

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1259061
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: _____

1259061



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

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

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

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

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

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

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

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

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

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

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

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

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

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

iCem® Service

3M COMPANY - ACCOUNTS PAYABLE

For: BUCK FOGLE

Date: Monday, June 01, 2015

1H

CARTMILL 16-34-7/1H

TAPSTONE ENERGY CARTMILL

Job Date: Monday, June 01, 2015

Sincerely,

ROBERT DAVIS

1.0 Real-Time Job Summary

1.1 Job Event Log

Event	Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Comments
Event 1	Call Out		Call Out	Call Out	6/1/2015	03:30:00	USER				ON LOCATION ASAP
Event 2	Safety Meeting - Service Center or other Site		Safety Meeting - Service Center or other Site	Safety Meeting - Service Center or other Site	6/1/2015	05:15:00	USER				DISCUSS ROUTS AND STOPS
Event 3	Depart from Service Center or Other Site		Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/1/2015	05:30:00	USER				
Event 4	Arrive at Location from Service Center		Arrive at Location from Service Center	Arrive at Location from Service Center	6/1/2015	09:30:00	USER				RUNNING CASIN 9.625 36#
Event 5	Other		Other	Other	6/1/2015	09:35:00	USER				MEET WITH COSTOMER AND GO OVER NUMBERS
Event 6	Safety Meeting - Pre Rig-Up		Safety Meeting - Pre Rig Up	Safety Meeting - Pre Rig Up	6/1/2015	09:40:00	USER				WATCH FOR PINCH POINTS, TEAM LIFT, USE TAG LINES WHEN NEEDED
Event 7	Rig-Up Equipment		Rig-Up Equipment	Rig-Up Equipment	6/1/2015	10:00:00	USER				GO OVER HAZARDS AND JOB PROCEEDURES WITH RIG CREW
Event 8	Safety Meeting - Pre Job		Safety Meeting - Pre Job	Safety Meeting - Pre Job	6/1/2015	10:45:00	USER	17.00	0.14	0.00	
Event 9	Test Lines		Test Lines	Test Lines	6/1/2015	11:17:46	COM13	91.00	8.35	0.00	2500 PSI
Event 10	Pump Spacer 1		Pump Spacer 1	Pump Spacer 1	6/1/2015	11:20:03	COM13	48.00	8.38	3.60	10 BBL5 FRESH WATER, PUMPED @ 3 1/2 BPM @ 90 PSI
Event 11	Pump Cement		Pump Cement	Pump Cement	6/1/2015	11:28:30	COM13	258.00	13.88	5.10	SWIFTCEM, 475 SKS @ 15.1#, YELD @ 1.3, GAL/SK @ 6.1, 110 BBL5, 617.5 FT3, HOC-823.16, TOC-0
Event 12	Shutdown		Shutdown	Shutdown	6/1/2015	11:50:31	USER	64.00	15.89	0.00	

HALLIBURTON

Customer: 3M COMPANY - ACCOUNTS PAYABLE

Job: 0902460638

Case: TAPSTONE ENERGY CARTMILL | SO#: 0902460638

Event 13	Drop Plug	Drop Plug	6/1/2015	11:52:27	USER	38.00	10.55	1.60	TOP PLUG
Event 14	Pump Displacement	Pump Displacement	6/1/2015	11:55:07	COM13	91.00	9.02	4.10	FRESH WATER, PUMPED @ 6 BPM @ 370 PSI, 30 BBLS OF CEMENT BACK TO SURFACE
Event 15	Slow Rate	Slow Rate	6/1/2015	12:02:15	USER	417.00	8.47	6.00	LAST 15 BBLS, @ 3BPM @ 343 PSI
Event 16	Bump Plug	Bump Plug	6/1/2015	12:06:59	USER	876.00	8.53	0.00	500 OVER, BUMPED @ 350 PSI TOOK TO 895 PSI
Event 17	Check Floats	Check Floats	6/1/2015	12:08:58	USER	156.00	8.52	0.00	FLOATS HELD 1/2 BBL BACK
Event 18	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig- Down	6/1/2015	12:12:00	USER	67.00	8.54	6.30	WATCH FOR PINCH POINTS, TEAM LIFT, USE TAG LINES WHEN NEEDED
Event 19	Rig-Down Equipment	Rig-Down Equipment	6/1/2015	12:20:00	USER	-9.00	8.52	0.00	
Event 20	Safety Meeting - Departing Location	Safety Meeting - Departing Location	6/1/2015	13:10:00	USER				DISCUSS ROUTS AND STOPS
Event 21	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	6/1/2015	13:30:00	USER				THANKS FOR CALLING HALLIBURTON, ROBERT DAVIS AND CREW

iCem Service

(v. 4.1.107)

Created: Monday, June 01, 2015

2.0 Attachments

2.1 TAPSTONE ENERGY CARTMILL-Custom Results.png



The Road to Excellence Starts with Safety

Sold To #: 372073	Ship To #: 3665374	Quote #: 0022054739	Sales Order #: 0902460638
Customer: TAPSTONE ENERGY LLC		Customer Rep: BUCK FOGLE	
Well Name: CARTMILL 16-34-7	Well #: 1H	API/UWI #: 15-077-22145-01	
Field: COOPER CREEK	City (SAP): ANTHONY	County/Parish: HARPER	State: KANSAS
Legal Description: NE NE NW NE-16-34S-7W-230FNL-1630FEL			
Contractor: NOMAC		Rig/Platform Name/Num: NOMAC 07	
Job BOM: 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX25353		Srcv Supervisor: Robert Davis	
Job			

Formation Name			
Formation Depth (MD)	Top	0	Bottom 815
Form Type			BHST 80 degF
Job depth MD	823ft	Job Depth TVD	823
Water Depth			Wk Ht Above Floor 7
Perforation Depth (MD)	From	To	

Well Data

Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Open Hole Section			12.25				0	815		0
Casing	3	9.625	8.921	36	LTC	J-55	0	823		0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	9.625			823	Top Plug	9.625	1	HES
Float Shoe	9.625				Bottom Plug	9.625		HES
Float Collar	9.625				SSR plug set	9.625		HES
Insert Float	9.625				Plug Container	9.625	1	HES
Stage Tool	9.625				Centralizers	9.625		HES

Miscellaneous Materials

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

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Water Spacer	Water Spacer	10	bbl	8.33			3.5	

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	Primary Cement	SWIFTCEM (TM) SYSTEM	475	sack	15.1	1.3		5	6.1

2 %	CALCIUM CHLORIDE, PELLET, 50 LB (101509387)
6.10 Gal	FRESH WATER
94 lbm	CMT - STANDARD - CLASS A REG OR TYPE I, BULK (100003684)
0.1250 lbm	POLY-E-FLAKE (101216940)

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	Displacement	Displacement	60	bbl	8.33			5	

Cement Left In Pipe	Amount	46 ft	Reason	Shoe Joint
Mix Water: pH	6##	Mix Water Chloride:	## 200ppm	Mix Water Temperature: ## 70°F °C
Cement Temperature: ## °F °C		Plug Displaced by: ## lb/gal kg/m ³ XXXX		Disp. Temperature: ## °F °C
Plug Bumped? Yes/		Bump Pressure: ##895## psi MPa		Floats Held? Yes/
Cement Returns: ##30 bbl m ³		Returns Density: ## lb/gal kg/m ³		Returns Temperature: ## °F °C
Comment 30 BBLs OF CEMENT BACK , ½ BBL BACK ON FLOATS				

MWD SURVEYS

Customer: Tapstone Energy
Well: Cartmill 16-34-7 1H
Field/Block: Cooper Creek
Co./Parish: Harper County
State: KS

PGS Job #: LKS6118015
MWD Operator: Ken Mitchell
Directional Driller: Kyle Underwood
Date of First Survey: June 1, 2015
Date of Last Survey: June 11, 2015



Total Correction: 3.58 East Grid

Vertical Section Plane: 183.25 Nominal Dip Angle: 65.30 Magnetic Field Strength: 0.515

Measured Depth	Coordinates				Closure			Vib/Shk			Date	Time	Flow Rate			
	Inc.	Azm.	T.V.D.	Ver. Sect.	+N / -S	+E / -W	Dist.	Angle	DLS	Mtr Yield				Temp (°F)	Color	
Survey's are tied into: Assume vertical at casing shoe @ 815'												Date Received: 06/01/15				
Company:																
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
1	893.00	0.1	264.5	893.00	0.12	-0.07	-0.78	0.78	264.50	0.01	0.00	93 °F	Green	06/02/15	4:45	561 (gpm)
2	1082.00	0.3	311.7	1,082.00	-0.16	0.24	-1.31	1.33	280.33	0.13	0.00	99 °F	Green	06/02/15	6:01	561 (gpm)
3	1271.00	0.4	251.9	1,271.00	-0.23	0.36	-2.31	2.33	278.94	0.19	0.00	106 °F	Green	06/02/15	7:42	561 (gpm)
4	1460.00	0.6	117.1	1,459.99	0.41	-0.29	-2.05	2.07	261.88	0.49	0.00	111 °F	Green	06/02/15	9:41	561 (gpm)
5	1649.00	0.4	109.2	1,648.98	0.99	-0.96	-0.55	1.11	209.70	0.11	0.00	115 °F	Green	06/02/15	11:26	561 (gpm)
6	1839.00	0.3	131.3	1,838.98	1.48	-1.51	0.45	1.57	163.30	0.09	0.00	120 °F	Green	06/02/15	12:57	561 (gpm)
7	2026.00	0.30	114.30	2,025.98	1.96	-2.03	1.27	2.39	148.07	0.05	0.00	122 °F	Green	06/02/15	14:31	591 (gpm)
8	2213.00	0.30	172.20	2,212.98	2.61	-2.72	1.78	3.25	146.80	0.16	0.00	126 °F	Green	06/02/15	16:16	591 (gpm)
9	2402.00	0.20	184.60	2,401.97	3.43	-3.54	1.82	3.98	152.78	0.06	0.00	126 °F	Green	06/02/15	17:28	591 (gpm)
10	2590.00	0.10	220.90	2,589.97	3.89	-3.99	1.69	4.33	157.09	0.07	0.00	129 °F	Green	06/02/15	18:50	591 (gpm)
11	2777.00	0.80	103.10	2,776.97	4.24	-4.41	2.85	5.25	147.11	0.46	0.00	131 °F	Yellow	06/02/15	21:00	591 (gpm)
12	2965.00	0.60	147.50	2,964.96	5.26	-5.54	4.66	7.23	139.92	0.30	0.00	122 °F	Green	06/02/15	23:36	561 (gpm)
13	3152.00	0.30	143.20	3,151.95	6.43	-6.75	5.48	8.69	140.96	0.16	0.00	102 °F	Green	06/03/15	0:44	561 (gpm)
14	3340.00	0.30	171.70	3,339.95	7.29	-7.63	5.84	9.61	142.57	0.08	0.00	109 °F	Green	06/03/15	1:48	593 (gpm)
15	3529.00	0.20	34.00	3,528.95	7.49	-7.85	6.10	9.94	142.16	0.25	0.00	118 °F	Green	06/03/15	3:31	593 (gpm)
16	3718.00	0.50	243.30	3,717.94	7.62	-7.95	5.55	9.69	145.09	0.36	0.00	122 °F	Green	06/03/15	4:51	593 (gpm)
17	3905.00	3.70	190.40	3,904.80	14.02	-14.25	3.73	14.73	165.34	1.83	13.00	122 °F	Green	06/03/15	7:38	440 (gpm)
18	3935.00	7.10	183.40	3,934.66	16.83	-17.05	3.44	17.40	168.59	11.52	11.50	122 °F	Green	06/03/15	8:24	440 (gpm)
19	3966.00	10.10	180.40	3,965.31	21.46	-21.69	3.31	21.94	171.32	9.78	9.80	122 °F	Green	06/03/15	9:08	440 (gpm)
20	3997.00	12.20	180.10	3,995.73	27.45	-27.68	3.29	27.87	173.23	6.78	8.00	122 °F	Green	06/03/15	9:57	440 (gpm)
21	4028.00	13.60	181.70	4,025.94	34.36	-34.60	3.17	34.74	174.76	4.66	12.00	122 °F	Green	06/03/15	11:05	440 (gpm)
22	4059.00	15.50	183.70	4,055.95	42.15	-42.38	2.80	42.47	176.22	6.34	13.10	124 °F	Green	06/03/15	12:45	440 (gpm)
23	4090.00	17.80	185.70	4,085.65	51.03	-51.23	2.06	51.27	177.70	7.65	10.80	126 °F	Green	06/03/15	14:22	440 (gpm)
24	4121.00	20.30	186.70	4,114.95	61.13	-61.28	0.96	61.29	179.10	8.13	14.00	127 °F	Yellow	06/03/15	15:50	492 (gpm)
25	4153.00	22.80	185.20	4,144.71	72.87	-72.97	-0.25	72.97	180.20	8.00	16.00	129 °F	Green	06/03/15	17:18	492 (gpm)
26	4184.00	25.00	185.20	4,173.05	85.42	-85.48	-1.39	85.49	180.93	7.10	15.10	131 °F	Green	06/03/15	18:18	492 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
Well: Cartmill 16-34-7 1H
Field/Block: Cooper Creek
Co./Parish: Harper County
State: KS

PGS Job #: LKS6118015
MWD Operator: Ken Mitchell
Directional Driller: Kyle Underwood
Date of First Survey: June 1, 2015
Date of Last Survey: June 11, 2015



Total Correction: 3.58 East Grid

Vertical Section Plane: 183.25 Nominal Dip Angle: 65.30 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
27	4215.00	27.00	184.80	4,200.91	99.00	-99.02	-2.57	99.05	181.49	6.48	18.20	131 °F	Green	06/03/15	19:35	492 (gpm)
28	4247.00	28.70	185.00	4,229.20	113.95	-113.91	-3.85	113.98	181.93	5.32	14.20	133 °F	Yellow	06/03/15	21:00	492 (gpm)
29	4278.00	30.60	184.50	4,256.14	129.28	-129.19	-5.12	129.29	182.27	6.18	17.40	135 °F	Yellow	06/03/15	22:10	492 (gpm)
30	4309.00	32.50	184.20	4,282.56	145.49	-145.37	-6.35	145.50	182.50	6.15	21.20	135 °F	Green	06/03/15	23:05	492 (gpm)
31	4340.00	34.20	184.30	4,308.45	162.53	-162.36	-7.61	162.54	182.68	5.49	14.10	135 °F	Green	06/04/15	0:00	492 (gpm)
32	4372.00	35.60	184.80	4,334.70	180.83	-180.61	-9.06	180.84	182.87	4.47	11.90	135 °F	Green	06/04/15	1:10	492 (gpm)
33	4403.00	37.50	185.30	4,359.60	199.29	-199.00	-10.69	199.29	183.07	6.20	19.20	136 °F	Green	06/04/15	2:40	492 (gpm)
34	4435.00	40.00	185.10	4,384.55	219.30	-218.95	-12.50	219.30	183.27	7.82	16.60	136 °F	Green	06/04/15	4:00	492 (gpm)
35	4466.00	43.10	184.40	4,407.75	239.85	-239.43	-14.20	239.85	183.39	10.11	14.20	136 °F	Green	06/04/15	5:05	492 (gpm)
36	4498.00	45.50	183.30	4,430.65	262.20	-261.73	-15.70	262.20	183.43	7.87	14.00	138 °F	Green	06/04/15	6:08	492 (gpm)
37	4529.00	48.10	182.50	4,451.87	284.80	-284.30	-16.84	284.80	183.39	8.60	19.00	138 °F	Green	06/04/15	7:36	492 (gpm)
38	4561.00	50.80	182.40	4,472.67	309.11	-308.59	-17.88	309.11	183.32	8.44	15.00	140 °F	Green	06/04/15	8:56	492 (gpm)
39	4592.00	54.10	181.60	4,491.56	333.67	-333.15	-18.73	333.67	183.22	10.84	15.20	140 °F	Green	06/04/15	10:15	492 (gpm)
40	4622.00	56.80	182.00	4,508.57	358.37	-357.84	-19.51	358.37	183.12	9.07	17.00	140 °F	Green	06/04/15	11:18	492 (gpm)
41	4654.00	59.50	182.40	4,525.46	385.55	-385.00	-20.55	385.55	183.06	8.50	14.30	142 °F	Green	06/04/15	12:17	492 (gpm)
42	4685.00	61.80	182.90	4,540.65	412.56	-411.99	-21.80	412.57	183.03	7.55	13.80	142 °F	Green	06/04/15	13:26	492 (gpm)
43	4716.00	62.50	183.10	4,555.13	439.97	-439.36	-23.24	439.98	183.03	2.33	0.00	142 °F	Green	06/04/15	13:59	492 (gpm)
44	4747.00	62.80	183.10	4,569.38	467.51	-466.86	-24.73	467.51	183.03	0.97	0.00	144 °F	Green	06/04/15	15:02	492 (gpm)
45	4778.00	63.50	183.10	4,583.38	495.17	-494.47	-26.22	495.17	183.04	2.26	0.00	144 °F	Green	06/04/15	15:41	492 (gpm)
46	4810.00	64.20	183.00	4,597.48	523.89	-523.16	-27.75	523.89	183.04	2.21	0.00	144 °F	Green	06/04/15	16:27	492 (gpm)
47	4841.00	64.60	182.80	4,610.87	551.85	-551.08	-29.17	551.85	183.03	1.42	0.00	144 °F	Green	06/04/15	17:05	492 (gpm)
48	4872.00	65.20	182.70	4,624.02	579.92	-579.12	-30.51	579.92	183.02	1.96	0.00	145 °F	Green	06/04/15	18:22	492 (gpm)
49	4903.00	66.00	182.40	4,636.83	608.15	-607.32	-31.77	608.15	182.99	2.73	14.50	145 °F	Green	06/04/15	19:10	501 (gpm)
50	4935.00	67.90	182.70	4,649.36	637.59	-636.74	-33.08	637.60	182.97	6.00	17.00	145 °F	Green	06/04/15	20:00	501 (gpm)
51	4966.00	70.10	183.30	4,660.47	666.53	-665.64	-34.59	666.53	182.98	7.32	13.00	145 °F	Green	06/04/15	20:35	501 (gpm)
52	4997.00	72.30	183.80	4,670.46	695.87	-694.92	-36.41	695.88	183.00	7.26	12.50	147 °F	Green	06/04/15	21:28	501 (gpm)
53	5028.00	74.30	183.90	4,679.37	725.56	-724.55	-38.41	725.56	183.03	6.46	13.00	147 °F	Green	06/04/15	22:15	501 (gpm)
54	5060.00	77.10	184.40	4,687.27	756.56	-755.47	-40.65	756.56	183.08	8.88	13.50	147 °F	Green	06/04/15	23:15	501 (gpm)
55	5092.00	80.30	184.70	4,693.54	787.93	-786.75	-43.14	787.93	183.14	10.04	14.60	149 °F	Green	06/05/15	0:36	501 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
Well: Cartmill 16-34-7 1H
Field/Block: Cooper Creek
Co./Parish: Harper County
State: KS

PGS Job #: LKS6118015
MWD Operator: Ken Mitchell
Directional Driller: Kyle Underwood
Date of First Survey: June 1, 2015
Date of Last Survey: June 11, 2015



Total Correction: 3.58 East Grid

Vertical Section Plane: 183.25 Nominal Dip Angle: 65.30 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						
56	5123.00	81.30	185.00	4,698.49	818.52	-817.24	-45.73	818.52	183.20	3.36	10.40	149 °F	Green	06/05/15	1:32	501 (gpm)
57	5154.00	81.30	184.70	4,703.18	849.15	-847.77	-48.32	849.15	183.26	0.96	0.00	149 °F	Green	06/05/15	2:20	501 (gpm)
58	5185.00	81.40	185.00	4,707.85	879.78	-878.31	-50.91	879.78	183.32	1.01	14.00	151 °F	Green	06/05/15	4:10	501 (gpm)
59	5215.00	81.80	185.30	4,712.23	909.45	-907.87	-53.57	909.45	183.38	1.66	0.00	153 °F	Green	06/05/15	6:33	501 (gpm)
60	5247.00	83.70	185.40	4,716.27	941.17	-939.47	-56.53	941.17	183.44	5.95	11.20	150 °F	Green	06/05/15	7:32	492 (gpm)
61	5279.00	84.00	185.30	4,719.70	972.96	-971.15	-59.50	972.97	183.51	0.99	0.00	149 °F	Green	06/05/15	9:07	492 (gpm)
62	5311.00	84.10	185.30	4,723.01	1,004.77	-1,002.84	-62.44	1,004.78	183.56	0.31	0.00	149 °F	Green	06/05/15	10:14	492 (gpm)
63	5343.00	83.80	185.50	4,726.38	1,036.57	-1,034.52	-65.43	1,036.59	183.62	1.12	0.00	149 °F	Green	06/05/15	11:23	492 (gpm)
64	5375.00	83.30	185.30	4,729.98	1,068.34	-1,066.18	-68.43	1,068.37	183.67	1.68	0.00	149 °F	Green	06/05/15	12:23	492 (gpm)
65	5407.00	84.10	184.80	4,733.49	1,100.13	-1,097.86	-71.23	1,100.17	183.71	2.94	0.00	151 °F	Green	06/05/15	13:38	492 (gpm)
66	5439.00	85.40	184.80	4,736.42	1,131.99	-1,129.61	-73.89	1,132.03	183.74	4.06	0.00	151 °F	Green	06/05/15	15:39	492 (gpm)
67	5518.00	86.90	184.80	4,741.72	1,210.78	-1,208.16	-80.49	1,210.84	183.81	1.90	0.00	145 °F	Green	06/07/15	11:24	246 (gpm)
68	5548.00	87.00	185.00	4,743.32	1,240.72	-1,238.01	-83.05	1,240.79	183.84	0.74	0.00	149 °F	Green	06/07/15	12:50	246 (gpm)
69	5579.00	87.10	184.90	4,744.92	1,271.67	-1,268.85	-85.72	1,271.74	183.86	0.46	0.00	149 °F	Green	06/07/15	14:32	246 (gpm)
70	5609.00	87.70	184.60	4,746.28	1,301.63	-1,298.72	-88.20	1,301.71	183.89	2.24	0.00	151 °F	Green	06/07/15	15:39	246 (gpm)
71	5639.00	87.80	184.50	4,747.45	1,331.60	-1,328.60	-90.58	1,331.68	183.90	0.47	0.00	153 °F	Yellow	06/07/15	16:52	246 (gpm)
72	5670.00	88.20	184.10	4,748.54	1,362.57	-1,359.49	-92.90	1,362.66	183.91	1.82	0.00	154 °F	Yellow	06/07/15	17:46	246 (gpm)
73	5700.00	88.40	183.80	4,749.43	1,392.56	-1,389.41	-94.97	1,392.65	183.91	1.20	0.00	154 °F	Yellow	06/07/15	18:50	246 (gpm)
74	5731.00	89.10	183.20	4,750.10	1,423.55	-1,420.34	-96.86	1,423.64	183.90	2.97	0.00	156 °F	Yellow	06/07/15	19:50	246 (gpm)
75	5761.00	89.20	183.10	4,750.55	1,453.55	-1,450.29	-98.51	1,453.63	183.89	0.47	0.00	156 °F	Yellow	06/07/15	20:37	246 (gpm)
76	5791.00	89.10	182.90	4,750.99	1,483.54	-1,480.25	-100.08	1,483.63	183.87	0.75	0.00	158 °F	Yellow	06/07/15	21:30	246 (gpm)
77	5821.00	89.10	182.80	4,751.46	1,513.54	-1,510.21	-101.57	1,513.62	183.85	0.33	0.00	158 °F	Yellow	06/07/15	22:25	246 (gpm)
78	5851.00	88.90	183.10	4,751.99	1,543.53	-1,540.16	-103.11	1,543.61	183.83	1.20	0.00	158 °F	Yellow	06/07/15	23:10	246 (gpm)
79	5882.00	88.80	183.20	4,752.61	1,574.53	-1,571.11	-104.81	1,574.60	183.82	0.46	0.00	158 °F	Yellow	06/08/15	0:07	246 (gpm)
80	5912.00	89.10	182.80	4,753.16	1,604.52	-1,601.06	-106.38	1,604.59	183.80	1.67	0.00	158 °F	Yellow	06/08/15	1:00	246 (gpm)
81	5943.00	89.40	182.80	4,753.56	1,635.52	-1,632.02	-107.90	1,635.59	183.78	0.97	0.00	158 °F	Yellow	06/08/15	1:50	246 (gpm)
82	5972.00	89.50	182.50	4,753.84	1,664.51	-1,660.99	-109.24	1,664.58	183.76	1.09	0.00	153 °F	Yellow	06/08/15	2:37	246 (gpm)
83	6002.00	89.50	182.40	4,754.10	1,694.51	-1,690.96	-110.52	1,694.57	183.74	0.33	0.00	153 °F	Yellow	06/08/15	3:24	246 (gpm)
84	6032.00	89.60	182.70	4,754.34	1,724.51	-1,720.93	-111.86	1,724.56	183.72	1.05	0.00	153 °F	Yellow	06/08/15	3:56	246 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
Well: Cartmill 16-34-7 1H
Field/Block: Cooper Creek
Co./Parish: Harper County
State: KS

PGS Job #: LKS6118015
MWD Operator: Ken Mitchell
Directional Driller: Kyle Underwood
Date of First Survey: June 1, 2015
Date of Last Survey: June 11, 2015



Total Correction: 3.58 East Grid

Vertical Section Plane: 183.25 Nominal Dip Angle: 65.30 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						
85	6062.00	89.50	182.40	4,754.58	1,754.50	-1,750.90	-113.19	1,754.56	183.70	1.05	0.00	153 °F	Yellow	06/08/15	4:45	246 (gpm)
86	6093.00	89.00	182.30	4,754.98	1,785.50	-1,781.87	-114.46	1,785.55	183.68	1.64	0.00	154 °F	Yellow	06/08/15	5:22	246 (gpm)
87	6123.00	88.80	182.30	4,755.56	1,815.49	-1,811.84	-115.67	1,815.53	183.65	0.67	0.00	154 °F	Yellow	06/08/15	5:53	246 (gpm)
88	6154.00	89.10	181.90	4,756.13	1,846.48	-1,842.82	-116.80	1,846.52	183.63	1.61	0.00	156 °F	Yellow	06/08/15	6:35	246 (gpm)
89	6184.00	89.20	182.00	4,756.57	1,876.46	-1,872.80	-117.82	1,876.50	183.60	0.47	0.00	156 °F	Yellow	06/08/15	7:20	246 (gpm)
90	6215.00	89.60	182.40	4,756.90	1,907.46	-1,903.77	-119.01	1,907.49	183.58	1.82	0.00	156 °F	Yellow	06/08/15	7:55	246 (gpm)
91	6245.00	90.00	182.50	4,757.00	1,937.45	-1,933.74	-120.29	1,937.48	183.56	1.37	0.00	156 °F	Yellow	06/08/15	8:51	246 (gpm)
92	6275.00	89.80	182.60	4,757.05	1,967.45	-1,963.71	-121.63	1,967.48	183.54	0.75	0.00	158 °F	Yellow	06/08/15	9:38	246 (gpm)
93	6306.00	89.70	182.60	4,757.19	1,998.45	-1,994.68	-123.04	1,998.47	183.53	0.32	0.00	158 °F	Yellow	06/08/15	10:37	246 (gpm)
94	6336.00	89.00	183.10	4,757.53	2,028.45	-2,024.64	-124.53	2,028.47	183.52	2.87	0.00	160 °F	Yellow	06/08/15	11:27	246 (gpm)
95	6367.00	89.00	183.30	4,758.07	2,059.44	-2,055.59	-126.26	2,059.46	183.51	0.65	0.00	160 °F	Yellow	06/08/15	12:26	246 (gpm)
96	6397.00	89.40	183.60	4,758.49	2,089.44	-2,085.53	-128.06	2,089.46	183.51	1.67	0.00	162 °F	Yellow	06/08/15	13:16	246 (gpm)
97	6426.00	89.60	183.70	4,758.74	2,118.44	-2,114.47	-129.91	2,118.46	183.52	0.77	0.00	162 °F	Yellow	06/08/15	14:13	246 (gpm)
98	6456.00	90.40	183.50	4,758.74	2,148.44	-2,144.41	-131.79	2,148.46	183.52	2.75	0.00	162 °F	Yellow	06/08/15	15:02	246 (gpm)
99	6486.00	90.80	183.50	4,758.43	2,178.43	-2,174.36	-133.62	2,178.46	183.52	1.33	0.00	162 °F	Yellow	06/08/15	16:01	246 (gpm)
100	6517.00	91.10	183.50	4,757.91	2,209.43	-2,205.29	-135.52	2,209.45	183.52	0.97	0.00	162 °F	Yellow	06/08/15	16:36	246 (gpm)
101	6548.00	91.50	183.80	4,757.21	2,240.42	-2,236.22	-137.49	2,240.45	183.52	1.61	0.00	162 °F	Yellow	06/08/15	17:25	246 (gpm)
102	6577.00	90.60	183.80	4,756.68	2,269.41	-2,265.15	-139.41	2,269.44	183.52	3.10	0.00	163 °F	Yellow	06/08/15	18:11	246 (gpm)
103	6607.00	89.70	183.80	4,756.60	2,299.41	-2,295.09	-141.40	2,299.44	183.53	3.00	0.00	163 °F	Yellow	06/08/15	18:53	246 (gpm)
104	6638.00	89.20	184.50	4,756.90	2,330.41	-2,326.00	-143.64	2,330.44	183.53	2.77	0.00	163 °F	Yellow	06/08/15	19:45	246 (gpm)
105	6668.00	88.90	184.60	4,757.39	2,360.39	-2,355.91	-146.02	2,360.43	183.55	1.05	0.00	163 °F	Yellow	06/08/15	20:30	246 (gpm)
106	6699.00	88.80	184.60	4,758.02	2,391.38	-2,386.80	-148.51	2,391.42	183.56	0.32	0.00	163 °F	Yellow	06/08/15	21:24	246 (gpm)
107	6729.00	89.70	183.80	4,758.41	2,421.37	-2,416.72	-150.70	2,421.41	183.57	4.01	0.00	165 °F	Yellow	06/08/15	22:25	246 (gpm)
108	6760.00	91.10	183.50	4,758.19	2,452.37	-2,447.65	-152.68	2,452.41	183.57	4.62	0.00	165 °F	Yellow	06/08/15	23:16	246 (gpm)
109	6790.00	91.70	183.10	4,757.46	2,482.36	-2,477.59	-154.40	2,482.40	183.57	2.40	0.00	165 °F	Yellow	06/09/15	0:00	246 (gpm)
110	6820.00	92.00	183.30	4,756.49	2,512.35	-2,507.53	-156.08	2,512.38	183.56	1.20	0.00	167 °F	Yellow	06/09/15	1:05	246 (gpm)
111	6850.00	91.70	183.80	4,755.52	2,542.33	-2,537.46	-157.93	2,542.37	183.56	1.94	0.00	165 °F	Yellow	06/09/15	1:40	246 (gpm)
112	6881.00	91.30	184.30	4,754.71	2,573.32	-2,568.37	-160.12	2,573.36	183.57	2.07	0.00	167 °F	Yellow	06/09/15	2:20	246 (gpm)
113	6911.00	90.60	184.40	4,754.21	2,603.31	-2,598.28	-162.40	2,603.35	183.58	2.36	0.00	165 °F	Yellow	06/09/15	3:00	246 (gpm)

MWD SURVEYS

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Field/Block: Cooper Creek
Co./Parish: Harper County
State: KS

PGS Job #: LKS6118015
MWD Operator: Ken Mitchell
Directional Driller: Kyle Underwood
Date of First Survey: June 1, 2015
Date of Last Survey: June 11, 2015



Total Correction: 3.58 East Grid

Vertical Section Plane: 183.25 Nominal Dip Angle: 65.30 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
114	6940.00	90.50	184.30	4,753.94	2,632.30	-2,627.19	-164.60	2,632.34	183.58	0.49	0.00	167 °F	Yellow	06/09/15	3:53	246 (gpm)
115	6971.00	90.40	183.70	4,753.69	2,663.30	-2,658.12	-166.76	2,663.34	183.59	1.96	0.00	167 °F	Yellow	06/09/15	4:40	246 (gpm)
116	7002.00	90.20	182.90	4,753.53	2,694.29	-2,689.06	-168.54	2,694.34	183.59	2.66	0.00	167 °F	Yellow	06/09/15	5:25	246 (gpm)
117	7032.00	90.20	182.40	4,753.43	2,724.29	-2,719.03	-169.93	2,724.34	183.58	1.67	0.00	167 °F	Yellow	06/09/15	6:08	246 (gpm)
118	7063.00	90.10	182.30	4,753.34	2,755.29	-2,750.01	-171.20	2,755.33	183.56	0.46	0.00	167 °F	Yellow	06/09/15	6:46	246 (gpm)
119	7093.00	90.20	182.10	4,753.27	2,785.28	-2,779.98	-172.35	2,785.32	183.55	0.75	0.00	167 °F	Yellow	06/09/15	7:40	246 (gpm)
120	7123.00	89.50	182.20	4,753.34	2,815.28	-2,809.96	-173.48	2,815.31	183.53	2.36	0.00	169 °F	Yellow	06/09/15	8:15	246 (gpm)
121	7153.00	89.40	182.40	4,753.63	2,845.27	-2,839.94	-174.68	2,845.30	183.52	0.75	0.00	169 °F	Yellow	06/09/15	8:53	246 (gpm)
122	7183.00	89.60	182.50	4,753.89	2,875.27	-2,869.91	-175.97	2,875.30	183.51	0.75	0.00	169 °F	Yellow	06/09/15	9:35	246 (gpm)
123	7214.00	89.40	181.70	4,754.16	2,906.26	-2,900.89	-177.10	2,906.29	183.49	2.66	0.00	169 °F	Yellow	06/09/15	10:11	246 (gpm)
124	7244.00	89.30	181.10	4,754.50	2,936.24	-2,930.87	-177.83	2,936.26	183.47	2.03	0.00	169 °F	Yellow	06/09/15	10:42	246 (gpm)
125	7275.00	90.00	181.00	4,754.69	2,967.22	-2,961.87	-178.40	2,967.24	183.45	2.28	0.00	169 °F	Yellow	06/09/15	11:36	246 (gpm)
126	7305.00	90.10	180.90	4,754.67	2,997.19	-2,991.86	-178.90	2,997.21	183.42	0.47	0.00	169 °F	Yellow	06/09/15	12:14	246 (gpm)
127	7335.00	90.10	180.90	4,754.62	3,027.17	-3,021.86	-179.37	3,027.18	183.40	0.00	0.00	169 °F	Yellow	06/09/15	12:59	246 (gpm)
128	7365.00	90.00	180.50	4,754.59	3,057.14	-3,051.86	-179.74	3,057.15	183.37	1.37	0.00	169 °F	Yellow	06/09/15	14:04	246 (gpm)
129	7395.00	90.20	180.20	4,754.54	3,087.10	-3,081.86	-179.92	3,087.11	183.34	1.20	0.00	169 °F	Yellow	06/09/15	14:48	246 (gpm)
130	7427.00	90.40	179.90	4,754.37	3,119.05	-3,113.86	-179.95	3,119.05	183.31	1.13	0.00	169 °F	Yellow	06/09/15	15:41	246 (gpm)
131	7456.00	89.50	180.70	4,754.39	3,148.01	-3,142.86	-180.10	3,148.01	183.28	4.15	0.00	170 °F	Yellow	06/09/15	16:36	246 (gpm)
132	7486.00	88.80	180.80	4,754.84	3,177.98	-3,172.85	-180.49	3,177.98	183.26	2.36	0.00	171 °F	Yellow	06/09/15	17:23	246 (gpm)
133	7517.00	88.80	180.50	4,755.49	3,208.94	-3,203.84	-180.85	3,208.94	183.23	0.97	0.00	169 °F	Yellow	06/09/15	18:19	246 (gpm)
134	7547.00	89.10	180.70	4,756.04	3,238.90	-3,233.83	-181.16	3,238.90	183.21	1.20	0.00	171 °F	Yellow	06/09/15	19:15	246 (gpm)
135	7577.00	90.20	181.10	4,756.22	3,268.88	-3,263.83	-181.63	3,268.88	183.19	3.90	0.00	171 °F	Yellow	06/09/15	20:08	246 (gpm)
136	7608.00	90.80	181.30	4,755.95	3,299.86	-3,294.82	-182.28	3,299.86	183.17	2.04	0.00	171 °F	Yellow	06/09/15	21:00	246 (gpm)
137	7639.00	91.10	182.10	4,755.44	3,330.84	-3,325.80	-183.20	3,330.85	183.15	2.76	0.00	165 °F	Yellow	06/09/15	22:00	246 (gpm)
138	7670.00	91.50	182.40	4,754.73	3,361.83	-3,356.77	-184.42	3,361.83	183.14	1.61	0.00	167 °F	Yellow	06/09/15	23:02	246 (gpm)
139	7702.00	91.00	182.90	4,754.04	3,393.82	-3,388.73	-185.90	3,393.82	183.14	2.21	0.00	169 °F	Yellow	6/10/15	0:00	246 (gpm)
140	7734.00	90.30	182.90	4,753.67	3,425.82	-3,420.69	-187.51	3,425.82	183.14	2.19	0.00	171 °F	Yellow	06/10/15	1:10	246 (gpm)
141	7765.00	90.40	183.00	4,753.48	3,456.81	-3,451.64	-189.11	3,456.82	183.14	0.46	0.00	171 °F	Yellow	06/10/15	2:00	246 (gpm)
142	7797.00	90.40	182.60	4,753.26	3,488.81	-3,483.61	-190.67	3,488.82	183.13	1.25	0.00	172 °F	Yellow	06/10/15	3:00	246 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
Well: Cartmill 16-34-7 1H
Field/Block: Cooper Creek
Co./Parish: Harper County
State: KS

PGS Job #: LKS6118015
MWD Operator: Ken Mitchell
Directional Driller: Kyle Underwood
Date of First Survey: June 1, 2015
Date of Last Survey: June 11, 2015



Total Correction: 3.58 East Grid

Vertical Section Plane: 183.25 Nominal Dip Angle: 65.30 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
143	7828.00	89.50	183.20	4,753.29	3,519.81	-3,514.57	-192.24	3,519.82	183.13	3.49	0.00	172 °F	Yellow	06/10/15	3:50	246 (gpm)
144	7860.00	89.40	183.60	4,753.59	3,551.81	-3,546.51	-194.14	3,551.82	183.13	1.29	0.00	172 °F	Yellow	06/10/15	4:30	246 (gpm)
145	7891.00	89.80	183.60	4,753.81	3,582.81	-3,577.45	-196.08	3,582.82	183.14	1.29	0.00	174 °F	Yellow	06/10/15	5:15	246 (gpm)
146	7923.00	89.90	183.70	4,753.89	3,614.81	-3,609.38	-198.12	3,614.81	183.14	0.44	0.00	174 °F	Yellow	06/10/15	6:08	246 (gpm)
147	7954.00	90.20	184.00	4,753.87	3,645.81	-3,640.31	-200.20	3,645.81	183.15	1.37	0.00	172 °F	Yellow	06/10/15	6:50	246 (gpm)
148	7986.00	90.60	184.00	4,753.64	3,677.80	-3,672.23	-202.44	3,677.81	183.16	1.25	0.00	174 °F	Yellow	06/10/15	7:29	246 (gpm)
149	8017.00	91.10	183.80	4,753.18	3,708.80	-3,703.16	-204.54	3,708.80	183.16	1.74	0.00	172 °F	Yellow	06/10/15	8:20	246 (gpm)
150	8049.00	90.70	184.40	4,752.68	3,740.79	-3,735.07	-206.83	3,740.79	183.17	2.25	0.00	172 °F	Yellow	06/10/15	9:10	246 (gpm)
151	8080.00	90.60	184.70	4,752.33	3,771.78	-3,765.97	-209.29	3,771.78	183.18	1.02	0.00	174 °F	Yellow	06/10/15	9:55	246 (gpm)
152	8112.00	90.90	184.60	4,751.91	3,803.77	-3,797.86	-211.88	3,803.77	183.19	0.99	0.00	172 °F	Yellow	06/10/15	10:45	246 (gpm)
153	8143.00	89.80	184.80	4,751.72	3,834.76	-3,828.76	-214.42	3,834.76	183.21	3.61	0.00	174 °F	Yellow	06/10/15	11:26	246 (gpm)
154	8174.00	88.90	184.60	4,752.07	3,865.74	-3,859.65	-216.96	3,865.74	183.22	2.97	0.00	174 °F	Yellow	06/10/15	12:11	246 (gpm)
155	8206.00	89.10	184.90	4,752.63	3,897.73	-3,891.54	-219.61	3,897.73	183.23	1.13	0.00	174 °F	Yellow	06/10/15	13:25	246 (gpm)
156	8237.00	89.60	184.70	4,752.98	3,928.71	-3,922.43	-222.21	3,928.71	183.24	1.74	0.00	174 °F	Yellow	06/10/15	14:09	246 (gpm)
157	8269.00	90.30	184.40	4,753.01	3,960.71	-3,954.32	-224.75	3,960.71	183.25	2.38	0.00	174 °F	Yellow	06/10/15	15:14	246 (gpm)
158	8300.00	90.70	184.80	4,752.74	3,991.70	-3,985.22	-227.23	3,991.70	183.26	1.82	0.00	174 °F	Yellow	06/10/15	16:10	246 (gpm)
159	8332.00	89.90	184.70	4,752.57	4,023.68	-4,017.11	-229.88	4,023.68	183.28	2.52	0.00	174 °F	Yellow	06/10/15	16:59	246 (gpm)
160	8364.00	90.00	184.80	4,752.60	4,055.67	-4,049.00	-232.53	4,055.67	183.29	0.44	0.00	174 °F	Yellow	06/10/15	17:51	246 (gpm)
161	8395.00	90.00	185.30	4,752.60	4,086.66	-4,079.88	-235.26	4,086.66	183.30	1.61	0.00	174 °F	Yellow	06/10/15	18:38	246 (gpm)
162	8427.00	90.20	185.50	4,752.55	4,118.64	-4,111.74	-238.27	4,118.64	183.32	0.88	0.00	176 °F	Yellow	06/10/15	19:30	246 (gpm)
163	8458.00	90.90	184.70	4,752.25	4,149.62	-4,142.62	-241.03	4,149.62	183.33	3.43	0.00	174 °F	Yellow	06/10/15	20:22	246 (gpm)
165	8489.00	91.50	184.20	4,751.60	4,180.60	-4,173.51	-243.43	4,180.61	183.34	2.52	0.00	174 °F	Yellow	06/10/15	21:10	246 (gpm)
166	8521.00	91.80	184.40	4,750.68	4,212.58	-4,205.41	-245.83	4,212.59	183.35	1.13	0.00	174 °F	Yellow	06/10/15	22:30	246 (gpm)
167	8553.00	91.70	183.50	4,749.70	4,244.57	-4,237.32	-248.03	4,244.57	183.35	2.83	0.00	176 °F	Yellow	06/10/15	23:40	246 (gpm)
168	8584.00	92.20	183.50	4,748.65	4,275.55	-4,268.24	-249.93	4,275.56	183.35	1.61	0.00	176 °F	Yellow	06/11/15	0:30	246 (gpm)
169	8616.00	93.20	183.80	4,747.14	4,307.51	-4,300.14	-251.96	4,307.52	183.35	3.26	0.00	176 °F	Yellow	06/11/15	1:27	246 (gpm)
170	8648.00	92.30	183.60	4,745.60	4,339.47	-4,332.04	-254.02	4,339.48	183.36	2.88	0.00	176 °F	Yellow	06/11/15	2:23	246 (gpm)
171	8679.00	91.30	183.10	4,744.63	4,370.46	-4,362.97	-255.83	4,370.47	183.36	3.61	0.00	176 °F	Yellow	06/11/15	3:16	246 (gpm)
172	8711.00	90.20	183.00	4,744.21	4,402.45	-4,394.92	-257.54	4,402.46	183.35	3.45	0.00	178 °F	Yellow	06/11/15	4:00	246 (gpm)

MWD SURVEYS

Customer: Tapstone Energy
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Co./Parish: Harper County
State: KS

PGS Job #: LKS6118015
MWD Operator: Ken Mitchell
Directional Driller: Kyle Underwood
Date of First Survey: June 1, 2015
Date of Last Survey: June 11, 2015



Total Correction: 3.58 East Grid

Vertical Section Plane: 183.25 Nominal Dip Angle: 65.30 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 Color</i>	<i>Date</i>	<i>Time</i>	<i>Flow Rate</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>						
173	8742.00	90.30	182.90	4,744.07	4,433.45	-4,425.88	-259.13	4,433.46	183.35	0.46	0.00	178 °F	Yellow	06/11/15	4:50	246 (gpm)
174	8774.00	90.60	182.80	4,743.82	4,465.45	-4,457.84	-260.72	4,465.46	183.35	0.99	0.00	178 °F	Yellow	06/11/15	5:36	246 (gpm)
175	8805.00	90.80	183.00	4,743.44	4,496.45	-4,488.80	-262.29	4,496.45	183.34	0.91	0.00	178 °F	Yellow	06/11/15	6:24	246 (gpm)
176	8837.00	91.10	183.10	4,742.91	4,528.44	-4,520.75	-263.99	4,528.45	183.34	0.99	0.00	178 °F	Yellow	06/11/15	7:37	246 (gpm)
177	8868.00	91.30	183.00	4,742.26	4,559.44	-4,551.70	-265.64	4,559.44	183.34	0.72	0.00	178 °F	Yellow	06/11/15	8:42	246 (gpm)
178	8930.00	89.60	182.70	4,741.78	4,621.43	-4,613.62	-268.72	4,621.44	183.33	2.78	0.00	178 °F	Yellow	06/11/15	10:28	246 (gpm)
TD	8984.00	89.60	182.70	4,742.16	4,675.43	-4,667.56	-271.27	4,675.43	183.33	0.00						

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Vertical Section Plane: 183.25

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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>

MWD
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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>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>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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<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: 3.58 East Grid

Vertical Section Plane: 183.25

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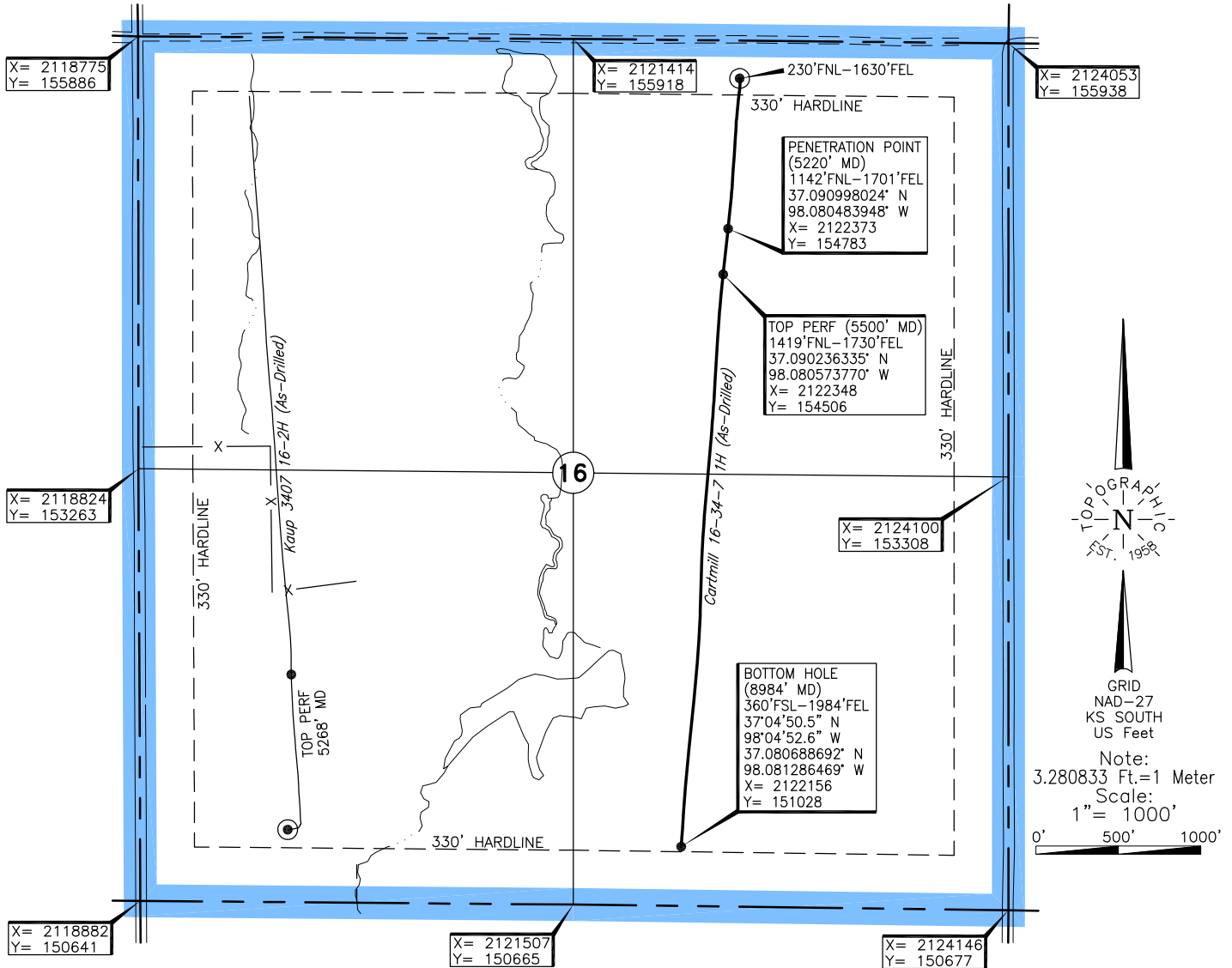
TOPOGRAPHIC LAND SURVEYORS

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

HARPER

County, Kansas

230'FNL - 1630'FEL Section 16 Township 34S Range 7W P.M.



Operator: TAPSTONE ENERGY

Lease Name: CARTMILL 16-34-7

Well No.: 1H

ELEVATION:
1348' Gr. At Stake

Topography & Vegetation Location fell in sloped, terraced pasture, ±160' South of drain.

Good Drill Site? Yes Reference Stakes or Alternate Location
 Stakes Set None

Best Accessibility to Location From lease road North of well location.

Distance & Direction
 from Hwy Jct or Town From Anthony, KS, go ±2.0 mi. West on St. Hwy. 14, then ±4.0 mi. South, then 0.5 miles West to the Northeast Corner of Section 16, T34S-R7W.

DATUM: NAD-27
 LAT: 37°05'36.6"N
 LONG: 98°04'49.0"W
 LAT: 37.093504283° N
 LONG: 98.080284631° W
 STATE PLANE
 COORDINATES: (US Feet)
 ZONE: KS SOUTH
 X: 2122427
 Y: 155696

246444 Date of Drawing: June 23, 2015
 Invoice # 242719 Date Staked: April 2, 2015 JP

FINAL AS-DRILLED PLAT

AS-DRILLED INFORMATION
 FURNISHED BY TAPSTONE ENERGY

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

Field Ticket Signature

Field Ticket Number: 0902462827 Field Ticket Date: Saturday, June 06, 2015 Planning Order #: NA

Bill To:
TAPSTONE ENERGY LLC,
210 PARK AVE STE 1350,
OKLAHOMA CITY, OK, 73102

Job Name: 7" Intermediate Casing
Order Type: ZOH
Well Name: CARTMILL 16-34-7 1H
Company Code: 1100
Customer PO No.: NA
Shipping Point: El Reno, OK Shipping Point
Sales Office: MID-CONTINENT BD
Well Type: HORIZONTAL OIL
Well Category: Development
Rig Name#: NCMAC 07

Ship To:
CARTMILL 16-34-7 1H,HARPER,
ANTHONY, KS, 67003

THIS OUTPUT DOES NOT INCLUDE TAXES. APPLICABLE SALES TAX WILL BE BILLED ON THE FINAL INVOICE. CUSTOMER HEREBY ACKNOWLEDGES RECEIPT OF THE MATERIALS AND SERVICES DESCRIBED ABOVE, ON ANY PRECEDING PAGES, AND ATTACHED DOCUMENTS.

Gross Amount Total: \$ 38,209.48
Item Discount Total: \$ 26,088.94
Net Amount Total: \$ 12,120.54 USD

Customer Representative Signature: _____

Date: _____

Buck
Customer Representative

Diego Torres
Halliburton Representative

Was our HSE performance satisfactory? (Health, Safety, Environment)
 Yes No

Were you satisfied with our equipment?
 Yes No

Were you satisfied with our people?
 Yes No

Comments:



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Coman
FINAL

Cementing Call for Services

The Road to Excellence Starts with Safety			
Sold To #: 372073		Ship To #: 3665374	Primary Sales Order #: 0902462827
Customer: TAPSTONE ENERGY LLC		Job Purpose: 7522 CMT INTERMEDIATE CASING BOM	
Well Name: CARTMILL 16-34-7		Well #: 1H	API/UWI #: 15-077-22145-01
Field: COOPER CREEK	City: ANTHONY	Country/Parish: HARPER	State/Prov: KANSAS
Legal Description:			
Rig Name & Number / Phone Number: NOMAC 07 / 832-531-7207			Location: LAND
myCem id# :	Job Criticality Status: GREEN	Facts Request id #:	
Contacts			
Type	Name	Email	Phone
COMPANY ENGINEER	Lacey Wright	lwright@tapstoneenergy.com	405-702-5461
Service Coordinator	Richard Poole	Richard.Poole@Halliburton.com	+15802512065
Account Rep	David Nevarez	David.Nevarez@Halliburton.com	+14055521785
PPE, Safety Huddles, JSA's, HOC & Near Miss Reporting, BBP Observations			
Distance/Mileage(1 way) Srvcs:	65 mile	Distance/Mileage(1 way) Mtls:	65 mile
			Rqstd Job Start Date/Time: 06/06/2015
HSE Information			
H2S Present:	Unknown	CO2 Present:	Unknown
Drive Safely. Lights On for Safety. Wear Seat Belts. Observe all HES / Customer Safety Policies.			
Anthony, KS—South on Hwy 179 for 6 miles to SW 60—West 2 miles to SW 20—North 2 miles—West into			
RIG PHONE# 832-531-7207			
Instruction			
C/I - 7" 8rd SWAGE DELIVERED 5/31			
TOP OF LEAD @ 3,640'			
TOP OF TAIL @ 5,034'			
General Equipment			
Type	Name	Qty	Comment
BULK TRUCKS	AS NEEDED	1	
CEMENT CREW	PICKUP / HOSE TRAILER / CEMENT PUMP	1	
CIRCULATING IRON / SWAGE	7 INCH 8rd	1	
7" CEMENT HEAD		1	

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Cementing

CEMENT QUALITY CONTROL SHEET

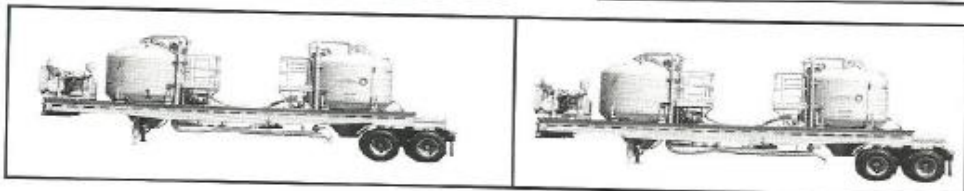


WESTERN MIDCONTINENT El Reno, Ok		COMPANY:	Cartmill 16-34-7	DATE:	6/5/2015
DISPATCH:	806-665-0005	LEASE:	1H	SO#:	902462827
DISPATCH:	Toll Free 1-866-357-3438	WELL #:	Intermediae	MyCem#:	Tapstone
			BULK PLANT:	405-552-1127	

BULK PLANT LOCATION: El Reno, Ok
 NAME OF LOADER: Sean E. Howenstine

WAS EQUIPMENT BLOWN DOWN BEFORE LOADING: YES NO
 IF PUT IN FIELD BIN, WAS BIN BLOWN DOWN: YES NO
 MSDS PROVIDED: YES NO

UNIT # 11897022 11966138 UNIT #



LOADER INITIALS: _____ LOADER INITIALS: _____
 SACKS: 195.0 SACKS: 90.0 SACKS: _____ SACKS: _____

CEMENT ADDITIVES		CEMENT ADDITIVES	
50/50 Poz Standard	Premium		
2% Extra Gel	.4% HALAD-9		
.4% HALAD-9			
LEAD	***TAIL***		

Loaders: Both the packet document and driver's document will be verified prior to drivers leaving.
 BY SIGNING YOU VERIFY THAT THE DOCUMENT IS CORRECT PRIOR TO DRIVER DEPARTURE:
 Lead Signature: _____

I have reviewed the Driving JSA Yes No I have reviewed the Driving JSA Yes No

TAG VERIFICATION

TAGS PRESENT & IN ORDER: _____	TAGS PRESENT & IN ORDER: _____
LABELS PRESENT & IN ORDER: _____	LABELS PRESENT & IN ORDER: _____
IF LOADING A FIELD STORAGE BIN:	
TAG LABELS GIVEN TO YOU: _____	TAG LABELS GIVEN TO YOU: _____
BIN NUMBER BEING LOADED: _____	BIN NUMBER BEING LOADED: _____
POT(S) TO BE LOADED: _____	POT(S) TO BE LOADED: _____
DRIVER POT(S) LOADED: _____	DRIVER POT(S) LOADED: _____
Driver Signature: _____	Driver Signature: _____

BY SIGNING YOU VERIFY YOU UNDERSTAND AND KNOW WHERE THE CEMENT IS AND/OR BELONGS:
 DRIVER SIGN: _____ DRIVER SIGN: _____
 Driver(s): When bin loading is complete you will put what pots were loaded, sign and leave on the bin for the cementer.
 Cementer: This cartoon will need to be placed in your job packet upon completion of the job.

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	Lead Cement	ECONOCEM (TM) SYSTEM	195	sack	13.6	1.506		5	7.3
	4 %	BENTONITE, BULK (100003682)							
	0.40 %	HALAD(R)-9, 50 LB (100001617)							
	47 lbm	CMT - STANDARD - CLASS A REG OR TYPE I, BULK (100003684)							
	41.50 lbm	POZMIX A FLYASH (100003690)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Tail Cement	HALCEM (TM) SYSTEM	90	sack	15.6	1.191		5	5.36
	0.40 %	HALAD(R)-9, 50 LB (100001617)							
	94 lbm	CMT - PREMIUM - CLASS H REG OR TYPE V, BULK (100003687)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	Displacement	Displacement	208.8	bbl	8.33				

Cement Left In Pipe	Amount	Reason	Shoe Joint
	85 ft		

Comment

The Road to Excellence Starts with Safety

Sold To #: 372073	Ship To #: 3665374	Quote #: 0022054249	Sales Order #: 0902462827
Customer: TAPSTONE ENERGY LLC		Customer Rep: Buck	
Well Name: CARTMILL 16-34-7	Well #: 1H	API/UWI #: 15-077-22145-01	
Field: COOPER CREEK	City (SAP): ANTHONY	County/Parish: HARPER	State: KANSAS
Legal Description: NE NE NW NE-16-34S-7W-230FNL-1630FEL			
Contractor: NOMAC		Rig/Platform Name/Num: NOMAC 07	
Job BOM: 7522			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX25353		Srcv Supervisor: Diego Torres	
Job			

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	5500ft Job Depth TVD
Water Depth	Wk Ht Above Floor
Perforation Depth (MD)	From To

Well Data										
Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing	3	9.625	8.921	36	LTC	J-55	0	760		
Casing	3	7	6.276	26	LTC	P-110	0	5500	0	4636
Open Hole Section			8.75				760	5500		4636

Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	7			5500	Top Plug	7	1	HES		
Float Shoe	7				Bottom Plug	7		HES		
Float Collar	7				SSR plug set	7		HES		
Insert Float	7				Plug Container	7	1	HES		
Stage Tool	7				Centralizers	7		HES		

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

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

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Customer: TAPCO INTERNATIONAL
 Job: 902462827
 Case: Case 1

Event	Description	Pressure Test	Date	Time	User	Notes
Event 14	Pressure Test	Pressure Test	6/6/2015	16:12:00	USER	5000 PSI
Event 15	Pump Spacer	Other	6/6/2015	16:19:00	USER	30 BB MUD FLUSH AT 3 BPM @ 300 PSI
Event 16	Pump Lead Cement	Pump Lead Cement	6/6/2015	16:25:00	USER	190 SACKS OF LEAD CEMENT 52 BB PUMP AT 13.6 PPG @ 5 BPM @ 400 PSI
Event 17	Pump Tail Cement	Pump Tail Cement	6/6/2015	16:34:00	USER	90 SACKS TAIL CEMENT 19 BB PUMP AT 15.6 PPG @ 4 BPM @ 230 PSI
Event 18	Drop Top Plug	Drop Top Plug	6/6/2015	16:50:00	USER	TOP PLUG LEFT HEAD
Event 19	Pump Displacement	Pump Displacement	6/6/2015	16:51:00	USER	190 BB PUMP AT 7 BPM @ 1100 PSI
Event 20	Slow Rate	Slow Rate	6/6/2015	17:19:00	USER	18 BB PUMP AT 3 BPM @ 900 PSI
Event 21	Bump Plug	Bump Plug	6/6/2015	17:24:00	USER	TOP PLUG LEANDED AT 900 UP TO 1440 PSI
Event 22	Check Floats	Check Floats	6/6/2015	17:29:00	USER	FLOATS HELD 1 88 BACK OF FRESH WATER
Event 23	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	6/6/2015	17:40:00	USER	ALL HES HANDS PRESENT
Event 24	Rig-Down Equipment	Rig-Down Equipment	6/6/2015	17:50:00	USER	
Event 25	Rig-Down Completed	Rig-Down Completed	6/6/2015	18:40:00	USER	
Event 26	Depart Location Safety Meeting	Depart Location Safety Meeting	6/6/2015	18:50:00	USER	ALL HES HANDS PRESENT
Event 27	Depart Location	Depart Location	6/6/2015	19:00:00	USER	

HALLIBURTON

Customer: TAPCO INTERNATIONAL
 Job: 902462827
 Case: CASI 1

1.0 Real-Time Job Summary

1.1 Job Event Log

Event	Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	DS Pump Press (psi)	Comments
Event 1			Call Out	Call Out	6/5/2015	20:00:00	USER				
Event 2			Depart Yard Safety Meeting	Depart Yard Safety Meeting	6/5/2015	21:50:00	USER				ALL HES HANDS PRESENT
Event 3			Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/5/2015	22:00:00	USER				
Event 4			Arrive At Loc	Arrive At Loc	6/6/2015	03:00:00	USER				ALL HES HANDS PRESENT
Event 5			Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/6/2015	03:10:00	USER				
Event 6			Rig-Up Equipment	Rig-Up Equipment	6/6/2015	03:20:00	USER				
Event 7			Rig-Up Completed	Rig-Up Completed	6/6/2015	04:00:00	USER				WAITING ON CASING CREW TO FINISH RUNNING PIPE DOWN HOLE
Event 8			Standby Rig	Standby Rig	6/6/2015	04:05:00	USER				WAITING ON 7" CROSSOVER TO ARRIVE TO LOCATION
Event 9			Other	Other	6/6/2015	11:25:00	USER				THEY SUPPOSED USE LENDING JOIN BUT THEY DID NOT USED IT THEY LEFT OUT
Event 10			Casing on Bottom	Casing on Bottom	6/6/2015	11:30:00	USER				RIG CIRCULATE WELL FOR 3 HOUR
Event 11			Circulate Well	Circulate Well	6/6/2015	11:35:00	USER				CROSSOVER ARRIVE
Event 12			Other	Other	6/6/2015	15:20:00	USER				ALL HES AND RIG CREW HANDS PRESENT
Event 13			Pre-Job Safety Meeting	Pre-Job Safety Meeting	6/6/2015	15:30:00	USER				

iCem Service
 (v. 4.1107)

Created: Saturday, June 06, 2015

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Customer: TAPCO INTERNATIONAL
Job #: 902452827
Case: Case 1

2.0 Attachments

2.1 Case 1-Custom Results.png

