

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
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: _____

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 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
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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				

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)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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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:	
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JOB SUMMARY			PROJECT NUMBER SOK 5469	TICKET DATE 11/23/15
COUNTY Harper	State Kansas	COMPANY Tapstone Energy	CUSTOMER REP 0	
LEASE NAME Sylvia 23-34-9	Well No. 1H	JOB TYPE 0	EMPLOYEE NAME Mike Hall	

EMP NAME Mike Hall	0				
Cody Bonitz					
Bryan Douglas					
0.00					

Form. Name _____ Type: _____

Packer Type _____ Set At **0**

Bottom Hole Temp. **80** Pressure _____

Retainer Depth _____ Total Depth **800**

Date	Called Out	On Location	Job Started	Job Completed
	11/23/2015	11/23/2015	11/23/2015	11/23/2015
Time		1330	1515	1700

Type and Size	Qty	Make
Auto Fill Tube	0	IR
Insert Float Va	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
Casing		36#	9"		Surface	800
Liner						1,500
Liner						
Tubing			0			
Drill Pipe						
Open Hole			12 1/4"		Surface	800
Perforations						Shots/Ft.
Perforations						
Perforations						

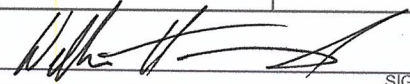
Materials			
Mud Type	WBM	Density	9 Lb/Gal
Disp. Fluid	Fresh Water	Density	8.33 Lb/Gal
Spacer type	Fresh Water	BBL.	10 8.33
Spacer type	BBL.		
Acid Type	Gal.	%	
Acid Type	Gal.	%	
Surfactant	Gal.	In	
NE Agent	Gal.	In	
Fluid Loss	Gal/Lb	In	
Gelling Agent	Gal/Lb	In	
Fric. Red.	Gal/Lb	In	
MISC.	Gal/Lb	In	
Perfpac Balls		Qty.	
Other			
Other			
Other			
Other			
Other			

Hours On Location		Operating Hours		Description of Job
Date	Hours	Date	Hours	
11/23	3.0	11/23	1.0	0
Total	3.0	Total	1.0	

Pressures	
MAX 1,500 PSI	AVG. 150
Average Rates in BPM	
MAX 6 BPM	AVG 4
Cement Left in Pipe	
Feet 44'	Reason SHOE JOINT

Cement Data				W/Rq.	Yield	Lbs/Gal
Stage	Sacks	Cement	Additives			
1	470	Premium Plus (Class C)	2% Calcium Chloride - 1/4pps Cello-Flake	6.32	1.32	14.80
2	0	0		0	0.00	0.00
3	0	0		0	0.00	0.00

Summary			
Preflush Breakdown	Type: MAXIMUM	Preflush: BBI	10.00 Type: Fresh Water
	Lost Returns- NO/FULL	Load & Bkdn: Gal - BBI	N/A Pad:Bbl -Gal N/A
	Actual TOC SURFACE	Excess /Return BBI	50 Calc. Disp Bbl 62
Average ISIP 5 Min.	Bump Plug PSI: 10 Min	Calc. TOC: SURFACE	Actual Disp. 62.00
	15 Min	Final Circ. PSI: 300	Disp:Bbl 62.00
		Cement Slurry BBI	110.0
		Total Volume BBI	182.00

CUSTOMER REPRESENTATIVE  SIGNATURE

JOB SUMMARY			PROJECT NUMBER SOK 5475	TICKET DATE 11/29/15
COUNTY Harper	State Kansas	COMPANY Tapstone Energy	CUSTOMER REP 0	
LEASE NAME Sylvia 23-34-9	Well No. 1H	JOB TYPE Intermediate	EMPLOYEE NAME Joseph Klemm	

EMP NAME Joseph Klemm	0				
Cody Bonitz					
Jose Chavez					
0.00					

Form. Name _____ Type: _____
 Packer Type _____ Set At **0**
 Bottom Hole Temp. **155** Pressure _____
 Retainer Depth _____ Total Depth **5131**

Date	Called Out	On Location	Job Started	Job Completed
	11/28/2015	11/28/2015	11/28/2015	11/29/2015
Time	1930	2130	2200	0700

Type and Size	Qty	Make
Auto Fill Tube	0	IR
Insert Float Va	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	5,131	5,000
Liner							
Liner							
Tubing			0				
Drill Pipe							
Open Hole			8 1/2"		Surface	5,131	Shots/Ft.
Perforations							
Perforations							
Perforations							


Materials			
Mud Type	WBM	Density	9 Lb/Gal
Disp. Fluid	Fresh Water	Density	8.33 Lb/Gal
Spacer type	Mudwash BBL.		20 8.40
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	
Perfpac Balls		Qty.	
Other			
Other			
Other			
Other			
Other			

Hours On Location		Operating Hours		Description of Job
Date	Hours	Date	Hours	
11/28	9.5	11/29	9.0	Intermediate
Total	9.5	Total	9.0	

Pressures			
MAX	5,000 PSI	AVG.	180
Average Rates in BPM			
MAX	7 BPM	AVG	4.5
Cement Left in Pipe			
Feet	83	Reason	SHOE JOINT

Cement Data						
Stage	Sacks	Cement	Additives	W/Rq.	Yield	Lbs/Gal
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 Breakdown	Type: MAXIMUM	Preflush: BBI	20.00	Type: Mud Wash	
	Lost Returns: NO/FULL	Load & Bkdn: Gal - BBI	N/A	Pad: Bbl - Gal	N/A
	Actual TOC: 3,204	Excess /Return BBI	N/A	Calc. Disp Bbl	193
Average	Bump Plug PSI: 700	Calc. TOC: 3,204		Actual Disp.	193.00
ISIP 5 Min.	10 Min	Final Circ. PSI: 200		Disp: Bbl	193.00
	15 Min	Cement Slurry BBI	54.7		
		Total Volume BBI	267.70		

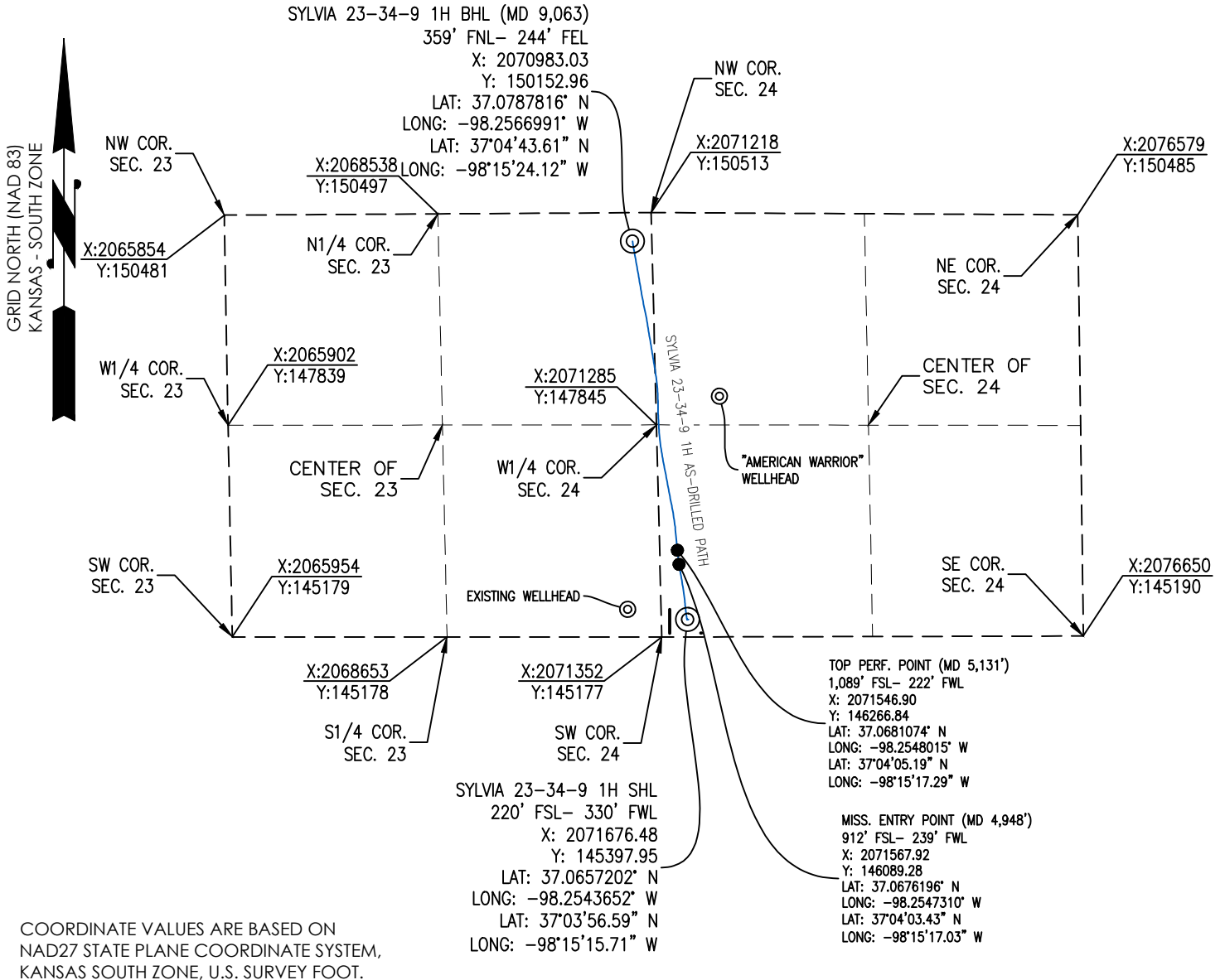
CUSTOMER REPRESENTATIVE  SIGNATURE



Crafton Tull
 SURVEYING

HARPER COUNTY, KANSAS

220' FSL- 330' FWL SECTION 24 TOWNSHIP 34S RANGE 09W 6TH P.M.



ELEVATION:
 1,279' GR. AT STAKE

OPERATOR: TAPSTONE ENERGY WELL NO: 1H

LEASE NAME: SYLVIA 23-34-9

TOPOGRAPHIC & VEGETATION: LOCATION FELL IN A FIELD

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

BEST ACCESSIBILITY TO LOCATION: SOUTH OR WEST LINE

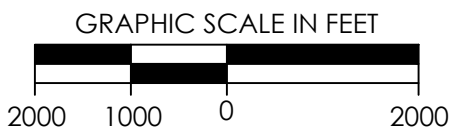
DISTANCE & DIRECTION
 FROM HWY JCT OR TOWN: FROM THE JCT. OF STATE HWY 2 AND SW 120 AVENUE, TRAVEL SOUTH ON SW 120 AVENUE FOR APPROXIMATELY 6 MILES TO THE SW CORNER OF S.24-T34S-R09W.

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

GPS DATUM: NAD-27
 LAT: 37.0657202° N
 LONG: -98.2543651° W

STATE PLANE COORDINATES:
 ZONE: KS-SOUTH NAD-27
 X: 2071676.48
 Y: 145397.95

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 SANDRIDGE ENERGY INC. REPRESENTATIVES.



REVISION	"SYLVIA 23-34-9 1H" PART OF THE SW1/4 OF SECTION 24, T-34-S, R-09-W AS-DRILLED PLAT HARPER COUNTY, KANSAS		
SCALE: 1" = 2000'	PLOT DATE: 12-14-2015	DRAWN BY: JWB	SHEET NO.: 1 OF 1

MWD
SURVEYS

Customer: Tapstone Energy
Well: Sylvia 23-34-9 #1H
Field/Block: Mississippi Lime
Co./Parish: Harper Co.
State: KS

PGS Job #: LKS6119815
MWD Operator: Jeffery Treille
Directional Driller: Jarod Gooch
Date of First Survey: November 24, 2015
Date of Last Survey: December 9, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 351.67 Nominal Dip Angle: 65.27 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azi.	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 @ 838'													Date Received:	11/23/15		
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					
1	892.00	0.10	5.30	892.00	0.76	0.78	0.07	0.78	5.30	0.01	0.00	77 °F	Green	11/24/15	9:30	
2	1082.00	0.30	263.80	1,082.00	0.94	0.89	-0.41	0.98	335.32	0.18	0.00	84 °F	Green	11/24/15	10:15	
3	1271.00	0.40	258.60	1,271.00	0.92	0.70	-1.55	1.70	294.44	0.06	0.00	90 °F	Green	11/24/15	11:10	
4	1460.00	0.20	244.80	1,459.99	0.79	0.43	-2.49	2.53	279.83	0.11	0.00	97 °F	Green	11/24/15	12:30	
5	1649.00	0.30	290.80	1,648.99	0.93	0.47	-3.25	3.29	278.17	0.11	0.00	99 °F	Green	11/24/15	16:00	
6	1836.00	0.30	321.40	1,835.99	1.59	1.02	-4.02	4.14	284.30	0.08	0.00	104 °F	Green	11/24/15	17:05	
7	2026.00	0.20	314.80	2,025.99	2.29	1.65	-4.56	4.85	289.84	0.05	0.00	111 °F	Green	11/24/15	18:44	
8	2215.00	0.30	268.20	2,214.98	2.61	1.86	-5.29	5.61	289.40	0.12	0.00	113 °F	Green	11/24/15	20:10	
9	2402.00	0.10	212.10	2,401.98	2.54	1.71	-5.87	6.11	286.25	0.14	0.00	113 °F	Green	11/24/15	21:54	
10	2591.00	0.30	129.70	2,590.98	2.05	1.25	-5.57	5.71	282.68	0.16	0.00	120 °F	Green	11/24/15	23:17	
11	2781.00	0.50	66.20	2,780.98	1.90	1.27	-4.43	4.61	285.99	0.24	0.00	120 °F	Green	11/25/15	0:44	
12	2968.00	0.30	83.80	2,967.97	2.10	1.65	-3.20	3.60	297.32	0.12	0.00	122 °F	Green	11/25/15	2:10	
13	3155.00	0.40	227.60	3,154.97	1.71	1.27	-3.19	3.43	291.61	0.36	0.00	122 °F	Green	11/25/15	5:00	
14	3342.00	0.40	244.20	3,341.97	1.15	0.54	-4.26	4.30	277.23	0.06	0.00	100 °F	Green	11/25/15	6:28	
15	3531.00	0.50	268.30	3,530.96	1.05	0.23	-5.68	5.69	272.31	0.11	0.00	108 °F	Green	11/25/15	7:50	
16	3719.00	0.70	306.00	3,718.95	1.95	0.88	-7.43	7.48	276.75	0.23	0.00	117 °F	Green	11/25/15	10:00	
17	3813.00	0.80	320.80	3,812.94	2.91	1.73	-8.31	8.49	281.73	0.23	0.00	117 °F	Yellow	11/25/15	12:15	
18	3845.00	2.50	339.70	3,844.93	3.79	2.55	-8.69	9.06	286.37	5.51	14.00	7.30	117 °F	Green	11/25/15	13:10
19	3876.00	6.70	345.70	3,875.82	6.25	4.94	-9.37	10.60	297.79	13.62	13.60	7.00	118 °F	Green	11/25/15	13:50
20	3908.00	10.60	352.90	3,907.45	11.05	9.67	-10.20	14.06	313.48	12.63	12.60	6.80	118 °F	Green	11/25/15	14:45
21	3939.00	13.80	353.90	3,937.75	17.60	16.18	-10.95	19.53	325.92	10.34	20.00	6.60	118 °F	Green	11/25/15	15:45
22	3971.00	15.70	352.00	3,968.70	25.74	24.26	-11.95	27.05	333.77	6.13	13.00	6.70	118 °F	Green	11/25/15	16:15
23	4002.00	17.40	350.80	3,998.41	34.57	32.99	-13.28	35.56	338.08	5.59	11.50	6.70	120 °F	Green	11/25/15	17:10
24	4034.00	19.20	351.60	4,028.79	44.62	42.92	-14.81	45.41	340.96	5.68	14.00	6.80	120 °F	Green	11/25/15	17:40
25	4065.00	21.00	353.30	4,057.90	55.27	53.48	-16.20	55.88	343.14	6.10	13.50	6.80	122 °F	Green	11/25/15	18:43
26	4096.00	22.60	353.00	4,086.68	66.77	64.91	-17.58	67.25	344.85	5.17	13.00	6.90	122 °F	Green	11/25/15	19:44
27	4128.00	24.90	353.30	4,115.97	79.66	77.71	-19.11	80.02	346.18	7.20	13.40	6.90	122 °F	Green	11/25/15	20:40
28	4160.00	27.60	353.30	4,144.67	93.80	91.76	-20.77	94.08	347.25	8.44	16.60	6.80	122 °F	Green	11/25/15	21:47
29	4192.00	30.30	354.10	4,172.67	109.28	107.16	-22.46	109.49	348.16	8.52	17.50	6.70	129 °F	Green	11/25/15	23:03
30	4222.00	32.80	353.30	4,198.23	124.97	122.76	-24.19	125.12	348.85	8.45	23.00	6.60	129 °F	Green	11/26/15	0:20
31	4254.00	35.00	352.70	4,224.79	142.81	140.47	-26.36	142.92	349.37	6.95	21.00	6.60	129 °F	Green	11/26/15	1:26
32	4285.00	36.80	353.70	4,249.90	160.98	158.52	-28.51	161.06	349.80	6.11	17.20	6.60	129 °F	Green	11/26/15	2:46
33	4317.00	38.40	354.10	4,275.25	180.49	177.93	-30.59	180.54	350.25	5.06	20.00	6.80	133 °F	Green	11/26/15	4:18
34	4349.00	40.10	354.80	4,300.03	200.71	198.08	-32.54	200.74	350.67	5.49	19.50	6.90	133 °F	Green	11/26/15	5:37
35	4381.00	42.00	354.70	4,324.16	221.69	219.01	-34.47	221.71	351.06	5.94	19.00	7.10	135 °F	Green	11/26/15	6:25
36	4413.00	44.00	354.20	4,347.57	243.49	240.73	-36.58	243.49	351.36	6.34	20.20	7.20	135 °F	Green	11/26/15	7:10
37	4445.00	46.20	352.90	4,370.15	266.14	263.25	-39.13	266.14	351.55	7.45	21.60	7.30	135 °F	Green	11/26/15	8:40
38	4476.00	48.60	352.30	4,391.13	288.96	285.88	-42.07	288.96	351.63	7.87	17.90	7.20	133 °F	Green	11/26/15	9:55
39	4507.00	50.60	352.20	4,411.23	312.56	309.27	-45.25	312.56	351.68	6.46	19.10	7.30	133 °F	Green	11/26/15	11:20
40	4538.00	53.00	352.20	4,430.39	336.92	333.40	-48.56	336.92	351.71	7.74	20.00	7.20	131 °F	Green	11/26/15	12:30
41	4569.00	55.30	351.90	4,448.55	362.05	358.29	-52.04	362.05	351.74	7.46	18.20	7.20	131 °F	Green	11/26/15	13:30
42	4600.00	57.80	351.50	4,465.64	387.91	383.88	-55.77	387.91	351.73	8.14	19.00	0.00	131 °F	Green	11/26/15	15:40
43	4631.00	60.40	350.80	4,481.55	414.51	410.16	-59.86	414.51	351.70	8.61	19.00	0.00	131 °F	Green	11/26/15	17:00
44	4662.00	61.40	350.60	4,496.63	441.59	436.89	-64.24	441.59	351.63	3.27	0.00	0.00	131 °F	Green	11/26/15	18:45
45	4693.00	61.80	350.30	4,511.37	468.85	463.78	-68.77	468.85	351.57	1.55	0.00	0.00	131 °F	Green	11/26/15	20:13
46	4725.00	62.40	350.20	4,526.35	497.12	491.65	-73.56	497.12	351.49	1.90	0.00	0.00	131 °F	Green	11/26/15	21:37
47	4757.00	63.00	350.20	4,541.02	525.55	519.67	-78.40	525.55	351.42	1.88	0.00	0.00	131 °F	Green	11/26/15	22:44
48	4788.00	63.50	350.00	4,554.98	553.22	546.94	-83.16	553.23	351.36	1.71	0.00	0.00	131 °F	Green	11/26/15	23:29
49	4819.00	64.00	349.80	4,568.69	581.01	574.32	-88.03	581.02	351.29	1.71	0.00	0.00	131 °F	Green	11/27/15	0:38
50	4851.00	64.60	349.50	4,582.57	609.83	602.68	-93.21	609.85	351.21	2.06	17.50	7.80	129 °F	Green	11/27/15	1:54
51	4882.00	66.70	349.80	4,595.35	638.05	630.46	-98.28	638.08	351.14	6.83	18.00	7.90	129 °F	Green	11/27/15	2:50
52	4913.00	69.10	350.20	4,607.01	666.76	658.75	-103.27	666.79	351.09	7.83	17.30	7.90	129 °F	Green	11/27/15	4:06
53	4945.00	71.70	351.20	4,617.74	696.90	688.49	-108.14	696.93	351.07	8.64	17.20	7.90	129 °F	Green	11/27/15	6:10
54	4976.00	73.70	352.00	4,626.96	726.49	717.77	-112.46	726.53	351.10	6.91	14.20	8.00	131 °F	Green	11/27/15	8:20
55	5007.00	75.50	353.00	4,635.19	756.37	747.40	-116.36	756.41	351.15	6.59	17.00	8.00	122 °F	Green	11/27/15	10:45
56	5038.00	77.80	353.50	4,642.35	786.52	777.35	-119.91	786.55	351.23	7.58	19.50	8.20	122 °F	Green	11/27/15	12:20
57	5070.00	81.00	353.70	4,648.24	817.95	808.61	-123.41	817.97	351.32	10.02	16.90	7.20	120 °F	Green	11/27/15	14:35
58	5175.00	86.20	354.60	4,659.94	922.17	912.37	-134.04	922.17	351.64	5.03	0.00	0.00	70 °F	Green	11/30/15	17:25
59	5207.00	87.50	354.40	4,661.70	954.08	944.18	-137.10	954.08	351.74	4.11	0.00	0.00	70 °F	Green	11/30/15	18:30

MWD SURVEYS

Customer: Tapstone Energy
Well: Sylvia 23-34-9 #1H
Field/Block: Mississippi Lime
Co./Parish: Harper Co.
State: KS

PGS Job #: LKS6119815
MWD Operator: Jeffery Treille
Directional Driller: Jarod Gooch
Date of First Survey: November 24, 2015
Date of Last Survey: December 9, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 351.67 Nominal Dip Angle: 65.27 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	
60	5238.00	89.40	354.90	4,662.53	985.02	975.03	-139.99	985.03	351.83	6.34	0.00	0.00	70 °F	Green	11/30/15	19:00
61	5269.00	89.80	355.10	4,662.75	1,015.97	1,005.91	-142.69	1,015.98	351.93	1.44	0.00	0.00	70 °F	Green	11/30/15	19:50
62	5301.00	90.00	355.10	4,662.81	1,047.91	1,037.79	-145.43	1,047.93	352.02	0.63	0.00	0.00	70 °F	Green	11/30/15	20:55
63	5332.00	90.80	355.20	4,662.59	1,078.85	1,068.68	-148.05	1,078.89	352.11	2.60	0.00	0.00	70 °F	Green	11/30/15	21:30
64	5364.00	91.10	355.20	4,662.06	1,110.79	1,100.56	-150.72	1,110.84	352.20	0.94	0.00	0.00	70 °F	Green	11/30/15	22:20
65	5396.00	91.20	354.20	4,661.42	1,142.74	1,132.42	-153.68	1,142.80	352.27	3.14	0.00	0.00	70 °F	Green	11/30/15	23:10
66	5425.00	91.00	352.80	4,660.86	1,171.72	1,161.23	-156.96	1,171.79	352.30	4.88	0.00	0.00	70 °F	Green	11/30/15	23:50
67	5455.00	90.80	351.80	4,660.39	1,201.71	1,190.95	-160.98	1,201.78	352.30	3.40	0.00	0.00	70 °F	Green	12/01/15	0:20
68	5486.00	91.70	351.80	4,659.71	1,232.70	1,221.63	-165.40	1,232.77	352.29	2.90	0.00	0.00	70 °F	Green	12/01/15	0:50
69	5516.00	91.80	352.10	4,658.80	1,262.69	1,251.32	-169.60	1,262.76	352.28	1.05	0.00	0.00	72 °F	Green	12/01/15	1:25
70	5546.00	91.40	351.40	4,657.96	1,292.68	1,281.00	-173.90	1,292.75	352.27	2.69	0.00	0.00	72 °F	Green	12/01/15	2:20
71	5577.00	91.80	351.20	4,657.09	1,323.66	1,311.63	-178.59	1,323.73	352.25	1.44	0.00	0.00	72 °F	Green	12/01/15	3:05
72	5607.00	91.60	350.60	4,656.20	1,353.65	1,341.24	-183.33	1,353.71	352.22	2.11	0.00	0.00	72 °F	Green	12/01/15	3:45
73	5638.00	91.10	349.40	4,655.47	1,384.63	1,371.76	-188.71	1,384.68	352.17	4.19	0.00	0.00	72 °F	Green	12/01/15	4:30
74	5668.00	91.60	348.90	4,654.77	1,414.59	1,401.21	-194.36	1,414.63	352.10	2.36	0.00	0.00	72 °F	Green	12/01/15	5:10
75	5698.00	90.80	348.60	4,654.14	1,444.54	1,430.63	-200.21	1,444.57	352.03	2.85	0.00	0.00	72 °F	Green	12/01/15	5:50
76	5728.00	90.20	348.00	4,653.88	1,474.49	1,460.00	-206.29	1,474.51	351.96	2.83	0.00	0.00	77 °F	Green	12/01/15	7:10
77	5758.00	90.10	348.70	4,653.80	1,504.44	1,489.39	-212.35	1,504.45	351.89	2.36	0.00	0.00	75 °F	Green	12/01/15	8:00
78	5788.00	90.50	349.40	4,653.64	1,534.41	1,518.84	-218.05	1,534.41	351.83	2.69	0.00	0.00	72 °F	Green	12/01/15	9:00
79	5818.00	90.10	349.40	4,653.48	1,564.38	1,548.33	-223.57	1,564.39	351.78	1.33	0.00	0.00	72 °F	Green	12/01/15	9:50
80	5848.00	90.10	349.40	4,653.43	1,594.36	1,577.82	-229.09	1,594.36	351.74	0.00	0.00	0.00	75 °F	Green	12/01/15	10:40
81	5878.00	90.90	349.30	4,653.17	1,624.33	1,607.30	-234.63	1,624.33	351.69	2.69	0.00	0.00	77 °F	Green	12/01/15	11:10
82	5908.00	91.40	349.60	4,652.57	1,654.30	1,636.78	-240.12	1,654.30	351.65	1.94	0.00	0.00	77 °F	Green	12/01/15	11:55
83	5938.00	91.50	349.50	4,651.81	1,684.27	1,666.28	-245.56	1,684.27	351.62	0.47	0.00	0.00	77 °F	Green	12/01/15	12:35
84	5968.00	91.30	350.00	4,651.07	1,714.25	1,695.79	-250.90	1,714.25	351.58	1.79	0.00	0.00	77 °F	Green	12/01/15	13:10
85	5999.00	91.30	349.70	4,650.37	1,745.22	1,726.30	-256.36	1,745.23	351.55	0.97	0.00	0.00	77 °F	Green	12/01/15	13:50
86	6029.00	91.80	349.80	4,649.56	1,775.20	1,755.81	-261.70	1,775.20	351.52	1.70	0.00	0.00	79 °F	Green	12/01/15	14:40
87	6059.00	91.20	349.30	4,648.77	1,805.17	1,785.30	-267.14	1,805.17	351.49	2.60	0.00	0.00	77 °F	Green	12/01/15	15:25
88	6090.00	90.50	348.20	4,648.31	1,836.12	1,815.70	-273.18	1,836.14	351.44	4.21	0.00	0.00	79 °F	Green	12/01/15	16:10
89	6119.00	89.90	348.10	4,648.21	1,865.07	1,844.08	-279.14	1,865.09	351.39	2.10	0.00	0.00	81 °F	Green	12/01/15	16:55
90	6150.00	89.80	348.40	4,648.29	1,896.01	1,874.43	-285.45	1,896.04	351.34	1.02	0.00	0.00	81 °F	Green	12/01/15	17:35
91	6180.00	90.10	349.30	4,648.32	1,925.97	1,903.86	-291.25	1,926.01	351.30	3.16	0.00	0.00	81 °F	Green	12/01/15	18:15
92	6210.00	90.80	350.00	4,648.09	1,955.95	1,933.37	-296.64	1,956.00	351.28	3.30	0.00	0.00	81 °F	Green	12/01/15	19:45
93	6240.00	90.30	349.70	4,647.80	1,985.94	1,962.90	-301.93	1,985.99	351.26	1.94	0.00	0.00	81 °F	Green	12/01/15	20:20
94	6271.00	89.10	349.70	4,647.96	2,016.92	1,993.40	-307.47	2,016.98	351.23	3.87	0.00	0.00	81 °F	Green	12/01/15	21:05
95	6301.00	89.50	349.60	4,648.33	2,046.90	2,022.91	-312.86	2,046.96	351.21	1.37	0.00	0.00	81 °F	Green	12/01/15	21:50
96	6331.00	90.00	350.50	4,648.46	2,076.88	2,052.46	-318.05	2,076.96	351.19	3.43	0.00	0.00	81 °F	Green	12/01/15	22:30
97	6361.00	90.60	350.90	4,648.30	2,106.88	2,082.07	-322.89	2,106.95	351.18	2.40	0.00	0.00	81 °F	Green	12/01/15	23:15
98	6392.00	90.60	350.30	4,647.98	2,137.87	2,112.65	-327.96	2,137.95	351.18	1.94	0.00	0.00	81 °F	Green	12/01/15	23:55
99	6421.00	90.30	350.90	4,647.75	2,166.87	2,141.26	-332.69	2,166.95	351.17	2.31	0.00	0.00	81 °F	Green	12/02/15	0:40
100	6451.00	87.30	351.70	4,648.38	2,196.86	2,170.90	-337.23	2,196.94	351.17	10.35	0.00	0.00	79 °F	Green	12/05/15	6:10
101	6481.00	87.40	352.40	4,649.76	2,226.82	2,200.58	-341.37	2,226.90	351.18	2.35	0.00	0.00	79 °F	Green	12/05/15	14:45
102	6512.00	88.00	353.40	4,651.01	2,257.79	2,231.32	-345.20	2,257.86	351.21	3.76	0.00	0.00	82 °F	Green	12/05/15	15:20
103	6541.00	88.10	353.50	4,651.99	2,286.76	2,260.11	-348.51	2,286.82	351.23	0.49	0.00	0.00	82 °F	Green	12/05/15	16:00
104	6572.00	88.20	353.80	4,652.99	2,317.72	2,290.91	-351.94	2,317.78	351.27	1.02	0.00	0.00	82 °F	Green	12/05/15	16:45
105	6602.00	88.50	354.30	4,653.86	2,347.69	2,320.73	-355.04	2,347.73	351.30	1.94	0.00	0.00	82 °F	Green	12/05/15	17:30
106	6632.00	89.20	355.40	4,654.46	2,377.63	2,350.60	-357.74	2,377.67	351.35	4.35	0.00	0.00	82 °F	Green	12/05/15	18:20
107	6663.00	89.80	356.20	4,654.73	2,408.55	2,381.52	-360.01	2,408.58	351.40	3.23	0.00	0.00	82 °F	Green	12/05/15	18:50
108	6693.00	90.20	356.80	4,654.73	2,438.44	2,411.46	-361.84	2,438.46	351.47	2.40	0.00	0.00	82 °F	Green	12/05/15	19:40
109	6722.00	90.30	356.70	4,654.60	2,467.33	2,440.42	-363.48	2,467.34	351.53	0.49	0.00	0.00	82 °F	Green	12/05/15	20:25
110	6753.00	90.30	356.80	4,654.44	2,498.21	2,471.37	-365.24	2,498.21	351.59	0.32	0.00	0.00	82 °F	Green	12/05/15	21:30
111	6784.00	90.30	357.90	4,654.28	2,529.05	2,502.33	-366.67	2,529.05	351.66	3.55	0.00	0.00	82 °F	Green	12/05/15	22:30
112	6815.00	90.30	357.50	4,654.12	2,559.88	2,533.31	-367.92	2,559.88	351.74	1.29	0.00	0.00	82 °F	Green	12/05/15	23:15
113	6845.00	90.00	357.60	4,654.04	2,589.72	2,563.28	-369.20	2,589.73	351.80	1.05	0.00	0.00	82 °F	Green	12/06/15	0:05
114	6875.00	90.10	357.80	4,654.01	2,619.56	2,593.26	-370.40	2,619.57	351.87	0.75	0.00	0.00	82 °F	Green	12/06/15	0:45
115	6906.00	89.90	358.80	4,654.01	2,650.35	2,624.24	-371.32	2,650.38	351.95	3.29	0.00	0.00	82 °F	Green	12/06/15	1:35
116	6935.00	89.80	358.90	4,654.09	2,679.12	2,653.24	-371.90	2,679.17	352.02	0.49	0.00	0.00	82 °F	Green	12/06/15	2:20
117	6966.00	90.00	358.70	4,654.14	2,709.88	2,684.23	-372.55	2,709.96	352.10	0.91	0.00	0.00	82 °F	Green	12/06/15	3:20
118	6997.00	90.10	359.30	4,654.12	2,740.63	2,715.22	-373.09	2,740.74	352.18	1.96	0.00	0.00	82 °F	Green	12/06/15	4:30
119	7027.00	90.10	359.60	4,654.06	2,770.35	2,745.22	-373.38	2,770.50	352.25	1.00	0.00	0.00	82 °F	Green	12/06/15	5:35
120	7058.00	90.00	359.20	4,654.04	2,801.07	2,776.22	-373.71	2,801.26	352.33	1.33	0.00	0.00	86 °F	Green	12/06/15	6:30
121	7089.00	89.90	358.80	4,654.06	2,831.82	2,807.22	-374.25	2,832.05	352.41	1.33	0.00	0.00	86 °F	Green	12/06/15	7:30

MWD
SURVEYS

Customer: Tapstone Energy
Well: Sylvia 23-34-9 #1H
Field/Block: Mississippi Lime
Co./Parish: Harper Co.
State: KS

PGS Job #: LKS6119815
MWD Operator: Jeffery Treille
Directional Driller: Jarod Gooch
Date of First Survey: November 24, 2015
Date of Last Survey: December 9, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 351.67 Nominal Dip Angle: 65.27 Magnetic Field Strength: 0.516

Measure d Depth	Inc.	Azi.	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	7119.00	90.10	356.90	4,654.06	2,861.64	2,837.19	-375.37	2,861.92	352.46	6.37	0.00	0.00	86 °F	Green	12/06/15	10:45
123	7149.00	90.50	356.40	4,653.91	2,891.53	2,867.14	-377.13	2,891.84	352.51	2.13	0.00	0.00	86 °F	Green	12/06/15	11:35
124	7180.00	90.30	355.70	4,653.69	2,922.44	2,898.07	-379.26	2,922.78	352.54	2.35	0.00	0.00	86 °F	Green	12/06/15	12:25
125	7211.00	90.00	354.40	4,653.61	2,953.38	2,928.95	-381.94	2,953.75	352.57	4.30	0.00	0.00	91 °F	Green	12/06/15	13:40
126	7241.00	89.40	354.30	4,653.77	2,983.35	2,958.80	-384.89	2,983.73	352.59	2.03	0.00	0.00	92 °F	Green	12/06/15	14:40
127	7272.00	89.40	353.20	4,654.09	3,014.33	2,989.62	-388.27	3,014.72	352.60	3.55	0.00	0.00	93 °F	Green	12/06/15	15:45
128	7302.00	89.70	352.60	4,654.33	3,044.32	3,019.39	-391.97	3,044.72	352.60	2.24	0.00	0.00	93 °F	Green	12/06/15	16:45
129	7332.00	90.10	351.70	4,654.38	3,074.32	3,049.10	-396.07	3,074.72	352.60	3.28	0.00	0.00	93 °F	Green	12/06/15	18:20
130	7363.00	90.40	352.10	4,654.24	3,105.32	3,079.79	-400.44	3,105.72	352.59	1.61	0.00	0.00	93 °F	Green	12/06/15	20:00
131	7394.00	90.40	351.70	4,654.03	3,136.32	3,110.48	-404.81	3,136.72	352.59	1.29	0.00	0.00	93 °F	Green	12/06/15	21:20
132	7424.00	90.20	350.90	4,653.87	3,166.31	3,140.14	-409.34	3,166.71	352.57	2.75	0.00	0.00	93 °F	Green	12/06/15	22:45
133	7454.00	89.40	350.60	4,653.97	3,196.31	3,169.75	-414.17	3,196.69	352.56	2.85	0.00	0.00	93 °F	Green	12/07/15	0:05
134	7484.00	89.10	349.80	4,654.37	3,226.30	3,199.31	-419.27	3,226.66	352.53	2.85	0.00	0.00	93 °F	Green	12/07/15	1:15
135	7515.00	89.10	350.30	4,654.85	3,257.28	3,229.84	-424.63	3,257.63	352.51	1.61	0.00	0.00	93 °F	Green	12/07/15	2:25
136	7545.00	89.20	350.00	4,655.30	3,287.27	3,259.39	-429.76	3,287.60	352.49	1.05	0.00	0.00	93 °F	Green	12/07/15	3:20
137	7575.00	89.30	350.70	4,655.69	3,317.26	3,288.97	-434.79	3,317.58	352.47	2.36	0.00	0.00	93 °F	Green	12/07/15	4:30
138	7606.00	89.40	350.50	4,656.04	3,348.25	3,319.55	-439.85	3,348.56	352.45	0.72	0.00	0.00	93 °F	Green	12/07/15	5:40
139	7636.00	89.10	350.50	4,656.44	3,378.24	3,349.13	-444.80	3,378.54	352.43	1.00	0.00	0.00	93 °F	Green	12/07/15	6:35
140	7666.00	88.80	350.90	4,656.99	3,408.23	3,378.73	-449.65	3,408.52	352.42	1.67	0.00	0.00	93 °F	Green	12/07/15	7:15
141	7697.00	89.00	350.40	4,657.58	3,439.22	3,409.32	-454.68	3,439.50	352.40	1.74	0.00	0.00	93 °F	Green	12/07/15	8:15
142	7729.00	89.00	350.80	4,658.14	3,471.21	3,440.88	-459.91	3,471.48	352.39	1.25	0.00	0.00	93 °F	Green	12/07/15	8:55
143	7760.00	89.20	350.20	4,658.63	3,502.20	3,471.45	-465.03	3,502.46	352.37	2.04	0.00	0.00	95 °F	Green	12/07/15	9:40
144	7791.00	89.60	350.50	4,658.95	3,533.19	3,502.01	-470.22	3,533.44	352.35	1.61	0.00	0.00	95 °F	Green	12/07/15	10:40
145	7823.00	89.30	350.30	4,659.26	3,565.18	3,533.56	-475.56	3,565.42	352.34	1.13	0.00	0.00	97 °F	Green	12/07/15	11:30
146	7855.00	88.90	350.40	4,659.76	3,597.17	3,565.11	-480.92	3,597.40	352.32	1.29	0.00	0.00	97 °F	Green	12/07/15	12:30
147	7886.00	89.20	350.50	4,660.27	3,628.16	3,595.67	-486.06	3,628.38	352.30	1.02	0.00	0.00	97 °F	Green	12/07/15	13:15
148	7917.00	89.50	350.60	4,660.63	3,659.15	3,626.25	-491.15	3,659.36	352.29	1.02	0.00	0.00	99 °F	Green	12/07/15	14:05
149	7949.00	89.80	350.50	4,660.82	3,691.14	3,657.81	-496.41	3,691.34	352.27	0.99	0.00	0.00	99 °F	Green	12/07/15	15:05
150	7980.00	89.60	351.10	4,660.98	3,722.14	3,688.41	-501.36	3,722.33	352.26	2.04	0.00	0.00	99 °F	Green	12/07/15	16:00
151	8012.00	89.50	351.40	4,661.24	3,754.13	3,720.04	-506.23	3,754.33	352.25	0.99	0.00	0.00	97 °F	Green	12/07/15	16:45
152	8043.00	89.30	350.70	4,661.56	3,785.13	3,750.66	-511.05	3,785.32	352.24	2.35	0.00	0.00	97 °F	Green	12/07/15	17:55
153	8075.00	89.00	348.90	4,662.03	3,817.11	3,782.15	-516.72	3,817.29	352.22	5.70	0.00	0.00	97 °F	Green	12/07/15	19:10
154	8106.00	89.30	349.30	4,662.49	3,848.07	3,812.59	-522.58	3,848.24	352.20	1.61	0.00	0.00	102 °F	Green	12/07/15	20:10
155	8138.00	89.00	348.50	4,662.97	3,880.03	3,843.99	-528.74	3,880.18	352.17	2.67	0.00	0.00	102 °F	Green	12/07/15	21:10
156	8169.00	88.90	348.80	4,663.54	3,910.99	3,874.37	-534.84	3,911.12	352.14	1.02	0.00	0.00	102 °F	Green	12/07/15	22:40
157	8200.00	89.30	348.20	4,664.02	3,941.93	3,904.75	-541.02	3,942.05	352.11	2.33	0.00	0.00	102 °F	Green	12/07/15	23:45
158	8232.00	89.90	348.20	4,664.25	3,973.87	3,936.07	-547.56	3,973.98	352.08	1.88	0.00	0.00	102 °F	Green	12/08/15	1:12
159	8263.00	90.30	348.50	4,664.19	4,004.82	3,966.43	-553.82	4,004.91	352.05	1.61	0.00	0.00	102 °F	Green	12/08/15	2:20
160	8295.00	90.40	348.50	4,664.00	4,036.77	3,997.79	-560.20	4,036.85	352.02	0.31	0.00	0.00	102 °F	Green	12/08/15	3:40
161	8326.00	90.40	349.80	4,663.78	4,067.74	4,028.23	-566.04	4,067.81	352.00	4.19	0.00	0.00	102 °F	Green	12/08/15	4:50
162	8357.00	90.50	349.20	4,663.54	4,098.72	4,058.71	-571.69	4,098.78	351.98	1.96	0.00	0.00	102 °F	Green	12/08/15	6:05
163	8389.00	90.90	350.10	4,663.15	4,130.69	4,090.19	-577.44	4,130.75	351.96	3.08	0.00	0.00	102 °F	Green	12/08/15	7:00
164	8420.00	90.90	350.10	4,662.66	4,161.68	4,120.72	-582.77	4,161.73	351.95	0.00	0.00	0.00	102 °F	Green	12/08/15	8:00
165	8452.00	90.80	350.60	4,662.19	4,193.67	4,152.27	-588.13	4,193.71	351.94	1.59	0.00	0.00	104 °F	Green	12/08/15	9:00
166	8483.00	91.00	349.90	4,661.70	4,224.65	4,182.82	-593.38	4,224.70	351.93	2.35	0.00	0.00	104 °F	Green	12/08/15	10:30
167	8515.00	91.20	350.30	4,661.08	4,256.64	4,214.33	-598.88	4,256.67	351.91	1.40	0.00	0.00	104 °F	Green	12/08/15	12:15
168	8547.00	90.80	350.40	4,660.53	4,288.62	4,245.88	-604.24	4,288.66	351.90	1.29	0.00	0.00	104 °F	Green	12/08/15	13:40
169	8578.00	91.10	350.80	4,660.01	4,319.61	4,276.46	-609.30	4,319.64	351.89	1.61	0.00	0.00	104 °F	Green	12/08/15	14:50
170	8610.00	91.50	350.20	4,659.29	4,351.60	4,308.01	-614.58	4,351.63	351.88	2.25	0.00	0.00	104 °F	Green	12/08/15	15:30
171	8641.00	91.10	349.80	4,658.58	4,382.58	4,338.53	-619.97	4,382.60	351.87	1.82	0.00	0.00	104 °F	Green	12/08/15	16:40
172	8672.00	90.00	350.00	4,658.29	4,413.56	4,369.05	-625.40	4,413.58	351.85	3.61	0.00	0.00	108 °F	Green	12/08/15	17:25
173	8704.00	89.80	350.10	4,658.34	4,445.55	4,400.57	-630.93	4,445.57	351.84	0.70	0.00	0.00	108 °F	Green	12/08/15	18:30
174	8736.00	89.90	349.90	4,658.42	4,477.53	4,432.08	-636.49	4,477.55	351.83	0.70	0.00	0.00	108 °F	Green	12/08/15	20:10
175	8767.00	89.90	349.40	4,658.48	4,508.51	4,462.58	-642.06	4,508.53	351.81	1.61	0.00	0.00	108 °F	Green	12/08/15	21:55
176	8798.00	90.10	349.90	4,658.48	4,539.49	4,493.07	-647.63	4,539.51	351.80	1.74	0.00	0.00	108 °F	Green	12/08/15	23:20
177	8830.00	90.40	349.90	4,658.34	4,571.48	4,524.57	-653.24	4,571.49	351.78	0.94	0.00	0.00	108 °F	Green	12/09/15	1:15
178	8861.00	90.70	349.60	4,658.04	4,602.46	4,555.08	-658.76	4,602.47	351.77	1.37	0.00	0.00	108 °F	Green	12/09/15	2:50
179	8893.00	91.00	350.20	4,657.57	4,634.44	4,586.58	-664.37	4,634.45	351.76	2.10	0.00	0.00	108 °F	Green	12/09/15	4:15
180	8925.00	91.20	350.60	4,656.95	4,666.43	4,618.13	-669.70	4,666.43	351.75	1.40	0.00	0.00	108 °F	Green	12/09/15	6:10
181	8956.00	91.00	350.00	4,656.36	4,697.41	4,648.68	-674.92	4,697.42	351.74	2.04	0.00	0.00	108 °F	Green	12/09/15	7:30
182	8987.00	91.10	350.10	4,655.79	4,728.39	4,679.20	-680.28	4,728.40	351.73	0.46	0.00	0.00	109 °F	Green	12/09/15	8:45
183	9012.00	91.40	350.00	4,655.24	4,753.38	4,703.82	-684.60	4,753.38	351.72	1.26	0.00	0.00	109 °F	Green	12/09/15	9:30

MWD
SURVEYS

Customer: Tapstone Energy
Well: Sylvia 23-34-9 #1H
Field/Block: Mississippi Lime
Co./Parish: Harper Co.
State: KS

PGS Job #: LKS6119815
MWD Operator: Jeffery Treille
Directional Driller: Jarod Gooch
Date of First Survey: November 24, 2015
Date of Last Survey: December 9, 2015



Total Correction: 3.90 East Grid

Vertical Section Plane: 351.67 Nominal Dip Angle: 65.27 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		
PTB	9063.00	91.40	350.00	4,654.00	4,804.34	4,754.03	-693.45	4,804.34	351.70	0.00							

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