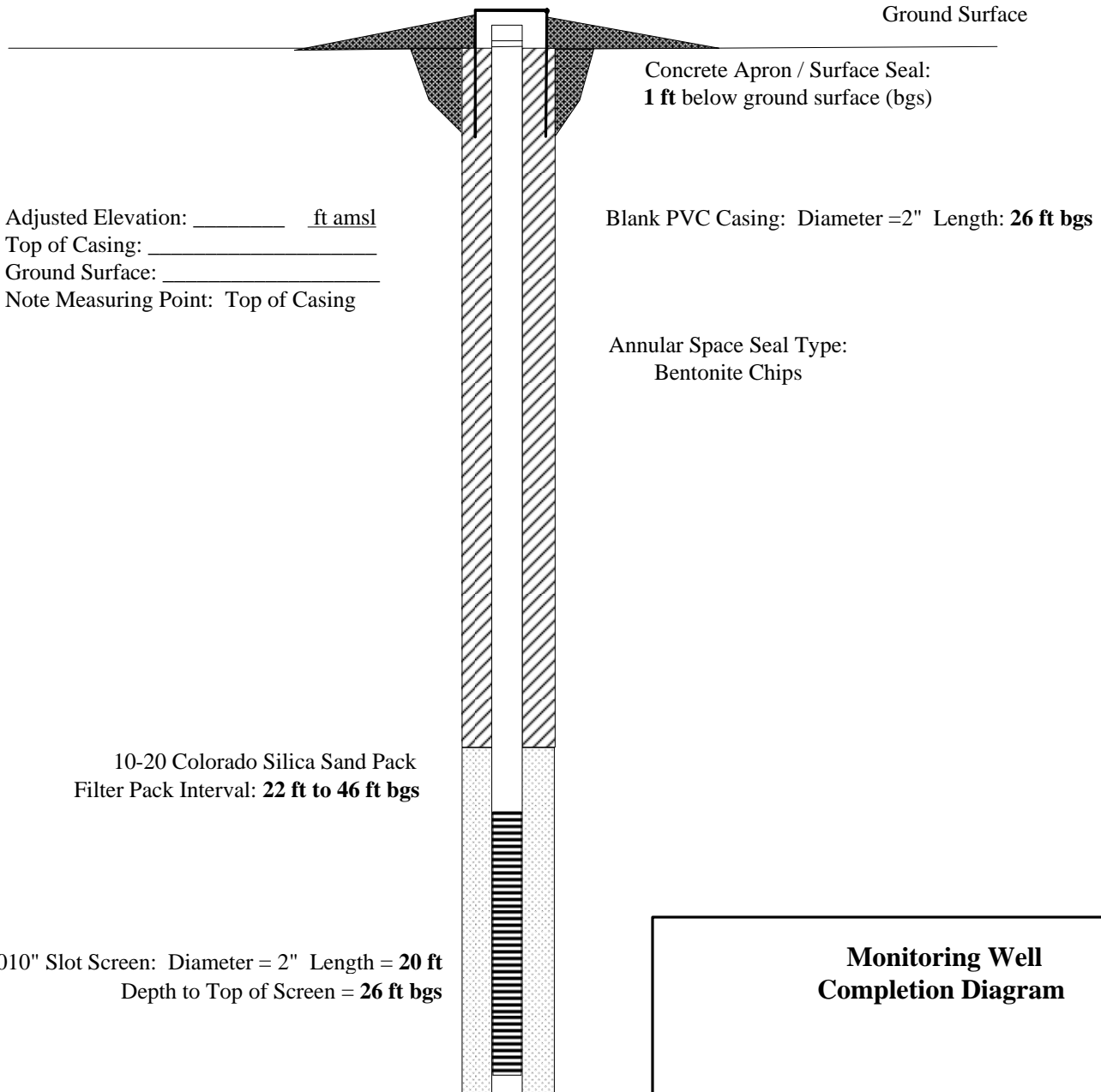
Soil/Rock Type	Color	Moisture Content	% Fines	Structure	Vapor (ppm)	Staining	Sample #	Depth (ft)	Sample Recovery %	Penetration Resistance	LITHOLOGY/REMARKS	WELL COMPLETION
	Tan Brown	10 25	50	Loose Soft	1 0.7 0.5 0.3 0.2 0.5 0.2 0.2	N		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130				See Well Completion Diagram for Monitoring Well MW13
											Badger Pilot Hole – Clay: tan, silty, abundant shale pieces: tan-dark brown, platy-soft. Clay: brown, silty-very sandy, some shale pieces. Alluvium-Bedrock interface @ 30' bgs (Wasatch Fm.) Claystone: orange-brown, silty-sandy, soft, moist, slight odor at rig, weathered bedrock. Claystone: brown, silty-sandy, soft. Wasatch Fm to total depth of 46' 46' Total Depth	

MONITORING WELL COMPLETION DIAGRAM

Project: Williams Midstream MW Installation
 Location: Jangles Compressor Station
 Contractor: Olsson Associates
 Driller: Shelton Drilling Corp.
 Method: Air Rotary

Monitoring Well No. **MW13**
 Borehole No. 13
 Date: 10/10/12
 Observed By: W. Monroe
 Checked By: T. Dobransky
 Sheet 1 of 1

Protective Steel Riser/Lock
 J-Plug/gripper Cap



Adjusted Elevation: _____ ft amsl
 Top of Casing: _____
 Ground Surface: _____
 Note Measuring Point: Top of Casing

Bottom Cap = **46 ft**
 Total Depth = **46 ft**

Monitoring Well Completion Diagram

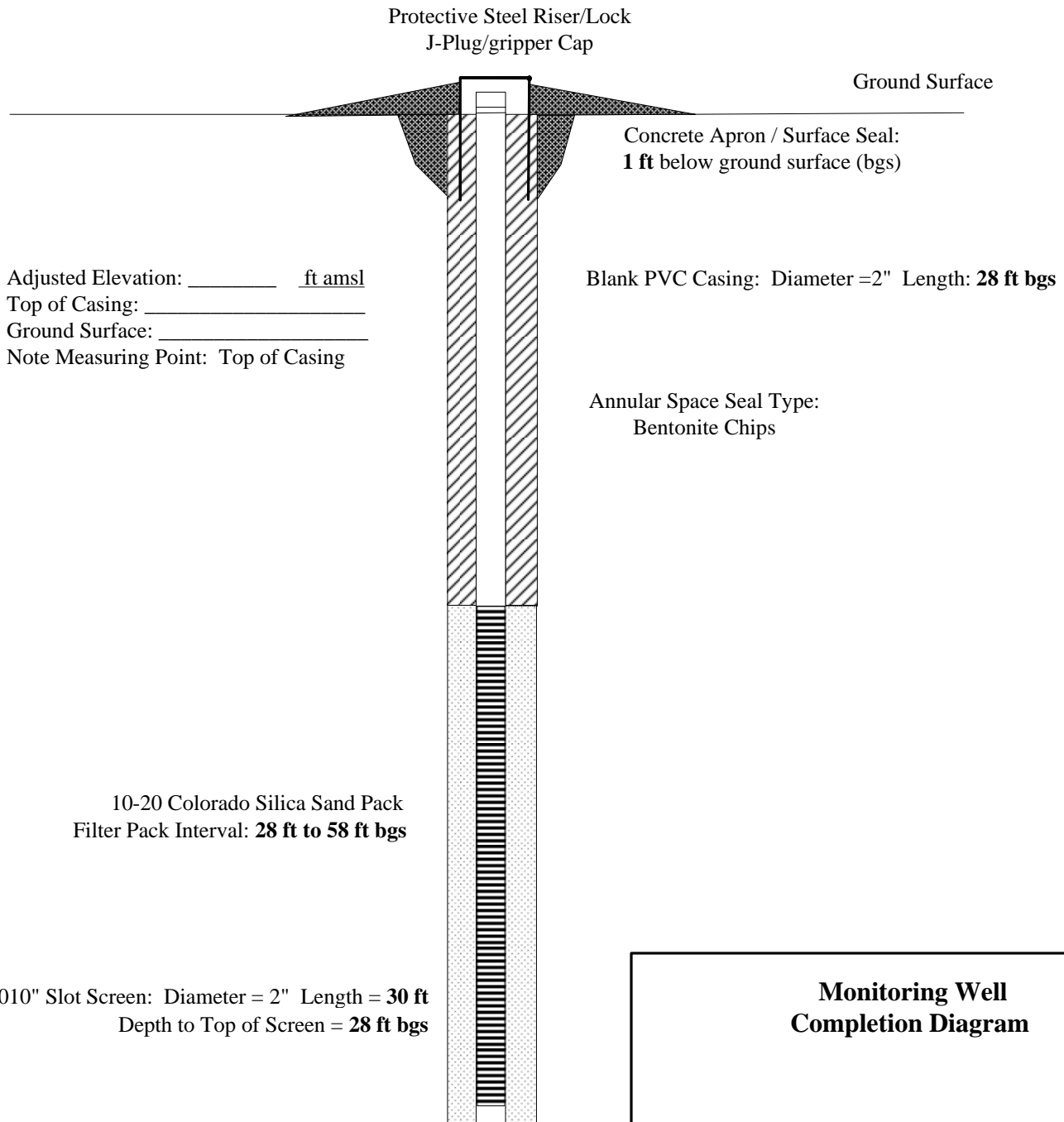
Revision Date:	101512
Revision Number	01
Revised by:	WWM
Approved by:	
Project Number:	012-2174
Scale:	Not to Scale



MONITORING WELL COMPLETION DIAGRAM

Project: Williams Midstream MW Installation
 Location: Jangles Compressor Station
 Contractor: Olsson Associates
 Driller: Shelton Drilling Corp.
 Method: Air Rotary

Monitoring Well No. **MW15**
 Borehole No. 15
 Date: 10/10/12 to 10/11/12
 Observed By: W. Monroe
 Checked By: T. Dobransky
 Sheet 1 of 1



Adjusted Elevation: _____ ft amsl
 Top of Casing: _____
 Ground Surface: _____
 Note Measuring Point: Top of Casing

Bottom Cap = **58 ft**
 Total Depth = **62 ft**

Monitoring Well Completion Diagram

Revision Date:	101512
Revision Number	01
Revised by:	WWM
Approved by:	
Project Number:	012-2174
Scale:	Not to Scale

LOCATION MAP



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TEST HOLE/WELL LOG

PAGE 1 of 1

Test/Well Number: MW15

Project: Williams Midstream MW Installation

Date: 10/10/12

Project Number: 012-2174

Logged by: W. Monroe

Drilled by: Shelton

Drilling Method: Rotary

Sampling Method: Drill Cuttings

Elevation: TBD

Detector: MiniRay PID

Seal: Bentonite

Grout: NA

Gravel Pack: 10/20 Silica Sand

Hole Diameter: 5 in.

F. L. Meter:

Casing Type: Sch. 40 PVC

Diameter: 2 in.

Length: 38'

DTP: -

DTW: 33'

Screen Type: Sch. 40 PVC

Slot: 0.010

Diameter: 2 in.

Length: 20'

Well Depth: 58'

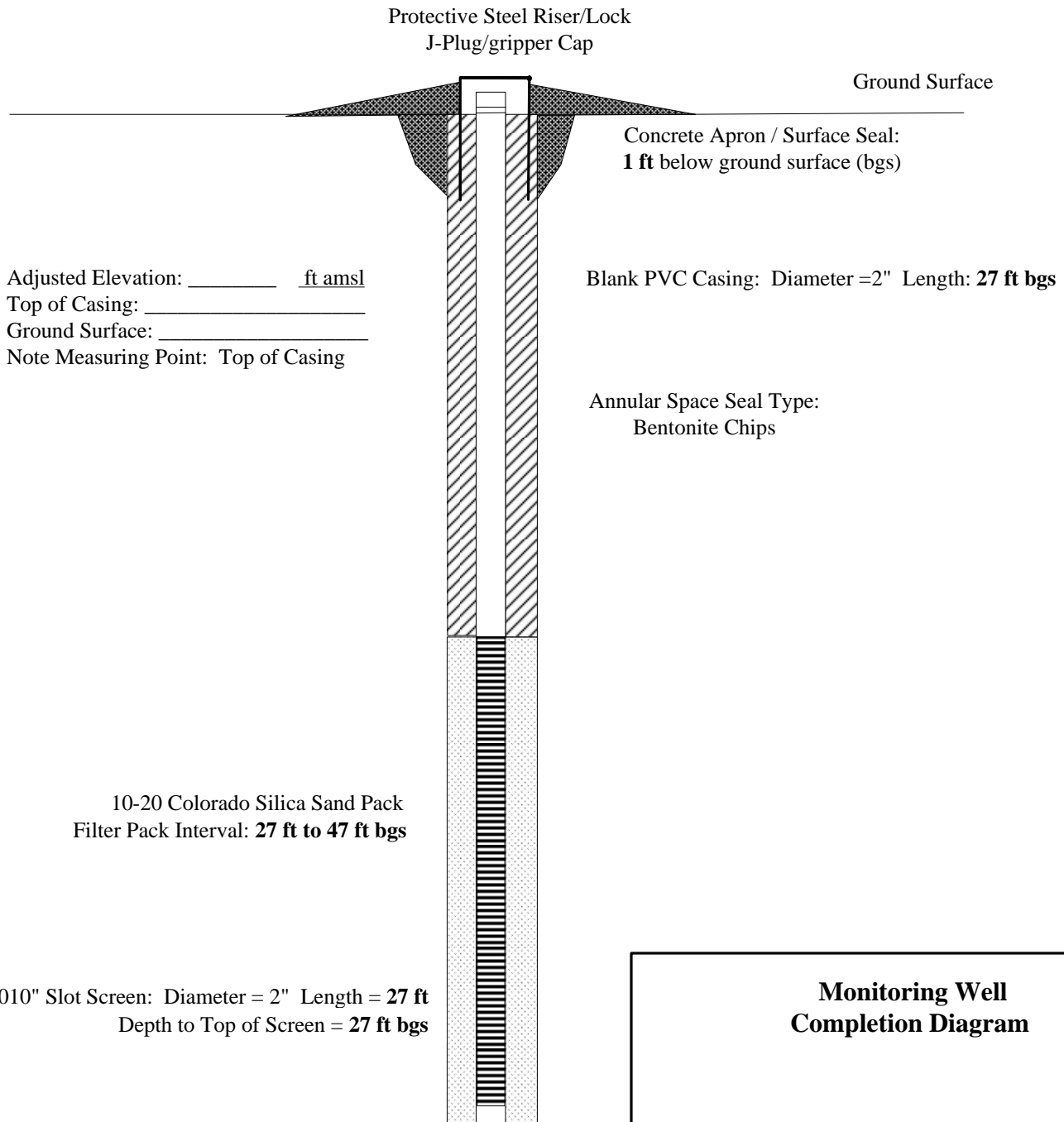
Total Depth: 62'

Soil/Rock Type	Color	Moisture Content	% Fines	Structure	Vapor (ppm)	Staining	Sample #	Depth (ft)	Sample Recovery %	Penetration Resistance	LITHOLOGY/REMARKS	WELL COMPLETION
	Tan		70	Loose	1.2	N		0			Badger Pilot Hole – Clay: tan, silty, sandy, abundant shale pieces. Clay: brown, very sandy, abundant shale pieces: gray-dark gray, platy-blocky. Clay: brown, gravelly, sandy, abundant shale pieces: gray, blocky. Clay: brown, sandy, abundant shale pieces: gray-dark gray, platy. Saturated at 33' Clay: brown, sandy, silty, abundant shale pieces: gray-dark gray, platy-blocky. Caving to 58' Alluvium to total depth of 62' 62' Total Depth	See Well Completion Diagram for Monitoring Well MW15
							5					
							10					
							15					
	Brown	10			1.9		20					
		20	50		0.7		25					
					1.9		30					
		30	70		0.8		35					
					0.8		40					
					1.2		45					
					0.3		50					
					0.3		55					
					0.3		60					
					0.3		65					
							70					
							75					
							80					
							85					
							90					
							95					
							100					
							105					
							110					
							115					
							120					
							125					
							130					

MONITORING WELL COMPLETION DIAGRAM

Project: Williams Midstream MW Installation
 Location: Jangles Compressor Station
 Contractor: Olsson Associates
 Driller: Shelton Drilling Corp.
 Method: Air Rotary

Monitoring Well No. **MW16**
 Borehole No. 16
 Date: 10/11/12
 Observed By: W. Monroe
 Checked By: T. Dobransky
 Sheet 1 of 1



Adjusted Elevation: _____ ft amsl
 Top of Casing: _____
 Ground Surface: _____
 Note Measuring Point: Top of Casing

Concrete Apron / Surface Seal:
1 ft below ground surface (bgs)

Blank PVC Casing: Diameter =2" Length: **27 ft bgs**

Annular Space Seal Type:
 Bentonite Chips

10-20 Colorado Silica Sand Pack
 Filter Pack Interval: **27 ft to 47 ft bgs**

PVC 0.010" Slot Screen: Diameter = 2" Length = **27 ft**
 Depth to Top of Screen = **27 ft bgs**

Bottom Cap = **47 ft**
 Total Depth = **50 ft**

Monitoring Well Completion Diagram

Revision Date:	101512
Revision Number	01
Revised by:	WWM
Approved by:	
Project Number:	012-2174
Scale:	Not to Scale

LOCATION MAP



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TEST HOLE/WELL LOG

PAGE 1 of 1

Test/Well Number: MW16

Project: Williams Midstream MW Installation

Date: 10/11/12

Project Number: 012-2174

Logged by: W. Monroe

Drilled by: Shelton

Drilling Method: Rotary

Sampling Method: Drill Cuttings

Elevation: TBD

Detector: MiniRay PID

Seal: Bentonite

Grout: NA

Gravel Pack: 10/20 Silica Sand

Hole Diameter: 5 in.

F. L. Meter:

Casing Type: Sch. 40 PVC

Diameter: 2 in.

Length: 27'

DTP: -

DTW: 27'

Screen Type: Sch. 40 PVC

Slot: 0.010

Diameter: 2 in.

Length: 20'

Well Depth: 47'

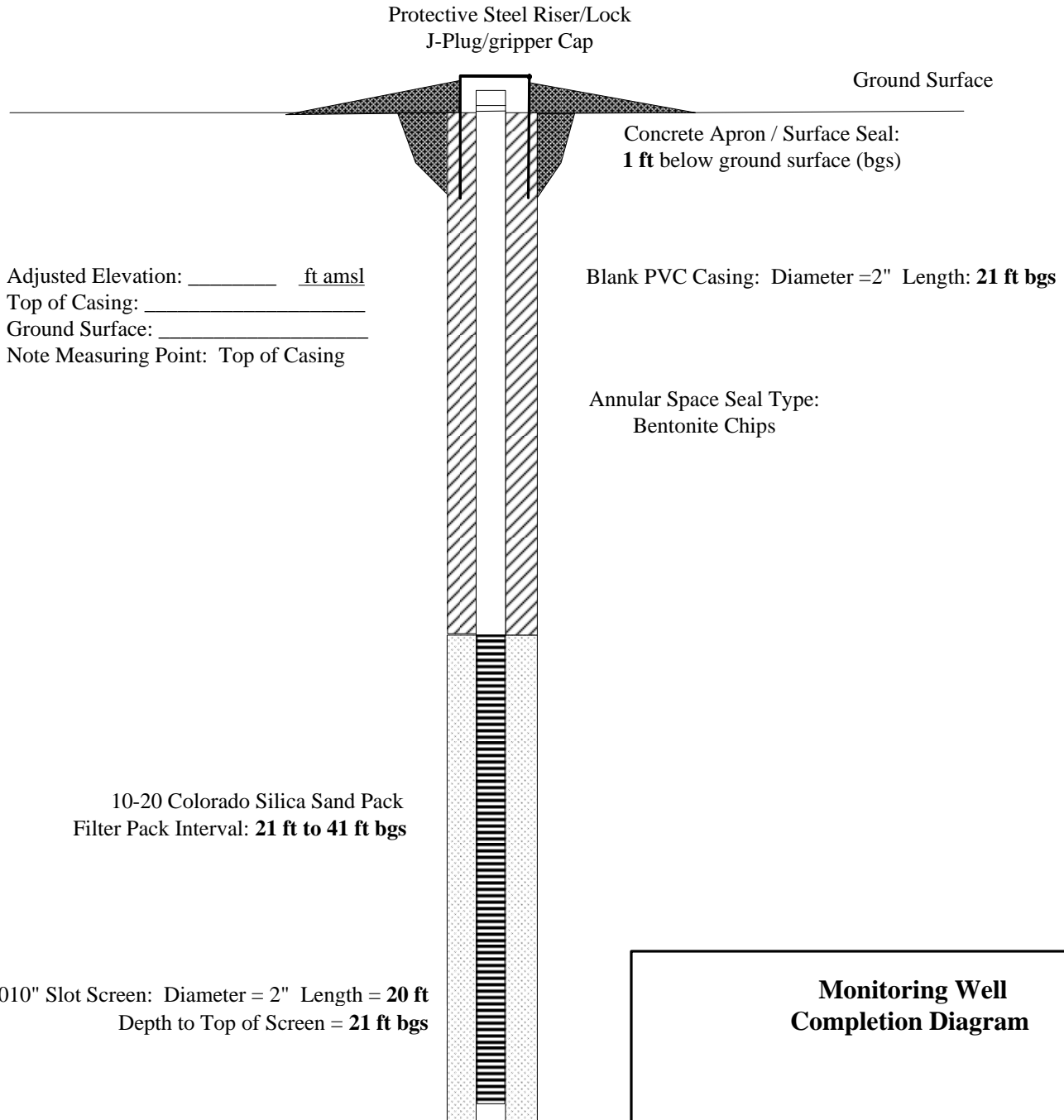
Total Depth: 50'

Soil/Rock Type	Color	Moisture Content	% Fines	Structure	Vapor (ppm)	Staining	Sample #	Depth (ft)	Sample Recovery %	Penetration Resistance	LITHOLOGY/REMARKS	WELL COMPLETION
	Tan		80	Loose	1.5	N		0			Badger Pilot Hole – Clay: tan, silty, common shale pieces. Clay: tan, silty, sandy, some shale pieces. Clay: brown, silty, sandy, some shale pieces. Saturated at 27' Caving to 47' Alluvium to total depth of 50' 50' Total Depth	See Well Completion Diagram for Monitoring Well MW16
							5					
							10					
							15					
							20					
							25					
							30					
							35					
							40					
							45					
							50					
							55					
							60					
							65					
							70					
							75					
							80					
							85					
							90					
							95					
							100					
							105					
							110					
							115					
							120					
							125					
							130					

MONITORING WELL COMPLETION DIAGRAM

Project: Williams Midstream MW Installation
 Location: Jangles Compressor Station
 Contractor: Olsson Associates
 Driller: Shelton Drilling Corp.
 Method: Air Rotary

Monitoring Well No. **MW17**
 Borehole No. 17
 Date: 10/11/12
 Observed By: W. Monroe
 Checked By: T. Dobransky
 Sheet 1 of 1



Adjusted Elevation: _____ ft amsl
 Top of Casing: _____
 Ground Surface: _____
 Note Measuring Point: Top of Casing

Blank PVC Casing: Diameter =2" Length: **21 ft bgs**

Annular Space Seal Type:
 Bentonite Chips

10-20 Colorado Silica Sand Pack
 Filter Pack Interval: **21 ft to 41 ft bgs**

PVC 0.010" Slot Screen: Diameter = 2" Length = 20 ft
 Depth to Top of Screen = 21 ft bgs

Bottom Cap = **41 ft**
 Total Depth = **42 ft**

Monitoring Well Completion Diagram

Revision Date:	101512
Revision Number	01
Revised by:	WWM
Approved by:	
Project Number:	012-2174
Scale:	Not to Scale

LOCATION MAP



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TEST HOLE/WELL LOG

PAGE 1 of 1

Test/Well Number: MW17

Project: Williams Midstream MW Installation

Date: 10/11/12

Project Number: 012-2174

Logged by: W. Monroe

Drilled by: Shelton

Drilling Method: Rotary

Sampling Method: Drill Cuttings

Elevation: TBD

Detector: MiniRay PID

Seal: Bentonite

Grout: NA

Gravel Pack: 10/20 Silica Sand

Hole Diameter: 5 in.

F. L. Meter:

Casing Type: Sch. 40 PVC

Diameter: 2 in.

Length: 21'

DTP: -

DTW: 21'

Screen Type: Sch. 40 PVC

Slot: 0.010

Diameter: 2 in.

Length: 20'

Well Depth: 41'

Total Depth: 42'

Soil/Rock Type	Color	Moisture Content	% Fines	Structure	Vapor (ppm)	Staining	Sample #	Depth (ft)	Sample Recovery %	Penetration Resistance	LITHOLOGY/REMARKS	WELL COMPLETION
	Tan		80 60	Loose	1.0	N		0			Badger Pilot Hole – Clay: tan, silty, common shale pieces. Clay: tan, silty, sandy, some shale pieces. Clay: brown, silty, sandy, some shale pieces. Saturated at 21' Caving to 41' Alluvium to total depth of 42' 42' Total Depth	See Well Completion Diagram for Monitoring Well MW17
							5					
							10					
							15					
							20					
							25					
							30					
							35					
							40					
							45					
							50					
							55					
							60					
							65					
							70					
							75					
							80					
							85					
							90					
							95					
							100					
							105					
							110					
							115					
							120					
							125					
							130					