Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1166185

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 # 4767
Name: Ritchie Exploration, Inc.
Address 1: 8100 E 22ND ST N # 700
Address 2: BOX 783188
City: WICHITA State: KS Zip: 67278 + 3188
Contact Person: John Niernberger
Phone: (316) 691-9500
CONTRACTOR: License # 33575
Name: WW Drilling, LLC
Wellsite Geologist: Dave Williams
Purchaser: NCRA

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 #:

07/10/2013	07/22/2013	07/22/2013
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-101-22449-00-00
Spot Description: 85'N & 75'W of
SW SW NW NE Sec. 7 Twp. 16 S. R. 29 ☐ East ☑ West
1235 Feet from ☑ North / ☐ South Line of Section
2385 Feet from ☑ East / ☐ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☑ NE ☐ NW ☐ SE ☐ SW

GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Lane
Lease Name: Roemer Unit Well #: 1
Field Name:
Producing Formation: LKC & Altamont
Elevation: Ground: 2711 Kelly Bushing: 2719
Total Vertical Depth: 4530 Plug Back Total Depth: 4498
Amount of Surface Pipe Set and Cemented at: 234 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 2075 Feet
If Alternate II completion, cement circulated from: 0
feet depth to: 2075 w/ 375 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 11000 ppm Fluid volume: 820 bbls
Dewatering method used: Evaporated

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: 10/30/2013
☑ **Confidential Release Date:** 10/30/2015
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** NAOMI JAMES **Date:** 10/31/2013

1166185

Operator Name: Ritchie Exploration, Inc. Lease Name: Roemer Unit Well #: 1

Sec. 7 Twp. 16 S. R. 29 ☐ East ☑ West County: Lane

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

Dual Induction Log
Compensated Density/Neutron Log

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

Name	Top	Datum
See Attached		

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	12.25	8.625	23	234	Common	165	2% gel, 3% cc
Production	7.875	4.5	10.5	4526	OWC	200	10% salt, 2% gel + .25% CDI-26 +5#/sx k

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ 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 *(Amount and Kind of Material Used)*	Depth
4	4231'-4233',4217'-4221' (8/5/13)	1000 Gals 15% NE	
4	4109.5'-4112.5' (8/7/13)	500 Gals 15% NE	

TUBING RECORD: Size:	Set At:	Packer At:	Liner Run:
2.375	4419		☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR.	Producing Method:
08/22/2013	☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	41.79		36.25		29

DISPOSITION OF GAS:	METHOD OF COMPLETION:	PRODUCTION INTERVAL:
☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*	☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)* ☐ Other *(Specify)*	

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

RITCHIE
EXPLORATION, INC.
Wichita, Kansas

#1 Roemer Unit
1235' FNL & 2385' FEL
85' N & 75' W of W/2 W/2 NE Section 7-16S-29W
Lane County, Kansas
API# 15-101-22449-0000
Elevation: 2711' GL, 2719' KB

Sample Tops			Ref. Well
Anhydrite	2108'	+611	+20
B/Anhydrite	2139'	+580	+17
Stotler	3398'	-679	+14
Heebner	3778'	-1059	+7
Lansing	3815'	-1096	+8
Muncie Shale	3970'	-1251	+17
Stark Shale	4060'	-1341	+17
Hush	4098'	-1379	+15
BKC	4140'	-1421	+17
Marmaton	4181'	-1462	+6
Altamont	4202'	-1483	+6
Pawnee	4267'	-1548	+9
Myrick	4302'	-1583	+6
Fort Scott	4323'	-1604	+5
Cherokee Shale	4350'	-1631	+2
Johnson	4385'	-1666	+2
Mississippian	4408'	-1689	+13
RTD	4530'	-1811	

P.O. Box 783188
Wichita, Kansas 67278-3188

(316) 691-9500
Fax (316) 691-9550
rei@ritchie-exp.com

8100 E. 22nd St. N., Bldg. 700
Wichita, Kansas 67226-2328

CONSOLIDATED
Oil Well Services, LLC

260970

TICKET NUMBER 38017
LOCATION Oakley KS
FOREMAN Fuzzy

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
7-25-13	7175	Roemer Unit #1		16	29	KS Lane

CUSTOMER: Ritchie Exploration
MAILING ADDRESS:
CITY | STATE | ZIP CODE:

Hardy
1 ←
4 N
1 ←
1 1/2 N
1/2 ←
2 IN
1 ↓

TRUCK #	DRIVER	TRUCK #	DRIVER
463	Cory D	Jeremy R	
446	Dane R		
528	Daniel D		
	Jack J		

JOB TYPE P-Collar | HOLE SIZE | HOLE DEPTH | CASING SIZE & WEIGHT 4 1/2 10.5
CASING DEPTH | DRILL PIPE | TUBING 2 3/8 | OTHER
SLURRY WEIGHT 13.5 | SLURRY VOL | WATER gal/sk | CEMENT LEFT in CASING P-Collar 2074'
DISPLACEMENT 7.5 | DISPLACEMENT PSI | MIX PSI | RATE press plug to 1200#

REMARKS: Safety meeting on Red Rock Well Service. Rig up and spot 25#s sand @ 3200'. Pull up to 2074 Test closed tool @ 1200#. Open P-Collar establish circulation. Mix 375sks 60/40 pos 6% gel with 250#/hulls 1/4# Floseal - Displace 7 1/2 BBL, close tool and press to 1200#. Run tbg to 3200' and reverse cement and sand out of hole with 60 BBLs water

Thanks Fuzzy & Crew

ACCOUNT CODE	QUANITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401B	1	PUMP CHARGE	1785.00	1785.00
5406	40	MILEAGE	5.25	210.00
5407A	16 Ton	Ton Milvage Delivery	1.25	1120.00
1131	375sks	60/40 pos	15.86	5947.50
1118B	1935#	Bentonite	.27	522.45
1105	250#	Cottonseed Hulls	.58	145.00
1107	94#	Floseal	2.97	279.18
		subtotal		10009.13
		less 10%		1000.91
		subtotal		9008.22
		completed		
			SALES TAX	443.65
			ESTIMATED TOTAL	9451.87

Ravin 3737

AUTHORIZTION Greg Rowe TITLE DATE

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

CONSOLIDATED
Oil Well Services, LLC

260742

TICKET NUMBER 38006
LOCATION Oakley, KS
FOREMAN Kelly Goebel

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
7-21-13	7173	Boemer unit #1	7	16	29	Lane KS

CUSTOMER: Ritchie Exploration
MAILING ADDRESS:
CITY / STATE / ZIP CODE:

Healy 1E 4N to Rd 220 1E to Fromier Rd ½N ½E 1N thru Pasture

TRUCK #	DRIVER	TRUCK #	DRIVER
399	Damon		
566	Tim		

JOB TYPE Prod HOLE SIZE 7 7/8 HOLE DEPTH 4530 CASING SIZE & WEIGHT 4½ 10.5#
CASING DEPTH 4526 DRILL PIPE TUBING PC Top #58 OTHER PC @ 2078
SLURRY WEIGHT 14.2 SLURRY VOL WATER gal/sk CEMENT LEFT in CASING 21.17
DISPLACEMENT 71.6 DISPLACEMENT PSI MIX PSI RATE

REMARKS: Safety meeting ran float equipment #5 Turbos - 1,2,3,5,9,12,57 59,72 baskets 2,58,71 Pc Top #58 ran pipe to bottom 107 jts total hooked up to circulate for 1 hr, Pumped 5 bbl water, mud flush 5 bbl water, mixed 30 sks RH, mixed 200 sks OWC, .25% CDI-26, .14% CAF 38 down center, released plug & displaced with 72½ bbl water, released pressure, float held, had 750# lift + plug landed @ 1000#, had good returns through out displacement. Washed out pump & lines, rigged down.

Thank You
Kelly & crew

ACCOUNT CODE	QUANITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
54015	1	PUMP CHARGE	3100.00	3100.00
5406	40 mi	MILEAGE	5.25	210.00
1126	230 sks	OWC	23.70	5451.00
1110A	1150#	Kol-Seal	.56	644.00
1137	54#	CDI-26	10.20	550.80
1146	32#	CAF 38	10.30	326.40
5407A	10:81	Ton Mileage delivery	1.25	256.80
1146	500 gal	Mudflush	1.00	500.00
4201	1	4½ Guide shoe (I)	145.00	145.00
4276	1	4½ AFU Insert (W)	202.75	202.75
4139	9	Turbolizers (7-I 2-W)	60.00	540.00
4404	1	4½ Rubber Plug (I)	55.75	55.75
4284	1	4½ Portcollar (I)	1984.50	1984.50
4103	3	4½ basket (W)	275.00	825.00
				15,292.00
		Less 10%		1,529.20
				13,762.80
			SALES TAX	722.36
			ESTIMATED TOTAL	14485.16

completed

Ravin 3737

AUTHORIZTION Greg Lamm TITLE DATE 7-21-13

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

ALLIED OIL & GAS SERVICES, LLC 060735

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley

DATE	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
7/10/13	7	16	29			6:30 PM	7:00 PM

LEASE	WELL #	LOCATION	COUNTY	STATE
Rammer unit	1	Gove S to County Line 2W	Lane	Ks.
OLD OR (NEW) (Circle one)		S to 275 Rd - 1½W Ninto		

CONTRACTOR WW-12
TYPE OF JOB Surface
HOLE SIZE 12¼ T.D. 235
CASING SIZE 8 5/8 DEPTH 235.22
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT 14.02

OWNER Same

CEMENT
AMOUNT ORDERED 165 Com 3%CC 2%Gel

EQUIPMENT

PUMP TRUCK CEMENTER Daven Racette
422 HELPER Tyler Filipse
BULK TRUCK
#347 DRIVER David Soriano
BULK TRUCK
DRIVER

COMMON	165 SKs	@ $17.90	$2953.50
POZMIX		@	
GEL	3 SKs	@ $23.40	$ 70.20
CHLORIDE	6 SKs	@ $64.00	$ 384.00
ASC		@	
		@	
		@	
		@	
		@	
		@	
		@	
		@	
		@	
HANDLING	178.42 CFt	@ $2.48	$442.48
MILEAGE	8.14 x 58 x	$2.60	$1227.51
		TOTAL	$5057.69

REMARKS:

Mix 165 SKs Cement
Displace with Water
Cement Did Circulate.

Thank You.

SERVICE

DEPTH OF JOB 235.22'
PUMP TRUCK CHARGE $1512.35
EXTRA FOOTAGE @
MILEAGE 58 @ $7.70 $446.60
MANIFOLD @
LV mileage @ $4.40 $255.20
@
TOTAL $2214.05

CHARGE TO: Ritchie Exploration
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

@
@
@
@
@
TOTAL

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 7,271.74
DISCOUNT 1,672.50 IF PAID IN 30 DAYS
5,599.23 Net.

PRINTED NAME Calvin Rademacher

SIGNATURE

Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name:	**# 1 ROEMER UNIT**
Location:	**85' N. & 75' W.-W/2-W/2-NE OF SEC. 7 - 16 S. - 29 W**
License Number:	**A.P.I. # 15-101-22,449-00-00**
Region:	**LANE CO,, KS.**
Spud Date:	**07/10/2013**
Drilling Completed:	**07/21/2013**
Surface Coordinates:	**SPOT: 2385' FEL & 1235' FNL**
Bottom Hole Coordinates:	
Ground Elevation (ft):	**2711'**
K.B. Elevation (ft):	**2719'**
Logged Interval (ft):	**235' To: 4532'**
Total Depth (ft):	**4532'**
Formation:	**MISSISSIPPIAN**
Type of Drilling Fluid:	**CHEMICAL/ POLYMER/ GEL WITH MUD DISPLACEMENT @ 3319'.**

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: RITCHIE EXPLORATION, INC. KCC LIC. NO. 4767
Address: P.O. BOX 783188
WICHITA, KANSAS 67278-3188

GEOLOGIST

Name: DAVID P. WILLIAMS, P.G.
Company: DW Energy, LLC (DWE)
Address: 312 North Broadview Street
Wichita, Kansas 67208

CASING & DEVIATION

Ran 5 jts new 23# 8-5/8" surface casing. Tally at 225.22', set at 235.22'. Strap & Weld Surface Casing. Cemented with 165 sacks common, 3% cc, 2% gel. Cement did circulate. Plug down at 7:00 P.M. on 07/11/13. Cemented By Allied Cementing Company.

Deviation Survey's Taken: @ 235 ' = 3/4 degree; @ 3836' = 3/4 degree; @ 4530' = 3/4 degree.

DSTs

~~ DST # 1 3777' - 3836'. Times: 30"-45"-30"-30".
Blow: IF= Weak Surface Blow; FF= No Blow (Flushed Tool-No Help).
Recovery: 10' M.
Pressures: IH = 1787#; FH =1783#; IF= 6-11#; FF= 13-24#;
ISIP = 1065#; FSIP = 979#; Temp.= 116 degrees F.

~~ DST # 2 3836'-3880'. Times: 30"-45"-30"-30".
Blow: IF= Weak Surface Blow/1"; FF= Weak Surface Blow.
Recovery: 30' M.
Pressures: IH =1821#; FH =1820#; IF= 5-16#; FF = 18-27#;
ISIP = 981#; FSIP = 902#;Temp.=115 degrees F.

~~DST # 3 3880'-3928'. Times: 30"-30"-30"-30".
Blow: IF= Weak Surface Blow; FF= No Blow (Flushed Tool-No Help).
Recovery: 5' Mud.
Pressures: IH = 1835#; FH = 1834#; IF = 6-8#; FF = 7-11#;
ISIP = 64#; FSIP = 49#; Temp = 114 degrees F..

~~DST # 4 4049"-4100'. Times: 30"-45"-45"-60".
Blow: IF= Weak 1/4" Build/6.5"; FF= Weak Build/7.5".
Recovery: 236' TF: 1' CO; 115' SOHWCM (6% O, 35% Wtr., 59% M); 120' SOMCW (4% O, 72% Wtr, 24% M).Ch = 53,000 Ppm. PH=8.0, RW=>22 @ 75 degrees F..
Pressures: IH = 1960#; FH =1957#; IF = 3 -72#; FF= 75 -112#;
ISIP = 372#; FSIP = 367; Temp =121 degrees F.

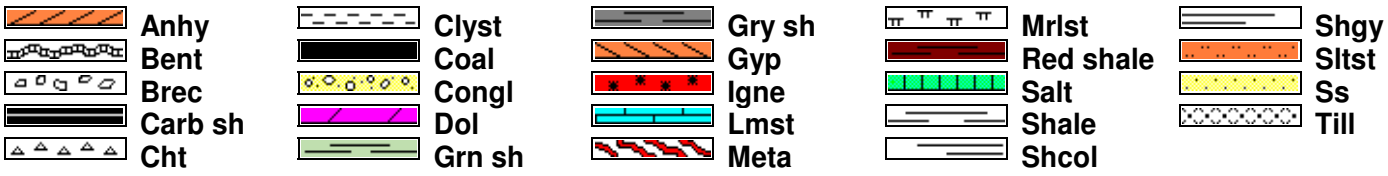
~~DST # 5 4219'-4250'. Times: 30"-30"-30"-30".
Blow: IF= Weak Surface Blow; FF= No Blow (Flushed Tool-No Help).
Recovery: 5' Mud.
Pressures: IH = 2035#; FH = 2011#; IF= 6-8#; FF= 7-11#;
ISIP = 20#; FSIP= 19#; Temp=120 degrees F.

~~DST #6 4207' - 4242' (STRADDLE) TOP PACKER FAILURE - MISS-RUN.

~~~ DST #7 Times:
30"-45"-45"-60". Blow: IF= Fair Blow Build BOB/ 12.5"& 1 1/4" Blow Bk During ISIP. FF= Weak Blow Build/BOB /26".
Recovery: 285' GIP; TF= 465': 140' CO (100%)); 20' GSWMCO (10% G, 70% O, 5% Wtr, 15% M); 125' GSWOCM (12% G, 32% O, 4% Wtr, 52% M); 180' GSOMCW (1% G, 5% O, 80% Wtr).
Chl =55,000 Ppm
Pressures: IH=1979#; FH =1976#; IF=27-135#; FF=142-203#;
ISIP= 317#; FSIP= 282#; Temp=126 degrees F.; API Oil Grv.= 23; RW = .17 @ 86 degrees F..

Comments

ROCK TYPES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ACCESSORIES

MINERAL
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

FOSSIL
- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Fuss
- Gastro
- Oolite
- Oomold
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

STRINGER
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg

TEXTURE
- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

POROSITY
- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

SORTING
- Well
- Moderate
- Poor

ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

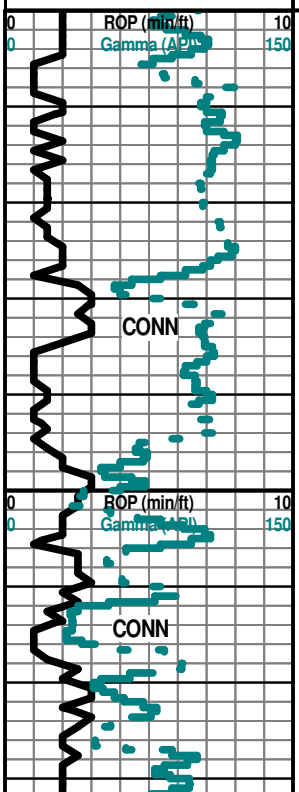
OIL SHOW
- Gas show

- Even
- Spotted
- Ques
- Dead

INTERVAL
- Dst
- Dst_alt

- Straddle test tail pi
- Core

EVENT
- Rft
- Sidewall



RITCHIE EXPLORATION, INC.
 # 1 ROEMER UNIT
SPOT: 2385' FEL & 1235' FNL
85' N. & 75' W. - W/2 - W/2 - NE
SEC. 7 - 16 S. - 29 W
LANE COUNTY, KANSAS
ELEVATION : 2719' K.B. ; 2711' G.L.
CONTRACTOR: WW DRILLING - RIG # 12
Geologist: David P. Williams, P. G.

Geologist on location @ (3500') 4:20 PM 7-13-13

STOTLER 3395' (- 676)

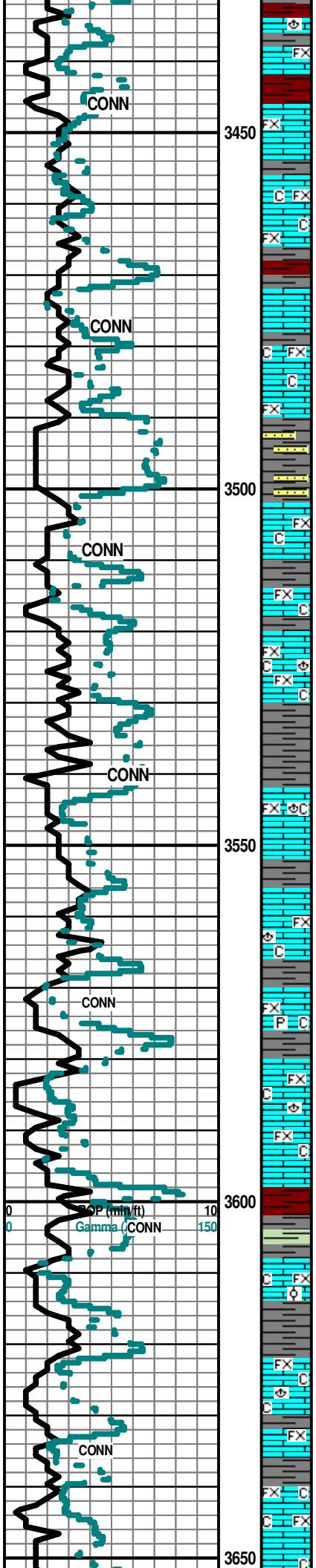
Stone Coral Anhydrite Sample Top = 2108' (+611); Base = 2139' (+580); Stone Coral Anhydrite Elect. Log Top= 2110' (+613); Base=2139' (+580).

Deviation Survey's Taken: @ 235 ' = 3/4 degree; @ 3836' = 3/4 degree; @ 4530' = 3/4 degree.

Note: All samples have been lagged to depth by calculated time.
Begin 10' Sample Examination @ 3450'.

MUD DISPLACEMENT @ 3319'.

Mudco Ck @ 3294' @ 8:00 AM 07/13/13
Vis 31;
WT=9.7#
PV= NA;
YP= NA;
WL= NA;
Cake= 2;
Chl=19000;
Cal = Hvy;
Sol=8.7%.
LCM= 1#;
DMC=$ 1787.50
CMC= $6,780.75



Ls Crm Fxln Fair Ixln Por Grad Gran Pin-Pt Por Fos (Brach) Sh Char-Gry-Red Soft No Odor No Stn No Flor NS

Ls Crm Fxln Fair Ixln Por Grad Gran Pin-Pt Por Sh Char-Gry-Red Soft No Odor No Stn No Flor NS

Ls Crm Fxln Fair Ixln Por Grad Gran Pin-Pt Por Chalky Sh Char-Gry-Red Soft Inc No Odor No Stn No Flor NS

Ls Crm-Wht Fxln Poor Ixln Por Grad Dns Micrite Chalky Sh Char-Gry-Red Soft Inc No Odor No Stn No Flor NS

Ls Crm-Wht Fxln Fair Ixln Por Grad Gran Pin-Pt Por Chalky Sh Char- Gry- Red Soft Inc No Odor No Stn No Flor NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Grad Dns Micrite Chalky Sh Char -Grn - Gry-Maroon Soft Inc No Odor No Stn No Flor NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Grad Dns Micrite Qtz Ss Gry VFGrn Well Sort Fair-Med Igran Por Friable (Tr Onlly) Chalky Sh Char -Grn - Gry-Red Fissil-Soft Inc No Odor No Stn No Flor NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Grad Dns Micrite Qtz Ss Gry VFGrn Well Sort Fair-Med Igran Por(w/Micaceous & Pyr Inclus) Friable Grad Gry Siltstn Chalky Sh Char-Grn-Gry-Red Fissil-Soft No Odor No Stn No Flor NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Grad Dns Micrite Chalky Sh Char -Grn - Gry-Maroon Fissil-Soft No Odor No Stn No Flor NS

Ls Crm Fxln Fair Ixln Por Grad Gran Pin-Pt Por Fos (Brach) Sh Char- Gry- Red Soft No Odor No Stn No Flor NS

Sh Char-Grn-Gry-Red Fissil-Soft Inc Ls Crm-Wht-Tan Fxln Poor Ixln Por Grad Dns Micrite Chalky No Odor No Stn No Flor NS

_____ TOPEKA 3543' (- 824) _____

Ls Wht-Crm Fxln Fair Ixln Por Grad Gran Pin-Pt Por Fos (Brach) Sh Char-Gry-Red Soft No Odor No Stn No Flor NS

Ls Wht-Crm Fxln Fair Ixln Por Grad Gran Pin-Pt Por Fos (Brach) Sh Char-Gry-MaroonSoft No Odor No Stn No Flor NS

Ls Wht-Crm Fxln Fair Ixln Por Grad Gran Pin-Pt Por Pyr (w/Rd Cluster Inclus) Sh Char-Gry-Maroon Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Fxln Fair Ixln Por Grad Gran Pin-Pt Por Fos (Brach) Chalky Sh Char-Gry-Maroon Soft Fissil-No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Fxln Dns Micrite Grad Poor-Fair Ixln Por Grad Gran Pin-Pt Por Chalky Sh Char-Gry-Maroon-Red Fissil-Soft No Odor No Stn No Flor NS

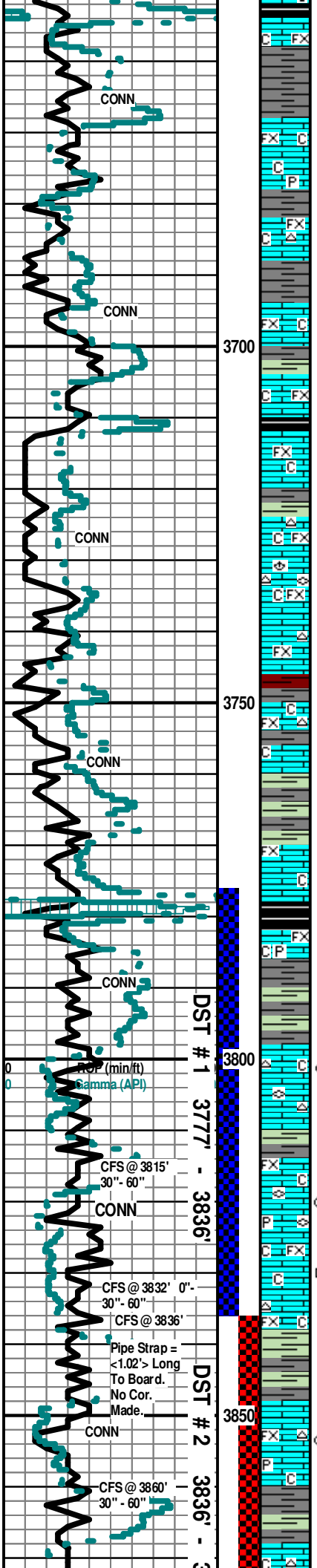
Sh Red-Char-Gry-Maroon Fissil-Soft Ls Wht-Crm-Tan Fxln Dns Micrite Grad Poor-Fair Ixln Por Grad Gran Pin-Pt Por Chalky No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Fxln Dns Micrite Grad Poor-Fair Ixln Por Grad Poor OOL Por (w/OOL in pl) Chalky Sh Char-Gry-Maroon-Red Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Fxln Dns Micrite Grad Poor-Fair Ixln Por Fos (Brach) Chalky Sh Char-Gry-Maroon-Red Fissil-Soft No Odor No Stn No Flor NS

Ls Crm-Tan Fxln Dns Micrite Grad Poor-Fair Ixln Por Chalky Inc Sh Char-Gry-Maroon-Red Fissil-Soft No Odor No Stn No Flor NS

Ls Crm-Tan Fxln Dns Micrite Grad Poor-Fair Ixln Por Chalk Inc Sh Char-Gry-Maroon-Red Fissil-Soft No Odor No Stn No Flor NS



Ls Crm-Tan Fxln Dns Micrite Grad Poor-Fair Ixln Por Chalk Inc Sh Blk Carb-Char-Drab Gry-Maroon Fissil-Soft No Odor No Stn No Flor NS

Ls Crm-Tan Fxln Dns Micrite Grad Poor-Fair Ixln Por Grad Chalk Inc Sh Char-Drab Gry-Maroon Fissil-Soft No Odor No Stn No Flor NS

Ls Crm-Gry Fxln Dns Micrite Grad Poor-Fair Ixln Por Pyr Mass Chalky Sh Blk Carb-Char-Drab Gry-Maroon Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Fxln Dns Micrite Grad Fair Ixln Por Cht Wht Op Shp Vit Por Chalk Inc Sh Char-Drab Gry-Maroon Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Fxln Dns Micrite Grad Poor-Fair Ixln Por Chalky Sh Char-Drab Gry Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Fxln Dns Micrite Grad Poor-Fair Ixln Por Chalky Sh Blk Carb-Char-Drab Gry Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Fxln Dns Micrite Grad Poor-Fair Ixln Por Chalk Inc Sh Blk Carb-Char-Drab Gry Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Fxln Dns Micrite Grad Fair Ixln Por Cht Wht Op Shp Vit Chalky Sh Char-Drab Gry-Blk Carb Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm Fxln Dns Micrite Grad Fair Ixln Por Cht (w/Fos (Fuss Inclus) Wht Op Shp Vit Fos (Brach) Chalk Abd Sh Char-Drab Gry Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Fxln Dns Micrite Grad Fair Ixln Por Cht Wht-Org Op Shp Vit Chalk Sh Char-Drab Gry-Maroon Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Fxln Dns Micrite Grad Fair Ixln Por Cht Wht Op Shp Vit Fos (Fuss) Chalk Sh Char-Drab Gry-Maroon Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm- Lt Brn-Gry Fxln Dns Micrite Grad Fair Ixln Por Chalk Sh Char-Drab Gry Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm- Lt Brn-Gry Fxln Dns Micrite Grad Fair Ixln Por Chalk Sh Char-Drab Gry-Blk Carb Tr Fissil-Soft No Odor No Stn No Flor NS

HEEBNER 3778' (- 1059)

Sh Blk Carb-Char-Gry Fissil Ls Crm-Wht Fxln Dns Micrite Grad Poor Ixln Por Chalk Soft No Odor No Stn No Flor NS

Sh Char-Drab Gry-Blk Carb Fissil Ls Crm-Wht Fxln Dns Micrite Grad Poor Ixln Por Chalk Pyr Soft No Odor No Stn No Flor NS

TORONTO 3798' (- 1079)

30" CFS @ 3815' Ls Wht-Crm Fxln Dns Micrite Grad Poor-Fair Ixln Por Grad Lt Brn- Crm Poor Pin-Pt Ixln Por (w/ ? VSSO) Cht Wht Op Shp Vit Chalk Fos (Fuss) Sh Char-Drab Gry Fissil-Soft No Odor No Stn No Flor NS

60" CFS @ 3815' Ls Wht-Crm Fxln Dns Micrite Grad Poor Ixln Por Cht Wht Op Shp Vit Chalk Sh Char-Drab Gry Fissil-Soft No Odor No Stn No Flor NS

LANSING 3814' (- 1095)

0" CFS @ 3832' ' Ls Wht Fxln Dns Micrite Grad Poor OOL Por (w/OOL in pl) Poor Ixln Por Tr Sli Vug Leaching (w/? Lt Brn Stn) Poor Dissolu Fos (Fuss) Pyr Mass Chalk Sh Char-Drab Gry-Maroon Fissil-Soft No Odor ? Brn Stn No Flor NS

30" CFS @ 3832' Ls Wht Fxln Dns Micrite Grad Tr Poor OOL Por (w/OOL in pl) Poor Ixln Por Tr Sli Leaching Poor Dissolu Fos (Fuss) Pyr Mass Chalk Sh Char-Drab Gry-Maroon Fissil-Soft No Odor No Stn No Flor NS

60" CFS @ 3832' Ls Wht Fxln Dns Mostly Micrite Grad Tr Poor OOL Por AA V Poor Ixln-IOOL Por Tr Sli Leaching Poor Dissolu Chalk Sh Char-Drab Gry-Maroon Fissil-Soft No Odor ? Dead Drk Blk Stn No Flor NS

30" CFS @ 3860' Ls Wht Fxln Dns Mostly Micrite Grad Tr Poor OOL Por AA V Poor Ixln-IOOL Por Tr Sli Leaching Poor Dissolu Cht Amber-Wht Op Translu-Op Shp Vit Chalk Abd Sh Char-Drab Gry-Maroon Fissil-Soft No ? Odor No Stn No Flor NS

LANSING "C" 3848' (-1129)

60" CFS @ 3860' Ls Wht Fxln Dns Mostly Micrite Grad V Poor InterOOL Por (w/Small-Med Ooids in pl) No-Poor Leaching Poor Dissolu Poor Develop Cht Wht Op Shp Vit Chalk Abd Pyr Mass Sh Char-Drab Grn/Gry- Aqua Fissil-Soft Faint Odor No Stn No Flor NS

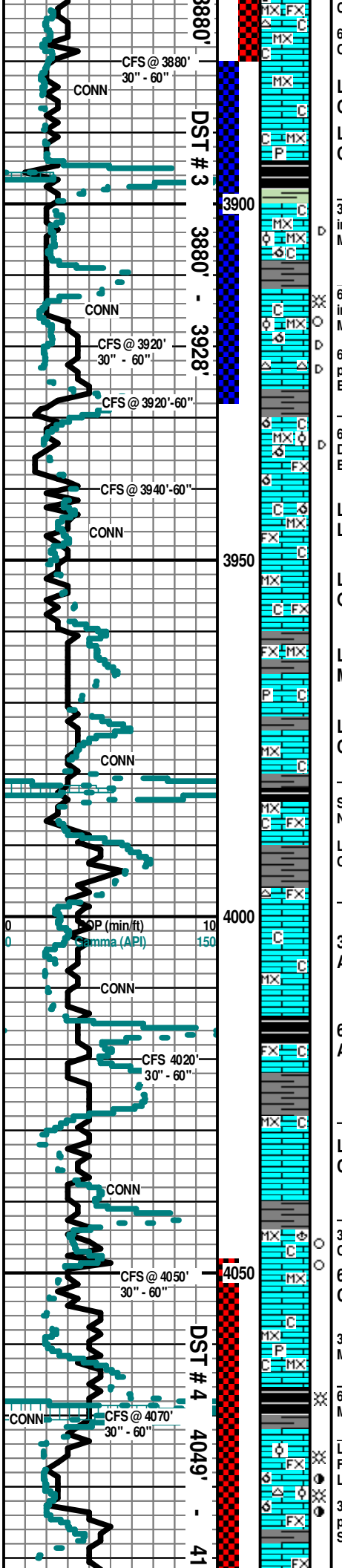
LANSING "D" 3870' (-1151)

30" CFS @ 3880' ' Ls Wht Fxln-Microxln Dns Micrite Grad Poor Ixln Por Cht Wht Op Shp Vit Chalk Sh

DST #1
3777'-3836'.
Times:
30"-45"-30"-30".
Blow: IF= Weak Surface Blow;
FF= No Blow (Flushed Tool-No Help). Recovery:
10' Mud.
Pressures:
IH = 1787#;
FH = 1783#;
IF = 6-11#;
FF = 13-24#;
ISIP = 1065#;
FSIP = 979#;
Temp.= 116 degrees F.

Mudco Ck @ 3821' @ 8:00 AM 07/14/13
Vis 49;
WT=9.1#
PV= 14;
YP= 17;
WL= 8.0;
Cake= 1;
Chl=2200; Cal= 40;
Sol=5.4%.
LCM= 1#;
DMC=$ 1480.75
CMC= $8,261.50

DST # 2
3836'-3880'. Times:
30"-45"-30"-30".
Blow: IF= Weak Surface Blow/1";
FF= Weak Surface Blow. Recovery: 30' Mud.
Pressures:
IH = 1821#;
FH = 1820#;
IF = 5-16#;
FF = 18-27#;
ISIP = 981#;



Char-Drab Grn/Gry-Aqua Fissil-Soft No Odor No Stn No Flor NS

60" CFS @ 3880' ' Ls Wht Fxln-Microxln Dns Micrite Grad Poor Ixln Por Cht Wht Op Shp Vit Chalk Sh Char-Drab Grn/Gry-Aqua Fissil-Soft No Odor No Stn No Flor NS

Ls Wht Microxln Dns Micrite Grad Poor Ixln Por Cht Wht Op Shp Vit Chalk Sh Char-Drab Grn/Gry Fissil-Soft No Odor No Stn No Flor NS

Ls Wht Fxln-Microxln Dns Micrite Grad Poor Ixln Por Pyr Mass Chalk Sh Char-Drab Grn/Gry Fissil-Soft No Odor No Stn No Flor NS

LANSING "E" 3900' (-1181)

30" CFS @ 3920' Ls Wht-Crm Microxln Dns Micrite Grad V Poor Sli Vug (w/Tr OOM w/Small-Med OOids in pl) Por (w/Drk Blk Dead Stn on Edges) Chalk V Abd Sh Drk Char (w/Carb Inclus)-Drab Grn/Gry Tr Mostly Fissil No Odor Dead Blk Stn (7 Pcs) No Flor NS

LANSING "F" 3914' (-1195)

60" CFS @ 3920' Ls Wht-Crm Microxln Dns Micrite Grad V Poor Sli Vug (w/Tr OOM w/Small-Med OOids in pl) Por (w/Drk Blk Dead Stn on Edges) Chalk V Abd Sh Drk Char (w/Carb Inclus)-Drab Grn/Gry Tr Mostly Fissil No Odor Dead Brn-Blk Stn (20 Pcs w/ VSSG w/Broken) No Flor VSSG ? VSSO

60" CFS @ 3928' Ls Wht Microxln Dns Micrite Grad V Poor Sli Vug (w/Tr OOM w/Small-Med OOids in pl) Por (w/Drk Blk Dead Stn on Edges) AA Cht Wht-Peach-Org Op Shp Vit Chalk Tr Sh AA No Odor Sli Brn-Blk Stn (12 Pcs) No Flor ? VSil Show

LANSING "G" 3928' (-1209)

60" CFS @ 3940' Ls Wht-Crm Microxln-Fxln Dns Micrite Grad Poor OOM Por (w/Small OOids in pl) Poor Dissolu Poor Development (w/Tr Drk Blk Dead Stn on Edges (2 Pcs) Chalk V Abd No Odor No Flor ? Tr Blk Dead Stn NS

Ls Wht-Crm Microxln-Fxln Dns Micrite Grad Poor OOM Por Poor Dissolu Poor Leaching Por Poor Develop Chalky No Odor No Flor No Stn NS

Ls Gry-Crm-Wht Microxln-Fxln Dns Micrite Grad Poor Ixln Por Chalk V Abd No Odor No Flor No Stn NS

Ls Gry-Crm-Wht Microxln-Fxln Dns Micrite Grad Poor Ixln Por Chalk V Abd Pyr Mass Sh Char Soft-Fissi No Odor No Flor No Stn NS

Ls Gry-Crm-Wht Microxln-Fxln Dns Micrite Grad Poor Ixln Por Chalk V Abd Sh Char-Blk Carb Soft-Fissil No Odor No Flor No Stn NS

MUNCIE 3980' (- 1261)

Sh Blk Carb Fissil Ls Gry-Crm-Wht Microxln-Fxln Dns Micrite Grad Poor Ixln Por Chalk V Abd No Odor No Flor No Stn NS

Ls Gry-Crm-Wht Microxln-Fxln Dns Micrite Grad Poor Ixln Por Cht Wht Op Shp Vit Chalk V Abd Sh Blk Carb-Grn/Gry Fissil-Soft INo Odor No Flor No Stn NS

KANSAS CITY "DRUM" (H) 3998' (- 1279)

30" CFS@ 4020' Ls Crm-Wht Microxln-Fxln Dns Micrite Grad Poor Ixln Por Chalk Abd Sh Char-Grn/Gry-Blk Carb Fissi-Soft INo Odor No Flor No Stn NS

60" CFS@ 4020' Ls Crm-Wht Microxln-Fxln Dns Micrite Grad Poor Ixln Por Chalk Abd Sh Char-Grn/Gry Fissi-Soft INo Odor No Flor No Stn NS

KANSAS CITY "BLOCK" (I) 4028' (- 1309)

Ls Crm-Wht Microxln-Fxln Dns Micrite Grad Poor Ixln Por Chalk Abd Sh Char-Grn/Gry Fissi-Soft INo Odor No Flor No Stn NS

KANSAS CITY "DENNIS" (J) 4044' (- 1325)

30" CFS @ 4050' Ls Wht-Crm-Gry Microxln Dns Micrite No Vis Por Fos (Brach) Chalk Abd Sh Char-Gry/Grn-Blk Carb Fissil ? Faint Odor No Stn No Flor NS

60" CFS @ 4050' Ls Wht-Crm-Gry Microxln Dns Micrite No Vis Por Chalk Abd Sh Char-Gry/Grn-Blk Carb Fissil ? Faint Odor No Stn No Flor NS

30" CFS @ 4070' Sh Blk Carb Abd (w/GSG Streaming Under Wtr w/Heat Added) Ls Wht-Crm Dns Micrite No Vis Por Pyr Mass Chalk Strong Odor No Flor GSG in Blk Sh

STARK SHALE 4068' (- 1349)

60" CFS @ 4070' Sh Blk Carb Abd (w/GSG Streaming Under Wtr w/Heat Added) Ls Wht-Crm Dns Micrite No Vis Por Chalk Strong Odor Inc No Flor GSG in Blk Sh

KANSAS CITY "SWOPE" (K) 4071' (- 1352)

Ls Wht-Crm Fxln Dns Micrite AA Grad Med-Good OOL/OOM Vug Por (w/Small-Med OOids in pl) Fair-Med Leaching Por Med-Good Dissolu Med-Good SG & SSO Good-Strong Odor Fair Flor (Lt Grn) Lt Brn Stn Med-Good SG & SSO (Oil Does Flor)

30" CFS @ 4100' Wht-Crm Fxln Dns Micrite AA Grad Med OOL/OOM Vug Por (w/Small-Med OOids in pl) Fair Leaching Por Med Dissolu Dec Cht Wht Op Shp Vit Fair-Med SG & SSO Med-Good Odor Fair Scat Flor (Lt Grn) Lt Brn Stn Med SG & SSO (Oil Does Flor)

FSIP = 902#;
Temp = 115 degrees F.

Mudco Ck @ 3880' @ 10:00 AM 07/15/13 Vis 50; WT=9.1# PV= 15; YP= 17; WL= 9.6; Cake= 1; Chl=2000; Cal = 40; Sol= 5.3%. LCM= 1#; DMC=$0.00 CMC= $8,261.50

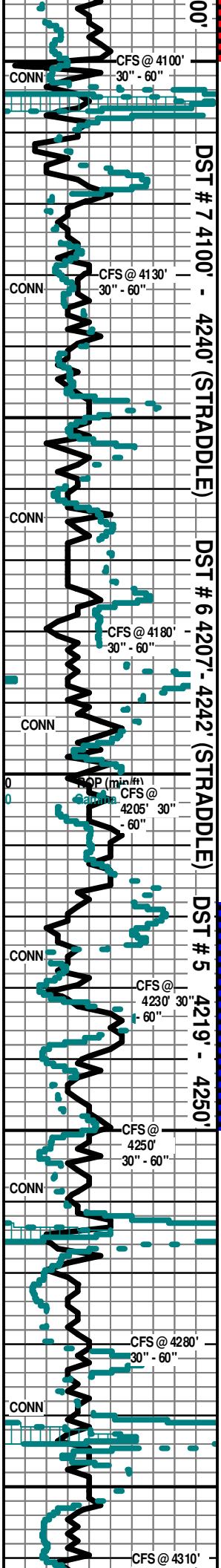
DST # 3

3880'-3928'. Times: 30"-30"-30"-30". Blow: IF= Weak Surface Blow; FF= No Blow (Flushed Tool-No Help). Recovery: 5' Mud. Pressures:
IH = 1835#;
FH = 1834#;
IF = 6-8#;
FF = 7-11#;
ISIP = 64#;
FSIP = 49#;
Temp = 114 degrees F.

Mudco Ck @ 3928' @ 11:00 AM 07/16/13 Vis 54; WT=9.2# PV= 16; YP= 19; WL=10.4; Cake= 1; Chl=3000; Cal = 120; Sol= 5.9%. LCM= 1#; DMC=$0.00 CMC= $8,261.50

DST # 4

4049"-4100'. Times: 30"-45"-45"-60". Blow: IF= Weak/ 1/4" Build/6.5"; FF= Weak Build/7.5". Recovery: 236' TF: 1' CO; 115' SOHWCM (6% O, 35% Wtr., 59% M); 120' SOMCW (4% O, 72% Wtr, 24% M).
Chl=53,000 Ppm.
PH=8.0, RW=>22 @ 75 degrees.
Pressures:
IH = 1960#;
FH = 1957#;
IF = 3 - 72#;
FF = 75 -112#;
ISIP = 372#;



60" CFS @ 4100' Wht-Crm FxIn AA Poor OOL Por (w/Small-Med OOids in pl) Poor Leaching Por Poor Dissolu Dec Grad Dns Micrite AA Cht Wht Op Shp Vit Poor SG & SSO Med Dec Odor ? Scat Flor (Lt Brn) ? Lt BrnStn Med SG & SSO AA

HUSHPUCKNEY 4104' (-1385)

Sh Blk Carb Fissil Abd (w/GSG Streaming Under Wtr w/Heat Added) Ls Wht-Crm Fxln Dns Micrite No Vis Por Pyr Mass Chalk Strong Odor AA No Flor GSG in Blk Sh

KANSAS CITY "HERTHA" (L) 4118' (- 1399)

Ls Wht-Crm-Tan Microxln-Fxln Dns Micrite No Vis Por Grad Fair Ixln Por AA w/Tr Sat Stn (Lt Brn) ? Carrry Rd Fair-Good Odor No Flor (3 Pcs Pcs w/Stn AA) Chalky NS

30" CFS @ 4130' Ls Wht Microxln-Fxln Dns Micrite No Vis Por Grad Fair Ixln Por ? Odor Dec AA No Flor Chalk Abd Sh Blk-Grn/Gry Fissil-Soft No Stn NS

60" CFS @ 4130' Ls Wht Microxln-Fxln Dns Micrite No Vis Por Grad Fair Ixln Por ? Odor Dec AA No Flor Chalk Abd Sh Blk-Grn/Gry Fissil-Soft No Stn NS

Ls Wht-Gry-Crm Microxln-Fxln Dns Micrite No Vis Por Grad Poor Ixln Por Cht Wht Op Shp Vit Fair Odor AA Dec No Flor Chalk Abd Sh Blk Carb AA-Grn/Gry Fissil-Soft No Stn No Flor NS

Ls Gry-Crm Microxln-Fxln Dns Micrite No Vis Por Grad Poor Ixln Por Grad Med Leached Vug OOL Por (w/ Lt Brn Stn - 1Pc ? Carry Rd) Cht Wht Op Shp Vit Chalk Abd Sh Grn/Gry Fissil-Soft Poor Odor AA ? Stn No Flor NS

BASE KANSASCITY 4148' (- 1429)

Ls Gry-Wht Microxln Dns Micrite No Vis Por Cht Wht Op Shp Vit Dec Chalk Abd Sh Grn/Gry Fissil-Soft Poor Odor AA Dec No Stn No Flor NS

30" CFS @ 4180' Ls Wht-Crm-Gry Microxln Dns Micrite No Vis Por Fos (Crin) No Odor Chalk Abd Sh Gry Fissil-Soft No Odor No Stn No Flor NS

MARMATON 4176' (- 1457)

60" CFS @ 4180' Ls Wht-Crm-Gry Microxln Dns Micrite No Vis Por Fos (Crin) Chalk Abd Sh Gry Fissil-Soft No Stn No Flor NS

Ls Wht-Crm-Gry-Tan Microxln Dns Micrite No Vis Por Cht Wht Op Shp Vit Chalk Abd Sh Gry Fissil-Soft No Odor No Stn No Flor NS

30" CFS @ 4205' Sh Red-Soft (Wash Red) Ls Wht-Crm-Gry-Tan Microxln Dns Micrite No Vis Por Cht Wht Op Shp Vit Chalk Abd ? Faint Odor No Stn No Flor NS

ALTAMONT "A" 4204' (- 1485)

60" CFS @ 4205' Ls Wht-Crm-Gry-Tan Microxln Dns Micrite No Vis Por Cht Wht Op Shp Vit Chalk Abd Sh Char-Grn/Gry-Red-Fissil-Soft ? Faint Odor No Stn No Flor NS

ALTAMONT "B" 4218' (- 1499)

30" CFS @ 4230' Ls Wht-Gry Micritic Grad Poor Ixln Por & Poor-Fair InterOOL Por (w/Small OOids in pl w/SSG & SSO (Drk Blk) & Gas & Oil Do Flor Lt Grn) in Heat Under Wtr) Poor Dissolu Poor-Fair Leaching Chalky Sh Char-Gry/Grn Red AA Faint Odor Inc Sil Flor (Lt Grn) Blk Stn On OOL Edges SSG & SSO

60" CFS @ 4230' Ls Wht-Gry AA Poor Ixln Por & Poor OOL Por AA (w/SSG & SSO (Drk Blk) in Heat Under Wtr) Poor InterOOL Por Poor Dissolu Poor Leaching AA Cht Wht-Org Translu-Op Shp Vit Chalky Sh AA Faint Odor Sli Flor (Lt Grn) Blk Stn AA SSG & SSO

30" CFS @ 4250' Ls Wht Dns Micrite Grad Poor Ixln-InterOOL Por AA (Tr Scat Drk Blk Stn On Edges) Cht Wht-Org Translu-Op Shp Vit Fos (Brach, Crin) Sh AA Faint Odor Sli? Flor ? Sli Stn VSSG & VSSO

ALTAMONT "C" 4250' (- 1531)

60" CFS @ 4250' Ls Wht-Crm-Gry Micrite AA Cht Wht-Peach-Org AA Sh Char-Grn-Gry Fissil ? Sli Odor Dec No Flor Sli Stn AA NS

Sh Blk Carb Fissil Ls Wht Microxln Dns Micrite Cht Wht Translu-Op Shp Vit No Odor No Stn No Flor NS

PAWNEE 4267' (- 1548)

30" CFS @ 4280" Ls Wht Microxln Dns Micrite Cht Wht Translu-Op Shp Vit Sh Drab Grn-Gry Soft-Fissil No Odor No Stn No Flor NS

60" CFS @ 4280' Ls Wht Microxln Dns Micrite Cht Wht Translu-Op Shp Vit Sh Drab Grn-Gry Soft-Fissil No Odor No Stn No Flor NS

Ls Wht Microxln Dns Micrite (w/Pyr Inclus) Cht Wht-Drk Blk Peach-Org (Conchoidal) Translu-Op Shp Vit Sh Char- Grn/Gry-Aqua-Blk Carb Fissil No Odor No Stn No Flor NS

Sh Blk Carb Fissil V Abd Ls AA Grad Poor OOL Por (w/Small OOids in pl) No-Poor Dissolu No-Poor Leaching No Odor No Stn No Flor NS

30" CFS @ 4310" Sh Char-Gry/Grn-Blk Carb Fissil Abd Ls Crm-Wht Microxln Dns Micrite Cht Wht-Peach Translu-Op Shp-Vit Chalky No Odor No Stn No Flor NS

MYRICK CREEK 4302' (- 1583)

60" CFS @ 4310" Ls Crm-Wht Microxln Dns Micrite Cht Wht Op Shp-Vit Chalky Sh Char-Gry/Grn-Blk Carb (Tr Only) Fissil AbdNo Odor No Stn No Flor NS

Ls Wh-Crmt Microxln Dns Micrite Grad Poor OOL Por (w/Small OOids in pl) No Dissolu No Leaching

FSIP = 367;
Temp = 121 degrees F.

Mudco Ck @ 4100' @ 10:00 AM 07/17/13
Vis 53; WT=9.4# PV= 15; YP= 18; WL= 9.6; Cake= 1; Chl=3200; Cal = 80; Sol= 7.4%. LCM= 1#; DMC= $825.00 CMC= $9,086.50

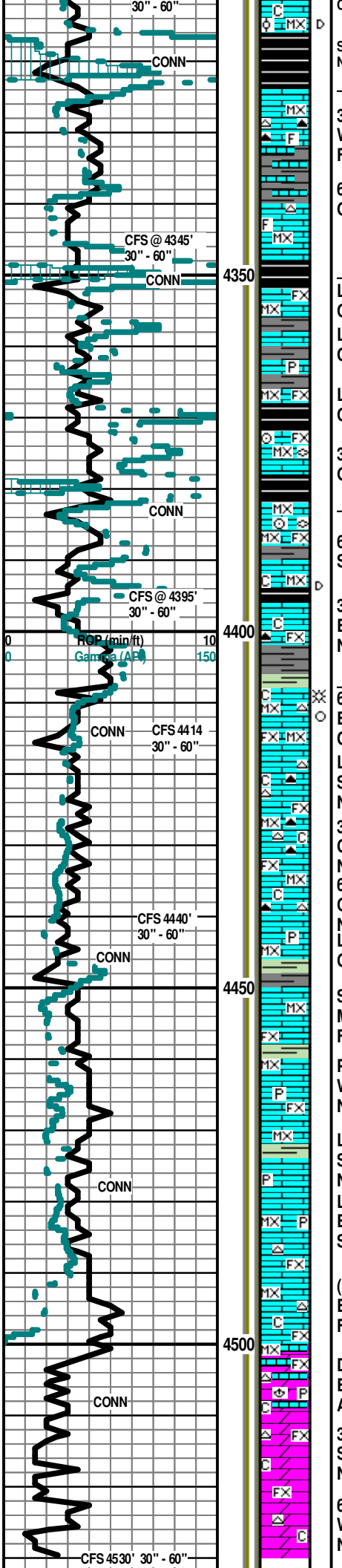
Mudco Ck @ 4148' @ 10:30 AM 07/18/13
Vis 54; WT=9.3# PV= 15; YP= 18; WL= 8.8; Cake= 1; Chl=3300; Cal = 40; Sol=6.7%. LCM= 1#; DMC= $460.00 CMC= $9,546.50

DST # 5
4219'-4250'. Times: 30"-30"-30"-30".
Blow: IF= Weak Surface Blow; FF= No Blow (Flushed Tool-No Help).
Recovery: 5' Mud.
Pressures:
IH = 2035#;
FH = 2011#;
IF = 6-8#;
FF = 7-11#;
ISIP = 20#;
FSIP = 19#;
Temp = 120 degrees F.

Mudco Ck @ 4250' @ 6:57 AM 07/19/13
Vis 55; WT=9.3# PV= 18; YP= 20; WL= 11.2; Cake= 1; Chl= 3700; Cal = 120; Sol= 6.6%. LCM= 1#; DMC= $ 0.00 CMC= $ 9,546.50

DST # 6
4207' - 4242' (STRADDLE)
UPPER PACKER FAILURE.
MISS-RUN.

DST # 7
4100' - 4240' (STRADDLE)
Times: 30"-45"-45"-60".
Blow: IF= Fair Blow Build BOB/ 12.5"& 1



Cht Wht Op Shp-Vit Chalky Sh Char-Gry/Grn-Blk Carb Fissil No Odor No Stn No Flor NS

Sh Blk Carb Fissil V Abd Ls AA Cht Gry AA Chalk (1 Pc Chalk w/Tr Drk Blk Dead Stn) No Odor No Stn No Flor NS

FORT SCOTT 4323' (-1604)

30" CFS @ 4345' Ls Wh-Crm-Tan Microxln Dns Micrite No Vis Ixln Por Cht Wht-Gry-Org Op Shp-Vit Fos (Spicule) Chalky Sh Char-Gry/Drab Grn-Blk Carb Fissil No Odor No Stn No Flor NS

60" CFS @ 4345' Ls Wh-Crm-Tan Microxln Dns Micrite No Vis Ixln Por Cht Wht-Gry Op Shp-Vit Fos Chalky Sh Char-Gry/Drab Grn Fissil No Odor No Stn No Flor NS

CHEROKEE SHALE 4350' (- 1631)

Ls Crm-Gry Microxln-Fxln Micrite Grad Poor Ixln Por Sh Char-Drab Grn/Gry -Blk Carb Soft-Fissil No Odor No Flor NS

Ls Crm-Gry Microxln-Fxln Micrite (w/Pyr Inclus) Grad Poor Ixln Por Chalky Sh Char-Drab Grn/Gry-Blk Carb-Maroon-Red Soft-Fissil No Odor No Flor NS

Ls Gry-Crm-Wht Microxln-Fxln Micrite Grad Poor-Fair Ixln Por Fos (Crin, Fuss) Sh Char--Drab Grn/Gry-Aqua-Maroon Soft-Fissil No Odor No Flor NS

30" CFS @ 4395' Ls Wht-Crm-Tan Microxln Micrite Fos (Crin) Sh Char - Drab Grn/Gry- Aqua -Maroon Fissil No Odor No Flor NS

JOHNSON 4385' (- 1666)

60" CFS @ 4395' Ls Wht-Crm-Tan Microxln Micrite (1 Pc Chalk w/Tr Drk Blk Dead Stn) Sh Char - Drab Grn/Gry- Aqua -Maroon Fissil No Odor No Flor NS

30" CFS @ 4414' Ls Wht-Crm-Yell Microxln-Fxln Dns Micrite Grad Poor Ixln Por Barren Cht Wht-Org Chalk Sh Char-Grn-Gry-Aqua Fissil No Odor No Stn No Flor NS

MISSISSIPPIAN 4408' (- 1689)

60" CFS @ 4414' Ls Wht-Crm-Yell Microxln-Fxln Dns Micrite Grad Poor Ixln Por Barren Grad Poor Sli. Vug Ixln Por (1 Pc w/ VSSG & VSSO) Chalk Sh Char-Grn-Gry-Aqua Fissil No Odor No Stn No Flor ? NS

Ls Wht-Crm Microxln-Fxln Dns Micrite Grad Poor Ixln Por Barren Cht Wht-Org Op Shp Vit Chalk Sh Char-Grn/Gry-Aqua-Yell-Olive Abd Fissil No Odor No Stn No Flor NS

30" CFS @ 4440' Ls Wht-Crm Microxln-Fxln Dns Micrite Grad Poor Ixln Por Barren Cht Wht-Org Op Shp Vit Chalk Sh Char-Grn/Gry-Aqua-Yell- Fissil No Odor No Stn No Flor NS

60" CFS @ 4440' Ls Wht-Crm Microxln-Fxln Dns Micrite Grad Poor Ixln Por Barren Cht Wht-Org Op Shp Vit Chalk Sh Char-Grn/Gry-Aqua-Yell- Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Microxln-Fxln Dns Micrite Grad Poor Ixln Por Barren Chalk Sh Char-Grn/Gry-Aqua (w/Pyr Inclus)-Yell (Tr) Fissil No Odor No Stn No Flor NS

Sh Char-Grn/Gry-Aqua (w/Pyr Inclus)-Maroon-Red (? Sluff) Fissil s Wht-Crm-Tan Microxln-Fxln Dns Micrite Grad Poor Ixln Por Barren Chalk No Odor No Stn No Flor NS

Poor Sample Sh Char-Grn/Gry-Aqua (w/Pyr Inclus)-Maroon-Red (? Sluff) Fissil s Wht-Crm-Tan Microxln-Fxln Dns Micrite Grad Poor Ixln Por Barren Chalk No Odor No Stn No Flor NS

Ls Wht-Crm Microxln Dns Micrite (Tr/Pyr Inclus) Barren Cht Wht Op Shp Vit Chalk Sh Char-Grn/Gry-Aqua-Yell-Maroon-Red (Abd Sh) Fissil No Odor No Stn No Flor NS

Ls/Dolo Wht-Crm Microxln-Fxln Dns Micrite (Tr/Pyr Inclus) Grad Poor Ixln Por Barren Cht Wht Op Shp Vit Chalk Sh Char-Grn/Gry-Aqua-Yell-Maroon-Red (Abd Sh) Fissil No Odor No Stn No Flor NS

(Poor Sample) Dolo/Ls Wht-Crm Microxln-Fxln Dns Micrite Grad Poor Ixln Por Barren Cht Wht Op Shp Vit Chalk Sh Char-Grn/Gry-Aqua-Maroon - Red (Abd Sh) Fissil No Odor No Stn No Flor NS

Dolo/Ls Wht-Crm Microxln-Fxln Dns Micrite Grad Poor-Fair Sli Grannular Ixln Por Barren Cht Wht (w/Pyr Inclus) Op Shp Vit Fos (Brach) Chalk Sh Char- Grn/Gry-Aqua (Abd Sh) Fissil No Odor No Stn No Flor NS

30" CFS @ 4530' Dolo Crm-Tan Fxln Fair Sli Grannular Ixln Por Barren Cht Wht Op Shp Vit Chalk Sh Char-Grn/Gry-Aqua-Maroon-Red Fissil No Odor No Stn No Flor NS

60" CFS @ 4530' Dolo Wht Crm-Tan Fxln Fair Sli Grannular Ixln Por Barren Cht Wht Op Shp Vit Chalk Sh Char-Grn/Gry-Aqua-Maroon-Red (? Sluff) Fissil No Odor No Stn No Flor NS

1/4" Blow Bk During ISIP. FF= Weak Blow Build/BOB /26".
Recovery: 285' GIP; TF= 465': 140' CO (100%)); 20' GSWMCO (10% G, 70% O, 5% Wtr, 15% M); 125' GSWOCM (12% G, 32% O, 4% Wtr, 52% M); 180' GSOMCW (1% G, 5% O, 80% Wtr).
Chl =55,000 Ppm
Pressures:
IH = 1979#;
FH = 1976#;
IF = 27-135#;
FF = 142-203#;
ISIP = 317#;
FSIP = 282#;
Temp = 126 degrees F.
API Oil Grv.= 23

RW = .17 @ 86 degrees F..

Mudco Ck @ 4476' @ 8:00 AM 07/20/13
Vis 51;
WT=9.4#
PV= 15;
YP= 17;
WL= 10.0;
Cake= 1;
Chl=3500; Cal = 40;
Sol=7.3%.
LCM= 1#;
DMC= $ 1790.60
CMC= $ 11,337.10

R.T.D. 4530' (-1811)
L.T.D. 4532' (- 1813)

4550

4600

Electric Logs Run: By Nabors Logging:
Dual Induction and Compensated Density-Neutron Logs.

Geologist Left Location at : Mon 7/ /2013.

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802

Kansas
Corporation Commission

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

October 30, 2013

John Niernberger
Ritchie Exploration, Inc.
8100 E 22ND ST N # 700
BOX 783188
WICHITA, KS 67278-3188

Re: ACO1
API 15-101-22449-00-00
Roemer Unit 1
NE/4 Sec.07-16S-29W
Lane 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,
John Niernberger