



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1089832  
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: \_\_\_\_\_

1089832

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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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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> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Chesapeake Operating, Inc.
Well Name	Cather Family Farms 8-35-7 1H
Doc ID	1089832

All Electric Logs Run

1 in TVD
1 in MD
5 in TVD
5 in MD
ML HZ
ML VT

Form	ACO1 - Well Completion
Operator	Chesapeake Operating, Inc.
Well Name	Cather Family Farms 8-35-7 1H
Doc ID	1089832

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Conductor	24.0000	20.0000	75	136	J-55	168	
Surface	12.2500	9.6250	36	800	J-55	400	
Intermediate	8.7500	7.000	26	5245	P-110EC	250	
Production	6.1250	4.5000	13.5	9500	P-110EC	540	

# **Chesapeake - OK, TX, KS**

**Harper County KS**

**Cather Family Farms 8-35-7**

**#1H**

**Wellbore #1**

**Design: Wellbore #1**

## **Standard Survey Report**

**29 May, 2012**

# Crescent Directional Drilling

## Survey Report

<b>Company:</b> Chesapeake - OK, TX, KS	<b>Local Co-ordinate Reference:</b> Site Cather Family Farms 8-35-7
<b>Project:</b> Harper County KS	<b>TVD Reference:</b> RKB @ 1308.00ft (Nomac 115)
<b>Site:</b> Cather Family Farms 8-35-7	<b>MD Reference:</b> RKB @ 1308.00ft (Nomac 115)
<b>Well:</b> #1H	<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> R5000 Oklahoma DB

<b>Project</b> Harper County KS		
<b>Map System:</b> US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b> NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b> Kansas South 1502		

<b>Site</b> Cather Family Farms 8-35-7		
<b>Site Position:</b>	<b>Northing:</b> 129,866.000 ft	<b>Latitude:</b> 37° 1' 21.414 N
<b>From:</b> Map	<b>Easting:</b> 2,118,369.000 ft	<b>Longitude:</b> 98° 5' 40.552 W
<b>Position Uncertainty:</b> 0.00 ft	<b>Slot Radius:</b> 13.200 in	<b>Grid Convergence:</b> 0.25 °

<b>Well</b> #1H			
<b>Well Position</b>	<b>+N/-S</b> 0.00 ft	<b>Northing:</b> 129,866.000 ft	<b>Latitude:</b> 37° 1' 21.414 N
	<b>+E/-W</b> 0.00 ft	<b>Easting:</b> 2,118,369.000 ft	<b>Longitude:</b> 98° 5' 40.552 W
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b> ft	<b>Ground Level:</b> 1,292.00 ft

<b>Wellbore</b> Wellbore #1					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/7/2012	4.65	65.18	51,817

<b>Design</b> Wellbore #1					
<b>Audit Notes:</b>					
<b>Version:</b> 1.0	<b>Phase:</b> ACTUAL	<b>Tie On Depth:</b>	0.00		
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	211.46	

<b>Survey Program</b>		<b>Date</b> 5/29/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	700.00	Gyro's (Wellbore #1)	Good_gyro	Good Gyro
737.00	9,500.00	Crescent MWD Survyes (Wellbore #1)	Good_mag	Good Magnetic

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.18	352.93	100.00	0.16	-0.02	-0.12	0.18	0.18	0.00
200.00	0.19	47.76	200.00	0.42	0.08	-0.40	0.17	0.01	54.83
300.00	0.24	83.62	300.00	0.56	0.41	-0.69	0.14	0.05	35.86
400.00	0.08	155.66	400.00	0.52	0.65	-0.78	0.23	-0.16	72.04
500.00	0.24	196.72	500.00	0.25	0.62	-0.54	0.19	0.16	41.06
600.00	0.36	226.73	600.00	-0.16	0.33	-0.03	0.19	0.12	30.01
700.00	0.64	243.65	699.99	-0.63	-0.40	0.74	0.31	0.28	16.92
737.00	0.78	259.81	736.99	-0.76	-0.83	1.08	0.66	0.38	43.68
903.00	0.10	318.20	902.98	-0.85	-2.04	1.79	0.44	-0.41	35.17

# Crescent Directional Drilling

## Survey Report

<b>Company:</b>	Chesapeake - OK, TX, KS	<b>Local Co-ordinate Reference:</b>	Site Cather Family Farms 8-35-7
<b>Project:</b>	Harper County KS	<b>TVD Reference:</b>	RKB @ 1308.00ft (Nomac 115)
<b>Site:</b>	Cather Family Farms 8-35-7	<b>MD Reference:</b>	RKB @ 1308.00ft (Nomac 115)
<b>Well:</b>	#1H	<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>	R5000 Oklahoma DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
998.00	0.30	285.50	997.98	-0.73	-2.33	1.84	0.23	0.21	-34.42
1,093.00	0.40	238.80	1,092.98	-0.83	-2.86	2.20	0.31	0.11	-49.16
1,188.00	0.50	208.00	1,187.98	-1.37	-3.34	2.91	0.27	0.11	-32.42
1,283.00	0.50	234.80	1,282.98	-1.97	-3.87	3.70	0.24	0.00	28.21
1,379.00	0.50	244.20	1,378.97	-2.40	-4.59	4.44	0.09	0.00	9.79
1,474.00	0.40	245.60	1,473.97	-2.71	-5.26	5.06	0.11	-0.11	1.47
1,569.00	0.70	229.00	1,568.96	-3.23	-6.00	5.89	0.35	0.32	-17.47
1,661.00	0.70	233.60	1,660.96	-3.93	-6.88	6.95	0.06	0.00	5.00
1,753.00	0.90	228.40	1,752.95	-4.75	-7.87	8.16	0.23	0.22	-5.65
1,844.00	0.90	221.60	1,843.94	-5.76	-8.88	9.55	0.12	0.00	-7.47
1,936.00	0.80	212.30	1,935.93	-6.84	-9.70	10.90	0.18	-0.11	-10.11
2,028.00	0.70	210.90	2,027.92	-7.87	-10.34	12.10	0.11	-0.11	-1.52
2,120.00	0.70	221.30	2,119.91	-8.77	-11.00	13.22	0.14	0.00	11.30
2,212.00	0.60	216.10	2,211.91	-9.58	-11.65	14.25	0.13	-0.11	-5.65
2,304.00	0.50	212.00	2,303.90	-10.31	-12.15	15.13	0.12	-0.11	-4.46
2,396.00	0.60	209.90	2,395.90	-11.07	-12.60	16.02	0.11	0.11	-2.28
2,488.00	0.60	204.50	2,487.89	-11.92	-13.04	16.98	0.06	0.00	-5.87
2,580.00	0.70	187.50	2,579.89	-12.92	-13.31	17.97	0.23	0.11	-18.48
2,672.00	0.60	187.60	2,671.88	-13.95	-13.45	18.92	0.11	-0.11	0.11
2,763.00	0.70	197.90	2,762.88	-14.96	-13.68	19.90	0.17	0.11	11.32
2,855.00	0.90	205.20	2,854.87	-16.14	-14.16	21.16	0.24	0.22	7.93
2,947.00	0.90	204.00	2,946.86	-17.46	-14.77	22.60	0.02	0.00	-1.30
3,042.00	1.00	202.00	3,041.84	-18.91	-15.38	24.16	0.11	0.11	-2.11
3,138.00	1.00	197.80	3,137.83	-20.48	-15.95	25.80	0.08	0.00	-4.38
3,234.00	0.50	169.50	3,233.82	-21.69	-16.13	26.92	0.63	-0.52	-29.48
3,329.00	0.40	162.90	3,328.82	-22.42	-15.96	27.45	0.12	-0.11	-6.95
3,424.00	0.50	150.10	3,423.81	-23.09	-15.65	27.87	0.15	0.11	-13.47
3,519.00	0.40	145.60	3,518.81	-23.73	-15.26	28.20	0.11	-0.11	-4.74
3,615.00	0.40	132.40	3,614.81	-24.23	-14.82	28.40	0.10	0.00	-13.75
3,710.00	0.50	128.80	3,709.81	-24.71	-14.25	28.52	0.11	0.11	-3.79
3,774.00	0.90	149.50	3,773.80	-25.32	-13.78	28.79	0.73	0.63	32.34
3,806.00	2.40	179.10	3,805.79	-26.21	-13.64	29.47	5.24	4.69	92.50
3,837.00	4.30	183.40	3,836.73	-28.02	-13.70	31.05	6.18	6.13	13.87
3,869.00	6.20	184.80	3,868.60	-30.94	-13.92	33.65	5.95	5.94	4.38
3,901.00	8.10	183.10	3,900.35	-34.91	-14.18	37.18	5.97	5.94	-5.31
3,933.00	10.00	180.40	3,931.95	-39.94	-14.33	41.55	6.08	5.94	-8.44
3,964.00	11.60	180.30	3,962.40	-45.75	-14.36	46.52	5.16	5.16	-0.32
3,996.00	13.10	179.30	3,993.66	-52.59	-14.33	52.34	4.73	4.69	-3.13
4,028.00	14.40	177.80	4,024.74	-60.19	-14.14	58.72	4.21	4.06	-4.69
4,060.00	15.60	177.00	4,055.65	-68.47	-13.76	65.58	3.81	3.75	-2.50
4,091.00	17.10	178.00	4,085.39	-77.18	-13.38	72.82	4.92	4.84	3.23
4,123.00	19.60	179.10	4,115.76	-87.25	-13.13	81.28	7.89	7.81	3.44
4,155.00	21.90	179.70	4,145.69	-98.59	-13.02	90.89	7.22	7.19	1.88

# Crescent Directional Drilling

## Survey Report

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<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	R5000 Oklahoma DB

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,187.00	23.50	179.20	4,175.21	-110.94	-12.90	101.36	5.04	5.00	-1.56	
4,218.00	25.90	179.00	4,203.37	-123.89	-12.69	112.31	7.75	7.74	-0.65	
4,250.00	29.00	180.00	4,231.76	-138.64	-12.57	124.82	9.79	9.69	3.13	
4,282.00	31.60	180.40	4,259.39	-154.78	-12.63	138.62	8.15	8.13	1.25	
4,314.00	34.10	180.50	4,286.27	-172.14	-12.77	153.50	7.81	7.81	0.31	
4,345.00	36.50	179.80	4,311.57	-190.05	-12.81	168.80	7.85	7.74	-2.26	
4,377.00	38.30	179.60	4,336.99	-209.48	-12.71	185.33	5.64	5.63	-0.63	
4,409.00	39.70	179.00	4,361.86	-229.62	-12.46	202.38	4.53	4.38	-1.88	
4,441.00	40.40	178.90	4,386.35	-250.21	-12.08	219.74	2.20	2.19	-0.31	
4,464.00	41.05	178.76	4,403.78	-265.21	-11.77	232.38	2.84	2.81	-0.63	
<b>Unit Line Crossed: 4464' MD</b>										
4,473.00	41.30	178.70	4,410.56	-271.13	-11.64	237.36	2.84	2.81	-0.62	
4,504.00	42.90	179.20	4,433.56	-291.91	-11.26	254.89	5.27	5.16	1.61	
4,536.00	44.30	180.10	4,456.73	-313.98	-11.13	273.65	4.79	4.38	2.81	
4,568.00	46.10	180.20	4,479.28	-336.68	-11.19	293.04	5.63	5.63	0.31	
4,599.00	48.10	180.20	4,500.38	-359.39	-11.27	312.46	6.45	6.45	0.00	
4,631.00	49.00	180.00	4,521.56	-383.38	-11.31	332.94	2.85	2.81	-0.63	
4,663.00	49.30	180.20	4,542.49	-407.58	-11.35	353.61	1.05	0.94	0.63	
4,695.00	49.60	179.70	4,563.30	-431.90	-11.33	374.34	1.51	0.94	-1.56	
4,726.00	49.70	179.50	4,583.37	-455.52	-11.17	394.41	0.59	0.32	-0.65	
4,758.00	50.10	179.50	4,603.98	-480.00	-10.95	415.17	1.25	1.25	0.00	
4,790.00	50.40	179.00	4,624.44	-504.60	-10.63	435.99	1.52	0.94	-1.56	
4,821.00	50.20	179.00	4,644.24	-528.45	-10.22	456.12	0.65	-0.65	0.00	
4,853.00	49.80	178.90	4,664.81	-552.96	-9.77	476.79	1.27	-1.25	-0.31	
4,885.00	50.50	178.80	4,685.32	-577.52	-9.27	497.48	2.20	2.19	-0.31	
4,906.00	52.21	179.20	4,698.43	-593.92	-8.99	511.32	8.26	8.12	1.90	
<b>330' Line Crossed: 4906' MD</b>										
4,917.00	53.10	179.40	4,705.10	-602.66	-8.88	518.73	8.26	8.13	1.83	
4,948.00	56.00	180.20	4,723.08	-627.91	-8.80	540.22	9.59	9.35	2.58	
4,980.00	58.70	180.70	4,740.34	-654.85	-9.01	563.31	8.54	8.44	1.56	
5,012.00	62.70	181.10	4,756.00	-682.75	-9.45	587.34	12.55	12.50	1.25	
5,043.00	67.50	180.70	4,769.05	-710.85	-9.89	611.55	15.53	15.48	-1.29	
5,075.00	71.20	180.80	4,780.33	-740.79	-10.28	637.29	11.57	11.56	0.31	
5,107.00	74.00	180.60	4,789.90	-771.32	-10.65	663.53	8.77	8.75	-0.63	
5,139.00	76.30	179.70	4,798.10	-802.25	-10.73	689.95	7.68	7.19	-2.81	
5,170.00	78.70	179.70	4,804.81	-832.51	-10.57	715.68	7.74	7.74	0.00	
5,199.00	81.00	179.70	4,809.92	-861.05	-10.42	739.95	7.93	7.93	0.00	
5,270.00	82.90	179.90	4,819.86	-931.35	-10.18	799.79	2.69	2.68	0.28	
5,301.00	83.40	179.90	4,823.56	-962.13	-10.13	826.02	1.61	1.61	0.00	
5,333.00	84.10	180.00	4,827.05	-993.94	-10.10	853.14	2.21	2.19	0.31	
5,365.00	84.70	179.30	4,830.17	-1,025.79	-9.90	880.20	2.87	1.88	-2.19	
5,397.00	85.90	179.70	4,832.79	-1,057.68	-9.63	907.26	3.95	3.75	1.25	
5,492.00	86.30	179.50	4,839.25	-1,152.45	-8.96	987.77	0.47	0.42	-0.21	
5,587.00	88.80	179.60	4,843.31	-1,247.36	-8.22	1,068.33	2.63	2.63	0.11	



# Crescent Directional Drilling

## Survey Report

<b>Company:</b>	Chesapeake - OK, TX, KS	<b>Local Co-ordinate Reference:</b>	Site Cather Family Farms 8-35-7
<b>Project:</b>	Harper County KS	<b>TVD Reference:</b>	RKB @ 1308.00ft (Nomac 115)
<b>Site:</b>	Cather Family Farms 8-35-7	<b>MD Reference:</b>	RKB @ 1308.00ft (Nomac 115)
<b>Well:</b>	#1H	<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>	R5000 Oklahoma DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,682.00	91.60	180.30	4,842.98	-1,342.35	-8.14	1,149.32	3.04	2.95	0.74
5,777.00	90.60	179.50	4,841.16	-1,437.33	-7.97	1,230.26	1.35	-1.05	-0.84
5,872.00	88.30	178.20	4,842.07	-1,532.29	-6.06	1,310.27	2.78	-2.42	-1.37
5,964.00	88.70	177.90	4,844.48	-1,624.21	-2.93	1,387.05	0.54	0.43	-0.33
6,056.00	89.50	178.50	4,845.92	-1,716.15	-0.04	1,463.97	1.09	0.87	0.65
6,147.00	91.70	178.20	4,844.97	-1,807.10	2.58	1,540.19	2.44	2.42	-0.33
6,239.00	88.10	179.60	4,845.13	-1,899.07	4.34	1,617.72	4.20	-3.91	1.52
6,331.00	89.90	179.40	4,846.74	-1,991.05	5.14	1,695.76	1.97	1.96	-0.22
6,423.00	90.60	178.90	4,846.33	-2,083.04	6.51	1,773.52	0.94	0.76	-0.54
6,515.00	88.70	178.60	4,846.90	-2,175.01	8.52	1,850.93	2.09	-2.07	-0.33
6,607.00	89.50	179.70	4,848.34	-2,266.98	9.88	1,928.67	1.48	0.87	1.20
6,699.00	89.20	180.40	4,849.38	-2,358.98	9.80	2,007.19	0.83	-0.33	0.76
6,791.00	89.50	181.40	4,850.43	-2,450.96	8.35	2,086.41	1.13	0.33	1.09
6,883.00	89.60	182.20	4,851.15	-2,542.91	5.47	2,166.35	0.88	0.11	0.87
6,975.00	89.50	181.20	4,851.87	-2,634.87	2.74	2,246.22	1.09	-0.11	-1.09
7,066.00	95.00	180.50	4,848.30	-2,725.75	1.39	2,324.45	6.09	6.04	-0.77
7,158.00	94.50	179.70	4,840.68	-2,817.43	1.23	2,402.74	1.02	-0.54	-0.87
7,250.00	93.80	180.00	4,834.03	-2,909.19	1.47	2,480.89	0.83	-0.76	0.33
7,345.00	90.50	179.90	4,830.46	-3,004.11	1.55	2,561.82	3.48	-3.47	-0.11
7,440.00	89.70	179.70	4,830.30	-3,099.11	1.88	2,642.68	0.87	-0.84	-0.21
7,535.00	90.20	179.20	4,830.38	-3,194.10	2.79	2,723.24	0.74	0.53	-0.53
7,630.00	88.80	178.00	4,831.21	-3,289.07	5.11	2,803.04	1.94	-1.47	-1.26
7,725.00	88.50	177.30	4,833.45	-3,383.96	9.01	2,881.95	0.80	-0.32	-0.74
7,820.00	89.70	178.00	4,834.94	-3,478.87	12.90	2,960.88	1.46	1.26	0.74
7,916.00	91.00	179.00	4,834.35	-3,574.83	15.42	3,041.43	1.71	1.35	1.04
8,010.00	90.10	179.20	4,833.45	-3,668.81	16.89	3,120.83	0.98	-0.96	0.21
8,106.00	89.80	179.70	4,833.53	-3,764.81	17.81	3,202.24	0.61	-0.31	0.52
8,201.00	90.60	180.00	4,833.20	-3,859.81	18.06	3,283.14	0.90	0.84	0.32
8,296.00	89.60	179.30	4,833.04	-3,954.80	18.64	3,363.88	1.28	-1.05	-0.74
8,391.00	90.80	178.90	4,832.70	-4,049.79	20.13	3,444.12	1.33	1.26	-0.42
8,486.00	93.80	179.60	4,828.89	-4,144.69	21.38	3,524.43	3.24	3.16	0.74
8,581.00	89.50	177.50	4,826.16	-4,239.59	23.78	3,604.13	5.04	-4.53	-2.21
8,677.00	87.30	178.20	4,828.84	-4,335.48	27.38	3,684.05	2.40	-2.29	0.73
8,772.00	89.10	178.80	4,831.82	-4,430.40	29.87	3,763.72	2.00	1.89	0.63
8,867.00	90.30	179.80	4,832.32	-4,525.39	31.03	3,844.15	1.64	1.26	1.05
8,962.00	89.30	179.60	4,832.65	-4,620.38	31.53	3,924.92	1.07	-1.05	-0.21
9,057.00	92.40	180.70	4,831.24	-4,715.36	31.28	4,006.07	3.46	3.26	1.16
9,153.00	92.40	180.80	4,827.22	-4,811.27	30.02	4,088.54	0.10	0.00	0.10
9,248.00	89.80	181.50	4,825.40	-4,906.22	28.12	4,170.53	2.83	-2.74	0.74
9,342.00	87.90	180.90	4,827.28	-5,000.18	26.15	4,251.71	2.12	-2.02	-0.64
9,437.00	88.40	180.30	4,830.35	-5,095.12	25.15	4,333.22	0.82	0.53	-0.63
<b>Last MWD Survey : 9437' MD</b>									
9,500.00	88.40	180.30	4,832.11	-5,158.10	24.82	4,387.11	0.00	0.00	0.00

# Crescent Directional Drilling

## Survey Report

<b>Company:</b> Chesapeake - OK, TX, KS	<b>Local Co-ordinate Reference:</b> Site Cather Family Farms 8-35-7
<b>Project:</b> Harper County KS	<b>TVD Reference:</b> RKB @ 1308.00ft (Nomac 115)
<b>Site:</b> Cather Family Farms 8-35-7	<b>MD Reference:</b> RKB @ 1308.00ft (Nomac 115)
<b>Well:</b> #1H	<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> R5000 Oklahoma DB

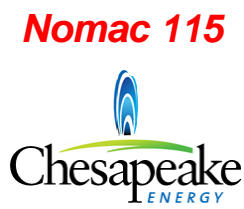
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Projection to Bit: 9500' MD									

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,464.00	4,403.78	-265.21	-11.77	Unit Line Crossed: 4464' MD
4,906.00	4,698.43	-593.92	-8.99	330' Line Crossed: 4906' MD
9,437.00	4,830.35	-5,095.12	25.15	Last MWD Survey : 9437' MD
9,500.00	4,832.11	-5,158.10	24.82	Projection to Bit: 9500' MD

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

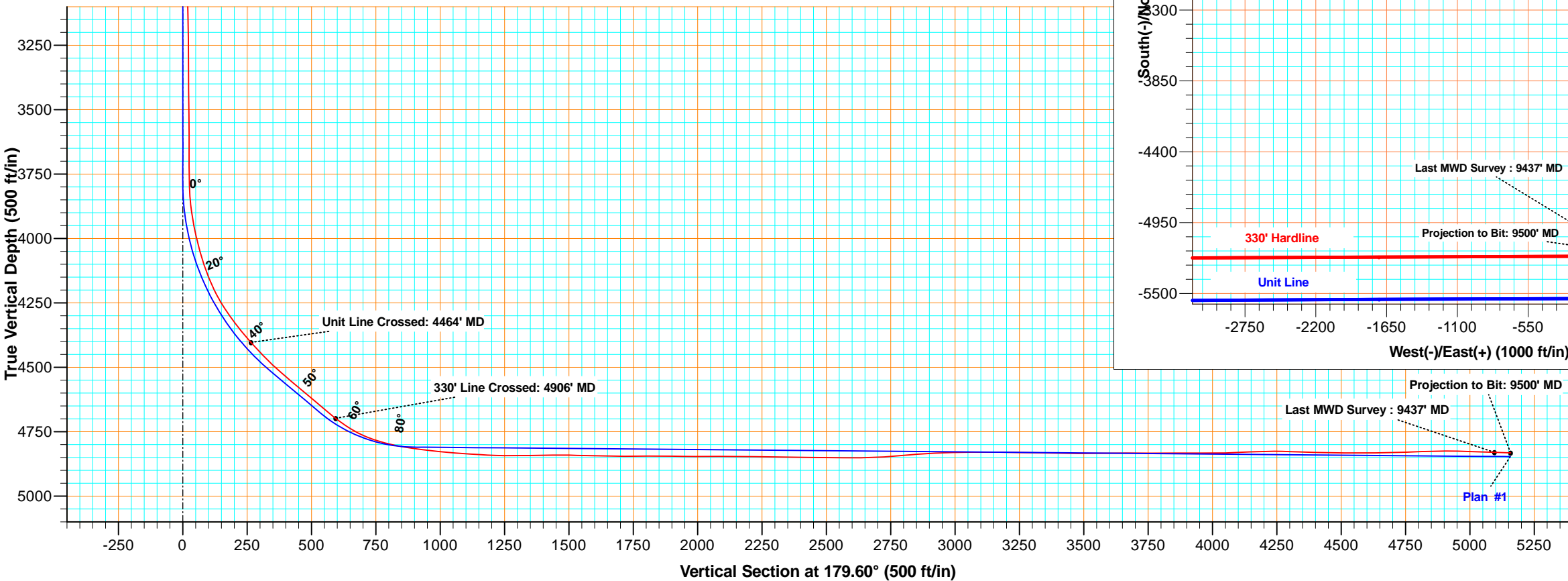
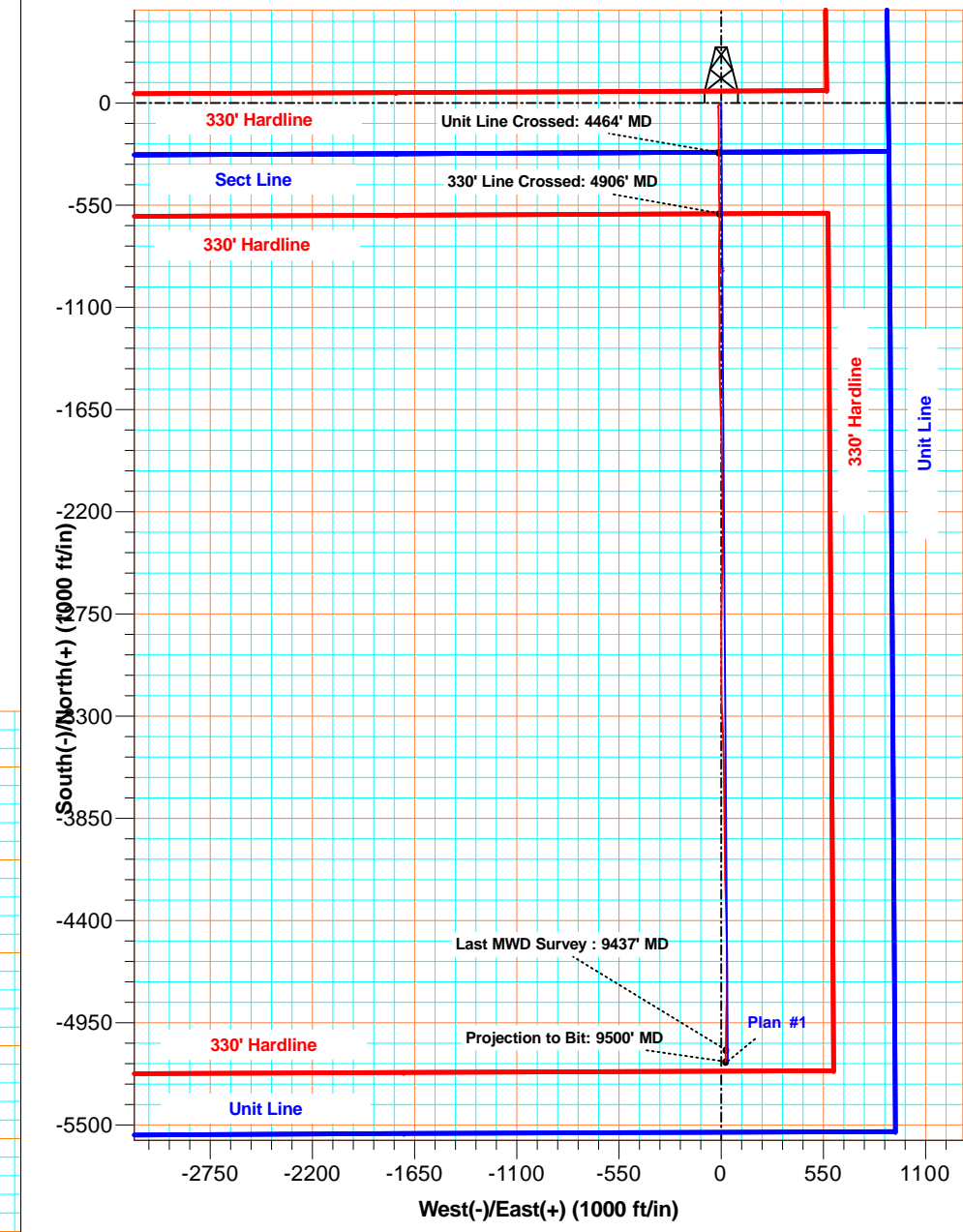


**Chesapeake - OK, TX, KS**  
**Cather Family Farms 8-35-7 #1H**  
**Harper County KS**  
**Final Plan vs Actual**



Surface Location		Ground Elevation: 1292.00 RKB @ 1308.00ft (Nomac 115)					Slot
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
0.00	0.00	129866.000	2118369.000	37° 1' 21.414 N	98° 5' 40.552 W		

Map System : US State Plane 1927 (Exact solution)  
 Datum : NAD 1927 (NADCON CONUS)  
 Ellipsoid : Clarke 1866  
 Zone Name : Kansas South 1502  
 Local Origin : Site Cather Family Farms 8-35-7, Grid North  
 System Datum : Mean Sea Level



**TOPOGRAPHIC LAND SURVEYORS**

6709 NORTH CLASSEN BLVD., OKLA. CITY, OKLA. 73116 \* LOCAL (405) 843-4847 \* OUT OF STATE (800) 654-3219  
 Certificate of Authorization No. LS-99, Exp. Dec. 31, 2013

HARPER

County, Kansas

265'FSL - 900'FEL Section 5 Township 35S Range 7W P.M.

Township Line P **T34S-R7W**

LOT 2 **T35S-R7W**

Indian Treaty Boundary

LOT 1

LOT 6

LOT 5

LOT 4

LOT 3

37.036383250° N  
 98.109773478° W  
 X=2113913  
 Y=134860

37.036417226° N  
 98.091672024° W  
 X=2119197  
 Y=134895

37.021887213° N  
 98.109657340° W  
 X=2113969  
 Y=129582

PENETRATION POINT  
 (5,082' MD) (SEC 8)  
 917'FEL-482'FNL  
 37.020564204° N  
 98.094632141° W  
 X=2118358  
 Y=129119

37.021887987° N  
 98.091494502° W  
 X=2119272  
 Y=129605

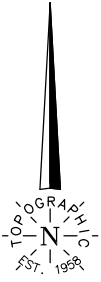
TOP PERF. (5,160' MD)  
 918'FEL-558'FNL (SEC 8)  
 37.020358226° N  
 98.094633257° W  
 X=2118358  
 Y=129044

BOTTOM PERF. (9,385' MD)  
 910'FEL-495'FSL (SEC 8)  
 37.008765352° N  
 98.094572825° W  
 X=2118394  
 Y=124823

BOTTOM HOLE (SEC 8)  
 911'FEL-380'FSL  
 37°00'30.4" N  
 98°05'40.5" W  
 X=2118393  
 Y=124708  
 37.008449531° N  
 98.094577962° W

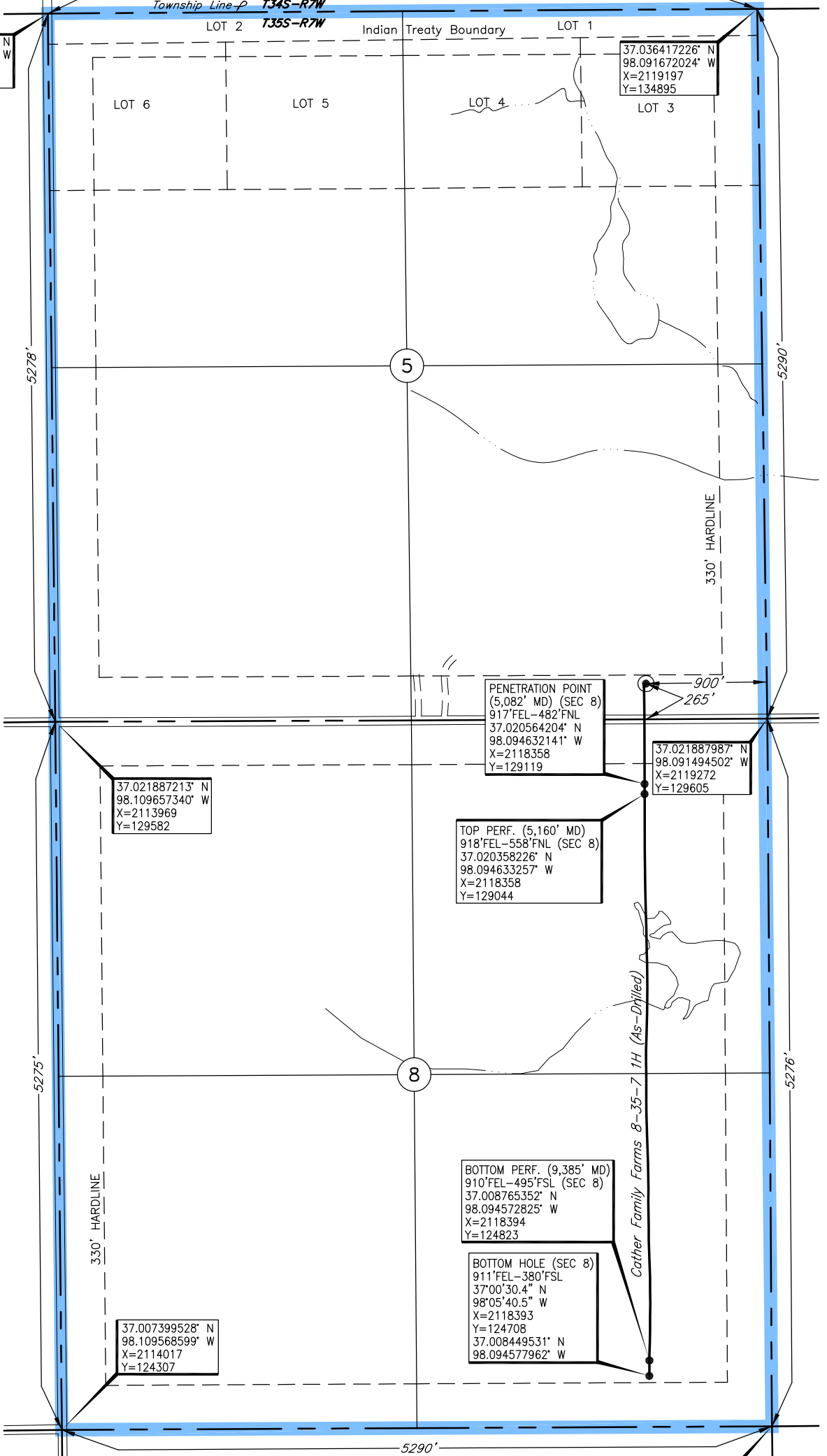
37.007399528° N  
 98.109568599° W  
 X=2114017  
 Y=124307

37.007400445° N  
 98.091453795° W  
 X=2119307  
 Y=124330



GRID

Scale: 1" = 1000'



Operator: CHESAPEAKE OPERATING, INC.  
 Lease Name: CATHER FAMILY FARMS 8-35-7

Topography & Vegetation Loc. fell in terraced wheat field, ±225' West of hay barn, ±230' N of powerline.  
 Good Drill Site? Yes Reference Stakes or Alternate Location Stakes Set None  
 Best Accessibility to Location From South off county road  
 Distance & Direction From Anthony, KS, go ±4.0 mi West, then ±9.0 mi South,  
then ±1.0 mi East to the Northeast of Sec. 8-T35S-R7W

Well No.: 1H  
 ELEVATION: 1292' Gr. at Stake

Distances shown in (parenthesis) are calculated based upon the Quarter Section being 2640 feet, those shown in [brackets] are based on GLO (General Land Office) distances and have not been measured.

187607 Date of Drawing: Aug. 07, 2012

Invoice # 182186 Date Staked: Apr. 17, 2012 JP

DATUM: NAD-27  
 LAT: 37°01'21.4"N  
 LONG: 98°05'40.5"W  
 LAT: 37.022615519°N  
 LONG: 98.094583018°W

STATE PLANE  
 COORDINATES: (US Feet)  
 ZONE: KS NORTH  
 X: 2118369  
 Y: 129866

This information was gathered with a GPS receiver with Sub-Meter accuracy.

**FINAL AS-DRILLED PLAT**

AS-DRILLED INFORMATION  
 FURNISHED BY CHESAPEAKE OPERATING

# Notice of Conductor Pipe Installation

## Installation Company Information

Firm Name	<u>Elite Drilling, LLC.</u>
Mailing Address	<u>3105 Bent Creek Drive</u>
City	<u>Woodward</u>
State	<u>OK</u>
Zip	<u>73801</u>

## Well Operator Information

Operator name	<u>Chesapeake Operating, Inc.</u>
Mailing Address	<u>Rt. 1 Box 5-A</u>
City	<u>Waynoka</u>
State	<u>OK</u>
Zip	<u>73860</u>

## Well Information

Well Name	<u>Cather Family Farms 8-35-7-1H</u>
Legal location	<u>Sec. 8-35S-8W</u>
Footage	<u></u>
County	<u>Harper, KS</u>

## Installation Details

Pipe Size	<u>20"</u>
Depth	<u>120'</u>
Completion Method	<u>Displacement</u>
Date installed	<u>5/4/2012</u>
Cement	<u>18 yds Class A Type 1</u>

## Nancy Parker

---

**From:** Carl Balding <carl.balding@alliedservices.com>  
**Sent:** Tuesday, August 21, 2012 3:50 PM  
**To:** Nancy Parker  
**Subject:** cather family farms cement info  
**Attachments:** 20120821153551180.pdf

Cather family farms 8 35 7 #1 H surface cemented on 05-11-2012 with an order consisting of : :  
250SX 65/35 poz-mix +6% gel + 2% calc. chlor. With a slurry volume of 88.16 Bbls

And tailed in with: : :

150SX Class A + 2% calc. Chlor. With a slurry volume of 31.26 Bbls.  
On Nomac rig #115 in Harper Co. KS 9 5/8 Casing set at 810' ticket #38057



NOV 11 2014 11:27 AM  
**CEMENTING LOG**  
 STAGE NO.

Order No. 05-10-12 District Med. Log eff. Ticket No. 38057  
 Company Chesapeake Rig Warrior #115  
 Lease Sutton Early Frac #5 Well No. LH  
 County Hasper State KS  
 Location Field 00-355-074

CEMENT DATA:  
 Spacer Type: Fresh H<sub>2</sub>O  
 Amt.          Skis Yield          ft<sup>3</sup>/sk Density          PPG  
 LEAD: Pump Time          hrs. Type 65:35 Blend  
 Amt. 250 Skis Yield 1.87 ft<sup>3</sup>/sk Density 12.7 PPG  
 TAIL: Pump Time          hrs. Type class A + 2 class  
 Amt. 150 Skis Yield 1.18 ft<sup>3</sup>/sk Density 15.6 PPG  
 WATER: Loss 100 gals/sk Tail 5.3 gals/sk Total          Bbls.

Casing Depth: Top          Bottom           
 Drill Pipe: Size          Weight          Collars           
 Open Hole: Size          T.D.          ft. P.B. to          ft.  
 CAPACITY FACTORS:  
 Casing: Bbls/Lin. ft. 0.773 Lin. ft./Bbl.           
 Open Hole: Bbls/Lin. ft.          Lin. ft./Bbl.           
 Drill Pipe: Bbls/Lin. ft. 0.598 Lin. ft./Bbl.           
 Annulus: Bbls/Lin. ft.          Lin. ft./Bbl.           
 Perforations: From          ft. to          ft. Amt.         

Pump Trucks Used 549-550  
 Bulk Equip. 421-252  
364  
 Fleet Equip. Manufacturer           
 Shoes: Type          Depth           
 Float Type          Depth           
 Cement: Quantity          Plugs Top TRP Btm           
 Stage Collars           
 Special Equip.           
 Disp. Fluid Type Fresh H<sub>2</sub>O Amt. 5774 Bbls. Weight          PPG  
 Mud Type Na<sub>2</sub>SK Weight          PPG

CEMENTER D. Felix

TIME	AM/PM	PRESSURES PSI		FLUID PUMPED DATA		REMARKS
		DRILL PIPE CASING	ANNULUS	TOTAL FLUID	Pumped Per Time Period	
						Pipe on 13 Hm Bore Cement
		250			30	Pump Sp. seen
		200			83	Mix 250 Skite weight
		200			314	Mix 150 Skite weight
		100			6	Stop Pump - Release Plug
		200			35	Start Disp. w/ Fresh H <sub>2</sub> O
		250			50	See Increase in PSI
		300			5974	Slow Rate
		800			74	Stop Pump
					5974	Pump adjustment disp. from Run in Man
						Release Plug
						Release SE Floats Did Hold
						Cement Did Cure.

FINAL DISP. PRESS: 300 # PSI BUMP PLUG TO 800 # PSI BLEEDBACK 4 BBLs. THANK YOU



# CEMENT TREATMENT REPORT



Customer: chesapeake oper			Date: 5/16/2012			Invoice #: 41-00000			Serv. Supv: daniel carter		
Lease: 0			Well Name: cather famil farms 8-35-7 1H						County:		
District: #VALUE!			Rig: nomac 116			Type of Job: intermediate					
Plugs			Casing Hardware			Physical Slurry Properties					
						Sacks of Cement	Slurry Wt PPG	Slurry Yield CuFt	Water GPS	Slurry Bbls	Mix Water Bbls
<b>Materials Furnished by Superior</b>											
Spacer:	20 bbl water spacer										
Lead:	35:65 poz H			160	12.8	1.83	9.74	52	37		
Tail:	H			90	15.6	1.18	5.21	19	11		
<b>HOLE</b>			<b>TUBING - CASING - DRILL PIPE</b>						<b>COLLAR DEPTHS</b>		
SIZE	% EXCESS	DEPTH	SIZE	WGT	TYPE	DEPTH	GRADE		SHOE	FLOAT	STAGE
8 3/4	30	5245	7	26		5248.85			48.41	5201.44	
<b>LAST CASING</b>			<b>PKR./CMT.RET./LINER.PKR</b>			<b>PERF DEPTH</b>		<b>TOP CONN.</b>		<b>WELL FLUID</b>	
SIZE	WT	DEPTH	BRAND / TYPE		DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT
<b>DISPL VOLUME</b>		<b>DISPL FLUID</b>		<b>CAL PSI</b>		<b>MAX TUBING PRES</b>		<b>MAX CSG PRESSURE</b>		<b>MIX WATER</b>	
VOLUME	UOM	TYPE	WGT	BMP PLUG		RATED	WORKING	RATED	WORKING	WATER	
199										48	
Time	Rate	Pressure	Bbls Pumped	Fluid Type	Time Left Yard	15:00	Time Left Loc				
					Time Arrived Loc	18:30	Time Arrived Yard				
1430					PRE CONVOEY SAFETY MEETING						
1845					LOCATION HAZARD ASSESSMENT						
1850					PRE RIG UP SAFETY MEETING						
0145					PRE JOB SAFETY MEETING						
0148		5000			PRESSURE TEST						
0152	5	450	20	fw	SPACER						
0158	5	250	52	cmt	LEAD CMT						
0210	5	280	19	cmt	TAIL CMT						
0215					SHUTDOWN/DROP PLUG						
0218	6	200		fw	START DISPLACEMENT						
0250	3	700	190	fw	SLOW RATE TO LAND PLUG						
0255	3	800	198	fw	LAND PLUG, 800psi to 1200psi						
0252					RELEASE PRESSURE, CHECK FLOATS, 1 bbl back						
Bumped Plug	Final Lift Pressure	Floats Held	PSI Left on Casing	Cement to Surface	<b>Daniel Carter</b>						
yes	800	yes		0 Bbls	Service Supervisor						





# CEMENT TREATMENT REPORT



Customer: chesapeake oper		Date: 5/25/2012	Invoice #:		Serv. Supv: Daniel Carter		
Lease: 0		Well Name: cather family farms 8-35-7 1H			County: harper		
District: #VALUE!		Rig: noma6 115	Type of Job: liner				
Plugs		Casing Hardware		Physical Slurry Properties			
		Sacks of Cement	Slurry Wt PPG	Slurry Yield CuFt	Water GPS	Slurry Bbls	
						Mix Water Bbls	
Materials Furnished by Superior							
Spacer:	20 bbl water spacer						
Lead:							
Tail:	50/50 poz H		540	14.2	1.29	5.83 124	
HOLE		TUBING - CASING - DRILL PIPE				COLLAR DEPTHS	
SIZE	% EXCESS	DEPTH	SIZE	WGT	TYPE	DEPTH	GRADE
6 1/8	30	9500	4.5/4	13.5/14		dp 4870	csg/4620
LAST CASING		PKR / CMT RET / LINER PKR		PERF DEPTH		TOP CONN	
SIZE	WT	DEPTH	BRAND / TYPE	DEPTH	TOP	BTM	SIZE
				4620			
DISPL VOLUME		DISPL FLUID		CAL PSI		MAX TUBING PRES	
VOLUME	UOM	TYPE	WGT	BMP PLUG		RATED	WORKING
Time	Rate	Pressure	Bbls Pumped	Fluid Type	Time Left Yard	12:30	Time Left Loc
					Time Arrived Loc	16:00	Time Arrived Yard
1200					PRE CONVOEY SAFETY MEETING		
1630					LOCATION HAZARD ASSESSMENT		
1645					PRE RIG UP SAFETY MEETING		
1830					PRE JOB SAFETY MEETING		
1835		5000			PRESSURE TEST		
1940	2.5	400	80	FW	PUMP DOWN BALL		
1942	2	2200			BURST BALL SEAT		
2010	5	650	20	FW	WATER SPACER		
2020	5	310	124	CMT	TAIL CMT		
2050					SHUTDOWN, WASH PUMP AND LINES		
2055	5	180		FW	DISPLACE		
2120	2	1000	100	FW	SLOW RATE		
2125	2	1100	107	FW	LAND PLUG TOOK TO 2100		
2130		1500			PRESSURE UP ANNULUS		
2145	8	2400	180	FW	REVERSE OUT		
Bumped Plug	Final Lift Pressure	Floats Held	PSI Left on Casing	Cement to Surface	<b>DANIEL CARTER</b> Service Supervisor		
Y	1100	Y		30 Bbls			

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

Sam Brownback, Governor

September 05, 2012

Aletha Dewbre  
Chesapeake Operating, Inc.  
6100 N WESTERN AVE  
PO BOX 18496  
OKLAHOMA CITY, OK 73118-0496

Re: ACO1  
API 15-077-21841-01-00  
Cather Family Farms 8-35-7 1H  
SE/4 Sec.05-35S-07W  
Harper 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,  
Aletha Dewbre