



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1146205  
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: \_\_\_\_\_



1146205

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

<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> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



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

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

Sam Brownback, Governor

June 07, 2013

Jim Allen  
CRECO Operating, LLC  
210 PARK AVE, STE 1140  
OKLAHOMA CITY, OK 73102

Re: ACO1  
API 15-167-23848-01-00  
Kronos 1-8H  
NE/4 Sec.08-14S-12W  
Russell 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,  
Jim Allen

# ALLIED OIL & GAS SERVICES, LLC 059304

13 3/8"

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:  
Great Bend, KS

DATE 3-2-13	SEC. 8	TWP. 14S	RANGE 12W	CALLED OUT 10:50 AM	ON LOCATION 12 PM	JOB START 400 PM	JOB FINISH 500 PM
LEASE Kronas	WELL# 1-8H	LOCATION Bunker Hill	COUNTY Russell	STATE KS			
OLD OR <u>NEW</u> (Circle one)							

CONTRACTOR Val Energy Inc.  
 TYPE OF JOB Surface  
 HOLE SIZE 17 1/2 T.D. 3341'  
 CASING SIZE 13 3/8 DEPTH 331.19  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX 500 MINIMUM  
 MEAS. LINE SHOE JOINT 411.74  
 CEMENT LEFT IN CSG. 6.45 bbls  
 PERFS.  
 DISPLACEMENT 414.72 bbls

OWNER Cresco Operating, LLC  
 CEMENT 175  
 AMOUNT ORDERED Lead - 225 bbls 65/35 16  
3% CC 1/2# Flocrete, Tail - 150 bbls H  
3% CC 2% Gal

EQUIPMENT  
 PUMP TRUCK CEMENTER Patrick Helgeron  
 # 600E HELPER Tim Chandler / Charles Kinyon  
 BULK TRUCK Wayne Davis  
 # 599 DRIVER Earl Mendenhall  
 BULK TRUCK  
 # 603 DRIVER Austin Riley

COMMON 150 H	@	21.20	3,180
POZMIX	@		
GEL 3	@	23.40	70.20
CHLORIDE 11	@	64	704
ASC	@		
175 lbs weight	@	16.50	2,887.50
Florel 162#	@	2.97	481.14
CL-2 3gal	@	52.38	157.14
Cement Head Rent	@	275	275
HANDLING 357.08	@	2.48	885.55
MILEAGE 15.96 x 12 x 2.60			498.07
			TOTAL 9,138.60

REMARKS:  
Dumped 5 bbl water spacer.  
Pumped 70 bbl lead cement @ 13.5 PPM.  
Pumped 34 bbls Tail cement @ 14.5 PPM.  
Completed rubber plug, Pumped 414.72 bbls  
net displacement (water).  
Completed 30 bbls cement to pit.

SERVICE

DEPTH OF JOB 3341'		
PUMP TRUCK CHARGE 1572.25		
EXTRA FOOTAGE @		
MILEAGE HVM 17 @ 7.90		92.40
MANIFOLD @		
LVM 12 @ 41.40		52.80
TOTAL 1,657.45		

CHARGE TO: Cresco Operating, LLC  
 STREET 210 Park Ave Ste 1140  
 CITY Oklahoma City STATE Oklahoma ZIP 73102

PLUG & FLOAT EQUIPMENT

1 3/4 Guide Shoe	@	786.24	786.24
" " Rubber Plug	@	398.97	398.97
" " Baffle Plate	@	320.50	320.50
TOTAL 1,505.56			

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.

SALES TAX (if Any) \_\_\_\_\_  
 TOTAL CHARGES 12,301.61  
 DISCOUNT 2,460.32 IF PAID IN 30 DAYS

PRINTED NAME MIKE Markov  
 SIGNATURE Mike Markov

\$ 9,841.29

# ALLIED OIL & GAS SERVICES, LLC 059361

Federal Tax I.D.# 20-5975804

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

SERVICE POINT: Great Plains  
3-4-13

9 5/8"

DATE <u>3-3-13</u>	SEC. <u>8</u>	TWP. <u>14S</u>	RANGE <u>12W</u>	CALLED OUT	ON LOCATION <u>10:20 AM</u>	JOB START <u>3:30 AM</u>	JOB FINISH <u>4:30 AM</u>
LEASE <u>Kronos</u>	WELL# <u>1-8H</u>	LOCATION <u>Russell, KS SE 1/4S 2E</u>		COUNTY <u>Russell</u>	STATE <u>KS</u>		
OLD OR (NEW) (Circle one)				<u>1/2 S Wind</u>			

CONTRACTOR VGI Energy  
 TYPE OF JOB 9 5/8 gas case  
 HOLE SIZE \_\_\_\_\_ T.D. \_\_\_\_\_  
 CASING SIZE 9 5/8 DEPTH 850  
 TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 DRILL PIPE 4 1/2 DEPTH \_\_\_\_\_  
 TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_  
 PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_  
 MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_  
 CEMENT LEFT IN CSG. 172.0 lb  
 PERFS. \_\_\_\_\_  
 DISPLACEMENT 62.45 bbls Freshwater

OWNER \_\_\_\_\_  
 CEMENT  
 AMOUNT ORDERED 175 sks 65/75 class H 3500  
psi 6 1/2 gal 3 1/2 cc 1/2 flt  
150 sks class H 3 1/2 cc 2 1/2 gal 1/2 flt  
 COMMON 150 H @ 21.20 3,180.00  
 POZMIX \_\_\_\_\_ @ \_\_\_\_\_  
 GEL 3 @ 23.40 70.20  
 CHLORIDE 11 @ 64.00 704.00  
 ASC \_\_\_\_\_ @ \_\_\_\_\_  
1750X like wt @ 16.50 2,887.50  
Floscan 16Z @ 2.97 481.14  
5 1/2" 36" 1 @ 52.38 157.14  
 \_\_\_\_\_ @ \_\_\_\_\_  
Head Rent @ 275.00 275.00  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 HANDLING 357.08 @ 2.48 885.87  
 MILEAGE 15.96 x 12 x 2.60 498.92  
 TOTAL 9,138.80

**REMARKS:**

Pump 5bbls Freshwater Ahead  
mix 175 sks 65/75 6 1/2 gal 3 1/2 cc 1/2 flt  
mix 150 sks class H 3 1/2 cc 2 1/2 gal  
shut down & re-lease plug  
Displace 62.45 bbls Freshwater  
land plug pressure 900 #  
Plug ~~off~~ Down 11:00 AM 3-4-13  
Lease Oil circulation 30 sks to pit

**SERVICE**

DEPTH OF JOB 850  
 PUMP TRUCK CHARGE 2058.00  
 EXTRA FOOTAGE @ \_\_\_\_\_  
 MILEAGE Hum 12 @ 7.70 92.40  
 MANIFOLD @ \_\_\_\_\_  
Hum 12 @ 7.40 52.80  
 \_\_\_\_\_ @ \_\_\_\_\_  
 TOTAL 2,203.20

**PLUG & FLOAT EQUIPMENT**

3-9 5/8 centralizers @ 87.25 263.25  
1-9 5/8 insert @ 534.00 534.00  
1-9 5/8 Guide Shoe @ 553.40 553.40  
1-9 5/8 Rubber Plug @ 184.20 184.20  
 \_\_\_\_\_ @ \_\_\_\_\_  
 TOTAL 1536.21

CHARGE TO: 6600 Operating  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

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

PRINTED NAME X Mike Markle  
 SIGNATURE Mike Markle  
Thank You!!

SALES TAX (If Any) \_\_\_\_\_  
 TOTAL CHARGES 12,878.51  
2,575.20  
 DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS  
10,302.80

# ALLIED OIL & GAS SERVICES, LLC 060353

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Grant Bend KS

7"

DATE <u>3-9-13</u>	SEC <u>8</u>	TWP <u>143</u>	RANGE <u>12 W</u>	CALLED OUT	ON LOCATION <u>9:00 PM</u>	JOB START <u>11:00 PM</u>	JOB FINISH <u>11:30 PM</u>
LEASE <u>Kranos</u>	WELL # <u>1-8-14</u>	LOCATION <u>Bunker Hill 3 East</u>			COUNTY <u>Russell</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)		<u>1/2 South West :- To</u>					

CONTRACTOR Val 2

TYPE OF JOB Plus Back

HOLE SIZE 8 3/4 7 7/8 TD 3204

CASING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

DRILL PIPE 7 1/2 20# DEPTH 2300

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_

CEMENT LEFT IN CSG. \_\_\_\_\_

PERFS. \_\_\_\_\_

DISPLACEMENT 1 BBL ~~20~~ wind

OWNER \_\_\_\_\_

CEMENT AMOUNT ORDERED 2500x class H + 240# 1 1/2 CD-31

COMMON Class H 28@ 21.20 5300.00

POZMIX @ \_\_\_\_\_

GEL @ \_\_\_\_\_

CHLORIDE @ \_\_\_\_\_

ASC @ \_\_\_\_\_

C-0-31 176 @ 10.30 1812.80

HANDLING 253.74 @ 2.98 629.87

MILEAGE 11.84 x 12x 2.60 369.70

TOTAL 8,111.27

**EQUIPMENT**

PUMP TRUCK CEMENTER Wayne Davis Chadie

# 366 HELPER Kevin Eddley

BULK TRUCK # 609 DRIVER Dan Casper

BULK TRUCK # \_\_\_\_\_ DRIVER \_\_\_\_\_

**REMARKS:**

Ran 5 1/2 BBLs water Ahead  
mix 43 BBLs class H + 240# 1 1/2  
CD-31  
Displace 1 BBL at water  
Displace 20 BBLs at mud  
wash up Rig Down  
Plug set at 2300 feet  
fill up on plug 671 feet  
70 p of cement at 1629 feet

**SERVICE**

DEPTH OF JOB 2300

PUMP TRUCK CHARGE 2443.20

EXTRA FOOTAGE @ \_\_\_\_\_

MILEAGE Num 12 @ 7.76 92.40

MANIFOLD @ \_\_\_\_\_

Lum 12 @ 4.40 52.80

TOTAL 2,588.95

**PLUG & FLOAT EQUIPMENT**

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

TOTAL \_\_\_\_\_

CHARGE TO: Cress

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

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

PRINTED NAME Mike Martin

SIGNATURE Mike Martin

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES 10,700.23

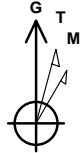
2,140.08

DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

8,560.34

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
2140.41	0.00	0.00	2140.41	0.00	0.00	0.00	0.00	KOP, 7.00°/100' Build
2997.56	60.00	209.05	2849.27	-357.76	-198.74	409.26	409.26	Begin 60.00° Tangent
3197.56	60.00	209.05	2949.27	-509.17	-282.86	582.46	582.46	Begin 10.00°/100' Build
3503.19	90.56	209.05	3026.00	-764.52	-424.71	874.57	874.57	Begin 90.56° Lateral
5640.40	90.56	209.05	3005.00	-2632.71	-1462.55	3011.68	3011.68	PBHL

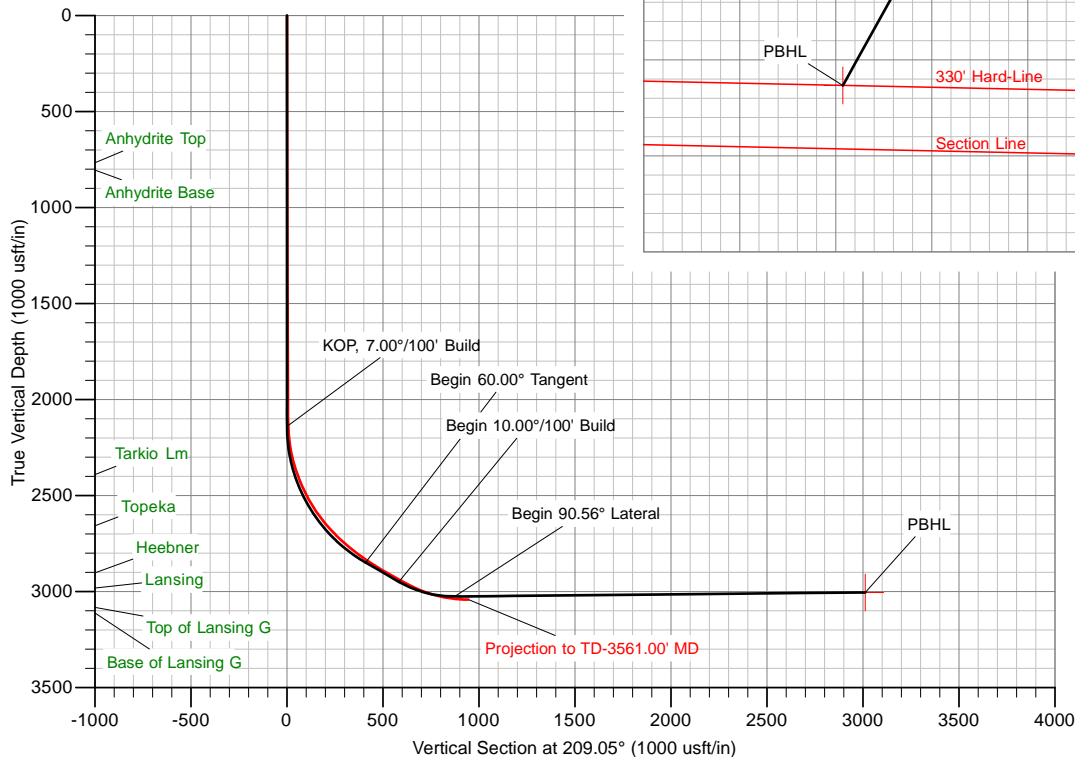
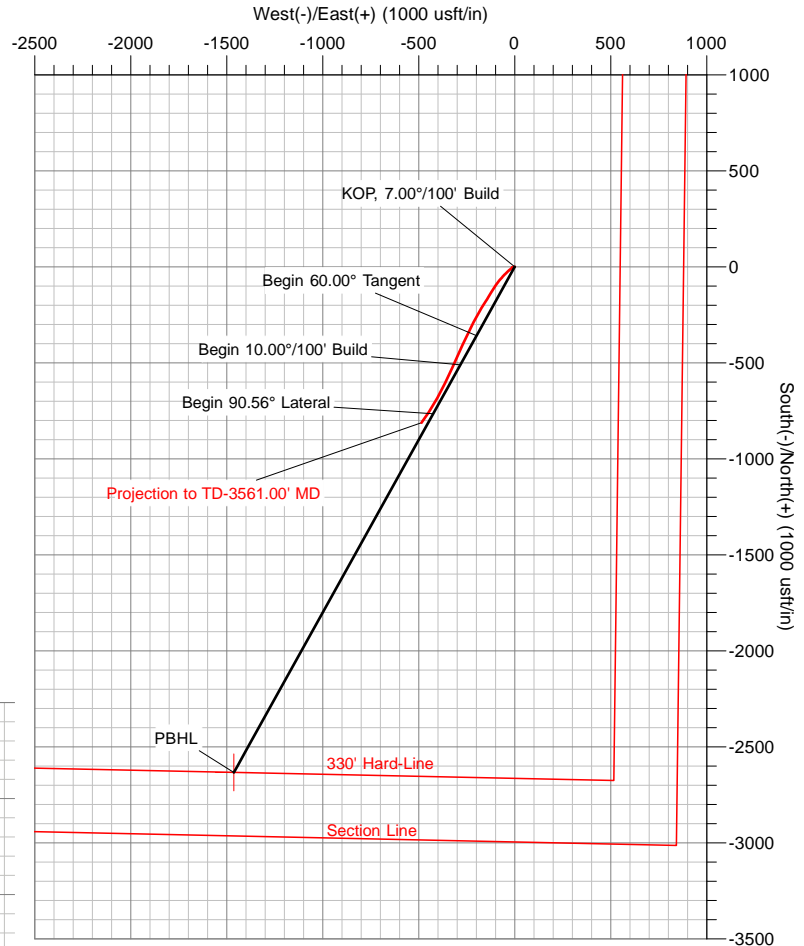


Azimuths to Grid North  
 True North: 0.42°  
 Magnetic North: 5.35°

Magnetic Field  
 Strength: 52680.3snT  
 Dip Angle: 66.59°  
 Date: 03/01/2013  
 Model: WMM\_2010

US State Plane 1927 (Exact solution)  
 Kansas North 1501

Created By: BDJ  
 Date: 11:08, March 22 2013  
 Plan: Design #3



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.

# Cardinal River Energy

Russell County, Kansas (NAD27)

CRECO Kronos

1-8H

Wellbore #1

Survey: MS MWD

## Standard Survey Report

22 March, 2013



<b>Company:</b>	Cardinal River Energy	<b>Local Co-ordinate Reference:</b>	Well 1-8H
<b>Project:</b>	Russell County, Kansas (NAD27)	<b>TVD Reference:</b>	WELL @ 1830.00usft (Val 2)
<b>Site:</b>	CRECO Kronos	<b>MD Reference:</b>	WELL @ 1830.00usft (Val 2)
<b>Well:</b>	1-8H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	Well Planning Conroe

<b>Project</b>	Russell County, Kansas (NAD27)		
<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 North 1501		

<b>Well</b>	1-8H				
<b>Well Position</b>	<b>+N-S</b>	0.00 usft	<b>Northing:</b>	188,926.37 usft	<b>Latitude:</b> 38° 51' 0.4572 N
	<b>+E-W</b>	0.00 usft	<b>Easting:</b>	1,808,598.56 usft	<b>Longitude:</b> 98° 40' 19.361 W
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b> 1,819.00 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>
	WMM_2010	2013/03/01	4.92	66.59	52,680

<b>Design</b>	Surveys				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N-S (usft)</b>	<b>+E-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00		209.05

<b>Survey Program</b>	<b>Date</b>	2013/03/22			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
1,334.00	3,561.00	MS MWD (Wellbore #1)	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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,334.00	0.40	272.40	1,333.99	0.19	-4.65	2.09	0.03	0.03	0.00
2,015.00	0.40	237.10	2,014.97	-1.00	-9.02	5.25	0.04	0.00	-5.18
2,046.00	0.40	228.50	2,045.97	-1.13	-9.20	5.45	0.19	0.00	-27.74
2,077.00	0.60	225.90	2,076.97	-1.31	-9.39	5.71	0.65	0.65	-8.39
2,108.00	1.10	228.30	2,107.97	-1.62	-9.73	6.14	1.62	1.61	7.74
2,139.00	2.00	235.70	2,138.96	-2.13	-10.40	6.91	2.97	2.90	23.87
2,171.00	4.00	237.10	2,170.91	-3.05	-11.80	8.39	6.25	6.25	4.38
2,202.00	6.30	233.30	2,201.78	-4.65	-14.07	10.90	7.50	7.42	-12.26
2,233.00	8.90	230.60	2,232.51	-7.19	-17.29	14.68	8.46	8.39	-8.71
2,264.00	11.20	229.50	2,263.03	-10.67	-21.43	19.73	7.44	7.42	-3.55
2,296.00	13.50	228.20	2,294.29	-15.18	-26.58	26.17	7.24	7.19	-4.06
2,326.00	15.70	226.70	2,323.32	-20.29	-32.14	33.35	7.44	7.33	-5.00
2,388.00	20.50	225.70	2,382.23	-33.64	-46.03	51.76	7.76	7.74	-1.61
2,420.00	22.30	224.60	2,412.03	-41.87	-54.30	62.97	5.76	5.63	-3.44

<b>Company:</b>	Cardinal River Energy	<b>Local Co-ordinate Reference:</b>	Well 1-8H
<b>Project:</b>	Russell County, Kansas (NAD27)	<b>TVD Reference:</b>	WELL @ 1830.00usft (Val 2)
<b>Site:</b>	CRECO Kronos	<b>MD Reference:</b>	WELL @ 1830.00usft (Val 2)
<b>Well:</b>	1-8H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys	<b>Database:</b>	Well Planning Conroe

Survey

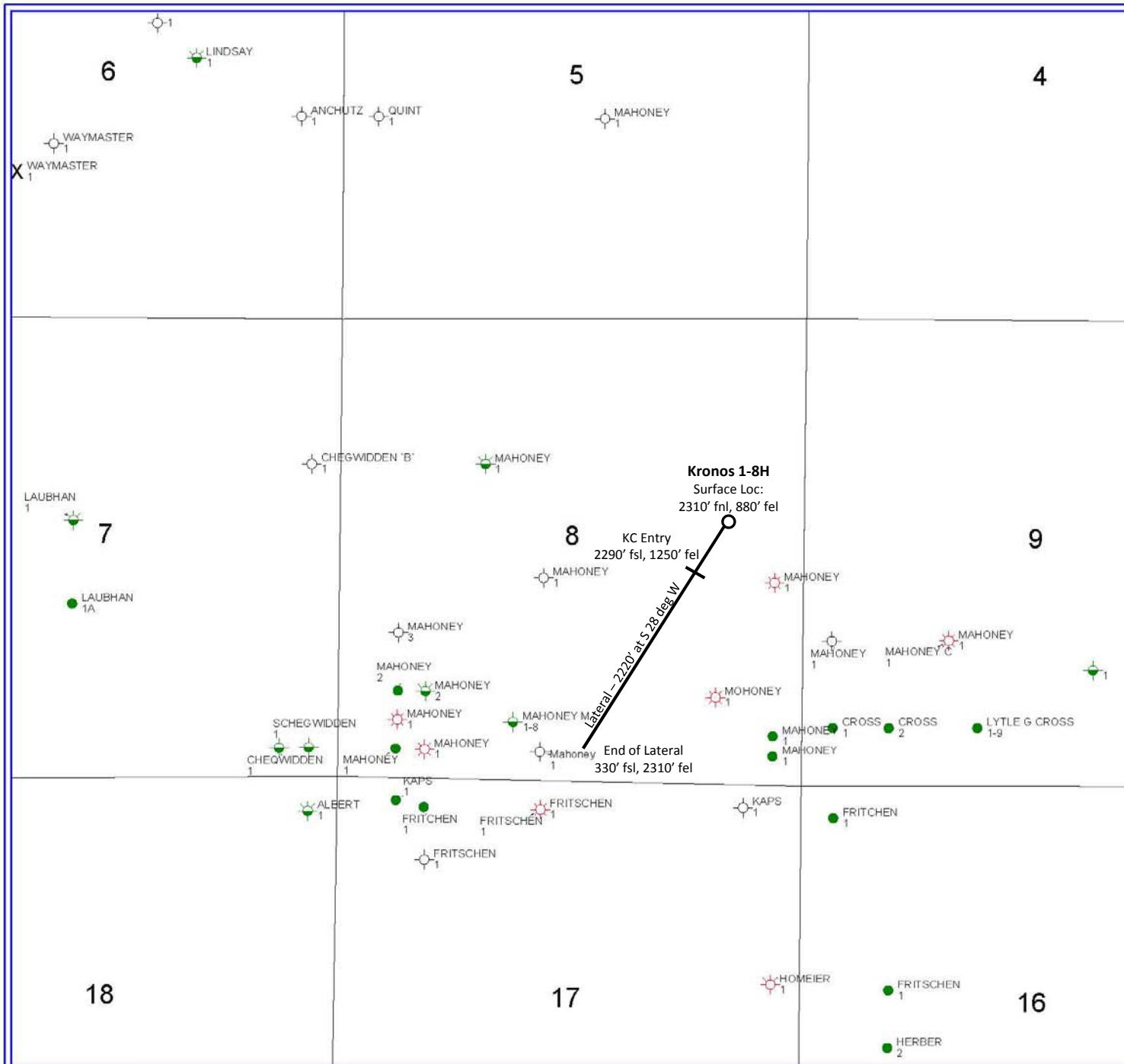
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,451.00	23.70	223.00	2,440.56	-50.62	-62.68	74.69	4.95	4.52	-5.16
2,482.00	25.40	221.90	2,468.76	-60.13	-71.37	87.22	5.68	5.48	-3.55
2,513.00	27.00	218.20	2,496.57	-70.60	-80.16	100.65	7.37	5.16	-11.94
2,545.00	29.00	216.30	2,524.83	-82.57	-89.25	115.52	6.84	6.25	-5.94
2,576.00	31.80	215.00	2,551.56	-95.32	-98.38	131.10	9.28	9.03	-4.19
2,607.00	34.40	213.60	2,577.53	-109.30	-107.92	147.95	8.74	8.39	-4.52
2,639.00	36.40	211.80	2,603.61	-124.90	-117.92	166.45	7.05	6.25	-5.63
2,670.00	38.30	210.80	2,628.26	-140.97	-127.69	185.24	6.43	6.13	-3.23
2,701.00	40.40	210.00	2,652.23	-157.93	-137.63	204.89	6.97	6.77	-2.58
2,732.00	42.50	211.00	2,675.46	-175.61	-148.05	225.40	7.10	6.77	3.23
2,763.00	44.40	212.00	2,697.97	-193.78	-159.19	246.70	6.52	6.13	3.23
2,795.00	46.30	212.50	2,720.45	-213.03	-171.34	269.43	6.04	5.94	1.56
2,826.00	48.00	211.50	2,741.54	-232.31	-183.38	292.13	5.97	5.48	-3.23
2,857.00	49.50	210.10	2,761.98	-252.33	-195.31	315.42	5.91	4.84	-4.52
2,889.00	51.40	208.70	2,782.35	-273.82	-207.42	340.09	6.83	5.94	-4.38
2,920.00	52.60	206.90	2,801.44	-295.43	-218.81	364.51	5.99	3.87	-5.81
2,950.00	54.20	206.20	2,819.32	-316.98	-229.57	388.57	5.65	5.33	-2.33
2,981.00	55.50	205.50	2,837.17	-339.79	-240.62	413.88	4.58	4.19	-2.26
3,012.00	57.20	204.60	2,854.35	-363.16	-251.55	439.62	5.99	5.48	-2.90
3,044.00	59.00	204.20	2,871.26	-387.90	-262.77	466.70	5.72	5.63	-1.25
3,075.00	59.90	204.30	2,887.01	-412.24	-273.73	493.30	2.92	2.90	0.32
3,106.00	60.30	204.20	2,902.47	-436.75	-284.77	520.08	1.32	1.29	-0.32
3,138.00	60.50	204.40	2,918.27	-462.11	-296.22	547.81	0.83	0.63	0.63
3,169.00	61.00	204.00	2,933.42	-486.78	-307.31	574.76	1.97	1.61	-1.29
3,199.00	61.50	204.60	2,947.85	-510.75	-318.13	600.97	2.42	1.67	2.00
3,231.00	62.40	205.20	2,962.90	-536.36	-330.02	629.14	3.26	2.81	1.88
3,262.00	64.40	205.90	2,976.78	-561.37	-341.98	656.80	6.76	6.45	2.26
3,293.00	66.50	206.40	2,989.66	-586.68	-354.41	684.96	6.93	6.77	1.61
3,325.00	69.10	207.10	3,001.75	-613.13	-367.74	714.56	8.37	8.13	2.19
3,356.00	72.60	208.00	3,011.92	-639.09	-381.29	743.83	11.62	11.29	2.90
3,419.00	78.50	207.60	3,027.63	-693.03	-409.72	804.80	9.39	9.37	-0.63
3,471.00	82.20	213.10	3,036.35	-737.24	-435.62	856.02	12.62	7.12	10.58
3,502.00	84.70	214.30	3,039.89	-762.86	-452.71	886.71	8.93	8.06	3.87
3,561.00	89.50	213.10	3,042.87	-811.87	-485.39	945.42	8.39	8.14	-2.03

Projection to TD-3561.00' MD

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,561.00	3,042.87	-811.87	-485.39	Projection to TD-3561.00' MD

# Exhibit 'A'



CRECO Operating
Kronos Prospect
Russell Co., KS Proposed Well Location Kronos 1-8H
0 1,470 FEET
POSTED WELL DATA ● Well Name Well Number
WELL SYMBOLS ● Oil Well ☼ Gas Well ○ Dry Hole X Abandoned Location - Permit ☼ Dry Hole, With Show of Oil ☼ Dry Hole, With Show of Oil & Gas ☼ Dry Hole, With Show of Gas
REMARKS Proposed 320-acre drilling unit S8 - 14S - 12W
December 18, 2012