KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1134143

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 33453
Name: Jones, Stephen C.
Address 1: 12 N ARMSTRONG ST
Address 2:
City: BIXBY State: OK Zip: 74008 + 4446
Contact Person: Steve Jones
Phone: (918) 366-3710
CONTRACTOR: License # 32548
Name: Kan-Drill, Inc.
Wellsite Geologist: James Jackson
Purchaser:

Designate Type of Completion:

- [x] New Well
- [ ] Re-Entry
- [ ] Workover

- [x] 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
- [ ] Conv. to GSW
- [ ] Plug Back: Plug Back Total Depth
- [ ] Commingled Permit #:
- [ ] Dual Completion Permit #:
- [ ] SWD Permit #:
- [ ] ENHR Permit #:
- [ ] GSW Permit #:

01/20/2013	02/03/2013	03/04/2013
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-031-23359-01-00
Spot Description:
SE - SE - SE - NW Sec. 28 Twp. 21 S. R. 14 [x] East [ ] West
2475 Feet from [x] North / [ ] South Line of Section
2475 Feet from [ ] East / [x] West Line of Section
Footages Calculated from Nearest Outside Section Corner:
[ ] NE [x] NW [ ] SE [ ] SW
County: Coffey
Lease Name: J. BIRK Well #: 1B
Field Name: Wildcat
Producing Formation: Mississippian Limestone
Elevation: Ground: 1134 Kelly Bushing: 1139
Total Depth: 3147 Plug Back Total Depth: 3147
Amount of Surface Pipe Set and Cemented at: 40 Feet
Multiple Stage Cementing Collar Used? [ ] Yes [x] 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: 12000 ppm Fluid volume: 400 bbls
Dewatering method used: Hauled to Disposal

Location of fluid disposal if hauled offsite:

Operator Name: Stephen C. Jones
Lease Name: Johnson License #: 2
Quarter SW Sec. 29 Twp. 22 S. R. 14 [x] East [ ] West
County: Coffey Permit #: D-28590

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

- [ ] **Letter of Confidentiality Received**
  Date:
- [ ] **Confidential Release Date:**
- [x] **Wireline Log Received**
- [ ] **Geologist Report Received**
- [ ] **UIC Distribution**

ALT [x] **I** [ ] **II** [ ] **III** **Approved by:** Deanna Garrison **Date:** 05/07/2013

Side Two

[redacted] 1134143

Operator Name: Jones, Stephen C. Lease Name: J. BIRK Well #: 1B

Sec. 28 Twp. 21 S. R. 14 ☑ East ☐ West County: Coffey

INSTRUCTIONS: Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken ☐ Yes ☑ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

Electric Log Submitted Electronically ☐ Yes ☑ No
(If no, Submit Copy)

List All E. Logs Run:

Gamma Ray Neutron

☑ Log Formation (Top), Depth and Datum ☑ Sample

Name	Top	Datum
Mississippian Limestone	1743	Gamma Ray & sample

CASING RECORD ☑ New ☐ 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
Surface	14.7500	10.7500	32.75	40	Class A	53	Cal.3 percent
Intermediate	9.5000	7.0000	20	2107	Class A	450	Floseal salt 4.5
Production	6.1250	4.0000	11	3147	None	0	none

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:
☐ Perforate
☐ Protect Casing
☐ Plug Back TD
☐ Plug Off Zone

Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
-			
-			

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth
	open hole -horizontal	3000 gal. 15% HCL acid	2547' - 3147'

TUBING RECORD: Size: 2 3/8" Set At: 1936' Packer At: n/a

Liner Run: ☑ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. 03/25/2013

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
		50	800		

DISPOSITION OF GAS:
☑ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☑ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)*

PRODUCTION INTERVAL:

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

P.O. Box 510
Healdton, Ok 73438
580-229-1776

Oilwell Cementers, Inc.

Invoice

Date	Invoice #
1/25/2013	30165-INT

Terms	
Rep	PB

Bill To
J & J LATERAL CORP. 12 N. ARMSTRONG BIXBY, OK 74008

P.O. No.	J BIRK 1-B

Hrs/Qty	Item	Description	Rate	Amount
450	CEC	Regular Cement	11.50	5,175.00T
125	FS	Flocele	2.50	312.50T
1,950	SAA	Salt	0.50	975.00T
1	LATCH7	LATCHDOWN 7 1/2"	400.00	400.00T
1	AFUFS7	AUTO FILL UP FLOAT SHOE 7 1/2"	435.00	435.00T
450	DDUMP	Dump	4.00	1,800.00
3	PERMIT	Permits	94.25	282.75
1	OVERNIGHT	Overnight Charges	500.00	500.00T
1	PC7	7" PLUG CONTAINER	350.00	350.00
386	GG	Pickup Mileage Charge	2.00	772.00
579	GT	Truck Mileage	4.00	2,316.00
2,100	FT	Footage Charge	0.25	525.00
1	TRUCK	Truck	1,000.00	1,000.00
-1	CREDIT	***CREDIT***CREDIT***CREDIT***	1,484.32	-1,484.32

PAID
Date | CK#

OILWELL CEMENTERS INC. HEALDTON 580/ 229-1776 CUSHING 918/ 225-1633

Subtotal	$13,358.93
Sales Tax (0.0%)	$0.00
Balance Due	$13,358.93

OILWELL CEMENTERS,INC

P.O. BOX 510 - PHONE (580) 229 - 1776
HEALDTON, OKLAHOMA 73438

P.O. NO.
DATE 1/25/2013

J & J LATERAL CORP. 12 N. ARMSTRONG BIXBY, OK. 74008
NAME OF COMPANY MAILING ADDRESS

WELL OWNER MAILING ADDRESS

KAN DRILL
NAME OF CONTRACTOR MAILING ADDRESS

TERMS: Accounts Due and Payable Upon Receipt. 1.5% (18% per yr) Finance charge Added to Accounts 30 Days Past Due.

Well owner or his Representative

FARM J.BIRK WELL NO. 1-B
COUNTY COFFEY, KS. SEC 28 TWN 21 RGE 14N
KIND OF JOB INTERMIDIATE
SIZE OF PIPE 7" SIZE OF HOLE 9 1/2"
DEPTH OF WELL — DEPTH OF WELL CEMENTED 2071' DEPTH PLUG STOPPED 2057'
KIND OF CEMENT TYPE A 10 % SALT 1/4 # FS
ASH MIX
AMOUNT 450 SK
PRESSURE MAXIMUM MINIMUM
TIME OUT 5:00 PM ON LOC 9:00 PM
JOB STARTED 9:00 PM COMPLETE 1:00 AM
TYPE FLOATING EQUIPMENT AFU FS LATCHDOWN & INSERT
PRICE REF.NO. 1 @ $1,000.00 $1,000.00

2100	FEET	@	$0.25	$525.00
579	TRUCK MILES	@	$4.00	$2,316.00
386	PICKUP MILES	@	$2.00	$772.00
	CONN.OVER 6 FT.	@	$650.00	$0.00
	EXTRA HRS ON LOC.	@	$250.00	$0.00
1	PLUG CONTAINER	@	$350.00	$350.00
1	OVERNIGHT	@	$500.00	$500.00
3	PERMITS	@	$94.25	$282.75
		@		$0.00
		@		$0.00
		@		$0.00
		@		$0.00
		@		$0.00

PUMP TRUCK CHARGES $5,745.75

TRUCK NO.	242/244		BULK CEMENT	
CEMENT	450	SACKS @	$11.50	$5,175.00
ASH MIX		SACKS @	$12.00	$0.00
% GEL		SACKS @		$0.00
125	FLO-SEAL	@	$2.50	$312.50
1950	SALT	@	$0.50	$975.00
1	7" LATCH-DOWN	@	$400.00	$400.00
1	7" AFU FL. SHOE	@	$435.00	$435.00
		@		$0.00
		@		$0.00
		@		$0.00
		@		$0.00
		@		$0.00
		@		$0.00
		@		$0.00
		@		$0.00
		@		$0.00
		@		$0.00
MATERIAL COST				$7,297.50
OKLA. SALE TAX				$0.00
COUNTY SALE TAX				$0.00
DUMPING CHARGE	450	$4.00		$1,800.00
TOTAL MATERIALS				$9,097.50
PUMP TRUCK				$5,745.75
Sub Total				$14,843.25
Discount 10%				$1,484.33
TOTAL				$13,358.93

TRUCK NO. 223
CEMENTER PATRICK BOLES HELPER: MIKE MCGUIRE/ MIKE VAN BRUNT /RON FOX
REMARKS:
PAID CHK #2036 , $13,358.93

INVOICE NO. 30165

FED ID # 48-1214033
Shop # (620) 437-2661
Cellular # (620) 437-7582
Office # (316) 303-9515
Office Fax # (316) 263-0432

MC ID# 165290

Shop Address: 3613A Y Road
Madison, KS 66860

Hurricane Services, Inc.

Cementing & Circulating Division

250 N. Water, Suite 200
Wichita, KS 67202

Customer:

ARMOUR MANAGEMENT, INC.
12 N ARMSTRONG
BIXBY, OK 74008

Invoice Date: 1/20/2013
Invoice #: 0009063
Lease Name: J BIRK
Well #: 1-B
County: COFFEY

Date/Description	HRS/QTY	Rate	Total
1/16/13 See work ticket 100207 of BB			
Pump truck mileage	1.000	790.000	790.00
Class A cement	15.000	3.250	48.75
Calz 3%	53.000	14.150	749.95 T
Water truck #106	149.000	0.750	111.75 T
Bulk truck #202	4.000	84.000	336.00
5% Fuel surcharge	1.000	250.000	250.00
	1.000	114.330	114.33 T

Net Invoice	2,400.78
Sales Tax: (6.30%)	61.49
Total	2,462.27

All invoices are due upon receipt. Interest at the rate of 1 1/2% per month may be charged on all invoices not paid within 30 days from date of invoice.

WE APPRECIATE YOUR BUSINESS!

3613 A Y Road
Madison, KS 66860
Office # 620-437-2661
Brad Cell # 620-437-6765

Ticket Num. 100207
Location Madison
Foreman Brad Butler

Cement Service ticket

Date	Customer #	Well Name & Number	Sec./Township/Range	County
1-16-13		J. Birk # 1B	28-21s-14E	Coffey
Customer Armour Management		Mailing Address	City	State	Zip
STephen C. Jones		12 N. Armstrong	Bixby	OK	74008

Job Type: Surface Job

			Truck #	Driver
Hole Size: 15"	Casing Size: 10 3/4"	Displacement: 3.5 Bbls	201	Kelly
Hole Depth:	Casing Weight: 32#	Displacement PSI:	202	Jerry
Bridge Plug:	Tubing:	Cement Left in Casing: 5'	106	Austin
Packer:	41' of SIP			

Quantity Or Units	Description of Servcies or Product		
15	Mileage	Pump charge	790.00
		$3.25/Mile	48.75
53 SACKS	Regular cement	14.15	749.95
149 lbs.	CACl2 3%	.75	111.75
4 Hrs.	WATER Truck	84.00	336.00
2.58 Tons	Bulk Truck > minimum charge	$1.15/Mile	250.00
	Plugs		
		Subtotal	2286.45
		Sales Tax	62.90
		Estimated Total	2349.35

Remarks: Rig up to Surface Pipe, Break circulation with fresh water. Mixed 53sks. Reg. cement w/ 3% CACl2. Displaced cement with 3 1/2 Bbls water. Shut down - close casing in with Good cement returns.

Job complete - Teardown

"Thank you"

(Rev. 1-2011)

Witnessed by STeve Jones
Customer Signature

GEOLOGICAL REPORT

FOR

Well:	J Birk 1-B
API No.	031-23359-01
Operator:	J AND J LATERAL CORPORATION 12 N. Armstrong Bixby, Oklahoma 74008
Owner:	Mr. Steven Jones
Offices In:	Bixby, Oklahoma and Gridley, Kansas
Surface Location:	243' FEL & 135' FSL OF NW/4 Section 28- T 22S- R14E Coffey County, Kansas Near the town of Gridley, Kansas About ¼ Mi. E and 1 Mi. N. of Gridley
Directional Lateral:	315° Azimuth (a.k.a. 45° W of North) To a maximum measured depth (MD) Of 3,147' which is 1,745' true vertical depth (TVD) at a bottom hole location 1,260' N and 1,295' W of the surface location. The vertical distance (map distance from surface location to bottom hole location) is 1,807'.
Ground Level:	All measurements from GL- 1,134'

Time on Location:

January 17 through 28, 2013- through intermediate casing
Temporary release due to equipment problems
February 1 through 3, 2013- drilling of the horizontal well bore.

Casing, bit record, mud weight, and sample quality:

10 1/2' casing at 47'
12 ¼' hole to 879' – the kick off point
9 1/2 ' hole through the curved hole to 2,071'
Tangent for down hole pump 1,769' MD (~1,600' TVD)
to 1,944'MD (~1,689'TVD)
Bottom of Curve- 2,271'MD (1,773'TVD)
Intermediate Casing- 7' to 2,057' (TVD ~1,773')
About 18' into Mississippi Limestone
A 9 ½' tricone button bit was used to 2,057 MD
Gelled mud was used with 43 viscosity and 9.6 lb./gal. weight resulting in excellent samples through intermediate casing.
A 6 ½' six ` blade PDC bit was used to 3,147'(MD- TD on 2/3/2013) resulting in samples that were ground to fine sand size material. Fresh water, MW 8.7 lb./gal. and Vis. 32+ was used for the remainder of the hole. These mud properties have poor lifting properties and, was used from intermediate casing point to total depth- 3,147 MD (1,745 TVD). However, useful information was obtained for lithology, sample cut, fluorescence, and occasionally the alizarine red test (estimate of how much carbonate was highly dolomitic).
The EOC (end of the curve) also the maximum TVD of the well was 1,777' (MD 2,271'). After this depth, the well deviated upward at a slight angle toward the surface and leveled off into a horizontal wellbore for all practical purposes.
Production casing was 6 ½' slotted liner from TD or Max. MD, 3,147' (1,745' TVD) to 2,555' and 4 ½" 1160 lb./ft non slotted casing was used through the remainder of the hole. Therefore, there is 592' of slotted liner in this well.

LOGGING

Electric Logs: There were no electric logs run on this well.

Mud Log:

MBC Well Logging, Inc.

Mudlogger-

Troy Fowler
316 516 3618
troy_fowler@hotmail.com

Geologist on Location-

James B. Jackson Consulting Geologist
11017 Saint Charles Avenue
Oklahoma City, Oklahoma 73162
jackson6332@sbcglobal.net
H 405 722 1237
C and O 405 818 8656

Directional Services:

An excellent Gamma Ray (GR) and Rate of Penetration (ROP) curve was kept and plotted by the directional services. The GR measuring device on the directional tool is located 60' behind the bit. Therefore, the last 60' of wellbore was not logged. The measured depth was projected back to vertical to make a TVD log. This is an excellent log to correlate with. The log is attached.

MS Guidance Services
7821 W. Will Rogers Blvd.
Fort Worth, Texas 76140

MWD Field Specialist

J. D. Christensen- Supervisor
Greg Hammonds- Crew
Office 817 568 1038
Cell 469 446 6559

MS Directional Drillers
7821 Will Rogers Blvd.
Fort Worth, Texas 76140

Wayne Crowell
Rupert Lopez

Drilling Contractor:

Kan Drill- Rig No. 1

Important Points Along the Lateral Wellbore

Kick off Point- 879'

Encounter Top Mississippi Limestone
MD 2,012'
TVD 1,723'
X 481' N
Y 480' W
Vertical Distance (linear or map distance in feet from surface location to top) 680'

End of the Curve (EOC) -deepest point in hole
MD 2,271'
TVD 1,773' (-693)
X 650' NM
Y 650' W
Vertical Distance 933'

Top of Slotted Liner
MD 2,555'
TVD 1,750'
X 841' N
Y 847' W
Vertical Distance 1,213'

Bottom of Slotted Liner and TD of well
MD 3,147'
TVD 1,945'
X 1,260' N
Y 1,295' W
Vertical Section 1,807'

Formation Tops and Discussion

Because the well was originally intended to be completed in the Mississippi Limestone in the lateral section, the upper formation tops and shows are of minor importance. This well was in close proximity to existing wells that produce/have produced in the shallower Pennsylvanian Formations. The first logging by mudlogger, MWD services (ROP and GR) was in the Lansing Formation.
All logs measured from Ground Level- 1,134'

Formation	Measured Depth (MD	True Vertical Depth (TVD)	Subsea Depth	Birk #3-A
In Lansing	830'			
Kick off Point	879'			
Shark Shale	977'		+157'	
Hushpuckney Shale	1,012'		+122'	
Base of Kansas City Unconformity	1,022'		+112'	-109'
Altamonty LS	1,180'	1,166'	-32'	
Pawnee	1,220	1,205'	-71'	
Ft. Scott	1,287'	1,258'	-124'	
Lexington Coal	1,335'	1,300'	-166'	
Summit Coal	1,388'	1,338'	-207'	
Mulkey Coal	1,394'	1,346'	-212'	-203'
Squirrel Sand----Oil odor, instant streaming cut (Prue Equivalent)	1,400'	1,360'	-226'	
Lower Squirrel Sd----Slight gas increase, instant streaming cut	1,446'	1,402'	-268'	
Bevier Coal	1,516'	1,440'	-306'	
Crowberg Coal	1,530'	1,451'	-317'	-309'
Mineral Coal	1,567'	1,482'	-348'	
Scammon Coal	1,602'	1,502'	-368'	
Tebo Coal	1,672'	1,549'	-415'	-396'
AW Coal		1,688'	-534'	
CW Coal		1,678'	-544'	
Riverton Coal	1,928'	1,683'	-549'	-557'
Coal A		1,692'	-558'	
Coal B		1,695'	-561'	
Chatt (Sample and GR)	1,961'	1,700'	-566'	-567'
Mississippi Limestone Unconformity	2,012'	1,723'	-589'	-578'
Deepest point in hole before go back up(EOH)	2,271'	1,773'	-644'	TD-602'

Hot Radioactive shales in Miss. Ls – These shales are not known to be correlative in the entire area of the project. However, they may be of importance in the project area.

2,200'-2,236' same as interval 2,877 2,898
2,404'- 2,410' same as interval 2,795'- 2,805'
2,522'- 2,530' same as interval 2,642- 2,650'
2,935' – 2,955' thought to be equivalent to hot shale at the top of Miss LS perhaps 2,000'- 2,012'

Total Depth-

End of Hole	3,147'	1,745'	-611

Indications of Hydrocarbons With a Discussion of Pressure in the Mississippi Limestone

Chatt- 1,970'– 2,012'. This zone was opaque to clear chert and unconsolidated quartz sand grains with no visible fluorescence or cut. No gas was detected by the Hotwire or Chromatograph; however, the instruments might not have been working correctly at the time of drilling.

Mississippi Limestone Interval- 2,012-2,070'. The Hotwire and Chromatograph were both working when the upper part of the Mississippi Limestone was drilled. The Hotwire varied from 5 to 10 units. Traces of C2 (ethane), C3(propane), and C4(butane) were detected. Ninety- five percent of the gas was methane. C2, C3, C4 are indicative of hydrocarbons. A slight yellow to green cut was obtained at 2,018' and good yellow cuts were obtained at 2,054, 2,056, 2,060, 2,068, and 2,070. Cuttings most commonly showed yellow fluorescence. A rainbow show of oil was noted on the pit at 2,090'. Rocks were hard to dense brown to white limestone with traces of oolite and allochemical ghosts (grains of origin unknown but resembling oolite or fossils) at the top of the interval and graded downward into dolomitic rocks that showed some sucrosic texture. Better cuts were obtained from dolomite. Correlation to other wells in the area with CNL-FDC logs show the same type of lithology. Shows in the dolomitic rock lead me to believe that higher porosity dolomitic zones will have better oil saturations.

It was expressed by many oil field personnel when the well was commenced that there would be no gas in the Mississippi Limestone. The whole east central Kansas area is known to exhibit very little bottom hole pressure in the Mississippi Limestone. The upper part of the interval was drilled with 46 viscosity and 9.6 lb./gallon mud. Good to excellent cuttings were obtained while drilling this part of the well.

The pressure exerted on the formation at 1,740' TVD should have been:
P = 0.052 X weight (lb. /gallon) X D (depth TVD)
P = 0.052 X 9.6 X 1,740'
P = 868 pounds

The hydrostatic gradient for fresh water is 0.433 lb./ft which is usually used in the midcontinent to determine what bottom hole pressure should be. Fresh non-mineralized drinking water commonly weighs about 8.5 pounds/gallon. This number can increase due to salts in the groundwater and/or is also affected by temperature at depth, total dissolved solids (TDS), and total suspended solids (TDS). Fresh water has poor lifting qualities and the PDC bits ground rocks into sand size material. In this area:

Hydrostatic Pressure = 0.433 X 1,740'
Hydrostatic Pressure = 753 pounds

The Mississippi Limestone interval between MD 2,057' (1,773' TVD) was drilled with fresh water with mud weight 8.7 lb./gal. and viscosity 32+.
The pressure exerted on the formation in the horizontal portion of the hole is:
P = 0.052 X 8.7 X 1,745'
P = 789 pounds

As is shown, drilling fluid in all parts of the Mississippi Limestone interval overbalanced the formation pressure. Even so, I am under the impression that a typical Mississippi Limestone virgin bottom hole pressure in this area is much lower than the calculated pressure.

This low bottom hole pressure and overbalanced drilling mud systems in the Mississippi Limestone in this region are the probable causes of finding no shows on mud logging equipment in the area or at least very minor shows. We had a minor amount of heavy gas indicating oil which was confirmed by the Hotwire and Chromatograph readings. Therefore, I conclude that the use of a mud logger and the reason for drilling this well was successful. The Mississippi Limestone is a saturated rock, but it has been flushed of most hydrocarbons near the wellbore by drilling fluids.

Drill pipe could not shove directional tools deeper into the lateral hole and it was decided to increase mud pressure by exchanging a duplex mud pump which produced about 700 pounds of pressure with a triplex mud pump that could produce about 1,000 pounds of pressure. At 2,070', seven- inch intermediate casing was run to 2,057'. Casing and cement at this point in the well history, now covers the Chatt which yields water when acidizing the upper part of the Mississippi Limestone.

After several days of work repairing and replacing the duplex mud pump with a triplex mud pump, drilling was once again commenced on February 1, 2013. A 6 ½ inch six blade PDC bit was used on the remainder of the well. Some shale from radioactive shale beds shown by the gamma ray were never seen in the samples. However, cut, fluorescence, gas bubbles, percentage dolomite by Alizarine Red test could all be determined, and was run. The radioactive shale beds allowed questionable correlation within the Mississippi Limestone as the wellbore curved upward, and the hot radioactive beds were used to help determine the interval of rock being drilled. The correlations were previously discussed with well to tops.

Excessive cuttings were removed from the mud pit at this point. When this occurred, a very strong odor of oil and gas was noticed by many personnel on location. Personnel noticed a slight sheen of oil on the pits at this point in the well history. The smell must have come from Mississippi Limestone cuttings.

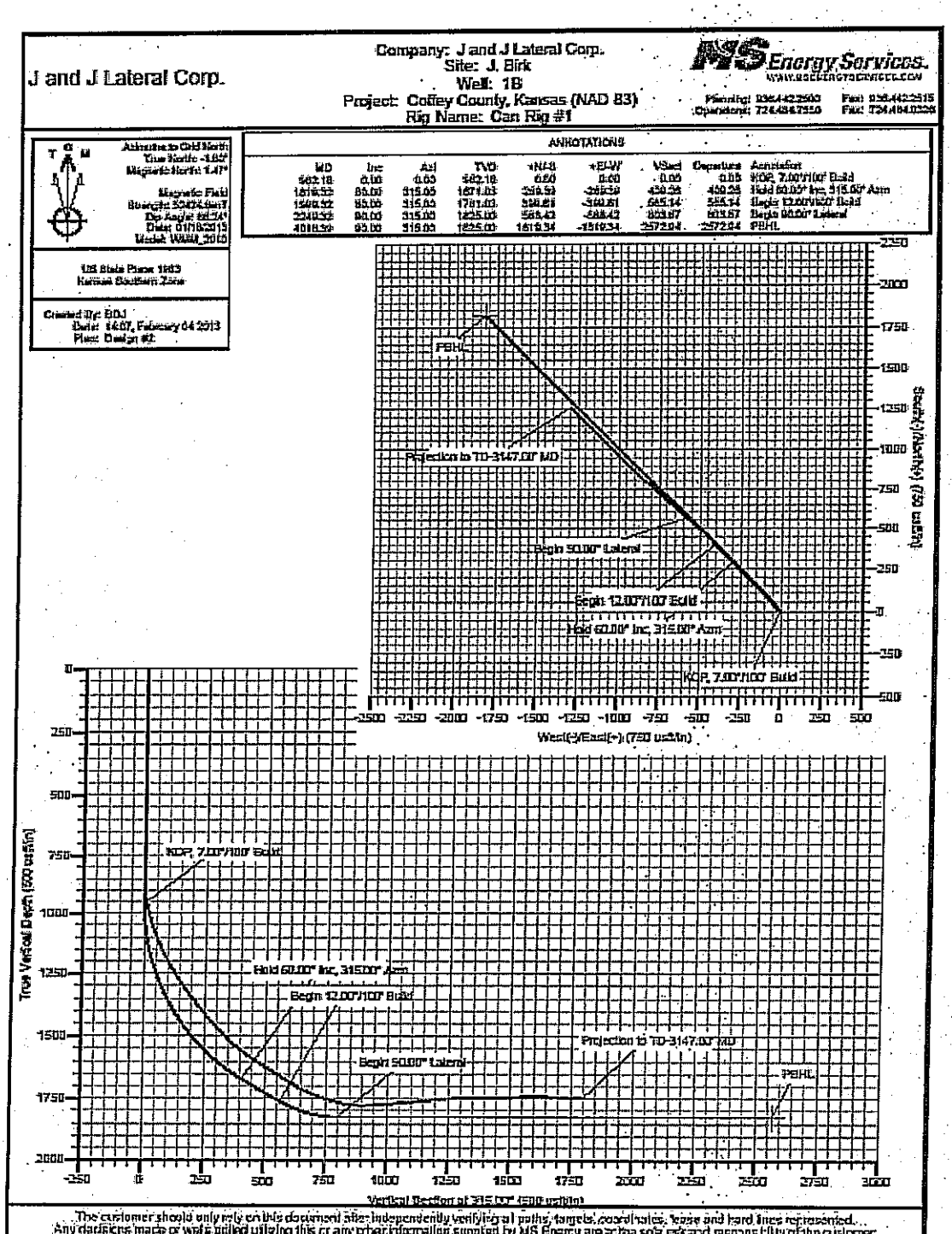
Gas bubbles were visible in cuttings below 2,430'. Hotwire averaged 5 units of gas, but occasionally it was greater. C1, C2, C3, and C4 were noted in trace amounts to the bottom of the hole. Good fluorescence and yellow cut were obtained on white to brown dolomitic cuttings. from 3,070' to 3,147', TD, and Hotwire and Chromatograph readings showed a slight increase. Bright yellow cuts were obtained on samples in the last 100' of the hole. These cuts lead one to believe that two wells drilled from the northwest to the southeast toward this wellbore would also encounter excellent oil saturations.

Slotted liner was used as production casing from TD, 3,147', back up hole to 2,555'; a length of 592'. Four and one half inch 1,160 lb./ft. casing was placed above the slotted liner. By using slotted liner, no cement could be shoved into (frack with cement) the low pressure Mississippi Limestone reservoir. This should allow better results after acidizing and ultimately higher production rates.

Attachments and Meaning

Marked MBC Well Log showing sample descriptions, shows casing data, slotted liner, mud properties, drilling information, MD, TVD, and subsea elevation.
MS Directional Total Well Directional Survey
MS Guidance Services Total Well Directional Survey
5 Inch TVD log from Start to end of hole. This log is a GR and ROP that writes over itself during directional drilling. It shows the distance from the Top of Mississippi Limestone to the well bore.
5 inch TVD log from Start to bottom of curve. This log is a GR and ROP that shows TVD to the bottom of the curve. It is excellent log for vertical wellbore correlation.
5 inch MD log from start of hole to end of hole. At the bottom of the hole, one can see the GR survey which ends 60' above the bottom of the hole or bit. Rate of Penetration, ROP, and slotted liner is plotted, and all directional surveys showing MD, TVD, and subsea elevation are present.

MJ Energy Sercvices Standard Survey Report. This report contains a cross-sectional and map view of the planned and final wellbore.



Recommendation

Two additional wells should be drilled from the north in the general direction of the J. Birk 3-A which is on a very strong structural nose or a structural closure. Structural top comparisons between the J. Birk 1-B and the J. Birk 3-A are shown in the formation top table.

Disclaimer:

I, James B. Jackson, Consulting Geologist, have no working interest in this well or any other wells, leases, or production in this area.

Respectfully submitted,

James B. Jackson, Consulting Geologist

AAPG/DPA- Certified Petroleum Geologist Number- 2018
SIPES Number-2990
Registered Geologist- California, Arkansas, Texas

February 11, 2013

DRAFT DOCUMENT

J BIRK 1-B

GL 1,134'

J and J Lateral Corp.

Coffey County, Kansas (NAD 83)
J. Birk
1B

Wellbore #1

Survey: MS MWD

Standard Survey Report

04 February, 2013

MS Energy Services™
WWW.MSENERGYSERVICES.COM

MS Energy Services
Survey Report

MS Energy Services
WWW.MSENERGYSERVICES.COM

Company:	J and J Lateral Corp.	Local Co-ordinate Reference:	Well 1B
Project:	Coffey County, Kansas (NAD 83)	TVD Reference:	WELL @ 1141.00usft (Can Rig #1)
Site:	J. Birk	MD Reference:	WELL @ 1141.00usft (Can Rig #1)
Well:	1B	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Well Planning Conroe

Project Coffey County, Kansas (NAD 83)

Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Kansas Southern Zone		

Well 1B

Well Position	+N/-S	0.00 usft	Northing:	1,836,930.91 usft	Latitude:	38° 4' 43.0000 N
	+E/-W	0.00 usft	Easting:	2,062,055.00 usft	Longitude:	95° 53' 42.000 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	1,135.00 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM_2010	2013/01/16	3.07	66.24	52,425

Design Surveys

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	315.00

Survey Program Date 2013/02/04

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
119.00	3,147.00	MS MWD (Wellbore #1)	MWD	MWD - Standard

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119.00	0.20	80.50	119.00	0.03	0.20	-0.12	0.17	0.17	0.00
435.00	0.10	236.90	435.00	-0.03	0.52	-0.38	0.09	-0.03	49.49
783.00	0.10	327.70	783.00	0.07	0.10	-0.03	0.04	0.00	26.09
815.00	0.10	23.50	815.00	0.11	0.10	0.01	0.29	0.00	174.38
846.00	0.10	65.60	846.00	0.15	0.13	0.01	0.23	0.00	135.81
877.00	0.60	329.80	877.00	0.30	0.08	0.16	1.99	1.61	-309.03
909.00	5.20	315.30	908.95	1.48	-1.03	1.77	14.44	14.38	-45.31
941.00	10.80	314.40	940.62	4.61	-4.19	6.22	17.50	17.50	-2.81
973.00	13.80	311.50	971.89	9.24	-9.20	13.03	9.57	9.38	-9.06
1,005.00	14.90	310.40	1,002.89	14.43	-15.19	20.94	3.54	3.44	-3.44
1,036.00	16.00	310.00	1,032.77	19.76	-21.50	29.17	3.56	3.55	-1.29
1,068.00	18.40	310.30	1,063.33	25.86	-28.73	38.60	7.51	7.50	0.94
1,099.00	21.40	311.00	1,092.48	32.74	-36.73	49.12	9.71	9.68	2.26
1,131.00	24.20	312.40	1,121.98	41.00	-45.98	61.50	8.91	8.75	4.38

Company:	J and J Lateral Corp.	Local Co-ordinate Reference:	Well 1B
Project:	Coffey County, Kansas (NAD 83)	TVD Reference:	WELL @ 1141.00usft (Can Rig #1)
Site:	J. Birk	MD Reference:	WELL @ 1141.00usft (Can Rig #1)
Well:	1B	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	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)
1,162.00	26.20	311.70	1,150.03	49.83	-55.78	74.68	6.52	6.45	-2.26
1,193.00	27.50	311.00	1,177.68	59.08	-66.29	88.65	4.32	4.19	-2.26
1,224.00	29.10	312.70	1,204.98	68.89	-77.24	103.33	5.78	5.16	5.48
1,256.00	30.90	314.80	1,232.69	79.96	-88.79	119.32	6.51	5.63	6.56
1,287.00	33.10	316.10	1,258.98	91.67	-100.30	135.74	7.44	7.10	4.19
1,319.00	35.00	316.90	1,285.49	104.67	-112.64	153.65	6.10	5.94	2.50
1,351.00	36.80	316.20	1,311.41	118.28	-125.54	172.41	5.77	5.63	-2.19
1,383.00	38.70	316.70	1,336.71	132.48	-139.04	191.99	6.01	5.94	1.56
1,414.00	39.20	316.80	1,360.82	146.68	-152.39	211.47	1.63	1.61	0.32
1,445.00	40.00	316.70	1,384.71	161.07	-165.93	231.22	2.59	2.58	-0.32
1,477.00	41.10	316.40	1,409.02	176.17	-180.24	252.02	3.49	3.44	-0.94
1,509.00	41.70	316.50	1,433.02	191.51	-194.82	273.17	1.89	1.88	0.31
1,541.00	42.70	316.30	1,456.73	207.08	-209.64	294.66	3.15	3.13	-0.63
1,571.00	44.50	315.60	1,478.45	221.94	-224.02	315.35	6.21	6.00	-2.33
1,602.00	46.70	314.90	1,500.14	237.67	-239.62	337.49	7.28	7.10	-2.26
1,632.00	48.60	314.00	1,520.35	253.19	-255.45	359.66	6.71	6.33	-3.00
1,663.00	51.00	314.40	1,540.36	269.70	-272.42	383.34	7.80	7.74	1.29
1,695.00	53.40	314.90	1,559.97	287.47	-290.40	408.62	7.60	7.50	1.56
1,726.00	55.60	315.30	1,577.97	305.35	-308.22	433.86	7.17	7.10	1.29
1,758.00	58.10	315.30	1,595.47	324.39	-327.06	460.64	7.81	7.81	0.00
1,790.00	59.00	315.70	1,612.16	343.86	-346.19	487.94	3.01	2.81	1.25
1,822.00	59.10	315.70	1,628.62	363.50	-365.36	515.38	0.31	0.31	0.00
1,854.00	58.90	316.00	1,645.10	383.18	-384.47	542.81	1.02	-0.63	0.94
1,885.00	58.70	316.30	1,661.16	402.30	-402.84	569.32	1.05	-0.65	0.97
1,917.00	58.70	316.00	1,677.79	422.02	-421.78	596.66	0.80	0.00	-0.94
1,948.00	60.00	315.80	1,693.59	441.17	-440.34	623.32	4.23	4.19	-0.65
1,980.00	63.10	314.80	1,708.83	461.17	-460.13	651.45	10.07	9.69	-3.13
2,012.00	66.30	314.00	1,722.51	481.40	-480.80	680.38	10.25	10.00	-2.50
2,086.00	70.90	308.90	1,749.52	526.95	-532.44	749.10	8.93	6.22	-6.89
2,118.00	73.40	310.40	1,759.32	546.38	-555.88	779.42	9.00	7.81	4.69
2,149.00	77.10	311.00	1,767.22	565.93	-578.61	809.31	12.08	11.94	1.94
2,180.00	81.20	311.70	1,773.05	586.04	-601.46	839.69	13.41	13.23	2.26
2,211.00	86.00	312.30	1,776.50	606.65	-624.34	870.44	15.60	15.48	1.94
2,243.00	90.40	313.20	1,777.51	628.35	-647.82	902.39	14.03	13.75	2.81
2,274.00	93.80	313.90	1,776.37	649.69	-670.27	933.36	11.20	10.97	2.26
2,305.00	93.80	313.00	1,774.32	670.97	-692.73	964.28	2.90	0.00	-2.90
2,337.00	94.20	313.10	1,772.09	692.76	-716.06	996.18	1.29	1.25	0.31
2,368.00	94.40	312.80	1,769.76	713.82	-738.68	1,027.07	1.16	0.65	-0.97
2,399.00	94.60	312.60	1,767.33	734.78	-761.39	1,057.95	0.91	0.65	-0.65
2,429.00	94.80	312.50	1,764.87	755.00	-783.42	1,087.82	0.74	0.67	-0.33
2,461.00	95.20	313.10	1,762.08	776.66	-806.81	1,119.68	2.25	1.25	1.88
2,492.00	95.50	313.30	1,759.19	797.78	-829.31	1,150.53	1.16	0.97	0.65
2,524.00	95.90	313.90	1,756.01	819.74	-852.37	1,182.36	2.25	1.25	1.88
2,555.00	96.00	314.00	1,752.80	841.14	-874.57	1,213.19	0.45	0.32	0.32

Company:	J and J Lateral Corp.	Local Co-ordinate Reference:	Well 1B
Project:	Coffey County, Kansas (NAD 83)	TVD Reference:	WELL @ 1141.00usft (Can Rig #1)
Site:	J. Birk	MD Reference:	WELL @ 1141.00usft (Can Rig #1)
Well:	1B	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	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)
2,586.00	95.60	314.40	1,749.67	862.64	-896.68	1,244.03	1.82	-1.29	1.29
2,618.00	94.20	314.60	1,746.93	884.99	-919.42	1,275.91	4.42	-4.38	0.63
2,650.00	91.80	314.50	1,745.26	907.41	-942.19	1,307.86	7.51	-7.50	-0.31
2,681.00	89.10	314.90	1,745.02	929.21	-964.22	1,338.86	8.80	-8.71	1.29
2,712.00	89.10	315.70	1,745.50	951.24	-986.02	1,369.85	2.58	0.00	2.58
2,744.00	89.40	315.90	1,745.92	974.18	-1,008.33	1,401.85	1.13	0.94	0.63
2,775.00	91.30	316.30	1,745.73	996.52	-1,029.82	1,432.84	6.26	6.13	1.29
2,806.00	92.30	315.90	1,744.76	1,018.84	-1,051.31	1,463.82	3.47	3.23	-1.29
2,838.00	92.70	314.80	1,743.36	1,041.58	-1,073.78	1,495.78	3.65	1.25	-3.44
2,869.00	92.70	314.90	1,741.90	1,063.42	-1,095.73	1,526.75	0.32	0.00	0.32
2,900.00	93.00	314.80	1,740.36	1,085.26	-1,117.68	1,557.71	1.02	0.97	-0.32
2,931.00	92.40	314.50	1,738.90	1,107.02	-1,139.71	1,588.68	2.16	-1.94	-0.97
2,962.00	88.00	313.90	1,738.79	1,128.63	-1,161.93	1,619.67	14.32	-14.19	-1.94
2,994.00	87.20	313.60	1,740.13	1,150.74	-1,185.02	1,651.63	2.67	-2.50	-0.94
3,025.00	87.30	313.50	1,741.62	1,172.07	-1,207.46	1,682.58	0.46	0.32	-0.32
3,056.00	87.80	314.40	1,742.95	1,193.56	-1,229.76	1,713.55	3.32	1.61	2.90
3,087.00	89.00	315.40	1,743.81	1,215.44	-1,251.71	1,744.54	5.04	3.87	3.23
3,147.00	89.00	315.40	1,744.86	1,258.15	-1,293.83	1,804.53	0.00	0.00	0.00
Projection to TD-3147.00' MD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
3,147.00	1,744.86	1,258.15	-1,293.83	Projection to TD-3147.00' MD

J and J Lateral Corp.

Company: J and J Lateral Corp.
Site: J. Birk
Well: 1B
Project: Coffey County, Kansas (NAD 83)
Rig Name: Can Rig #1

MS Energy Services
WWW.MSENERGYSERVICES.COM
Planning: 936.442.2500 Fax: 936.442.2515
Operations: 724.484.7550 Fax: 724.484.0326

T G M

Azimuths to Grid North
True North: -1.60°
Magnetic North: 1.47°

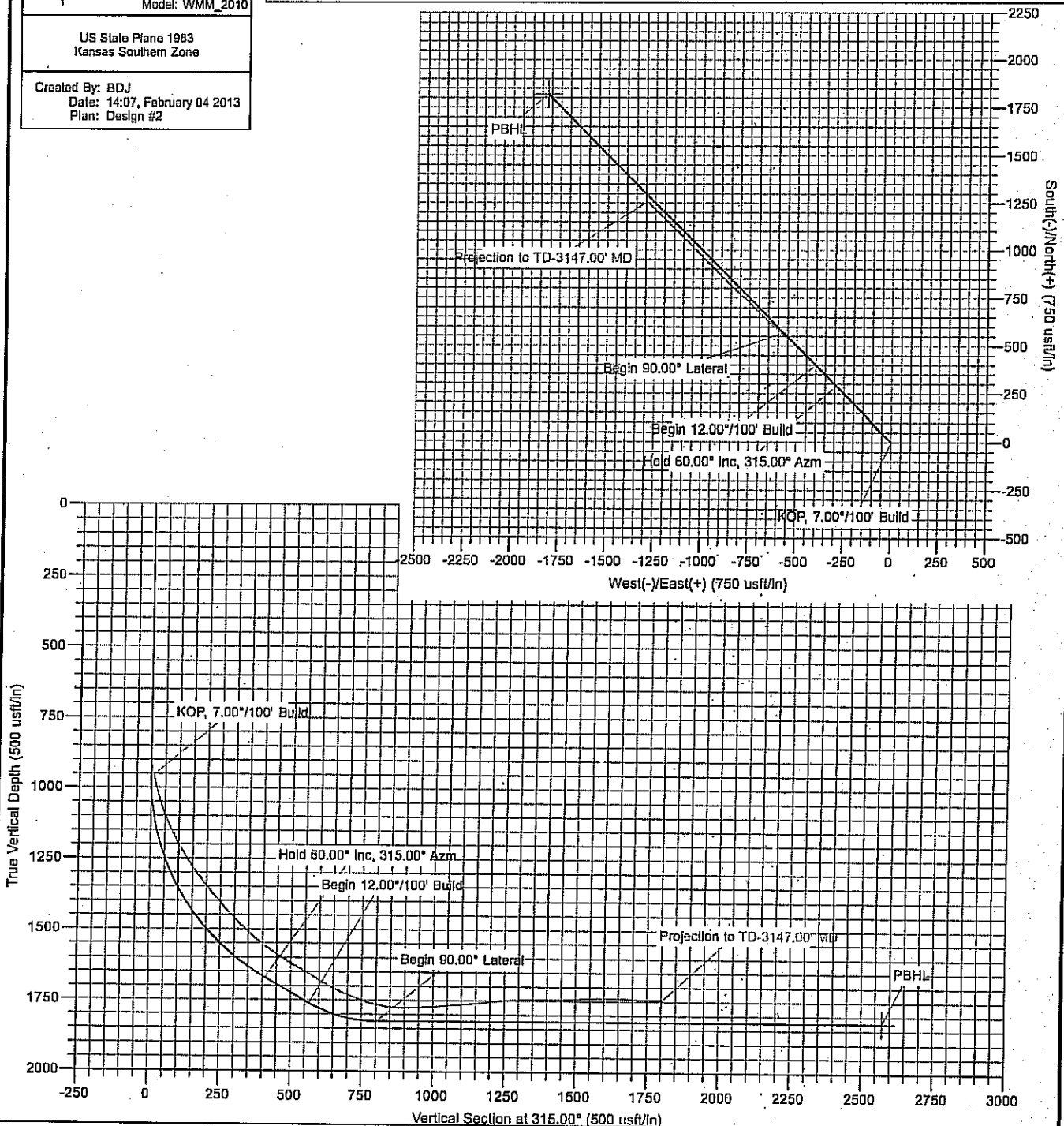
Magnetic Field
Strength: 52424.6snT
Dip Angle: 66.24°
Date: 01/16/2013
Model: WMM_2010

US State Plane 1983
Kansas Southern Zone

Created By: BDJ
Date: 14:07, February 04 2013
Plan: Design #2

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
962.16	0.00	0.00	962.16	0.00	0.00	0.00	0.00	KOP, 7.00°/100' Build
1819.32	60.00	315.00	1671.03	289.39	-289.39	409.26	409.26	Hold 60.00° Inc, 315.00° Azm
1999.32	60.00	315.00	1761.03	399.61	-399.61	565.14	565.14	Begin 12.00°/100' Build
2249.32	90.00	315.00	1825.00	568.42	-568.42	803.87	803.87	Begin 90.00° Lateral
4018.39	90.00	315.00	1825.00	1819.34	-1819.34	2572.94	2572.94	PBHL



se@armourmanagementinc.com

From: Deanna Garrison [d.garrison@kcc.ks.gov]
Sent: Friday, April 26, 2013 2:03 PM
To: se@armourmanagementinc.com
Subject: RE: aco-1

* MAILING 4-29-13

You can mail them to my attention. But in the future they need to be scanned and e-mail. The logging will do this for you. If you have any questions please call.

From: se@armourmanagementinc.com [mailto:se@armourmanagementinc.com]
Sent: Friday, April 26, 2013 12:04 PM
To: Deanna Garrison
Subject: RE: aco-1

Ref: J Birk 1B - Well Completion Form
We only have the paper logs for the final logs. Do you want these scanned in and emailed to you or mailed to you?
Thank you,
Steve Jones

From: Deanna Garrison [mailto:d.garrison@kcc.ks.gov]
Sent: Thursday, April 18, 2013 11:32 AM
To: se@armourmanagementinc.com
Subject: aco-1

Well Completion Form (ACO-1) Attachments:
Scan the following in .pdf format and attach them to the KOLAR ACO-1 before submitting it:

- ? Cement Tickets
- ? Drill Stem Tests
- ? Geological Well Report

For Mississippi horizontal wellbores also scan the following in .pdf format and attach:

- ? A directional survey indicating the final path of the horizontal wellbore.
- ? A plat map depicting the well as it is drilled.
  1. For horizontal wellbores completed open hole, the plat must depict the surface location, the point at which the wellbore encounters the producing formation (depth and distance from the nearest lease or unit boundary line), any isolation packers and the terminus of the wellbore (depth and distance from the nearest lease or unit boundary line). The lease and unit boundaries must be clearly depicted. Include GPS latitude and longitude readings for each point and specify which GPS planar projection was used to determine any footages listed on the map.
  2. For cased horizontal wellbores, upload a plat that shows the well as it is drilled, including the surface location, the point the wellbore enters the producing formation (depth and distance from the nearest lease or unit boundary line), the location of the first perforation (depth and distance from the nearest lease or unit boundary line), the location of the last perforation (depth and distance from the nearest lease or unit boundary line), and the terminus of the wellbore (depth and distance from the nearest lease or unit boundary line). The lease and unit boundaries must be clearly depicted. Include GPS latitude and longitude readings for each point and specify which GPS planar projection was used to determine any footages listed on the map.
- ? All operators must certify that the information contained on the plat depicting the well as drilled is accurate. This is accomplished by checking the Certify box when you submit your ACO-1. Furthermore, all operators must retain the well's completion information depicting how the wellbore was perforated for the life of the well and make it available upon Commission request.

Email the following to kcc-well-logs@kcc.ks.gov:

- ? Final Electric Logs
- ? Final Radioactivity Log
- ? Final Logs run to obtain Geophysical Data

NOTE: If electronic well logs are available, these files must be submitted to the Conservation Division in lieu of paper logs.
Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Deanna Garrison, *Research Analyst*
Production Department
Kansas Corporation Commission
Phone (316) 337-6209