

**OWENS PETROLEUM SERVICES, LLC
DRILLER'S LOG**

Operator: Legend

Lease / Well #: Cross #4 22-25-17 WOCO

API #: 15-207-28177-0000

	Date		Date		Date		Date
Spud/Surface	8-28-12	Drilled to TD	8-30-12	Logged		1" rods, pump	
Set Surface	8-28-12	Run Casing	8-30-12	Perforated		Lead Line/Elec	
Spud/Casing	8-29-12	Cemented LS		Frac/Acidized		Closed Pit	

Purpose	Size Drilled	Size Pipe	Weight #/ft	Setting Depth	Cement	# Sacks	Additives
Surface:	11 3/8	7"	new	22	92 lb/sack	20	-
Casing:	5 1/2	2 1/2	used	838			
Frac:							

Driller's TD:	847 ft	Seat Nipple:	776 ft	Pipe TD:	838 ft	Fluid Volume:	bbls
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Surface Bit and Subs: 3.70'

Kelly: Top of Groove to Square: 22.60'

Footage Above Ground Level: 1 Total

FOOTAGE:

FORMATION:

Bit and Sub	FOOTAGE	FORMATION
	1.9	
1st Collar	19.9	
2nd Collar	20.0	41.8
Joints 20.7' 1	62.5	S
2	83.2	
3	103.9	L 103'
4	124.6	L
5	145.3	L
6	166.0	L
7	186.7	L
8	207.4	L
9	228.1	L
10	248.8	S
11	269.5	L
12	290.2	L
13	310.9	L
14	331.6	L PR shale L
15	352.3	L
16	373.0	L
17	393.7	L-411
18	414.4	S
19	435.1	S
20	455.8	S
21	476.5	S
22	497.2	S
23	517.9	S
24	538.6	S

oil odor and show around 115

OPERATOR:

Legend

LEASE/WELL#

Cross #11

FOOTAGE:

FORMATION:

FOOTAGE:	FORMATION:	
25 559.3	S	
26 580.0	L 587-597	
27 600.7	L 602-611 L 612-614	approx 612-208 oil show
28 621.4	L 631-633	good show on pit
29 642.1	L 660-	
30 662.8	- L 65 L 670-	
31 683.5	- 671 L 697-700	
32 704.2	S	
33 724.9	L-724 - 742 742	737-742 slight odor
34 745.8	L 744-751 cup	
35 766.3	L 780-782	751-753 shale
36 787.0	samples	753-755 sandy shale no odor
37 807.7	S	755-757 sand & sandy shale odor
38 828.4		757-759 good sand - slight slight show
39 849.1		759-761 sand slight odor
40 869.8		761-764 sand better show
41 890.5		764-766 sand shale little show
42 911.2		766-768 mostly shale little show
43 931.9		768-770 shale
44 952.6		
45 973.3		
46 994.0		782-784 sand some shale show
47 1014.7		784-786 mostly sand - show
48 1035.4		786-788 mostly sand - good show
49 1056.1		788-790 mostly shale odor
50 1076.8		790-792 shale
51 1097.5		
52 1118.2		
53 1138.9	SIN 776	
54 1159.6		
55 1180.3		
56 1201.0	RTD 847	
57 1221.7		
58 1242.4		
59 1263.1		
60 1283.8		
61 1304.5		
62 1325.2		
63 1345.9		
64 1366.6		
65 1387.3		
66 1408.0		
67 1428.7		
68 1449.4		
69 1470.1		