

Borehole Logging Form

BH01		SITE NAME: JR1		CLIENT NAME: PDL Energy	
Date Started: 2/5/19		Location: Source Boring			
Date Completed: 2/5/19		TOC Elevation: NA		DTW: 15.50'	
Type of Drill: Direct Push Probe		Geologist: Jake McLaren			
Bit Size:		Project Manager: Brock Nelson			
Drilling Company: Tasman Geosciences					

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1			↑	↑		SM	Brn sand, fine gr poor sorting, dry, no odor
2			60% ↓	↓			
3			↓	0.0 ↑			
4			↓	↓			
5			↑	0.0 ↑		SW	DK Brn sand, med. gr, well sorted, dry, no odor
6			60% ↓	↓			
7			↓	0.0 ↑		SM	DK brn sand, poor sorting, some gravel, dry, no odor
8			↓	↓			
9			↑	↑			DK brn silty sand, poor sorting, some gravel, dry, no odor
10			50% ↓	0.0 ↑			
11			↓	↓			
12			↓	↓			
13			↑	0.0 ↑			DK brn fine sand, poor sorting, some gravel, dry, no odor
14			70% ↓	↓			
15			↓	0.0 ↑			DK brn silty sand, poor sorting, damp, no odor
16			↓	↓			
17			↑	↑		CI	gray silty clay, med. plast., HL odor damp
18			↓	↓			
19			↓	↑	BHOLE 18-20' Time: 0944		Tan/gray silty clay, med. plast., HL odor, damp
20			↓	↓			
21			↑	↑		ML	Tan clayey silt, low plast., damp, slight HL odor
22			70% ↓	↓			
23	X		↓	↑			
24			↓	3.7 ↓			
25			80% ↓	↑		SW	Brn fine sand, well sorted, saturated, no odor



Borehole Logging Form

Boring/Well ID #: B401 SITE NAME: JR 1 CLIENT NAME: PDL Energy
Date Started: 2/5/19 Location: Source Boring
Date Completed: 2/5/19 TOC Elevation: DTW: 15.50'
Type of Drill: Direct Push Probe Geologist: Jake McHarver
Bit Size: Project Manager:

Drilling Company:

0% Recovery

Depth (feet)	Well Completion	Sample Type	Blows (per 6 in.)	PID (ppm)	Laboratory Sample	USCS	Description
26			80% ↑ ↓	0.0 ↑ ↓		SW ↓	↓
27							
28							Well construction:
29							Riser 12-0'
30							Screen 22-12'
31							Hydrated Bentonite 10-0'
32							10-20 mesh Sand 22-10'
33							
34							
35							
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Borehole Logging Form

BH02

SITE NAME: JR1

CLIENT NAME: PDL Energy

Date Started: 2/5/19

Location: W of former excavation

Date Completed: 2/5/19

TOC Elevation: NA DTW: 14.82'

Type of Drill: Direct Push Probe

Geologist: Jake McLaren

Bit Size:

Project Manager: Brock Nelson

Drilling Company: Tasman Geosciences

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1			↑	0.0		SM	Brn silty sand, somewhat dry, no odor, well sorted
2			↓				
3			60% ↓	0.1			
4			↓	↓			
5			↑	0.0		CL	Tan/brn clayey silt, low plast., dry, no odor
6			50% ↓	↓			
7			↓	0.0		SW	Brn/tan fine sand, well sorted, dry, no odor
8			↓	↓			
9			↑	0.0		SM	Tan/brn silty sand, med. gr. Well sorted, dry, no odor
10			50% ↓	↓			
11			↓	0.0		CI	DK brn silty clay, med. plast., dry, no odor
12			↓	↓			
13			↑	0.0		SM	light brn silty sand, med. gr. Well sorted, damp, no odor
14			60% ↓	↓			
15			↓	0.0			
16			↓	↓			
17			↑	0.0		SW	Brn fine sand, well sorted saturated, no odor
18			80% ↓	↓			
19			↓	0.0			Tan fine sand, well sorted, saturated, no odor
20			↓	↓			
21	X						Well construction:
22							Riser 10-0'
23							Screen 20-10'
24							Hydrated Bentonite 8-0' to 10-0'
25							10-20 mesh sand 20-10' to 20-8'

Jim



Borehole Logging Form

BH04

SITE NAME: JR1

CLIENT NAME: PDL Energy

Date Started: 2/5/19

Location: Soft source boring

Date Completed: 2/5/19

TOC Elevation: NA

DTW: 14.82'

Type of Drill: Direct Push Probe

Geologist: Jake McIlver

Bit Size:

Project Manager: Brock Nelson

Drilling Company: Tasman Geosciences

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1			↑	↑		SM	DK brn silty sand, poor sorting, no odor, dry
2			80% ↓	0.0 ↓			
3			↓	↓			
4			↓	↓			
5			↑	↑		SP	DK brn sand, poorly sorted, no odor, damp, some gravel
6			80% ↓	0.0 ↓			
7			↓	↓			" " dry
8			↓	↓			
9			↑	↑		SM	Brn silty sand, poorly sorted, dry, no odor
10			80% ↓	0.0 ↓			
11			↓	↓		SC	Brn Sandy Clay, med. plast., dry, no odor
12			↓	↓			
13			↑	↑		SP	Brn Sand, poorly sorted fine-coarse grain, dry, no odor
14			70% ↓	0.0 ↓			
15			↓	↑		SM	Brn silty sand, med. gr., well sorted damp, few pieces of gravel
16			↓	↓			
17			↑	↑		SC	Brn clayey sand, low plast., saturated no odor, med. gr.
18			80% ↓	↓			
19			↓	↑		SM	Brn/tan/gray fine sand/silt slight H ₂ S odor, saturated
20			↓	↓			
21			↑	↑			Tan silty sand, med. gr., well sorted, saturated, no odor
22			60% ↓	0.0 ↓			
23	X		↓	↓			Well construction Kiser 12-0' Screen 22-12'
24							
25							Hydrated Bentonite 10-0' 10-20 mesh Sand 22-10'

Borehole Logging Form

BH05			SITE NAME:	SR I	CLIENT NAME:	PDC Energy
Date Started:	2/5/19		Location:	S of former excavation		
Date Completed:	2/5/19		TOC Elevation:	NA	DTW:	14.95'
Type of Drill:	Direct Push Probe		Geologist:	Jake McLaren		
Bit Size:			Project Manager:	Brock Nelson		
Drilling Company: Tasman Geosciences						
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	Description
1	-	-	↑	↑	SM	light brn silty fine sand well sorted, dry, no odor
2	-	-	80% ↓	↓	↓	↓
3	-	-	↓	↑	SL	DK brn clayey sand, low plasticity, dry, no odor, med gr, well sorted
4	-	-	↓	↓	↓	↓
5	-	-	↑	↑	SM	B rn silty sand, med gr., well sorted, dry, no odor
6	-	-	70% ↓	↓	↓	↓
7	-	-	↓	↑	SW	Tan / brn fine sand, well sorted, dry, no odor
8	-	-	↓	↓	↓	↓
9	-	-	↑	↑	SM	B rn silty sand, med gr., well sorted, dry, no odor
10	-	-	70% ↓	↓	↓	↓
11	-	-	↓	↑	SW	Tan fine sand, well sorted, damp, no odor
12	-	-	↓	↓	↓	↓
13	-	-	↑	↑	SM	Tan / brn silty sand, med gr, well sorted, damp, no odor
14	-	-	80% ↓	↓	↓	↓
15	-	-	↓	↑	ML	B rn clayey silt, low plasticity, saturated, no odor
16	-	-	↓	↓	↓	↓
17	-	-	↑	↑	SW	light brn fine sand, well sorted, saturated, no odor
18	-	-	40% ↓	↓	↓	↓
19	-	-	↓	↓	↓	↓
20	X	-	↓	↓	↓	↓
21	X	-				Well construction:
22		-				Riser 10-0'
23		-				Screen 20-10'
24		-				Hydrated Bentonite 8-0'
25		-				10-20 mesh sand 20-8'

Borehole Logging Form

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