

Confidentiality Requested:

Yes No

Kansas Corporation Commission Oil & Gas Conservation Division

1104602

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 #			API No. 15		
Name:			Spot Description:		
Address 1:			Sec.	Twp S. R	East West
Address 2:			F6	eet from North / Se	outh Line of Section
City: S	tate: Z	ip:+	Fe	eet from East / W	lest Line of Section
Contact Person:			Footages Calculated from	Nearest Outside Section Cor	rner:
Phone: ()			□ NE □ NW	V □SE □SW	
CONTRACTOR: License #			GPS Location: Lat:	, Long:	
Name:				(e.g. xx.xxxxx)	(e.gxxx.xxxxxx)
Wellsite Geologist:			Datum: NAD27	NAD83 WGS84	
Purchaser:			County:		
Designate Type of Completion:			Lease Name:	Well	l #:
	e-Entry	Workover	Field Name:		
	_	_	Producing Formation:		
☐ Oil ☐ WSW ☐ D&A	☐ SWD	□ SIOW □ SIGW	Elevation: Ground:	Kelly Bushing: _	
OG	GSW	Temp. Abd.	Total Vertical Depth:	Plug Back Total Dep	oth:
CM (Coal Bed Methane)	_ dow	тетір. дай.	Amount of Surface Pipe Se	et and Cemented at:	Feet
Cathodic Other (Con	re, Expl., etc.):		Multiple Stage Cementing	Collar Used? Yes N	No
If Workover/Re-entry: Old Well In			If yes, show depth set:		Feet
Operator:			If Alternate II completion, of	cement circulated from:	
Well Name:			feet depth to:	w/	sx cmt.
Original Comp. Date:	Original T	otal Depth:			
Deepening Re-perf.	Conv. to E	NHR Conv. to SWD	Drilling Fluid Managemer	nt Plan	
☐ Plug Back	Conv. to G	SW Conv. to Producer	(Data must be collected from t		
Commingled	Dormit #		Chloride content:	ppm Fluid volume: _	bbls
Dual Completion			Dewatering method used:		
SWD			Location of fluid disposal if	i hauled offsite:	
☐ ENHR			Loodiion of haid diopodal in	nation office.	
GSW	Permit #:		Operator Name:		
_ _				License #:	
Spud Date or Date Re	ached TD	Completion Date or	Quarter Sec	TwpS. R	East _ West
Recompletion Date		Recompletion Date	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:

Page Two



Operator Name:				_ Lease I	se Name: Well #:					
Sec Twp	S. R	East	West	County	:					
INSTRUCTIONS: Shopen and closed, flow and flow rates if gas to	ring and shut-in press o surface test, along v	ures, whe	ther shut-in pre chart(s). Attach	ssure reac extra shee	hed stati	c level, hydrosta space is neede	tic pressures, b d.	ottom hole temp	erature, fluid recov	
Final Radioactivity Lo files must be submitte						ogs must be ema	alled to kcc-well-	logs@kcc.ks.go	v. Digital electronic	
Drill Stem Tests Taker (Attach Additional		Y	es No			J	on (Top), Depth		Sample	
Samples Sent to Geo	logical Survey	Y	es No		Nam	е		Тор	Datum	
Cores Taken Electric Log Run			es No							
List All E. Logs Run:										
				RECORD	Ne					
	0: 11.1					ermediate, product		" 0 1	T 15	
Purpose of String	Size Hole Drilled		ze Casing t (In O.D.)	Weig Lbs.		Setting Depth	Type of Cement	# Sacks Used	Type and Percer Additives	
			ADDITIONAL	CEMENTI	NG / SQL	JEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement # Sacks					Type and	Percent Additives		
Perforate Protect Casing	Top Dottom									
Plug Back TD Plug Off Zone										
1 lug 0 li 20 lio										
Did you perform a hydrau	ulic fracturing treatment	on this well	?			Yes	No (If No, s	skip questions 2 a	nd 3)	
Does the volume of the t			-		-			skip question 3)		
Was the hydraulic fractur	ing treatment informatio	n submitted	to the chemical of	disclosure re	gistry?	Yes	No (If No, i	ill out Page Three	of the ACO-1)	
Shots Per Foot			RD - Bridge Plug Each Interval Perl				cture, Shot, Ceme	nt Squeeze Recor	rd Depth	
						(* *			200	
TUBING RECORD:	Size:	Set At:		Packer A	t·	Liner Run:				
		0017111				[Yes N	o		
Date of First, Resumed	Production, SWD or EN	HR.	Producing Meth	nod:	g 🗌	Gas Lift (Other (Explain)			
Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Wat	er B	bls.	Gas-Oil Ratio	Gravity	
DIODOCITI	01.05.040			4ETUOD 05	. 00145/	TION:		DDOD! ICT!		
DISPOSITION Solo	ON OF GAS: Used on Lease		N Open Hole	∥ETHOD OF Perf.	_		mmingled	PRODUCTION	ON INTERVAL:	
	bmit ACO-18.)		Other (Specify)		(Submit		mit ACO-4)			



Survey Report

Database:



Company:

Tug Hill Operating, LLC

Project: Comanche County, Kansas (NAD83)

 Site:
 Proctor

 Well:
 1-25H

 Wellbore:
 Wellbore #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

WELL @ 2143.00usft (Patterson 421)
WELL @ 2143.00usft (Patterson 421)

Grid

Well 1-25H

Minimum Curvature Southern Region

wendore.	VVCIIDOIC
Design:	Surveys

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
1,948.0	0 0.20	128.40	1,945.46	44.99	41.34	45.62	0.17	0.11	55.58
2,043.0	0 0.30	164.60	2,040.46	44.65	41.54	45.28	0.19	0.11	38.11
2,138.0	0 0.20	217.40	2,135.46	44.27	41.50	44.91	0.25	-0.11	55.58
2,233.0	0 0.20	194.40	2,230.46	43.98	41.36	44.61	0.08	0.00	-24.21
2,328.0	0 0.40	226.00	2,325.46	43.59	41.08	44.22	0.27	0.21	33.26
2,424.0	0 0.20	221.50	2,421.45	43.23	40.73	43.85	0.21	-0.21	-4.69
2,520.0	0 0.40	244.40	2,517.45	42.96	40.32	43.58	0.24	0.21	23.85
2,614.0	0 0.40	190.00	2,611.45	42.50	39.96	43.11	0.39	0.00	-57.87
2,709.0	0.20	198.00	2,706.45	42.01	39.86	42.62	0.21	-0.21	8.42
2,803.0	0 0.40	200.70	2,800.45	41.55	39.69	42.15	0.21	0.21	2.87
2,899.0	0 0.40	166.70	2,896.45	40.91	39.65	41.51	0.24	0.00	-35.42
2,994.0	0 0.40	173.40	2,991.44	40.26	39.76	40.86	0.05	0.00	7.05
3,089.0	0 0.40	180.40	3,086.44	39.60	39.80	40.20	0.05	0.00	7.37
3,183.0	0 0.40	194.00	3,180.44	38.95	39.72	39.56	0.10	0.00	14.47
3,278.0	0.30	162.20	3,275.44	38.39	39.71	39.00	0.23	-0.11	-33.47
3,374.0	0.30	204.00	3,371.44	37.92	39.69	38.53	0.22	0.00	43.54
3,469.0	0 0.40	146.10	3,466.43	37.42	39.77	38.03	0.37	0.11	-60.95
3,563.0	0.40	185.10	3,560.43	36.82	39.92	37.43	0.28	0.00	41.49
3,658.0	0 0.20	167.20	3,655.43	36.33	39.93	36.94	0.23	-0.21	-18.84
3,753.0	0 0.20	138.50	3,750.43	36.04	40.08	36.66	0.10	0.00	-30.21
3,848.0	0.30	214.20	3,845.43	35.71	40.05	36.32	0.33	0.11	79.68
3,943.0	0 0.40	223.40	3,940.43	35.27	39.68	35.87	0.12	0.11	9.68
4,039.0	0.30	164.10	4,036.43	34.78	39.52	35.39	0.37	-0.10	-61.77
4,133.0	0.60	168.40	4,130.42	34.06	39.69	34.67	0.32	0.32	4.57
4,228.0	0.60	163.10	4,225.42	33.10	39.93	33.71	0.06	0.00	-5.58
4,323.0	0 0.70	138.70	4,320.41	32.19	40.46	32.81	0.31	0.11	-25.68
4,419.0		130.80	4,416.41	31.36	41.29	31.99	0.10	0.00	-8.23
4,515.00		133.40	4,512.40	30.64	42.10	31.28	0.11	-0.10	2.71
4,588.00		141.00	4,585.40	30.13	42.58	30.78	0.17	-0.14	10.41
4,620.00		356.60	4,617.39	30.69	42.62	31.34	8.82	5.94	-451.25
4,651.00	0 6.40	357.80	4,648.29	33.06	42.52	33.71	12.91	12.90	3.87
4,683.0	_	1.10	4,679.94	37.76	42.51	38.41	12.90	12.81	10.31
4,715.00		2.30	4,711.20	44.55	42.72	45.20	10.97	10.94	3.75
4,746.0		3.10	4,741.14	52.56	43.10	53.22	6.49	6.45	2.58
4,777.00		1.30	4,770.74	61.77	43.44	62.43	8.56	8.39	-5.81
4,809.00	0 21.40	357.60	4,800.81	72.71	43.31	73.36	9.60	8.75	-11.56
4,840.00		356.40	4,829.39	84.68	42.68	85.32	8.84	8.71	-3.87
4,872.00		355.50	4,858.27	98.42	41.70	99.05	8.83	8.75	-2.81
4,904.00		356.80	4,886.21	113.97	40.67	114.58	14.20	14.06	4.06
4,936.00		359.20	4,912.74	131.84	40.07	132.44	16.78	16.25	7.50
4,967.0	0 40.70	1.30	4,936.94	151.19	40.17	151.79	13.88	13.23	6.77
5,000.00		2.60	4,961.29	173.45	40.94	174.06	10.93	10.61	3.94
5,031.00	0 47.60	2.60	4,982.86	195.69	41.94	196.31	10.97	10.97	0.00



Survey Report



Company:

Tug Hill Operating, LLC

Project: Comanche County, Kansas (NAD83)

Site: Well: Proctor 1-25H Wellbore #1

Wellbore: Wellbore
Design: Surveys

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method: Database:

Well 1-25H

WELL @ 2143.00usft (Patterson 421) WELL @ 2143.00usft (Patterson 421)

Grid

Minimum Curvature Southern Region

(usft) 5,063.00 5,094.00 5,126.00 5,158.00 5,188.00 5,220.00 5,252.00 5,284.00 5,315.00 5,347.00 5,347.00 5,410.00 5,441.00 5,473.00 5,505.00 5,537.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	51.50 54.30 57.80 59.70 60.00 60.10 60.00 62.90 67.30 72.00 74.50 75.30 77.30 80.40 84.20 87.50 88.50	Azimuth (°) 2.30 2.60 1.00 359.40 359.20 359.00 358.50 358.90 359.10 359.30 359.30 359.30 359.30 359.10	Depth (usft) 5,003.62 5,022.31 5,040.18 5,056.78 5,071.85 5,087.83 5,103.80 5,119.09 5,132.14 5,143.27 5,152.49 5,160.57 5,167.91	+N/-S (usft) 220.01 244.71 271.24 298.59 324.53 352.25 379.97 408.07 436.18 466.17 496.81 526.74	+E/-W (usft) 42.98 44.04 44.87 44.96 44.64 44.21 43.60 42.97 42.48 42.06 41.68	220.64 245.36 271.89 299.25 325.18 352.89 380.60 408.68 436.78 466.76	Rate (*/100usft) 12.21 9.07 11.70 7.32 1.15 0.63 1.39 9.13 14.21 14.70	Rate (*/100usft) 12.19 9.03 10.94 5.94 1.00 0.31 -0.31 9.06	Rate (°/100usft) -0.94 0.97 -5.00 -5.00 -0.67 -0.63 -1.56 1.25
5,094.00 5,126.00 5,158.00 5,188.00 5,220.00 5,252.00 5,284.00 5,315.00 5,347.00 5,410.00 5,410.00 5,473.00 5,505.00 5,505.00 5,537.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	54.30 57.80 59.70 60.00 60.10 60.00 62.90 67.30 72.00 74.50 75.30 77.30 80.40 84.20 87.50	2.60 1.00 359.40 359.20 359.00 358.50 358.90 359.10 359.30 359.30 359.30 359.10	5,022.31 5,040.18 5,056.78 5,071.85 5,087.83 5,103.80 5,119.09 5,132.14 5,143.27 5,152.49 5,160.57	244.71 271.24 298.59 324.53 352.25 379.97 408.07 436.18 466.17 496.81 526.74	44.04 44.87 44.96 44.64 44.21 43.60 42.97 42.48 42.06	245.36 271.89 299.25 325.18 352.89 380.60 408.68 436.78 466.76	9.07 11.70 7.32 1.15 0.63 1.39 9.13	9.03 10.94 5.94 1.00 0.31 -0.31 9.06	0.97 -5.00 -5.00 -0.67 -0.63 -1.56 1.25
5,126.00 5,158.00 5,188.00 5,220.00 5,252.00 5,284.00 5,315.00 5,347.00 5,379.00 5,410.00 5,441.00 5,473.00 5,505.00 5,537.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	57.80 59.70 60.00 60.10 60.00 62.90 67.30 72.00 74.50 75.30 77.30 80.40 84.20 87.50	1.00 359.40 359.20 359.00 358.50 358.90 359.10 359.30 359.30 359.30 359.00	5,040.18 5,056.78 5,071.85 5,087.83 5,103.80 5,119.09 5,132.14 5,143.27 5,152.49 5,160.57	271.24 298.59 324.53 352.25 379.97 408.07 436.18 466.17 496.81 526.74	44.87 44.96 44.64 44.21 43.60 42.97 42.48 42.06	271.89 299.25 325.18 352.89 380.60 408.68 436.78 466.76	9.07 11.70 7.32 1.15 0.63 1.39 9.13	9.03 10.94 5.94 1.00 0.31 -0.31 9.06	0.97 -5.00 -5.00 -0.67 -0.63 -1.56 1.25
5,158.00 5,188.00 5,220.00 5,252.00 5,284.00 5,315.00 5,347.00 5,379.00 5,410.00 5,441.00 5,473.00 5,568.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	59.70 60.00 60.10 60.00 62.90 67.30 72.00 74.50 75.30 77.30 80.40 84.20 87.50	359.40 359.20 359.00 358.50 358.90 359.10 359.30 359.30 359.30 359.10	5,040.18 5,056.78 5,071.85 5,087.83 5,103.80 5,119.09 5,132.14 5,143.27 5,152.49 5,160.57	271.24 298.59 324.53 352.25 379.97 408.07 436.18 466.17 496.81 526.74	44.87 44.96 44.64 44.21 43.60 42.97 42.48 42.06	271.89 299.25 325.18 352.89 380.60 408.68 436.78 466.76	7.32 1.15 0.63 1.39 9.13	10.94 5.94 1.00 0.31 -0.31 9.06	-5.00 -5.00 -0.67 -0.63 -1.56 1.25
5,188.00 5,220.00 5,252.00 5,284.00 5,315.00 5,347.00 5,379.00 5,410.00 5,441.00 5,473.00 5,505.00 5,537.00 5,568.00 5,660.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	60.00 60.10 60.00 62.90 67.30 72.00 74.50 75.30 77.30 80.40 84.20 87.50	359.20 359.00 358.50 358.90 359.10 359.30 359.30 359.30 359.10	5,071.85 5,087.83 5,103.80 5,119.09 5,132.14 5,143.27 5,152.49 5,160.57	324.53 352.25 379.97 408.07 436.18 466.17 496.81 526.74	44.64 44.21 43.60 42.97 42.48 42.06	325.18 352.89 380.60 408.68 436.78 466.76	1.15 0.63 1.39 9.13	1.00 0.31 -0.31 9.06	-0.67 -0.63 -1.56 1.25
5,220.00 5,252.00 5,284.00 5,315.00 5,347.00 5,379.00 5,410.00 5,441.00 5,473.00 5,505.00 5,537.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	60.10 60.00 62.90 67.30 72.00 74.50 75.30 77.30 80.40 84.20 87.50	359.00 358.50 358.90 359.10 359.30 359.30 359.30 359.10	5,087.83 5,103.80 5,119.09 5,132.14 5,143.27 5,152.49 5,160.57	352.25 379.97 408.07 436.18 466.17 496.81 526.74	44.21 43.60 42.97 42.48 42.06	352.89 380.60 408.68 436.78 466.76	0.63 1.39 9.13	0.31 -0.31 9.06	-0.63 -1.56 1.25
5,252.00 5,284.00 5,315.00 5,347.00 5,379.00 5,410.00 5,441.00 5,505.00 5,505.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	60.00 62.90 67.30 72.00 74.50 75.30 77.30 80.40 84.20 87.50	358.50 358.90 359.10 359.30 359.30 359.30 359.10	5,103.80 5,119.09 5,132.14 5,143.27 5,152.49 5,160.57	379.97 408.07 436.18 466.17 496.81 526.74	43.60 42.97 42.48 42.06	380.60 408.68 436.78 466.76	1.39 9.13 14.21	-0.31 9.06 14.19	-1.56 1.25
5,284.00 5,315.00 5,347.00 5,379.00 5,410.00 5,441.00 5,473.00 5,505.00 5,537.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	62.90 67.30 72.00 74.50 75.30 77.30 80.40 84.20 87.50	358.90 359.10 359.30 359.30 359.30 359.10	5,119.09 5,132.14 5,143.27 5,152.49 5,160.57	408.07 436.18 466.17 496.81 526.74	42.97 42.48 42.06	408.68 436.78 466.76	9.13 14.21	9.06 14.19	1.25
5,315.00 5,347.00 5,379.00 5,410.00 5,441.00 5,441.00 5,505.00 5,505.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	67.30 72.00 74.50 75.30 77.30 80.40 84.20 87.50	359.10 359.30 359.30 359.30 359.10	5,132.14 5,143.27 5,152.49 5,160.57	436.18 466.17 496.81 526.74	42.48 42.06	436.78 466.76	14.21	14.19	
5,347.00 5,379.00 5,410.00 5,441.00 5,473.00 5,505.00 5,537.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	72.00 74.50 75.30 77.30 80.40 84.20 87.50	359.30 359.30 359.30 359.10	5,143.27 5,152.49 5,160.57	466.17 496.81 526.74	42.06	466.76			0.65
5,379.00 5,410.00 5,441.00 5,441.00 5,505.00 5,505.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	74.50 75.30 77.30 80.40 84.20 87.50	359.30 359.30 359.10	5,152.49 5,160.57	496.81 526.74			14 70		
5,410.00 5,441.00 5,473.00 5,505.00 5,537.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	75.30 77.30 80.40 84.20 87.50	359.30 359.10 359.00	5,160.57	526.74	41.68		17.70	14.69	0.63
5,441.00 5,473.00 5,505.00 5,537.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	77.30 80.40 84.20 87.50	359.10 359.00				497.39	7.81	7.81	0.00
5,473.00 5,505.00 5,537.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	80.40 84.20 87.50	359.00	5,167.91	FF0 0F	41.32	527.31	2.58	2.58	0.00
5,505.00 5,537.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	84.20 87.50			556.85	40.90	557.41	6.48	6.45	-0.65
5,537.00 5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	87.50	050 40	5,174.09	588.24	40.38	588.79	9.69	9.69	-0.31
5,568.00 5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00		359.10	5,178.38	619.94	39.85	620.48	11.88	11.88	0.31
5,600.00 5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	88.50	358.90	5,180.70	651.84	39.29	652.37	10.33	10.31	-0.63
5,653.00 5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00		359.10	5,181.78	682.82	38.75	683.34	3.29	3.23	0.65
5,745.00 5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	88.70	358.60	5,182.56	714.80	38.11	715.31	1.68	0.63	-1.56
5,838.00 5,930.00 6,022.00 6,114.00 6,206.00	89.60	358.40	5,183.35	767.78	36.72	768.25	1.74	1.70	-0.38
5,930.00 6,022.00 6,114.00 6,206.00	90.90	0.50	5,182.95	859.77	35.84	860.22	2.68	1.41	2.28
6,022.00 6,114.00 6,206.00	91.50	0.80	5,181.00	952.74	36.90	953.20	0.72	0.65	0.32
6,114.00 6,206.00	90.70	2.10	5,179.23	1,044.69	39.22	1,045.17	1.66	-0.87	1.41
6,206.00	90.90	1.90	5,177.95	1,136.63	42.43	1,137.14	0.31	0.22	-0.22
	92.00	2.70	5,175.62	1,228.52	46.12	1,229.08	1.48	1.20	0.87
	89.90	1.50	5,174.09	1,320.44	49.50	1,321.04	2.63	-2.28	-1.30
6,297.00	88.60	359.20	5,175.28	1,411.42	50.05	1,412.02	2.90	-1.43	-2.53
6,360.00	89.00	358.90	5,176.60	1,474.40	49.01	1,474.98	0.79	0.63	-0.48
6,454.00	89.90	358.90	5,177.51	1,568.38	47.20	1,568.92	0.96	0.96	0.00
6,549.00	90.80	358.70	5,176.93	1,663.35	45.21	1,663.85	0.97	0.95	-0.21
6,644.00	91.10	0.40	5,175.35	1,758.33	44.47	1,758.81	1.82	0.32	1.79
6,738.00	90.10	1.30	5,174.37	1,852.32	45.86	1,852.80	1.43	-1.06	0.96
6,833.00	90.30	0.80	5,174.03	1,947.30	47.60	1,947.80	0.57	0.21	-0.53
6,929.00	91.20	0.50	5,172.78	2,043.28	48.69	2,043.79	0.99	0.94	-0.31
7,023.00	89.70	0.70	5,172.04	2,137.27	49.68	2,137.78	1.61	-1.60	0.21
7,118.00	90.30	0.40	5,172.04	2,232.27	50.59	2,232.78	0.71	0.63	-0.32
7,213.00	89.00	1.60	5,172.62	2,327.25	52.25	2,327.78	1.86	-1.37	1.26
7,309.00	89.80	1.30	5,173.63	2,423.21	54.67	2,423.77	0.89	0.83	-0.31
7,404.00	88.20	1.10	5,175.28	2,518.17	56.66	2,518.75	1.70	-1.68	-0.21
7,499.00	89.30	1.30	5,177.36	2,613.13	58.65	2,613.72	1.18	1.16	0.21
7,593.00	89.90	1.60	5,178.01	2,707.09	61.03	2,707.71	0.71	0.64	0.32
7,689.00	87.90	0.50	5,179.86	2,803.05	62.79	2,803.69	2.38	-2.08	-1.15
7,784.00		0.40	5,183.17	2,897.99	63.54	2,898.63	0.24	0.21	-0.11



Survey Report



Company:

Tug Hill Operating, LLC

Project:

Comanche County, Kansas (NAD83)

Site: Well: Wellbore: Proctor 1-25H

Wellbore: Wellbore #1
Design: Surveys

Local Co-ordinate Reference:

TVD Reference:

MD Reference: North Reference:

Survey Calculation Method:

Database:

Well 1-25H

WELL @ 2143.00usft (Patterson 421)

WELL @ 2143.00usft (Patterson 421)

Grid

Minimum Curvature

Southern Region

	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,975.00	90.00	359.70	5,186.41	3,088.96	63.12	3,089.56	1.04	1.04	0.00
8,069.00	90.50	0.10	5,186.00	3,182.95	62.95	3,183.55	0.68	0.53	0.43
8,164.00	91.10	359.80	5,184.68	3,277,94	62.87	3,278.52	0.71	0.63	-0.32
8,259.00	89.10	1.40	5,184,51	3,372.93	63.86	3,373.51	2.70	-2.11	1.68
8,353.00	90.20	359.80	5,185.08	3,466.92	64.85	3,467.51	2.07	1.17	-1.70
8,448.00	91.30	359.80	5,183.84	3,561.91	64.52	3,562.48	1.16	1.16	0.00
8,543.00	89.30	0.50	5,183.34	3,656.90	64.77	3,657.47	2.23	-2.11	0.74
8,638.00	89.10	0.50	5,184.67	3,751.89	65.59	3,752.45	0.21	-0.21	0.00
8,732.00	89.40	359.90	5,185.90	3,845.88	65.92	3,846.44	0.71	0.32	-0.64
8,827.00	89.50	0.90	5,186.81	3,940.87	66.59	3,941.43	1.06	0.11	1.05
8,922.00	89.80	0.50	5,187.39	4,035.86	67.75	4,036.43	0.53	0.32	-0.42
9,017.00	89.50	0.20	5,187.97	4,130.86	68.33	4,131.42	0.45	-0.32	-0.32
9,112.00	90.70	359.30	5,187.81	4,225.86	67.91	4,226.40	1.58	1.26	-0.95
9,206.00	91.30	359.10	5,186.17	4,319.83	66.60	4,320.35	0.67	0.64	-0.21
9,300.00	90.60	1.00	5,184.61	4,413.81	66.68	4,414.32	2.15	-0.74	2.02
9,395.00	91.50	0.80	5,182.87	4,508.79	68.17	4,509.30	0.97	0.95	-0.21
9,488.00	90.40	0.90	5,181.32	4,601.76	69.55	4,602.29	1.19	-1.18	0.11
9,561.00	90.00	0.80	5,181.07	4,674.75	70.64	4,675.29	0.56	-0.55	-0.14

Survey Anno	otations				
	Measured	Vertical	Local Coor	dinates	
	Depth (usft)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
	668.00 9,622.00	667.99 5,181.07	-3.07 4,735.75	0.84 71.49	Tie-In to VES Gyro-668.00' MD Projection to TD-9622.00' MD



Survey Report



Company:

Tug Hill Operating, LLC

Project:

Comanche County, Kansas (NAD83)

Site: Well: Proctor 1-25H

Wellbore: Design:

Wellbore #1

Surveys

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Database:

Well 1-25H

WELL @ 2143.00usft (Patterson 421)

WELL @ 2143.00usft (Patterson 421)

Minimum Curvature Southern Region

Project Comanche County, Kansas (NAD83)

Map System: Geo Datum:

Map Zone:

US State Plane 1983

North American Datum 1983 Kansas Southern Zone

System Datum:

Mean Sea Level

Well 1-25H

Well Position

+N/-S 0.00 usft 0.00 usft +E/-W

Northing: Easting:

1,547,771.84 usft 1,066,914.81 usft Latitude: Longitude:

37° 18' 36.7363 N 99° 20' 37.823 W

Position Uncertainty

0.00 usft

usft

Ground Level:

Wellhead Elevation:

2,120.00 usft

Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:		Depth From (TVD)	+N/-S	+E/-W	Direction
		Depth From (TVD) (usft)	(usft)	(usft)	(°)
		0.00	0.00	0.00	0.88

urvey Program	Date 10/15/2012					
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description		
100.00	.00 668.00 VES Gyro (Wellbore #1)		NS-GYRO-MS	North sensing gyrocompassing m/s		
808.00			MWD	MWD - Standard		

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)
668.00	0.25	191.89	667.99	-3.07	0.84	-3.05	0.00	0.00	0.00
Tie-In to VES	Gyro-668.00' N	ID							
745.00	0.70	220.30	744.99	-3.59	0.50	-3.58	0.64	0.58	36.90
808.00	0.40	222.60	807.98	-4.04	0.10	-4.04	0.48	-0.48	3.65
903.00	0.80	21.70	902.98	-3.67	0.12	-3.67	1.24	0.42	167.47
998.00	2.70	31.30	997.93	-1.14	1.53	-1.12	2.02	2.00	10.11
1,093.00	4.70	38.60	1,092.73	3.81	5.12	3.89	2.16	2.11	7.68
1,188.00	5.20	40.80	1,187.38	10.11	10.36	10.27	0.56	0.53	2.32
1,283.00	5.20	43.10	1,281.99	16.51	16.12	16.76	0.22	0.00	2.42
1,378.00	5.50	40.30	1,376.57	23.13	22.00	23.46	0.42	0.32	-2.95
1,472.00	5.40	44.80	1,470.15	29.70	28.04	30.13	0.47	-0.11	4.79
1,567.00	4.60	43.10	1,564.78	35.66	33.79	36.17	0.86	-0.84	-1.79
1,662.00	3.20	39.70	1,659.56	40.48	38.08	41.06	1.49	-1.47	-3.58
1,757.00	1.70	26.70	1,754.47	43.78	40.41	44.39	1.67	-1.58	-13.68
1,853.00	0.10	75.60	1,850.46	45.07	41.13	45.70	1.70	-1.67	50.94

ALLIED OIL & GAS SERVICES, LLC 052660 Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31	SERVICE POINT;
RUSSELL, KANSAS 67665	Liberal_
DATE 9/10/12 SEC. TWP RANGE 19	CALLED OUT ON LOCATION JOB START JOB FINISH
DATE 9/10/12 25 31 19	15:50 11:38
318.77	COUNTY STATE
LEASE POSCHOT WELL # 1-28 H LOCATION	Comment K5
OLD OR NEW (Circle one)	1.09 6.3
	1.01
CONTRACTOR Edge	OWNER
SOLITION STORY	OTITION
	CEMENT
HOLE SIZE ZO T.D. 72	
CASING SIZE /4 DEPTH 72'	AMOUNT ORDERED 160 SKS A
TUBING SIZE DEPTH	2% CC
- DRILL PIPE DEPTH -	
TOOL DEPTH	11.00 (-0.1-)
PRES. MAX MINIMUM	COMMON_ 160 A @ 17.90 2864
MEAS, LINE SHOE JOINT	POZMIX@
CEMENT LEFT IN CSG.	GEL@
PERFS.	CHLORIDE @
DISPLACEMENT Ø	ASC @
	25K5 CC @ 6-100 128-
EQUIPMENT	2383 CO (C)
1	
PUMPTRUCK CEMENTER Time, Stephen About	e
#457 > 541 HELPER Ceaser P. 2	·
BULK TRUCK	
	@
#562-554 DRIVER KIKO (TWS)	·
BULK TRUCK	@ 2.48 if 01.76
# DRIVER	HANDLING 162 @-2-18 421-20
	MILEAGE Dogge 757.6260 1955.20
REMARKS:	TOTAL STORED
20 July 10 Jul	
Circulated 5BBIS Cement to Surfice	152 5348.96.
on Both wells.	SERVICE
1-25H=API体15-033-21458-01-00	DEPTH OF JOB
#ISUD: API# 15-033-21657-00-00	PUMP TRUCK CHARGE 1512.25
17	EXTRA FOOTAGE @@
Thouk You	MILEAGE @
	MANIFOLD @ @
	Light Vehicle 80 @ 4.40 52.00
	- Havy sunicic 140@ 7.70 1232.00
CHARGE TO: TUGHILL	
	TOTAL 3096.25
STREET	
CITYSTATEZIP	
`\	PLUG & FLOAT EQUIPMENT
`	n/a
,	
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	
	TOTAL
done to satisfaction and supervision of owner agent or	
contractor. I have read and understand the "GENERAL	and the management of the terms
TERMS AND CONDITIONS" listed on the reverse side.	
12-0/14 \$30.1802	169 FOTAL CHARGES 84104-105 8445.31
PRINTED NAME 550//25 120/65 830/88	283245 260x 2905.82
PRINTED NAME	DISCOUNT IF PAID IN 30 DAYS
	n-67==5-50=2=0:2
SIGNATURE SINGS ASSET 9/10/12	1,0-1

ALLIED OIL & GAS SERVICES, LLC 053925 Federal Tax 1.D.# 20-5975804

RUSSELL, KANSAS 67663	Service Point: Medicine Lodge KS			
DATE 10/02/2012 SEC. TWP. RANGE C. 31s 190	ALLED OUT ON LOCATION JOB START JOB FINISH			
	ter KS North to Ave F. County STATE			
OLD OR NEW (Circle one) West , North	into 1.01 6.3			
CONTRACTOR Patterson # 421 TYPE OF JOB Sor Pace	OWNER The Hill Open			
HOLE SIZE 1214 T.D. 858	CEMENT			
CASING SIZE 957 DEPTH 756 TUBING SIZE DEPTH	AMOUNT ORDERED ZOOSX Clair A+ 3/cs+			
DRILL PIPE DEPTH	150 six Clesi A 12% cc			
PRES. MAX 1000 MINIMUM	201404 61-1 2010 1720 1720			
MEAS. LINE SHOE JOINT 46,02	COMMON Class A 350s 17.90 6265			
CEMENT LEFT IN CSG. 46.02	GEL @			
DISPLACEMENT 51/2 BBL Fresh H20	CHLORIDE 11 37@ 64 704 ASC 226 @			
ÉQUIPMENT	ASC 376 @ 3,30 1240.80			
DGO!! WAY!	Gypreal 450 3760 150.40			
PUMPTRUCK CEMENTER Jan Thinesch	Flores 50 br @ 2.97 148.50 Sugar 50 bs @ 1.00 50			
#471/555 HELPER Scott Paidly 2				
BULK:TRUCK #561/553 DRIVER Jake Heard 3				
BULKTBUCK	@			
DRIVER	HANDLING 379 coff @ 2.48 939.92			
DERFARKS.	MILEAGE 17.3 tu x 35 mix 2.60 1574.30			
REMARKS:	605.50 TOTAL 11.072.92			
Well Name Rocton 1-25H	SERVICE			
AFE No. 12-0/65				
ACCNT No. 8301/8	DEPTH OF JOB 756 PUMP TRUCK CHARGE 2.058, 50			
	EXTRA FOOTAGE@			
	MILEAGE 35, @ 7,70 269,50			
- Signature for training	MANIFOLD + Head @ 275 LV 35 @ 4.40 154			
-	@			
CHARGE TO: Tug Hill Oper	0.757			
STREET	TOTAL 2757			
CITYSTATEZIP	NAME OF TAXABLE PARTIES			
	PLUG & FLOAT EQUIPMENT			
	Top Rubber Plug 1@ 184.86 184.86 T			
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	TOTAL <u>189.86</u>			
contractor. I have read and understand the "GENERAL	SALES TAX (If Any) 550,84			
TERMS AND CONDITIONS" listed on the reverse side.	TOTAL CHARGES 14014.78			
PRINTED NAME TONY EXYNEST	DISCOUNT 35 % 4905,17 IF PAID IN 30 DAYS			
TAINTED HANGE				
SIGNATURE Jones Emmel	Net 9109.61			

ALLIED OIL & GAS SERVICES, LLC 053928 Federal Tax 1.D.# 20-5975804

RUSSELL, KANSAS 67665					Medicio Lodic KS				
DATE 10/09/12	SEC.	TWP.	RANGE ZOL	CALLED OUT	ON LOCATION	JOB START	JOB FINISH		
LEASE Practice Trust	WELL#	1-25 H	LOCATION Cold	rater ICS. Nort	h Inik West	COUNTY	STATE		
OLD ORNEW(CI	rcle one)		Inile, North	into.		1-08	10.		
CONTRACTOR	Patter	con #			ng Hill	1000	U		
TYPE OF JOB T.	terne	diate	5650	_					
CASING SIZE 7	4		TH 5593	_ CEMENT _ AMOUNT OF	RDERED 225	x Class A	+5% salt +		
TUBING SIZE DRILL PIPE		DEF		2% Gel	+ .3% FL	160 + D	elognor		
TOOL		DEF		12B8LS. _v	6 800.00 800 000.000		· \		
PRES. MAX 150 MEAS. LINE		MIM	NIMUM DEJOINT 48		1835 A 2253	×@ 17.90	4027.50		
CEMENT LEFT IN		18	DEJOINT 78	_ POZMIX <u>·</u> _ GEL ·	. 45	@ 23,46	93.60		
PERFS. DISPLACEMENT	7 191	ani - E	1 11 (1)	CHLORIDE		_@			
DISPLACEMENT		JIPMENT	(e) 1 (12()	Salt	632	(@ <u></u> 2(32	158.10		
		•		- Parder De	6316	@ 18.90 @ 9.80	703.80		
PUMPTRUCK #548/545	CEMEN	FILL OF	Thinesch /			@			
BULK TRUCK		·		- Super Flu		Le 58.70	704.40		
# 356/290 BULK TRUCK	DRIVER	Jakel	lourd 3		:	_@ _@			
	<u>Dr</u> iver			HANGI MÖ	243 aft	@ Z.48	602.64		
				MILEAGE 4	388.5)4	× 2.60	1010.10		
201	RE	MARKS:		3		TOTAL	L 8090,84		
- Plus	Pio	hold	, 		SERVI	CF			
Well	lame_/	roste	R 1-1511						
AFEN	0	2,01	65	DEPTH OF I	OB <u>5592</u> K CHARGE		3099.25		
ACCINT No. 230.18				_ EXTRA FOO	TAGE	_@			
Namo Tony Earnest			MILEAGEMANIFOLD		@ 7.70	269.50 275			
			LV	25,	@ <u>4.40</u>	154			
- CILLIDAREO	T_{c}	11-11			· ·	_@			
CHARGE TO:	45			-		TOTAL	13797.75		
STREET			***	-					
CITY	S	TATE	ZIP		PLUG & FLOA	r equipme	NT		
				To Robber	. 01	B 99 4	5 99.45		
				Float	Coller 1	@ 886,8			
To: Allied Oil &						@ @			
You are hereby re and furnish ceme			nenting equipment			@			
contractor to do v	vork as i	s listed. Ti	he above work was				00/21		
			of owner agent or nd the "GENERAL		d'a		L 986.31		
			on the reverse sid		(If Any) 47	0.25			
	_	_	1	TOTALCHA		74.90			
PRINTED NAME	100	(3	raiosi	_ DISCOUNT	35% 4	506. 1FPA	ID IN 30 DAYS		
	4	ノェ	3	Net	8368.6	8			
SIGNATURE	17		a						
	<u> </u>			Trator artinitatives gavine	Programa programa (Calebra)	erentaren er	· verson programent of the last of the		

ALLIED OIL & GAS SERVICES, LLC 053931 Federal Tax I.D.# 20-5975804

RUSSELL, KANSAS 67665	SERVICE POINT: Medicine Logs KS				
DATE 10/14/12 SEC. TWP. RANGE C	ALLED OUT ON LOCATION JOB START JOB FINISH				
LEASE Practor Trust WELL # 1-25 H LOCATION Coldwar					
OLD OR (VERY (Circle one) Noth into	7.6				
CONTRACTOR Patterson 421	7.06				
TYPE OF JOB Production Liner	OWNER INS PILL				
HOLESIZE 61/2 T.D. 9681	CEMENT				
CASING SIZE 4½ DEPTH 9587 TUBING SIZE DEPTH	AMOUNT ORDERED 325.5x Class H 50:50 1				
TUBING SIZE DEPTH DRILL PIPE DEPTH	2% Gel + 5% Salt 1 6% FL-16 0 + 1% CD-31+ 1% SA-51+ 34 Kokeal + 4# Defoarier				
TOOL DEPTH					
PRES. MAX-1600 MINIMUM MEAS. LINE SHOE JOINT 45	COMMON_Class H 1635x @ 16,85 2746,55				
CEMENT LEFT IN CSG. 45	POZMIX 162sx @ 9.35 1514.76 GEL 6sx @ 23.40 140.40				
PERFS.	CHLORIDE @				
DISPLACEMENT 114 BBL, Fool 1120	ASC @				
EQUIPMENT	FL-160 16465 @ 18.90 3099.60 Roder Deformer. 81165 @ 9.80 793.80				
PUMPTRUCK CEMENTER Clesen Thingsch	Sale 9 cx @ 26.35 237.15				
#548/545 HELPER Daris Franklin	SA-51 271bs @ 17.55 473.85 /				
BULK TRUCK	(D-31 271 @ 10,30 278,10				
#351/250 DRIVER Brenden Boor 3 BULK TRUCK					
#DRIVER	@				
	HANDLING 356.20 c.ft @ 2.48 883.38 MILEAGE (507.5) h h: x 2.40 1319.50				
REMARKS:	TOTAL 11487.03				
The Held . Reversed out BRBLO coment	10 III 1 III 1				
Well Name: Procton 1-75H	SERVICE				
AFE No. 194.0165	DEPTH OF JOB 4587				
*:/.:-	DEPTH OF JOB <u>4587</u> PUMPTRUCK CHARGE <u>5920.20</u>				
ACCNT NO. 830.18	PUMPTRUCK CHARGE 59 20, 20				
Name Tony English	PUMPTRUCK CHARGE 5920.20 EXTRA FOOTAGE @ 7.70 36450				
ACCNT NO. 830.18	PUMPTRUCK CHARGE 5920.20 EXTRA FOOTAGE @ MILEAGE 35, @ 7.70 26450 MANIFOLD @ LV 351 @ 4.40 154				
Name Tany English of Signature To Earnal	PUMPTRUCK CHARGE 5920.20 EXTRA FOOTAGE @ 7.70 36450				
Name Tany English of Signature To Earnal	PUMPTRUCK CHARGE 5920.20 EXTRA FOOTAGE @ MILEAGE 35, @ 7.70 36450 MANIFOLD @ LV 35,1 @ 4.40 154				
Name Tany English of Signature Ty Earnal	PUMPTRUCK CHARGE 5920.20 EXTRA FOOTAGE @ MILEAGE 35, @ 7.70 36450 MANIFOLD @ LV 351 @ 4.40 154				
Name Tany English of Signature To Earnal	PUMPTRUCK CHARGE 5920.20 EXTRA FOOTAGE @ MILEAGE 35; @ 7.70 36450 MANIFOLD @ LV 35nl @ 4.40 154 @ TOTAL 6343.70				
Name Tany English of Signature Ty Earnal	PUMPTRUCK CHARGE 5920.20 EXTRA FOOTAGE @ MILEAGE 35; @ 7.70 36450 MANIFOLD				
Name Tany English of Signature Ty Earnal	PUMPTRUCK CHARGE				
ACCNT No. \$30.18 Name Tany Eauth of Signature Ty East of Street STREET STATE ZIP	PUMPTRUCK CHARGE				
ACCNT No. \$30.18 Name Tany English Signature Ty East Street CHARGE TO: The Hill STREET ZIP To: Allied Oil & Gas Services, LLC.	PUMPTRUCK CHARGE				
ACCNT No. \$30.18 Name Tany English Signature Ty East Street CHARGE TO: The Hill STREET ZIP To: Allied Oil & Gas Services, LLC. You are hereby requested to rent cementing equipment	PUMPTRUCK CHARGE				
ACCNT No. 630.18 Name Tany Fauth of Signature To Signature To State To Sta	PUMPTRUCK CHARGE				
ACCNT No. 630.18 Name Tany Fauth St. Signature Type State Street CHARGE TO: The Hill STREET 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	PUMPTRUCK CHARGE				
ACCNT No. 630.18 Name Lary Staught St. Signature Lary Staught St. Signature Lary Staught St. STREET	PUMPTRUCK CHARGE				
Name Low Factor Signature Signature Signature State CHARGE TO: The 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.	PUMPTRUCK CHARGE				
Name Low Factor Signature Signature Signature State CHARGE TO: The 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.	PUMPTRUCK CHARGE				
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ACCNT No. 630.18 Name Lary Staught St. Signature Lary Staught St. Signature Lary Staught St. STREET	PUMPTRUCK CHARGE				



Company: Tug Hill Operating, LLC

Site: Proctor Well: 1-25H

Project: Comanche County, Kansas (NAD83)

Rig Name: Patterson 421

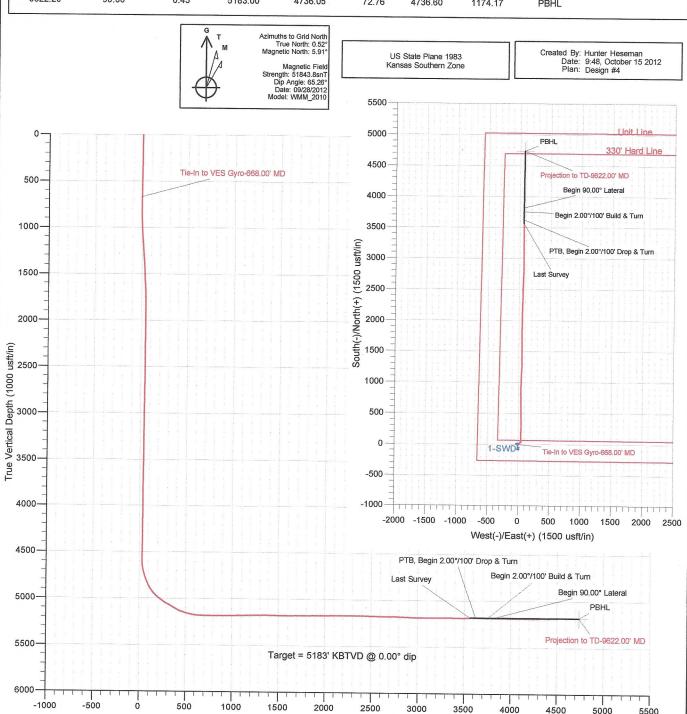


Planning: 936.442.2510 Fax: 936.442.2515 Operations: 936.442.2500 Fax: 936.442.2599

5000

5500

				ANNO	TATIONS			
MD	91.30	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation Last Survey PTB, Begin 2.00°/100' Drop & Turn Begin 2.00°/100' Build & Turn Begin 90.00° Lateral PBHL
8448.00	91.30	359.80	5183.84	3561.91	64.52	3562.48	0.00	
8509.00	91.30	359.80	5182.46	3622.89	64.30	3623.45	60.98	
8642.58	88.79	0.72	5182.35	3756.46	64.91	3757.02	194.56	
8704.50	90.00	0.45	5183.00	3818.37	65.55	3818.93	256.47	
9622.20	90.00	0.45	5183.00	4736.05	72.76	4736.60	1174.17	



The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by MS Energy are at the sole risk and responsibility of the customer. MS Energy is not responsible for the accuracy of this schematic or the information contained herein.

Vertical Section at 0.88° (1000 usft/in)

Contractor/Rig: Patterson-UTI 421 Well Name: Proctor Trust 1-25H State: KS **County: Comanche** As Run Township: 31W SHL: 265 FSL & 660 FWL GL Elev: 2120 KB: 23 KB Elev: BHL: 330' FNL & 660' FWL AFE: 12-0165 Permit/API Number: 15-083-21658-01-00 **Tubular Details** 20" Conductor 26" @ 72' 20" 9 5/8" 7" 4-1/2" Weight 94 lb/ft 36 lb/ft 26 lb/ft 15.10 lb/ft P-110 Grade X-42 J-55 N-80 9 5/8" 36# J55 STC 12-1/4" 3590 psi 3520 psi 9960 psi 10480 psi Burst @ 714 6230 psi NA Collapse 2020 psi 11080 psi Wall Thickness 0.438" 0.352" 0.337" 0.724" HOLE SIZE ID 19.124" 8.921" 6.276" 3.826" **Setting Depth** 72' 714' 5593' 9618' 8-¾" **Cement Details** Est. Vol Interval Company **Excess** Surface Intermediate Production Est. TOC @ 5500' Lead Production Tail See attachments for slurry details 11.6# N80 Liner Top **KOP** 8-¾" 4588' ' 26# N80 LTC @ 5593' **EOB** 4 1/2" 11.6# N80 LTC at 9618'

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/

Sam Brownback, Governor

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

December 12, 2012

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

Re: ACO1 API 15-033-21658-01-00 Proctor Trust 1-25H SW/4 Sec.25-31S-19W Comanche 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