

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1272370  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
November 2016

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

Gas  DH  EOR

OG  GSW

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 EOR  Conv. to SWD  
 Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

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  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1272370

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](mailto: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 TCores aken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <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
--	---

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				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
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) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
---	--	------------------------------------

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
----------------	-------	---------	------------	--



# MWD SURVEYS

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Az.	T.V.D.	Ver. Sect.	Coordinates			Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk Color	Date	Time
					+N / -S	+E / -W	Dist.	Angle								
Survey's are tied into: Assume vertical at casing shoe @ 837'																
Date Received: 11/08/15																
Company: NA																
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90 °F	Green	11/8/15	15:15
1	894.00	0.10	196.00	894.00	-0.75	-0.75	-0.22	0.78	196.00	0.01	0.00	0.00	90 °F	Green	11/8/15	16:20
2	1083.00	0.60	258.80	1,083.00	-1.10	-1.10	-1.23	1.65	228.20	0.30	0.00	0.00	93 °F	Green	11/8/15	17:35
3	1272.00	0.40	234.80	1,271.99	-1.66	-1.67	-2.74	3.21	238.60	0.15	0.00	0.00	93 °F	Green	11/8/15	19:10
4	1462.00	0.00	26.70	1,461.99	-2.04	-2.06	-3.28	3.87	237.95	0.21	0.00	0.00	93 °F	Green	11/8/15	20:18
5	1651.00	0.40	287.00	1,650.99	-1.84	-1.86	-3.91	4.33	244.55	0.21	0.00	0.00	113 °F	Green	11/8/15	21:28
6	1839.00	0.50	283.10	1,838.98	-1.46	-1.48	-5.34	5.54	254.46	0.06	0.00	0.00	118 °F	Green	11/8/15	22:39
7	2027.00	0.60	281.30	2,026.97	-1.07	-1.11	-7.10	7.19	261.15	0.05	0.00	0.00	118 °F	Green	11/8/15	23:45
8	2214.00	0.50	263.50	2,213.96	-0.97	-1.01	-8.88	8.93	263.53	0.11	0.00	0.00	122 °F	Green	11/8/15	0:54
9	2401.00	0.70	284.40	2,400.95	-0.77	-0.81	-10.79	10.82	265.68	0.16	0.00	0.00	126 °F	Green	11/9/15	1:51
10	2587.00	0.60	288.80	2,586.94	-0.16	-0.22	-12.81	12.82	269.02	0.06	0.00	0.00	126 °F	Green	11/9/15	3:29
11	2775.00	0.60	295.80	2,774.93	0.59	0.53	-14.63	14.64	272.06	0.04	0.00	0.00	126 °F	Green	11/9/15	5:19
12	2961.00	0.80	284.20	2,960.92	1.35	1.27	-16.77	16.82	274.33	0.13	0.00	0.00	126 °F	Green	11/9/15	8:15
13	3146.00	0.70	295.70	3,145.90	2.16	2.08	-19.04	19.15	276.22	0.10	0.00	0.00	88 °F	Green	11/9/15	9:25
14	3333.00	1.00	239.50	3,332.88	1.84	1.74	-21.47	21.54	274.64	0.45	0.00	0.00	97 °F	Green	11/9/15	10:50
15	3522.00	0.50	284.50	3,521.87	1.22	1.11	-23.69	23.72	272.69	0.39	0.00	0.00	108 °F	Green	11/9/15	12:20
16	3709.00	0.60	48.10	3,708.86	2.08	1.97	-23.75	23.84	274.74	0.52	0.00	0.00	113 °F	Green	11/9/15	15:25
17	3897.00	1.30	33.30	3,896.84	4.51	4.41	-21.85	22.29	281.41	0.39	12.00	7.50	117 °F	Green	11/9/15	16:25
18	3929.00	5.10	22.60	3,928.78	6.12	6.03	-21.11	21.95	285.94	11.97	11.80	7.30	118 °F	Green	11/9/15	17:05
19	3960.00	7.80	17.40	3,959.58	9.40	9.31	-19.95	22.01	295.02	8.90	8.90	7.20	118 °F	Green	11/9/15	17:50
20	3991.00	9.90	15.90	3,990.21	13.96	13.88	-18.59	23.20	306.75	6.81	13.30	7.20	122 °F	Green	11/9/15	18:35
21	4023.00	12.10	15.90	4,021.62	19.83	19.75	-16.91	26.00	319.42	6.88	13.50	7.30	122 °F	Green	11/9/15	19:17
22	4054.00	14.10	12.50	4,051.81	26.63	26.56	-15.21	30.61	330.21	6.91	13.50	7.20	124 °F	Green	11/9/15	20:33
23	4086.00	15.40	9.50	4,082.76	34.62	34.56	-13.66	37.16	338.43	4.71	12.00	7.40	124 °F	Green	11/9/15	21:41
24	4118.00	16.90	8.10	4,113.50	43.41	43.36	-12.31	45.07	344.15	4.84	12.00	7.60	124 °F	Green	11/9/15	22:52
25	4148.00	19.30	8.60	4,142.01	52.63	52.58	-10.95	53.70	348.24	8.02	13.00	7.60	126 °F	Green	11/10/15	0:32
26	4179.00	22.00	7.10	4,171.01	63.45	63.41	-9.47	64.11	351.51	8.87	15.00	7.50	126 °F	Green	11/10/15	1:51
27	4211.00	24.80	5.20	4,200.38	76.08	76.04	-8.12	76.47	353.91	9.06	15.00	7.50	131 °F	Green	11/10/15	2:47
28	4243.00	27.00	3.00	4,229.16	90.01	89.98	-7.13	90.26	355.47	7.50	15.00	7.40	131 °F	Green	11/10/15	3:57
29	4275.00	29.40	2.50	4,257.36	105.11	105.08	-6.40	105.28	356.51	7.54	15.00	7.40	131 °F	Green	11/10/15	5:10
30	4307.00	31.50	0.60	4,284.95	121.32	121.29	-5.97	121.44	357.18	7.22	14.50	7.50	131 °F	Green	11/10/15	6:25
31	4339.00	33.70	358.90	4,311.91	138.55	138.53	-6.06	138.66	357.50	7.45	14.90	7.60	133 °F	Green	11/10/15	7:05
32	4370.00	36.20	358.00	4,337.31	156.31	156.28	-6.54	156.42	357.60	8.23	17.00	7.60	133 °F	Green	11/10/15	8:00
33	4401.00	38.80	358.40	4,361.91	175.17	175.14	-7.13	175.28	357.67	8.42	15.30	7.50	133 °F	Green	11/10/15	9:30
34	4432.00	41.10	359.60	4,385.67	195.07	195.04	-7.47	195.18	357.81	7.82	15.10	7.50	133 °F	Green	11/10/15	10:35
35	4464.00	43.10	0.20	4,409.41	216.52	216.49	-7.51	216.62	358.01	6.38	13.60	7.60	135 °F	Green	11/10/15	11:55
36	4496.00	45.60	0.80	4,432.29	238.89	238.86	-7.31	238.97	358.25	7.92	15.80	7.60	135 °F	Green	11/10/15	12:50
37	4527.00	48.10	1.30	4,453.49	261.50	261.47	-6.90	261.56	358.49	8.15	16.80	7.60	136 °F	Green	11/10/15	14:30
38	4559.00	50.60	1.70	4,474.34	285.76	285.74	-6.26	285.81	358.75	7.87	14.00	7.50	136 °F	Green	11/10/15	15:50
39	4591.00	53.00	0.90	4,494.12	310.90	310.88	-5.69	310.93	358.95	7.75	15.50	7.50	136 °F	Green	11/10/15	16:55
40	4622.00	55.90	0.50	4,512.15	336.11	336.09	-5.38	336.14	359.08	9.41	16.70	7.00	136 °F	Green	11/10/15	17:50
41	4654.00	59.10	359.20	4,529.34	363.10	363.08	-5.46	363.12	359.14	10.57	16.90	0.00	136 °F	Green	11/10/15	19:15
42	4686.00	61.70	358.00	4,545.14	390.91	390.89	-6.14	390.94	359.10	8.75	0.00	0.00	136 °F	Green	11/10/15	20:22
43	4718.00	62.60	358.10	4,560.09	419.19	419.17	-7.11	419.23	359.03	2.83	0.00	0.00	138 °F	Green	11/10/15	21:08
44	4750.00	63.30	357.90	4,574.65	447.68	447.65	-8.10	447.72	358.96	2.26	0.00	0.00	138 °F	Green	11/10/15	21:49
45	4782.00	64.00	357.70	4,588.85	476.34	476.30	-9.20	476.39	358.89	2.26	0.00	0.00	138 °F	Green	11/10/15	22:56
46	4814.00	64.70	357.80	4,602.70	505.17	505.13	-10.34	505.23	358.83	2.21	0.00	0.00	138 °F	Green	11/10/15	0:04
47	4846.00	64.30	357.80	4,616.48	534.03	533.99	-11.44	534.11	358.77	1.25	0.00	0.00	138 °F	Green	11/11/15	0:51
48	4876.00	64.40	357.70	4,629.46	561.06	561.01	-12.51	561.15	358.72	0.45	0.00	0.00	138 °F	Green	11/11/15	2:05
49	4908.00	64.80	357.30	4,643.19	589.95	589.89	-13.77	590.05	358.66	1.68	15.00	7.60	138 °F	Green	11/11/15	3:44
50	4939.00	67.00	357.30	4,655.85	618.22	618.15	-15.10	618.34	358.60	7.10	15.00	7.70	138 °F	Green	11/11/15	5:47
51	4971.00	69.70	358.30	4,667.65	647.94	647.87	-16.24	648.08	358.56	8.92	15.00	7.50	138 °F	Green	11/11/15	7:55
52	5002.00	72.60	359.20	4,677.67	677.27	677.20	-16.88	677.41	358.57	9.75	15.10	7.20	133 °F	Green	11/11/15	9:55
53	5034.00	74.80	359.90	4,686.65	707.98	707.91	-17.12	708.12	358.61	7.19	14.40	7.30	131 °F	Green	11/11/15	12:20
54	5065.00	77.30	0.10	4,694.12	738.06	737.99	-17.12	738.19	358.67	8.09	15.50	7.00	129 °F	Green	11/11/15	15:05
55	5096.00	80.30	0.60	4,700.14	768.47	768.40	-16.93	768.59	358.74	9.81	17.00	5.80	127 °F	Green	11/13/15	0:03
56	5153.00	84.80	1.70	4,707.53	824.95	824.89	-15.79	825.04	358.90	8.12	10.00	6.00	113 °F	Green	11/13/15	1:54
57	5184.00	88.40	2.00	4,709.37	855.87	855.81	-14.79	855.94	359.01	11.65	0.00	0.00	115 °F	Green	11/13/15	3:16
58	5216.00	91.10	1.90	4,709.51	887.85	887.79	-13.71	887.90	359.12	8.44	0.00	0.00	117 °F	Green	11/13/15	4:22
59	5247.00	91.20	1.70	4,708.89	918.82	918.77	-12.73	918.86	359.21	0.72	0.00	0.00	118 °F	Green		

# MWD SURVEYS

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azim.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk			
					+N/-S	+E/-W	Dist.	Angle					Color	Date	Time	
60	5279.00	90.90	1.40	4,708.30	950.80	950.75	-11.87	950.83	359.28	1.33	0.00	0.00	120 °F	Green	11/13/15	5:30
61	5309.00	90.90	1.40	4,707.83	980.78	980.74	-11.13	980.80	359.35	0.00	0.00	0.00	120 °F	Yellow	11/13/15	7:00
62	5340.00	91.10	0.80	4,707.29	1,011.77	1,011.73	-10.54	1,011.79	359.40	2.04	0.00	0.00	122 °F	Yellow	11/13/15	8:10
63	5371.00	91.30	0.80	4,706.64	1,042.76	1,042.72	-10.11	1,042.77	359.44	0.65	0.00	0.00	122 °F	Yellow	11/13/15	9:25
64	5401.00	91.00	0.70	4,706.04	1,072.75	1,072.71	-9.71	1,072.76	359.48	1.05	0.00	0.00	122 °F	Yellow	11/13/15	10:40
65	5432.00	90.90	0.90	4,705.52	1,103.74	1,103.71	-9.28	1,103.74	359.52	0.72	0.00	0.00	124 °F	Yellow	11/13/15	12:00
66	5463.00	91.00	1.00	4,705.01	1,134.72	1,134.70	-8.77	1,134.73	359.56	0.46	0.00	0.00	124 °F	Yellow	11/13/15	13:15
67	5493.00	91.40	0.80	4,704.38	1,164.71	1,164.69	-8.30	1,164.72	359.59	1.49	0.00	0.00	124 °F	Yellow	11/13/15	14:40
68	5524.00	91.40	0.60	4,703.62	1,195.70	1,195.67	-7.92	1,195.70	359.62	0.64	0.00	0.00	124 °F	Yellow	11/13/15	16:00
69	5554.00	91.40	0.40	4,702.89	1,225.69	1,225.66	-7.66	1,225.69	359.64	0.67	0.00	0.00	126 °F	Yellow	11/13/15	17:30
70	5585.00	91.40	0.20	4,702.13	1,256.68	1,256.66	-7.49	1,256.68	359.66	0.64	0.00	0.00	126 °F	Yellow	11/13/15	18:48
71	5616.00	91.80	0.20	4,701.27	1,287.66	1,287.64	-7.38	1,287.66	359.67	1.29	0.00	0.00	126 °F	Yellow	11/13/15	20:27
72	5647.00	91.50	359.90	4,700.37	1,318.65	1,318.63	-7.36	1,318.65	359.68	1.37	0.00	0.00	127 °F	Yellow	11/13/15	21:59
73	5677.00	91.30	359.90	4,699.64	1,348.64	1,348.62	-7.41	1,348.64	359.69	0.67	0.00	0.00	127 °F	Yellow	11/13/15	23:15
74	5708.00	91.50	359.80	4,698.88	1,379.63	1,379.61	-7.49	1,379.63	359.69	0.72	0.00	0.00	127 °F	Yellow	11/14/15	0:36
75	5738.00	90.70	359.40	4,698.31	1,409.63	1,409.60	-7.70	1,409.63	359.69	2.98	0.00	0.00	127 °F	Yellow	11/14/15	2:12
76	5768.00	90.10	359.40	4,698.10	1,439.62	1,439.60	-8.01	1,439.62	359.68	2.00	0.00	0.00	127 °F	Yellow	11/14/15	3:36
77	5799.00	90.10	359.10	4,698.04	1,470.62	1,470.60	-8.42	1,470.62	359.67	0.97	0.00	0.00	127 °F	Yellow	11/14/15	4:44
78	5829.00	90.20	359.00	4,697.96	1,500.62	1,500.60	-8.92	1,500.62	359.66	0.47	0.00	0.00	127 °F	Yellow	11/14/15	5:59
79	5860.00	90.50	358.90	4,697.78	1,531.62	1,531.59	-9.49	1,531.62	359.65	1.02	0.00	0.00	129 °F	Yellow	11/14/15	7:15
80	5891.00	90.60	358.60	4,697.48	1,562.61	1,562.58	-10.16	1,562.61	359.63	1.02	0.00	0.00	129 °F	Yellow	11/14/15	8:25
81	5921.00	90.70	358.30	4,697.14	1,592.60	1,592.57	-10.97	1,592.61	359.61	1.05	0.00	0.00	129 °F	Yellow	11/14/15	9:45
82	5951.00	90.90	358.10	4,696.72	1,622.59	1,622.55	-11.92	1,622.59	359.58	0.94	0.00	0.00	129 °F	Yellow	11/14/15	10:50
83	5981.00	91.30	358.00	4,696.14	1,652.57	1,652.53	-12.94	1,652.58	359.55	1.37	0.00	0.00	129 °F	Yellow	11/14/15	12:00
84	6011.00	91.60	357.80	4,695.38	1,682.54	1,682.50	-14.04	1,682.56	359.52	1.20	0.00	0.00	131 °F	Yellow	11/14/15	13:40
85	6042.00	91.00	357.80	4,694.68	1,713.52	1,713.47	-15.23	1,713.53	359.49	1.94	0.00	0.00	131 °F	Yellow	11/14/15	15:00
86	6072.00	91.00	357.50	4,694.16	1,743.49	1,743.44	-16.46	1,743.51	359.46	1.00	0.00	0.00	131 °F	Yellow	11/14/15	16:25
87	6102.00	91.20	357.40	4,693.58	1,773.46	1,773.40	-17.79	1,773.49	359.43	0.75	0.00	0.00	131 °F	Yellow	11/14/15	17:45
88	6133.00	91.30	357.40	4,692.90	1,804.43	1,804.36	-19.20	1,804.46	359.39	0.32	0.00	0.00	131 °F	Yellow	11/14/15	19:16
89	6163.00	91.60	357.10	4,692.15	1,834.39	1,834.32	-20.63	1,834.43	359.36	1.41	0.00	0.00	131 °F	Yellow	11/14/15	20:39
90	6193.00	91.80	356.90	4,691.26	1,864.34	1,864.26	-22.20	1,864.40	359.32	0.94	0.00	0.00	131 °F	Yellow	11/14/15	22:19
91	6223.00	91.30	357.00	4,690.44	1,894.30	1,894.21	-23.80	1,894.36	359.28	1.70	0.00	0.00	131 °F	Yellow	11/14/15	23:46
92	6254.00	91.30	357.00	4,689.74	1,925.25	1,925.16	-25.42	1,925.33	359.24	0.00	0.00	0.00	133 °F	Yellow	11/15/15	1:09
93	6285.00	91.40	356.80	4,689.01	1,956.21	1,956.11	-27.10	1,956.29	359.21	0.72	0.00	0.00	133 °F	Yellow	11/15/15	2:46
94	6314.00	90.90	357.00	4,688.43	1,985.17	1,985.06	-28.67	1,985.26	359.17	1.86	0.00	0.00	133 °F	Yellow	11/15/15	4:07
95	6345.00	90.70	356.90	4,688.00	2,016.13	2,016.01	-30.31	2,016.24	359.14	0.72	0.00	0.00	131 °F	Yellow	11/15/15	5:55
96	6375.00	90.00	356.90	4,687.81	2,046.09	2,045.97	-31.94	2,046.21	359.11	2.33	0.00	0.00	131 °F	Yellow	11/15/15	7:10
97	6406.00	90.20	357.00	4,687.76	2,077.05	2,076.92	-33.59	2,077.19	359.07	0.72	0.00	0.00	133 °F	Yellow	11/15/15	8:35
98	6436.00	90.20	356.70	4,687.65	2,107.01	2,106.88	-35.23	2,107.17	359.04	1.00	0.00	0.00	135 °F	Yellow	11/15/15	9:45
99	6466.00	90.70	356.70	4,687.42	2,136.97	2,136.83	-36.96	2,137.14	359.01	1.67	0.00	0.00	133 °F	Yellow	11/15/15	11:30
100	6496.00	90.60	357.10	4,687.08	2,166.93	2,166.78	-38.58	2,167.12	358.98	1.37	0.00	0.00	133 °F	Yellow	11/15/15	12:50
101	6527.00	90.60	357.80	4,686.75	2,197.91	2,197.75	-39.96	2,198.11	358.96	2.26	0.00	0.00	133 °F	Yellow	11/15/15	14:00
102	6557.00	90.60	357.90	4,686.44	2,227.89	2,227.72	-41.09	2,228.10	358.94	0.33	0.00	0.00	135 °F	Yellow	11/15/15	15:30
103	6587.00	90.80	358.80	4,686.07	2,257.88	2,257.71	-41.95	2,258.10	358.94	3.07	0.00	0.00	133 °F	Yellow	11/15/15	17:10
104	6616.00	90.80	359.10	4,685.67	2,286.87	2,286.70	-42.48	2,287.10	358.94	1.03	0.00	0.00	133 °F	Yellow	11/15/15	18:41
105	6646.00	90.80	359.00	4,685.25	2,316.87	2,316.69	-42.98	2,317.09	358.94	0.33	0.00	0.00	133 °F	Yellow	11/15/15	19:57
106	6677.00	91.30	358.90	4,684.68	2,347.86	2,347.68	-43.55	2,348.09	358.94	1.64	0.00	0.00	133 °F	Yellow	11/15/15	21:15
107	6707.00	91.30	358.70	4,684.00	2,377.85	2,377.67	-44.18	2,378.08	358.94	0.67	0.00	0.00	135 °F	Yellow	11/15/15	22:51
108	6737.00	91.40	359.00	4,683.29	2,407.83	2,407.65	-44.78	2,408.07	358.93	1.05	0.00	0.00	135 °F	Yellow	11/16/15	0:14
109	6767.00	91.40	358.90	4,682.56	2,437.82	2,437.64	-45.33	2,438.06	358.93	0.33	0.00	0.00	135 °F	Yellow	11/16/15	1:30
110	6797.00	91.40	358.80	4,681.83	2,467.81	2,467.63	-45.93	2,468.05	358.93	0.33	0.00	0.00	135 °F	Yellow	11/16/15	2:54
111	6828.00	92.00	358.70	4,680.91	2,498.79	2,498.60	-46.61	2,499.04	358.93	1.96	0.00	0.00	135 °F	Yellow	11/16/15	4:43
112	6858.00	91.30	359.10	4,680.04	2,528.77	2,528.59	-47.18	2,529.03	358.93	2.69	0.00	0.00	135 °F	Yellow	11/16/15	6:15
113	6888.00	91.10	359.50	4,679.42	2,558.77	2,558.58	-47.55	2,559.02	358.94	1.49	0.00	0.00	135 °F	Yellow	11/16/15	7:25
114	6918.00	91.00	359.30	4,678.87	2,588.76	2,588.57	-47.86	2,589.01	358.94	0.75	0.00	0.00	135 °F	Yellow	11/16/15	8:25
115	6948.00	91.30	359.10	4,678.26	2,618.75	2,618.56	-48.28	2,619.01	358.94	1.20	0.00	0.00	136 °F	Yellow	11/16/15	9:30
116	6978.00	91.70	358.90	4,677.48	2,648.74	2,648.55	-48.80	2,649.00	358.94	1.49	0.00	0.00	138 °F	Yellow	11/16/15	10:45
117	7009.00	91.60	359.50	4,676.59	2,679.73	2,679.53	-49.24	2,679.98	358.95	1.96	0.00	0.00	136 °F	Yellow	11/16/15	12:05
118	7039.00	90.90	0.10	4,675.93	2,709.72	2,709.52	-49.34	2,709.97	358.96	3.07	0.00	0.00	138 °F	Yellow	11/16/15	13:15
119	7069.00	89.80	0.30	4,675.75	2,739.72	2,739.52	-49.24	2,739.96	358.97	3.73	0.00	0.00	138 °F	Yellow	11/16/15	14:15
120	7100.00	89.70	0.30	4,675.88	2,770.72	2,770.52	-49.08	2,770.96	358.99	0.32	0.00	0.00	140 °F	Yellow	11/16/15	15:35
121	7131.00	90.00	0.10	4,675.96	2,801.71	2,801.52	-48.97	2,801.95	359.00	1.16	0.00	0.00	140 °F	Yellow	11/16/15	16:35

# MWD SURVEYS

Customer: Tapstone Energy  
 Well: Mark 25-34-9 #2H  
 Field/Block: Mississippi Lime  
 Co./Parish: Harper Co.  
 State: KS

PGS Job #: LKS6119715  
 MWD Operator: Jeffery Treille  
 Directional Driller: Jarod Gooch  
 Date of First Survey: November 8, 2015  
 Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Az.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk			
					+N / -S	+E / -W	Dist.	Angle					Color	Date	Time	
122	7161.00	90.30	359.90	4,675.89	2,831.71	2,831.52	-48.97	2,831.94	359.01	1.20	0.00	0.00	140 °F	Yellow	11/16/15	17:35
123	7191.00	90.40	359.80	4,675.70	2,861.71	2,861.52	-49.05	2,861.94	359.02	0.47	0.00	0.00	140 °F	Yellow	11/16/15	18:46
124	7222.00	90.60	359.60	4,675.43	2,892.71	2,892.52	-49.21	2,892.94	359.03	0.91	0.00	0.00	140 °F	Yellow	11/16/15	19:49
125	7252.00	90.70	359.30	4,675.09	2,922.71	2,922.52	-49.50	2,922.93	359.03	1.05	0.00	0.00	140 °F	Yellow	11/16/15	21:02
126	7282.00	90.20	359.60	4,674.86	2,952.71	2,952.51	-49.78	2,952.93	359.03	1.94	0.00	0.00	140 °F	Yellow	11/16/15	22:05
127	7313.00	90.20	359.80	4,674.75	2,983.71	2,983.51	-49.95	2,983.93	359.04	0.65	0.00	0.00	140 °F	Yellow	11/16/15	23:09
128	7343.00	90.80	359.90	4,674.49	3,013.71	3,013.51	-50.02	3,013.93	359.05	2.03	0.00	0.00	140 °F	Yellow	11/17/15	0:08
129	7374.00	90.80	359.60	4,674.05	3,044.70	3,044.51	-50.16	3,044.92	359.06	0.97	0.00	0.00	140 °F	Yellow	11/17/15	1:21
130	7404.00	90.60	0.10	4,673.69	3,074.70	3,074.50	-50.24	3,074.92	359.06	1.79	0.00	0.00	140 °F	Yellow	11/17/15	2:23
131	7434.00	90.50	0.20	4,673.40	3,104.70	3,104.50	-50.16	3,104.91	359.07	0.47	0.00	0.00	140 °F	Yellow	11/17/15	3:32
132	7465.00	90.60	0.10	4,673.10	3,135.70	3,135.50	-50.08	3,135.90	359.08	0.46	0.00	0.00	140 °F	Yellow	11/17/15	4:28
133	7494.00	90.80	0.00	4,672.75	3,164.69	3,164.50	-50.05	3,164.90	359.09	0.77	0.00	0.00	144 °F	Yellow	11/17/15	5:50
134	7525.00	91.20	0.40	4,672.21	3,195.69	3,195.49	-49.95	3,195.88	359.10	1.82	0.00	0.00	144 °F	Yellow	11/17/15	6:50
135	7556.00	91.40	0.20	4,671.50	3,226.68	3,226.49	-49.78	3,226.87	359.12	0.91	0.00	0.00	144 °F	Yellow	11/17/15	7:50
136	7587.00	91.90	0.30	4,670.61	3,257.66	3,257.47	-49.65	3,257.85	359.13	1.64	0.00	0.00	144 °F	Yellow	11/17/15	9:05
137	7619.00	91.70	0.80	4,669.60	3,289.65	3,289.46	-49.34	3,289.83	359.14	1.68	0.00	0.00	144 °F	Yellow	11/17/15	10:20
138	7651.00	90.40	0.90	4,669.02	3,321.63	3,321.45	-48.87	3,321.81	359.16	4.07	0.00	0.00	144 °F	Yellow	11/17/15	11:40
139	7682.00	89.60	0.80	4,669.02	3,352.63	3,352.44	-48.41	3,352.79	359.17	2.60	0.00	0.00	145 °F	Yellow	11/17/15	12:45
140	7713.00	89.70	0.70	4,669.21	3,383.62	3,383.44	-48.00	3,383.78	359.19	0.46	0.00	0.00	145 °F	Yellow	11/17/15	13:30
141	7745.00	90.30	0.90	4,669.21	3,415.62	3,415.44	-47.55	3,415.77	359.20	1.98	0.00	0.00	145 °F	Yellow	11/17/15	14:50
142	7776.00	90.60	1.00	4,668.96	3,446.61	3,446.43	-47.04	3,446.75	359.22	1.02	0.00	0.00	145 °F	Yellow	11/17/15	16:00
143	7808.00	90.90	1.10	4,668.55	3,478.60	3,478.42	-46.45	3,478.73	359.23	0.99	0.00	0.00	145 °F	Yellow	11/17/15	17:00
144	7839.00	91.20	1.30	4,667.98	3,509.58	3,509.41	-45.80	3,509.71	359.25	1.16	0.00	0.00	147 °F	Yellow	11/17/15	17:55
145	7871.00	91.30	1.40	4,667.28	3,541.56	3,541.39	-45.05	3,541.68	359.27	0.44	0.00	0.00	147 °F	Yellow	11/17/15	19:04
146	7902.00	91.30	1.40	4,666.58	3,572.54	3,572.38	-44.29	3,572.65	359.29	0.00	0.00	0.00	147 °F	Yellow	11/17/15	19:54
147	7934.00	91.30	1.40	4,665.85	3,604.52	3,604.36	-43.51	3,604.62	359.31	0.00	0.00	0.00	147 °F	Yellow	11/17/15	20:57
148	7965.00	91.40	1.60	4,665.12	3,635.50	3,635.34	-42.70	3,635.59	359.33	0.72	0.00	0.00	147 °F	Yellow	11/17/15	21:50
149	7997.00	91.50	1.90	4,664.31	3,667.47	3,667.31	-41.72	3,667.55	359.35	0.99	0.00	0.00	147 °F	Yellow	11/17/15	22:44
150	8028.00	91.70	2.00	4,663.44	3,698.43	3,698.28	-40.67	3,698.51	359.37	0.72	0.00	0.00	147 °F	Yellow	11/17/15	23:44
151	8060.00	92.10	2.30	4,662.38	3,730.38	3,730.24	-39.47	3,730.45	359.39	1.56	0.00	0.00	147 °F	Yellow	11/18/15	0:28
152	8091.00	92.20	2.60	4,661.22	3,761.33	3,761.19	-38.14	3,761.39	359.42	1.02	0.00	0.00	147 °F	Yellow	11/18/15	1:57
153	8122.00	91.60	2.50	4,660.19	3,792.27	3,792.15	-36.77	3,792.32	359.44	1.96	0.00	0.00	147 °F	Yellow	11/18/15	3:09
154	8154.00	91.20	2.30	4,659.41	3,824.23	3,824.11	-35.43	3,824.27	359.47	1.40	0.00	0.00	147 °F	Yellow	11/18/15	4:09
155	8186.00	91.00	2.30	4,658.80	3,856.19	3,856.08	-34.14	3,856.23	359.49	0.63	0.00	0.00	147 °F	Yellow	11/18/15	5:28
156	8218.00	90.50	1.90	4,658.38	3,888.16	3,888.05	-32.97	3,888.19	359.51	2.00	0.00	0.00	147 °F	Yellow	11/18/15	6:25
157	8249.00	90.70	2.00	4,658.05	3,919.14	3,919.03	-31.92	3,919.16	359.53	0.72	0.00	0.00	149 °F	Yellow	11/18/15	7:10
158	8281.00	91.20	2.00	4,657.52	3,951.11	3,951.01	-30.80	3,951.13	359.55	1.56	0.00	0.00	147 °F	Yellow	11/18/15	8:20
159	8312.00	90.70	2.30	4,657.01	3,982.08	3,981.98	-29.64	3,982.09	359.57	1.88	0.00	0.00	149 °F	Yellow	11/18/15	9:45
160	8344.00	89.80	1.50	4,656.87	4,014.05	4,013.96	-28.58	4,014.07	359.59	3.76	0.00	0.00	149 °F	Yellow	11/18/15	11:15
161	8375.00	88.70	1.30	4,657.27	4,045.04	4,044.95	-27.82	4,045.05	359.61	3.61	0.00	0.00	149 °F	Yellow	11/18/15	12:15
162	8407.00	88.80	1.40	4,657.97	4,077.02	4,076.94	-27.06	4,077.02	359.62	0.44	0.00	0.00	149 °F	Yellow	11/18/15	13:00
163	8438.00	88.50	0.90	4,658.70	4,108.00	4,107.92	-26.44	4,108.01	359.63	1.88	0.00	0.00	149 °F	Yellow	11/18/15	14:05
164	8470.00	88.40	0.80	4,659.57	4,139.98	4,139.90	-25.97	4,139.99	359.64	0.44	0.00	0.00	149 °F	Yellow	11/18/15	15:05
165	8501.00	87.90	0.10	4,660.57	4,170.96	4,170.89	-25.72	4,170.97	359.65	2.77	0.00	0.00	147 °F	Yellow	11/18/15	16:20
166	8533.00	87.30	359.80	4,661.91	4,202.93	4,202.86	-25.75	4,202.94	359.65	2.10	0.00	0.00	149 °F	Pink	11/18/15	17:55
167	8564.00	87.90	0.10	4,663.21	4,233.91	4,233.83	-25.78	4,233.91	359.65	2.16	0.00	0.00	151 °F	Yellow	11/18/15	19:33
168	8596.00	88.80	0.50	4,664.13	4,265.89	4,265.82	-25.61	4,265.89	359.66	3.08	0.00	0.00	151 °F	Yellow	11/18/15	20:44
169	8627.00	89.10	0.60	4,664.70	4,296.88	4,296.81	-25.31	4,296.89	359.66	1.02	0.00	0.00	151 °F	Yellow	11/18/15	21:54
170	8659.00	89.50	0.80	4,665.09	4,328.87	4,328.81	-24.92	4,328.88	359.67	1.40	0.00	0.00	151 °F	Yellow	11/18/15	23:04
171	8690.00	89.40	0.70	4,665.39	4,359.87	4,359.80	-24.52	4,359.87	359.68	0.46	0.00	0.00	151 °F	Yellow	11/19/15	12:04
172	8722.00	89.70	0.60	4,665.64	4,391.86	4,391.80	-24.15	4,391.87	359.68	0.99	0.00	0.00	151 °F	Yellow	11/19/15	1:27
173	8753.00	90.40	0.80	4,665.61	4,422.86	4,422.80	-23.78	4,422.86	359.69	2.35	0.00	0.00	151 °F	Yellow	11/19/15	2:42
174	8785.00	90.80	1.30	4,665.27	4,454.85	4,454.79	-23.19	4,454.85	359.70	2.00	0.00	0.00	151 °F	Yellow	11/19/15	3:43
175	8817.00	91.00	1.60	4,664.77	4,486.83	4,486.77	-22.38	4,486.83	359.71	1.13	0.00	0.00	151 °F	Yellow	11/19/15	4:55
176	8848.00	91.10	1.90	4,664.20	4,517.81	4,517.76	-21.43	4,517.81	359.73	1.02	0.00	0.00	151 °F	Yellow	11/19/15	6:30
177	8880.00	91.20	2.20	4,663.56	4,549.77	4,549.73	-20.29	4,549.77	359.74	0.99	0.00	0.00	151 °F	Yellow	11/19/15	7:53
178	8912.00	90.90	2.10	4,662.98	4,581.74	4,581.70	-19.09	4,581.74	359.76	0.99	0.00	0.00	151 °F	Yellow	11/19/15	9:19
179	8944.00	90.90	2.30	4,662.47	4,613.71	4,613.67	-17.86	4,613.71	359.78	0.62	0.00	0.00	151 °F	Yellow	11/19/15	10:16
180	8971.00	91.10	2.40	4,662.00	4,640.67	4,640.65	-16.75	4,640.68	359.79	0.83	0.00	0.00	151 °F	Yellow	11/19/15	11:11
PTB	9023.00	91.10	2.40	4,661.00	4,692.61	4,692.59	-14.58	4,692.61	359.82	0.00						

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date



**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date



**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk		
					+N / -S	+E / -W	Dist.	Angle					Color	Date	Time

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk Color	Date	Time
					+N / -S	+E / -W	Dist.	Angle							

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure		DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk	
					+N / -S	+E / -W	Dist.	Angle					Color	Date

**MWD**  
**SURVEYS**

Customer: Tapstone Energy  
Well: Mark 25-34-9 #2H  
Field/Block: Mississippi Lime  
Co./Parish: Harper Co.  
State: KS

PGS Job #: LKS6119715  
MWD Operator: Jeffery Treille  
Directional Driller: Jarod Gooch  
Date of First Survey: November 8, 2015  
Date of Last Survey: November 19, 2015



Total Correction: 3.90 East Grid

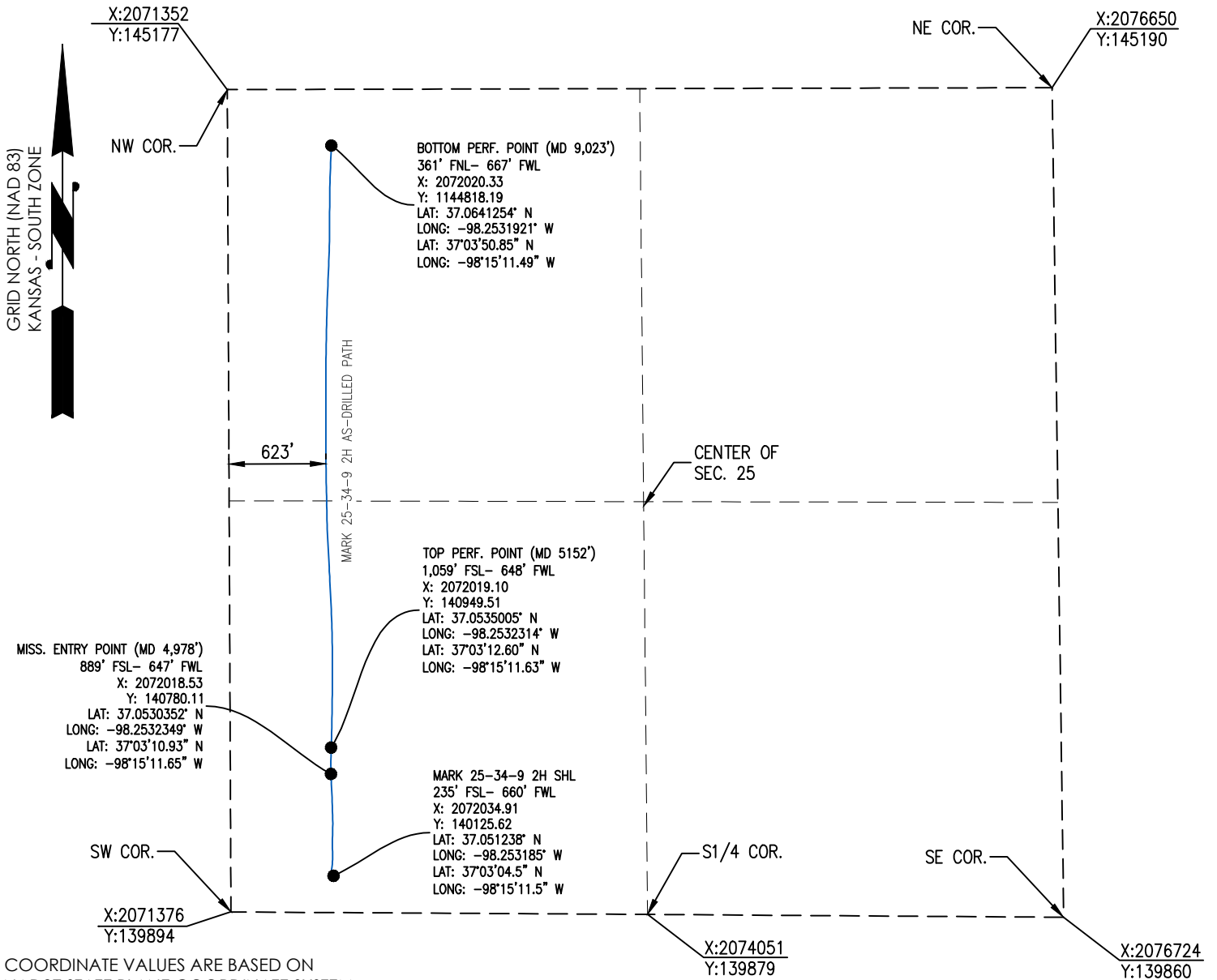
Vertical Section Plane: 359.74 Nominal Dip Angle: 65.25 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	Coordinates		Closure			DLS	Mtr Yield	BRN	Temp (°F)	Vib/Shk Color	Date	Time
					+N / -S	+E / -W	Dist.	Angle								



**Crafton Tull**  
 SURVEYING

HARPER COUNTY, KANSAS  
 235' FSL & 660' FWL SECTION 25 TOWNSHIP 34S RANGE 09W 6TH P.M.



COORDINATE VALUES ARE BASED ON  
 NAD27 STATE PLANE COORDINATE SYSTEM,  
 KANSAS SOUTH ZONE, U.S. SURVEY FOOT.

**ELEVATION:**  
 1,269' GR. AT STAKE

OPERATOR: TAPSTONE ENERGY

WELL NO: 2H

LEASE NAME: MARK 25-34-9

TOPOGRAPHIC & VEGETATION: LOCATION FELL IN A FIELD

GOOD DRILL SITE: YES REFERENCE STAKES OR ALTERNATE LOCATION STAKES SET: NONE

BEST ACCESSIBILITY TO LOCATION: WEST LINE

DISTANCE & DIRECTION  
 FROM HWY JCT OR TOWN: FROM THE JCT. OF STATE HWY 2 AND SW 120 AVENUE, TRAVEL SOUTH ON SW 120 AVENUE FOR APPROXIMATELY 6.5 MILES, TO THE END OF SW 120 AVENUE.

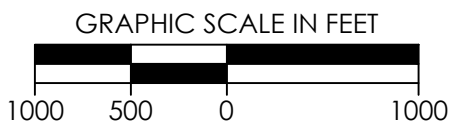
(THE FOLLOWING INFORMATION WAS GATHERED USING A GPS RECEIVER ACCURACY ±2.3 METERS)

GPS DATUM: <u>NAD-27</u>	STATE PLANE COORDINATES:
LAT: <u>37.051238° N</u>	ZONE: <u>KS-SOUTH NAD-27</u>
LONG: <u>-98.253185° W</u>	X: <u>X: 2072034.91</u>
	Y: <u>Y: 140125.62</u>

GENERAL NOTES:

THE TIES AND FOOTAGES SHOWN ON THIS PLAT ARE FROM LINES OF OCCUPATION FROM A SURVEY MADE ON THE GROUND AND / OR BEARING AND DISTANCES FROM THE GENERAL LAND OFFICE PLAT OF THE AREA SHOWN AND MAY NOT BE THE ACTUAL PROPERTY CORNERS. THIS PLAT DOES NOT REPRESENT A TRUE BOUNDARY SURVEY. DRILL SITE CONDITION DETERMINATIONS WERE MADE BY TAPSTONE REPRESENTATIVES.

AS-DRILLED INFORMATION PROVIDED BY CLIENT.



REVISION	"MARK 25-34-9 2H" PART OF THE SW1/4 OF SECTION 25, T-34-S, R-09-W AS-DRILLED PLAT HARPER COUNTY, KANSAS		
	SCALE: 1" = 1000'	DRAWN BY: J.PARKER	SHEET NO.: 1 OF 1

<b>JOB SUMMARY</b>			PROJECT NUMBER <b>SOK 5443</b>	TICKET DATE <b>11/07/15</b>
COUNTY <b>Harper</b>	State <b>Kansas</b>	COMPANY <b>Tapstone Energy</b>	CUSTOMER REP <b>0</b>	
LEASE NAME <b>Mark 25-34-9</b>	Well No. <b>2H</b>	JOB TYPE <b>0</b>	EMPLOYEE NAME <b>John Hall</b>	

EMP NAME	<b>John Hall</b>	<b>0</b>					
<b>Kyle Laskowitz</b>							
<b>Majic Muhamad</b>							
<b>0.00</b>							

Form. Name \_\_\_\_\_ Type: \_\_\_\_\_  
 Packer Type \_\_\_\_\_ Set At **0**  
 Bottom Hole Temp. **80** Pressure \_\_\_\_\_  
 Retainer Depth \_\_\_\_\_ Total Depth **800**

	Called Out	On Location	Job Started	Job Completed
Date	<b>11/7/2015</b>	<b>11/7/2015</b>	<b>11/7/2015</b>	<b>11/7/2015</b>
Time	<b>400pm</b>	<b>600pm</b>	<b>900pm</b>	<b>1100pm</b>

Tools and Accessories		
Type and Size	Qty	Make
Auto Fill Tube	<b>0</b>	<b>IR</b>
Insert Float Va	<b>0</b>	<b>IR</b>
Centralizers	<b>0</b>	<b>IR</b>
Top Plug	<b>0</b>	<b>IR</b>
HEAD	<b>0</b>	<b>IR</b>
Limit clamp	<b>0</b>	<b>IR</b>
Weld-A	<b>0</b>	<b>IR</b>
Texas Pattern Guide Shoe	<b>0</b>	<b>IR</b>
Cement Basket	<b>0</b>	<b>IR</b>

Well Data						
	New/Used	Weight	Size	Grade	From	To
Casing		<b>36#</b>	<b>9"</b>		<b>Surface</b>	<b>800</b>
Liner						
Liner						
Tubing			<b>0</b>			
Drill Pipe						
Open Hole			<b>12 1/4"</b>		<b>Surface</b>	<b>800</b>
Perforations						
Perforations						
Perforations						

Materials			
Mud Type	<b>WBM</b>	Density	<b>9</b> Lb/Gal
Disp. Fluid	<b>Fresh Water</b>	Density	<b>8.33</b> Lb/Gal
Spacer type	<b>resh Wate</b>	BBL.	<b>10</b> <b>8.33</b>
Spacer type		BBL.	
Acid Type		Gal.	%
Acid Type		Gal.	%
Surfactant		Gal.	In
NE Agent		Gal.	In
Fluid Loss		Gal/Lb	In
Gelling Agent		Gal/Lb	In
Fric. Red.		Gal/Lb	In
MISC.		Gal/Lb	In

Hours On Location		Operating Hours		Description of Job
Date	Hours	Date	Hours	
<b>11/7</b>	<b>5.0</b>	<b>11/7</b>	<b>2.0</b>	<b>0</b>
Total	<b>5.0</b>	Total	<b>2.0</b>	

Perfpac Balls \_\_\_\_\_ Qty. \_\_\_\_\_  
 Other \_\_\_\_\_  
 Other \_\_\_\_\_  
 Other \_\_\_\_\_  
 Other \_\_\_\_\_

Pressures	
<b>MAX 2,000 PSI</b>	<b>AVG. 200 psi</b>
Average Rates in BPM	
<b>MAX 6 BPM</b>	<b>AVG 4 bpm</b>
Cement Left in Pipe	
<b>Feet 44</b>	<b>Reason SHOE JOINT</b>

Cement Data						
Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
<b>1</b>	<b>470</b>	<b>Premium Plus (Class C)</b>	<b>2% Calcium Chloride - 1/4pps Cello-Flake</b>			
<b>2</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0.00</b>	<b>14.80</b>
<b>3</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0.00</b>	<b>0.00</b>

Summary					
Preflush	<b>10.00</b>	Type:	<b>Fresh Water</b>	Preflush:	BBI <b>10.00</b>
Breakdown		MAXIMUM	<b>2,000 PSI</b>	Load & Bkdn:	Gal - BBI <b>N/A</b>
		Lost Returns-	<b>NO/FULL</b>	Excess /Return	BBI <b>44</b>
		Actual TOC	<b>SURFACE</b>	Calc. TOC:	<b>SURFACE</b>
Average		Bump Plug PSI:	<b>1,000</b>	Final Circ.	PSI: <b>400</b>
ISP	<b>5 Min.</b>		<b>10 Min</b>	Cement Slurry	BBI <b>110.0</b>
			<b>15 Min</b>	Total Volume	BBI <b>181.70</b>

CUSTOMER REPRESENTATIVE Ben C. Day SIGNATURE





<b>JOB SUMMARY</b>			PROJECT NUMBER <b>SOK 5451</b>	TICKET DATE <b>11/12/15</b>
COUNTY <b>Harper</b>	State <b>Kansas</b>	COMPANY <b>Tapstone Energy</b>	CUSTOMER REP <b>William</b>	
LEASE NAME <b>Mark 25-34-9</b>	Well No. <b>2H</b>	JOB TYPE <b>Intermediate</b>	EMPLOYEE NAME <b>Brett Armer</b>	

EMP NAME	<b>Brett Armer</b>	<b>0</b>							
	<b>Cody Bonitz</b>								
	<b>Jose Chavez</b>								
	<b>0.00</b>								

Form. Name \_\_\_\_\_ Type: \_\_\_\_\_  
 Packer Type \_\_\_\_\_ Set At **0**  
 Bottom Hole Temp. **155** Pressure \_\_\_\_\_  
 Retainer Depth \_\_\_\_\_ Total Depth **5157**

	Called Out	On Location	Job Started	Job Completed
Date	<b>11/11/2015</b>	<b>11/12/2015</b>	<b>11/12/2015</b>	<b>11/12/2015</b>
Time	<b>2100</b>	<b>0230</b>	<b>0635</b>	<b>0735</b>

Tools and Accessories		
Type and Size	Qty	Make
Auto Fill Tube	0	IR
Insert Float Val	0	IR
Centralizers	0	IR
Top Plug	0	IR
HEAD	0	IR
Limit clamp	0	IR
Weld-A	0	IR
Texas Pattern Guide Shoe	0	IR
Cement Basket	0	IR

Well Data							
	New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing		26#	7"		Surface		5,000
Liner							
Liner							
Tubing			0				
Drill Pipe							
Open Hole			8 1/2"		Surface	5,194'	Shots/Ft.
Perforations							
Perforations							
Perforations							

Materials			
	WBM	Density	Lb/Gal
Mud Type	Fresh Water	8.33	
Disp. Fluid	resh Water BBL.	20	8.33
Spacer type	Caustic BBL.	10	8.40
Spacer type			
Acid Type	Gal.		%
Acid Type	Gal.		%
Surfactant	Gal.		In
NE Agent	Gal.		In
Fluid Loss	Gal/Lb		In
Gelling Agent	Gal/Lb		In
Fric. Red.	Gal/Lb		In
MISC.	Gal/Lb		In

Hours On Location		Operating Hours		Description of Job
Date	Hours	Date	Hours	
11/12	6.5	11/12	1.0	Intermediate
Total	6.5	Total	1.0	

Perfpac Balls \_\_\_\_\_ Qty. \_\_\_\_\_  
 Other \_\_\_\_\_  
 Other \_\_\_\_\_  
 Other \_\_\_\_\_  
 Other \_\_\_\_\_

Pressures	
MAX <b>5,000 PSI</b>	AVG. <b>500</b>
Average Rates in BPM	
MAX <b>8 BPM</b>	AVG <b>5</b>
Cement Left in Pipe	
Feet <b>83</b>	Reason <b>SHOE JOINT</b>

Cement Data				W/Rq.	Yield	Lbs/Gal
Stage	Sacks	Cement	Additives			
1	140	50/50 POZ PREMIUM	4% Gel - 0.4% FL-17	6.93	1.43	13.60
2	90	Premium	0.4% FL-17	5.19	1.19	15.60
3	0	0		0	0.00	0.00

Summary			
Preflush	<b>10</b>	Type: <b>Caustic</b>	Preflush: BBI <b>30.00</b> Type: <b>Mud Wash</b>
Breakdown	MAXIMUM	<b>5,000 PSI</b>	Load & Bkdn: Gal - BBI <b>N/A</b> Pad:Bbl -Gal <b>N/A</b>
	Lost Returns-N	<b>NO/FULL</b>	Excess /Return BBI <b>N/A</b> Calc.Disp Bbl <b>194</b>
	Actual TOC		Calc. TOC: <b>194.00</b> Actual Disp. <b>194.00</b>
Average	Bump Plug PSI:		Final Circ. PSI: <b>900</b> Disp:Bbl <b>194.00</b>
ISIP	<b>5 Min.</b>	<b>10 Min.</b>	Cement Slurrv: BBI <b>55.0</b>
		<b>15 Min.</b>	Total Volume BBI <b>279.00</b>

CUSTOMER REPRESENTATIVE \_\_\_\_\_ SIGNATURE \_\_\_\_\_

