

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1103640

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

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: _____



1103640

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: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Tug Hill Operating LLC

Hodgeman County, Kansas (NAD 83)

Sec 31, T23S, R22W

Imel #1-31H

Original Wellbore

Survey: MWD Surveys

Standard Survey Report

22 September, 2012



Company:	Tug Hill Operating LLC	Local Co-ordinate Reference:	Site Sec 31, T23S, R22W
Project:	Hodgeman County, Kansas (NAD 83)	TVD Reference:	WELL @ 2359.0usft
Site:	Sec 31, T23S, R22W	MD Reference:	WELL @ 2359.0usft
Well:	Imel #1-31H	North Reference:	Grid
Wellbore:	Original Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	Original Wellbore	Database:	EDM 5000.1 Single User Db

Project	Hodgeman County, Kansas (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Kansas Southern Zone		

Site	Sec 31, T23S, R22W				
Site Position:		Northing:	1,805,497.39 usft	Latitude:	38° 0' 51.026 N
From:	Map	Easting:	945,503.39 usft	Longitude:	99° 46' 24.082 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.78 °

Well	Imel #1-31H					
Well Position	+N/-S	0.0 usft	Northing:	1,805,497.39 usft	Latitude:	38° 0' 51.026 N
	+E/-W	0.0 usft	Easting:	945,503.39 usft	Longitude:	99° 46' 24.082 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	2,336.0 usft

Wellbore	Original Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/22/2012	5.68	65.79	52,208

Design	Original Wellbore				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	180.69	

Survey Program	Date	9/22/2012			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	837.0	Gyro Surveys (Original Wellbore)	NS-GYRO-SS	NS Gyro single shots	
875.0	9,193.0	MWD Surveys (Original Wellbore)	MWD	MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
837.0	0.49	186.30	837.0	2.6	-4.8	-2.5	0.00	0.00	0.00	
875.0	0.50	173.50	875.0	2.3	-4.8	-2.2	0.29	0.03	-33.68	
First MWD Survey										
967.0	0.50	182.90	967.0	1.5	-4.8	-1.4	0.09	0.00	10.22	
1,059.0	0.60	200.50	1,059.0	0.6	-5.0	-0.6	0.21	0.11	19.13	
1,151.0	0.50	193.50	1,151.0	-0.2	-5.3	0.3	0.13	-0.11	-7.61	
1,243.0	0.60	184.40	1,243.0	-1.1	-5.4	1.1	0.14	0.11	-9.89	
1,335.0	0.70	194.80	1,334.9	-2.1	-5.6	2.2	0.17	0.11	11.30	
1,428.0	0.70	190.90	1,427.9	-3.2	-5.8	3.3	0.05	0.00	-4.19	
1,520.0	0.60	8.60	1,519.9	-3.3	-5.9	3.4	1.41	-0.11	193.15	

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Well:	Imel #1-31H	North Reference:	Grid
Wellbore:	Original Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	Original Wellbore	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
1,612.0	0.40	8.20	1,611.9	-2.5	-5.8	2.6	0.22	-0.22	-0.43	
1,705.0	0.50	5.40	1,704.9	-1.8	-5.7	1.8	0.11	0.11	-3.01	
1,797.0	0.50	6.50	1,796.9	-1.0	-5.6	1.0	0.01	0.00	1.20	
1,890.0	0.40	341.30	1,889.9	-0.3	-5.6	0.3	0.24	-0.11	-27.10	
1,983.0	0.50	344.50	1,982.9	0.4	-5.9	-0.4	0.11	0.11	3.44	
2,074.0	0.60	355.40	2,073.9	1.3	-6.0	-1.2	0.16	0.11	11.98	
2,166.0	0.40	343.20	2,165.9	2.1	-6.1	-2.0	0.25	-0.22	-13.26	
2,258.0	0.20	356.50	2,257.9	2.5	-6.2	-2.5	0.23	-0.22	14.46	
2,350.0	0.40	341.90	2,349.9	3.0	-6.3	-2.9	0.23	0.22	-15.87	
2,442.0	0.40	332.40	2,441.9	3.6	-6.6	-3.5	0.07	0.00	-10.33	
2,535.0	0.50	327.60	2,534.9	4.2	-7.0	-4.2	0.11	0.11	-5.16	
2,630.0	0.40	337.70	2,629.9	4.9	-7.3	-4.8	0.13	-0.11	10.63	
2,725.0	0.40	343.70	2,724.9	5.5	-7.5	-5.4	0.04	0.00	6.32	
2,819.0	0.40	321.60	2,818.9	6.1	-7.8	-6.0	0.16	0.00	-23.51	
2,914.0	0.40	334.10	2,913.9	6.6	-8.2	-6.5	0.09	0.00	13.16	
3,009.0	0.40	331.50	3,008.9	7.2	-8.5	-7.1	0.02	0.00	-2.74	
3,103.0	0.50	316.00	3,102.9	7.8	-8.9	-7.7	0.17	0.11	-16.49	
3,198.0	0.60	312.90	3,197.9	8.5	-9.6	-8.3	0.11	0.11	-3.26	
3,292.0	0.50	332.20	3,291.9	9.2	-10.1	-9.0	0.22	-0.11	20.53	
3,386.0	0.80	324.80	3,385.9	10.1	-10.7	-9.9	0.33	0.32	-7.87	
3,481.0	0.70	205.80	3,480.9	10.1	-11.3	-9.9	1.36	-0.11	-125.26	
3,575.0	0.60	202.40	3,574.9	9.1	-11.8	-9.0	0.11	-0.11	-3.62	
3,669.0	0.60	92.40	3,668.9	8.6	-11.5	-8.5	1.05	0.00	-117.02	
3,763.0	1.50	135.00	3,762.8	7.7	-10.1	-7.6	1.21	0.96	45.32	
3,858.0	1.50	145.50	3,857.8	5.8	-8.5	-5.7	0.29	0.00	11.05	
3,953.0	1.50	163.40	3,952.8	3.6	-7.5	-3.5	0.49	0.00	18.84	
4,047.0	1.10	182.30	4,046.8	1.5	-7.1	-1.4	0.62	-0.43	20.11	
4,099.0	3.70	184.30	4,098.7	-0.6	-7.3	0.7	5.00	5.00	3.85	
4,130.0	8.40	182.10	4,129.5	-3.9	-7.4	4.0	15.18	15.16	-7.10	
4,161.0	12.70	178.60	4,160.0	-9.6	-7.4	9.7	14.02	13.87	-11.29	
4,193.0	16.20	177.60	4,191.0	-17.6	-7.2	17.6	10.96	10.94	-3.13	
4,224.0	19.50	177.60	4,220.5	-27.0	-6.8	27.1	10.65	10.65	0.00	
4,256.0	21.70	178.70	4,250.4	-38.3	-6.4	38.4	6.98	6.88	3.44	
4,287.0	23.90	181.50	4,279.0	-50.3	-6.4	50.4	7.91	7.10	9.03	
4,319.0	26.90	182.30	4,307.9	-64.0	-6.9	64.1	9.44	9.38	2.50	
4,350.0	29.70	182.70	4,335.2	-78.7	-7.6	78.8	9.05	9.03	1.29	
4,382.0	31.90	183.30	4,362.7	-95.1	-8.4	95.2	6.94	6.88	1.88	
4,413.0	35.20	183.10	4,388.5	-112.2	-9.4	112.3	10.65	10.65	-0.65	
4,445.0	38.70	183.00	4,414.1	-131.4	-10.4	131.5	10.94	10.94	-0.31	
4,477.0	41.10	182.70	4,438.6	-151.9	-11.4	152.0	7.52	7.50	-0.94	
4,508.0	45.10	181.30	4,461.3	-173.0	-12.1	173.2	13.27	12.90	-4.52	
4,539.0	49.40	179.80	4,482.3	-195.8	-12.3	195.9	14.32	13.87	-4.84	
4,571.0	54.50	178.70	4,502.0	-221.0	-12.0	221.1	16.17	15.94	-3.44	

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Well:	Imel #1-31H	North Reference:	Grid
Wellbore:	Original Wellbore	Survey Calculation Method:	Minimum Curvature
Design:	Original Wellbore	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,602.0	58.00	179.30	4,519.3	-246.7	-11.6	246.9	11.40	11.29	1.94	
4,634.0	58.50	180.00	4,536.1	-274.0	-11.4	274.1	2.43	1.56	2.19	
4,665.0	59.00	180.20	4,552.2	-300.5	-11.4	300.6	1.70	1.61	0.65	
4,697.0	59.50	180.30	4,568.5	-328.0	-11.6	328.1	1.59	1.56	0.31	
4,728.0	62.00	180.30	4,583.7	-355.0	-11.7	355.1	8.06	8.06	0.00	
4,760.0	66.70	180.50	4,597.5	-383.8	-11.9	384.0	14.70	14.69	0.63	
4,792.0	70.00	180.80	4,609.3	-413.6	-12.2	413.7	10.35	10.31	0.94	
4,823.0	72.30	180.70	4,619.3	-442.9	-12.6	443.0	7.43	7.42	-0.32	
4,854.0	74.40	181.10	4,628.2	-472.6	-13.1	472.7	6.89	6.77	1.29	
4,886.0	75.60	180.70	4,636.5	-503.5	-13.6	503.6	3.94	3.75	-1.25	
4,917.0	78.40	180.00	4,643.5	-533.7	-13.8	533.8	9.30	9.03	-2.26	
4,948.0	80.00	180.30	4,649.3	-564.2	-13.8	564.3	5.25	5.16	0.97	
4,980.0	80.40	180.30	4,654.7	-595.7	-14.0	595.8	1.25	1.25	0.00	
5,011.0	82.20	180.00	4,659.4	-626.3	-14.1	626.5	5.88	5.81	-0.97	
5,043.0	85.30	179.20	4,662.9	-658.1	-13.9	658.3	10.00	9.69	-2.50	
5,074.0	88.30	178.90	4,664.6	-689.1	-13.4	689.2	9.73	9.68	-0.97	
5,106.0	89.10	179.30	4,665.4	-721.1	-12.8	721.2	2.79	2.50	1.25	
5,137.0	89.70	179.30	4,665.7	-752.1	-12.5	752.2	1.94	1.94	0.00	
5,169.0	90.20	179.40	4,665.7	-784.1	-12.1	784.2	1.59	1.56	0.31	
5,264.0	90.60	178.90	4,665.1	-879.1	-10.7	879.1	0.67	0.42	-0.53	
5,356.0	91.30	178.60	4,663.5	-971.0	-8.7	971.1	0.83	0.76	-0.33	
5,449.0	90.20	179.80	4,662.3	-1,064.0	-7.4	1,064.0	1.75	-1.18	1.29	
5,541.0	90.10	179.30	4,662.1	-1,156.0	-6.7	1,156.0	0.55	-0.11	-0.54	
5,633.0	88.60	180.10	4,663.1	-1,248.0	-6.2	1,248.0	1.85	-1.63	0.87	
5,725.0	87.60	181.50	4,666.2	-1,339.9	-7.5	1,339.9	1.87	-1.09	1.52	
5,817.0	88.80	182.00	4,669.1	-1,431.8	-10.3	1,431.9	1.41	1.30	0.54	
5,909.0	89.40	182.20	4,670.5	-1,523.8	-13.7	1,523.8	0.69	0.65	0.22	
6,002.0	87.80	181.70	4,672.8	-1,616.7	-16.8	1,616.8	1.80	-1.72	-0.54	
6,094.0	88.60	181.60	4,675.7	-1,708.6	-19.5	1,708.7	0.88	0.87	-0.11	
6,186.0	88.40	180.80	4,678.1	-1,800.5	-21.4	1,800.7	0.90	-0.22	-0.87	
6,279.0	88.80	180.50	4,680.3	-1,893.5	-22.4	1,893.6	0.54	0.43	-0.32	
6,372.0	89.70	179.70	4,681.6	-1,986.5	-22.6	1,986.6	1.29	0.97	-0.86	
6,464.0	91.10	179.30	4,680.9	-2,078.5	-21.8	2,078.6	1.58	1.52	-0.43	
6,556.0	90.70	181.00	4,679.5	-2,170.5	-22.0	2,170.6	1.90	-0.43	1.85	
6,647.0	89.80	181.20	4,679.1	-2,261.5	-23.8	2,261.6	1.01	-0.99	0.22	
6,739.0	89.90	181.50	4,679.3	-2,353.4	-26.0	2,353.6	0.34	0.11	0.33	
6,832.0	90.70	181.30	4,678.8	-2,446.4	-28.2	2,446.6	0.89	0.86	-0.22	
6,924.0	89.20	180.30	4,678.9	-2,538.4	-29.5	2,538.6	1.96	-1.63	-1.09	
7,016.0	89.70	181.00	4,679.8	-2,630.4	-30.6	2,630.5	0.94	0.54	0.76	
7,111.0	88.80	181.40	4,681.0	-2,725.3	-32.5	2,725.5	1.04	-0.95	0.42	
7,205.0	89.40	181.40	4,682.5	-2,819.3	-34.8	2,819.5	0.64	0.64	0.00	
7,300.0	88.60	180.90	4,684.2	-2,914.3	-36.8	2,914.5	0.99	-0.84	-0.53	
7,395.0	88.50	180.40	4,686.6	-3,009.2	-37.8	3,009.5	0.54	-0.11	-0.53	

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Design:	Original Wellbore	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7,489.0	88.60	180.50	4,689.0	-3,103.2	-38.6	3,103.4	0.15	0.11	0.11	
7,584.0	89.50	180.60	4,690.5	-3,198.2	-39.5	3,198.4	0.95	0.95	0.11	
7,678.0	90.20	179.70	4,690.8	-3,292.2	-39.7	3,292.4	1.21	0.74	-0.96	
7,772.0	89.10	179.60	4,691.3	-3,386.2	-39.2	3,386.4	1.18	-1.17	-0.11	
7,867.0	89.30	179.80	4,692.7	-3,481.2	-38.7	3,481.4	0.30	0.21	0.21	
7,961.0	90.40	179.80	4,692.9	-3,575.2	-38.3	3,575.4	1.17	1.17	0.00	
8,056.0	89.10	179.50	4,693.3	-3,670.2	-37.7	3,670.3	1.40	-1.37	-0.32	
8,151.0	90.90	180.80	4,693.3	-3,765.1	-38.0	3,765.3	2.34	1.89	1.37	
8,245.0	90.50	181.00	4,692.2	-3,859.1	-39.5	3,859.3	0.48	-0.43	0.21	
8,340.0	89.60	181.10	4,692.1	-3,954.1	-41.2	3,954.3	0.95	-0.95	0.11	
8,434.0	87.00	181.50	4,694.9	-4,048.0	-43.3	4,048.3	2.80	-2.77	0.43	
8,529.0	87.70	182.40	4,699.3	-4,142.9	-46.6	4,143.1	1.20	0.74	0.95	
8,624.0	89.00	182.60	4,702.0	-4,237.7	-50.7	4,238.1	1.38	1.37	0.21	
8,718.0	89.60	180.70	4,703.2	-4,331.7	-53.4	4,332.0	2.12	0.64	-2.02	
8,813.0	89.80	180.00	4,703.7	-4,426.7	-54.0	4,427.0	0.77	0.21	-0.74	
8,907.0	88.80	179.80	4,704.8	-4,520.7	-53.8	4,521.0	1.08	-1.06	-0.21	
9,002.0	90.20	179.90	4,705.6	-4,615.7	-53.6	4,616.0	1.48	1.47	0.11	
9,097.0	91.40	179.70	4,704.3	-4,710.7	-53.3	4,711.0	1.28	1.26	-0.21	
Last MWD Survey										
9,193.0	91.40	179.70	4,702.0	-4,806.6	-52.8	4,806.9	0.00	0.00	0.00	
PTB										

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
875.0	875.0	2.3	-4.8	First MWD Survey
9,097.0	4,704.3	-4,710.7	-53.3	Last MWD Survey
9,193.0	4,702.0	-4,806.6	-52.8	PTB

Checked By: _____ Approved By: _____ Date: _____

Well Name: Imel Unit 1-31H

Contractor/Rig: Patterson-UTI 421

State: KS

County: Hodgeman

SHL: 200 FNL & 660 FEL

Township: 23S

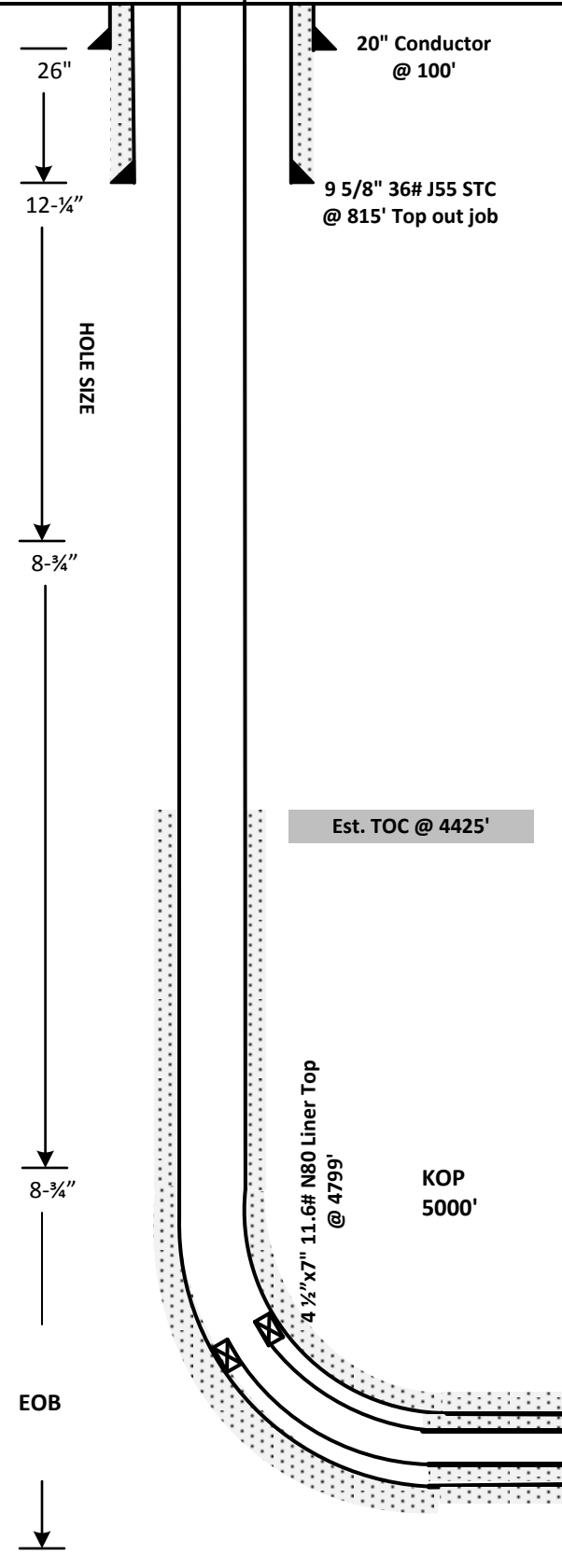
As Run

GL Elev: 2342 KB: 23 KB Elev:

BHL: 330' FSL & 660' FEL

AFE: 12-0147

Permit/API Number: 15-083-21784-01-00



Tubular Details

	20"	9 5/8"	7"	4-1/2"
Weight	94 lb/ft	36 lb/ft	26 lb/ft	15.10 lb/ft
Grade	X-42	J-55	P-110	N-80
Burst	3590 psi	3520 psi	9960 psi	10480 psi
Collapse	NA	2020 psi	6230 psi	11080 psi
Wall Thickness	0.438"	0.352"	0.724"	0.337"
ID	19.124"	8.921"	6.276"	3.826"
Setting Depth	100'	815'	5239'	9193'

Cement Details

Interval	Company	Excess	Est. Vol
Surface			
Intermediate			
Production Lead			
Production Tail			

See attachments for slurry details

4 1/2" 11.6# N80 LTC at 9193'

ALLIED OIL & GAS SERVICES, LLC KB 053454

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:
Liberel Ksc

DATE <u>06-20-12</u>	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION <u>12:00 PM</u>	JOB START <u>5:30 PM</u>	JOB FINISH <u>6:00 PM</u>
LEASE # <u>IMEL</u>	WELL # <u>1-314</u>		LOCATION <u>N. Dodge City.</u>			COUNTY <u>Hodgeman</u>	STATE <u>Ks.</u>
OLD OR <u>NEW</u> (Circle one)			AFE. <u>12-0147</u>				

CONTRACTOR TYPE OF JOB <u>Conductor</u> HOLE SIZE <u>2.8"</u> I.D. <u>100-foot</u> CASING SIZE <u>2.0"</u> DEPTH <u>100-foot</u> TUBING SIZE DEPTH DRILL PIPE DEPTH TOOL DEPTH PRES. MAX MINIMUM MEAS. LINE SHOE JOINT CEMENT LEFT IN CSG. PERFS. DISPLACEMENT	OWNER CEMENT AMOUNT ORDERED <u>266 sks Class A</u> <u>2 in Card</u> COMMON <u>253 sks Class A</u> @ <u>16.25</u> <u>4111.25</u> POZMIX @ GEL @ CHLORIDE <u>7</u> @ <u>58.20</u> <u>407.4</u> ASC @ @ @ @ @ @ @ @ @ HANDLING <u>253 sks</u> @ <u>2.25</u> <u>569.25</u> MILEAGE <u>56 x 253 = 12650</u> @ <u>-11</u> <u>1391.50</u> TOTAL <u>6479.40</u>
---	--

EQUIPMENT

Bob Ryan
 PUMP TRUCK CEMENTER David Mathis-R Chavez
 # 549/550 HELPER Lenny Beeza
 BULK TRUCK
 # 457/251 DRIVER R Chavez
 BULK TRUCK
 # 472-467 DRIVER A Tapia

REMARKS:

cost 3880 cement in cellar
13 SK CREDIT
Pumped 266 sks
-13 sks
253 sks
Thank You

SERVICE

DEPTH OF JOB	<u>100 feet</u>
PUMP TRUCK CHARGE	<u>1125.00</u>
EXTRA FOOTAGE	@
MILEAGE heavy	<u>100 @ 7.00 700.00</u>
MANIFOLD	@
light Vehc.	<u>100 @ 4.00 400.00</u>
	@

TOTAL 2225.00

CHARGE TO: TUG HILL
 STREET _____
 CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

_____	@ _____
_____	@ _____
_____	@ _____
_____	@ _____
_____	@ _____

TOTAL _____

To: Allied Oil & Gas Services, LLC.
 You are hereby requested to rent cementing equipment and furnish cement and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any) _____

TOTAL CHARGES 8704.40

DISCOUNT 5657.86 IF PAID IN 30 DAYS

PRINTED NAME Charles Parker 33
 SIGNATURE [Signature]

ALLIED CEMENTING CO., LLC. 32697

Federal Tax I.D.# 20-5976804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:

Medicine Lodge

DATE <u>9-7-12</u>	SEC <u>31</u>	TWP. <u>23s</u>	RANGE <u>22.W</u>	CALLED OUT AM <u>5:30</u>	ON LOCATION <u>9:30</u>	JOB START <u>4:00</u>	JOB FINISH <u>5:00</u>
LEASE <u>Time</u>	WELL # <u>1-3114</u>	LOCATION <u>E Set more to rd #225, S.S., NW</u>			COUNTY <u>Hodgman</u>	STATE <u>Ks</u>	
OLD OR <u>NEW</u> (Circle one)		<u>5' into</u>			<u>1.01</u>	<u>7.45</u>	

CONTRACTOR Patterson #172

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 855'

CASING SIZE 9 5/8 DEPTH 855'

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MBAS. LINE _____ SHOE JOINT 41.58'

CEMENT LEFT IN CSG. 41.87

PERFS. _____

DISPLACEMENT 62 3/4 Bbls.

EQUIPMENT

OWNER Tug Hill

CEMENT

AMOUNT ORDERED 200s class "A" + 3% CC + 2% Smst 2 1/2 gyp + 1/4" Flt Seal

150s class "A" + 2% CC

COMMON class "A" <u>250%</u>	<u>17.90</u>	<u>6265.00</u>
POZMIX _____	_____	_____
GEL _____	_____	_____
CHLORIDE _____	<u>10%</u>	<u>64.00</u>
ASC _____	_____	_____
Gyp Seal _____	<u>4%</u>	<u>97.00</u>
SMs _____	<u>3%</u>	<u>33.00</u>
Flt Seal _____	<u>50%</u>	<u>2.97</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
HANDLING <u>378 ft</u>	<u>2.48</u>	<u>937.44</u>
MILEAGE <u>17.3 x 35x</u>	<u>2.60</u>	<u>1574.30</u>
<u>6.05.5</u>	TOTAL	<u>10956.44</u>

PUMP TRUCK CEMENTER Ron Gilley 1

548-555 HELPER Eddie Piper 2

BULK TRUCK

421-252 DRIVER Bradon Boor 3

BULK TRUCK

_____ DRIVER _____

REMARKS:

See Cement Log

WELL # 1-3114

APR No. 12-2117

ACCT No. 83018

Signature John Johnston

Signature J.P. Hill

CHARGE TO: Tug Hill

STREET _____

CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB _____

PUMP TRUCK CHARGE _____ 2058.50

EXTRA FOOTAGE _____

MILEAGE 35 @ 7.70 269.50

MANIFOLD & Head _____

Light Veh. 35 @ 4.40 154.00

TOTAL 2757.00

9 5/8 PLUG & FLOAT EQUIPMENT

1- Rubber Plug _____ @ _____ 184.06

TOTAL 184.06

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME X John Johnston

SIGNATURE X J.P. Hill

SALES TAX (If Any) 6.12.90

TOTAL CHARGES \$13,898.30

DISCOUNT 35% 4864.40 IF PAID IN 30 DAYS

\$9033.90



Daily Drilling Report

12/4/2012 8:49 AM

Well Information

Well Imel Unit 1-31H			AFE Number 12-0147		Report Date 9/8/2012
Country USA	State KS	County Hodgeman	Field Unknown		Lease 200 FNL 660 FEL
API / IPO UWI Hodgeman			Orig KB Elev (ft)	Ground Elevation (ft) 2342.0	KB-GRD (ft) -2342.0
Qtr/Qtr, Block, Sec, Town, Range .31,23S,22W				Spud Date 9/6/2012	Rig Release Date 9/23/2012

Daily Operations

24 Hour Summary
 RUN GYRO. CIRC BOTTOMS UP. TOOH. RUN 20 JTS, 9 5/8" CASING, 36 #/FT LTC J-55. CEMENT WITH 200 SX CLASS A CEMENT WITH ADDITIVES. WOC. NIPPLE UP BOP

24 Hr Forecast
 TEST BOP. PICK UP DIRECTIONAL TOOLS. TIH. DRILL CEMENT AND 8 3/4" HOLE.

Operations At Report Time
 TEST BOP

Daily Total (Cost) \$38321.00	Cum Daily Total (cost) \$241469.00	Total AFE (Cost) \$0.00
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Daily Contacts

Wellsite Supervisor JOHN JOHNSTON	Supervisor Phone 580-309-3450
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Time Log

Start Time	End Time	Hours	Log Start Depth	Log End Depth	Activity Code	Description
6:00	6:30	0.50	855.0	855.0	USER	RUN GYRO
6:30	7:00	0.50	855.0	855.0	COND	CIRC BOTTOMS UP
7:00	9:00	2.00	855.0	855.0	TOH	TOH
9:00	9:30	0.50	855.0	855.0	LUBE	RIG SERVICE
9:30	11:00	1.50	855.0	855.0	RCSG	CALIBER CASING SAFETY MEETING; RUN 20 JTS 9 5/8" J-55, 36 #/FT LTC CASING TO 815'
11:00	14:30	3.50	855.0	855.0	RCSG	RUN 20 JTS 9 5/8" J-55, 36 #/FT, LTC CASING TO 815'
14:30	15:00	0.50	855.0	855.0	RCSG	RIG DOWN CASING CREW; RIG UP CEMENT HEAD
15:00	17:00	2.00	855.0	855.0	CMNT	ALLIED CEMENTERS SAFETY MEETING; PUMPED 200SX LEAD CLASS A W/ADDITIVES 11.4PPG AND 150SX CLASS A W/ADDITIVES 15.2PPG TAIL; CIRC
17:00	21:00	4.00	855.0	855.0	WOC	WOC, DRAIN CONDUCTOR, WASH OUT FLOWLINE RIG DON CEMENTERS
21:00	0:30	3.50	855.0	855.0	USER	CUT OFF CONDUCTOR, INSTALL WELLHEAD; CHANGE OUT BALES AND ELEVATORS
0:30	4:00	3.50	855.0	855.0	NUND	BOP RAM SAFETY MEETING, NIPPLE UP BOP
4:00	6:00	2.00	855.0	855.0	TEST	TEST BOP, CHOKE, AND LINES BACK TO PUMPS

Mud Checks

Type	Depth (ftKB) 855.0	Source	Density (lb/gal) 8.300	Funnel Viscosity (s/qt) 27.000	Filtrate (mL/30min)			
HTHP Filtrate (ml/30min)	Mud Lost Hole (bbl)	Mud Lost (Surf) (bbl)	PV(cp)	YP (lb/100ft²)	pH			
Vis 6rpm	Lime (lb/bbl)	Gel 30 min (lb/100ft²)	Gel 30 min (lb/100ft²)	Gel 10 sec (lb/100ft²)	Gel 10 min (lb/100ft²)			
Calcium (mg/L) 200.000	Ca CL (wt%)	Solids (%)	LGS (%)	Sand (%)	Percent Oil (%)	Oil Water Ratio	Electric Stab (V)	MBT (lb/bbl)

Bit Record

Bit Number	Size	Make	Model	Serial No.	Depth In	Depth Out	Footage
					0.0	In Hole	9,193.0

BHA

BHA #	Item Number	Component Type	OD	ID	Length	Cumulative Length	Fishing Neck	Top Connection

Drilling Parameters

ALLIED OIL & GAS SERVICES, LLC 053915

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:
Medicine Lodge KS

DATE <u>09/16/12</u>	SEC. <u>31</u>	TWP. <u>23s</u>	RANGE <u>22w</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <u>Incl</u>	WELL # <u>1-31H</u>	LOCATION <u>Hanston KS, 4mi West,</u>			COUNTY <u>Hodgeman</u>	STATE <u>KS</u>	
OLD OR NEW <u>(Circle one)</u>	Rd <u>225 South 5 mi, West 1/2 mi, South into</u>			1.08		7.45	

CONTRACTOR Patterson #172 OWNER Tug Hill

TYPE OF JOB Intermediate

HOLE SIZE 4 T.D. 5239

CASING SIZE 7 DEPTH 5240

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX 2000 MINIMUM

MEAS. LINE SHOE JOINT 41.7

CEMENT LEFT IN CSG. 41.7

PERFS.

DISPLACEMENT 203 BDL Fresh H₂O

CEMENT	AMOUNT ORDERED <u>300sx Class A + 2% Gyp + 2% SAs + 5% FL-160 + 1/4# Fluoroc + 1/4# Deborax, 225sx Class A + 5% salt + 2% Galt + 5% FL-160 + 1/4# Deborax</u>
COMMON <u>class A</u>	<u>525sx @ 17.90 9397.50</u>
POZMIX	@
GEL	<u>4sx @ 23.40 93.60</u>
CHLORIDE	@
ASC	@
Salt	<u>6sx @ 21.35 128.10</u>
FL-160	<u>247lb @ 18.90 4668.30</u>
Deborax	<u>131lbs @ 9.80 1283.90</u>
SAs	<u>544lbs @ 3.30 1816.20</u>
	@
	@
	@
HANDLING	<u>572 cu ft @ 2.48 1418.56</u>
MILEAGE	<u>910 mi @ 2.60 2366</u>

EQUIPMENT

PUMP TRUCK CEMENTER Jason Thimesch / #558/555

BULK TRUCK HELPER Duren Franklin / #421/252

BULK TRUCK DRIVER Joe Halcomb / #056/290

REMARKS:
Old not circ cement

910 TOTAL 21247.06

SERVICE

DEPTH OF JOB <u>5240</u>	
PUMP TRUCK CHARGE	<u>3099.25</u>
EXTRA FOOTAGE	@
MILEAGE	<u>35mi @ 7.70 269.50</u>
MANIFOLD + Head	@ <u>275</u>
LV	<u>35m @ 4.40 154</u>
	@

TOTAL 3797.75

CHARGE TO: Tug Hill

STREET _____

CITY _____ STATE _____ ZIP _____

AFE#12-0147
Code# 830,18

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PLUG & FLOAT EQUIPMENT

7" Tea Rubber Plug	<u>1 @ 99.45 99.45</u>
	@
	@
	@
	@

TOTAL 99.45

SALES TAX (If Any) 1308.36

TOTAL CHARGES 25144.26

DISCOUNT 35% 8800.49 IF PAID IN 30 DAYS

Not 16343.77

PRINTED NAME Lurtis Turner

SIGNATURE [Signature]



Daily Drilling Report

12/4/2012 8:49 AM

Well Information

Well Imel Unit 1-31H		AFE Number 12-0147		Report Date 9/17/2012	
Country USA	State KS	County Hodgeman	Field Unknown		Lease 200 FNL 660 FEL
API / IPO UWI Hodgeman		Orig KB Elev (ft)	Ground Elevation (ft) 2342.0		KB-GRD (ft) -2342.0
Qtr/Qtr, Block, Sec, Town, Range .31,23S,22W			Spud Date 9/6/2012		Rig Release Date 9/23/2012

Daily Operations

24 Hour Summary

RAN 127 JOINTS OF 7" 26# N-80 LTC CASING AND SET @ 5239'. CEMENTED W/ ALLIED CEMENTING, PUMP 300 SX LEAD CLASS A + 2% GYP + .85% FL-160 + 1/4# PS FLOSEAL & 1/4+ 1/4# PS OF DEFOAMER @ 11.4# AND YEILD 3.06, TAIL IN W/ 225 SX OF CLASS A +5% SALT , 2% GEL+.5% FL-160+# DEFOAMER. W/ YEILD OF 1.25 AND DENSITY OF 15#, FULL RETURNS DISPLACED HOLE W/ 203 BBL OF FRESH WATER. FULL RETURNS DURING JOB. PLUG DOWN @ 17:30,DID NOT CIRC. CEMENT TO SURFACE. BUMPED PLUG W/ 1300#, FLOAT EQIP. HELD. HANG 7" WITH GE LANDING JOINT.RIG DOWN ALLIED CEMENTERS. WOC, PICKUP LATERAL ASSEMBLY & TIH

24 Hr Forecast

TRIP IN HOLE W/ LATERAL ASSEMBLY AND DRILL LATERAL

Operations At Report Time

TRIPPING IN HOLE W/ LATERAL ASSEMBLY

Daily Total (Cost) \$221307.00	Cum Daily Total (cost) \$1038157.00	Total AFE (Cost) \$0.00
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Daily Contacts

Wellsite Supervisor CURTIS TURNER	Supervisor Phone 713-821-3942
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INVOICE

HALLIBURTON

Halliburton Energy Services, Inc.

Remit To: P.O. Box 203143, Houston, TX 77216-3143

Wire Transfer Information

Account Number: Account 00032969

ABA Routing Number: 021000089

Invoice Date: September 30, 2012

Invoice Number: 98930384

DIRECT CORRESPONDENCE TO:
 8590 COUNTY ROAD 12 1/2
 PAMPA, TX 79065
 US
 Tel: 806-665-0005
 Fax: 806-663-5491

Rig Name:
Well Name: TUG HILL IMEL1 31H,HODGEMAN
Ship to: JETMORE, KS 67854
 HODGEMAN
Job Date: September 23, 2012
Cust. PO No.: NA
Payment Terms: Net 30 days from Invoice date
Quote No.:

TO:
 TUG HILL OPERATING LLC - EBUS
 DONOTMAIL - 550 BAILEY AVE STE 510
 FORT WORTH TX 76107

Sales Order No.: 9834877
Manual Ticket No.:
Shipping Point: PAMPA Shipping Point
Ultimate Destination Country: US
Customer Account No.: 366546

Contract No.:
Contract from:
Contract to:

4 1/2 liner

Material	Description	QTY	UOM	Base Amount	Unit Amount	Gross Amount	Discount	Net Amount
7525	CMT PRODUCTION LINER BOM JP055	1.00	JOB					
2	MILEAGE FOR CEMENTING CREW,ZI 000-119 Number of Units	220.000 1	MI unit		5.76	1,267.20	925.06-	342.14
1	ZI-MILEAGE FROM NEAREST HES BA 000-117 Number of Units	220.000 1	MI unit		9.79	2,153.80	1,572.27-	581.53
16100	ZI CMTG LINER/SHORT CSG STRING 009-407 / CMTG LINER/SHORT CSG STRING,0-4HRS,ZI DEPTH FEET/METERS (FT/M)	1.000 9,200	EA FF		12,202.00	12,202.00	8,907.46-	3,294.54
141	RCM II W/ADC,/JOB,ZI 046-065 NUMBER OF UNITS	1.000 1	JOB each		1,990.00	1,990.00	1,452.70-	537.30
132	PORT. DAS W/CEMWIN;ACQUIRE W/H 045-050 NUMBER OF DAYS	1.000 1	JOB Days		1,649.00	1,649.00	1,203.77-	445.23
*452992	ECONOCEM (TM) SYSTEM CMT, EconoCem (TM) system	400.00	SK		27.82	11,128.00	8,123.44-	3,004.56
*100003682	BENTONITE CHEMICAL - BENTONITE (PER 100 LB)	8.000	SK		53.73	429.84	313.78-	116.06
*100001617	HALAD-9	179.000	LB		25.65	4,591.35	3,351.69-	1,239.66

INVOICE

Continuation

HALLIBURTON
Halliburton Energy Services, Inc.
Remit To: P.O. Box 203143, Houston, TX 77216-3143

Invoice Date: September 30, 2012

Invoice Number: 98930384

Material	Description	QTY	UOM	Base Amount	Unit Amount	Gross Amount	Discount	Net Amount
76400	ZI MILEAGE,CMT MTLs DEL/RET MI 500-306 / MILEAGE,CMT'G MTLs DEL/RET PER/TON MI.MIN NUMBER OF TONS	110.000	MI		3.35	6,894.64	5,033.09-	1,861.55
		18.71	ton					
3965	HANDLE&DUMP SVC CHRG. CMT&ADDI 500-207 NUMBER OF EACH	429.000	CF		5.49	2,355.21	1,719.30-	635.91
		1	each					
86954	ZI FUEL SURCHG-CARS/PICKUPS< 1 FUEL SURCHG-CARS/PICKUPS< 1 1/2TON/PER/MI Number of Units	220.000	MI		0.17	37.40		37.40
		1	unit					
86955	ZI FUEL SURCHG-HEAVY TRKS > 1 1 FUEL SURCHG-HEAVY TRKS > 1 1/2 TON/PER MI Number of Units	220.000	MI		0.51	112.20		112.20
		1	unit					
87605	ZI FUEL SURCHG-CMT & CMT ADDIT FUEL SURCHG-CMT & CMT ADDITIVES/PER TNM NUMBER OF TONS	110.000	MI		0.17	349.88		349.88
		18.71	ton					
372867	Cmt PSL - DOT Vehicle Charge. Cmt PSL - DOT Vehicle Charge, CMT	2.000	EA		241.00	482.00	351.86-	130.14
	Taxable							4,360.28
	Non-Taxable							8,327.82
	Total					45,642.52	32,954.42-	12,688.10
	Due on October 30, 2012					45,642.52	32,954.42-	12,688.10
	Sales Tax - State -KS							274.70
	Sales Tax - County -HODGEMAN							50.14
	Invoice Total							13,012.94
								US Dollars

Payment Terms:

If Customer does not have an approved open account with Halliburton, all sums are payable in cash at the time of performance of services or delivery of equipment, products, or materials. If Customer has an approved open account, invoices are payable based upon the payment terms stated on this invoice or as otherwise stated in the applicable Halliburton contract governing performance or delivery. Customer agrees to pay interest on any unpaid balance from the date payable until paid at the highest lawful contract rate applicable. In the event Halliburton employs an attorney for collection of any amount, Customer agrees to pay all reasonable and necessary attorney fees to recover the unpaid amount, plus all collection and court costs.

Edwin Garcia Phone: 9724183042 Cell: 9729838729



Daily Drilling Report

12/4/2012 8:49 AM

Well Information

Well Imel Unit 1-31H			AFE Number 12-0147		Report Date 9/23/2012	
Country USA	State KS	County Hodgeman	Field Unknown		Lease 200 FNL 660 FEL	
API / IPO UWI Hodgeman			Orig KB Elev (ft)	Ground Elevation (ft) 2342.0		KB-GRD (ft) -2342.0
Qtr/Qtr, Block, Sec, Town, Range .31,23S,22W				Spud Date 9/6/2012		Rig Release Date 9/23/2012

Daily Operations

24 Hour Summary
 RAN 114 JOINTS OF 4.5" 11.6# N-80 LINER, RIG DOWN LAYDOWN MACHINE, TIH W/ LINER, SET @ 4799'-9193', CIRC, RIG UP HALLIBURTON CEMENTERS, & CEMENT LINER W/ 400 SX ECOCEM, 2% BENTONITE, 0.5% HALAD, 13.8#, YIELD 1.47, DISPLACED W/ 109 BBL OF FRESH WATER. SET LINER PACKER. RIG DOWN HALLIBURTON, RIG UP LAYDOWN MACHINE AND LAYDOWN DRILLPIPE

24 Hr Forecast
 FINISH LAYING DOWN DRILLPIPE, NIPPLE DOWN, RIGDOWN TOPDRIVE, RIGDOWN RIG

Operations At Report Time
 LAYING DOWN DRILLPIPE

Daily Total (Cost) \$149867.00	Cum Daily Total (cost) \$1386727.00	Total AFE (Cost) \$0.00
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Daily Contacts

Wellsite Supervisor CURTIS TURNER	Supervisor Phone 713-821-3942
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Time Log

Start Time	End Time	Hours	Log Start Depth	Log End Depth	Activity Code	Description
6:00	6:30	0.50	9193.0	9193.0	LUBE	RIG SERVICE
6:30	13:00	6.50	9193.0	9193.0	TIH	RIGDOWN LAYDOWN MACHINE & TRIP IN WITH LINER
13:00	14:00	1.00	9193.0	9193.0	COND	CIRCULATE
14:00	17:30	3.50	9193.0	9193.0	CMNT	CEMENT LINER W/ HALLIBURTON
17:30	19:00	1.50	9193.0	9193.0	TEST	SET PACKER AND TEST, RIG DOWN CEMENTERS
19:00	6:00	11.00	9193.0	9193.0	POOH	LAYDOWN DRILLPIPE

Mud Checks

Type WATER	Depth (ftKB) 9193.0	Source SUCTION	Density (lb/gal) 8.600	Funnel Viscosity (s/qt) 28.000	Filtrate (mL/30min)			
HTHP Filtrate (ml/30min)		Mud Lost Hole (bbl) 540.000	Mud Lost (Surf) (bbl) 0.000	PV(cp)	YP (lb/100ft²) pH			
Vis 6rpm	Lime (lb/bbl)	Gel 30 min (lb/100ft²)	Gel 30 min (lb/100ft²)	Gel 10 sec (lb/100ft²)	Gel 10 min (lb/100ft²)			
Calcium (mg/L)	Ca CL (wt%)	Solids (%)	LGS (%)	Sand (%)	Percent Oil (%)	Oil Water Ratio	Electric Stab (V)	MBT (lb/bbl)

Bit Record

Bit Number	Size	Make	Model	Serial No.	Depth In	Depth Out	Footage
2	8.75	HUGHES	DPD505F	JG0936	855.0	4,090.0	3,235.0

BHA

BHA # 4	Item Number	Component Type	OD	ID	Length	Cumulative Length	Fishing Neck	Top Connection
	2	BHA	4.750		23.07	23.07		3.5 IFB
	3	BHA	4.688	2.313	5.46	28.53		3.5IFB
	4	BHA	4.625	2.250	2.69	31.22		3.5IFB
	5	BHA	4.750	2.688	31.00	62.22		3.5IFB
	6	BHA	4.813	2.688	30.82	93.04		3.5IFB
	7	BHA	4.688	2.250	1.79	94.83		4XT-39B
	8	BHA	4.875	2.563	2521.02	2615.85		4XT-39B
	9	BHA	4.875	2.000	10.91	2626.76		4XT-39B
	10	BHA	4.875	2.000	10.85	2637.61		4XT-39
	11	BHA	4.875	2.563	2583.07	5220.68		4XT-39
	12	BHA	4.875	2.563	1844.42	7065.10		4XT39

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

December 04, 2012

Winnie Scott
Tug Hill Operating, LLC
550 BAILEY AVE, STE 510
FT. WORTH, TX 76107

Re: ACO1
API 15-083-21784-01-00
Imel 1-31H
NE/4 Sec.31-23S-22W
Hodgeman County, Kansas

Dear Production Department:

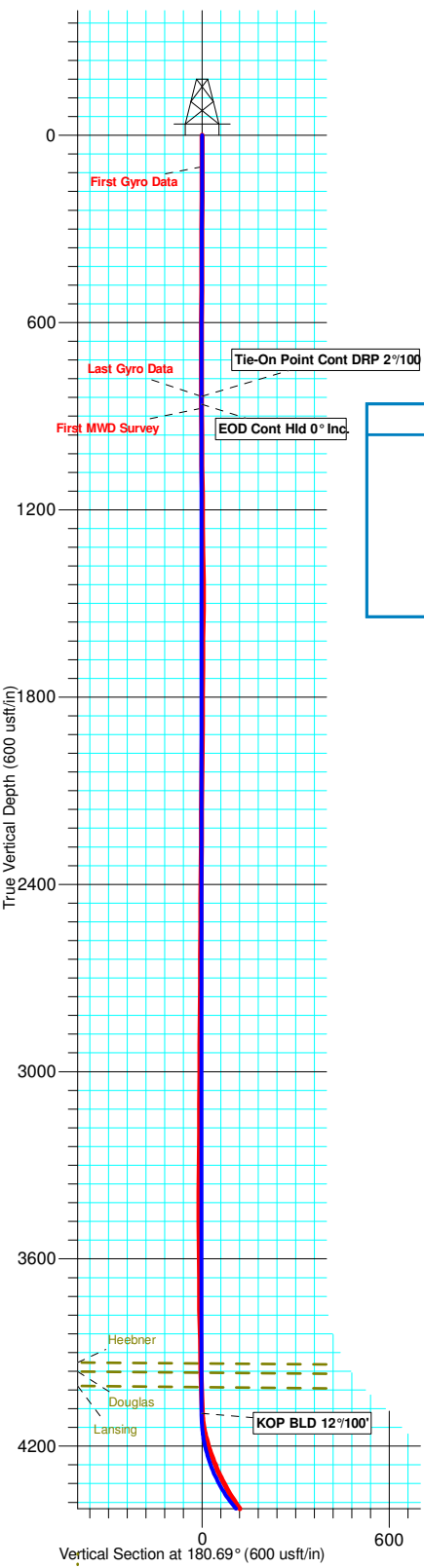
We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Winnie Scott



Tug Hill Operating LLC
 Project: Hodgeman County, Kansas (NAD 83)
 Site: Sec 31, T23S, R22W
 Well: Imel #1-31H
 Wellbore: Original Wellbore
 Design: Plan #4
 Lat: 38° 0' 51.026 N
 Long: 99° 46' 24.082 W
 Pad GL: 2336.0
 KB: WELL @ 2359.0usft

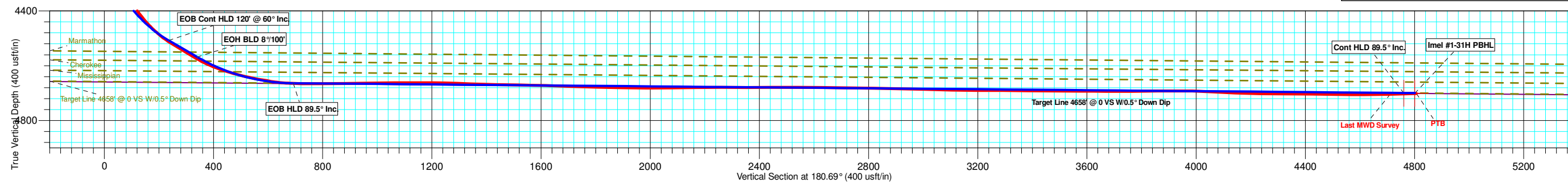
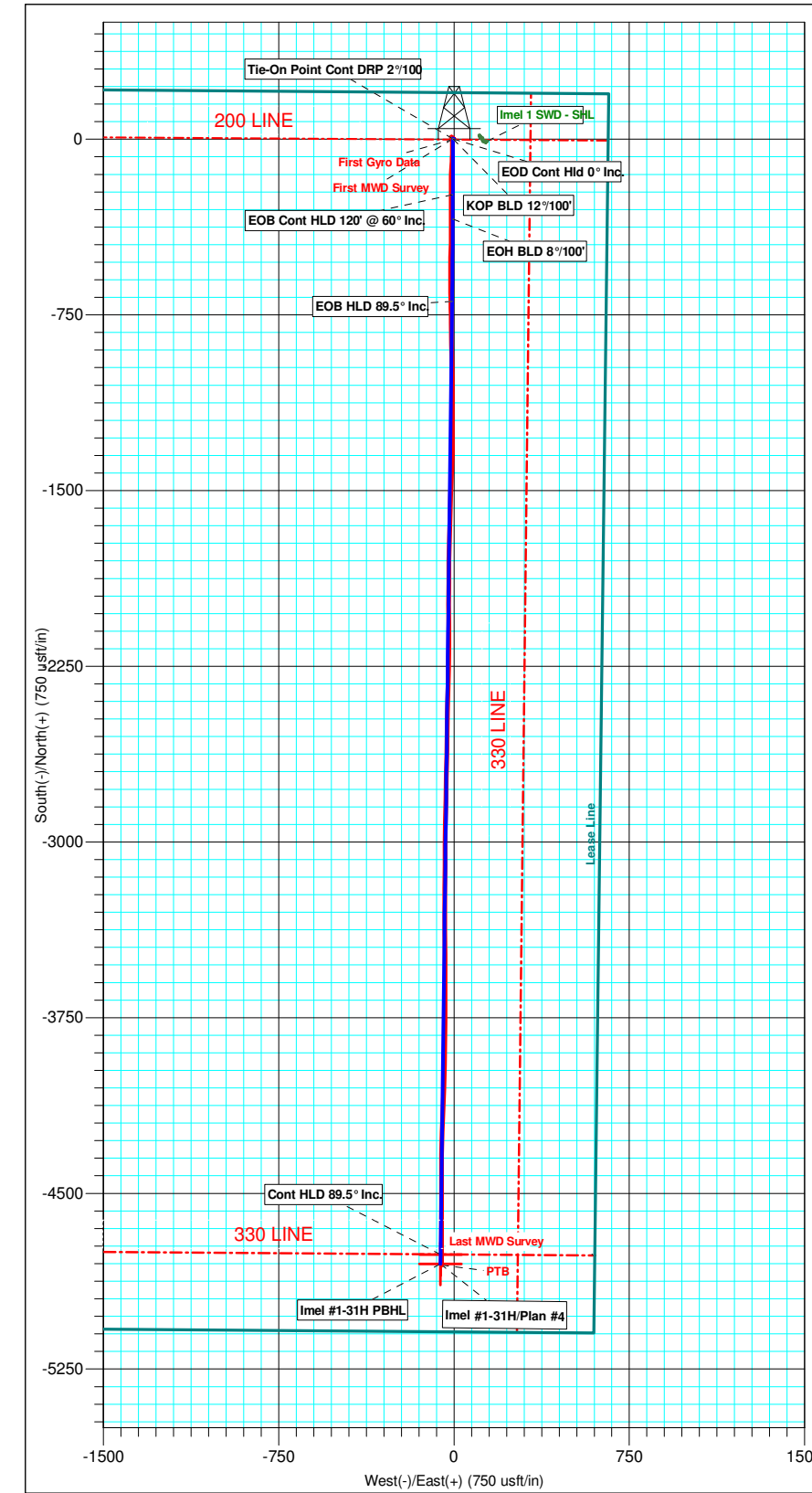
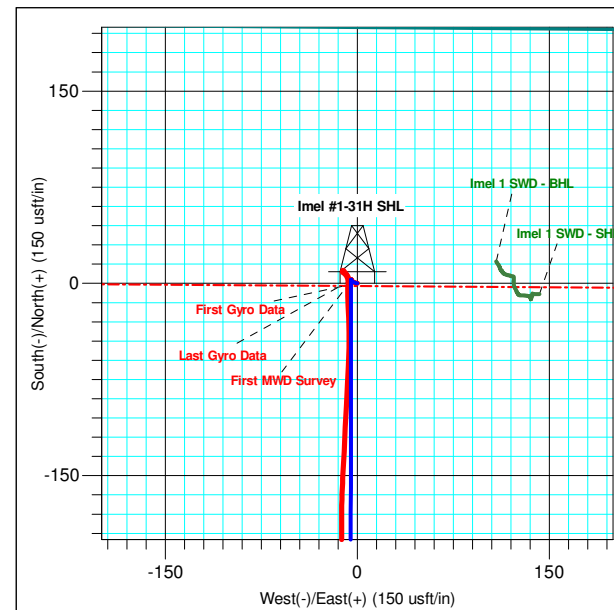
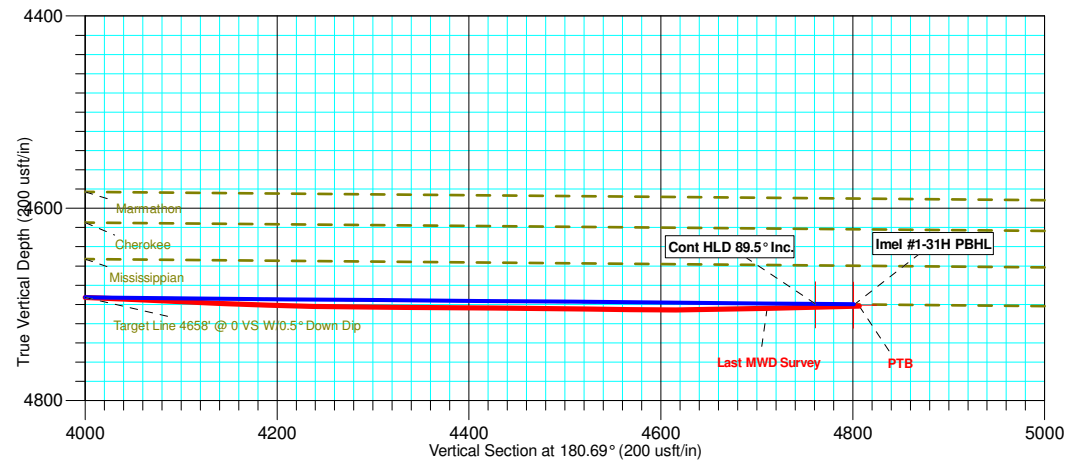


FORMATION TOP DETAILS				
TVDPath	MDPath	Formation	DipAngle	DipDir
3935.0	3935.0	Heebner	0.50	180.69
3964.0	3964.0	Douglas	0.50	180.69
4011.0	4011.0	Lansing	0.50	180.69
4550.7	4679.9	Marmathon	0.50	180.69
4583.2	4746.1	Cherokee	0.50	180.69
4622.0	4843.0	Mississippian	0.50	180.69
4699.5	9150.1	Target Line 4658' @ 0 VS W/0.5° Down Dip	0.50	180.69

WELL DETAILS: Imel #1-31H						
+N/-S	+E/-W	Northing	Ground Level:	2336.0	Latitude	Longitude
0.0	0.0	1805497.39	Easting	945503.39	38° 0' 51.026 N	99° 46' 24.082 W

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Cont HLD 89.5° Inc.	4700.5	-4760.7	-57.4	38° 0' 3.957 N	99° 46' 23.987 W
Imel #1-31H PBHL	4700.9	-4800.6	-57.9	38° 0' 3.562 N	99° 46' 23.986 W

SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSEct	Target	
837.0	0.49	186.30	837.0	2.6	-4.8	0.00	0.00	-2.5		
861.5	0.00	0.00	861.5	2.5	-4.9	2.00	180.00	-2.4		
4094.6	0.00	0.00	4094.6	2.5	-4.9	0.00	0.00	-2.4		
4594.6	60.00	180.10	4508.1	-236.2	-5.3	12.00	180.10	236.3		
4714.6	60.00	180.10	4568.1	-340.2	-5.5	0.00	0.00	340.2		
6 5083.4	89.50	180.69	4664.0	-692.1	-8.0	8.00	1.21	692.1	Cont HLD 89.5° Inc.	
7 9152.5	89.50	180.69	4699.5	-4760.7	-57.4	0.00	0.00	4761.0	Cont HLD 89.5° Inc.	
8 9192.5	89.50	180.69	4699.9	-4800.7	-57.9	0.00	0.00	4801.0		



Azimuths to Grid North
 True North: 0.78°
 Magnetic North: 6.46°

Magnetic Field Strength: 52207.7snT
 Dip Angle: 65.79°
 Date: 8/22/2012
 Model: IGRF2010