

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1238237  
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: \_\_\_\_\_

1238237

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

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

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

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

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

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

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

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

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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<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. <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Mustang Fuel Corporation
Well Name	Muir 1-13H
Doc ID	1238237

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
6	7589-3252 (OA, MD)	25000 gals 7 1/2% NEFe HCl	
6	3269-3252 (OA, TVD)	128000 gals 25# Linear Gel	
		592000 gals 25# Borate XL	
		78400 gals 25# Linear Gel	
		624000# 20/40 Northern White	
		96000# 20/40 Res Garnet	



# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	11/17/2014
Job End Date:	11/19/2014
State:	Kansas
County:	Saline
API Number:	15-169-20352-01-00
Operator Name:	Mustang Fuel Corporation
Well Name and Number:	Muir #1-13H
Longitude:	-97.59791780
Latitude:	38.75374910
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	4,082
Total Base Water Volume (gal):	979,104
Total Base Non Water Volume:	0



## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Well Operator	Carrier/Base Fluid	Water	7732-18-5	100.00000	88.90353	None
20/40 Northern White Sand	CAF	Proppant, Scouring, Fill	Crystalline Silica (quartz)	14808-60-7	100.00000	6.28218	None
15% Unihibited HCl Acid	CAF	Etching, Dissolving, Cleaning	Water	7732-18-5	85.00000	2.07423	None
			Hydrochloric Acid	7647-01-0	15.00000	0.36604	None
20/40 RCS Garnet	CAF	Proppant, Scouring, Fill	Crystalline Silica (quartz)	14808-60-7	97.00000	1.01639	None
			Phenol-Formaldehyde Novalak Resin	9003-35-4	5.00000	0.05239	None
			Hexamethylenetetramine	100-97-0	1.00000	0.01048	None
WG-1SLR	CAF	Gelling Agent	Mineral Oil	8012-95-1	64.00000	0.47479	None
			Guar Gum	9000-30-0	36.00000	0.26707	None
XLB-1	CAF	Gel Crosslinker	Plexbor 101 Blend:	NA	100.00000	0.17642	None
S-1	CAF	Surface Tension Reducer					

			Water	7732-18-5	55.50000	0.05055	None
			Methanol	67-56-1	12.70000	0.01160	None
			Poly(ethylene Oxide)	25322-68-3	9.10000	0.00829	None
			Nonylphenal Polyethylene Glycol Ether	127087-87-0	9.10000	0.00829	None
			Dinanylphenyl Polyoxyethylene	201602-88-2	9.10000	0.00829	None
			Isopropanol	67-63-0	4.60000	0.00415	None
KCL-1C	CAF	KCL Substitute					
			Water	7732-18-5	63.60000	0.05856	None
			Coca Alkyldimethylamines	61788-90-7	20.00000	0.01842	None
			Methanol	67-56-1	12.70000	0.01169	None
			Isopropanol	67-63-0	0.40000	0.00033	None
CS-1	CAF	Clay Stabilizer					
			Clay Stabilizer Chemical Blend:	NA	100.00000	0.07652	None
CIA-1	CAF	Corrosion Inhibitor					
			Water	7732-18-5	54.50000	0.04597	None
			Isopropanol	67-63-0	13.60000	0.01147	None
			Glycol Ether EB	111-76-2	9.00000	0.00759	None
			Methanol	67-56-1	9.00000	0.00759	None
			Water	7732-18-5	24.00000	0.00048	None
			Methanol	67-56-1	9.00000	0.00018	None
			Cinnamaldehyde	104-55-2	8.40000	0.00017	None
			N-Dimethylformamide	68-12-2	8.40000	0.00017	None
			Ethylene Glycol	107-21-1	8.40000	0.00017	None
			Triethyl Phosphate	78-40-0	8.40000	0.00017	None
			Ethoxylated Nonylphenol	68412-54-4	8.40000	0.00017	None
			Isopropyl Alcohol	67-63-0	8.40000	0.00017	None
			Tar Bases-quinoline derivs-benzyl chloride/quaternized	72480-70-7	8.40000	0.00017	None
			2-Butoxyethanol	111-76-2	8.40000	0.00017	None
BIO-3L	CAF	Bacteria Control					
			Biocide, Liquid Chemical Blend:	NA	100.00000	0.03658	None
IC-1L	CAF	Iron Control Agent					
			Water	7732-18-5	50.00000	0.00596	None
			Acetic Acid	64-19-7	28.60000	0.00341	None
			Citric Acid	77-92-9	21.40000	0.00255	None
B-3	CAF	Encapsulated Breaker					
			Sodium Persulfate	7775-27-1	97.00000	0.00656	None
B-1	CAF	Breaker					
			Sodium Persulfate	7775-27-1	100.00000	0.00651	None

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

# **Mustang Fuel**

**Saline County (NAD-83)**

**Sec 13-T15S-R03W**

**Muir 1-13H**

**Wellbore #1**

**Design: Wellbore #1**

## **Standard Survey Report**

**13 October, 2014**



## Survey Report

<b>Company:</b> Mustang Fuel	<b>Local Co-ordinate Reference:</b> Well Muir 1-13H
<b>Project:</b> Saline County (NAD-83)	<b>TVD Reference:</b> KB @ 1264.0usft
<b>Site:</b> Sec 13-T15S-R03W	<b>MD Reference:</b> KB @ 1264.0usft
<b>Well:</b> Muir 1-13H	<b>North Reference:</b> Grid
<b>Wellbore:</b> Wellbore #1	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> Wellbore #1	<b>Database:</b> EDM 5000.1 Single User Db

<b>Project</b> Saline County (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 Northern Zone	

<b>Site</b> Sec 13-T15S-R03W		
<b>Site Position:</b>	<b>Northing:</b> 153,625.00 usft	<b>Latitude:</b> 38° 45' 15.946 N
<b>From:</b> Map	<b>Easting:</b> 1,427,918.00 usft	<b>Longitude:</b> 97° 35' 40.925 W
<b>Position Uncertainty:</b> 0.0 usft	<b>Slot Radius:</b> 13-3/16 "	<b>Grid Convergence:</b> 0.26 °

<b>Well</b> Muir 1-13H			
<b>Well Position</b>	<b>+N/-S</b> 0.0 usft	<b>Northing:</b> 153,377.00 usft	<b>Latitude:</b> 38° 45' 13.538 N
	<b>+E/-W</b> 0.0 usft	<b>Easting:</b> 1,426,930.00 usft	<b>Longitude:</b> 97° 35' 53.411 W
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b> 0.0 usft	<b>Ground Level:</b> 1,252.0 usft

<b>Wellbore</b> Wellbore #1					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	7/11/2014	4.03	66.56	52,540

<b>Design</b> Wellbore #1					
<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	174.02	

<b>Survey Program</b>		<b>Date</b> 10/13/2014		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
2,402.0	7,645.0	Drillright MWD Surveys (Wellbore #1)	MWD	MWD - Standard

<b>Survey</b>										
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)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,402.0	1.00	231.60	2,401.9	-13.0	-16.4	11.2	0.04	0.04	0.00	
<b>First Drillright MWD Survey</b>										
2,435.0	1.00	244.50	2,434.9	-13.3	-16.9	11.5	0.68	0.00	39.09	
2,466.0	0.90	249.00	2,465.9	-13.5	-17.4	11.6	0.40	-0.32	14.52	
2,498.0	1.30	217.80	2,497.9	-13.9	-17.8	12.0	2.21	1.25	-97.50	
2,528.0	3.40	204.80	2,527.8	-15.0	-18.4	13.0	7.18	7.00	-43.33	
2,559.0	5.20	191.60	2,558.7	-17.2	-19.1	15.1	6.59	5.81	-42.58	
2,591.0	7.20	184.40	2,590.6	-20.6	-19.5	18.5	6.69	6.25	-22.50	
2,621.0	9.30	187.20	2,620.2	-24.9	-20.0	22.7	7.12	7.00	9.33	

## Survey Report

<b>Company:</b>	Mustang Fuel	<b>Local Co-ordinate Reference:</b>	Well Muir 1-13H
<b>Project:</b>	Saline County (NAD-83)	<b>TVD Reference:</b>	KB @ 1264.0usft
<b>Site:</b>	Sec 13-T15S-R03W	<b>MD Reference:</b>	KB @ 1264.0usft
<b>Well:</b>	Muir 1-13H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
2,653.0	11.70	185.90	2,651.7	-30.7	-20.6	28.4	7.54	7.50	-4.06	
2,685.0	13.80	179.90	2,682.9	-37.7	-21.0	35.3	7.75	6.56	-18.75	
2,716.0	15.80	173.30	2,712.9	-45.6	-20.5	43.2	8.43	6.45	-21.29	
2,748.0	18.50	169.90	2,743.5	-54.9	-19.1	52.7	9.00	8.44	-10.63	
2,779.0	21.30	169.60	2,772.6	-65.3	-17.2	63.2	9.04	9.03	-0.97	
2,810.0	23.80	169.70	2,801.2	-77.0	-15.1	75.0	8.07	8.06	0.32	
2,842.0	26.30	170.70	2,830.2	-90.4	-12.8	88.6	7.92	7.81	3.13	
2,873.0	28.70	169.90	2,857.7	-104.5	-10.3	102.8	7.83	7.74	-2.58	
2,905.0	31.60	169.40	2,885.4	-120.3	-7.5	118.9	9.10	9.06	-1.56	
2,937.0	34.40	170.80	2,912.2	-137.5	-4.5	136.2	9.07	8.75	4.38	
2,968.0	36.90	171.10	2,937.4	-155.3	-1.6	154.3	8.08	8.06	0.97	
2,999.0	39.50	171.40	2,961.8	-174.2	1.3	173.4	8.41	8.39	0.97	
3,031.0	41.90	171.80	2,986.0	-194.9	4.3	194.3	7.54	7.50	1.25	
3,062.0	43.50	172.60	3,008.8	-215.7	7.2	215.3	5.45	5.16	2.58	
3,094.0	45.10	174.20	3,031.7	-237.9	9.8	237.6	6.10	5.00	5.00	
3,125.0	47.20	175.20	3,053.2	-260.2	11.8	260.0	7.16	6.77	3.23	
3,157.0	49.50	174.90	3,074.5	-284.0	13.9	283.9	7.22	7.19	-0.94	
3,188.0	51.30	174.80	3,094.2	-307.8	16.0	307.8	5.81	5.81	-0.32	
3,219.0	54.30	173.70	3,113.0	-332.3	18.5	332.5	10.08	9.68	-3.55	
3,251.0	57.70	173.40	3,130.9	-358.7	21.5	359.0	10.65	10.63	-0.94	
3,283.0	61.30	173.30	3,147.1	-386.1	24.7	386.6	11.25	11.25	-0.31	
3,315.0	65.00	172.40	3,161.5	-414.4	28.2	415.1	11.83	11.56	-2.81	
3,346.0	68.20	171.70	3,173.8	-442.6	32.2	443.5	10.53	10.32	-2.26	
3,377.0	70.00	171.20	3,184.9	-471.2	36.5	472.5	6.00	5.81	-1.61	
3,409.0	70.40	171.00	3,195.7	-501.0	41.1	502.5	1.38	1.25	-0.63	
3,441.0	70.50	171.30	3,206.5	-530.8	45.8	532.6	0.94	0.31	0.94	
3,472.0	70.70	171.20	3,216.8	-559.7	50.2	561.8	0.71	0.65	-0.32	
3,503.0	73.00	171.30	3,226.4	-588.8	54.7	591.3	7.43	7.42	0.32	
3,535.0	76.10	171.70	3,234.9	-619.3	59.3	622.1	9.76	9.69	1.25	
3,566.0	78.60	172.70	3,241.7	-649.2	63.4	652.3	8.66	8.06	3.23	
3,597.0	81.10	173.30	3,247.2	-679.5	67.1	682.8	8.29	8.06	1.94	
3,628.0	83.10	173.50	3,251.4	-710.0	70.6	713.5	6.48	6.45	0.65	
3,660.0	84.30	173.40	3,255.0	-741.6	74.2	745.3	3.76	3.75	-0.31	
3,690.0	86.70	174.10	3,257.3	-771.3	77.5	775.2	8.33	8.00	2.33	
3,722.0	88.90	174.00	3,258.5	-803.2	80.8	807.2	6.88	6.88	-0.31	
3,754.0	88.00	173.60	3,259.4	-835.0	84.3	839.2	3.08	-2.81	-1.25	
3,786.0	88.30	173.50	3,260.4	-866.7	87.9	871.2	0.99	0.94	-0.31	
3,817.0	89.40	173.60	3,261.1	-897.5	91.3	902.2	3.56	3.55	0.32	
3,849.0	89.20	174.70	3,261.4	-929.4	94.6	934.2	3.49	-0.63	3.44	
3,881.0	87.60	175.60	3,262.3	-961.2	97.3	966.1	5.74	-5.00	2.81	
3,942.0	87.70	176.50	3,264.8	-1,022.0	101.5	1,027.0	1.48	0.16	1.48	
3,973.0	87.60	176.20	3,266.1	-1,052.9	103.5	1,058.0	1.02	-0.32	-0.97	
4,004.0	87.60	176.00	3,267.4	-1,083.8	105.6	1,088.9	0.64	0.00	-0.65	

## Survey Report

<b>Company:</b>	Mustang Fuel	<b>Local Co-ordinate Reference:</b>	Well Muir 1-13H
<b>Project:</b>	Saline County (NAD-83)	<b>TVD Reference:</b>	KB @ 1264.0usft
<b>Site:</b>	Sec 13-T15S-R03W	<b>MD Reference:</b>	KB @ 1264.0usft
<b>Well:</b>	Muir 1-13H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
4,035.0	89.00	176.00	3,268.3	-1,114.8	107.7	1,119.9	4.52	4.52	0.00	
4,066.0	88.40	175.90	3,269.0	-1,145.7	109.9	1,150.9	1.96	-1.94	-0.32	
4,097.0	88.90	175.90	3,269.8	-1,176.6	112.1	1,181.9	1.61	1.61	0.00	
4,128.0	88.90	174.50	3,270.4	-1,207.5	114.7	1,212.9	4.52	0.00	-4.52	
4,159.0	89.10	173.20	3,270.9	-1,238.3	118.1	1,243.8	4.24	0.65	-4.19	
4,190.0	89.60	173.20	3,271.3	-1,269.1	121.7	1,274.8	1.61	1.61	0.00	
4,222.0	90.70	173.00	3,271.2	-1,300.8	125.6	1,306.8	3.49	3.44	-0.63	
4,253.0	90.80	173.30	3,270.8	-1,331.6	129.3	1,337.8	1.02	0.32	0.97	
4,284.0	90.80	173.40	3,270.3	-1,362.4	132.9	1,368.8	0.32	0.00	0.32	
4,315.0	91.00	173.50	3,269.8	-1,393.2	136.4	1,399.8	0.72	0.65	0.32	
4,346.0	91.30	174.10	3,269.2	-1,424.0	139.7	1,430.8	2.16	0.97	1.94	
4,377.0	90.70	173.40	3,268.7	-1,454.8	143.1	1,461.8	2.97	-1.94	-2.26	
4,408.0	89.80	173.40	3,268.5	-1,485.6	146.7	1,492.8	2.90	-2.90	0.00	
4,439.0	90.40	174.60	3,268.5	-1,516.4	149.9	1,523.8	4.33	1.94	3.87	
4,470.0	90.20	174.10	3,268.3	-1,547.3	153.0	1,554.8	1.74	-0.65	-1.61	
4,501.0	89.50	173.30	3,268.4	-1,578.1	156.4	1,585.8	3.43	-2.26	-2.58	
4,532.0	90.30	172.80	3,268.5	-1,608.9	160.1	1,616.8	3.04	2.58	-1.61	
4,563.0	91.00	172.10	3,268.1	-1,639.6	164.2	1,647.8	3.19	2.26	-2.26	
4,594.0	90.70	173.20	3,267.7	-1,670.3	168.2	1,678.8	3.68	-0.97	3.55	
4,625.0	88.70	174.50	3,267.8	-1,701.2	171.5	1,709.8	7.69	-6.45	4.19	
4,656.0	87.40	174.70	3,268.9	-1,732.0	174.4	1,740.7	4.24	-4.19	0.65	
4,688.0	87.40	174.50	3,270.3	-1,763.8	177.4	1,772.7	0.62	0.00	-0.63	
4,719.0	87.20	174.00	3,271.8	-1,794.6	180.5	1,803.7	1.74	-0.65	-1.61	
4,749.0	87.90	173.90	3,273.1	-1,824.4	183.7	1,833.6	2.36	2.33	-0.33	
4,780.0	88.30	173.70	3,274.1	-1,855.2	187.0	1,864.6	1.44	1.29	-0.65	
4,811.0	90.30	173.50	3,274.5	-1,886.0	190.5	1,895.6	6.48	6.45	-0.65	
4,842.0	89.80	173.20	3,274.4	-1,916.8	194.1	1,926.6	1.88	-1.61	-0.97	
4,874.0	88.30	173.80	3,275.0	-1,948.6	197.7	1,958.6	5.05	-4.69	1.88	
4,905.0	88.70	173.70	3,275.8	-1,979.4	201.1	1,989.6	1.33	1.29	-0.32	
4,936.0	89.70	173.50	3,276.2	-2,010.2	204.5	2,020.6	3.29	3.23	-0.65	
4,967.0	90.70	173.60	3,276.1	-2,041.0	208.0	2,051.6	3.24	3.23	0.32	
4,998.0	90.00	173.60	3,275.9	-2,071.8	211.4	2,082.6	2.26	-2.26	0.00	
5,029.0	90.00	173.40	3,275.9	-2,102.6	215.0	2,113.6	0.65	0.00	-0.65	
5,060.0	88.70	172.50	3,276.3	-2,133.4	218.8	2,144.6	5.10	-4.19	-2.90	
5,091.0	88.50	171.80	3,277.0	-2,164.1	223.0	2,175.6	2.35	-0.65	-2.26	
5,122.0	89.00	171.00	3,277.7	-2,194.8	227.6	2,206.5	3.04	1.61	-2.58	
5,153.0	89.20	171.50	3,278.2	-2,225.4	232.3	2,237.5	1.74	0.65	1.61	
5,184.0	89.50	172.50	3,278.5	-2,256.1	236.7	2,268.5	3.37	0.97	3.23	
5,216.0	89.10	172.10	3,278.9	-2,287.8	240.9	2,300.4	1.77	-1.25	-1.25	
5,248.0	90.40	172.20	3,279.1	-2,319.5	245.3	2,332.4	4.07	4.06	0.31	
5,279.0	90.70	172.00	3,278.8	-2,350.2	249.6	2,363.4	1.16	0.97	-0.65	
5,311.0	89.70	171.70	3,278.7	-2,381.9	254.1	2,395.4	3.26	-3.13	-0.94	
5,343.0	91.90	172.00	3,278.2	-2,413.5	258.6	2,427.4	6.94	6.88	0.94	

## Survey Report

<b>Company:</b>	Mustang Fuel	<b>Local Co-ordinate Reference:</b>	Well Muir 1-13H
<b>Project:</b>	Saline County (NAD-83)	<b>TVD Reference:</b>	KB @ 1264.0usft
<b>Site:</b>	Sec 13-T15S-R03W	<b>MD Reference:</b>	KB @ 1264.0usft
<b>Well:</b>	Muir 1-13H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
5,374.0	92.10	173.20	3,277.1	-2,444.3	262.6	2,458.3	3.92	0.65		3.87
5,406.0	92.00	173.30	3,276.0	-2,476.0	266.4	2,490.3	0.44	-0.31		0.31
5,438.0	92.20	173.40	3,274.8	-2,507.8	270.1	2,522.3	0.70	0.63		0.31
5,469.0	90.60	172.80	3,274.1	-2,538.6	273.8	2,553.3	5.51	-5.16		-1.94
5,501.0	88.80	172.90	3,274.2	-2,570.3	277.8	2,585.3	5.63	-5.63		0.31
5,532.0	88.60	172.70	3,274.9	-2,601.1	281.7	2,616.2	0.91	-0.65		-0.65
5,564.0	90.50	173.10	3,275.2	-2,632.8	285.6	2,648.2	6.07	5.94		1.25
5,595.0	92.80	173.90	3,274.3	-2,663.6	289.2	2,679.2	7.85	7.42		2.58
5,627.0	92.70	174.00	3,272.8	-2,695.4	292.5	2,711.2	0.44	-0.31		0.31
5,659.0	92.20	173.90	3,271.4	-2,727.2	295.9	2,743.2	1.59	-1.56		-0.31
5,690.0	92.30	173.80	3,270.2	-2,758.0	299.2	2,774.1	0.46	0.32		-0.32
5,722.0	92.30	174.20	3,268.9	-2,789.8	302.6	2,806.1	1.25	0.00		1.25
5,753.0	92.40	174.00	3,267.6	-2,820.6	305.7	2,837.1	0.72	0.32		-0.65
5,785.0	92.60	174.50	3,266.2	-2,852.4	308.9	2,869.0	1.68	0.63		1.56
5,816.0	92.40	174.50	3,264.9	-2,883.2	311.9	2,900.0	0.65	-0.65		0.00
5,848.0	91.30	175.60	3,263.8	-2,915.1	314.7	2,932.0	4.86	-3.44		3.44
5,880.0	91.80	176.00	3,263.0	-2,947.0	317.0	2,964.0	2.00	1.56		1.25
5,912.0	91.90	176.30	3,261.9	-2,978.9	319.2	2,995.9	0.99	0.31		0.94
5,943.0	90.00	175.50	3,261.4	-3,009.8	321.4	3,026.9	6.65	-6.13		-2.58
5,975.0	90.10	175.20	3,261.4	-3,041.7	324.0	3,058.9	0.99	0.31		-0.94
6,006.0	90.30	175.50	3,261.3	-3,072.6	326.5	3,089.9	1.16	0.65		0.97
6,038.0	90.40	175.60	3,261.1	-3,104.5	329.0	3,121.9	0.44	0.31		0.31
6,069.0	89.40	174.70	3,261.1	-3,135.4	331.6	3,152.9	4.34	-3.23		-2.90
6,101.0	89.40	174.70	3,261.5	-3,167.2	334.5	3,184.9	0.00	0.00		0.00
6,132.0	89.00	174.10	3,261.9	-3,198.1	337.6	3,215.9	2.33	-1.29		-1.94
6,164.0	89.10	173.50	3,262.4	-3,229.9	341.0	3,247.9	1.90	0.31		-1.88
6,196.0	89.60	173.80	3,262.8	-3,261.7	344.6	3,279.9	1.82	1.56		0.94
6,227.0	88.90	174.00	3,263.2	-3,292.5	347.9	3,310.8	2.35	-2.26		0.65
6,259.0	89.30	173.90	3,263.7	-3,324.3	351.2	3,342.8	1.29	1.25		-0.31
6,291.0	91.10	174.70	3,263.6	-3,356.2	354.4	3,374.8	6.16	5.63		2.50
6,322.0	91.30	175.80	3,263.0	-3,387.1	357.0	3,405.8	3.61	0.65		3.55
6,369.0	92.00	175.70	3,261.6	-3,433.9	360.5	3,452.8	1.50	1.49		-0.21
6,401.0	92.20	175.90	3,260.4	-3,465.8	362.8	3,484.7	0.88	0.63		0.63
6,432.0	91.20	174.70	3,259.5	-3,496.7	365.3	3,515.7	5.04	-3.23		-3.87
6,464.0	91.40	174.40	3,258.8	-3,528.5	368.4	3,547.7	1.13	0.63		-0.94
6,496.0	91.70	174.30	3,257.9	-3,560.4	371.5	3,579.7	0.99	0.94		-0.31
6,527.0	90.90	173.90	3,257.2	-3,591.2	374.7	3,610.7	2.89	-2.58		-1.29
6,559.0	90.90	173.60	3,256.7	-3,623.0	378.2	3,642.7	0.94	0.00		-0.94
6,590.0	90.40	173.60	3,256.4	-3,653.8	381.6	3,673.7	1.61	-1.61		0.00
6,622.0	90.20	173.50	3,256.2	-3,685.6	385.2	3,705.7	0.70	-0.63		-0.31
6,654.0	90.40	173.30	3,256.0	-3,717.4	388.9	3,737.7	0.88	0.63		-0.63
6,685.0	90.50	173.80	3,255.8	-3,748.2	392.4	3,768.7	1.64	0.32		1.61
6,717.0	90.60	173.80	3,255.5	-3,780.0	395.9	3,800.7	0.31	0.31		0.00
6,748.0	90.40	174.00	3,255.2	-3,810.8	399.2	3,831.7	0.91	-0.65		0.65

## Survey Report

<b>Company:</b>	Mustang Fuel	<b>Local Co-ordinate Reference:</b>	Well Muir 1-13H
<b>Project:</b>	Saline County (NAD-83)	<b>TVD Reference:</b>	KB @ 1264.0usft
<b>Site:</b>	Sec 13-T15S-R03W	<b>MD Reference:</b>	KB @ 1264.0usft
<b>Well:</b>	Muir 1-13H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
6,780.0	90.70	174.20	3,254.9	-3,842.7	402.4	3,863.7	1.13	0.94	0.63	
6,811.0	89.80	174.20	3,254.8	-3,873.5	405.6	3,894.7	2.90	-2.90	0.00	
6,843.0	89.20	174.20	3,255.0	-3,905.3	408.8	3,926.7	1.88	-1.88	0.00	
6,875.0	90.10	174.20	3,255.2	-3,937.2	412.0	3,958.7	2.81	2.81	0.00	
6,906.0	90.60	174.00	3,255.0	-3,968.0	415.2	3,989.7	1.74	1.61	-0.65	
6,938.0	89.40	174.30	3,255.0	-3,999.8	418.5	4,021.7	3.87	-3.75	0.94	
6,970.0	90.20	174.30	3,255.2	-4,031.7	421.7	4,053.7	2.50	2.50	0.00	
7,001.0	91.30	173.90	3,254.8	-4,062.5	424.9	4,084.7	3.78	3.55	-1.29	
7,033.0	91.40	173.90	3,254.0	-4,094.3	428.3	4,116.7	0.31	0.31	0.00	
7,065.0	91.50	173.80	3,253.2	-4,126.1	431.7	4,148.7	0.44	0.31	-0.31	
7,096.0	91.60	173.70	3,252.4	-4,156.9	435.1	4,179.6	0.46	0.32	-0.32	
7,128.0	91.50	174.00	3,251.5	-4,188.7	438.5	4,211.6	0.99	-0.31	0.94	
7,160.0	89.20	173.10	3,251.3	-4,220.5	442.1	4,243.6	7.72	-7.19	-2.81	
7,191.0	88.30	173.10	3,252.0	-4,251.3	445.8	4,274.6	2.90	-2.90	0.00	
7,223.0	90.20	173.20	3,252.4	-4,283.1	449.6	4,306.6	5.95	5.94	0.31	
7,254.0	90.30	173.30	3,252.3	-4,313.9	453.3	4,337.6	0.46	0.32	0.32	
7,286.0	90.10	172.70	3,252.1	-4,345.6	457.2	4,369.6	1.98	-0.63	-1.88	
7,318.0	90.80	172.70	3,251.9	-4,377.4	461.2	4,401.6	2.19	2.19	0.00	
7,350.0	90.80	172.30	3,251.4	-4,409.1	465.4	4,433.6	1.25	0.00	-1.25	
7,381.0	90.80	172.20	3,251.0	-4,439.8	469.6	4,464.6	0.32	0.00	-0.32	
7,413.0	89.70	172.30	3,250.9	-4,471.5	473.9	4,496.5	3.45	-3.44	0.31	
7,445.0	88.80	172.90	3,251.3	-4,503.2	478.0	4,528.5	3.38	-2.81	1.88	
7,476.0	89.40	172.80	3,251.8	-4,534.0	481.9	4,559.5	1.96	1.94	-0.32	
7,508.0	90.20	172.70	3,251.9	-4,565.7	485.9	4,591.5	2.52	2.50	-0.31	
7,540.0	90.00	172.70	3,251.8	-4,597.5	490.0	4,623.5	0.63	-0.63	0.00	
7,571.0	89.40	172.60	3,252.0	-4,628.2	493.9	4,654.5	1.96	-1.94	-0.32	
7,599.0	89.50	172.30	3,252.3	-4,656.0	497.6	4,682.5	1.13	0.36	-1.07	
<b>Last Drillright MWD Survey</b>										
7,645.0	89.50	172.30	3,252.7	-4,701.6	503.8	4,728.5	0.00	0.00	0.00	
<b>Projection to TD - PBHL Muir 1-13H</b>										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
2,402.0	2,401.9	-13.0	-16.4	First Drillright MWD Survey	
7,599.0	3,252.3	-4,656.0	497.6	Last Drillright MWD Survey	
7,645.0	3,252.7	-4,701.6	503.8	Projection to TD	

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

**MUSTANG FUEL CORPORATION**  
**CASING AND CEMENTING REPORT**

Date: 28-Sep-14 Casing Size: 13 3/8  
 Block: \_\_\_\_\_ OCSG: MUIR Well No. 1-13H  
 TD: 168 Casing Setting Depth: 151 Hole Size 14 3/4

**CASING ON HAND**

JTS	OD	WT	GRADE	THDS	LENGTH	MANUFACTURER	DATE RC'VD
7	13 3/8	54.5	J-55	8 RD	286.90		9-28-14

**LOG OF CASING RUN IN HOLE**

JTS	DESCRIPTION	OD	WT	GRD	THD	LENGTH	
7	13 3/8 CSG	13 3/8	54.5	J-55	8RD	164.87	
Centralizers @ <u>NONE</u>							
						Less Cut Off Joint	14.20
						Plus RKB to Cut Off	13.8
GROUND LEVEL						Casing Set At	150.67

**CEMENTING REPORT**

Cementing Company ALLIED CEMENTING No. Of Units 2  
 Spacers 10 bbls of WATER @ 8.4 ppg  
 Cemented With: 80 sks of Class H, 2% GEL, 3% CC, 1/4 CELLO FLAKES  
 @ 15.6 ppg Yield = 1.26 cf/sk  
 Followed By \_\_\_\_\_ sks of Class \_\_\_\_\_ plus \_\_\_\_\_  
 @ \_\_\_\_\_ ppg Yield = \_\_\_\_\_ cf/sk  
 Displaced With: 23.2 bbls of Water @ 8.4 ppg  
 Plug Bumped At NO PLUG bbls displacement. Pressured up to: \_\_\_\_\_ psi  
 Plug bumped yes FLOAT DID HOLD Cement: Did circulate. YES Volume cmt to surface 22 bbls  
 Estimated Top of Cement GROUND Circulation Lost @ \_\_\_\_\_  
 Recommended WOC Time 8--12 HRS Cement in Place @ 19:00 HRS

**CASING LEFT ON BOARD**

JIS	LENGTH	DESCRIPTION	DISPOSITION	TRANSPORTATION	DATE OFF-LOADED
3	120.50	13 3/8 J-55 CSG, 54.5 #	yard		9-28-14

Reported By: ROY L BLACK Date: 29-Sep-14

**MUSTANG FUEL CORPORATION**  
**CASING AND CEMENTING REPORT**

Date: 29-Sep-14 Casing Size: 9 5/8  
 Block: \_\_\_\_\_ OCSG: MUIR Well No. 1 13H  
 TD: 168 Casing Setting Depth: 477 Hole Size 12 1/4

**CASING ON HAND**

JTS	OD	WT	GRADE	THDS	LENGTH	MANUFACTURER	DATE RC'VD
14	9 5/8/	36	J-55	8 RD	582.60		9-28-14

**LOG OF CASING RUN IN HOLE**

JTS	DESCRIPTION	OD	WT	GRD	THD	LENGTH
12	9 5/8 SG	9-5/8	36	J-55	8 RD	493.11
6 CENTRALIZERS MIDDLE OF FIRST, 2-5-7-9-11						16.25
						13.8
GROUND LEVEL						479

**CEMENTING REPORT**

Cementing Company ALLIED CEMENTING No. Of Units 2  
 Spacers 10 bbls of WATER @ 8.4 ppg  
 Cemented With: 250 sks of Class \_\_\_\_\_  
 @ 15.6 ppg Yield = 1.26 cf/sk  
 Followed By \_\_\_\_\_ sks of Class \_\_\_\_\_ plus \_\_\_\_\_  
 @ \_\_\_\_\_ ppg Yield = \_\_\_\_\_ cf/sk  
 Displaced With: 34.8 bbls of Water @ 8.4 ppg  
 Plug Bumped At 2:00AM bbls displacement. Pressured up to: \_\_\_\_\_ psi  
 Plug bumped yes FLOAT DID HOLD Cement: Did circulate. YES Volume cmt to surface 22 S 0 bbls  
 Estimated Top of Cement CIRCULATED Circulation Lost @ \_\_\_\_\_  
 Recommended WOC Time 4 Cement in Place @ 2:00 AM

**CASING LEFT ON BOARD**

JIS	LENGTH	DESCRIPTION	DISPOSITION	TRANSPORTATION	DATE OFF-LOADED
2	83.60	9 5/8 CSG, J-55, 36#, STC	YARD		9-28-14

Reported By: ROY L. BLACK Date: 30-Sep-14





**MUSTANG FUEL CORPORATION**  
**CASING AND CEMENTING REPORT**

Date 10-16-14 Casing Size: 4 1/2  
 Block: \_\_\_\_\_ OCSG: MUIR Well No. 1-13H  
 TD: 7,645 Casing Setting Depth: 7,636.22 Hole Size 6 1/8

**CASING ON HAND**

JTS	OD	WT	GRADE	THDS	LENGTH	MANUFACTURER	DATE RC'VD
128	4 1/2	11.60	L-80	BUTTRESS	5,208.35		10-11-14
57	4 1/2	11.60	J-55	8 RD	2615.88		10-11-14
1	4 1/2	11.60	L-80	8RD-BUTT	39.39		10-11-14
1	4 1/2	11.60	L-80	BUTTRESS	20.28		10-11-14

**LOG OF CASING RUN IN HOLE**

JTS	DESCRIPTION	OD	WT	GRD	THD	LENGTH	
53	CSG	4.5	11.60	J-55	8RD	2,431.14	
34	CSG	4.5	11.60	L-80	BUTTR	1,387.06	
1	LATCH	6.020			BUTTR	1.60	
1	ADPT & HANGER	6.020	26	N-80	BUTTR	8.7	
6	CSG	4.5	11.60	L-80	BUTTR	243.34	
1	MARKER JT	4.5	11.60	L-80	BUTTR	20.28	
87	CSG	4.5	11.60	L-80	BUTTR	3539.52	
2	FLOAT COLLAR, LANDING COLLAR					2.13	
1	4.5 BUTTRESS L-80	4.5	11.60	L-80	BUTTR9	38.78	
1	FLOAT SHOE				BUTTR	1.30	
Centralizers @ _____						TOTAL	7,673.85
						Less Cut Off Joint	51.43
						Plus RKB to Cut Off	13.8
						Casing Set At	7,636.22

**CEMENTING REPORT**

Cementing Company ALLIED No. Of Units 3  
 Spacers 20 bbls of MUD FLUSH @ 8.6 ppg  
 Cemented With: 380 sks of Class CLASS H W/ 0.1% SUSPENSION AGENT, 0.4% FLUID LOSS  
10% SODIUM CHLORIDE, 1/4# FLO SEAL @ 15.2 ppg Yield = 1.22 cf/sk  
 Followed By \_\_\_\_\_ sks of Class \_\_\_\_\_ plus \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_ ppg Yield = \_\_\_\_\_ cf/sk  
 Displaced With: 82.7 bbls of WATER @ 8.4 ppg  
 Plug Bumped At 83 bbls displacement. Pressured up to: \_\_\_\_\_ psi  
 Plug Did bump Yes Floats: Did hold. Yes Cement: Did circulate. NO Volume cmt to surface 10 ? bbls  
 Estimated Top of Cement 3,600 Circulation Lost @ NO bbls displaced  
 Recommended WOC Time \_\_\_\_\_ Cement in Place @ 12:00

**CASING LEFT ON BOARD**

JIS	LENGTH	DESCRIPTION	DISPOSITION	TRANSPORTATION	DATE OFF-LOADED
1	39.39	4 1/2 11.60 CSG, 8RD BY BUTTRESS	RIG		10-11-14
4	184.48	4 1/2, J-55 11.60 CSG, 8RD	RIG		10-11-14

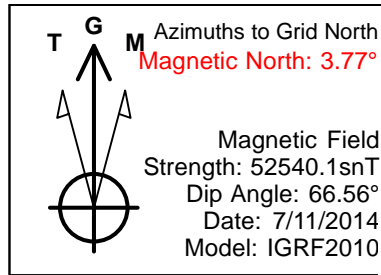
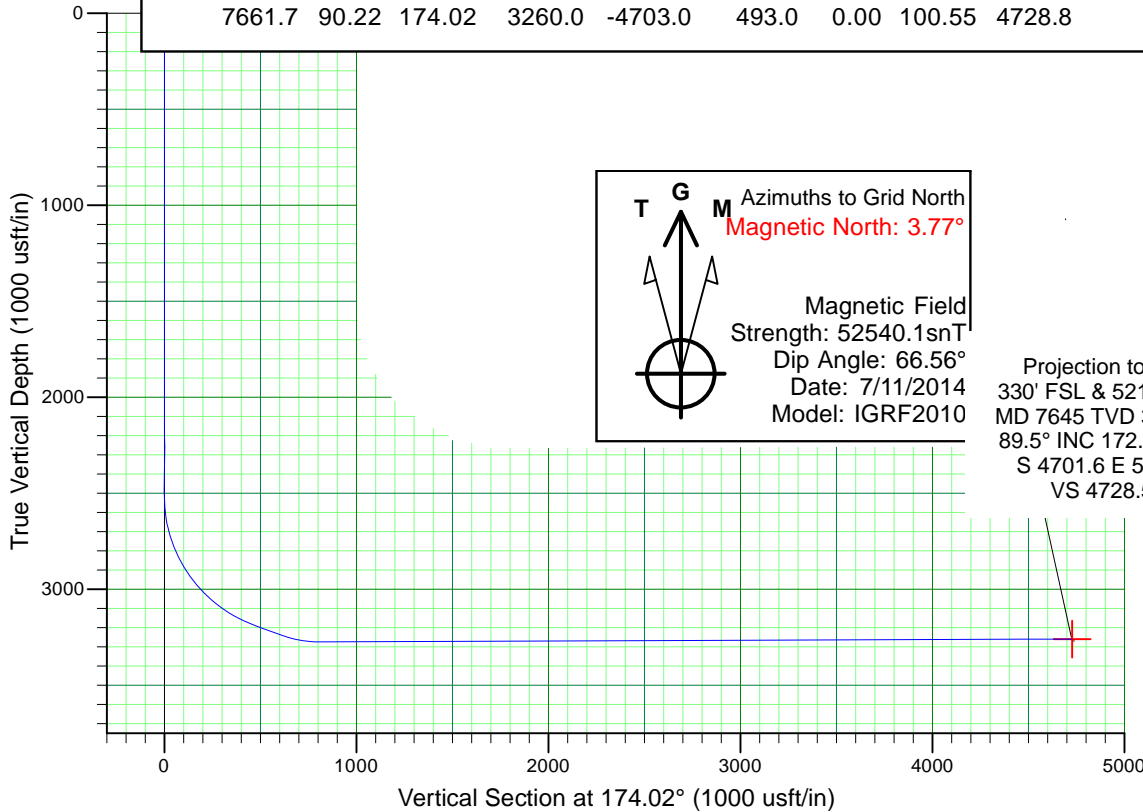
Reported By: ROY BLACK Date: 16-Oct-14



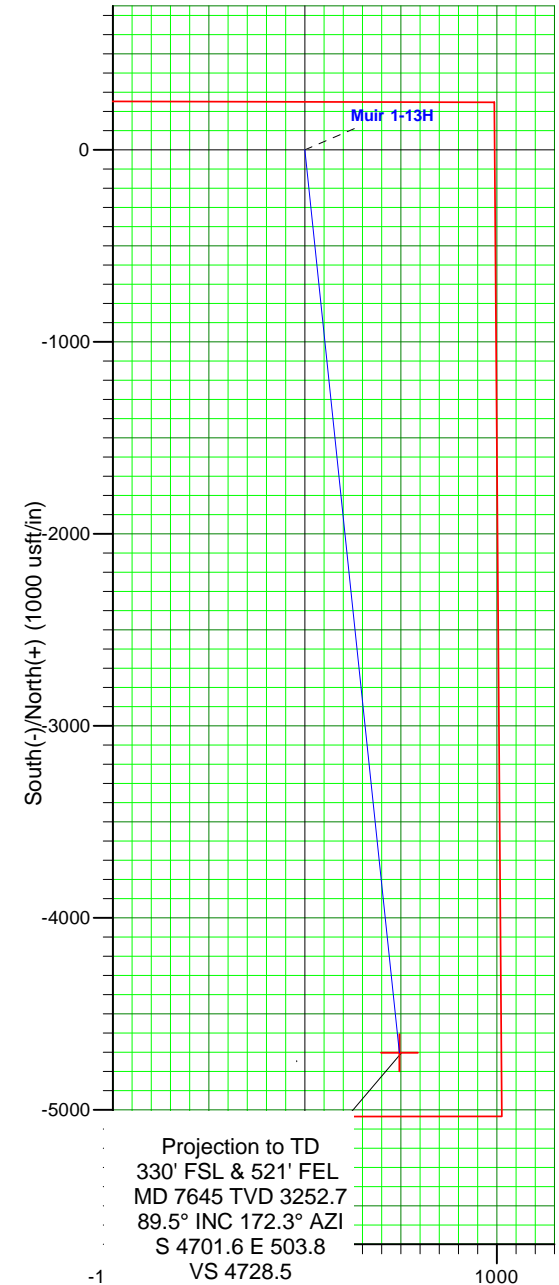
Project: Saline County (NAD-83)  
 Site: Sec 13-T15S-R03W  
 Well: Muir 1-13H  
 Plan: Plan 071114 A1 (Muir 1-13H/Wellbore #1)

WELL DETAILS: Muir 1-13H			
Ground Level:		1252.0	
Northing	Easting	Latitude	Longitude
153377.00	1426930.00	38° 45' 13.538 N	97° 35' 53.411 W

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2516.1	0.00	0.00	2516.1	0.0	0.0	0.00	0.00	0.0	Start Build 8.00
3391.1	70.00	174.01	3189.1	-468.7	49.2	8.00	174.01	471.2	Start Turn 0.00
3541.1	70.00	174.01	3240.4	-608.9	63.9	0.00	0.00	612.2	Start Build 10.00
3743.3	90.22	174.01	3275.0	-805.9	84.6	10.00	0.00	810.4	Landing Point
7661.7	90.22	174.02	3260.0	-4703.0	493.0	0.00	100.55	4728.8	TD at 7661.7



Projection to TD  
 330' FSL & 521' FEL  
 MD 7645 TVD 3252.7  
 89.5° INC 172.3° AZI  
 S 4701.6 E 503.8  
 VS 4728.5



Projection to TD  
 330' FSL & 521' FEL  
 MD 7645 TVD 3252.7  
 89.5° INC 172.3° AZI  
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