

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1253614
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1253614

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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MWD
SURVEYS

Customer: Tapstone Energy
Well: Diel Farms 31-33-8 #1H
Field/Block: Mississippi Lime
Co./Parish: Harper Co.
State: KS

PGS Job #: LKS6117615
MWD Operator: Jeffery Treille
Directional Driller: Kyle Underwood
Date of First Survey: April 28, 2015
Date of Last Survey: May 5, 2015



Total Correction: 3.83 East Correction: Grid

Vertical Section Plane: 179.69 Nominal Dip Angle: 65.38 Magnetic Field Strength: 0.516

Measured Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure			DLS	Mtr Yield	Temp (°F)	Date	Time	Flow Rate	Hz	Watts	SNR (Survey)	SNR (Slide)	SNR (Rotate)	Comments
					+N / -S	+E / -W	Dist.	Angle													
Survey's are tied into: Assume Vertical at Casing Shoe @ 770'																					
Date Received: 04/28/15																					
Company:																					
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
1	825.00	0.40	333.50	824.99	-2.58	2.58	-1.28	2.88	333.50	0.05	0.00	79 °F	04/28/15	3:10	556 (gpm)	2.5	20	7.6	NA	11	
2	919.00	0.10	36.50	918.99	-2.94	2.94	-1.38	3.25	334.79	0.39	0.00	80 °F	04/28/15	3:30	542 (gpm)	2.5	20	7.6	NA	10	
3	1014.00	0.20	274.00	1,013.99	-3.02	3.02	-1.50	3.37	333.57	0.28	0.00	84 °F	04/28/15	3:53	559 (gpm)	2.5	20	8.5	NA	11	
4	1109.00	0.80	4.60	1,108.99	-3.70	3.69	-1.61	4.02	336.40	0.87	0.00	86 °F	04/28/15	4:15	605 (gpm)	2.5	20	8.6	NA	12	
5	1203.00	0.40	38.20	1,202.98	-4.61	4.60	-1.36	4.80	343.58	0.55	0.00	86 °F	04/28/15	4:35	605 (gpm)	2.5	20	9.3	NA	13	
6	1298.00	0.20	9.20	1,297.98	-5.03	5.02	-1.12	5.15	347.39	0.26	0.00	91 °F	04/28/15	5:06	616 (gpm)	2.5	20	9.1	NA	11	
7	1393.00	0.20	43.70	1,392.98	-5.31	5.31	-0.98	5.40	349.51	0.12	0.00	93 °F	04/28/15	5:44	605 (gpm)	2.5	20	8.6	NA	10	
8	1487.00	0.10	136.10	1,486.98	-5.37	5.37	-0.81	5.43	351.39	0.24	0.00	97 °F	04/28/15	6:20	605 (gpm)	2.5	20	8.4	NA	10	
9	1676.00	0.10	177.50	1,675.98	-5.09	5.08	-0.69	5.13	352.26	0.04	0.00	104 °F	04/28/15	7:49	605 (gpm)	2.5	17	20	NA	11	Downlink to 17 watts
10	1865.00	0.70	114.30	1,864.98	-4.44	4.44	0.37	4.46	4.74	0.35	0.00	108 °F	04/28/15	8:54	626 (gpm)	2.5	14	20	NA	11	Downlink from 17 watts to 14 watts to 12 watts
11	2052.00	0.40	81.70	2,051.97	-4.06	4.07	2.06	4.56	26.81	0.23	0.00	113 °F	04/28/15	9:48	626 (gpm)	2.5	12	20	NA	12	
12	2240.00	0.90	98.00	2,239.96	-3.93	3.96	4.17	5.75	46.48	0.28	0.00	115 °F	04/28/15	10:50	626 (gpm)	2.5	10	21	NA	12	Downlink to 10 watts
13	2429.00	0.90	66.90	2,428.93	-4.29	4.33	7.00	8.23	58.25	0.26	0.00	119 °F	04/28/15	11:59	626 (gpm)	2.5	10	21	NA	12	
14	2618.00	0.70	90.30	2,617.92	-4.86	4.91	9.52	10.71	62.73	0.20	0.00	120 °F	04/28/15	13:01	626 (gpm)	2.5	10	21	NA	13	
15	2803.00	0.90	92.20	2,802.90	-4.78	4.85	12.10	13.04	68.18	0.11	0.00	129 °F	04/28/15	15:22	626 (gpm)	2.5	10	20	19	14	
16	2988.00	0.70	83.10	2,987.88	-4.85	4.93	14.68	15.48	71.44	0.13	0.00	129 °F	04/28/15	17:14	626 (gpm)	2.5	10	20	NA	14	
17	3083.00	0.50	148.60	3,082.87	-4.56	4.64	15.47	16.15	73.29	0.71	0.00	93 °F	04/28/15	18:00	626 (gpm)	2.5	10	22	NA	11	
18	3176.00	0.40	182.10	3,175.87	-3.89	3.97	15.67	16.17	75.77	0.30	0.00	86 °F	04/28/15	18:38	626 (gpm)	2.5	10	20	NA	11	
19	3269.00	0.90	199.80	3,268.87	-2.88	2.96	15.41	15.69	79.12	0.57	0.00	91 °F	04/28/15	19:05	626 (gpm)	2.5	10	19	18	10	Downlink to 14 watts
20	3363.00	0.80	209.10	3,362.86	-1.61	1.69	14.84	14.94	83.49	0.18	0.00	95 °F	04/28/15	19:35	626 (gpm)	2.5	14	15	NA	10	
21	3457.00	0.40	246.70	3,456.85	-0.91	0.99	14.22	14.25	86.02	0.58	0.00	100 °F	04/28/15	20:05	626 (gpm)	2.5	14	17	NA	11	Downlink to CDS 4
22	3551.00	0.40	259.70	3,550.85	-0.73	0.80	13.60	13.62	86.63	0.10	0.00	102 °F	04/28/15	20:41	643 (gpm)	2.5	14	18	14	11	
23	3645.00	0.70	169.50	3,644.85	-0.11	0.18	13.38	13.38	89.24	0.86	0.00	108 °F	04/28/15	22:15	643 (gpm)	2.5	14	17	16	11	
24	3677.00	0.80	185.50	3,676.84	0.31	-0.24	13.39	13.39	91.01	0.72	0.00	110 °F	04/29/15	0:00	510 (gpm)	2.5	14	23	18	11	
25	3708.00	2.70	182.60	3,707.83	1.25	-1.18	13.34	13.39	95.06	6.13	13.50	113 °F	04/29/15	1:12	510 (gpm)	2.5	14	23	19	9	
26	3740.00	6.60	187.80	3,739.72	3.83	-3.76	13.05	13.58	106.06	12.25	12.25	113 °F	04/29/15	2:00	495 (gpm)	2.5	14	23	18	8.5	
27	3771.00	10.30	186.70	3,770.37	8.34	-8.28	12.49	14.98	123.53	11.95	12.30	115 °F	04/29/15	2:55	514 (gpm)	2.5	14	21	17	7.6	
28	3802.00	13.40	184.10	3,800.71	14.68	-14.61	11.91	18.85	140.82	10.14	15.70	115 °F	04/29/15	3:30	533 (gpm)	2.5	14	21	15	10.2	
29	3834.00	16.00	184.00	3,831.66	22.77	-22.71	11.34	25.38	153.48	8.13	14.40	115 °F	04/29/15	4:00	533 (gpm)	2.5	14	17	19	11	
30	3865.00	17.60	183.40	3,861.34	31.71	-31.65	10.76	33.43	161.23	5.19	13.40	118 °F	04/29/15	4:26	533 (gpm)	2.5	14	21	19	9.5	
31	3897.00	18.70	182.00	3,891.74	41.67	-41.61	10.29	42.86	166.10	3.70	10.00	118 °F	04/29/15	4:48	544 (gpm)	2.5	14	21	16	6	
32	3928.00	20.20	181.20	3,920.97	51.98	-51.93	10.01	52.88	169.09	4.91	12.60	118 °F	04/29/15	5:15	544 (gpm)	2.5	14	19	15	5	
33	3960.00	21.80	181.30	3,950.85	63.44	-63.39	9.76	64.14	171.25	5.00	10.00	118 °F	04/29/15	6:00	544 (gpm)	2.5	14	22	11	7.2	
34	3991.00	22.60	179.70	3,979.55	75.16	-75.10	9.66	75.72	172.67	3.23	6.20	120 °F	04/29/15	6:33	544 (gpm)	2.5	14	21	21	3.5	Adjust filter HP=1 / LP=4
35	4023.00	25.20	177.50	4,008.80	88.11	-88.06	9.99	88.63	173.53	8.59	16.00	120 °F	04/29/15	7:19	492 (gpm)	2.5	14	21	14	6.2	
36	4055.00	28.80	179.00	4,037.31	102.63	-102.58	10.42	103.11	174.20	11.45	16.60	122 °F	04/29/15	8:10	492 (gpm)	2.5	14	23	15	5.6	
37	4085.00	31.90	179.70	4,063.20	117.79	-117.73	10.59	118.21	174.86	10.40	17.30	122 °F	04/29/15	8:52	492 (gpm)	2.5	14	20	16	4.5	
38	4116.00	34.90	180.70	4,089.07	134.85	-134.80	10.52	135.21	175.54	9.84	19.00	122 °F	04/29/15	9:36	492 (gpm)	2.5	14	19	13	4.5	
39	4147.00	36.80	182.00	4,114.20	153.00	-152.95	10.09	153.28	176.23	6.60	20.50	124 °F	04/29/15	10:10	492 (gpm)	2.5	14	21	9	5.1	
40	4178.00	38.50	182.30	4,138.74	171.92	-171.87	9.38	172.12	176.88	5.52	21.40	124 °F	04/29/15	10:45	492 (gpm)	2.5	14	20	13	6.2	
41	4209.00	40.70	181.80	4,162.63	191.66	-191.61	8.67	191.81	177.41	7.17	22.00	126 °F	04/29/15	11:28	492 (gpm)	2.5	14	15	14	8.9	
42	4241.00	42.10	181.70	4,186.63	212.81	-212.77	8.03	212.92	177.84	4.38	19.00	127 °F	04/29/15	11:58	492 (gpm)	2.5	14	18	11	6.1	
43	4273.00	43.30	181.90	4,210.15	234.49	-234.46	7.35	234.57	178.21	3.77	20.10	127 °F	04/29/15	12:41	492 (gpm)	2.5	14	15	15	9.9	
44	4304.00	45.60	181.00	4,232.28	256.19	-256.16	6.80	256.25	178.48	7.69	22.00	127 °F	04/29/15	13:18	492 (gpm)	2.5	14	20	15	9.8	
45	4335.00	47.70	180.10	4,253.56	278.73	-278.70	6.59	278.77	178.65	7.10	18.30	127 °F	04/29/15	14:01	492 (gpm)	2.5	14	14	15	6.9	
46	4366.00	50.00	179.20	4,273.95	302.07	-302.04	6.73	302.11	178.72	7.73	20.00	127 °F	04/29/15	14:43	492 (gpm)	2.5	14	15	16	4.9	
47	4397.00	52.20	179.00	4,293.42	326.19	-326.16	7.11	326.23	178.75	7.11	15.70	131 °F	04/29/15	15:25	492 (gpm)	2.5	14	3.9	10.2	5.2	
48	4428.00	54.80	178.50	4,311.86	351.10	-351.07	7.66	351.15	178.75	8.49	18.00	131 °F	04/29/15	16:00	492 (gpm)	2.5	14	19	7.6	4.9	
49	4460.00	57.30	179.50	4,329.73	377.64	-377.61	8.12	377.69	178.77	8.23	14.60	131 °F	04/29/15	16:34	492 (gpm)	2.5	14	15	11.1	6.1	
50	4491.00	60.50	180.30	4,345.74	404.18	-404.15	8.16	404.23	178.84	10.56	18.20	131 °F	04/29/15	17:10	492 (gpm)	2.5	14	14	11.2	6.9	Downlink to 17 watts

MWD
SURVEYS

Customer: Tapstone Energy
Well: Diel Farms 31-33-8 #1H
Field/Block: Mississippi Lime
Co./Parish: Harper Co.
State: KS

PGS Job #: LKS6117615
MWD Operator: Jeffery Treille
Directional Driller: Kyle Underwood
Date of First Survey: April 28, 2015
Date of Last Survey: May 5, 2015



Total Correction: 3.83 East Correction: Grid

Vertical Section Plane: 179.69 Nominal Dip Angle: 65.38 Magnetic Field Strength: 0.516

Measured Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure										Comments				
					+N / -S	+E / -W	Dist.	Angle	DLS	Mtr Yield	Temp (°F)	Date	Time	Flow Rate	Hz	Watts		SNR (Survey)	SNR (Slide)	SNR (Rotate)	
51	4523.00	62.60	181.20	4,360.98	432.31	-432.28	7.79	432.35	178.97	7.01	0.00	131 °F	04/29/15	17:46	492 (gpm)	2.5	17	19	NA	6.5	Start tangent
52	4554.00	63.50	182.20	4,375.03	459.93	-459.90	6.97	459.95	179.13	4.09	0.00	133 °F	04/29/15	18:30	492 (gpm)	2.5	17	19	NA	6	
53	4585.00	63.90	182.70	4,388.77	487.69	-487.66	5.78	487.70	179.32	1.94	0.00	135 °F	04/29/15	19:25	492 (gpm)	2.5	17	21	15	5.5	
54	4616.00	63.20	182.00	4,402.57	515.41	-515.39	4.64	515.42	179.48	3.03	0.00	135 °F	04/29/15	20:20	492 (gpm)	2.5	17	19	NA	9.3	
55	4648.00	63.20	182.00	4,417.00	543.95	-543.94	3.65	543.95	179.62	0.00	0.00	135 °F	04/29/15	21:02	492 (gpm)	2.5	17	21	NA	11	
56	4679.00	63.80	181.40	4,430.83	571.68	-571.67	2.82	571.68	179.72	2.60	0.00	135 °F	04/29/15	20:43	492 (gpm)	2.5	17	3.6	NA	7.4	Exit Tangent
57	4709.00	64.30	181.40	4,443.96	598.64	-598.64	2.16	598.64	179.79	1.67	0.00	135 °F	04/29/15	22:50	492 (gpm)	2.5	17	20	16	6.9	
58	4741.00	66.50	181.30	4,457.28	627.72	-627.72	1.48	627.73	179.87	6.88	20.00	135 °F	04/29/15	23:35	492 (gpm)	2.5	17	21	16	9.9	
59	4772.00	69.80	182.00	4,468.82	656.47	-656.48	0.65	656.48	179.94	10.85	12.60	135 °F	04/30/15	0:30	492 (gpm)	2.5	17	20	15	10	
60	4804.00	72.30	181.90	4,479.21	686.71	-686.73	-0.38	686.73	180.03	7.82	19.80	135 °F	04/30/15	1:21	492 (gpm)	2.5	17	21	13	8	
61	4835.00	75.70	181.30	4,487.75	716.49	-716.51	-1.21	716.51	180.10	11.12	17.00	135 °F	04/30/15	2:12	492 (gpm)	2.5	17	20	16	5.6	
62	4866.00	78.30	181.10	4,494.73	746.68	-746.71	-1.84	746.71	180.14	8.41	18.60	135 °F	04/30/15	3:05	492 (gpm)	2.5	17	20	14	6.3	
63	4898.00	81.40	180.50	4,500.36	778.17	-778.20	-2.28	778.20	180.17	9.86	21.00	137 °F	04/30/15	4:23	492 (gpm)	2.5	17	22	17	5.9	
64	4930.00	84.30	179.80	4,504.35	809.92	-809.94	-2.37	809.95	180.17	9.32	21.30	137 °F	04/30/15	5:35	492 (gpm)	2.5	17	20	16	4.8	
65	4961.00	86.70	180.10	4,506.78	840.82	-840.85	-2.34	840.85	180.16	7.80	22.00	136 °F	04/30/15	6:44	492 (gpm)	2.5	17	22	13	4.5	Downlink to 4 Watts / TD Curve
66	5026.00	89.50	179.50	4,508.93	905.78	-905.80	-2.11	905.81	180.13	4.41	0.00	138 °F	05/01/15	8:20	230 (gpm)	2.5	17	15	13	16	
67	5058.00	89.60	180.30	4,509.19	937.78	-937.80	-2.06	937.81	180.13	2.52	0.00	135 °F	05/01/15	8:55	230 (gpm)	2.5	17	14	12	16	
68	5089.00	89.90	179.60	4,509.32	968.78	-968.80	-2.03	968.80	180.12	2.46	0.00	135 °F	05/01/15	9:15	230 (gpm)	2.5	17	16	12	16	
69	5121.00	90.10	179.90	4,509.32	1,000.78	-1,000.80	-1.89	1,000.80	180.11	1.13	0.00	135 °F	05/01/15	10:05	230 (gpm)	2.5	17	6	17	15	
70	5152.00	89.00	180.00	4,509.56	1,031.78	-1,031.80	-1.86	1,031.80	180.10	3.56	0.00	133 °F	05/01/15	10:35	230 (gpm)	2.5	17	19	16	17	
71	5183.00	87.90	180.80	4,510.40	1,062.76	-1,062.79	-2.08	1,062.79	180.11	4.39	0.00	135 °F	05/01/15	11:00	230 (gpm)	2.5	17	18	16	6	
72	5215.00	88.30	180.80	4,511.46	1,094.74	-1,094.77	-2.53	1,094.77	180.13	1.25	0.00	135 °F	05/01/15	11:20	230 (gpm)	2.5	17	19	16	14	
73	5246.00	88.70	181.90	4,512.27	1,125.71	-1,125.75	-3.26	1,125.75	180.17	3.77	0.00	135 °F	05/01/15	11:45	230 (gpm)	2.5	17	18	16	14	
74	5278.00	89.10	181.60	4,512.89	1,157.69	-1,157.73	-4.23	1,157.73	180.21	1.56	0.00	135 °F	05/01/15	12:15	230 (gpm)	2.5	17	18	15	5	
75	5309.00	89.10	180.40	4,513.38	1,188.67	-1,188.72	-4.77	1,188.73	180.23	3.87	0.00	135 °F	05/01/15	12:40	230 (gpm)	2.5	17	17	16	13	
76	5341.00	89.50	180.00	4,513.77	1,220.67	-1,220.71	-4.89	1,220.72	180.23	1.77	0.00	135 °F	05/01/15	13:15	246 (gpm)	2.5	17	18	17	16	
77	5373.00	88.70	180.50	4,514.27	1,252.66	-1,252.71	-5.02	1,252.72	180.23	2.95	0.00	135 °F	05/01/15	14:00	246 (gpm)	2.5	17	18	16	6	
78	5404.00	88.10	179.80	4,515.14	1,283.65	-1,283.70	-5.11	1,283.71	180.23	2.97	0.00	135 °F	05/01/05	14:30	246 (gpm)	2.5	17	18	16	8	
79	5435.00	88.50	181.70	4,516.06	1,314.63	-1,314.68	-5.51	1,314.69	180.24	6.26	0.00	138 °F	05/01/15	15:00	246 (gpm)	2.5	14	17	16	13	Downlink to 14 Watts.
80	5465.00	89.30	181.70	4,516.63	1,344.61	-1,344.66	-6.40	1,344.68	180.27	2.67	0.00	138 °F	05/01/15	15:30	246 (gpm)	2.5	14	18	16	4	
81	5495.00	88.50	181.10	4,517.21	1,374.59	-1,374.65	-7.13	1,374.66	180.30	3.33	0.00	138 °F	05/01/15	16:00	246 (gpm)	2.5	14	17	16	14	Downlink to Custom #1
82	5525.00	87.30	181.20	4,518.31	1,404.56	-1,404.62	-7.74	1,404.64	180.32	4.01	0.00	138 °F	05/01/15	16:40	246 (gpm)	2.5	14	4	14	15	
83	5555.00	87.40	180.20	4,519.69	1,434.52	-1,434.58	-8.10	1,434.61	180.32	3.35	0.00	140 °F	05/01/15	17:00	246 (gpm)	2.5	14	4	15	13	
84	5585.00	87.40	180.80	4,521.05	1,464.49	-1,464.55	-8.36	1,464.58	180.33	2.00	0.00	140 °F	05/01/15	17:15	246 (gpm)	2.5	14	18	15	12	
85	5616.00	87.90	180.70	4,522.33	1,495.45	-1,495.52	-8.77	1,495.55	180.34	1.64	0.00	140 °F	05/01/15	18:12	246 (gpm)	2.5	14	18	16	12	
86	5646.00	88.60	180.90	4,523.24	1,525.43	-1,525.51	-9.19	1,525.53	180.35	2.43	0.00	140 °F	05/01/15	18:41	246 (gpm)	2.5	14	17	NA	13	
87	5677.00	88.80	181.40	4,523.94	1,556.42	-1,556.49	-9.81	1,556.52	180.36	1.74	0.00	142 °F	05/01/15	19:11	246 (gpm)	2.5	14	18	NA	13	
88	5708.00	89.10	181.10	4,524.51	1,587.40	-1,587.48	-10.49	1,587.51	180.38	1.37	0.00	142 °F	05/01/15	19:37	246 (gpm)	2.5	14	17	NA	15	
89	5738.00	89.50	180.90	4,524.88	1,617.39	-1,617.47	-11.01	1,617.51	180.39	1.49	0.00	142 °F	05/01/15	20:00	246 (gpm)	2.5	14	16	NA	11	
90	5768.00	89.90	180.70	4,525.04	1,647.38	-1,647.47	-11.43	1,647.51	180.40	1.49	0.00	142 °F	05/01/15	20:32	246 (gpm)	2.5	14	18	15	16	
91	5798.00	89.60	180.00	4,525.17	1,677.38	-1,677.47	-11.61	1,677.51	180.40	2.54	0.00	142 °F	05/01/15	20:55	246 (gpm)	2.5	14	3.9	NA	13	
92	5828.00	89.60	179.70	4,525.38	1,707.38	-1,707.47	-11.53	1,707.51	180.39	1.00	0.00	144 °F	05/01/15	21:26	246 (gpm)	2.5	14	3.9	13	11	
93	5858.00	89.20	180.20	4,525.69	1,737.38	-1,737.47	-11.51	1,737.50	180.38	2.13	0.00	141 °F	05/01/15	22:06	246 (gpm)	2.5	14	17	NA	11	
94	5888.00	89.20	179.20	4,526.11	1,767.37	-1,767.46	-11.35	1,767.50	180.37	3.33	0.00	142 °F	05/01/15	23:00	246 (gpm)	2.5	14	16	15	12	
95	5919.00	88.40	179.00	4,526.76	1,798.37	-1,798.45	-10.86	1,798.48	180.35	2.66	0.00	144 °F	05/01/15	23:40	246 (gpm)	2.5	14	17	NA	14	
96	5949.00	88.30	178.90	4,527.62	1,828.35	-1,828.43	-10.31	1,828.46	180.32	0.47	0.00	144 °F	05/02/15	0:00	246 (gpm)	2.5	14	17	NA	13	
97	5980.00	88.30	180.00	4,528.54	1,859.34	-1,859.42	-10.02	1,859.44	180.31	3.55	0.00	144 °F	05/02/15	0:42	246 (gpm)	2.5	14	18	NA	12	
98	6010.00	88.90	181.00	4,529.28	1,889.32	-1,889.41	-10.28	1,889.43	180.31	3.89	0.00	144 °F	05/02/15	1:20	246 (gpm)	2.5	14	16	NA	13	
99	6040.00	89.20	180.10	4,529.77	1,919.32	-1,919.40	-10.57	1,919.43	180.32	3.16	0.00	144 °F	05/02/15	1:39	246 (gpm)	2.5	14	16	NA	14	
100	6070.00	89.10	181.00	4,530.22	1,949.31	-1,949.40	-10.85	1,949.43	180.32	3.02	0.00	144 °F	05/02/15	2:19	246 (gpm)	2.5	14	17	NA	12	
101	6101.00	89.80	179.70	4,530.52	1,980.30	-1,980.39	-11.04	1,980.42	180.32	4.76	0.00	144 °F	05/02/15	3:00	246 (gpm)	2.5	14	16	NA	13	
102	6131.00	90.00	180.30	4,530.57	2,010.30	-2,010.39	-11.04	2,010.42	180.31	2.11	0.00	144 °F	05/02/15	3:53	246 (gpm)	2.5	14	12	14	11	
103	6161.00	88.80	179.10	4,530.88	2,040.30	-2,040.39	-10.89	2,040.42	180.31	5.66	0.00	146 °F	05/02/15	4:27	246 (gpm)	2.5	14	17	NA	12	

MWD
SURVEYS

Customer: Tapstone Energy
Well: Diel Farms 31-33-8 #1H
Field/Block: Mississippi Lime
Co./Parish: Harper Co.
State: KS

PGS Job #: LKS6117615
MWD Operator: Jeffery Treille
Directional Driller: Kyle Underwood
Date of First Survey: April 28, 2015
Date of Last Survey: May 5, 2015



Total Correction: 3.83 East Correction: Grid

Vertical Section Plane: 179.69 Nominal Dip Angle: 65.38 Magnetic Field Strength: 0.516

Measured Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure				Mtr Yield	Temp (°F)	Date	Time	Flow Rate	Hz	Watts	SNR (Survey)	SNR (Slide)	SNR (Rotate)	Comments
					+N / -S	+E / -W	Dist.	Angle	DLS												
104	6192.00	88.80	179.10	4,531.53	2,071.29	-2,071.38	-10.40	2,071.41	180.29	0.00	0.00	144 °F	05/02/15	6:30	246 (gpm)	2.5	14	16	NA	13	Downlink to 10 Watts.
105	6222.00	88.50	179.80	4,532.24	2,101.28	-2,101.37	-10.11	2,101.39	180.28	2.54	0.00	147 °F	05/02/15	7:15	246 (gpm)	2.5	10	7	NA	15	
106	6252.00	88.30	179.80	4,533.08	2,131.27	-2,131.36	-10.01	2,131.38	180.27	0.67	0.00	147 °F	05/02/15	7:45	246 (gpm)	2.5	10	16	NA	9	
107	6283.00	88.70	179.50	4,533.89	2,162.26	-2,162.35	-9.82	2,162.37	180.26	1.61	0.00	149 °F	05/02/15	8:05	246 (gpm)	2.5	10	4	NA	10	
108	6313.00	89.10	180.60	4,534.46	2,192.25	-2,192.34	-9.84	2,192.36	180.26	3.90	0.00	147 °F	05/02/15	9:00	246 (gpm)	2.5	10	13	9	14	
109	6343.00	88.50	180.30	4,535.09	2,222.25	-2,222.33	-10.08	2,222.36	180.26	2.24	0.00	147 °F	05/02/15	9:40	246 (gpm)	2.5	10	12	NA	13	
110	6373.00	88.50	179.40	4,535.88	2,252.23	-2,252.32	-10.00	2,252.34	180.25	3.00	0.00	149 °F	05/02/15	10:00	246 (gpm)	2.5	10	17	NA	12	
111	6404.00	88.20	179.30	4,536.77	2,283.22	-2,283.31	-9.65	2,283.33	180.24	1.02	0.00	149 °F	05/02/15	10:30	246 (gpm)	2.5	10	19	NA	12	
112	6434.00	87.80	179.30	4,537.82	2,313.20	-2,313.29	-9.28	2,313.30	180.23	1.33	0.00	149 °F	05/02/15	11:05	246 (gpm)	2.5	10	4	NA	9	
113	6465.00	88.60	178.60	4,538.79	2,344.18	-2,344.27	-8.71	2,344.28	180.21	3.43	0.00	149 °F	05/02/15	11:45	246 (gpm)	2.5	10	15	12	14	
114	6496.00	89.60	179.60	4,539.28	2,375.18	-2,375.26	-8.23	2,375.27	180.20	4.56	0.00	147 °F	05/02/15	13:30	246 (gpm)	2.5	10	12	NA	12	
115	6525.00	90.90	178.60	4,539.15	2,404.17	-2,404.25	-7.77	2,404.26	180.19	5.66	0.00	149 °F	05/02/15	15:00	246 (gpm)	2.5	10	17	9	14	
116	6556.00	90.10	178.50	4,538.88	2,435.17	-2,435.24	-6.99	2,435.25	180.16	2.60	0.00	149 °F	05/02/15	16:00	246 (gpm)	2.5	10	9.5	12	16	
117	6587.00	88.70	179.50	4,539.20	2,466.16	-2,466.23	-6.45	2,466.24	180.15	5.55	0.00	151 °F	05/02/15	16:40	246 (gpm)	2.5	10	8	NA	4	
118	6618.00	88.40	180.00	4,539.99	2,497.15	-2,497.22	-6.31	2,497.23	180.14	1.88	0.00	151 °F	05/02/15	17:15	246 (gpm)	2.5	14	9	NA	4	Downlink to 14 Watts.
119	6647.00	89.00	179.20	4,540.65	2,526.14	-2,526.21	-6.11	2,526.22	180.14	3.45	0.00	153 °F	05/02/15	18:00	246 (gpm)	2.5	14	9.6	NA	5	
120	6678.00	89.40	180.50	4,541.08	2,557.14	-2,557.21	-6.03	2,557.22	180.14	4.39	0.00	153 °F	05/02/15	18:35	246 (gpm)	2.5	14	9.5	NA	7.2	
121	6708.00	89.90	179.60	4,541.26	2,587.14	-2,587.21	-6.05	2,587.22	180.13	3.43	0.00	151 °F	05/02/15	19:52	246 (gpm)	2.5	14	10	5.7	6.1	
122	6739.00	89.20	180.10	4,541.51	2,618.14	-2,618.21	-5.97	2,618.21	180.13	2.77	0.00	147 °F	05/02/15	20:50	246 (gpm)	2.5	14	11	11	8.5	
123	6768.00	88.30	180.50	4,542.14	2,647.13	-2,647.20	-6.12	2,647.21	180.13	3.40	0.00	117 °F	05/03/15	7:00	246 (gpm)	2.5	24	11	NA	2	Downlink to 24 Watts.
124	6798.00	88.10	180.70	4,543.08	2,677.11	-2,677.18	-6.44	2,677.19	180.14	0.94	0.00	119 °F	05/03/15	8:20	246 (gpm)	2.5	33	11	NA	2	Downlink to 33 Watts.
125	6828.00	88.30	180.40	4,544.02	2,707.09	-2,707.17	-6.73	2,707.18	180.14	1.20	0.00	122 °F	05/03/15	8:55	246 (gpm)	2.5	33	16	7.7	3	Experiencing High Noise while rot. Possible formation.
126	6858.00	89.10	180.80	4,544.70	2,737.08	-2,737.16	-7.04	2,737.17	180.15	2.98	0.00	126 °F	05/03/15	9:10	246 (gpm)	2.5	33	14	NA	3	
127	6889.00	89.00	180.70	4,545.22	2,768.07	-2,768.15	-7.45	2,768.16	180.15	0.46	0.00	129 °F	05/03/15	9:45	246 (gpm)	2.5	33	16	NA	3.5	
128	6919.00	89.10	180.40	4,545.72	2,798.06	-2,798.15	-7.73	2,798.16	180.16	1.05	0.00	131 °F	05/03/15	10:15	246 (gpm)	2.5	33	17	7	3	
129	6950.00	89.40	179.30	4,546.12	2,829.06	-2,829.14	-7.65	2,829.15	180.15	3.68	0.00	131 °F	05/03/15	11:05	246 (gpm)	2.5	33	4	NA	3	Switching to Stand alone Gen to get away from noise.
130	6981.00	89.90	179.00	4,546.31	2,860.06	-2,860.14	-7.19	2,860.15	180.14	1.88	0.00	133 °F	05/03/15	11:35	246 (gpm)	2.5	33	16	8.5	2.5	
131	7012.00	90.40	179.00	4,546.23	2,891.05	-2,891.13	-6.65	2,891.14	180.13	1.61	0.00	133 °F	05/03/15	11:55	246 (gpm)	2.5	33	17	NA	3	
132	7042.00	90.50	178.60	4,545.99	2,921.05	-2,921.13	-6.02	2,921.13	180.12	1.37	0.00	133 °F	05/03/15	12:10	246 (gpm)	2.5	33	10	NA	5	
133	7073.00	90.00	179.10	4,545.86	2,952.05	-2,952.12	-5.40	2,952.12	180.10	2.28	0.00	133 °F	05/03/15	12:25	246 (gpm)	2.5	33	15	NA	5	
134	7104.00	90.20	178.60	4,545.80	2,983.04	-2,983.11	-4.78	2,983.12	180.09	1.74	0.00	135 °F	05/03/15	12:50	246 (gpm)	2.5	33	15	NA	4	
135	7134.00	90.80	178.70	4,545.54	3,013.04	-3,013.10	-4.07	3,013.11	180.08	2.03	0.00	138 °F	05/03/15	13:30	246 (gpm)	2.5	33	10	NA	4	
136	7164.00	91.30	179.20	4,544.99	3,043.03	-3,043.09	-3.52	3,043.09	180.07	2.36	0.00	140 °F	05/03/15	14:50	246 (gpm)	2.5	33	10	NA	4	
137	7194.00	90.40	179.00	4,544.55	3,073.02	-3,073.09	-3.05	3,073.09	180.06	3.07	0.00	140 °F	05/03/15	16:00	246 (gpm)	2.5	33	10	8	6	
138	7224.00	89.40	178.40	4,544.60	3,103.02	-3,103.08	-2.37	3,103.08	180.04	3.89	0.00	122 °F	05/04/15	3:30	190 (gpm)	2.5	24	9.2	NA	4	
139	7255.00	89.10	177.70	4,545.01	3,134.00	-3,134.06	-1.32	3,134.06	180.02	2.46	0.00	124 °F	05/04/15	4:20	210 (gpm)	2.5	24	4.2	15	4	
140	7287.00	88.60	178.60	4,545.65	3,165.98	-3,166.03	-0.28	3,166.03	180.01	3.22	0.00	122 °F	05/04/15	4:52	210 (gpm)	2.5	24	13	NA	4	
141	7318.00	88.80	178.60	4,546.35	3,196.97	-3,197.02	0.47	3,197.02	179.99	0.65	0.00	110 °F	05/04/15	5:36	210 (gpm)	2.5	24	4	NA	4	
142	7350.00	88.20	178.30	4,547.19	3,228.95	-3,228.99	1.34	3,228.99	179.98	2.10	0.00	104 °F	05/04/15	6:30	210 (gpm)	2.5	24	14	NA	3.5	
143	7381.00	88.10	178.70	4,548.19	3,259.93	-3,259.97	2.15	3,259.97	179.96	1.33	0.00	102 °F	05/04/15	7:40	210 (gpm)	2.5	24	14	NA	2	
144	7413.00	88.20	178.60	4,549.22	3,291.91	-3,291.94	2.90	3,291.94	179.95	0.44	0.00	99 °F	05/04/15	8:00	210 (gpm)	2.5	24	14	NA	2	
145	7444.00	87.70	178.50	4,550.33	3,322.88	-3,322.91	3.69	3,322.91	179.94	1.64	0.00	95 °F	05/04/15	9:00	210 (gpm)	2.5	24	10	8	3	
146	7476.00	88.20	178.50	4,551.48	3,354.85	-3,354.88	4.52	3,354.88	179.92	1.56	0.00	99 °F	05/04/15	10:00	210 (gpm)	2.5	24	13	8	7.3	
147	7508.00	89.40	179.40	4,552.15	3,386.84	-3,386.87	5.11	3,386.87	179.91	4.69	0.00	101 °F	05/04/15	11:00	210 (gpm)	2.5	24	8.3	7	6	
148	7539.00	89.90	180.80	4,552.34	3,417.84	-3,417.86	5.06	3,417.87	179.92	4.80	0.00	104 °F	05/04/15	11:40	210 (gpm)	2.5	24	4	NA	3.2	
149	7571.00	90.10	181.30	4,552.34	3,449.83	-3,449.86	4.47	3,449.86	179.93	1.68	0.00	102 °F	05/04/15	12:10	210 (gpm)	2.5	24	8.8	NA	3	
150	7602.00	90.40	182.00	4,552.20	3,480.81	-3,480.84	3.58	3,480.85	179.94	2.46	0.00	104 °F	05/04/15	12:30	210 (gpm)	2.5	24	7	NA	3.9	
151	7633.00	90.70	182.40	4,551.90	3,511.78	-3,511.82	2.39	3,511.82	179.96	1.61	0.00	104 °F	05/04/15	13:10	210 (gpm)	2.5	24	5.5	10	4	
152	7665.00	90.80	182.10	4,551.48	3,543.75	-3,543.79	1.13	3,543.79	179.98	0.99	0.00	106 °F	05/04/15	13:50	246 (gpm)	2.5	24	9.1	NA	5	
153	7696.00	90.80	182.10	4,551.05	3,574.72	-3,574.77	0.00	3,574.77	180.00	0.00	0.00	106 °F	05/04/15	14:45	246 (gpm)	2.5	24	8.1	7	4	
154	7728.00	90.10	182.20	4,550.80	3,606.69	-3,606.75	-1.21	3,606.75	180.02	2.21	0.00	106 °F	05/04/15	15:45	246 (gpm)	2.5	24	9.3	7	4	
155	7759.00	90.10	182.60	4,550.75	3,637.65	-3,637.72	-2.50	3,637.72	180.04	1.29	0.00	111 °F	05/04/15	16:30	246 (gpm)	2.5	24	9.3	6.1	3.5	
156	7791.00	89.70	182.80	4,550.80	3,669.61	-3,669.68	-4.01	3,669.68	180.06	1.40	0.00	111 °F	05/04/15	17:10	246 (gpm)	2.5					

MWD
SURVEYS

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Field/Block: Mississippi Lime
Co./Parish: Harper Co.
State: KS

PGS Job #: LKS6117615
MWD Operator: Jeffery Treille
Directional Driller: Kyle Underwood
Date of First Survey: April 28, 2015
Date of Last Survey: May 5, 2015



Total Correction: 3.83 East Correction: Grid

Vertical Section Plane: 179.69 Nominal Dip Angle: 65.38 Magnetic Field Strength: 0.516

Measured Depth	Inc.	Azim.	T.V.D.	Ver. Sect.	Coordinates		Closure			Mtr Yield	Temp (°F)	Date	Time	Flow Rate	Hz	Watts	SNR (Survey)	SNR (Slide)	SNR (Rotate)	Comments	
					+N / -S	+E / -W	Dist.	Angle	DLS												
157	7822.00	89.00	182.60	4,551.15	3,700.56	-3,700.65	-5.47	3,700.65	180.08	2.35	0.00	113 °F	05/04/15	18:00	246 (gpm)	2.5	24	8	NA	2.7	
158	7854.00	88.20	182.20	4,551.94	3,732.52	-3,732.61	-6.81	3,732.61	180.10	2.79	0.00	115 °F	05/04/15	18:23	246 (gpm)	2.5	24	9	NA	5	
159	7886.00	90.00	183.20	4,552.44	3,764.47	-3,764.57	-8.32	3,764.58	180.13	6.43	0.00	113 °F	05/04/15	19:06	246 (gpm)	2.5	24	6	9	4	Verify Downlink OK
160	7917.00	90.40	183.30	4,552.33	3,795.41	-3,795.52	-10.08	3,795.53	180.15	1.33	0.00	115 °F	05/04/15	19:50	246 (gpm)	2.5	24	8	NA	5	
161	7949.00	89.80	183.30	4,552.27	3,827.34	-3,827.46	-11.92	3,827.48	180.18	1.88	0.00	115 °F	05/04/15	21:00	246 (gpm)	2.5	24	9	8	5	
162	7980.00	88.30	183.90	4,552.79	3,858.27	-3,858.40	-13.86	3,858.42	180.21	5.21	0.00	115 °F	05/04/15	21:32	246 (gpm)	2.5	24	9	NA	7	
163	8012.00	88.20	183.50	4,553.77	3,890.17	-3,890.32	-15.93	3,890.35	180.23	1.29	0.00	115 °F	05/04/15	22:05	246 (gpm)	2.5	24	10	NA	5	
164	8043.00	88.70	183.10	4,554.60	3,921.10	-3,921.25	-17.71	3,921.29	180.26	2.07	0.00	115 °F	05/04/15	22:30	246 (gpm)	2.5	24	9	NA	5	
165	8075.00	88.60	183.00	4,555.36	3,953.04	-3,953.20	-19.41	3,953.25	180.28	0.44	0.00	115 °F	05/04/15	23:15	246 (gpm)	2.5	24	7	NA	4	
166	8106.00	87.90	183.40	4,556.30	3,983.96	-3,984.14	-21.14	3,984.19	180.30	2.60	0.00	117 °F	05/04/01	23:41	246 (gpm)	2.5	24	9	NA	4	
167	8138.00	86.60	183.10	4,557.84	4,015.86	-4,016.05	-22.96	4,016.11	180.33	4.17	0.00	117 °F	05/05/15	0:24	246 (gpm)	2.5	24	9	10	6	
168	8169.00	85.70	182.00	4,559.92	4,046.75	-4,046.94	-24.33	4,047.02	180.34	4.58	0.00	119 °F	05/05/15	1:23	246 (gpm)	2.5	24	9	10	7	
169	8200.00	85.60	181.60	4,562.27	4,077.64	-4,077.84	-25.30	4,077.92	180.36	1.33	0.00	117 °F	05/05/15	2:26	246 (gpm)	2.5	24	10	9	5	
170	8232.00	85.50	181.40	4,564.76	4,109.53	-4,109.73	-26.14	4,109.82	180.36	0.70	0.00	117 °F	05/05/15	4:00	246 (gpm)	2.5	24	10	10	5	
171	8257.00	86.20	181.40	4,566.56	4,134.45	-4,134.66	-26.75	4,134.75	180.37	2.80	0.00	117 °F	05/05/15	15:00	210 (gpm)	2.5	24	6.1	9	5	
172	8289.00	87.50	181.00	4,568.32	4,166.39	-4,166.60	-27.42	4,166.69	180.38	4.25	0.00	120 °F	05/05/15	16:00	210 (gpm)	2.5	24	7	6.1	4.5	
173	8320.00	88.20	180.30	4,569.49	4,197.37	-4,197.58	-27.77	4,197.67	180.38	3.19	0.00	120 °F	05/05/15	16:45	210 (gpm)	2.5	24	8	5.1	4	
174	8351.00	89.50	178.90	4,570.11	4,228.36	-4,228.57	-27.55	4,228.66	180.37	6.16	0.00	122 °F	05/05/15	17:20	210 (gpm)	2.5	24	9	6	4	
175	8383.00	90.00	178.40	4,570.25	4,260.35	-4,260.56	-26.80	4,260.65	180.36	2.21	0.00	122 °F	05/05/15	17:50	210 (gpm)	2.5	24	9	NA	3.8	
176	8414.00	90.70	178.60	4,570.06	4,291.35	-4,291.55	-25.99	4,291.63	180.35	2.35	0.00	122 °F	05/05/15	18:12	210 (gpm)	2.5	24	8	NA	4	
177	8446.00	90.70	179.00	4,569.67	4,323.34	-4,323.54	-25.32	4,323.61	180.34	1.25	0.00	122 °F	05/05/15	18:50	210 (gpm)	2.5	24	8	NA	5	
178	8477.00	90.30	179.00	4,569.40	4,354.34	-4,354.53	-24.77	4,354.61	180.33	1.29	0.00	122 °F	05/05/15	19:20	210 (gpm)	2.5	24	9	NA	6	
179	8509.00	90.20	179.00	4,569.26	4,386.33	-4,386.53	-24.22	4,386.60	180.32	0.31	0.00	124 °F	05/05/15	19:48	210 (gpm)	2.5	24	7	NA	6	
180	8540.00	90.30	179.00	4,569.12	4,417.33	-4,417.52	-23.67	4,417.59	180.31	0.32	0.00	122 °F	05/05/15	20:15	210 (gpm)	2.5	24	3	NA	7	
181	8571.00	90.50	179.00	4,568.91	4,448.33	-4,448.52	-23.13	4,448.58	180.30	0.65	0.00	122 °F	05/05/15	20:44	210 (gpm)	2.5	24	8	NA	6	
182	8604.00	90.40	179.10	4,568.65	4,481.33	-4,481.51	-22.59	4,481.57	180.29	0.43	0.00	122 °F	05/05/15	21:16	210 (gpm)	2.5	24	9	NA	7	
183	8635.00	90.60	178.90	4,568.38	4,512.32	-4,512.51	-22.05	4,512.56	180.28	0.91	0.00	122 °F	05/05/15	21:52	210 (gpm)	2.5	24	8	NA	5	
PTB	8716.00	90.60	178.90	4,567.53	4,593.31	-4,593.49	-20.49	4,593.53	180.26	0.00											

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Field/Block: Mississippi Lime
Co./Parish: Harper Co.
State: KS

PGS Job #: LKS6117615
MWD Operator: Jeffery Treille
Directional Driller: Kyle Underwood
Date of First Survey: April 28, 2015
Date of Last Survey: May 5, 2015



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Measured		Coordinates				Closure														
Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N / -S	+E / -W	Dist.	Angle	DLS	Mtr Yield	Temp (°F)	Date	Time	Flow Rate	Hz	Watts	SNR (Survey)	SNR (Slide)	SNR (Rotate)	Comments

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TOPOGRAPHIC LAND SURVEYORS

6709 NORTH CLASSEN BLVD., OKLA. CITY, OKLA. 73116 * LOCAL (405) 843-4847 * OUT OF STATE (800) 654-3219
 Certificate of Authorization No. LS-99, Exp. Dec. 31, 2015

HARPER

County, Kansas

200'FSL-1980'FEL Section 30 Township 33S Range 8W P.M.

X 2081561
Y 176906

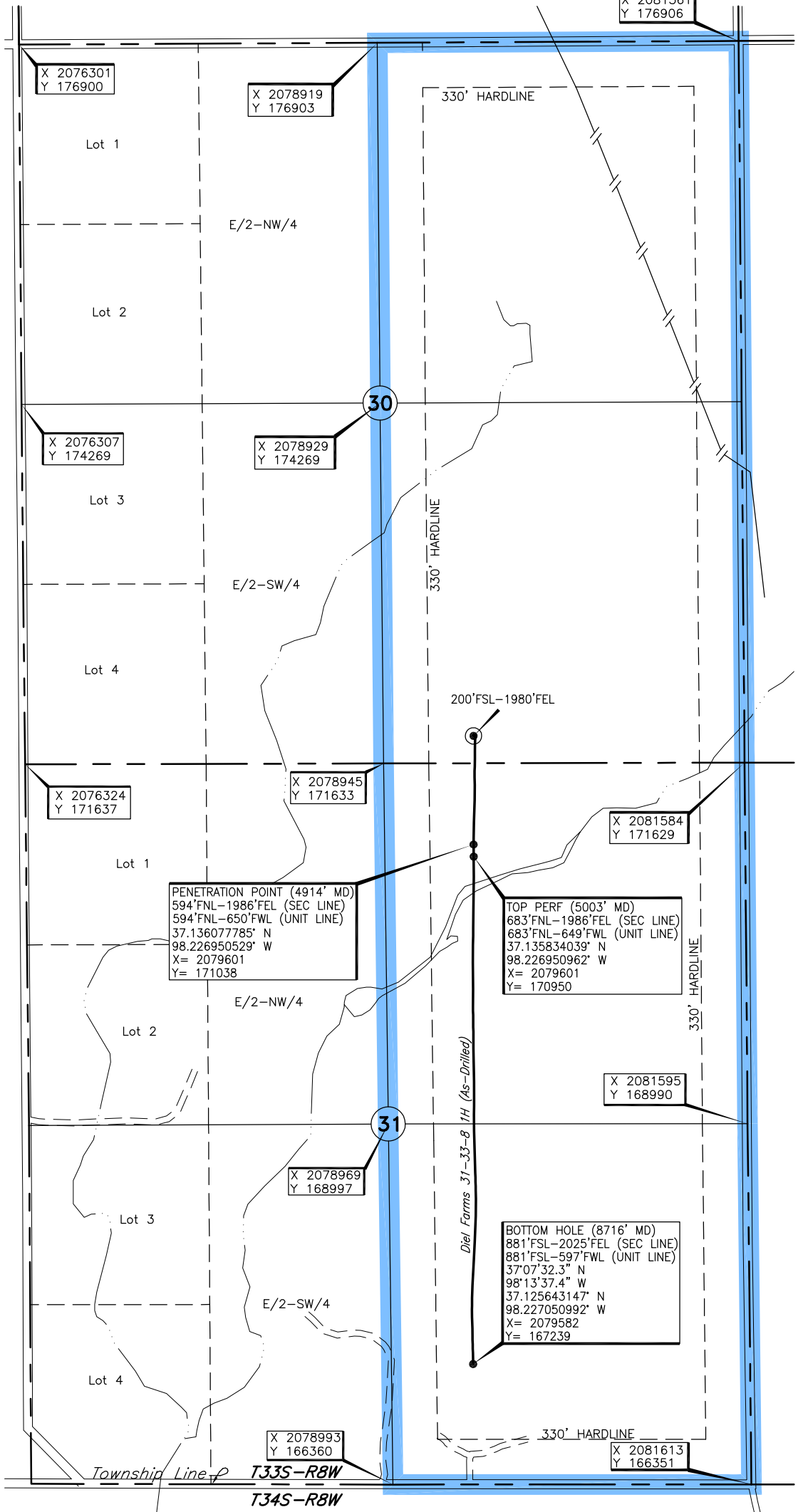


GRID
NAD-27
Kansas South
US Feet

Note:
3.280833 Ft.=1 Meter

Scale:
1" = 1000'

0' 500' 1000'



A boundary survey of the said section(s) shown hereon was not performed per the request of the operator shown hereon.

ELEVATION:

1305' Gr. at Stake

Operator: TAPSTONE ENERGY
 Lease Name: DIEL FARMS 31-33-8
 Topography & Vegetation: Loc. fell in rolling sandy pasture
 Well No.: 1H
 Good Drill Site? Yes
 Reference Stakes or Alternate Location: Stakes Set None
 Best Accessibility to Location: From East off county road
 Distance & Direction: From Anthony, Ks, go ±10 miles West on St. Hwy. 14-2, then ±1 mile South on county road to the SE Cor. of Sec. 30-T35S-R8W

DATUM: NAD-27
 LAT: 37°08'17.7"N
 LONG: 98°13'37.0"W
 LAT: 37.138258612° N
 LONG: 98.226934577° W
 STATE PLANE
 COORDINATES: (US Feet)
 ZONE: KS SOUTH
 X: 2079603
 Y: 171832

244644 Date of Drawing: May 18, 2015
 Invoice # 240232 Date Staked: Feb. 17, 2015 JP

FINAL AS-DRILLED PLAT

AS-DRILLED INFORMATION
 FURNISHED BY TAPSTONE ENERGY

This information was gathered with a GPS receiver with ±1 foot Horiz./Vert. accuracy

1.0 Real-Time Job Summary

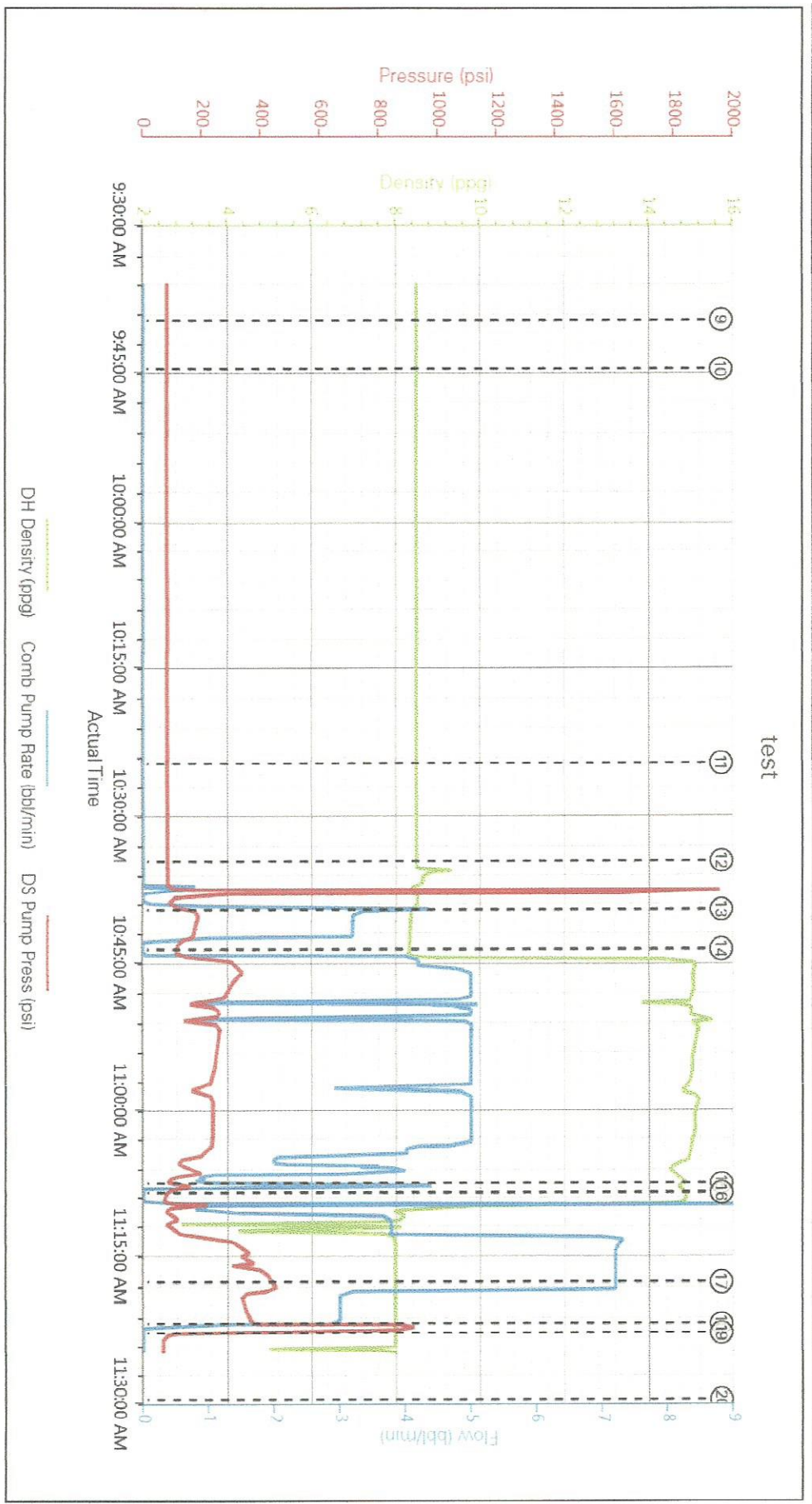
1.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psl)	Comments
Event	1	Call Out	Call Out	4/27/2015	01:00:00	USER				
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	4/27/2015	02:50:00	USER				ALL HES HANDS PRESENT
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	4/27/2015	03:00:00	USER				
Event	4	Arrive At Loc	Arrive At Loc	4/27/2015	07:20:00	USER				
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	4/27/2015	07:30:00	USER				ALL HES HANDS PRESENT
Event	6	Rig-Up Equipment	Rig-Up Equipment	4/27/2015	07:40:00	USER				
Event	7	Rig-Up Completed	Rig-Up Completed	4/27/2015	08:00:00	USER				
Event	8	Standby Rig	Standby Rig	4/27/2015	08:05:00	USER				WAITING ON CASING TO FINISH RUNNING PIPE DOWN HOLE
Event	9	Casing on Bottom	Casing on Bottom	4/27/2015	09:40:00	USER				
Event	10	Circulate Well	Circulate Well	4/27/2015	09:45:00	USER				RIG CIRCULATE WELL FOR
Event	11	Pre-Job Safety Meeting	Pre-Job Safety Meeting	4/27/2015	10:25:00	USER				ALL HES AND RIG HANDS PRESENT
Event	12	Pressure Test	Pressure Test	4/27/2015	10:35:00	USER				1500 PSI
Event	13	Pump Water	Pump Water	4/27/2015	10:40:00	USER				10 BLS FRESH WATER PUMP AT 3 BPM @ 200 PSI
Event	14	Pump Lead Cement	Pump Lead Cement	4/27/2015	10:44:00	USER				470 SACKS 110 BLS OF LEAD CEMENT PUMP AT 15 PPG @ 250 PSI
Event	15	Drop Top Plug	Drop Top Plug	4/27/2015	11:08:00	USER				TOP PLUG LEFT HEAD

Event	16	Pump Displacement	Pump Displacement	4/27/2015	11:09:00	USER	46 BBL'S FRESH WATER PUMP AT 7 BPM @ 450 PSI 38 BBL'S OF CEMENT BACK TO SURFACE
Event	17	Slow Rate	Slow Rate	4/27/2015	11:18:00	USER	10 BBL'S PUMP AT 3 BPM @ 350 PSI
Event	18	Bump Plug	Bump Plug	4/27/2015	11:22:00	USER	TOP PLUG LANDED AT 350 UP TO 1000 PSI
Event	19	Check Floats	Check Floats	4/27/2015	11:23:00	USER	FLOATS HEID 1 BBL BACK OF FRESH WATER
Event	20	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	4/27/2015	11:30:00	USER	ALL HES HANDS PRESENT
Event	21	Rig-Down Equipment	Rig-Down Equipment	4/27/2015	11:40:00	USER	
Event	22	Rig-Down Completed	Rig-Down Completed	4/27/2015	12:10:00	USER	
Event	23	Depart Location Safety Meeting	Depart Location Safety Meeting	4/27/2015	12:20:00	USER	ALL HES HANDS PRESENT
Event	24	Depart Location	Depart Location	4/27/2015	12:30:00	USER	

3.0 Custom Graphs

3.1 Custom Graph



2	Tail Cement	SWIFTCEM (TM) SYSTEM	470	sack	15	1.32		6	6.2
2 %		CALCIUM CHLORIDE, PELLET, 50 LB (101509387)							
6.25 Gal		FRESH WATER							
94 lbm		CMT - STANDARD - CLASS A REG OR TYPE I, BULK (100003684)							
0.1250 lbm		POLY-E-FLAKE (101216940)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Displacement	Displacement	56	bbl	8.33			8	

Cement Left In Pipe	Amount	Reason	Shoe Joint
	45 ft		

Comment

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
2	Lead Cement	ECONOCEM (TM) SYSTEM	140	sack	13.6	1.513		5	7.33
	2 %	BENTONITE, BULK (100003682)							
	0.40 %	HALAD(R)-9, 50 LB (100001617)							
	47 lbm	CMT - STANDARD - CLASS A REG OR TYPE I, BULK (100003684)							
	42 lbm	POZMIX A FLYASH (100003690)							
	2 %	BENTONITE, BULK (100003682)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	Tail Cement	HALCEM (TM) SYSTEM	90	sack	15.6	1.191		5	5.36
	0.40 %	HALAD(R)-9, 50 LB (100001617)							
	94 lbm	CMT - PREMIUM - CLASS H REG OR TYPE V, BULK (100003687)							
	5.36 Gal	FRESH WATER							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	Displacement	Displacement	188	bbl	8.33				

Cement Left In Pipe	Amount	Reason
	42 ft	Shoe Joint

Comment

The Road to Excellence Starts with Safety

Sold To #: 372073	Ship To #: 3660220	Quote #: 0022034805	Sales Order #: 0902359436
Customer: TAPSTONE ENERGY LLC		Customer Rep: BILL	
Well Name: DIEL FARMS 3133-8	Well #: 1H	API/UWI #: 15-077-22139-01	
Field: HIBBORD	City (SAP): WALDRON	County/Parish: HARPER	State: KANSAS
Legal Description: S2 S2 SW SE-30-33S-8W-200FSL-1980FEL			
Contractor: NOMAC		Rig/Platform Name/Num: NOMAC 07	
Job BOM: 7522			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX25353		Srcv Supervisor: Diego Torres	
Job			

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	4994ft Job Depth TVD
Water Depth	Wk Ht Above Floor
Perforation Depth (MD)	From To

Well Data										
Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing	3	9.625	8.921	36	LTC	J-55	0	760		
Casing	3	7	6.276	26	LTC	P-110	0	4994	0	4495
Open Hole Section			8.75				760	4994	760	4495

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make	
Guide Shoe	7			4994	Top Plug	7	1	HES	
Float Shoe	7				Bottom Plug	7	1	HES	
Float Collar	7				SSR plug set	7		HES	
Insert Float	7				Plug Container	7	1	HES	
Stage Tool	7				Centralizers	7		HES	

Miscellaneous Materials									
Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty	Conc	Treatment Fld	Conc	
	Conc	Inhibitor	Conc	Sand Type	Size	Conc		Qty	

Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Mud Flush III (Liquid)	Mud Flush III	10	bbl	8.4					
41 gal/bbl		FRESH WATER								

1.0 Real-Time Job Summary

1.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	4/30/2015	13:00:00	USER				
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	4/30/2015	14:50:00	USER				
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	4/30/2015	15:00:00	USER				ALL HES HADNS PRESENT
Event	4	Arrive At Loc	Arrive At Loc	4/30/2015	18:00:00	USER				
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	4/30/2015	18:10:00	USER				ALL HES HANDS PRESENT
Event	6	Rig-Up Equipment	Rig-Up Equipment	4/30/2015	18:20:00	USER				
Event	7	Rig-Up Completed	Rig-Up Completed	4/30/2015	19:00:00	USER				
Event	8	Standby Rig	Standby Rig	4/30/2015	19:05:00	USER				RIG CIRCULATE FOR 45 MIN
Event	9	Pre-Job Safety Meeting	Pre-Job Safety Meeting	4/30/2015	19:45:00	USER				
Event	10	Pressure Test	Pressure Test	4/30/2015	20:00:00	USER				
Event	11	Drop Bottom Plug	Drop Bottom Plug	4/30/2015	20:10:00	USER				BOTTOM PLUG LEFT HEAD
Event	12	Pump Spacer	Pump Spacer	4/30/2015	20:12:00	USER				10 BLS MUD FLUSH PUMP AT 4 BPM @ 200 PSI
Event	13	Pump Lead Cement	Pump Lead Cement	4/30/2015	20:18:00	USER				140 SACKS STANDARD CEMENT 37 BLS PUMP AT 13.6 PPG @ 4 BPM @ 400 PSI
Event	14	Pump Tail Cement	Pump Tail Cement	4/30/2015	20:26:00	USER				90 SACKS OF PREMIUM CEMENT PUMP AT 15.6 PPG @ 4 BPM @ 400 PSI
Event	15	Drop Top Plug	Drop Top Plug	4/30/2015	20:30:00	USER				TOP PLUG LEFT HEAD

HALLIBURTON

Customer: TAPS SCHOOLHOUSE INC

Job: 902359436

Case: Case 1

Event 16	Pump Displacement	Pump Displacement	4/30/2015	20:31:00	USER	170 BBLs FRESH WATER AT 8 BPM @ 1000 PSI
Event 17	Slow Rate	Slow Rate	4/30/2015	20:53:00	USER	18 BBLs AT 3 BPM @ 800 PSI
Event 18	Bump Plug	Bump Plug	4/30/2015	20:55:00	USER	TOP PLUG LANDED AT 900 TO 1600 PSI
Event 19	Check Floats	Check Floats	4/30/2015	20:57:00	USER	FLOATS HELD 1 BBL BACK OF FRESH WATER
Event 20	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	4/30/2015	21:10:00	USER	ALL HES HANDS PRESENT
Event 21	Rig-Down Equipment	Rig-Down Equipment	4/30/2015	21:20:00	USER	
Event 22	Rig-Down Completed	Rig-Down Completed	4/30/2015	22:00:00	USER	
Event 23	Depart Location Safety Meeting	Depart Location Safety Meeting	4/30/2015	22:10:00	USER	ALL HES HANDS PRESENT
Event 24	Depart Location	Depart Location	4/30/2015	22:15:00	USER	

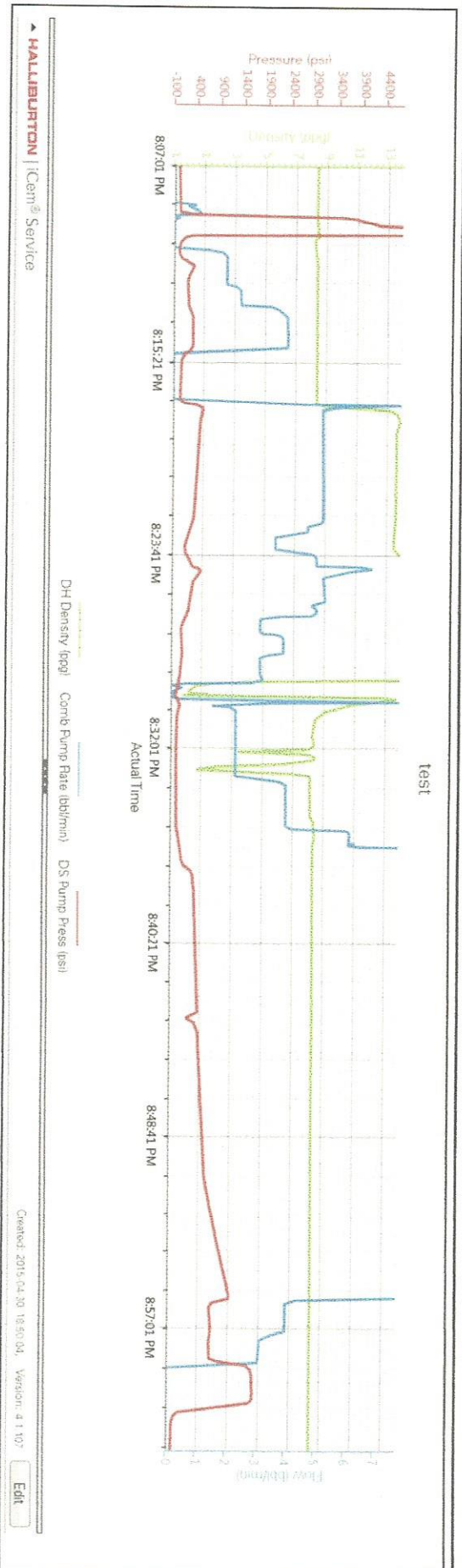
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(v. 4.1.107)

Created: Thursday, April 30, 2015

2.0 Attachments

2.1 Case 1-Custom Results.png



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Created: 2015-04-30 16:50:04, Version: 4.1.107

Edit

3.0 Custom Graphs

3.1 Custom Graph

