



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1232793
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: _____

1232793

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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
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:				

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> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Post Job Report

Tapstone Energy

Harry 4-35-10 2H

9/20/2014

Surface Casing

Barber County, KS





Tapstone Energy
Harry 4-35-10
Barber County, KS.

Table of Contents:

1.0 Executive Summary.....3

2.0 Job Summary.....4

 2.1 Job Event Log.....4

 2.2 Job Summary Chart.....6

3.0 Customer Satisfaction Survey.....7



Tapstone Energy
Harry 4-35-10
Barber County, KS.

1.0 Executive Summary

Allied Oil & Gas Services would like to thank you, for the award of the provision of cementing products and services on the well Harry 4-35-10 2H surface casing.

A pre-job meeting was held to discuss job details, review the safety hazards, potential environmental impact and established emergency procedures.

Allied started the job testing lines to 1000 psi. After a successful test we began the job by pumping 10 bbls of fresh water spacer. We then mixed and pumped the following cements:

84.93 Bbls (255 sacks) of 12.7 ppg Lead slurry:
65/35 Class A/Poz – 1.87 Yield
6.0% Gel
2.0% Calcium Chloride
.25 lb/sk Flo-Seal

32.06 Bbls (150 sacks) of 15.6 ppg Tail slurry:
Class A - 1.2 Yield
2% Calcium Chloride
.25 lb/sk Flo-Seal

The top plug was then released and displaced with 60 Bbls of fresh water. Displacement rates varied due to sporadic water delivery problems. Average displacement rate was close to 3 bbl/min. The plug bumped and pressured up to 1150 psi. Pressure was released and floats held. 40 Bbl circulated to the pit.

All real time data is shown on the graph in the attachment section.

Allied Oil & Gas Services remains committed to provide operational excellence and superior product performance. All comments and suggestions are greatly appreciated and help us to continue to provide this level of service.

Again we want to thank you for the opportunity to perform these and your future cementing & acidizing service needs.

Cement Job Summary

Job Number: 61508	Job Purpose: 01 Surface	
Customer: TAPSTONE ENERGY	Date: 9/20/2014	
Well Name: Harry 4-35-10	Number: 2H	API/UWI:
County: Barber	City: Kiowa	State: KS
Cust. Rep: Skipper Grape	Phone: 0	Rig Phone: 0
Distance: 25 miles (one way)	Supervisor: Jon Burgess	

Employees:	Emp. ID:	Employees:	Emp. ID:
Jon Burgess		Kenneth Jack	
Scott Priddy			

Equipment:	Emp. ID:	Equipment:	Emp. ID:
	984		819-823
	829-555		

Materials - Pumping Schedule

STAGE #1

Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)
Spacer 1	Fresh Water	10	8.33	n/a	n/a
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)
Lead 1	ALLIED LIGHT WEIGHT CEMENT: TYPE 1 - CLASS	255	12.70	1.87	10.05
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)
Tail 1	CLASS A COMMON	150	15.60	1.20	5.22
Fluid Name	Description	Rqstd Qty	Density	Yield	Water (gal/sk)
Disp. 1	Displacement	50.68	8.33	n/a	n/a

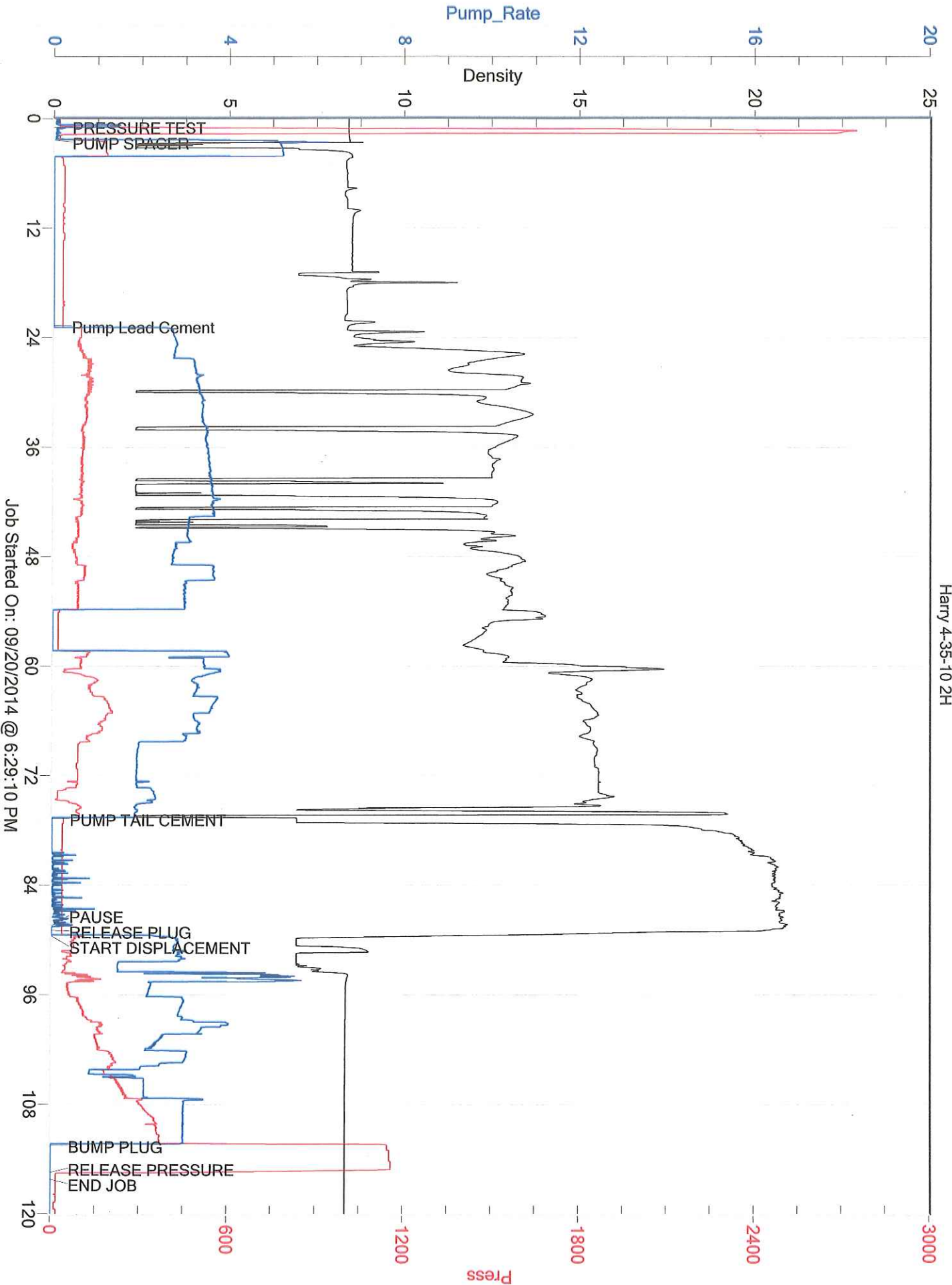
Slurry: Lead 1		Slurry Name: ALLIED LIGHT WEIGHT CEMENT: TYPE 1 - CLASS A				
Quantity:	255 sacks	Blend Vol:	290.23 cu.ft.	Blend Weight:	24023.55 lbs	
Material	Description	Conc. (lb/sk)	Determined by	Load Volume	UOM	
Class A	Cement Premium Class A	61.1	% Base Materia	15580.5	lbm	
POZ	Pozmix Flyash C	25.9	% Base Materia	6604.5	lbm	
PGEL	Premium Gel - Bentonite	5.22	% BWOC	1331.1	lbm	
CACL	Calcium Chloride	1.74	% BWOC	443.7	lbm	
FLSL	Flo-Seal	0.25	lb/sk	63.8	lbm	
Water	Mixing Water	10.05	gal/sk	2562.75	gal	

Slurry: Tail 1		Slurry Name: CLASS A COMMON				
Quantity:	150 sacks	Blend Vol:	158.09 cu.ft.	Blend Weight:	14419.5 lbs	
Material	Description	Conc. (lb/sk)	Determined by	Load Volume	UOM	
Class A	Cement Premium Class A	94	% Base Materia	14100.0	lbm	
CACL	Calcium Chloride	1.88	% BWOC	282.0	lbm	
FLSL	Flo-Seal	0.25	lb/sk	37.5	lbm	
Water	Mixing Water	5.22	gal/sk	783.0	gal	

Job Number: 61508	Job Purpose: 01 Surface				
Customer: TAPSTONE ENERGY	Date: 9/20/2014				
Well Name: Harry 4-35-10	Number: 2H	API/UWI:			
County: Barber	City: Kiowa	State: KS			
Cust. Rep: Skipper Grape	Phone: 0	Rig Phone: 0			
Distance: 25 miles (one way)	Supervisor: Jon Burgess				
Activity Description	Date	Time	Volume	Pressure	Comments

Cement Job Summary

Arrive at Location	9/20/2014	3:30 PM			Meet w/ CM
Standby	9/20/2014	3:45 PM			Running Casing
Pre-Rig Up Safety Meeting	9/20/2014	4:30 PM			
Rig-Up Equipment	9/20/2014	4:45 PM			
Rig-Up Completed	9/20/2014	5:30 PM			
Pre-Job Safety Meeting	9/20/2014	5:55 PM			
Test Lines	9/20/2014	6:20 PM		1000	1000psi
Pump Spacer 1	9/20/2014	6:22 PM	10	150	Fresh Water
Pump Lead Cement 1	9/20/2014	6:45 PM	85	130	255sks @ 12.7ppg
Pump Tail Cement 1	9/20/2014	7:20 PM	32	130	150sks @ 15.6ppg
Drop Plug	9/20/2014	7:51 PM			Top Rubber Plug
Pump Displacement	9/20/2014	7:52 PM	60	200	Fresh Water
Cement Returns to Surface	9/20/2014	8:00 PM			40bbl Cement to Surface
Bump Plug	9/20/2014	8:14 PM		1150	400psi Final Lift Pressure
Check Floats	9/20/2014	8:16 PM			0.5bbl Back
Post Job Safety Meeting	9/20/2014	8:20 PM			
Rig-Down Equipment	9/20/2014	8:30 PM			
Rig-Down Completed	9/20/2014	9:00 PM			
Depart Location	9/20/2014	9:30 PM			THANK YOU



Job Started On: 09/20/2014 @ 6:29:10 PM



Customer: TAPSTONE ENERGY
 Date: Saturday, September 20, 2014
 Well Name: Harry 4-35-10 2H
 Well Location: Kingfisher, OK
 Supervisor: Jon Burgess
 Equipment Operators: Scott Priddy, Kenneth Jack

Performance	Customer	
Was the appearance of the personnel and equipment satisfactory?	<input checked="" type="radio"/> Yes	No
Was the job performed in a professional manner?	<input checked="" type="radio"/> Yes	No
Were the calculations prepared and explained properly?	<input checked="" type="radio"/> Yes	No
Were the correct services dispatched to the job site?	<input checked="" type="radio"/> Yes	No
Were the services performed as requested?	Yes	<input checked="" type="radio"/> No
Did the job site environment remain unchanged?	<input checked="" type="radio"/> Yes	No
Did the equipment perform in the manner expected?	<input checked="" type="radio"/> Yes	No
Did the materials meet your expectations?	<input checked="" type="radio"/> Yes	No
Was the crew prepared for the job?	<input checked="" type="radio"/> Yes	No
Was the crew prompt in the rig-up and actual job?	<input checked="" type="radio"/> Yes	No
Were reasonable recommendations given, as requested?	<input checked="" type="radio"/> Yes	No
Did the crew perform safely?	<input checked="" type="radio"/> Yes	No
Was the job performed to your satisfaction?	Yes	<input checked="" type="radio"/> No *
Customer Signature: <u>Randy</u> Date: _____		
Additional Comments: <u>The Centrifical Pumping water IS</u>		
<u>A Piece of JUNK</u>		



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Post Job Report

Tapstone Energy

Harry 4-35-10

9/25/2014

Intermediate Casing

Barber County, KS





Tapstone Energy
Harry 4-35-10 2H
Barber County, KS

Table of Contents:

1.0 Executive Summary.....	3
2.0 Job Summary.....	4
2.1 Job Event Log.....	4
3.0 Customer Satisfaction Survey.....	5
4.0 Water Testing.....	6



Tapstone Energy
Harry 4-35-10 2H
Barber County, KS

1.0 Executive Summary

Allied Oil & Gas Services would like to thank you, for the award of the provision of cementing products and services on the well Harry 4-35-10 2H Intermediate casing.

A pre-job meeting was held to discuss job details, review the safety hazards, potential environmental impact and established emergency procedures.

Allied started the job testing lines to 4500 psi. After a successful test we began the job by pumping 30 bbls of preflush spacer followed by 10 bbl fresh water. We then mixed and pumped the following cements:

46.13 Bbls (185 sacks) of 13.6 ppg Lead slurry:

Class A - 1.4 Yield

2% Gel

.4% FL-160

.1% SA-51

18.91 Bbls (90 sacks) of 15.6 ppg Tail slurry:

Class A - 1.18 Yield

.8% FL-160

.2% CD-31

The top plug was then released and displaced with 198.7 Bbls of fresh water. The plug bumped and pressured up to 1290 psi. Pressure was released and floats held.

Technical complications in the field resulted in a chart not being captured.

Allied Oil & Gas Services remains committed to provide operational excellence and superior product performance. All comments and suggestions are greatly appreciated and help us to continue to provide this level of service.

Again we want to thank you for the opportunity to perform these and your future cementing & acidizing service needs.

Date 07-25-14 District Great Bend Ticket No. 63989
 Company TAP Stone Energy Rig Alamac
 Lease HARRY 4-35-10 Well No. 2H
 County Barber State KS
 Location Kiowa main st East Field 4-35-10
GN main 4 miles south into
 CASING DATA: Conductor PTA Squeeze Misc
 Surface Intermediate Production Liner
 Size 7' Type _____ Weight 26 LBS Collar _____

Casing Depths: Top _____ Bottom 5274.52

Drill Pipe: Size _____ Weight _____ Collars _____
 Open Hole: Size 8 3/4 T.D. _____ ft. P.B. to _____ ft.
 CAPACITY FACTORS:
 Casing: Bbls/Lin. ft. 0.383 Lin. ft./Bbl. _____
 Open Holes: Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Drill Pipe: Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Annulus: Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Perforations: From _____ ft. to _____ ft. Amt. _____

CEMENT DATA:

Spacer Type: Fresh H2O 10 BBLS
 Amt. _____ Sks Yield _____ ft³/sk Density _____ PPG

LEAD: Pump Time Thicken hrs. Type 185 SX 50/50 =
2% + 4% fl-160 + 1% C-SI Excess _____
 Amt. 185 Sks Yield 1.40 ft³/sk Density 13.60 PPG

TAIL: Pump Time Thicken hrs. Type 185 SX CLASS A
+ 8% fl-160 + 2% CD-31 Excess _____
 Amt. 10090 Sks Yield 1.18 ft³/sk Density 15.6 PPG

WATER: Lead _____ gals/sk Tail _____ gals/sk Total _____ Bbls.

Pump Trucks Used 597 - Ben Cooper Newell
 Bulk Equip. 870/844 DAN Newell

Float Equip: Manufacturer _____
 Shoe: Type _____ Depth _____
 Float: Type _____ Depth _____
 Centralizers: Quantity _____ Plugs Top _____ Btm. _____
 Stage Collars _____
 Special Equip. _____
 Disp. Fluid Type Fresh Amt. 198.70 Bbls. Weight _____ PPG
 Mud Type _____ Weight _____ PPG

COMPANY REPRESENTATIVE _____

CEMENTER _____

TIME	PRESSURES PSI		FLUID PUMPED DATA			REMARKS
	DRILL PIPE CASING	ANNULUS	TOTAL FLUID	Pumped Per Time Period	RATE Bbls Min.	
3:00 PM						Arrived on location, safety meeting, Rig up
						Rig Ran 5274.52 ft of casing
						Broke Circ w/Rig mud
1:45 AM			10		5	RAN 10 BBLS AHEAD FRESH WATER
1:50 AM			30		5	RAN 30 BBLS OF DU-1100
1:55 AM			10		105	RAN - 10 BBLS OF FRESH BEHIND
2:00 AM			34.16		6	MIX 185 SX 50/50 = 2% + 4% fl-160 + 1% C-SI
2:15 AM			20.08		6	MIX 185 SX CLASS A + 8% fl-160 + 2% CD-31
						SHUT DOWN + Release Plug
2:55 AM			198.70		6	DISPLACE 198.70 BBLS FRESH H2O
3:00 AM	1290 PSI					LAND Plug
						Rig DOWN

Customer: TAP Stone Energy

Date: 09-25-14

Well Name: HARRY 4-35-10

Well Location: 4-35-10

Supervisor: KEVIN EDDY

Equipment Operators: BEN-NEWELL / DAN CASPER



Performance	Customer	
	Yes	No
Was the appearance of the personnel and equipment satisfactory?	Yes	No
Was the job performed in a professional manner?	Yes	No
Were the calculations prepared and explained properly?	Yes	No
Were the correct services dispatched to the job site?	Yes	No
Were the services performed as requested?	Yes	No
Did the job site environment remain unchanged?	Yes	No
Did the equipment perform in the manner expected?	Yes	No
Did the materials meet your expectations?	Yes	No
Was the crew prepared for the job?	Yes	No
Was the crew prompt in the rig-up and actual job?	Yes	No
Were reasonable recommendations given, as requested?	Yes	No
Did the crew perform safely?	Yes	No
Was the job performed to your satisfaction?	Yes	No

Customer Signature: R L Lamm

Date: 9/26/2014

Additional Comments:

MWD SURVEYS

Customer: Tapstone Energy
 Well: Harry 4-35-10 #2H
 Field/Block: Mississippi Lime
 Co./Parish: Barber Co.
 State: KS

PGS Job #: LKS6113314
 MWD Operator: Ken Mitchell
 Directional Driller: Kyle Underwood
 Date of First Survey: September 21, 2014
 Date of Last Survey: October 4, 2014



Total Correction: 4.49 East Grid

Vertical Section Plane: 183.15 Nominal Dip Angle: 65.05 Magnetic Field Strength: 0.515

Measured		Coordinates				Closure			Vib/Shk			Date	Time	Flow Rate		
Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N/ -S	+E/ -W	Dist.	Angle	DLS	Mtr Yield	Temp (°F)				Color	
Survey's are tied into: MWD										Date Received: 09/21/14						
Company: Pro Directional																
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	0.60	140.70	891.98	3.45	-3.61	2.96	4.67	140.70	0.07	0.00	102 °F	Green	09/21/14	20:15	598 (gpm)
2	924.00	1.10	90.10	923.98	3.55	-3.74	3.37	5.04	138.00	2.67	0.00	102 °F	Green	09/21/14	20:31	598 (gpm)
3	955.00	2.10	83.50	954.97	3.44	-3.68	4.23	5.61	131.00	3.27	0.00	104 °F	Green	09/21/14	20:45	598 (gpm)
4	987.00	2.40	78.80	986.94	3.18	-3.48	5.47	6.49	122.48	1.10	0.00	106 °F	Green	09/21/14	21:10	598 (gpm)
5	1,018.00	2.80	75.50	1,017.91	2.79	-3.17	6.84	7.54	114.85	1.38	0.00	106 °F	Green	09/21/14	21:32	630 (gpm)
6	1,050.00	3.20	75.60	1,049.87	2.28	-2.75	8.46	8.90	108.00	1.25	0.00	108 °F	Green	09/21/14	21:46	630 (gpm)
7	1,081.00	3.30	77.20	1,080.82	1.78	-2.34	10.17	10.44	102.94	0.44	0.00	109 °F	Green	09/21/14	22:04	647 (gpm)
8	1,113.00	3.60	80.30	1,112.76	1.30	-1.96	12.06	12.22	99.25	1.10	0.00	113 °F	Green	09/21/14	22:25	640 (gpm)
9	1,145.00	3.90	80.90	1,144.69	0.84	-1.62	14.13	14.22	96.55	0.95	0.00	113 °F	Green	09/21/14	22:39	651 (gpm)
10	1,176.00	4.10	82.40	1,175.62	0.41	-1.31	16.27	16.32	94.60	0.73	0.00	113 °F	Green	09/21/14	23:01	633 (gpm)
11	1,208.00	4.10	83.60	1,207.53	0.01	-1.03	18.54	18.56	93.18	0.27	0.00	117 °F	Green	09/21/14	23:19	647 (gpm)
12	1,239.00	4.00	85.80	1,238.46	-0.31	-0.83	20.72	20.73	92.29	0.60	0.00	117 °F	Green	09/21/14	23:35	633 (gpm)
13	1,271.00	3.80	84.70	1,270.38	-0.61	-0.65	22.88	22.89	91.62	0.67	0.00	118 °F	Green	09/21/14	23:59	633 (gpm)
14	1,303.00	3.80	81.40	1,302.31	-0.98	-0.39	24.99	24.99	90.90	0.68	0.00	118 °F	Green	09/22/14	0:13	633 (gpm)
15	1,334.00	3.70	82.60	1,333.25	-1.37	-0.11	27.00	27.00	90.23	0.41	0.00	120 °F	Green	09/22/14	0:26	640 (gpm)
16	1,366.00	3.80	85.10	1,365.18	-1.71	0.11	29.08	29.08	89.78	0.60	0.00	120 °F	Green	09/22/14	0:46	640 (gpm)
17	1,397.00	3.60	84.40	1,396.11	-2.00	0.30	31.07	31.07	89.45	0.66	0.00	120 °F	Green	09/22/14	1:00	640 (gpm)
18	1,429.00	3.60	84.40	1,428.05	-2.31	0.49	33.07	33.07	89.15	0.00	0.00	120 °F	Green	09/22/14	1:16	665 (gpm)
19	1,460.00	3.70	84.70	1,458.99	-2.60	0.68	35.03	35.04	88.89	0.33	0.00	122 °F	Green	09/22/14	2:09	655 (gpm)
20	1,492.00	3.90	81.60	1,490.92	-2.97	0.93	37.14	37.15	88.56	0.90	0.00	122 °F	Green	09/22/14	2:36	654 (gpm)
21	1,524.00	3.90	82.40	1,522.84	-3.39	1.24	39.29	39.31	88.20	0.17	0.00	122 °F	Green	09/22/14	3:00	654 (gpm)
22	1,555.00	3.80	80.70	1,553.77	-3.81	1.54	41.35	41.38	87.86	0.49	0.00	122 °F	Green	09/22/14	3:23	654 (gpm)
23	1,587.00	3.50	75.70	1,585.71	-4.33	1.96	43.35	43.39	87.42	1.37	0.00	124 °F	Green	09/22/14	3:53	654 (gpm)
24	1,619.00	3.70	77.50	1,617.64	-4.91	2.42	45.30	45.36	86.94	0.72	0.00	126 °F	Green	09/22/14	4:34	650 (gpm)
25	1,651.00	4.20	89.90	1,649.57	-5.25	2.65	47.48	47.55	86.81	3.08	0.00	126 °F	Green	09/22/14	5:05	650 (gpm)
26	1,682.00	4.30	87.80	1,680.48	-5.42	2.69	49.78	49.85	86.90	0.60	0.00	127 °F	Green	09/22/14	5:31	650 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
Well: Harry 4-35-10 #2H
Field/Block: Mississippi Lime
Co./Parish: Barber Co.
State: KS

PGS Job #: LKS6113314
MWD Operator: Ken Mitchell
Directional Driller: Kyle Underwood
Date of First Survey: September 21, 2014
Date of Last Survey: October 4, 2014



Total Correction: 4.49 East Grid

Vertical Section Plane: 183.15 Nominal Dip Angle: 65.05 Magnetic Field Strength: 0.515

	Measured		Coordinates				Closure				Vib/Shk					
	Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N/-S	+E/-W	Dist.	Angle	DLS	Mtr Yield	Temp (°F)	Color	Date	Time	Flow Rate
27	1,713.00	4.20	84.20	1,711.40	-5.71	2.85	52.07	52.14	86.87	0.92	0.00	127 °F	Green	09/22/14	5:55	650 (gpm)
28	1,744.00	4.00	81.70	1,742.32	-6.10	3.12	54.27	54.36	86.71	0.87	0.00	127 °F	Green	09/22/14	6:38	650 (gpm)
29	1,775.00	3.60	78.80	1,773.25	-6.56	3.47	56.29	56.40	86.47	1.43	0.00	127 °F	Green	09/22/14	7:05	650 (gpm)
30	1,805.00	3.50	78.30	1,803.19	-7.02	3.84	58.11	58.24	86.22	0.35	0.00	129 °F	Green	09/22/14	7:33	650 (gpm)
31	1,836.00	2.60	82.90	1,834.15	-7.39	4.12	59.74	59.88	86.06	3.01	0.00	129 °F	Green	09/22/14	7:59	387 (gpm)
32	1,868.00	2.50	77.20	1,866.12	-7.71	4.36	61.14	61.29	85.92	0.85	0.00	129 °F	Green	09/22/14	8:38	387 (gpm)
33	1,899.00	2.50	70.70	1,897.09	-8.16	4.73	62.43	62.61	85.67	0.91	0.00	129 °F	Green	09/22/14	9:01	387 (gpm)
34	1,930.00	2.30	67.30	1,928.06	-8.69	5.20	63.65	63.86	85.33	0.79	0.00	129 °F	Green	09/22/14	9:47	563 (gpm)
35	1,962.00	1.90	71.00	1,960.04	-9.17	5.62	64.74	64.98	85.04	1.32	0.00	127 °F	Green	09/22/14	10:39	634 (gpm)
36	2,025.00	0.80	93.30	2,023.02	-9.56	5.93	66.17	66.43	84.88	1.90	0.00	129 °F	Green	09/22/14	11:25	634 (gpm)
37	2,118.00	0.40	104.90	2,116.02	-9.49	5.81	67.13	67.38	85.05	0.45	0.00	131 °F	Green	09/22/14	12:28	634 (gpm)
38	2,211.00	0.30	78.70	2,209.01	-9.49	5.77	67.68	67.93	85.12	0.20	0.00	131 °F	Green	09/22/14	13:18	634 (gpm)
39	2,306.00	0.20	69.00	2,304.01	-9.61	5.88	68.08	68.33	85.06	0.11	0.00	131 °F	Green	09/22/14	14:10	634 (gpm)
40	2,493.00	0.30	21.90	2,491.01	-10.21	6.45	68.57	68.87	84.62	0.12	0.00	133 °F	Green	09/22/14	15:48	634 (gpm)
41	2,682.00	0.20	105.60	2,680.01	-10.61	6.82	69.07	69.41	84.36	0.18	0.00	135 °F	Green	09/22/14	17:16	634 (gpm)
42	2,870.00	0.20	284.30	2,868.01	-10.60	6.82	69.07	69.40	84.36	0.21	0.00	136 °F	Green	09/22/14	18:46	634 (gpm)
43	3,058.00	0.30	275.30	3,056.01	-10.68	6.94	68.26	68.61	84.19	0.06	0.00	108 °F	Green	09/22/14	22:45	634 (gpm)
44	3,247.00	0.60	309.80	3,245.00	-11.29	7.62	67.01	67.44	83.51	0.21	0.00	117 °F	Green	09/23/14	0:30	634 (gpm)
45	3,436.00	0.30	25.40	3,434.00	-12.34	8.70	66.46	67.03	82.54	0.32	0.00	122 °F	Green	09/23/14	2:04	634 (gpm)
46	3,626.00	0.00	263.20	3,624.00	-12.80	9.15	66.67	67.30	82.18	0.16	0.00	127 °F	Green	09/23/14	3:36	634 (gpm)
47	3,814.00	0.30	283.00	3,812.00	-12.89	9.26	66.19	66.84	82.03	0.16	0.00	129 °F	Green	09/23/14	4:59	634 (gpm)
48	3,906.00	0.70	256.60	3,903.99	-12.77	9.19	65.41	66.05	82.00	0.49	0.00	131 °F	Green	09/23/14	5:50	353 (gpm)
49	3,969.00	2.60	192.80	3,966.97	-11.25	7.70	64.72	65.18	83.21	3.77	10.00	131 °F	Green	09/23/14	7:32	353 (gpm)
50	4,000.00	6.20	184.40	3,997.87	-8.88	5.35	64.44	64.66	85.25	11.77	11.60	124 °F	Green	09/23/14	8:30	353 (gpm)
51	4,031.00	9.70	177.50	4,028.57	-4.61	1.07	64.42	64.43	89.05	11.68	11.68	124 °F	Green	09/23/14	9:23	353 (gpm)
52	4,063.00	12.30	178.30	4,059.98	1.47	-5.03	64.64	64.84	94.45	8.14	10.80	120 °F	Green	09/23/14	10:51	353 (gpm)
53	4,095.00	13.70	179.50	4,091.16	8.65	-12.23	64.77	65.92	100.69	4.46	11.70	120 °F	Green	09/23/14	11:52	353 (gpm)
54	4,127.00	15.20	179.60	4,122.14	16.62	-20.21	64.84	67.91	107.32	4.69	11.30	120 °F	Green	09/23/14	12:34	353 (gpm)
55	4,158.00	16.60	180.80	4,151.96	25.10	-28.71	64.80	70.88	113.89	4.64	10.50	120 °F	Green	09/23/14	13:13	353 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
 Well: Harry 4-35-10 #2H
 Field/Block: Mississippi Lime
 Co./Parish: Barber Co.
 State: KS

PGS Job #: LKS6113314
 MWD Operator: Ken Mitchell
 Directional Driller: Kyle Underwood
 Date of First Survey: September 21, 2014
 Date of Last Survey: October 4, 2014



Total Correction: 4.49 East Grid

Vertical Section Plane: 183.15 Nominal Dip Angle: 65.05 Magnetic Field Strength: 0.515

	Measured		Coordinates				Closure				Vib/Shk					
	Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N/-S	+E/-W	Dist.	Angle	DLS	Mtr Yield	Temp (°F)	Color	Date	Time	Flow Rate
56	4,189.00	18.40	181.90	4,181.52	34.42	-38.02	64.58	74.94	120.49	5.90	11.50	120 °F	Green	09/23/14	14:08	353 (gpm)
57	4,220.00	20.60	182.70	4,210.74	44.76	-48.36	64.16	80.35	127.01	7.15	12.00	120 °F	Green	09/23/14	14:55	353 (gpm)
58	4,252.00	23.00	184.00	4,240.45	56.65	-60.22	63.46	87.49	133.50	7.65	11.60	122 °F	Green	09/23/14	15:53	443 (gpm)
59	4,283.00	25.50	184.70	4,268.71	69.37	-72.92	62.49	96.03	139.40	8.12	12.00	122 °F	Green	09/23/14	16:54	443 (gpm)
60	4,315.00	28.80	185.10	4,297.18	83.97	-87.46	61.24	106.77	145.00	10.33	12.00	124 °F	Green	09/23/14	18:11	443 (gpm)
61	4,345.00	31.50	185.80	4,323.12	99.02	-102.46	59.80	118.64	149.73	9.08	12.00	124 °F	Green	09/23/14	19:26	443 (gpm)
62	4,376.00	33.80	186.00	4,349.22	115.73	-119.10	58.08	132.51	154.00	7.43	16.00	124 °F	Green	09/23/14	21:00	443 (gpm)
63	4,408.00	36.70	184.70	4,375.35	134.18	-137.48	56.37	148.59	157.71	9.36	16.00	124 °F	Green	09/23/14	21:53	443 (gpm)
64	4,439.00	38.60	184.00	4,399.90	153.11	-156.36	54.94	165.73	160.64	6.28	16.00	126 °F	Green	09/23/14	23:21	443 (gpm)
65	4,470.00	40.50	183.50	4,423.80	172.85	-176.06	53.65	184.05	163.05	6.21	16.00	126 °F	Green	09/24/14	1:19	443 (gpm)
66	4,502.00	42.50	184.20	4,447.76	194.05	-197.21	52.22	204.01	165.17	6.42	16.00	126 °F	Green	09/24/14	2:01	443 (gpm)
67	4,533.00	44.00	184.10	4,470.34	215.28	-218.40	50.68	224.20	166.93	4.84	16.00	127 °F	Green	09/24/14	2:50	443 (gpm)
68	4,564.00	45.90	184.30	4,492.28	237.18	-240.24	49.08	245.20	168.45	6.15	16.00	127 °F	Green	09/24/14	3:45	443 (gpm)
69	4,595.00	47.90	184.40	4,513.46	259.81	-262.81	47.36	267.04	169.78	6.46	16.00	127 °F	Green	09/24/14	4:49	443 (gpm)
70	4,627.00	50.30	184.00	4,534.41	283.99	-286.93	45.59	290.53	170.97	7.56	17.00	127 °F	Green	09/24/14	5:56	443 (gpm)
71	4,658.00	52.90	183.70	4,553.66	308.28	-311.17	43.96	314.26	171.96	8.42	17.40	127 °F	Green	09/24/14	7:10	443 (gpm)
72	4,690.00	55.70	183.90	4,572.34	334.26	-337.09	42.24	339.73	172.86	8.76	18.00	129 °F	Green	09/24/14	8:17	443 (gpm)
73	4,721.00	58.20	184.10	4,589.24	360.24	-363.01	40.43	365.26	173.65	8.08	18.60	129 °F	Green	09/24/14	9:06	443 (gpm)
74	4,753.00	60.40	184.10	4,605.58	387.75	-390.46	38.46	392.34	174.37	6.88	20.00	131 °F	Green	09/24/14	10:25	443 (gpm)
75	4,785.00	62.50	184.30	4,620.87	415.85	-418.49	36.40	420.07	175.03	6.59	0.00	131 °F	Green	09/24/14	11:42	443 (gpm)
76	4,817.00	63.20	184.40	4,635.47	444.32	-446.88	34.24	448.19	175.62	2.21	0.00	133 °F	Green	09/24/14	12:49	493 (gpm)
77	4,849.00	63.90	184.70	4,649.73	472.96	-475.44	31.97	476.51	176.15	2.34	0.00	133 °F	Green	09/24/14	14:07	493 (gpm)
78	4,879.00	64.10	184.80	4,662.88	499.92	-502.31	29.73	503.19	176.61	0.73	0.00	135 °F	Green	09/24/14	15:14	493 (gpm)
79	4,911.00	63.90	184.80	4,676.91	528.67	-530.97	27.33	531.67	177.05	0.63	0.00	135 °F	Green	09/24/14	16:25	493 (gpm)
80	4,943.00	63.70	184.90	4,691.03	557.37	-559.58	24.90	560.13	177.45	0.69	0.00	135 °F	Green	09/24/14	17:36	493 (gpm)
81	4,975.00	63.60	185.00	4,705.24	586.03	-588.15	22.43	588.58	177.82	0.42	0.00	136 °F	Green	09/24/14	18:42	493 (gpm)
82	5,007.00	64.50	184.80	4,719.24	614.79	-616.82	19.97	617.14	178.15	2.87	16.00	136 °F	Green	09/24/14	20:00	493 (gpm)
83	5,039.00	67.50	184.70	4,732.25	644.01	-645.95	17.55	646.18	178.44	9.38	16.00	136 °F	Green	09/24/14	21:10	493 (gpm)
84	5,071.00	70.90	184.80	4,743.62	673.90	-675.75	15.07	675.92	178.72	10.63	16.00	136 °F	Green	09/24/14	22:07	493 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
 Well: Harry 4-35-10 #2H
 Field/Block: Mississippi Lime
 Co./Parish: Barber Co.
 State: KS

PGS Job #: LKS6113314
 MWD Operator: Ken Mitchell
 Directional Driller: Kyle Underwood
 Date of First Survey: September 21, 2014
 Date of Last Survey: October 4, 2014



Total Correction: 4.49 East Grid

Vertical Section Plane: 183.15 Nominal Dip Angle: 65.05 Magnetic Field Strength: 0.515

	Measured			Coordinates				Closure			Mtr Yield	Temp (°F)	Vib/Shk			
	Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N / -S	+E / -W	Dist.	Angle	DLS			Color	Date	Time	Flow Rate
85	5,102.00	73.80	184.70	4,753.01	703.43	-705.19	12.63	705.30	178.97	9.36	16.00	136 °F	Green	09/24/14	23:12	493 (gpm)
86	5,133.00	76.30	184.60	4,761.01	733.37	-735.04	10.20	735.11	179.21	8.07	16.00	138 °F	Green	09/25/14	0:39	493 (gpm)
87	5,164.00	79.10	184.10	4,767.61	763.65	-765.24	7.90	765.28	179.41	9.17	16.00	138 °F	Green	09/25/14	2:18	493 (gpm)
88	5,196.00	81.50	184.80	4,773.00	795.18	-796.68	5.45	796.70	179.61	7.80	16.00	138 °F	Green	09/25/14	4:02	493 (gpm)
89	5,228.00	84.20	184.80	4,776.99	826.91	-828.32	2.80	828.32	179.81	8.44	16.00	142 °F	Yellow	09/25/14	5:38	493 (gpm)
90	5,279.00	88.10	184.60	4,780.41	877.77	-879.02	-1.37	879.02	180.09	7.66	0.00	135 °F	Green	09/26/14	18:20	200 (gpm)
91	5,310.00	88.90	184.50	4,781.22	908.75	-909.91	-3.83	909.92	180.24	2.60	0.00	135 °F	Yellow	09/26/14	18:45	200 (gpm)
92	5,342.00	89.40	184.50	4,781.70	940.74	-941.81	-6.34	941.83	180.39	1.56	0.00	133 °F	Yellow	09/26/14	19:35	200 (gpm)
93	5,373.00	89.40	184.00	4,782.02	971.73	-972.73	-8.64	972.76	180.51	1.61	0.00	133 °F	Yellow	09/26/14	20:10	200 (gpm)
94	5,405.00	88.90	183.40	4,782.50	1,003.72	-1,004.65	-10.70	1,004.71	180.61	2.44	0.00	133 °F	Pink	09/26/14	21:00	200 (gpm)
95	5,437.00	88.80	184.10	4,783.14	1,035.72	-1,036.58	-12.79	1,036.66	180.71	2.21	0.00	133 °F	Pink	09/26/14	21:30	200 (gpm)
96	5,468.00	89.40	184.80	4,783.63	1,066.70	-1,067.48	-15.20	1,067.59	180.82	2.97	0.00	133 °F	Pink	09/26/14	22:30	200 (gpm)
97	5,500.00	89.40	185.10	4,783.96	1,098.69	-1,099.36	-17.96	1,099.51	180.94	0.94	0.00	135 °F	Pink	09/26/14	23:00	200 (gpm)
98	5,532.00	89.20	184.50	4,784.35	1,130.67	-1,131.25	-20.64	1,131.43	181.05	1.98	0.00	135 °F	Yellow	09/26/14	23:59	200 (gpm)
99	5,563.00	88.60	185.30	4,784.95	1,161.65	-1,162.13	-23.29	1,162.36	181.15	3.23	0.00	136 °F	Green	09/27/14	11:02	246 (gpm)
100	5,595.00	87.70	185.80	4,785.98	1,193.61	-1,193.96	-26.38	1,194.25	181.27	3.22	0.00	138 °F	Green	09/27/14	11:31	246 (gpm)
101	5,626.00	87.70	185.10	4,787.22	1,224.56	-1,224.79	-29.32	1,225.15	181.37	2.26	0.00	140 °F	Green	09/27/14	12:12	246 (gpm)
102	5,658.00	88.20	185.20	4,788.37	1,256.52	-1,256.64	-32.19	1,257.06	181.47	1.59	0.00	140 °F	Green	09/27/14	12:50	246 (gpm)
103	5,689.00	88.80	184.80	4,789.18	1,287.49	-1,287.52	-34.89	1,287.99	181.55	2.33	0.00	140 °F	Green	09/27/14	13:32	246 (gpm)
104	5,721.00	88.70	184.50	4,789.88	1,319.47	-1,319.40	-37.49	1,319.94	181.63	0.99	0.00	140 °F	Green	09/27/14	14:15	246 (gpm)
105	5,753.00	88.30	183.30	4,790.72	1,351.46	-1,351.32	-39.66	1,351.90	181.68	3.95	0.00	142 °F	Green	09/27/14	15:26	246 (gpm)
106	5,784.00	88.00	183.70	4,791.72	1,382.44	-1,382.24	-41.55	1,382.87	181.72	1.61	0.00	142 °F	Green	09/27/14	16:08	246 (gpm)
107	5,815.00	88.30	183.70	4,792.72	1,413.42	-1,413.16	-43.55	1,413.83	181.77	0.97	0.00	144 °F	Green	09/27/14	16:49	246 (gpm)
108	5,847.00	88.80	183.40	4,793.53	1,445.41	-1,445.09	-45.53	1,445.81	181.80	1.82	0.00	144 °F	Green	09/27/14	17:33	246 (gpm)
109	5,878.00	89.50	182.80	4,793.99	1,476.41	-1,476.04	-47.21	1,476.80	181.83	2.97	0.00	144 °F	Green	09/27/14	18:40	246 (gpm)
110	5,910.00	89.10	183.50	4,794.38	1,508.40	-1,507.99	-48.97	1,508.79	181.86	2.52	0.00	144 °F	Green	09/27/14	19:40	246 (gpm)
111	5,942.00	89.10	182.50	4,794.88	1,540.40	-1,539.94	-50.64	1,540.78	181.88	3.12	0.00	145 °F	Green	09/27/14	20:30	246 (gpm)
112	5,973.00	89.70	182.50	4,795.21	1,571.39	-1,570.91	-51.99	1,571.77	181.90	1.94	0.00	145 °F	Green	09/27/14	21:45	246 (gpm)
113	6,005.00	89.00	183.20	4,795.57	1,603.39	-1,602.87	-53.59	1,603.76	181.91	3.09	0.00	147 °F	Green	09/27/14	22:50	246 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
 Well: Harry 4-35-10 #2H
 Field/Block: Mississippi Lime
 Co./Parish: Barber Co.
 State: KS

PGS Job #: LKS6113314
 MWD Operator: Ken Mitchell
 Directional Driller: Kyle Underwood
 Date of First Survey: September 21, 2014
 Date of Last Survey: October 4, 2014



Total Correction: 4.49 East Grid

Vertical Section Plane: 183.15 Nominal Dip Angle: 65.05 Magnetic Field Strength: 0.515

	Measured		Coordinates				Closure			Mtr Yield	Temp (°F)	Vib/Shk Color	Date	Time	Flow Rate	
	Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N/-S	+E/-W	Dist.	Angle							DLS
114	6,036.00	88.40	182.50	4,796.27	1,634.38	-1,633.82	-55.13	1,634.75	181.93	2.97	0.00	147 °F	Green	09/27/14	23:30	246 (gpm)
115	6,068.00	88.60	183.10	4,797.11	1,666.37	-1,665.77	-56.69	1,666.74	181.95	1.98	0.00	149 °F	Green	09/28/14	0:40	246 (gpm)
116	6,100.00	88.90	182.70	4,797.81	1,698.36	-1,697.72	-58.31	1,698.73	181.97	1.56	0.00	149 °F	Green	09/28/14	1:40	246 (gpm)
117	6,131.00	89.70	182.00	4,798.19	1,729.36	-1,728.70	-59.58	1,729.72	181.97	3.43	0.00	149 °F	Green	09/28/14	3:00	246 (gpm)
118	6,163.00	89.80	183.00	4,798.33	1,761.35	-1,760.66	-60.97	1,761.72	181.98	3.14	0.00	149 °F	Green	09/28/14	4:20	246 (gpm)
119	6,194.00	89.10	182.40	4,798.62	1,792.35	-1,791.63	-62.43	1,792.72	182.00	2.97	0.00	151 °F	Green	09/28/14	6:00	246 (gpm)
120	6,226.00	88.30	183.20	4,799.35	1,824.34	-1,823.58	-64.00	1,824.70	182.01	3.54	0.00	151 °F	Green	09/28/14	7:14	246 (gpm)
121	6,257.00	88.00	183.20	4,800.35	1,855.33	-1,854.52	-65.73	1,855.68	182.03	0.97	0.00	153 °F	Green	09/28/14	8:13	246 (gpm)
122	6,289.00	88.40	182.00	4,801.36	1,887.31	-1,886.47	-67.18	1,887.66	182.04	3.95	0.00	153 °F	Green	09/28/14	9:07	246 (gpm)
123	6,320.00	88.00	182.70	4,802.33	1,918.29	-1,917.43	-68.45	1,918.65	182.04	2.60	0.00	153 °F	Green	09/28/14	10:26	246 (gpm)
124	6,352.00	87.70	183.10	4,803.53	1,950.27	-1,949.36	-70.07	1,950.62	182.06	1.56	0.00	153 °F	Green	09/28/14	11:22	246 (gpm)
125	6,383.00	88.00	182.90	4,804.69	1,981.25	-1,980.30	-71.69	1,981.60	182.07	1.16	0.00	153 °F	Green	09/28/14	12:15	246 (gpm)
126	6,415.00	87.70	182.10	4,805.89	2,013.22	-2,012.24	-73.08	2,013.57	182.08	2.67	0.00	151 °F	Green	09/28/14	13:43	250 (gpm)
127	6,446.00	86.80	182.50	4,807.38	2,044.18	-2,043.18	-74.32	2,044.54	182.08	3.18	0.00	151 °F	Green	09/28/14	14:08	250 (gpm)
128	6,478.00	87.00	182.20	4,809.11	2,076.13	-2,075.11	-75.63	2,076.49	182.09	1.13	0.00	151 °F	Green	09/28/14	14:36	264 (gpm)
129	6,509.00	87.40	183.20	4,810.63	2,107.09	-2,106.04	-77.09	2,107.45	182.10	3.47	0.00	151 °F	Green	09/28/14	15:05	264 (gpm)
130	6,541.00	88.60	182.50	4,811.74	2,139.07	-2,137.98	-78.68	2,139.43	182.11	4.34	0.00	153 °F	Green	09/28/14	15:52	264 (gpm)
131	6,573.00	89.10	183.00	4,812.38	2,171.06	-2,169.93	-80.22	2,171.42	182.12	2.21	0.00	151 °F	Green	09/28/14	16:58	264 (gpm)
132	6,604.00	88.40	183.70	4,813.06	2,202.06	-2,200.87	-82.03	2,202.40	182.13	3.19	0.00	151 °F	Green	09/28/14	17:57	264 (gpm)
133	6,634.00	87.60	183.70	4,814.11	2,232.04	-2,230.79	-83.96	2,232.37	182.16	2.67	0.00	151 °F	Green	09/28/14	18:30	264 (gpm)
134	6,664.00	87.90	183.60	4,815.29	2,262.01	-2,260.71	-85.87	2,262.34	182.18	1.05	0.00	151 °F	Green	09/28/14	19:15	264 (gpm)
135	6,694.00	88.30	183.40	4,816.28	2,291.99	-2,290.64	-87.70	2,292.31	182.19	1.49	0.00	153 °F	Green	09/28/14	20:00	264 (gpm)
136	6,725.00	88.80	183.50	4,817.06	2,322.98	-2,321.57	-89.57	2,323.30	182.21	1.64	0.00	151 °F	Green	09/28/14	20:35	264 (gpm)
137	6,755.00	89.10	183.50	4,817.61	2,352.98	-2,351.51	-91.40	2,353.28	182.23	1.00	0.00	151 °F	Green	09/28/14	21:45	264 (gpm)
138	6,785.00	88.60	182.90	4,818.22	2,382.97	-2,381.46	-93.07	2,383.27	182.24	2.60	0.00	153 °F	Green	09/28/14	23:00	264 (gpm)
139	6,816.00	87.20	183.30	4,819.35	2,413.95	-2,412.39	-94.75	2,414.25	182.25	4.70	0.00	153 °F	Green	09/28/14	23:50	264 (gpm)
140	6,846.00	86.90	183.20	4,820.90	2,443.91	-2,442.30	-96.45	2,444.21	182.26	1.05	0.00	153 °F	Green	09/29/14	0:45	264 (gpm)
141	6,876.00	86.60	182.60	4,822.60	2,473.86	-2,472.21	-97.96	2,474.15	182.27	2.23	0.00	153 °F	Green	09/29/14	2:00	264 (gpm)
142	6,906.00	86.90	182.90	4,824.30	2,503.81	-2,502.13	-99.40	2,504.11	182.27	1.41	0.00	153 °F	Green	09/29/14	3:00	264 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
 Well: Harry 4-35-10 #2H
 Field/Block: Mississippi Lime
 Co./Parish: Barber Co.
 State: KS

PGS Job #: LKS6113314
 MWD Operator: Ken Mitchell
 Directional Driller: Kyle Underwood
 Date of First Survey: September 21, 2014
 Date of Last Survey: October 4, 2014



Total Correction: 4.49 East Grid

Vertical Section Plane: 183.15 Nominal Dip Angle: 65.05 Magnetic Field Strength: 0.515

	Measured					Coordinates		Closure			Mtr Yield	Temp (°F)	Vib/Shk Color	Date	Time	Flow Rate
	Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N/-S	+E/-W	Dist.	Angle	DLS						
143	6,936.00	87.60	183.10	4,825.74	2,533.78	-2,532.06	-100.97	2,534.07	182.28	2.43	0.00	153 °F	Green	09/29/14	4:30	264 (gpm)
144	6,966.00	87.90	182.80	4,826.91	2,563.76	-2,561.99	-102.51	2,564.04	182.29	1.41	0.00	153 °F	Green	09/29/14	5:30	264 (gpm)
145	6,996.00	89.10	183.20	4,827.70	2,593.74	-2,591.94	-104.08	2,594.03	182.30	4.22	0.00	154 °F	Green	09/29/14	6:29	264 (gpm)
146	7,027.00	89.70	182.80	4,828.02	2,624.74	-2,622.90	-105.70	2,625.03	182.31	2.33	0.00	154 °F	Green	09/29/14	7:10	264 (gpm)
147	7,056.00	90.20	182.80	4,828.05	2,653.74	-2,651.86	-107.12	2,654.02	182.31	1.72	0.00	154 °F	Green	09/29/14	8:02	264 (gpm)
148	7,087.00	90.30	183.60	4,827.91	2,684.74	-2,682.81	-108.85	2,685.02	182.32	2.60	0.00	154 °F	Green	09/29/14	9:10	264 (gpm)
149	7,117.00	89.80	182.60	4,827.89	2,714.74	-2,712.77	-110.47	2,715.02	182.33	3.73	0.00	154 °F	Green	09/29/14	10:00	264 (gpm)
150	7,147.00	89.40	183.20	4,828.10	2,744.74	-2,742.73	-111.99	2,745.01	182.34	2.40	0.00	154 °F	Green	09/29/14	10:52	264 (gpm)
151	7,177.00	89.50	183.40	4,828.39	2,774.74	-2,772.68	-113.72	2,775.01	182.35	0.75	0.00	158 °F	Green	09/29/14	12:10	264 (gpm)
152	7,208.00	90.20	183.50	4,828.47	2,805.74	-2,803.62	-115.58	2,806.00	182.36	2.28	0.00	158 °F	Green	09/29/14	12:48	264 (gpm)
153	7,238.00	90.60	183.90	4,828.26	2,835.73	-2,833.56	-117.52	2,835.99	182.37	1.89	0.00	158 °F	Green	09/29/14	13:48	264 (gpm)
154	7,268.00	90.40	183.70	4,828.00	2,865.73	-2,863.49	-119.51	2,865.98	182.39	0.94	0.00	159 °F	Green	09/29/14	14:45	264 (gpm)
155	7298.00	89.80	183.80	4,827.94	2,895.73	-2,893.43	-121.47	2,895.98	182.40	2.03	0.00	158 °F	Green	09/29/14	15:38	264 (gpm)
156	7329.00	89.70	183.70	4,828.08	2,926.73	-2,924.36	-123.50	2,926.97	182.42	0.46	0.00	158 °F	Green	09/29/14	16:37	264 (gpm)
157	7359.00	89.20	183.40	4,828.37	2,956.73	-2,954.30	-125.35	2,956.96	182.43	1.94	0.00	158 °F	Green	09/29/14	17:20	264 (gpm)
158	7389.00	88.40	184.10	4,829.00	2,986.72	-2,984.23	-127.31	2,986.94	182.44	3.54	0.00	158 °F	Green	09/29/14	18:00	264 (gpm)
159	7419.00	87.60	183.90	4,830.04	3,016.70	-3,014.14	-129.41	3,016.91	182.46	2.75	0.00	158 °F	Green	09/29/14	18:50	264 (gpm)
160	7449.00	86.70	183.80	4,831.53	3,046.66	-3,044.03	-131.42	3,046.87	182.47	3.02	0.00	158 °F	Green	09/29/14	20:00	264 (gpm)
161	7479.00	87.00	183.50	4,833.18	3,076.61	-3,073.93	-133.32	3,076.82	182.48	1.41	0.00	160 °F	Green	09/29/14	21:00	264 (gpm)
162	7510.00	87.20	184.00	4,834.75	3,107.57	-3,104.82	-135.35	3,107.77	182.50	1.74	0.00	160 °F	Green	09/29/14	22:00	264 (gpm)
163	7540.00	88.10	183.60	4,835.98	3,137.54	-3,134.73	-137.34	3,137.74	182.51	3.28	0.00	160 °F	Green	09/29/14	23:10	264 (gpm)
164	7570.00	88.80	183.40	4,836.79	3,167.53	-3,164.66	-139.17	3,167.72	182.52	2.43	0.00	160 °F	Green	09/30/14	0:15	264 (gpm)
165	7601.00	89.50	183.60	4,837.25	3,198.52	-3,195.60	-141.06	3,198.71	182.53	2.35	0.00	160 °F	Green	09/30/14	1:30	264 (gpm)
166	7630.00	88.60	184.00	4,837.73	3,227.52	-3,224.53	-142.98	3,227.70	182.54	3.40	0.00	160 °F	Green	09/30/14	2:20	264 (gpm)
167	7660.00	87.70	183.90	4,838.70	3,257.50	-3,254.45	-145.05	3,257.68	182.55	3.02	0.00	160 °F	Green	09/30/14	3:30	264 (gpm)
168	7690.00	87.80	183.60	4,839.88	3,287.47	-3,284.36	-147.01	3,287.65	182.56	1.05	0.00	160 °F	Green	09/30/14	4:45	264 (gpm)
169	7720.00	88.00	183.40	4,840.98	3,317.45	-3,314.28	-148.84	3,317.62	182.57	0.94	0.00	160 °F	Green	09/30/14	5:40	264 (gpm)
170	7750.00	88.30	184.20	4,841.95	3,347.44	-3,344.20	-150.82	3,347.60	182.58	2.85	0.00	162 °F	Green	09/30/14	6:26	264 (gpm)
171	7780.00	88.50	183.70	4,842.78	3,377.42	-3,374.12	-152.89	3,377.58	182.59	1.79	0.00	162 °F	Green	09/30/14	7:56	264 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
 Well: Harry 4-35-10 #2H
 Field/Block: Mississippi Lime
 Co./Parish: Barber Co.
 State: KS

PGS Job #: LKS6113314
 MWD Operator: Ken Mitchell
 Directional Driller: Kyle Underwood
 Date of First Survey: September 21, 2014
 Date of Last Survey: October 4, 2014



Total Correction: 4.49 East Grid

Vertical Section Plane: 183.15 Nominal Dip Angle: 65.05 Magnetic Field Strength: 0.515

Measured		Coordinates				Closure			Vib/Shk							
Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N / -S	+E / -W	Dist.	Angle	DLS	Mtr Yield	Temp (°F)	Color	Date	Time	Flow Rate	
172	7810.00	88.40	184.50	4,843.60	3,407.41	-3,404.03	-155.03	3,407.56	182.61	2.69	0.00	162 °F	Green	09/30/14	8:40	264 (gpm)
173	7840.00	88.30	184.50	4,844.46	3,437.38	-3,433.92	-157.39	3,437.53	182.62	0.33	0.00	162 °F	Green	09/30/14	9:49	282 (gpm)
174	7870.00	87.30	184.50	4,845.61	3,467.35	-3,463.81	-159.74	3,467.49	182.64	3.33	0.00	162 °F	Green	09/30/14	10:31	282 (gpm)
175	7900.00	86.60	184.10	4,847.21	3,497.30	-3,493.68	-161.98	3,497.44	182.65	2.69	0.00	162 °F	Green	09/30/14	11:38	282 (gpm)
176	7930.00	86.50	183.60	4,849.01	3,527.25	-3,523.56	-164.00	3,527.37	182.66	1.70	0.00	147 °F	Yellow	10/01/14	3:00	282 (gpm)
177	7960.00	87.10	183.70	4,850.69	3,557.20	-3,553.45	-165.90	3,557.32	182.67	2.03	0.00	151 °F	Yellow	10/01/14	4:00	282 (gpm)
178	7990.00	88.30	183.40	4,851.89	3,587.17	-3,583.37	-167.76	3,587.30	182.68	4.12	0.00	151 °F	Yellow	10/01/14	4:20	282 (gpm)
179	8020.00	89.10	183.40	4,852.57	3,617.17	-3,613.31	-169.54	3,617.28	182.69	2.67	0.00	151 °F	Yellow	10/01/14	4:40	282 (gpm)
180	8050.00	89.60	183.20	4,852.91	3,647.16	-3,643.26	-171.26	3,647.28	182.69	1.80	0.00	151 °F	Yellow	10/01/14	5:50	282 (gpm)
181	8081.00	89.90	182.90	4,853.05	3,678.16	-3,674.21	-172.91	3,678.28	182.69	1.37	0.00	153 °F	Yellow	10/01/14	6:58	282 (gpm)
182	8111.00	90.00	183.40	4,853.07	3,708.16	-3,704.17	-174.56	3,708.28	182.70	1.70	0.00	153 °F	Yellow	10/01/14	8:00	282 (gpm)
183	8141.00	89.60	183.30	4,853.18	3,738.16	-3,734.12	-176.31	3,738.28	182.70	1.37	0.00	153 °F	Pink	10/01/14	9:17	282 (gpm)
184	8171.00	88.80	183.40	4,853.60	3,768.16	-3,764.06	-178.07	3,768.27	182.71	2.69	0.00	153 °F	Pink	10/01/14	9:58	282 (gpm)
185	8201.00	87.90	183.90	4,854.46	3,798.15	-3,793.99	-179.98	3,798.26	182.72	3.43	0.00	153 °F	Yellow	10/01/14	10:31	282 (gpm)
186	8231.00	88.20	183.70	4,855.48	3,828.13	-3,823.91	-181.96	3,828.23	182.72	1.20	0.00	154 °F	Yellow	10/01/14	11:06	282 (gpm)
187	8261.00	88.80	183.40	4,856.27	3,858.12	-3,853.84	-183.82	3,858.22	182.73	2.24	0.00	154 °F	Yellow	10/01/14	11:37	282 (gpm)
188	8292.00	89.50	183.30	4,856.73	3,889.11	-3,884.78	-185.63	3,889.21	182.74	2.28	0.00	154 °F	Yellow	10/01/14	12:12	282 (gpm)
189	8322.00	89.80	183.40	4,856.91	3,919.11	-3,914.73	-187.39	3,919.21	182.74	1.05	0.00	154 °F	Yellow	10/01/14	12:40	282 (gpm)
190	8352.00	90.00	183.40	4,856.96	3,949.11	-3,944.68	-189.16	3,949.21	182.75	0.67	0.00	154 °F	Yellow	10/01/14	13:27	282 (gpm)
191	8382.00	89.90	183.50	4,856.99	3,979.11	-3,974.62	-190.97	3,979.21	182.75	0.47	0.00	154 °F	Yellow	10/01/14	14:17	282 (gpm)
192	8412.00	89.80	183.50	4,857.07	4,009.11	-4,004.57	-192.80	4,009.20	182.76	0.33	0.00	154 °F	Yellow	10/01/14	15:38	282 (gpm)
193	8443.00	89.60	183.50	4,857.23	4,040.11	-4,035.51	-194.69	4,040.20	182.76	0.65	0.00	154 °F	Yellow	10/01/14	16:43	282 (gpm)
194	8475.00	89.00	183.40	4,857.62	4,072.11	-4,067.45	-196.62	4,072.20	182.77	1.90	0.00	154 °F	Yellow	10/01/14	17:45	282 (gpm)
195	8506.00	88.30	183.90	4,858.35	4,103.10	-4,098.38	-198.59	4,103.18	182.77	2.77	0.00	156 °F	Yellow	10/01/14	18:30	282 (gpm)
196	8538.00	88.40	183.80	4,859.27	4,135.08	-4,130.29	-200.74	4,135.16	182.78	0.44	0.00	156 °F	Yellow	10/01/14	19:15	282 (gpm)
197	8570.00	88.90	183.80	4,860.03	4,167.07	-4,162.21	-202.86	4,167.15	182.79	1.56	0.00	156 °F	Yellow	10/01/14	20:00	282 (gpm)
198	8602.00	89.40	184.00	4,860.50	4,199.06	-4,194.13	-205.04	4,199.14	182.80	1.68	0.00	156 °F	Yellow	10/01/14	20:45	282 (gpm)
199	8633.00	89.80	184.10	4,860.72	4,230.06	-4,225.05	-207.23	4,230.13	182.81	1.33	0.00	156 °F	Yellow	10/01/14	22:10	282 (gpm)
200	8665.00	90.00	184.20	4,860.77	4,262.05	-4,256.97	-209.54	4,262.12	182.82	0.70	0.00	156 °F	Yellow	10/01/14	22:45	282 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
 Well: Harry 4-35-10 #2H
 Field/Block: Mississippi Lime
 Co./Parish: Barber Co.
 State: KS

PGS Job #: LKS6113314
 MWD Operator: Ken Mitchell
 Directional Driller: Kyle Underwood
 Date of First Survey: September 21, 2014
 Date of Last Survey: October 4, 2014



Total Correction: 4.49 East Grid

Vertical Section Plane: 183.15 Nominal Dip Angle: 65.05 Magnetic Field Strength: 0.515

	Measured		Coordinates				Closure			Mtr Yield	Temp (°F)	Vib/Shk				
	Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N/-S	+E/-W	Dist.	Angle			DLS	Color	Date	Time	Flow Rate
201	8696.00	89.90	184.40	4,860.80	4,293.05	-4,287.88	-211.87	4,293.11	182.83	0.72	0.00	156 °F	Yellow	10/01/14	23:25	282 (gpm)
202	8728.00	90.40	184.30	4,860.72	4,325.04	-4,319.79	-214.29	4,325.10	182.84	1.59	0.00	158 °F	Yellow	10/02/14	0:45	282 (gpm)
203	8760.00	90.70	184.40	4,860.41	4,357.03	-4,351.70	-216.72	4,357.09	182.85	0.99	0.00	158 °F	Pink	10/02/14	2:10	282 (gpm)
204	8791.00	89.80	184.40	4,860.27	4,388.02	-4,382.60	-219.10	4,388.08	182.86	2.90	0.00	158 °F	Pink	10/02/14	3:00	282 (gpm)
205	8823.00	89.20	184.80	4,860.55	4,420.01	-4,414.50	-221.66	4,420.06	182.87	2.25	0.00	158 °F	Yellow	10/02/14	4:00	282 (gpm)
206	8854.00	89.50	184.80	4,860.91	4,451.00	-4,445.39	-224.26	4,451.04	182.89	0.97	0.00	158 °F	Yellow	10/02/14	4:45	282 (gpm)
207	8886.00	90.30	184.90	4,860.96	4,482.98	-4,477.27	-226.96	4,483.02	182.90	2.52	0.00	158 °F	Yellow	10/02/14	5:30	282 (gpm)
208	8917.00	91.20	184.90	4,860.56	4,513.96	-4,508.16	-229.61	4,514.00	182.92	2.90	0.00	160 °F	Yellow	10/02/14	6:43	282 (gpm)
209	8949.00	90.90	184.90	4,859.97	4,545.94	-4,540.04	-232.34	4,545.98	182.93	0.94	0.00	160 °F	Yellow	10/02/14	7:56	282 (gpm)
210	8980.00	89.70	184.90	4,859.81	4,576.93	-4,570.92	-234.99	4,576.96	182.94	3.87	0.00	160 °F	Yellow	10/02/14	8:45	282 (gpm)
211	9012.00	89.50	185.00	4,860.03	4,608.91	-4,602.80	-237.75	4,608.94	182.96	0.70	0.00	160 °F	Yellow	10/02/14	9:51	282 (gpm)
212	9043.00	89.40	184.90	4,860.33	4,639.90	-4,633.68	-240.43	4,639.92	182.97	0.46	0.00	162 °F	Yellow	10/02/14	10:33	282 (gpm)
213	9075.00	88.80	184.80	4,860.83	4,671.88	-4,665.57	-243.13	4,671.90	182.98	1.90	0.00	162 °F	Yellow	10/02/14	11:12	282 (gpm)
214	9106.00	88.60	184.70	4,861.53	4,702.86	-4,696.45	-245.70	4,702.87	182.99	0.72	0.00	162 °F	Yellow	10/02/14	12:17	282 (gpm)
215	9138.00	89.10	184.80	4,862.18	4,734.84	-4,728.34	-248.35	4,734.85	183.01	1.59	0.00	162 °F	Yellow	10/02/14	13:02	282 (gpm)
216	9169.00	89.60	184.80	4,862.53	4,765.82	-4,759.22	-250.94	4,765.84	183.02	1.61	0.00	162 °F	Yellow	10/02/14	14:26	282 (gpm)
217	9201.00	90.00	184.50	4,862.64	4,797.81	-4,791.12	-253.54	4,797.82	183.03	1.56	0.00	160 °F	Yellow	10/02/14	15:15	282 (gpm)
218	9232.00	90.90	184.80	4,862.40	4,828.80	-4,822.02	-256.05	4,828.81	183.04	3.06	0.00	162 °F	Yellow	10/02/14	16:30	282 (gpm)
219	9263.00	90.70	184.60	4,861.96	4,859.79	-4,852.91	-258.59	4,859.79	183.05	0.91	0.00	162 °F	Yellow	10/02/14	17:48	282 (gpm)
220	9295.00	90.20	184.50	4,861.71	4,891.77	-4,884.81	-261.13	4,891.78	183.06	1.59	0.00	160 °F	Yellow	10/02/14	19:00	282 (gpm)
221	9327.00	90.10	184.10	4,861.63	4,923.77	-4,916.72	-263.53	4,923.77	183.07	1.29	0.00	162 °F	Yellow	10/02/14	19:45	282 (gpm)
222	9358.00	90.60	184.10	4,861.44	4,954.76	-4,947.64	-265.74	4,954.77	183.07	1.61	0.00	160 °F	Pink	10/02/14	21:00	282 (gpm)
223	9390.00	89.90	183.90	4,861.30	4,986.76	-4,979.56	-267.98	4,986.76	183.08	2.28	0.00	160 °F	Yellow	10/02/14	22:00	282 (gpm)
224	9421.00	89.10	184.00	4,861.57	5,017.75	-5,010.48	-270.11	5,017.76	183.09	2.60	0.00	162 °F	Yellow	10/02/14	23:10	282 (gpm)
225	9453.00	88.70	184.00	4,862.18	5,049.75	-5,042.40	-272.34	5,049.75	183.09	1.25	0.00	162 °F	Yellow	10/03/14	0:15	282 (gpm)
226	9484.00	88.80	183.70	4,862.86	5,080.74	-5,073.32	-274.42	5,080.74	183.10	1.02	0.00	162 °F	Yellow	10/03/14	1:30	282 (gpm)
227	9516.00	88.90	183.80	4,863.50	5,112.73	-5,105.25	-276.52	5,112.73	183.10	0.44	0.00	160 °F	Yellow	10/03/14	2:10	282 (gpm)
228	9,547.00	89.10	183.50	4,864.04	5,143.72	-5,136.18	-278.49	5,143.72	183.10	1.16	0.00	160 °F	Yellow	10/03/14	3:00	282 (gpm)
229	9,579.00	89.80	183.70	4,864.35	5,175.72	-5,168.11	-280.50	5,175.72	183.11	2.28	0.00	160 °F	Yellow	10/03/14	4:00	282 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
Well: Harry 4-35-10 #2H
Field/Block: Mississippi Lime
Co./Parish: Barber Co.
State: KS

PGS Job #: LKS6113314
MWD Operator: Ken Mitchell
Directional Driller: Kyle Underwood
Date of First Survey: September 21, 2014
Date of Last Survey: October 4, 2014



Total Correction: 4.49 East Grid

Vertical Section Plane: 183.15 Nominal Dip Angle: 65.05 Magnetic Field Strength: 0.515

	<i>Measured</i>			<i>Coordinates</i>				<i>Closure</i>			<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Vib/Shk</i>			
	<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N/-S</i>	<i>+E/-W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>			<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>
230	9,610.00	90.30	183.90	4,864.32	5,206.72	-5,199.05	-282.55	5,206.72	183.11	1.74	0.00	160 °F	Yellow	10/03/14	5:30	282 (gpm)
231	9,642.00	89.80	183.80	4,864.30	5,238.71	-5,230.97	-284.70	5,238.71	183.12	1.59	0.00	162 °F	Yellow	10/03/14	6:31	282 (gpm)
232	9,673.00	89.50	183.50	4,864.48	5,269.71	-5,261.91	-286.68	5,269.71	183.12	1.37	0.00	162 °F	Yellow	10/03/14	7:33	282 (gpm)
233	9,705.00	89.80	183.40	4,864.68	5,301.71	-5,293.85	-288.60	5,301.71	183.12	0.99	0.00	162 °F	Yellow	10/03/14	8:35	282 (gpm)
234	9,736.00	89.90	183.20	4,864.76	5,332.71	-5,324.80	-290.39	5,332.71	183.12	0.72	0.00	160 °F	Yellow	10/03/14	10:48	282 (gpm)
235	9,768.00	89.80	182.70	4,864.85	5,364.71	-5,356.76	-292.03	5,364.71	183.12	1.59	0.00	162 °F	Yellow	10/03/14	11:41	282 (gpm)
236	9,799.00	89.40	182.60	4,865.06	5,395.71	-5,387.72	-293.47	5,395.71	183.12	1.33	0.00	162 °F	Yellow	10/03/14	12:54	282 (gpm)
237	9,831.00	89.00	182.70	4,865.51	5,427.70	-5,419.69	-294.95	5,427.71	183.12	1.29	0.00	162 °F	Yellow	10/03/14	13:47	282 (gpm)
238	9,863.00	88.70	182.60	4,866.15	5,459.70	-5,451.64	-296.42	5,459.70	183.11	0.99	0.00	162 °F	Yellow	10/03/14	14:35	282 (gpm)
239	9,894.00	89.50	182.60	4,866.64	5,490.69	-5,482.61	-297.83	5,490.69	183.11	2.58	0.00	162 °F	Yellow	10/03/14	15:23	282 (gpm)
240	9,926.00	89.80	182.80	4,866.83	5,522.69	-5,514.57	-299.34	5,522.69	183.11	1.13	0.00	162 °F	Yellow	10/03/14	16:45	282 (gpm)
241	9,957.00	89.10	183.10	4,867.13	5,553.69	-5,545.53	-300.93	5,553.69	183.11	2.46	0.00	163 °F	Yellow	10/03/14	17:32	282 (gpm)
242	9,989.00	89.00	183.00	4,867.66	5,585.68	-5,577.48	-302.64	5,585.68	183.11	0.44	0.00	163 °F	Yellow	10/03/14	18:20	282 (gpm)
243	10,021.00	89.10	182.90	4,868.19	5,617.68	-5,609.43	-304.28	5,617.68	183.10	0.44	0.00	163 °F	Yellow	10/03/14	19:20	282 (gpm)
244	10,052.00	89.20	182.90	4,868.65	5,648.67	-5,640.39	-305.85	5,648.68	183.10	0.32	0.00	163 °F	Yellow	10/03/14	20:10	282 (gpm)
245	10,084.00	89.20	182.50	4,869.10	5,680.67	-5,672.35	-307.36	5,680.67	183.10	1.25	0.00	163 °F	Yellow	10/03/14	21:30	282 (gpm)
246	10,115.00	89.30	182.40	4,869.50	5,711.67	-5,703.32	-308.68	5,711.67	183.10	0.46	0.00	163 °F	Yellow	10/03/14	22:15	282 (gpm)
247	10,147.00	89.30	182.60	4,869.90	5,743.66	-5,735.29	-310.08	5,743.66	183.09	0.62	0.00	163 °F	Yellow	10/03/14	23:45	282 (gpm)
248	10,178.00	89.60	182.40	4,870.19	5,774.66	-5,766.26	-311.43	5,774.66	183.09	1.16	0.00	163 °F	Yellow	10/04/14	0:30	282 (gpm)
249	10,209.00	89.90	182.10	4,870.33	5,805.65	-5,797.23	-312.65	5,805.66	183.09	1.37	0.00	163 °F	Yellow	10/04/14	1:40	282 (gpm)
250	10,241.00	90.00	182.20	4,870.36	5,837.65	-5,829.21	-313.85	5,837.65	183.08	0.44	0.00	163 °F	Yellow	10/04/14	2:30	282 (gpm)
251	10,273.00	90.10	181.90	4,870.33	5,869.64	-5,861.19	-314.99	5,869.65	183.08	0.99	0.00	163 °F	Yellow	10/04/14	3:15	282 (gpm)
252	10,305.00	90.20	181.90	4,870.24	5,901.63	-5,893.17	-316.05	5,901.64	183.07	0.31	0.00	163 °F	Yellow	10/04/14	4:00	282 (gpm)
253	10,336.00	90.20	181.60	4,870.14	5,932.63	-5,924.16	-317.00	5,932.63	183.06	0.97	0.00	162 °F	Yellow	10/04/14	4:40	282 (gpm)
254	10,400.00	90.10	181.60	4,869.97	5,996.60	-5,988.13	-318.79	5,996.61	183.05	0.16	0.00	162 °F	Yellow	10/04/14	6:14	282 (gpm)
TD	10,457.00	90.10	181.60	4,869.87	6,053.58	-6,045.11	-320.38	6,053.59	183.03	0.00						

MWD SURVEYS

Customer: Tapstone Energy
 Well: Harry 4-35-10 #2H
 Field/Block: Mississippi Lime
 Co./Parish: Barber Co.
 State: KS

PGS Job #: LKS6113314
 MWD Operator: Ken Mitchell
 Directional Driller: Kyle Underwood
 Date of First Survey: September 21, 2014
 Date of Last Survey: October 4, 2014



Total Correction: 4.49 East Grid

Vertical Section Plane: 183.15 Nominal Dip Angle: 65.05 Magnetic Field Strength: 0.515

<i>Measured</i>			<i>Coordinates</i>				<i>Closure</i>			<i>Vib/Shk</i>					
<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N / -S</i>	<i>+E / -W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>	<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>

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<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N / -S</i>	<i>+E / -W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>	<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>

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<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N / -S</i>	<i>+E / -W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>	<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>

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<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N / -S</i>	<i>+E / -W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>	<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>

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Total Correction: 4.49 East Grid

Vertical Section Plane: 183.15 Nominal Dip Angle: 65.05 Magnetic Field Strength: 0.515

<i>Measured</i>			<i>Coordinates</i>				<i>Closure</i>			<i>Vib/Shk</i>					
<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N / -S</i>	<i>+E / -W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>	<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>

MWD SURVEYS

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Vertical Section Plane: 183.15 Nominal Dip Angle: 65.05 Magnetic Field Strength: 0.515

<i>Measured</i>			<i>Coordinates</i>				<i>Closure</i>			<i>Vib/Shk</i>					
<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N / -S</i>	<i>+E / -W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>	<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>

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<i>Measured</i>			<i>Coordinates</i>				<i>Closure</i>			<i>Vib/Shk</i>					
<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N / -S</i>	<i>+E / -W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>	<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>

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<i>Measured</i>			<i>Coordinates</i>				<i>Closure</i>			<i>Vib/Shk</i>					
<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N / -S</i>	<i>+E / -W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>	<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>

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<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N / -S</i>	<i>+E / -W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>	<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>

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<i>Measured</i>			<i>Coordinates</i>				<i>Closure</i>			<i>Vib/Shk</i>					
<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N / -S</i>	<i>+E / -W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>	<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>

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<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N / -S</i>	<i>+E / -W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>	<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>

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<i>Measured</i>			<i>Coordinates</i>				<i>Closure</i>			<i>Vib/Shk</i>					
<i>Depth</i>	<i>Inc.</i>	<i>Azm.</i>	<i>T.V.D.</i>	<i>Ver. Sect.</i>	<i>+N / -S</i>	<i>+E / -W</i>	<i>Dist.</i>	<i>Angle</i>	<i>DLS</i>	<i>Mtr Yield</i>	<i>Temp (°F)</i>	<i>Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</i>

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Customer: Tapstone Energy
 Well: Harry 4-35-10 #2H
 Field/Block: Mississippi Lime
 Co./Parish: Barber Co.
 State: KS

PGS Job #: LKS6113314
 MWD Operator: Ken Mitchell
 Directional Driller: Kyle Underwood
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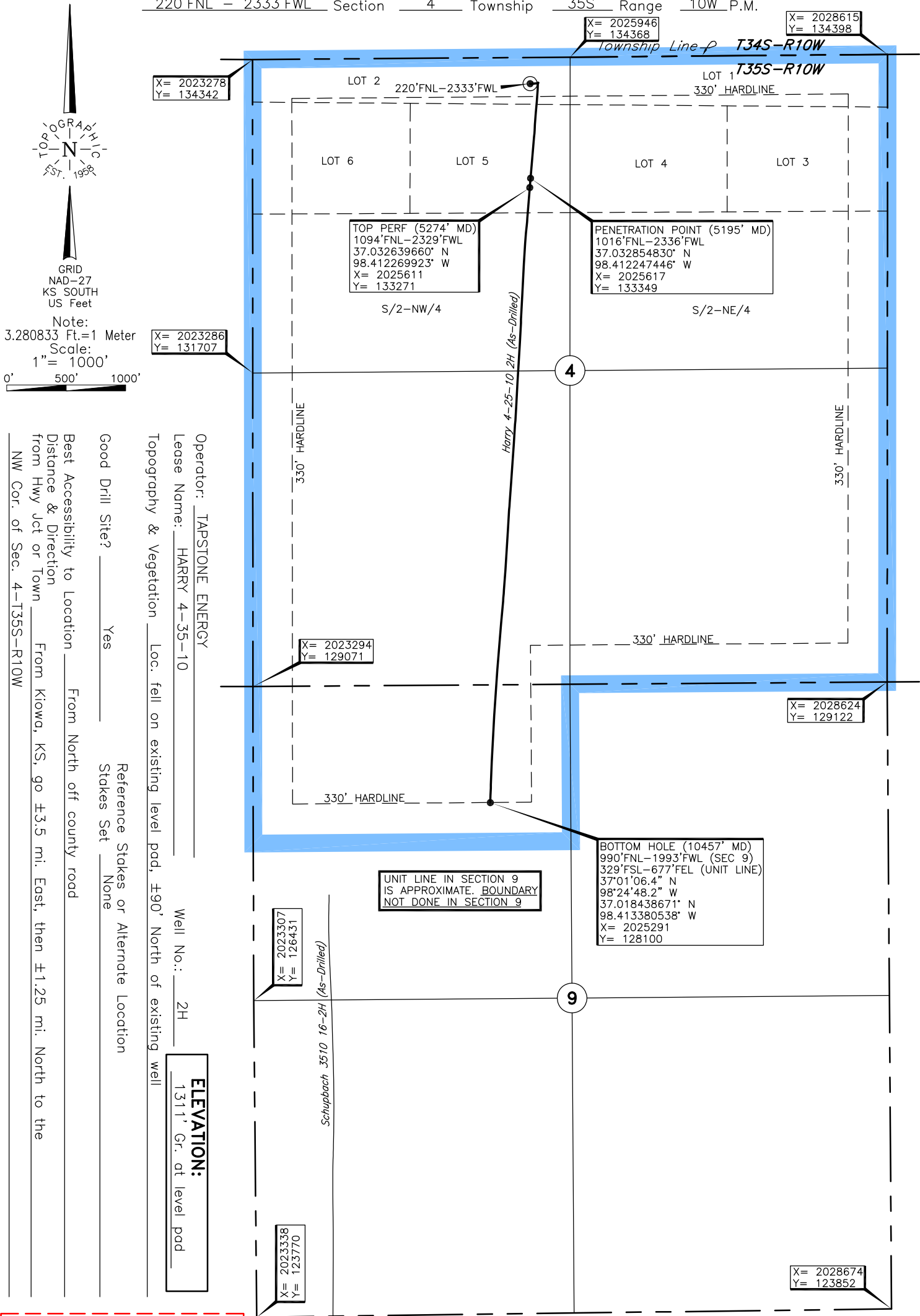
<i>Measured</i>						<i>Coordinates</i>		<i>Closure</i>			<i>Vib/Shk</i>				
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TOPOGRAPHIC LAND SURVEYORS

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

BARBER County, Kansas

220'FNL - 2333'FWL Section 4 Township 35S Range 10W P.M.



X= 2023278
Y= 134342

X= 2025946
Y= 134368

X= 2028615
Y= 134398

TOP PERF (5274' MD)
1094'FNL-2329'FWL
37.032639660° N
98.412269923° W
X= 2025611
Y= 133271

PENETRATION POINT (5195' MD)
1016'FNL-2336'FWL
37.032854830° N
98.412247446° W
X= 2025617
Y= 133349

X= 2023286
Y= 131707

X= 2023294
Y= 129071

X= 2028624
Y= 129122

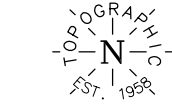
BOTTOM HOLE (10457' MD)
990'FNL-1993'FWL (SEC 9)
329'FSL-677'FEL (UNIT LINE)
37°01'06.4" N
98°24'48.2" W
37.018438671° N
98.413380538° W
X= 2025291
Y= 128100

UNIT LINE IN SECTION 9
IS APPROXIMATE BOUNDARY
NOT DONE IN SECTION 9

X= 2023307
Y= 126431

X= 2023338
Y= 123770

X= 2028674
Y= 123852



GRID
NAD-27
KS SOUTH
US Feet
Note:
3.280833 Ft.=1 Meter
Scale:
1" = 1000'
0' 500' 1000'

Operator: TAPSTONE ENERGY
 Lease Name: HARRY 4-35-10
 Topography & Vegetation: Loc. fell on existing level pad, ±90' North of existing well
 Well No.: 2H
 ELEVATION: 1311' Gr. at level pad
 Good Drill Site? Yes
 Reference Stakes or Alternate Location: Stakes Set
 Best Accessibility to Location: From North off county road
 Distance & Direction from Hwy Jct or Town: From Kiowa, KS, go ±3.5 mi. East, then ±1.25 mi. North to the NW Cor. of Sec. 4-T35S-R10W

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

DATUM: NAD-27
 LAT: 37°02'06.1"N
 LONG: 98°24'44.1"W
 LAT: 37.035040151° N
 LONG: 98.412263813° W
 STATE PLANE
 COORDINATES: (US Feet)
 ZONE: KS SOUTH
 X: 2025611
 Y: 134145

233175 Date of Drawing: Oct. 22, 2014
 Invoice # 230058 Date Staked: Sep. 04, 2014 JP

FINAL AS-DRILLED PLAT

AS-DRILLED INFORMATION
 FURNISHED BY TAPSTONE ENERGY