



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1107298  
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: \_\_\_\_\_



1107298

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

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <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> _____ <i>(Submit ACO-4)</i>	<b>PRODUCTION INTERVAL:</b> _____ _____
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## **Tug Hill Operating LLC**

Hodgeman County, Kansas (NAD 83)

Sec 20, T23S, R22W

Gleason # 1-20H

Original Wellbore

Survey: MWD Survey

## **Survey Report - Geographic**

14 November, 2012



<b>Company:</b>	Tug Hill Operating LLC	<b>Local Co-ordinate Reference:</b>	Site Sec 20, T23S, R22W
<b>Project:</b>	Hodgeman County, Kansas (NAD 83)	<b>TVD Reference:</b>	WELL @ 2355.0usft (Original Well Elev)
<b>Site:</b>	Sec 20, T23S, R22W	<b>MD Reference:</b>	WELL @ 2355.0usft (Original Well Elev)
<b>Well:</b>	Gleason # 1-20H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Original Wellbore	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Original Wellbore	<b>Database:</b>	EDM 5000.1 Single User Db

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

<b>Site</b>	Sec 20, T23S, R22W				
<b>Site Position:</b>		<b>Northing:</b>	1,811,134.42 usft	<b>Latitude:</b>	38° 1' 47.468 N
<b>From:</b>	Map	<b>Easting:</b>	950,852.94 usft	<b>Longitude:</b>	99° 45' 18.188 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	-0.77 °

<b>Well</b>	Gleason # 1-20H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	1,811,134.42 usft	<b>Latitude:</b>	38° 1' 47.468 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	950,852.94 usft	<b>Longitude:</b>	99° 45' 18.188 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	23.0 usft	<b>Ground Level:</b>	2,332.0 usft

<b>Wellbore</b>	Original Wellbore				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	10/23/2012	5.65	65.80	52,199

<b>Design</b>	Original Wellbore				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0		0.00

<b>Survey Program</b>	<b>Date</b>	11/14/2012			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.0	830.0	Gyro Survey (Original Wellbore)	NS-GYRO-SS	NS Gyro single shots	
897.0	9,144.0	MWD Survey (Original Wellbore)	MWD	MWD - Standard	

Measured Depth (usft)	Inclination	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
830.0	0.95	192.80	830.0	-5.4	1.1	1,811,128.96	950,854.01	38° 1' 47.414 N	99° 45' 18.174 W
897.0	0.40	223.20	897.0	-6.2	0.9	1,811,128.25	950,853.72	38° 1' 47.407 N	99° 45' 18.177 W
<b>First MWD Survey</b>									
991.0	0.30	226.10	991.0	-6.6	0.5	1,811,127.85	950,853.31	38° 1' 47.403 N	99° 45' 18.182 W
1,086.0	0.40	218.10	1,086.0	-7.0	0.1	1,811,127.42	950,852.92	38° 1' 47.398 N	99° 45' 18.187 W
1,180.0	0.20	218.60	1,180.0	-7.4	-0.2	1,811,127.04	950,852.61	38° 1' 47.395 N	99° 45' 18.191 W
1,274.0	0.40	193.30	1,274.0	-7.8	-0.4	1,811,126.59	950,852.42	38° 1' 47.390 N	99° 45' 18.193 W
1,366.0	0.50	179.20	1,366.0	-8.5	-0.5	1,811,125.88	950,852.35	38° 1' 47.383 N	99° 45' 18.194 W
1,459.0	0.60	173.10	1,459.0	-9.4	-0.4	1,811,124.99	950,852.40	38° 1' 47.374 N	99° 45' 18.193 W
1,551.0	0.40	170.10	1,551.0	-10.2	-0.3	1,811,124.19	950,852.50	38° 1' 47.367 N	99° 45' 18.192 W
1,643.0	0.40	181.70	1,643.0	-10.9	-0.3	1,811,123.55	950,852.54	38° 1' 47.360 N	99° 45' 18.191 W

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<b>Design:</b>	Original Wellbore	<b>Database:</b>	EDM 5000.1 Single User Db

Survey											
Measured Depth (usft)	Inclination (n)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude		
1,734.0	0.40	199.80	1,734.0	-11.5	-0.4	1,811,122.94	950,852.41	38° 1' 47.354 N	99° 45' 18.193 W		
1,826.0	0.40	186.90	1,825.9	-12.1	-0.5	1,811,122.32	950,852.26	38° 1' 47.348 N	99° 45' 18.194 W		
1,918.0	0.30	209.10	1,917.9	-12.6	-0.7	1,811,121.79	950,852.09	38° 1' 47.343 N	99° 45' 18.196 W		
2,011.0	0.20	212.40	2,010.9	-13.0	-0.9	1,811,121.45	950,851.88	38° 1' 47.339 N	99° 45' 18.199 W		
2,103.0	0.40	235.30	2,102.9	-13.3	-1.2	1,811,121.13	950,851.53	38° 1' 47.336 N	99° 45' 18.203 W		
2,195.0	0.30	293.80	2,194.9	-13.4	-1.7	1,811,121.05	950,851.04	38° 1' 47.335 N	99° 45' 18.209 W		
2,287.0	0.30	296.50	2,286.9	-13.2	-2.2	1,811,121.26	950,850.61	38° 1' 47.337 N	99° 45' 18.215 W		
2,380.0	0.40	281.50	2,379.9	-13.0	-2.7	1,811,121.44	950,850.08	38° 1' 47.339 N	99° 45' 18.221 W		
2,472.0	0.20	283.10	2,471.9	-12.9	-3.2	1,811,121.55	950,849.61	38° 1' 47.340 N	99° 45' 18.227 W		
2,564.0	0.70	9.60	2,563.9	-12.3	-3.2	1,811,122.14	950,849.55	38° 1' 47.346 N	99° 45' 18.228 W		
2,656.0	1.00	4.80	2,655.9	-11.0	-3.1	1,811,123.49	950,849.73	38° 1' 47.359 N	99° 45' 18.226 W		
2,748.0	0.80	5.50	2,747.9	-9.5	-2.9	1,811,124.93	950,849.88	38° 1' 47.374 N	99° 45' 18.225 W		
2,841.0	0.80	356.40	2,840.9	-8.2	-2.9	1,811,126.23	950,849.92	38° 1' 47.386 N	99° 45' 18.224 W		
2,932.0	1.00	355.30	2,931.9	-6.8	-3.0	1,811,127.65	950,849.83	38° 1' 47.400 N	99° 45' 18.226 W		
3,025.0	0.90	354.10	3,024.9	-5.3	-3.2	1,811,129.19	950,849.71	38° 1' 47.416 N	99° 45' 18.227 W		
3,118.0	0.90	3.80	3,117.9	-3.8	-3.2	1,811,130.64	950,849.71	38° 1' 47.430 N	99° 45' 18.228 W		
3,213.0	0.70	40.90	3,212.9	-2.6	-2.8	1,811,131.82	950,850.15	38° 1' 47.442 N	99° 45' 18.222 W		
3,307.0	0.40	46.50	3,306.9	-2.0	-2.1	1,811,132.47	950,850.77	38° 1' 47.448 N	99° 45' 18.215 W		
3,402.0	0.60	181.30	3,401.9	-2.2	-1.9	1,811,132.20	950,851.00	38° 1' 47.446 N	99° 45' 18.212 W		
3,497.0	0.40	180.30	3,496.9	-3.1	-1.9	1,811,131.37	950,850.98	38° 1' 47.437 N	99° 45' 18.212 W		
3,591.0	0.40	190.50	3,590.8	-3.7	-2.0	1,811,130.72	950,850.91	38° 1' 47.431 N	99° 45' 18.213 W		
3,685.0	0.40	221.00	3,684.8	-4.3	-2.3	1,811,130.16	950,850.62	38° 1' 47.425 N	99° 45' 18.216 W		
3,780.0	0.40	195.60	3,779.8	-4.9	-2.6	1,811,129.59	950,850.31	38° 1' 47.420 N	99° 45' 18.220 W		
3,875.0	0.50	310.90	3,874.8	-4.9	-3.0	1,811,129.55	950,849.91	38° 1' 47.419 N	99° 45' 18.225 W		
3,969.0	0.80	324.60	3,968.8	-4.1	-3.7	1,811,130.36	950,849.23	38° 1' 47.427 N	99° 45' 18.234 W		
4,064.0	4.10	349.50	4,063.7	-0.2	-4.7	1,811,134.26	950,848.27	38° 1' 47.465 N	99° 45' 18.246 W		
4,096.0	6.90	351.50	4,095.6	2.8	-5.2	1,811,137.29	950,847.82	38° 1' 47.495 N	99° 45' 18.252 W		
4,127.0	9.20	353.80	4,126.3	7.1	-5.7	1,811,141.60	950,847.34	38° 1' 47.538 N	99° 45' 18.259 W		
4,159.0	11.70	353.90	4,157.7	12.9	-6.3	1,811,147.38	950,846.79	38° 1' 47.595 N	99° 45' 18.267 W		
4,191.0	14.20	355.70	4,188.9	20.0	-7.0	1,811,154.53	950,846.25	38° 1' 47.666 N	99° 45' 18.275 W		
4,222.0	16.80	356.20	4,218.8	28.3	-7.5	1,811,162.80	950,845.78	38° 1' 47.747 N	99° 45' 18.282 W		
4,253.0	19.70	358.00	4,248.2	38.0	-8.0	1,811,172.50	950,845.43	38° 1' 47.843 N	99° 45' 18.288 W		
4,284.0	22.70	0.10	4,277.1	49.2	-8.2	1,811,183.71	950,845.41	38° 1' 47.954 N	99° 45' 18.290 W		
4,316.0	25.30	1.10	4,306.4	62.2	-8.1	1,811,196.72	950,845.73	38° 1' 48.083 N	99° 45' 18.289 W		
4,348.0	28.50	0.80	4,334.9	76.7	-7.8	1,811,211.19	950,846.16	38° 1' 48.226 N	99° 45' 18.286 W		
4,379.0	31.70	359.40	4,361.7	92.2	-7.8	1,811,226.73	950,846.39	38° 1' 48.379 N	99° 45' 18.285 W		
4,411.0	34.70	359.00	4,388.5	109.7	-8.0	1,811,244.25	950,846.38	38° 1' 48.553 N	99° 45' 18.288 W		
4,442.0	37.70	359.90	4,413.5	128.0	-8.2	1,811,262.55	950,846.45	38° 1' 48.734 N	99° 45' 18.291 W		
4,474.0	41.20	0.40	4,438.2	148.4	-8.2	1,811,282.88	950,846.78	38° 1' 48.934 N	99° 45' 18.290 W		
4,505.0	44.60	0.80	4,460.9	169.5	-7.9	1,811,303.97	950,847.29	38° 1' 49.143 N	99° 45' 18.287 W		
4,537.0	47.80	0.80	4,483.1	192.6	-7.6	1,811,327.06	950,847.92	38° 1' 49.371 N	99° 45' 18.283 W		
4,568.0	51.30	0.60	4,503.2	216.1	-7.3	1,811,350.64	950,848.53	38° 1' 49.605 N	99° 45' 18.279 W		
4,600.0	54.40	0.60	4,522.5	241.6	-7.1	1,811,376.13	950,849.14	38° 1' 49.857 N	99° 45' 18.276 W		
4,631.0	57.60	1.00	4,539.8	267.3	-6.7	1,811,401.82	950,849.84	38° 1' 50.111 N	99° 45' 18.272 W		
4,663.0	59.00	0.80	4,556.6	294.6	-6.3	1,811,429.03	950,850.64	38° 1' 50.380 N	99° 45' 18.266 W		
4,694.0	59.30	0.60	4,572.5	321.2	-5.9	1,811,455.64	950,851.32	38° 1' 50.643 N	99° 45' 18.262 W		
4,726.0	59.70	0.30	4,588.8	348.7	-5.7	1,811,483.20	950,851.91	38° 1' 50.915 N	99° 45' 18.259 W		
4,757.0	60.90	0.30	4,604.1	375.7	-5.6	1,811,510.13	950,852.41	38° 1' 51.182 N	99° 45' 18.258 W		
4,789.0	64.20	0.60	4,618.9	404.1	-5.4	1,811,538.51	950,853.02	38° 1' 51.462 N	99° 45' 18.255 W		
4,820.0	67.50	1.00	4,631.6	432.3	-5.0	1,811,566.79	950,853.80	38° 1' 51.742 N	99° 45' 18.250 W		
4,852.0	70.60	1.30	4,643.0	462.2	-4.4	1,811,596.65	950,854.80	38° 1' 52.037 N	99° 45' 18.242 W		
4,883.0	74.30	1.30	4,652.4	491.8	-3.7	1,811,626.18	950,855.87	38° 1' 52.329 N	99° 45' 18.234 W		
4,914.0	77.90	1.30	4,659.8	521.8	-3.0	1,811,656.25	950,856.95	38° 1' 52.627 N	99° 45' 18.226 W		
4,946.0	81.70	0.60	4,665.5	553.3	-2.5	1,811,687.72	950,857.90	38° 1' 52.938 N	99° 45' 18.219 W		
4,978.0	85.60	0.10	4,669.0	585.1	-2.3	1,811,719.51	950,858.52	38° 1' 53.252 N	99° 45' 18.217 W		

<b>Company:</b>	Tug Hill Operating LLC	<b>Local Co-ordinate Reference:</b>	Site Sec 20, T23S, R22W
<b>Project:</b>	Hodgeman County, Kansas (NAD 83)	<b>TVD Reference:</b>	WELL @ 2355.0usft (Original Well Elev)
<b>Site:</b>	Sec 20, T23S, R22W	<b>MD Reference:</b>	WELL @ 2355.0usft (Original Well Elev)
<b>Well:</b>	Gleason # 1-20H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Original Wellbore	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Original Wellbore	<b>Database:</b>	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (n)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,013.0	88.00	0.10	4,671.0	620.1	-2.2	1,811,754.45	950,859.05	38° 1' 53.598 N	99° 45' 18.216 W	
5,045.0	88.70	359.70	4,671.9	652.0	-2.3	1,811,786.44	950,859.43	38° 1' 53.914 N	99° 45' 18.217 W	
5,077.0	88.50	359.70	4,672.7	684.0	-2.5	1,811,818.43	950,859.69	38° 1' 54.230 N	99° 45' 18.219 W	
5,108.0	89.30	0.30	4,673.3	715.0	-2.5	1,811,849.42	950,860.11	38° 1' 54.537 N	99° 45' 18.219 W	
5,174.0	89.70	0.60	4,673.8	781.0	-1.9	1,811,915.40	950,861.51	38° 1' 55.189 N	99° 45' 18.212 W	
5,267.0	90.80	0.30	4,673.4	874.0	-1.2	1,812,008.38	950,863.49	38° 1' 56.109 N	99° 45' 18.203 W	
5,359.0	92.20	1.50	4,671.0	966.0	0.2	1,812,100.30	950,866.18	38° 1' 57.018 N	99° 45' 18.185 W	
5,451.0	89.10	359.90	4,670.0	1,057.9	1.4	1,812,192.25	950,868.54	38° 1' 57.927 N	99° 45' 18.171 W	
5,543.0	90.20	359.70	4,670.5	1,149.9	1.0	1,812,284.24	950,869.46	38° 1' 58.836 N	99° 45' 18.175 W	
5,635.0	92.90	0.40	4,668.1	1,241.9	1.1	1,812,376.19	950,870.77	38° 1' 59.746 N	99° 45' 18.174 W	
5,727.0	88.50	0.10	4,666.9	1,333.9	1.5	1,812,468.15	950,872.41	38° 2' 0.655 N	99° 45' 18.169 W	
5,818.0	88.50	359.60	4,669.3	1,424.8	1.3	1,812,559.11	950,873.40	38° 2' 1.554 N	99° 45' 18.172 W	
5,911.0	88.50	0.10	4,671.7	1,517.8	1.0	1,812,652.07	950,874.41	38° 2' 2.473 N	99° 45' 18.175 W	
6,003.0	89.60	359.40	4,673.3	1,609.8	0.6	1,812,744.06	950,875.24	38° 2' 3.383 N	99° 45' 18.180 W	
6,095.0	90.80	0.40	4,672.9	1,701.8	0.5	1,812,836.05	950,876.32	38° 2' 4.292 N	99° 45' 18.182 W	
6,187.0	92.00	0.60	4,670.7	1,793.8	1.3	1,812,927.99	950,878.36	38° 2' 5.201 N	99° 45' 18.172 W	
6,280.0	91.80	359.60	4,667.6	1,886.7	1.4	1,813,020.93	950,879.77	38° 2' 6.120 N	99° 45' 18.170 W	
6,373.0	93.50	0.60	4,663.3	1,979.6	1.6	1,813,113.82	950,881.19	38° 2' 7.039 N	99° 45' 18.168 W	
6,464.0	93.80	0.60	4,657.5	2,070.4	2.5	1,813,204.61	950,883.36	38° 2' 7.936 N	99° 45' 18.156 W	
6,557.0	90.70	0.10	4,653.9	2,163.3	3.1	1,813,297.50	950,885.18	38° 2' 8.855 N	99° 45' 18.149 W	
6,650.0	89.70	359.60	4,653.5	2,256.3	2.9	1,813,390.50	950,886.19	38° 2' 9.774 N	99° 45' 18.152 W	
6,740.0	90.20	359.60	4,653.6	2,346.3	2.2	1,813,480.49	950,886.77	38° 2' 10.664 N	99° 45' 18.160 W	
6,833.0	91.30	359.40	4,652.4	2,439.3	1.4	1,813,573.48	950,887.21	38° 2' 11.583 N	99° 45' 18.170 W	
6,927.0	90.30	359.40	4,651.1	2,533.3	0.4	1,813,667.47	950,887.49	38° 2' 12.513 N	99° 45' 18.182 W	
7,021.0	89.10	359.00	4,651.6	2,627.3	-0.9	1,813,761.47	950,887.44	38° 2' 13.442 N	99° 45' 18.199 W	
7,116.0	89.20	358.20	4,653.0	2,722.2	-3.2	1,813,856.45	950,886.40	38° 2' 14.381 N	99° 45' 18.228 W	
7,210.0	88.40	359.20	4,655.0	2,816.2	-5.3	1,813,950.43	950,885.53	38° 2' 15.309 N	99° 45' 18.254 W	
7,305.0	87.60	358.90	4,658.3	2,911.1	-6.9	1,814,045.37	950,885.24	38° 2' 16.248 N	99° 45' 18.274 W	
7,400.0	88.30	359.20	4,661.7	3,006.0	-8.5	1,814,140.31	950,884.94	38° 2' 17.186 N	99° 45' 18.294 W	
7,494.0	91.20	0.60	4,662.1	3,100.0	-8.6	1,814,234.29	950,886.04	38° 2' 18.116 N	99° 45' 18.296 W	
7,589.0	91.50	0.40	4,659.9	3,195.0	-7.8	1,814,329.24	950,888.15	38° 2' 19.054 N	99° 45' 18.285 W	
7,682.0	93.60	2.00	4,655.7	3,287.9	-5.9	1,814,422.08	950,891.34	38° 2' 19.973 N	99° 45' 18.261 W	
7,777.0	95.20	1.80	4,648.4	3,382.5	-2.7	1,814,516.69	950,895.76	38° 2' 20.909 N	99° 45' 18.222 W	
7,871.0	93.40	0.40	4,641.4	3,476.3	-0.9	1,814,610.37	950,898.82	38° 2' 21.835 N	99° 45' 18.199 W	
7,966.0	91.50	359.90	4,637.3	3,571.2	-0.7	1,814,705.27	950,900.34	38° 2' 22.773 N	99° 45' 18.196 W	
8,061.0	87.80	359.70	4,637.9	3,666.1	-1.0	1,814,800.25	950,901.29	38° 2' 23.712 N	99° 45' 18.200 W	
8,155.0	87.70	359.40	4,641.6	3,760.1	-1.7	1,814,894.17	950,901.82	38° 2' 24.641 N	99° 45' 18.210 W	
8,250.0	87.50	358.30	4,645.6	3,855.0	-3.6	1,814,989.09	950,901.19	38° 2' 25.579 N	99° 45' 18.233 W	
8,344.0	88.90	359.20	4,648.5	3,948.9	-5.7	1,815,083.03	950,900.41	38° 2' 26.508 N	99° 45' 18.259 W	
8,439.0	90.80	359.60	4,648.8	4,043.9	-6.7	1,815,178.03	950,900.69	38° 2' 27.447 N	99° 45' 18.271 W	
8,533.0	92.50	359.40	4,646.1	4,137.8	-7.5	1,815,271.98	950,901.13	38° 2' 28.376 N	99° 45' 18.282 W	
8,627.0	95.70	359.60	4,639.3	4,231.6	-8.3	1,815,365.73	950,901.58	38° 2' 29.302 N	99° 45' 18.292 W	
8,722.0	89.40	359.00	4,635.1	4,326.4	-9.5	1,815,460.59	950,901.69	38° 2' 30.240 N	99° 45' 18.306 W	
8,817.0	91.60	359.60	4,634.3	4,421.4	-10.6	1,815,555.58	950,901.81	38° 2' 31.179 N	99° 45' 18.321 W	
8,911.0	92.80	359.00	4,630.7	4,515.3	-11.8	1,815,649.51	950,901.93	38° 2' 32.108 N	99° 45' 18.335 W	
9,006.0	89.40	1.70	4,628.9	4,610.3	-11.2	1,815,744.45	950,903.79	38° 2' 33.046 N	99° 45' 18.328 W	
<b>Last MWD Survey</b>										
9,144.0	89.40	1.70	4,630.3	4,748.2	-7.1	1,815,882.31	950,909.74	38° 2' 34.410 N	99° 45' 18.277 W	
<b>PTB - TD</b>										

<b>Company:</b>	Tug Hill Operating LLC	<b>Local Co-ordinate Reference:</b>	Site Sec 20, T23S, R22W
<b>Project:</b>	Hodgeman County, Kansas (NAD 83)	<b>TVD Reference:</b>	WELL @ 2355.0usft (Original Well Elev)
<b>Site:</b>	Sec 20, T23S, R22W	<b>MD Reference:</b>	WELL @ 2355.0usft (Original Well Elev)
<b>Well:</b>	Gleason # 1-20H	<b>North Reference:</b>	True
<b>Wellbore:</b>	Original Wellbore	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Original Wellbore	<b>Database:</b>	EDM 5000.1 Single User Db

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
897.0	897.0	-6.2	0.9	First MWD Survey
9,006.0	4,628.9	4,610.3	-11.2	Last MWD Survey
9,144.0	4,630.3	4,748.2	-7.1	PTB - TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



**Tug Hill Operating LLC**  
 Project: Hodgeman County, Kansas (NAD 83)  
 Site: Sec 20, T23S, R22W  
 Well: Gleason # 1-20H  
 Wellbore: Original Wellbore  
 Design: Plan #6  
 Lat: 38° 1' 47.468 N  
 Long: 99° 45' 18.188 W  
 Pad GL: 2332.0  
 KB: WELL @ 2355.0usft (Original Well Elev)



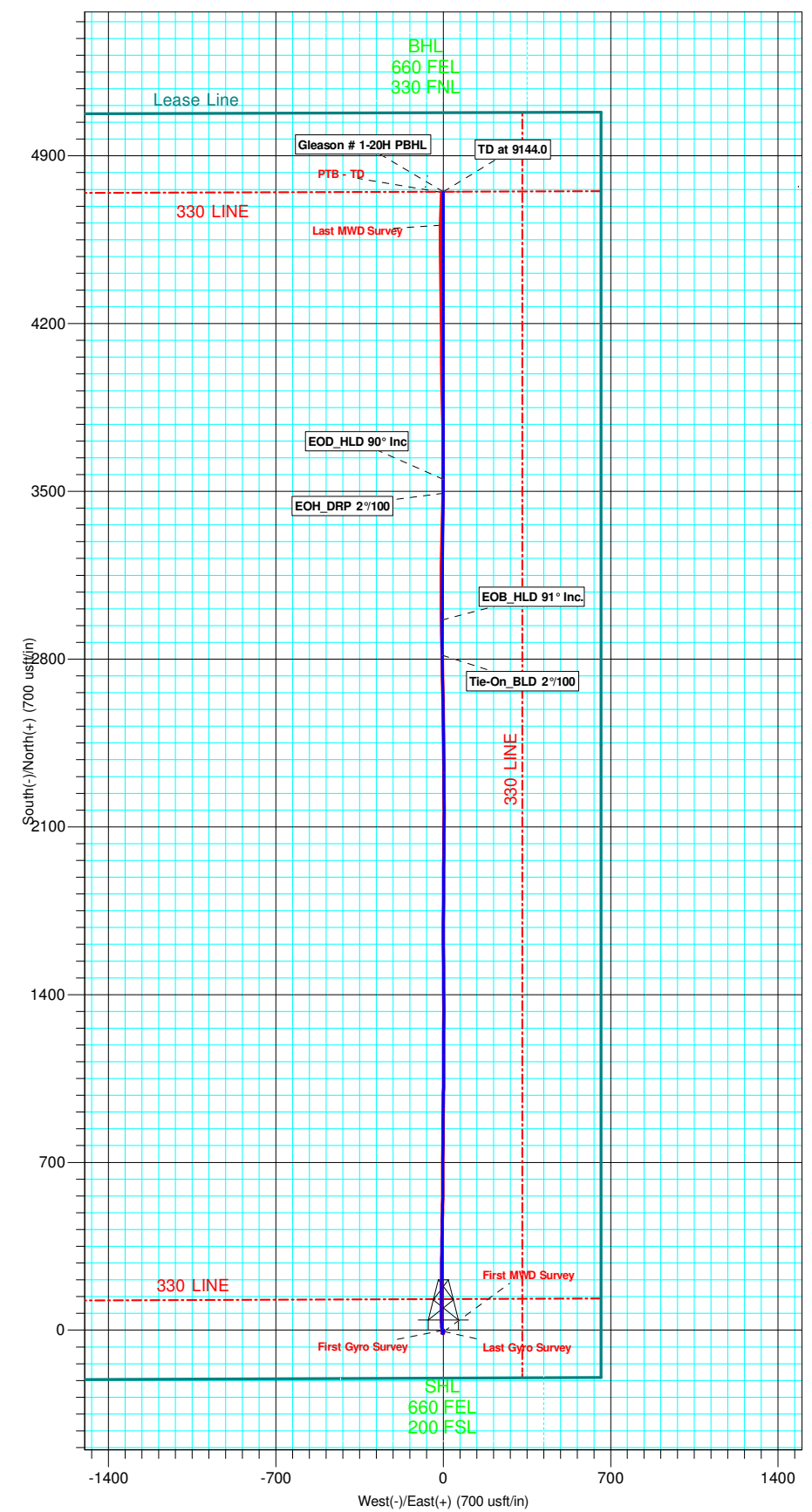
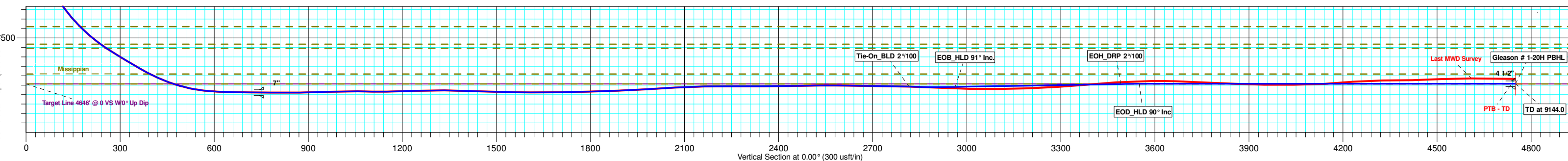
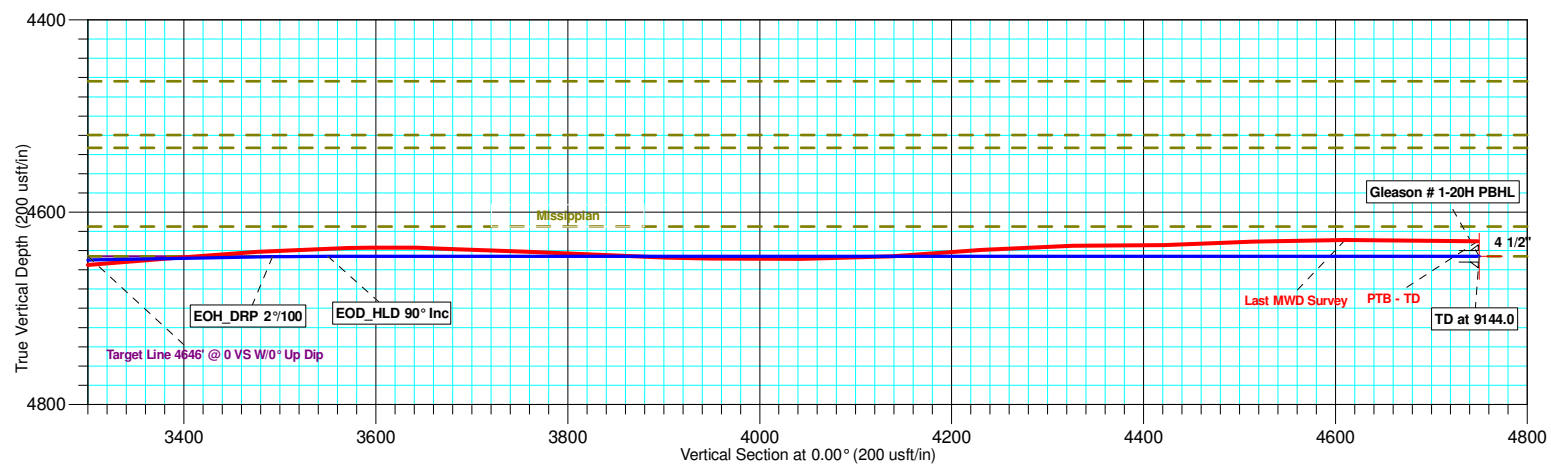
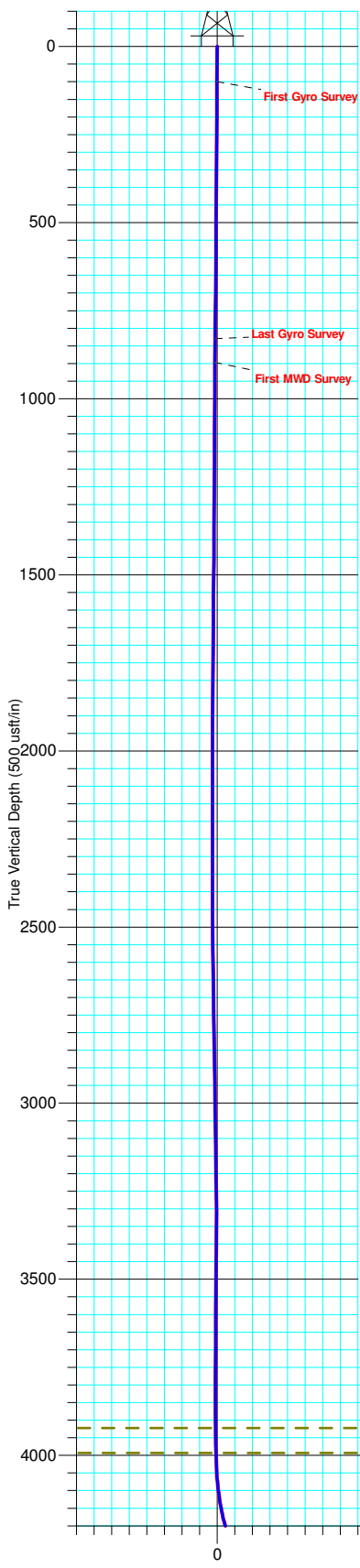
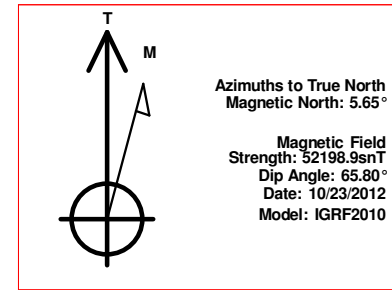
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
7210.0	88.40	359.20	4655.0	2816.2	-5.3	0.00	0.00	2816.2	
7357.2	91.00	0.58	4655.7	2963.3	-5.6	2.00	27.96	2963.3	
7886.2	91.00	0.58	4646.5	3492.2	-0.2	0.00	0.00	3492.2	
7944.1	90.00	360.00	4646.0	3550.1	0.0	2.00	-149.71	3550.1	Gleason # 1-20H PBHL
9144.0	90.00	360.00	4646.0	4750.0	0.0	0.00	0.00	4750.0	Gleason # 1-20H PBHL

WELL DETAILS: Gleason # 1-20H						
+N/-S	+E/-W	Northing	Ground Level: Easting	2332.0	Latitude	Longitude
0.0	0.0	1811134.42	950852.94		38° 1' 47.468 N	99° 45' 18.188 W

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Gleason # 1-20H PBHL	4646.0	0.0	0.0	38° 2' 34.428 N	99° 45' 18.188 W

FORMATION TOP DETAILS					
TVDPath	MDPath	Formation	DipAngle	DipDir	
3922.0	3922.2	Heebner	0.00	0.00	
3994.0	3994.2	Lansing	0.00	0.00	
4464.0	4509.3	Pawnee	0.00	0.00	
4520.0	4595.7	Fort Scott	0.00	0.00	
4533.0	4618.5	Cherokee	0.00	0.00	
4615.0	4780.2	Mississippian	0.00	0.00	
4646.0	4861.3	Target Line 4646' @ 0 VS W/0° Up Dip	0.00	0.00	

CASING DETAILS				
TVD	MD	Name	Size	
4673.7	5150.0	7"	7"	
4646.0	9143.2	4 1/2"	4-1/2"	





Well Name: Gleason Unit 1-20H

Contractor/Rig: Patterson-UTI 421

State: KS

County: Hodgeman

As Run

SHL: 200 FSL & 660 FEL

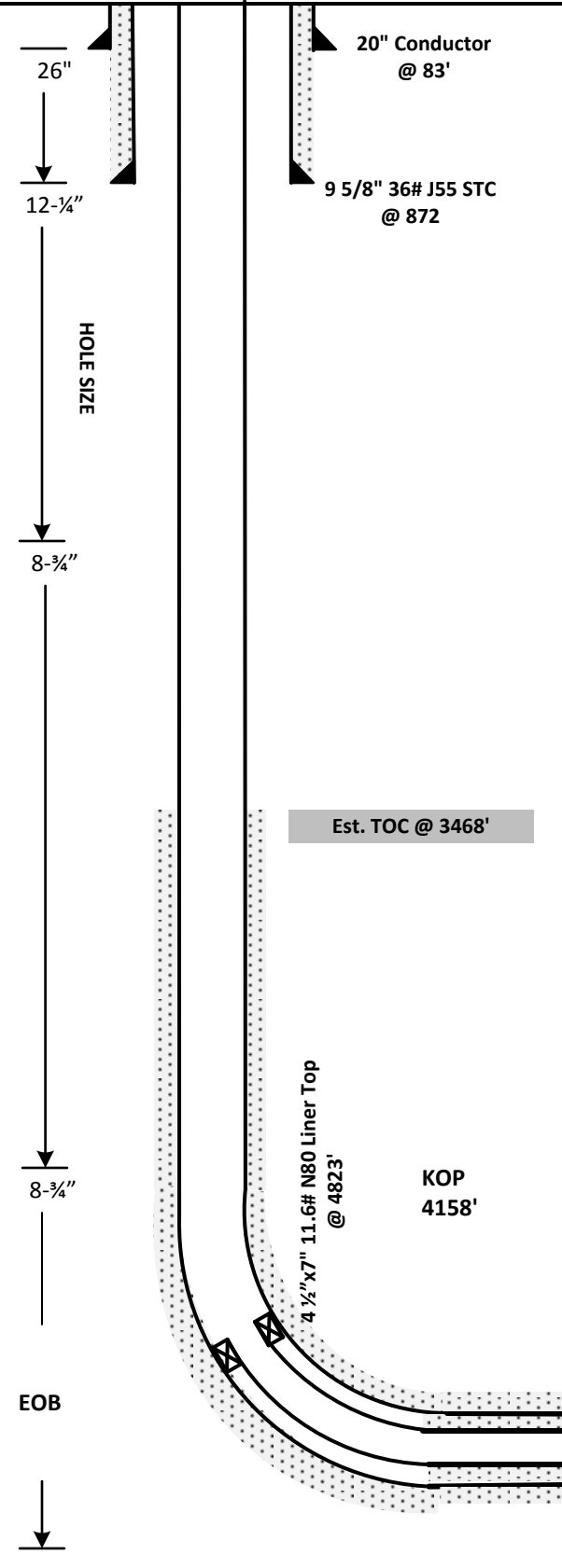
Township:

GL Elev: 2332 KB: 23 KB Elev:

BHL: 330' FNL & 660' FEL

AFE: 12-0169

Permit/API Number: 15-083-21831-01-00



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	83'	872'	5148'	9138'

Cement Details

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

See attachments for slurry details

# ALLIED OIL & GAS SERVICES, LLC 053748

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:  
Grant, Be-JK)

DATE <u>10-18-12</u>	SEC. <u>20</u>	TWP. <u>23</u>	RANGE <u>22</u>	CALLED OUT	ON LOCATION	JOB START <u>4:00 PM</u>	JOB FINISH <u>4:30 PM</u>
LEASE <u>Gligson</u>		WELL # <u>1-20 H</u>		LOCATION <u>Hynston 4 west T0225</u>		COUNTY <u>Woodson</u>	STATE <u>KS</u>
OLD OR (NEW) (Circle one)			<u>4 1/2 South East T0</u>				

CONTRACTOR Edge  
 TYPE OF JOB Conductor  
 HOLE SIZE 14 T.D. 83  
 CASING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TUBING SIZE 2 inch DEPTH 83  
 DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_  
 PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_  
 MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_  
 CEMENT LEFT IN CSG. \_\_\_\_\_  
 PERFS. \_\_\_\_\_  
 DISPLACEMENT \_\_\_\_\_

OWNER Tug Hill  
 CEMENT AMOUNT ORDERED \_\_\_\_\_  
 COMMON 165 @ 17.90 2,953.50  
 POZMIX @ \_\_\_\_\_  
 GEL @ \_\_\_\_\_  
 CHLORIDE 4 @ 64.00 256.00  
 ASC @ \_\_\_\_\_

EQUIPMENT  
 PUMP TRUCK CEMENTER Wayne Davis  
 # 398 HELPER Bobba TSARC  
 BULK TRUCK # 344/170 DRIVER Dan Casper  
 BULK TRUCK # \_\_\_\_\_ DRIVER \_\_\_\_\_

HANDLING 170.49 @ 2.48 422.81  
 MILEAGE 7.91 x 35 x 2.60 719.81  
 TOTAL 4,352.22

REMARKS:  
Run 5BBHS Ahead freshwater  
mix 165 SK Class A + 2% gel  
fill casing with freshwater

SERVICE  
 DEPTH OF JOB 83  
 PUMP TRUCK CHARGE 1512.25  
 EXTRA FOOTAGE @ \_\_\_\_\_  
 MILEAGE HUM 35 @ 7.70 269.50  
 MANIFOLD HUM 35 @ 4.40 154.00  
 TOTAL 1,935.25

CHARGE TO: Tug Hill  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

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  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 TOTAL \_\_\_\_\_  
 SALES TAX (If Any) 239.11  
 TOTAL CHARGES 6,287.27  
 DISCOUNT 38% 2,389.39 IF PAID IN 30 DAYS  
3,898.88

PRINTED NAME Chase Bender  
 SIGNATURE CWB

# ALLIED OIL & GAS SERVICES, LLC 053939

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:

Medicine Lodge, KS

DATE <u>10/28/12</u>	SEC. <u>20</u>	TWP. <u>23s</u>	RANGE <u>22w</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <u>Gleason</u>	WELL # <u>1-20H</u>	LOCATION <u>Jetmore KS, 6 East to Rd</u>			COUNTY <u>Hodgeman</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)		<u>22S, 4 1/2 South, East into</u>				<u>1-01</u>	<u>7.45</u>

CONTRACTOR <u>Patterson</u>		OWNER <u>Tug Hill</u>
TYPE OF JOB <u>Surface</u>		
HOLE SIZE <u>12 1/4</u>	T.D. <u>876</u>	CEMENT
CASING SIZE <u>9 5/8</u>	DEPTH <u>872</u>	AMOUNT ORDERED <u>200.5x Class A + 3% cc + 2% cement + 2% Gyp seal + 4# Fiscal, 150.5x Class A + 2% cc + 50 lbs Sugar</u>
TUBING SIZE	DEPTH	
DRILL PIPE	DEPTH	
TOOL	DEPTH	
PRES. MAX <u>900</u>	MINIMUM	
MEAS. LINE	SHOE JOINT <u>42</u>	COMMON <u>Class A 350.5x @ 17.90 6265</u>
CEMENT LEFT IN CSG. <u>42</u>		POZMIX @
PERFS.		GEL @
DISPLACEMENT <u>64 1/2 BBLs fresh H<sub>2</sub>O</u>		CHLORIDE @ <u>10g 64 640</u>

EQUIPMENT	
PUMP TRUCK # <u>558/555</u>	CEMENTER <u>John Thinesch</u> / HELPER <u>Darin Franklin</u>
BULK TRUCK # <u>561/553</u>	DRIVER <u>Jake Heard</u> / <u>3</u>
BULK TRUCK # _____	DRIVER _____

ASC @		
Gyp seal	<u>4x @ 37.60</u>	<u>150.40</u>
SMS	<u>376 lbs @ 3.30</u>	<u>1240.80</u>
Ela seal	<u>50 lbs @ 2.97</u>	<u>148.50</u>
Sugar	<u>50 lbs @ 1</u>	<u>50</u>
HANDLING <u>378 cuft</u>	<u>@ 2.48</u>	<u>937.44</u>
MILEAGE <u>605.5 to mi</u>	<u>@ 2.60</u>	<u>1574.30</u>
TOTAL		<u>11006.44</u>

REMARKS:

**SERVICE**

DEPTH OF JOB <u>872</u>	
PUMP TRUCK CHARGE	<u>2058.50</u>
EXTRA FOOTAGE @	
MILEAGE <u>35mi @ 7.70</u>	<u>269.50</u>
MANIFOLD <u>+ Head</u>	<u>275</u>
LV <u>35mi @ 4.40</u>	<u>154</u>
Derrick Charge @	<u>577.50</u>

TOTAL 3334.50

**PLUG & FLOAT EQUIPMENT**

@		
@		
@		
@		
@		

TOTAL \_\_\_\_\_

SALES TAX (If Any) <u>632.85</u>	
TOTAL CHARGES <u>19,340.94</u>	
DISCOUNT <u>35% 5019.33</u>	IF PAID IN 30 DAYS
Net <u>9321.61</u>	

Well Name Gleason 1-20H  
 AFE No. 12-0169  
 AGCNT No. 830.18  
 Name John Johnston  
 Signature [Signature]  
 CHARGE TO: Tug Hill  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

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.

PRINTED NAME \_\_\_\_\_  
 SIGNATURE \_\_\_\_\_

# ALLIED OIL & GAS SERVICES, LLC 059635

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT:  
MEDICINE LODGE JCC

DATE <u>11-5-2012</u>	SEC <u>20</u>	TWP <u>33S</u>	RANGE <u>22W</u>	CALLED OUT	ON LOCATION <u>12:30pm</u>	JOB START <u>6:00am</u>	JOB FINISH <u>7:00pm</u>
LEASE <u>Glendon Unit</u>	WELL# <u>1-20H</u>	LOCATION <u>Jamesmore KS east side 225</u>		COUNTY <u>Hobbsmen</u>	STATE <u>KS</u>		
OLD OR <u>NEW</u> (Circle one)		<u>2 1/2 south, east into</u>			<u>1.06</u>	<u>7.45</u>	

CONTRACTOR Dgatterson  
 TYPE OF JOB 7" Intermediate  
 HOLE SIZE 8 3/4 TD 5165'  
 CASING SIZE 7" 26# DEPTH 5144'  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX MINIMUM  
 MEAS. LINE SHOE JOINT 41  
 CEMENT LEFT IN CSG.  
 PERFS.  
 DISPLACEMENT 1974 bbls of Fresh water  
 EQUIPMENT

OWNER TUG H.11

CEMENT  
 AMOUNT ORDERED 240 sy C1955 @ + 2% 6yr  
2% 5% + 5% FL160 + 2.5% 20% 6yr  
1/4 # floater, 235 sy C1955 @ + 2.5% 20% 6yr  
+ 5% FL160 + 1/4 # deflater

COMMON C1955 @ 465 sy	@ 17.90	8323.50
POZMIX	@	
GEL 4 sy	@ 23.40	93.60
CHLORIDE	@	
ASC	@	
Cypses 5 sy	@ 37.60	188.00
SS1+ 12 sy	@ 26.35	316.20
FL160 176 #	@ 18.90	3,326.40
Deflater 65 #	@ 9.80	637.00
Sodium metasilicate 450 #	@ 3.30	1485.00
Floater 70 #	@ 2.97	207.90
	@	
	@	
HANDLING 510.60 cwt	@ 2.44	1266.24
MILEAGE 815.50 @ 2.60		2120.30
TOTAL		17,964.19

PUMP TRUCK CEMENTER Darin F. 1  
 #558-555 HELPER Ron G. 1 Darin F. 1  
 BULK TRUCK  
 #421-252 DRIVER Justin Banks 2  
 BULK TRUCK  
 # DRIVER

REMARKS:  
Pipe on bottom & break circulation, pump  
10 bbls water, mix 240 sy loss cement  
mix 235 sy 2.5% cement, shut down  
Release plus, 8 sy displacement  
lift pressure to 1.50 bbls, slow rate to  
3 bpm @ 1.85 bbls, bump plus @ 1974 bbls  
900-1400 psi, float die hold

CHARGE TO: TUG H.11  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_  
 Well Name Glendon 1-20H  
 AFE No. 12-0169  
 ACCT No. 33018  
 Name John Johnston 2"  
 Signature [Signature]

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

1-Rubber Plug	@	99.45
	@	
	@	
	@	
	@	
TOTAL		99.45

PRINTED NAME X  
 SIGNATURE X

SALES TAX (If Any) 1093.44  
 TOTAL CHARGES 22,413.39  
 DISCOUNT 35% 7844.69 IF PAID IN 30 DAYS

Net \$ 14,568.70

Thank you!!!

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

January 09, 2013

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

Re: ACO1  
API 15-083-21831-01-00  
Gleason Unit 1-20H  
SE/4 Sec.20-23S-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

# ALLIED OIL & GAS SERVICES, LLC 053944

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:  
Medicine Lodge KS

DATE <u>11/14/12</u>	SEC. <u>20</u>	TWP. <u>23s</u>	RANGE <u>22w</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <u>Glavin</u>	WELL # <u>1-20H</u>	LOCATION <u>Jatare KS, East to Rd 22s</u>	COUNTY <u>Hodgeman</u>	STATE <u>KS</u>			
OLD OR <u>NEW</u> (Circle one)	<u>4 1/2 South, East into</u>					<u>1.06</u>	<u>7.45</u>

CONTRACTOR Patterson 172  
 TYPE OF JOB Production Liner  
 HOLE SIZE 6 1/2 ID. 9144  
 CASING SIZE 4 1/2 DEPTH 9138  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX MINIMUM  
 MEAS. LINE -- SHOE JOINT 47.93  
 CEMENT LEFT IN CSG. 47.93  
 PERFS.  
 DISPLACEMENT 10 1/2 BBLs Fresh H<sub>2</sub>O

OWNER Tug Hill  
 CEMENT  
 AMOUNT ORDERED 425 cu Class H 50:50 Port  
2% Gel + 5% salt + 1.6% FL-160 + 1.8% CD-31 +  
1% SA-51 + 3# Kalsol + 2# DeCarbon  
 COMMON Class H 213 cu @ 16.85 3589.05  
 POZMIX 212 cu @ 9.35 1982.20  
 OEL 7 cu @ 23.40 163.80  
 CHLORIDE @  
 ASC @  
 Salt 9 cu @ 26.35 237.15  
 FL-160 24 lb @ 18.90 404.60  
 CD-31 35 lbs @ 10.30 360.50  
 SA-51 35 lbs @ 17.55 614.25  
 Kalsol 127 lbs @ 0.98 1249.50  
 DeCarbon 106 lbs @ 9.80 1038.80

EQUIPMENT  
 PUMP TRUCK CEMENTER Seem Thinesch 1  
 # 558/555 HELPER Darla Franklin 1  
 BULK TRUCK  
 # 561-553 DRIVER Branan Boor 3  
 BULK TRUCK  
 # DRIVER

HANDLING 682.5 cu @ 2.48 1692.60  
 MILEAGE 13.9 mi X 35 mi X 2.60 1265.16  
 TOTAL 16237.61

REMARKS:  
AFF # 12-0169  
Code # 830.18

SERVICE  
 DEPTH OF JOB 9144  
 PUMP TRUCK CHARGE 5920.20  
 EXTRA FOOTAGE @  
 MILEAGE 35 @ 7.70 269.50  
 MANIFOLD @  
 LV 35 @ 4.40 154

CHARGE TO: Tug Hill  
 STREET  
 CITY STATE ZIP

TOTAL 6343.70

To: Allied Oil & Gas Services, LLC.  
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PLUG & FLOAT EQUIPMENT  
 @  
 @  
 @  
 @  
 @

PRINTED NAME: Lurti TURNER  
 SIGNATURE: [Signature]

TOTAL  
 SALES TAX (if Any) 989.35  
 TOTAL CHARGES 22581.21  
 DISCOUNT 3.5% 7903.46 IF PAID IN 30 DAYS  
 Net 14677.85