



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1109509
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: _____



1109509

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
---	--

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Ritchie Exploration, Inc.
Well Name	J. Kollman 1
Doc ID	1109509

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	4914.5' - 4917.5' (11/19/12)		
4	4539' - 4545', 4521'- 4524' (11/20/12)	1000 gals 15% NE	
4	4369' - 4373' (11/20/12)	500 gals 15% NE	
4	4302.5' - 4307.5' (11/20/12)	500 gals 15% NE	
4	4165.5' - 4168/5' (11/20/12)		
4	4104.5' - 4107.5' (11/20/12)	500 gals 15% NE	



#1 J. Kollman

2050' FSL & 1655' FEL

Section 24-17S-35W

Wichita County, Kansas

API# 15-203-20189-00-00

Elevation: 3164' GL, 3172' KB

Sample Tops			Ref. Well
Anhydrite	2450'	+722	+5
B/Anhydrite	2469'	+703	+4
Stotler	3635'	-463	+2
Heebner	4019'	-847	+3
Toronto	4035'	-863	+2
Lansing	4064'	-892	+4
Muncie	4254'	-1082	-2
LKC "H"	4267'	-1095	-6
Stark Shale	4358'	-1186	-5
Hush. Shale	4405'	-1233	-4
BKC	4442'	-1270	+5
Marmaton	4464'	-1292	+12
Altamont	4496'	-1324	+5
Pawnee	4586'	-1414	-4
Myrick	4620'	-1448	-1
Fort Scott	4638'	-1466	-2
Cherokee Shale	4666'	-1494	-3
Johnson	4776'	-1604	-3
Morrow Shale	4805'	-1633	-2
Mississippian	4886'	-1714	+7
RTD	5060'	-1888	

J Kollman

ALLIED OIL & GAS SERVICES, LLC 056327

Federal Tax I.D.# 20-5976004

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT
Sakayls

DATE <u>10-5-12</u>	SEC <u>24</u>	TWP <u>17</u>	RANGE <u>35</u>	CALLED OUT	ON LOCATION <u>5:30 pm</u>	JOB START <u>6:30 pm</u>	JOB FINISH <u>7:00 pm</u>
LEASER <u>J. Koshlman</u>	WELL # <u>1</u>	LOCATION <u>Scott Co, 120, 5th N</u>		COUNTY <u>Scott</u>	STATE <u>KS</u>		
OLD OR NBW (Circle one) <u>Went</u>							

CONTRACTOR <u>Dulce #2</u>	OWNER <u>Janne</u>
TYPE OF JOB <u>Surface</u>	
HOLE SIZE <u>12 1/4"</u>	T.D. <u>251'</u>
CASING SIZE <u>8 7/8"</u>	DEPTH <u>251.35'</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSO. <u>15'</u>	
PHRES.	
DISPLACEMENT <u>15.26 bbl</u>	

CEMENT	
AMOUNT ORDERED <u>160 sf cement 3 1/2" cc</u>	
<u>28 gal</u>	
COMMON <u>160 sf @ 17.90</u>	<u>2864.00</u>
POZMIX	
GRL <u>85 sf @ 23.90</u>	<u>2020.20</u>
CHLORIDE <u>62 sf @ 64.00</u>	<u>3968.00</u>
ASC	

EQUIPMENT	
PUMP TRUCK # <u>431</u>	CEMENTER <u>Kolone Wentz</u>
	HELPER <u>Dana Refsloff</u>
BULK TRUCK # <u>376/306</u>	DRIVER <u>Thomas Torres (MS)</u>
BULK TRUCK #	DRIVER

HANDLING <u>123 sf @ 2.80</u>	<u>344.40</u>
MILEAGE <u>29 miles @ 2.60</u>	<u>754.00</u>
TOTAL <u>5041.26</u>	

REMARKS:

Mix 160 sf cement
Displace with water
Cement did Circulate

SERVICE	
DEPTH OF JOB <u>251.35'</u>	
PUMP TRUCK CHARGE <u>1512.25</u>	
EXTRA FOOTAGE	
MILEAGE <u>63 @ 2.70</u>	<u>170.10</u>
MANIFOLD <u>4 pad</u>	<u>225.00</u>
<u>light mileage 63 @ 4.40</u>	<u>277.20</u>

CHARGE TO: Ritavia Exploration

STREET _____

CITY _____ STATE _____ ZIP _____

TOTAL 2542.65

PLUG & FLOAT EQUIPMENT	

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) <u>275.41</u>	
TOTAL CHARGES <u>7,590.81</u>	
DISCOUNT <u>1821.79</u>	IF PAID IN 30 DAYS

PRINTED NAME Dion Vasquez

SIGNATURE Dion Vasquez

2490

a



CONSOLIDATED
Oil Well Services, LLC

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

FIELD-TICKET & TREATMENT REPORT
CEMENT

TICKET NUMBER 37269
LOCATION Oakley KS
FOREMAN Mike Shan
Walt + Dina

J Kollman #1

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
10-20-12	7173	S Holman #1	24	17S	35W	Sevier Co
CUSTOMER			TRUCK #	DRIVER	TRUCK #	DRIVER
Ritchie Explorations			463	Cory D		
MAILING ADDRESS						
CITY	STATE	ZIP CODE				

JOB TYPE Port Collar log HOLE SIZE 7 1/8" HOLE DEPTH 500' CASING SIZE & WEIGHT 5 1/2" 18.5
CASING DEPTH 500' DRILL PIPE _____ TUBING _____ OTHER port collar tool @ 130'
SLURRY WEIGHT 13.8 SLURRY VOL _____ WATER gal/sk _____ CEMENT LEFT IN CASING 17.50'
DISPLACEMENT 12 1/2 bbls DISPLACEMENT PSI 750psi MIX PSI 1200psi RATE 5.5 bbl/min

REMARKS: Safety meeting and Run up on Duke drilling #2 Run float
Equipment ~~cont~~ Turbulizers 1, 3, 5, 7, 8, 24, 63, 65, 88
Baskets on 10, 16, 21, 63, 83 Run casing to bottom Circulate
Casing the port collar on top of #60 Pump 5 bbls water 50 gal mud
Flush line bbls water shut down mix 20 SKS RT 175 SKS
down casing shut down Clear pump and lines ~~and~~ release plug displace
12 1/2 bbls water plug landed 750 psi lift 1200 psi landed plug held

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401C	1	PUMP CHARGE	3020.00	3020.00
5406	40	MILEAGE	5.00	200.00
5407A	10 tons	Ten mileage delivery	1.67	712.00
1126	2055 SKS	OWC	22.55	4622.75
1104	1025 #	Kolsal	.56	574.00
1137	53 #	CDF 20	9.69	513.57
1141G	500 gal	Mud Flush	1.00	500.00
4203	1	5 1/2" Guide Shoe	193.00	193.00
4221B	1	5 1/2" API Inset	206.00	206.00
4136	9	Turbulizers "W"	72.00	648.00
4104	5	Baskets 5 1/2" "W"	276.00	1380.00
4225	1	3 1/2" Port Collar tool R	2075.00	2075.00
			Subtotal	14644.32
			less 10% discount	(1464.43)
			Subtotal	13179.89
			SALES TAX	800.22
			ESTIMATED TOTAL	13980.11

Ravn 3737

AUTHORIZATION

[Signature]

TITLE PRODUCTION SUPERVISOR

DATE 10/20/12

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

253949 *[Signature]*



CONSOLIDATED
Oil Well Services, LLC

J Kollman

TICKET NUMBER 37270
LOCATION Ogden, KS
FOREMAN Mites Shaw
Walt Dinkal
KS

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	
10-21-12	7173	J-Kolman #1	24	17S	3SW	Wichita	
CUSTOMER		Ritchie Exploration	products				
MAILING ADDRESS			1W #11 best into				
CITY		STATE	ZIP CODE	TRUCK #	DRIVER	TRUCK #	DRIVER
				399	Damen M		
				528127	Travis W		

JOB TYPE part collar HOLE SIZE _____ HOLE DEPTH _____ CASING SIZE & WEIGHT 2 5/8" 15.4
CASING DEPTH 505' DRILL PIPE _____ TUBING 2 7/8" OTHER Red collar @ 2300'
SLURRY WEIGHT 12.5" SLURRY VOL 1.89 WATER gal/sk _____ CEMENT LEFT in CASING _____
DISPLACEMENT 13415 DISPLACEMENT PSI _____ MIX PSI 5200psi RATE _____

REMARKS: Safety meeting and rig up to well head 7/8" tubing 5/8" casing
test tubing to 100psi cement got air blow. Pumped 400 sks GOR
66 gal 1/4" Flog seal and 500# Cotton seed hulls cement did circulate
displace 13415 water shut test tested tool was what run 5 cements
circulate clean with 30 hls water

Thanks Mites & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
54018	1	PUMP CHARGE	1695.00	1695.00
5406	45	MILEAGE	5.00	225.00
5407A	17.2 tons	Ton mileage delivery	1.67	1292.40
1131	400 sks	60/40 por	15.10	6040.00
118B	2064#	Bentonite gel	.25	516.00
1107	100 #	Flog seal	2.82	282.00
1105	500 #	Cotton seed hulls	.55	275.00
			Subtotal	10325.40
			less 108 discount	1032.54
			Subtotal	9292.86
			SALES TAX	531.35
			ESTIMATED TOTAL	9824.21

completed

Ravin 3737

AUTHORIZATION *Cam 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.

253975



CONSOLIDATED
Oil Well Services, LLC

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

FIELD TICKET & TREATMENT REPORT
CEMENT

TICKET NUMBER 39179
LOCATION Oakley, KS
FOREMAN Kelly Gabel
Walt Dinkels

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
12-3-12	7173	J Kallman #1	24	1-75	35-00	KS Wichita
CUSTOMER		Mailing Address				
Ritchie Expt		5001 5 N WINTO				
CITY		STATE	ZIP CODE	NETRUCK #	DRIVER	TRUCK #
				399	Damon M	
				566	Tim W	

JOB TYPE Squeeze HOLE SIZE _____ HOLE DEPTH _____ CASING SIZE & WEIGHT 5 1/2
CASING DEPTH _____ DRILL PIPE _____ TUBING 2 7/8 OTHER Plug 4476
SLURRY WEIGHT _____ SLURRY VOL _____ WATER gal/sk _____ CEMENT LEFT In CASING _____
DISPLACEMENT _____ DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: safety meeting, rigged up on well, loaded tubing & checked tools to 1500#, released packer & spotted sand, let sand drop 30 min, pulled tubing to 4205, mixed 100 SKS com 10% salt, washed out pump & lines, displaced cement & staged, squeeze held 2000#, released pressure, pulled tubing out, tanked up to casing & pressured to 500#, shut in, rigged down

Thank You
Walt, Kelly & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401B	1	PUMP CHARGE	1695.00	1695.00
5406	45 mi	MILEAGE	5.00	225.00
11045	100 SKS	Class A cement	17.65	1765.00
111	940#	salt	4.50	4230.00
5407	4.7	Ton mileage delivery (min)	1.67	7.81
2102	160#	sand	.30	48.00
				4566.00
		Lead 1000# disc		456.60
				4109.40
		SALES TAX		163.05
		ESTIMATED TOTAL		4272.45

Revin 3737

12:30 PM
AUTHORIZATION Jallo Thigz

TITLE _____

DATE 12-3-12

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.

255076



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

Well Name: # 1 J. KOLLMAN
Location: 70' N. & 5' W. E2 - NW - SE of SEC. 24 - 17 S. - 35 W.
License Number: A.P.I. 15-203- 20,189-00-00
Spud Date: 10/05/2012
Surface Coordinates: SPOT: 2000' FSL & 1655' FEL

Region: Wichita Co., KS.
Drilling Completed: 10/20/2012

**Bottom Hole
Coordinates:**
Ground Elevation (ft): 3164' **K.B. Elevation (ft):** 3172'
Logged Interval (ft): 0' **To:** **Total Depth (ft):** 5060'
Formation: MISSISSIPPIAN
Type of Drilling Fluid: CHEMICAL/ POLYMER/ GEL

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

OPERATOR

Company: RITCHIE EXPLORATION, INC.
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 6 jts new 24# 8-5/8" surface casing. Tally at 240', set at 251'. Cemented with 160 sacks common, 3% cc, 2% gel. Cement did circulate. Plug down at 7:00 P.M. on 10/05/12.

Deviation Survey's Taken: @ 251' = 1/2 degree; @ 1344' = 3/4 degree; @ 2286' = 3/4 degree; @ 3326' = 1 degree; @ 4055' = 1/2 degree; @ 4350' = 1/2 degree; @ 4524' = 1/4 degree; @ 4934' = 3/4 degree; @ 5060' = 3/4 degree.

DSTs

DST #1 4017'-4055'. Times: 30"-45"-45"-60". Blow: IF= Weak low Build / 3"; FF= Weak Blow Sli. Build / 2". Recovery: 62' MCW (90% M & 10% WTR.). Pressures: IH = 2042#; FH = 1946#; IF = 16-27#; FF= 29-44#; ISIP = 1064#; FSIP = 1034#; Temp = 103 degrees F.; RW =.52 @ 62 degrees F.

DST #2 4056'-4086'. Times: 30"-30"-30"-30". Blow: IF= Weak low Build / 1/4"; FF= Weak Blow/ 1/4". Recovery: 15' M (100% M). Pressures: IH = 2044#; FH = 1948#; IF = 16-19#; FF=20-23#; ISIP = 1078#; FSIP= 1017#; Temp = 101 degrees F.

DST #3 4091'-4112'. Times: 30"-45"-45"-60". Blow: IF= Weak Build / 2.5"; FF=Weak / 2 ". Recovery: 92'GOCWM: 30' GOCM (20% G, 20% O, & 60% M) & 62' OCWM: (5% O, 5% Wtr & 90% M). Pressures: IH = 2051#; FH = 1976#; IF = 18-29#; FF= 34-49#; ISIP =1069#; FSIP=1042#; Temp = 104 degrees F.

DST #4 4120'-4196'. Times: 30"-45"-45"-60". Blow: IF=BOB/ 14"; FF=BOB/ 10". Recovery: 526' TF: 92' GOCWM (30% G, 20% O, 10% Wtr,40% M); 248' GOCWM: (10% G, 20% O, & 20% Wtr & 50% M); 124' OCWM (20% O, 60% Wtr & 20% M); & 62' OCMW (10% O, 70% Wtr & 20% M). Pressures: IH = 2056#; FH=1969#; IF=30-144#; FF=152-273#; ISIP= 1095#; FSIP=1057#; Temp=108 degrees F.; Chl.=30,000 Ppm; RW=.27 @ 60 degrees F.

DST # 5 4263'-4312'. Times: 30"-45"-45"-60". Blow: IF=Weak Build/ 3.5"; FF=Weak Build/ 4.5". Recovery: 82' TF: 20' MCO (75 % O, 25 % M); 62' OCM (20% O. 80% M). Pressures: IH = 2184#; FH = 2068#; IF=16-29#; FF=34-50#; ISIP = 1179#; FSIP= 1149#; Temp= 107 degrees F.

DST # 6 4322'-4350'. Times: 30"-45"-30"-60". Blow: IF=Weak Build/ BOB/5"; FF=BOB/7". Recovery: 1240' TF: 310' WCM w/Show O (40% Wtr, 60% M); 248' MCW (90% Wtr, 10% M); 682' Wtr (100% Wtr). Pressures: IH = 2174#; FH = 2113#; IF=33-306#; FF=313-521#; ISIP=1205; FSIP = 1206#; Temp = 114 degrees F.; Chl.=27000 Ppm; RW =.26 @ 67 degrees F.

DST # 7 4356'-4396'. Times: 30"-45"-45"-60". Blow: IF=Weak Build/7"; FF=BOB/41". Recovery: 258' TF: 134'MCGO (10% G, 60% O, 30% M); 62' OCWM (10% O, 20% Wtr 70% M); 62' MW w/Tr. O (50% Wtr, 50% M)). Pressures: IH=2163#; FH=2098#; IF = 18-54#; FF = 60-112#; ISIP=1204#; FSIP=1188#; Temp=109 degrees F; Chl.= 23000 Ppm; RW = .45 @ 48 degrees F.

DST # 8

4481'-4524'. Times: 30"-45"-45"-60". Blow: IF = Weak Build/8"; FF=BOB/37". Recovery: 186' GIP; 124' TF: 62' GO (5% G, 95% O); 62' GOCM (5% G, 15% O, 80% M). Pressures: IH =2241#; FH =2177#; IF=17-39#; FF=40-64#; ISIP = 1224#; FSIP=1192#; Temp= 110 degrees F.; API Grv.= 31 degrees.

DST # 9 4526'-4550'. Times: 30"-45"-45"-60". Blow: IF = Weak Build/3.5"; FF=Weak Build/6". Recovery: 124' GIP; 62' TF: 31' GO (10% G, 90% O); 31' OCM (50% O, 50% M). Pressures: IH = 2296#; FH = 2193#; IF = 15-20#; FF = 23-33#; ISIP = 1283#; FSIP = 1285#; Temp = 110 degrees F; API Grv. = 30 degrees.

DST # 10 4896'-4934'. Times: 30"-45"-30"-60". Blow: IF = Weak Build to BOB/ 8"; FF=BOB/9". Recovery: TF=682': 3' O (100% Oil); 184' OCWM (5% Oil, 5% Wtr, 90% M); 186' OCWM (10% Oil, 30% Wtr; 60% M); 310' MCW (90% Wtr, 10% M). Pressures: IH = 2489#; FH = 2356#; IF=41-189#; FF=197-323#; ISIP= 1153#; FSIP= 1137#; Temp =121 degrees F; Chl.= 24000 Ppm; RW = .41 @ 49 degrees F.

Comments

After review of all geologic samples as examined, combined with the fluid and pressures results from all drill stem tests taken and analysis from the electric logs run, it was determined by all parties that production casing should be run in order to further evaluate this well.

Respectfully submitted,

David P. Williams, P.G

ROCK TYPES

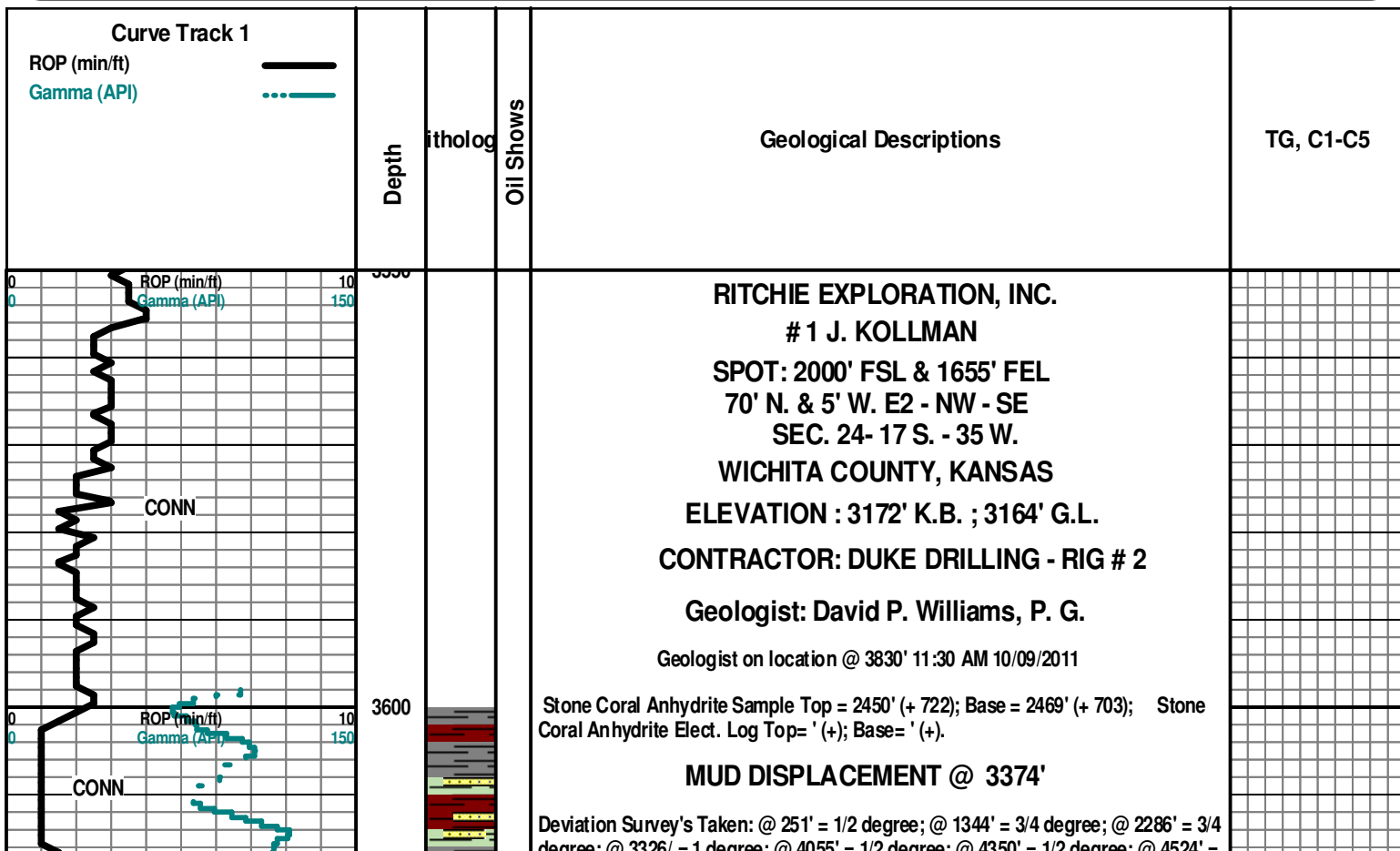
Anhy	Clyst	Gry shale	Mrlst	Shcol
Bent	Coal	Gyp	Red shale	Shgy
Brec	Congl	Igne	Salt	Sltst
Carb sh	Dol	Lmst	Sandylms	Ss
Cht	Grn sh	Meta	Shale	Till

ACCESSORIES

MINERAL	Hvmin	Belm	Pellet	Sltstrg
Anhy	Kaol	Bioclst	Pisolite	Ssstrg
Arggrn	Marl	Brach	Plant	TEXTURE
Arg	Minxl	Bryozoa	Strom	Boundst
Bent	Nodule	Cephal	STRINGER	Chalky
Bit	Phos	Coral	Anhy	Cryxln
Brecfrag	Pyr	Crin	Arg	Earthy
Calc	Salt	Echin	Bent	Finexln
Carb	Sandy	Fish	Coal	Grainst
Chtdk	Silt	Foram	Dol	Lithogr
Chtlt	Sil	Fossil	Grysh	Microxln
Dol	Sulphur	Fuss	Gryslt	Mudst
Feldspar	FOSSIL	Oolite	Gyp	Packst
Ferrpel	Algae	Oomold	Ls	Wackst
Ferr	Amph	Ostra	Mrst	
Glau		Pelec	Sandylms	
Gyp				

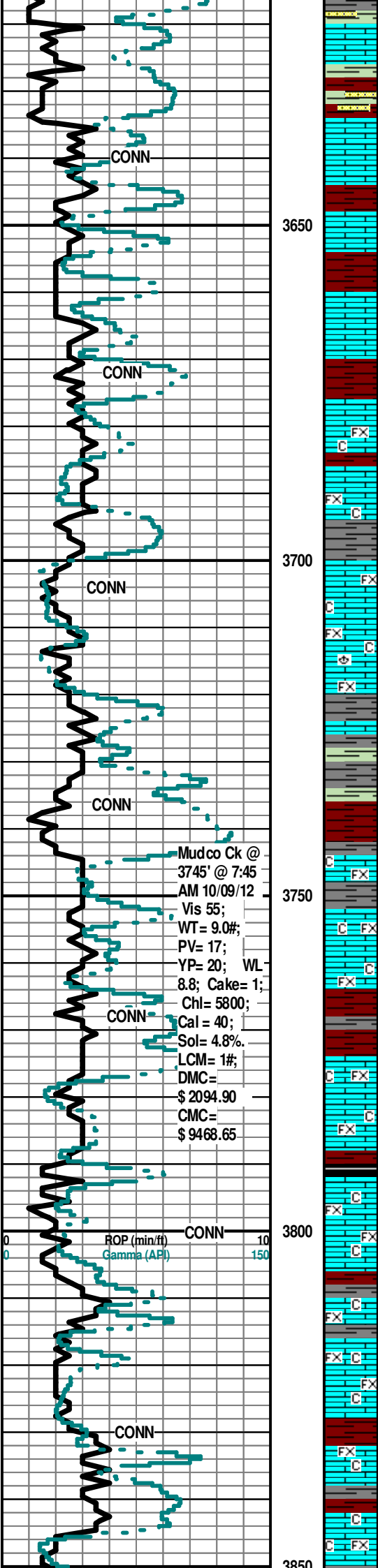
OTHER SYMBOLS

POROSITY	Vuggy	ROUNDING	Even	Straddle test tail pi
Earthy	SORTING	Rounded	Spotted	Core
Fenest	Well	Subrnd	Ques	EVENT
Fracture	Moderate	Subang	Dead	Rft
Inter	Poor	Angular	INTERVAL	Sidewall
Moldic		OIL SHOW	Dst	
Organic		Gas show	Dst_alt	
Pinpoint				



degree; @ 5520' = 1 degree; @ 4650 = 1/2 degree; @ 4550 = 1/2 degree; @ 4524 = 1/4 degree; @ 4934' = 3/4 degree;

STOTLER 3635' (-463)



Mudco Ck @
3745' @ 7:45
AM 10/09/12
Vis 55;
WT= 9.0#;
PV= 17;
YP= 20; WL
8.8; Cake= 1;
Chl= 5800;
Cal= 40;
Sol= 4.8%
LCM= 1#;
DMC=
\$ 2094.90
CMC=
\$ 9468.65

BEGIN 10 SAMPLE DESCRIPTIONS @ 3700'

Note: All samples have been lagged to depth by calculated time.

Ls Wht-Crm-Gry FxIn Poor IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft Sh
Char-Gry- Red Fissil-Soft No Odor No Stn No Flor NS

Ls Crm-Gry FxIn Poor IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft Sh
Char-Gry -Tr Maroon Dec Fissil-Soft No Odor No Stn No Flor NS

Ls Gry-Crm FxIn Poor IxIn Pin-Pt Por Grad Micritic Grad Pool Granular OOL Por
(w/OOL in pl) Tr Vug Leaching Barren Chalk Wht Soft Sh Char-Gry-Maroon
Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Poor IxIn Pin-Pt Por Grad Micritic Barren Fos (Brach) Chalk
Wht Soft Sh Char-Gry -Red Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Poor IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft Sh
Char-Gry - Red Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Poor IxIn Pin-Pt Por Gran Por Grad Micritic Barren Chalk
Wht Soft Sh Char-Gry -Aqua-Red Fissil-Soft No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Poor IxIn Pin-Pt Por Gran Por Grad Micritic Barren Chalk
Wht Soft Sh Char-Gry -Aqua-Red Fissil-Soft No Odor No Stn No Flor NS

Ls Crm-Gry FxIn Poor IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft Sh
Char-Drk Gry-Red-Maroon Fissil-Soft No Odor No Stn No Flor NS

Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry Fissil-Soft Ls Crm-Gry FxIn Poor
IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor No Stn No Flor NS

Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry Fissil-Soft Ls Crm-Gry FxIn Poor
IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor No Stn No Flor NS

Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry Fissil-Soft Ls Crm-Gry FxIn Poor
IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor No Stn No Flor NS

Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry-Tr Blk Carb Fissil-Soft Ls
Crm-Gry FxIn Poor IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor
No Stn No Flor NS

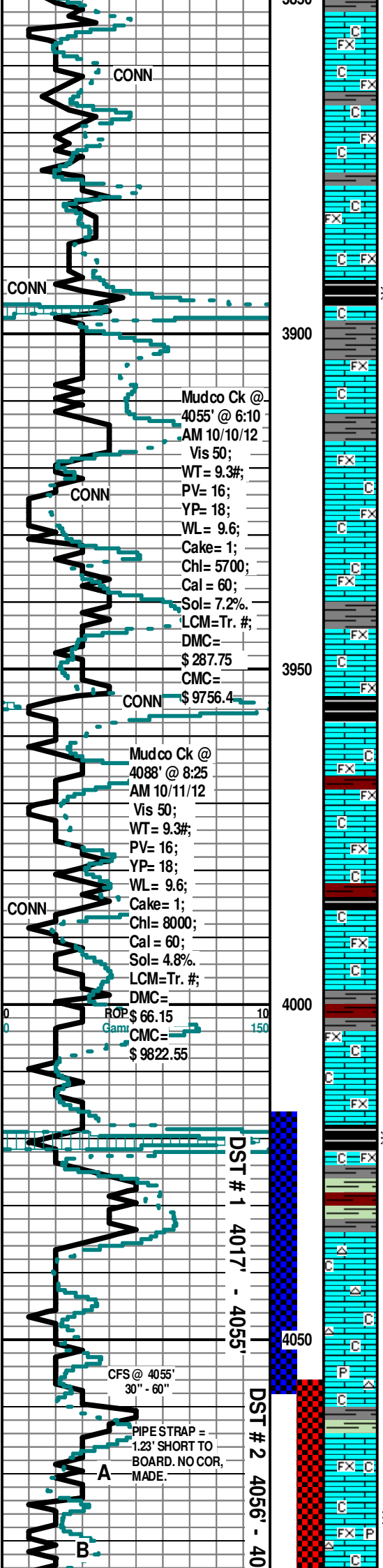
Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry Fissil-Soft Ls Crm-Gry FxIn Poor
IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor No Stn No Flor NS

Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry Fissil-Soft Ls Crm-Gry FxIn Poor
IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor No Stn No Flor NS

Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry Fissil-Soft Ls Crm-Gry FxIn Poor
IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor No Stn No Flor NS

(Poor Spl) Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry Fissil-Soft Ls Crm-Gry
FxIn Poor IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor No Stn No
Flor NS

(Poor Spl) Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry Fissil-Soft Ls Crm-Gry
FxIn Poor IxIn Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor No Stn No
Flor NS



(Poor Spl) Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry Fissil-Soft Ls Crm-Gry Fxln Poor Ixln Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor No Stn No Flor NS

(Poor Spl) Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry Fissil-Soft Ls Crm-Gry Fxln Poor Ixln Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor No Stn No Flor NS

(Poor Spl) Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry Fissil-Soft Ls Crm-Gry Fxln Poor Ixln Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor No Stn No Flor NS

(Poor Spl) Sh Red-Maroon (V Abd) (Wash Red) Char-Drk Gry Fissil-Soft Ls Crm-Gry Fxln Poor Ixln Pin-Pt Por Grad Micritic Barren Chalk Wht Soft No Odor No Stn No Flor NS

KING HILL SHALE 3892' (-720)

Sh Blk Carb Fissil w/FSG (w/broken in Wtr under Heat)-Char-Gry-Red Ls Crm-Wht AA Chalk AA No Odor No Flor SG in Blk Sh

Ls Crm-Wht AA Chalky Sh Blk Carb Fissil No Odor No Flor NS

Ls Crm-Wht AA Chalky Sh Blk Carb-Char-Gry-Red Fissil No Odor No Flor NS

Ls Wht Abd Fxln Micrite Chalk Abd Sh Char-Gry-Red Fissil No Odor No Flor NS

Ls Wht Abd Fxln Micrite Chalk Abd Sh Char-Gry-Red Fissil No Odor No Flor NS

Ls Wht Abd Fxln Micrite Chalk Abd Sh Char-Gry-Red Fissil No Odor No Flor NS

QUEEN HILL SHALE 3954' (- 782)

Sh Blk Carb Fissil w/FSG (w/broken in Wtr under Heat) Ls Crm-Wht AA Chalk AA No Odor No Flor SG in Blk Sh

Ls Wht Abd Fxln Micrite Chalk Abd Sh Char-Gry-Red Fissil No Odor No Flor NS

Ls Wht Abd Fxl Micrite Chalk Abd Sh Char-Gry-Red Fissil No Odor No Flor NS

Ls Wht Abd Fxln Micrite Chalk Abd Sh Char-Gry-Red-Tr Blk Carb Fissil No Odor No Flor NS

Ls Wht Abd Fxln Micrite Chalk Abd Sh Char-Gry-Red-Tr Blk Carb Fissil No Odor No Flor NS

Ls Wht Abd Fxln Micrite Chalk Abd Sh Char-Gry-Red-Aqua-Tr Blk Carb Fissil No Odor No Flor NS

Ls Wht Abd Fxln Micrite Chalk Abd Sh Char-Gry-Red-Aqua-Tr Blk Carb Fissil No Odor No Flor NS

HEEBNER 4019' (- 847)

Sh Blk Carb w/FSG (w/broken in Wtr under Heat)-Aqua-Red-Maroon-Gry-Grn Soft-Fissil Ls Wht-Crm Fxln Dns Grad Pin-Pt Fxln Por Barren Chalky No Odor No Flor SG in Blk Sh

Sh Blk Carb-Aqua-Red-Maroon-Gry-Grn-Olive Soft-Fissil Ls Wht-Crm Fxln Dns Grad Pin-Pt Fxln Por Barren Chalky No Odor No Flor NS

TORONTO 4035' (- 863)

30" CFS @ 4055' (Poor Spl) Ls Wht-Crm Fxln Poor-Fair Pin-Pt Ixln Por (w/SSG & SSO Under Heat in Wtr) Cht Wht Abd Translu-Op Chalky Sh Varicolored AA No Odor Sli Blk-Drk Brn Stn (Few Pcs) Fair-Good Flor (Gas/Oil Does Not Flor) SSG & SSO

60" CFS @ 4055' Ls Wht-Crm Fxln Poor-Fair Pin-Pt Ixln Por (w/SSG & SSO Under Heat in Wtr) Cht Wht Abd Translu-Op Pyr Mass Chalky Sh Varicolored AA No Odor Sli Blk-Drk Brn Stn (Few Pcs) Fair-Good Flor (Gas/Oil Does Not Flor) SSG & SSO

LANSING 4064' (- 892)

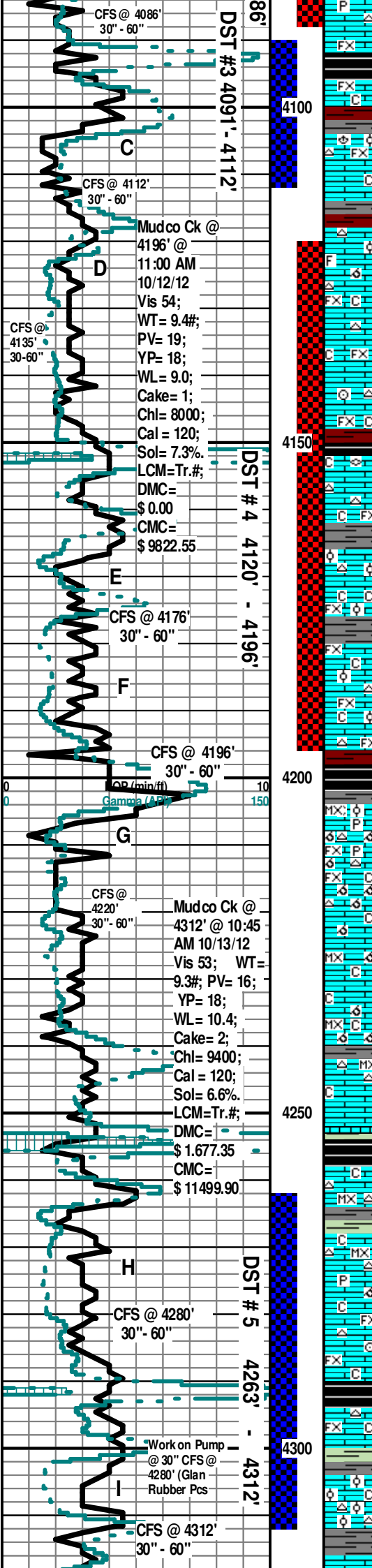
30" CFS @ 4086' Ls Wht Fxln Poor-Fair-Med Pin-Pt Ixln Vugs (Med) Friable Por (w/SG & SO Under Heat in Wtr) F-M SFO in Spl Tray Pyr Mass Chalky Sh Varicolored AA No Odor Fair-Med Blk Gillsontic "Dead Oil" Residue (Few Pcs w/Drk Brn Stn (5-10% w/SG/SO of Spl) Fair-Med (Dull Wht) Flor (Gas/Oil Does Not Flor) F-MSG & F-MSO

60" CFS @ 4086' Ls Wht Fxln Poor-Fair Pin-Pt Ixln Tr w/Small Vugs Friable Por (w/SG & SO Under Heat in Wtr) FSFO in Spl Tray Cht Wht Translu Op Shp Vit Pyr Mass Chalky Sh Varicolored AA No Odor Fair Gillsontic "Dead Oil" Residue (Few Pcs w/Drk Brn Stn (2% w/SG/SO of Spl) Fair (Dull Wht) Flor (Gas/Oil Does Not Flor) F-MSG & F-MSO

DST #1
 4017'-4055'.
 Times:
 30"-45"-45"-60".
 Blow: IF= Weak
 low Build / 3";
 FF= Weak Blow
 Sli. Build / 2".
 Recovery: 62'
 MCW (90% M &
 10% WTR.).
 Pressures:
 IH = 2042#;
 FH = 1946#; IF
 = 16-27#; FF=
 29-44#; ISIP =
 1064#; FSIP=
 1034#; Temp =
 103 degrees F.
 RW = .52 @ 62
 degrees F.

DST #2
 4056'-4086'.
 Times:
 30"-30"-30"-30".
 Blow: IF= Weak
 low Build / 1/4";
 FF= Weak
 Blow/ 1/4".
 Recovery: 15' M
 (100% M).
 Pressures: IH
 = 2044#; FH =
 1948#; IF =
 16-19#; FF=
 20-23#; ISIP =
 1078#; FSIP=
 1017#; Temp =
 101 degrees F.

DST #3 4091'-4112'.
 Times:
 30"-45"-45"-60".
 Blow: IF= Weak
 Build / 2.5";
 FF=Weak / 2".
 Recovery:
 92'GOCWM: 30'
 GOCM (20% G,
 20% O, & 60% M) &
 62' OCWM: (5% O,
 5% Wtr & 90% M).
 Pressures:
 IH = 2051#;
 FH = 1976#;
 IF = 18-29#;
 FF= 34-49#;
 ISIP =1069#;
 FSIP=1042#;
 Temp = 104
 degrees F.



30" CFS @ 4112' Ls Wht-Crm FxIn Med-Good lXln Vug Leached Friable Fos (Brach) "Salt & Pepper" lXn Por Grad Tr Poor-Fair OOL Por (w/OOL in pl) Poor-Fair Dissolu w/ M-G SG & SO (Drk Brn Gillsonitic Stn) (w/SFO in Spl Tray) Good-Strong Odor Sli Flor (Dull Wht-Scat Faint Lt Grn) G & O Do Not Flor Cht Wht-Tan (w/OOL in pl) Translu-Op Shp Vit Chalky Sh Varicolored AA M-G SG & SO Good Drk Stn Med SG & SO

60" CFS @ 4112' Ls Wht-Crm FxIn Med-Good lXln Vug Leached Friable Fos (Brach) "Salt & Pepper" lXn Por Grad Tr Med-Good OOL Por (w/OOL in pl) Med-Good Dissolu w/ GSG & SO (Drk Brn Gillsonitic Stn) (GSFO in Spl Tray) Strong Odor Sli Flor (Dull Wht-Scat Faint Lt Grn) G & O Do Not Flor Cht Wht-Tan (w/OOL in pl) Translu Op Shp Vit Chalky Sh Varicolored AA G SG & SO Good Drk Stn SG & SO

30" CFS @ 4135' Ls Wht-Crm FxIn Poor-Med lXln Por Tr/Vug Leaching Friable Fos Frag "Salt & Pepper" lXn Por Grad Tr Poor OOL/OOM Por (w/OOL in pl) Poor Dissolu w/ Med SG & SO (Drk Brn Gillsonitic Stn) (w/SFO in Spl Tray) G & O Do Not Flor Fair Odor Ex ? Min Flor (Lt Grn) G & O Do Not Flor Cht Wht-Tan-Gry Fos (Brach Includ) Translu- Op Shp Vit Abd Chalky Sh Varicolored AA Med Drk Stn MSG & MSO

60" CFS @ 4135' Ls Wht-Crm FxIn Poor lXln Por Tr/Vug Leaching Tr "Salt & Pepper" lXn Por Grad SSG & SSO (Drk Brn Gillsonitic Stn) (NSFO in Spl Tray) G & O Do Not Flor Fair Dec Odor Ex ? Min Flor (Lt Grn) G & O Do Not Flor Cht Wht-Tan-Gry Fos (Brach Includ) Translu- Op Shp Vit Abd Chalky Sh Varicolored Char-Gry-Aqua-Red Sli Scat Drk Stn VSSG & VSSO

Ls Wht-Crm-Tan FxIn Poor Pin-Pt lXln Por w/Tr SSG/SSO (4 Pcs) Tr/Poor Vug Leaching Poor Develop Fos (Crin) Scatt Brn Stn Good Even ? Min Flor (Throughout Spl) V Faint Odor AA Dec Cht Wht-Gry Op Shp Vit Chalky Sh Aqua-Red Soft AA Faint Odor Dec Tr/VSSG & VSSO

Ls Wht-Crm-Tan FxIn Poor Pin-Pt lXln Por w/Tr SSG/SSO (2 Pcs) Tr/Poor Vug Leaching Poor Develop Grad Micrite Scatt Brn Stn Good Even ? Min Flor (Throughout Spl) V Faint Odor AA Dec Cht Wht-Gry (w Fos (Fuss) Includ) Op Shp Vit Chalky Sh Blk Carb-Aqua-Grn-Red Fissil-Soft ? Faint Odor Dec Tr/VSSG & VSSO AA

30" CFS @ 4176' Ls Wht-Crm FxIn Micrite Grad Poor-Fair lXln Por Tr/Vug Leaching Friable "Salt & Pepper" lXln Por Grad Tr Poor OOL/OOM Por (w/OOL in pl) Fair Dissolu (Med-Ooids w/Leached Cntrs) w/SG & SO (Drk Brn Gillsonitic Stn) (w/SFO in Spl Tray) G & O Do Not Flor Faint Odor Ex ? Min Flor (Lt Grn) G & O Do Not Flor Cht Wht-Tan-Gry Translu- Op Shp Vit Chalky Sh Varicolored AA Drk Brn-Blk Stn FSG & FSO

60" CFS @ 4176' Ls Wht-Crm-Tan FxIn Poor-Pin-Pt lXln Vug Leached Por w/ SSG & SSO AA Chalky AA Cht AA Faint Odor Good ? Min (Lt Grn) Flor Fair Drk Brn Stn Sli-Fair SG & SO

30" CFS @ 4196' Ls Wht-Crm-Tan FxIn Poor-Pin-Pt lXln Tr/Vug Leached Por w/ SSG & SSO AA Tr Poor OOL/OOM Por (w/OOL in pl) Poor Dissolu Por Leaching Por Chalky AA Cht AA Faint Odor Good ? Min (Lt Grn) Flor Fair Drk Brn Stn Sli-Fair SG & SO

60" CFS @ 4196' Ls Wht-Crm-Tan FxIn Poor-Fair-Pin-Pt lXln Tr/Fair Vug Leached Por w/SSG & SSO AA Tr Poor-Fair OOL/OOM Por (w/OOL in pl) (Small Ooids) Poor Dissolu Poor-Fair Leaching Por Chalky AA Cht AA Fair Odor Good ? Min (Lt Grn) Flor G & O Do Not Flor Fair Drk Brn Stn Poor-Fair SG & SO

30" CFS @ 4220' Ls Wht-Crm MicroXln-FxIn Poor-Fair-Med OOL Por (w/OOL in pl) w/ GSG & GSO (3 Pcs in Spl) ? Sluff ? Grad Fair-Poor OOM Por w/Tr Sli Scat Brn Stn (Few Pcs) Grad Barren Poor Leaching Poor Develop Grad Micritic Cht Wht Op Shp Vit Pyr Mass Chalky AA Sh Char-Gry-Aqua-Maroon - Red Soft-Fissil No Odor Good ? Min Flor Abd ? SSG & SSO Most Barren

60" CFS @ 4220' Ls Wht-Crm MicroXln-FxIn Micritic AA Grad Poor-Fair-Med OOM Por w/Tr SG & SO (2 Pcs in Spl) ? Sluff ? (w/Tr Sli Scat Brn Stn 4 Pcs) Grad Barren Poor-Fair Leaching Poor Develop Cht Wht Op Shp Vit Pyr Mass Chalky AA Sh Char-Gry-Aqua-Maroon - Red Soft-Fissil No Odor Good ? Min Flor Abd ? VSSG & VSSO Barren

Ls Wht MicroXln Dns Micrite Grad Crm-Tan No Vis Por Tr Poor OOM Por AA Barren Chalk V Abd Sh Red-Gry-Grn-Maroon Soft No Odor Good ? Min Flor No Stn NS

Ls Wht MicroXln Dns Micrite Grad Crm-Tan No Vis Por Tr Poor OOM Por AA Barren Chalk V Abd Sh Red-Gry-Grn-Maroon Soft No Odor Good ? Min Flor No Stn NS

Ls Wht MicroXln Dns Micrite Grad Crm-Tan No Vis Por Barren Cht Gry Op Shp Vit Chalky Sh Red-Gry-Grn-Maroon Soft No Odor Good ? Min Flor No Stn NS

MUNCIE CREEK 4254' (- 1082)

Sh Blk Carb Fissil Ls Wht-Crm-Tan MicroXln Dns Micrite Cht Gry Translu-Op Shp Vit Good ? Min Flor Faint Odor No Stn NS

Ls Wht-Crm-Tan MicroXln Dns Micrite Cht Gry Translu-Op Shp Vit Sh Blk Carb Fissil Good ? Min Flor Faint Odor No Stn NS

KANSAS CITY DRUM "H" 4267' (- 1095)

30" CFS @ 4280' Ls Wht-Crm-Tan MicroXln Dns Micrite Barren Grad Tr Poor Pin-Pt lXln Por (w VSSG & VSSO - 3 Pcs (w/VSSFO in Wtr Under Heat-Med Brn No Flor) Cht Gry-Wht Translu-Op Shp Vit (w/Pyr Includ) Abd Sh Carb-Aqua-Maroon-Blk Carb Fissil Good ? Min Flor Faint Odor Sli Tr (Chalky Ls w/Lt Brn Stn) VSSG & VSSO

60" CFS @ 4280' Ls AA MicroXln Dns Micrite Grad Poor OOM Por Barren Poor Develop Poor-No Leaching Cht AA Chalk AA Sh AA Good ? Min Flor V Faint Odor No Stn NS

Ls Wht FxIn Micrite Grad Chalky Ls Poor lXln Por Tr Scat Lt Brn Stn Sli Flor Grad ? Min Flor tr Pin-Pt lXln Por (w/Tr VSSG & VSSO AA) Cht Gry-Wht Amber Translu-Op Shp Vit Fos (Crin) Sh Blk Carb-Aqua-Red-Maroon Soft-Fissil Faint Odor Good ? Min Flor

Sh Blk Carb-Aqua-Red-Maroon Soft-Fissil Ls Wht FxIn Micrite Grad Chalky Ls Poor lXln Por Tr Scat Lt Brn Stn Sli Flor Grad ? Min Flor tr Pin-Pt lXln Por (w/Tr VSSG & VSSO AA) Cht Gry-Wht Amber Translu-Op Shp Vit Faint Odor Good ? Min Flor

KANSAS CITY BLOCK "I" 4304' (- 1132)

30" CFS @ 4312' Ls Wht Good OOL Por (Med-Lg Ooids w/Free Ooids in Spl) w/GSG & GSO (Lt Brn w/SFO in Spl (GSG & GSO under Wtr with Heat) Friable (G & O Do Not Flor) (40% of Spl w/Good OOL Por) Cht Wht AA Chalky AA Sh Char-Aqua-Grn-Red-Maroon Soft -Fissil Med- Good Scat (Lt Brn) Stn (On Edge of Ooids) Good Inc Odor Good Dull Wht-Lt Grn Flor (Good Lt Grn Stn Flor in Dry Spls) GSG & GSO

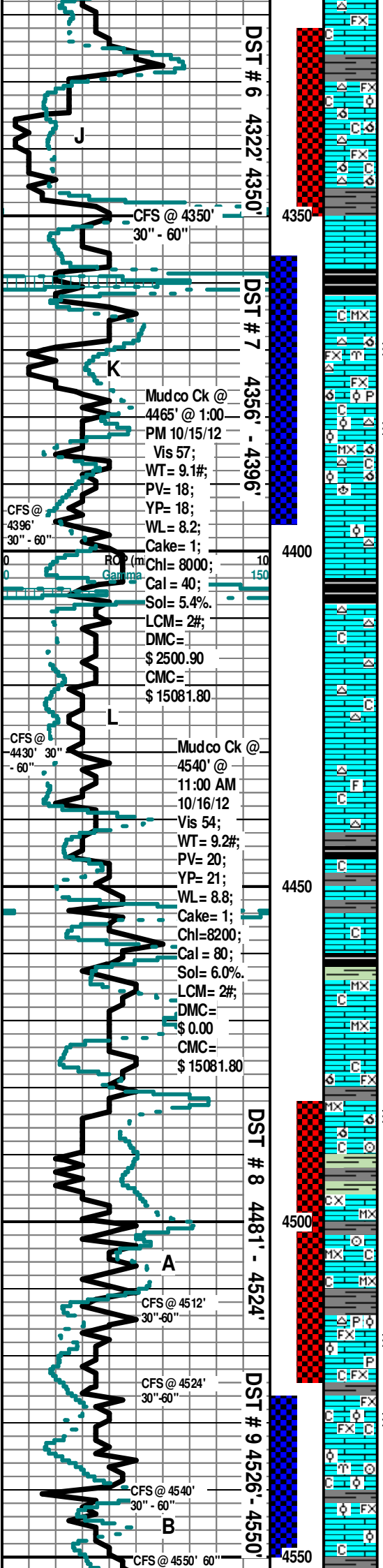
60" CFS @ 4312' Ls Wht Good OOL Por (Small-Med-Lg Ooids) w/GSG & GSO (Lt Brn SFO in Spl (w/Abd GSG & GSO under Wtr with Heat) Friable (G & O Do Not Flor) (30% of Spl is Good OOL Por

Times: 30"-45"-45"-60"
Blow: IF=BOB/ 14"; FF=BOB/ 10".
Recovery: 526' TF: 92' GOCWM (30% G, 20% O, 10% Wtr, 40% M); 248' GOCWM: (10% G, 20% O, & 20% Wtr & 50% M); 124' OCWM (20% O, 60% Wtr & 20% M); & 62' OCMW (10% O, 70% Wtr & 20% M).
Pressures: IH = 2056#; FH = 1969#; IF = 30-144#; FF = 152-273#; ISIP = 1095#; FSIP = 1057#;
Temp = 108 degrees F.
Chl. = 30,000 Ppm; RW = 27 @ 60 degrees F.

Mudco Ck @ 4350' @ 10:20 AM 10/14/12
Vis 51; WT = 9.3#; PV = 15; YP = 18; WL = 8.8; Cake = 1; Chl = 10000; Cal = 60; Sol = 6.5%; LCM = Tr.#; DMC = \$ 1021.00; CMC = \$ 12520.90

DST # 5 4263'-4312'. Times: 30"-45"-45"-60".
Blow: IF=Weak Build/ 3.5"; FF=Weak Build/ 4.5".
Recovery: 82' TF: 20' MCO (75 % O, 25 % M); 62' OCM (20% O, 80% M).
Pressures: IH = 2184#; FH = 2068#; IF = 16-29#; FF = 34-50#; ISIP = 1179#; FSIP = 1149#;
Temp = 107 degrees F.

DST # 6 4322'-4350'. Times: 30"-45"-30"-60".
Blow: IF=Weak Build/ BOB/5"; FF=BOB/7".
Recovery: 1240' TF: 310' WCM w/Show O (40% Wtr, 60% M); 248' MCO (20% O, 80% M).



Cht Hth AA Chalky AA Sh Char-Aqua-Grn-Maroon-Red Soft-Fissil Med-Good Scat Lt Brn Stn on Edge of Ooids Good-Strong Odor Good Dull Wht-Lt Grn Flor (Good Lt Grn Stn Flor in Dry Spls) GSG & GSO

KANSAS CITY DENNIS "J" 4329' (- 1157)

30" CFS @ 4350' Ls Wht-Crm Fxln Micritic Grad Med-Good OOM Por (w/Med-Lg Ooids on pl) Med-Good Dissolu Med-Good Leaching Med-Good Develop Grad Fair Pin-Pt Fxln Por "Salt & Pepper: Scat SSG & SSO (10% of Spl) Faint Odor Scat ? (Dull Wht-Lt Grn) Min Flor Cht Wht AA Chalky Sh Char-Gry Fissil SSG & SSO Mostly Barren

60" CFS @ 4350' Ls Wht-Crm Fxln Micritic Grad Med-Good OOM Por (w/Med-Lg Ooids on pl) Med-Good Dissolu Med-Good Leaching Med-Good Develop Grad Fair Pin-Pt Fxln Por "Salt & Pepper: Scat SSG & SSO (3% of Spl) Faint Odor Scat ? (Dull Wht-Lt Grn) Min Flor Cht Wht AA Chalky Sh Char-Gry Fissil SSG & SSO

STARK SHALE 4358' (- 1186)

KANSAS CITY SWOPE "K" 4363' (- 1191)

Ls Wht Good Microxln-Fxln Por Good Pin-Pt Ixln "Salt & Pepper" Vug Leached Por w/GSG & GSO (Lt Brn w/Abd SG & SFO in Spl (GSG & GSFO under Wtr with Heat) V Friable (G & O Do Not Flor) (50% of Spl w/Good Ixln Por) Fos (Bry) Grad Good OOM Por Good Dissolu-Good Leaching w/ SO AA Cht Wht-Gry Translu-Op Shp Vit Chalky Dec Sh Blk Carb-Char-Aqua-Grn-Maroon Soft-Fissil Med-Good Scat (Drk Brn/Blk) Gillsontic Stn GoodStrong Odor Good Dull Wht-Lt Grn Flor GSG & GSFO

30" CFS @ 4396' Ls Wht Fxln Good Pin-Pt xln "Salt & Pepper" Vug Leached Por V Abd w Good SG & SFO Grad OOL/OOM Por (w/Lg-Med-Small Ooids (Gas & Oil Do Not Flor) GSG& GSFO Dec Grad Micritic Dns Barren GS AA

60" CFS @ 4396' Ls Wht-Crm Fxln Micrite Tr Ls Wht Fxln Good Pin-Pt xln "Salt & Pepper" Vug Leached Por Dec (w Good SG & SFO) Grad OOL/OOM Por AA Cht Wht-Gru AA Fos (Brach) Fair-Med Odor Dec.SG & SO

Ls Wht-Crm-Tan-Gry Microxln Micrite Cht-Wht-Gry Op Shp Vit Chalky Fos (?) Dull Wht ? Min Flor Tr/Odor AA No Stn NS

HUSHPUCKNEY 4405' (- 1233)

KANSAS CITY HERTHA "L" 4407 (-1235)

Sh Blk Carb-Char-Gry-Red Soft-Fissil Ls Wht-Crm-Tan Microxln Micrite Cht-Wht-Gry Op Shp Vit Chalky Dull Wht ? Min Flor Tr/Odor AA No Stn NS

30" CFS @ 4430' Ls Wht-Crm-Tan-Gry Microxln Micrite Cht-Wht-Gry Op Shp Vit Chalky Fos (?) Dull Wht ? Min Flor Tr/Odor AA No Stn NS

60" CFS @ 4430' Ls Wht-Crm-Tan-Gry Microxln Micrite Cht-Wht-Gry Op Shp Vit Chalky Fos (?) Dull Wht ? Min Flor Tr/Odor AA No Stn NS

Ls Wht-Crm-Tan-Gry Microxln Micrite Tr OOM Por AA w/Tr Scat SO ?Stuff? Cht-Wht-Gry Op Shp Vit Chalky Fos (?) Dull Wht ? Min Flor Tr/Odor AA No Stn NS

Ls Wht-Crm-Tan-Gry Microxln Micrite Tr OOM Por AA w/Tr Scat SO ?Stuff? Cht-Wht-Gry Op Shp Vit Chalky Fos (?) Dull Wht ? Min Flor Tr/Odor AA No Stn NS

BASE KANSAS CITY 4442' (- 1270)

PLEASANTON 4446' (- 1274)

Sh Blk Carb-Char-Gry-Grn-Aqua-Maroon-Red Soft-Fissil Ls AA Wht-Crm - Tan Microxln Micritic Chalky No Odor No Stn No Flor NS

Ls AA Crm-Tan Micritic Sh Char-Gry-Maroon-Red Soft-Fissil No Odor No Stn No Flor NS

MARMATON 4464' (- 1292)

Ls AA Crm-Tan Micritic Sh -Blk Carb Char- Gry- Grn- Maroon -Red Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Fxln-Microxln Dns Micrite AA Chalky Sh Aqua-Blu-Grn Char Fissil No Flor No Odor NS

Ls Wht-Crm-Tan Fxln-Microxln Dns Micrite AA Grad Tr. Poor OOM Por Poor InterOOM Por (w/VSSG & VSSO - 2 Pcs) Poor Develop Poor Leaching Tr/Lt Brn Stn No Flor No Odor Chalky Sh Aqua-Blu-Grn Char Fissil ? Tr VSSG ? VSSO

ALTAMONT "A" 4496' (- 1324)

30" CFS @ 4512' Sh Char-Gry-Grn-Aqua-Maroon-Red Soft-Fissil Ls AA Wht-Crm-Tan Microxln Micritic Fos (Crin) Chalky No Odor No Stn No Flor NS

60" CFS @ 4512' Ls Wht-Crm-Tan Fxln-Microxln Dns Micrite AA Chalky Sh Aqua- Blu - Grn- Char- Purpl Fissil No Flor No Odor NS

30" CFS @ 4524' Ls Ls Wht-Crm Fxln-Microxln Dns Micrite Poor Ixln Por Barren Grad Poor Pin-Pt Ixln Por (w/"Salt & Pepper" Por Grad Tr OOL Por (w/OOL in pl) Small Ooids < 5% of Spl) Poor-Fair InterOOL Por w/Scatt Stn (Drk Brn -10 Pcsw/ Poor-Fair Vug Leaching Chalk Wht Soft Pyr Mass Sh Blk Carb-Char-Gry-Aqua Fissil ? V Faint Odor ? Flor (Lt Wht) VSSG & VSSO (Tr SG & SFO in Wtr Under Heat) SSG & SSO

60" CFS @ 4524' Ls Wht-Crm Fxln-Microxln AA Grad Poor Pin-Pt Ixln Por (w/"Salt & Pepper" Por AA Grad OOL Por AA (< 5% of Spl) Poor-Fair InterOOL Por (w/Scatt Stn Drk Brn (5 Pcs) w/Poor-Fair Vug Leaching Chalk AA Pyr AA Sh AA V Faint Odor ? Flor (Lt Wht) VSSG & VSSO (Tr SG & SFO in Wtr Under Heat) SSG & SSO

30" CFS @ 4540' Ls AA Tr OOL Por w/Scat SG & SFO AA Chalky V Abd Sh AA Trip Debris (?) Faint Odor SSG & SSO

ALTAMONT "B" 4535' (- 1364)

60" CFS @ 4540' Ls AA Grad Poor-Fair OOL Por (w/Small-Med OOL in pl) W/ Scatt Stn AA & SG/SO Faint Odor Chalky (V Abd) Fos (Bry,Crin) Sh AA ? Min Flor AA SSG & SSO

60" CFS @ 4550' Ls Fxln Fair Pin-Pt Ixln Por Grad Fair OOL Por (w/Med OOL in pl) w/ Scatt Stn & SG/SFO Fair Inc Odor Chalky AA Sh AA Good Flor (Lt Grn) Gas & Oil Do Not Flor SG & SO

MCV @ 90% Wtr (10% M); 682 Wtr (100% Wtr).
Pressures:
IH = 2174#;
FH = 2113#;
IF = 33-306#;
FF = 313-521#;
ISIP = 1205;
FSIP = 1206#;
Temp = 114 degrees F.;
Chl.=27000 Ppm;
RW =.26 @ 67 degrees F.

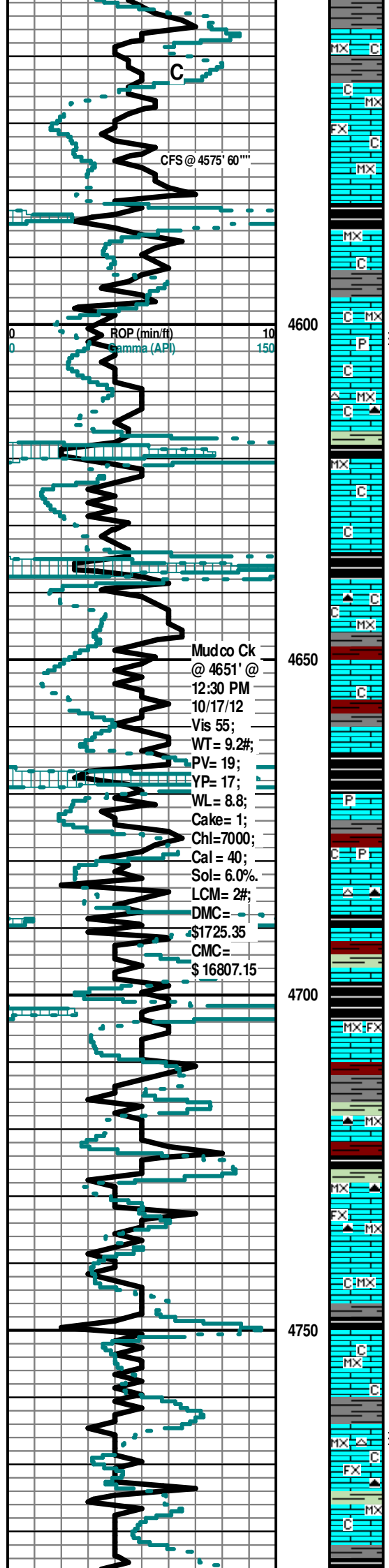
DST # 7
4356'-4396'.
Times:
30"-45"-45"-60".
Blow: IF = Weak
Build to 7";
FF=BOB/7";
Recovery: 258'
TF: 134' MCGO
(10% G, 60% O, 30% M); 62'
OCWM (10% O, 20% W, 70% M);
62' MW w/Tr. O (50% Wtr, 50% M).

Pressures:
IH = 2163#;
FH = 2098#;
IF = 18-54#;
FF = 60-112#;
ISIP = 1204#;
FSIP = 1188#;
Temp = 109 degrees F.;
Chl. = 23000 Ppm;
RW = .45 @ 48 degrees F.

DST # 8
4481'-4524'. Times:
30"-45"-45"-60".
Blow: IF = Weak
Build/8";
FF=BOB/37".
Recovery: 186' GIP;
124' TF: 62' GO (5% G, 95% O); 62'
GOCM (5% G, 15% O, 80% M).

Pressures:
IH = 2241#;
FH = 2177#;
IF = 17-39#;
FF = 40-64#;
ISIP = 1224#; FSIP = 1192#;
Temp = 110 degrees F.;
API Grv. = 31 degrees.

DST # 9
4526'-4550'. Times:
30"-45"-45"-60".
Blow: IF = Weak
Build/3.5";
FF=Weak Build/6".
Recovery: 124' GIP;
62' TF: 31' GO (10% G, 90% O); 31'
OCM (50% O, 50% M).
Pressures:
IH = 2206#;



Mudco Ck
 @ 4651' @
 12:30 PM
 10/17/12
 Vis 55;
 WT= 9.2#;
 YP= 19;
 WL= 8.8;
 Cake= 1;
 Chl=7000;
 Cal = 40;
 Sol= 6.0%.
 LCM= 2#;
 DMC=
 \$1725.35
 CMC=
 \$16807.15

ALTAMONT "C" 4556' (- 1384)

Ls Crm-Tan MicroIn-FxIn Dns Micrite Barren Cht Amber-Tan Translu-Op Shp Vit Chalk AA Dec Sh Char-Gry-Red Soft-Fissil No Odor Scat ? Min Flor (Dull Wht) No Stn NS
 60" CFS @ 4575' Ls Crm-Tan MicroIn-FxIn Dns Micrite Barren Cht Amber-Tan Translu-Op Shp Vit Chalk AA Dec Sh Char-Gry-Red Soft-Fissil No Odor Scat ? Min Flor (Dull Wht) No Stn NS
 Ls Crm-Wht FxIn-MicroxIn Micritic Sh Char-Gry-Grn Fissil No Odor No Stn Tr Scatt ? Min Flor (Dull Wht) NS

PAWNEE 4586' (- 1414)

Ls Crm-Wht FxIn-MicroxIn Micritic Chalk Wht Soft Sh Blk Carb- Char-Gry-Grn -Red Fissil No Odor No Stn Tr Scatt ? Min Flor (Dull Wht) NS
 Sh Grn-Char-Gry-Red-Blk Carb Fissil Ls Crm-Wht FxIn-MicroxIn Micritic Pyr Mass Abd No Odor No Stn Tr Scatt ? Min Flor (Lt Grn) NS
 Ls Wht-Crm MicroxIn Micrite Grad Tr Pin-Pt IxIn Por /tr Poor Vug Leach w/SSG/SSO (3 Pcs ? Sluff) Mostly (99% Barren) No Odor ? Scat Min Flor (Dull Wht) ? VSSG/VSSO
 Sh Grn-Char-Gry-Red-Blk Carb Fissil Abd Ls Crm-Wht FxIn-MicroxIn Micritic Cht Wht-Amber-Drk Brn Translu-Op Shp-Vit No Odor No Stn Tr Scatt ? Min Flor (Dull Wht) NS

MYRICK 4620' (- 1448)

Sh Blk Carb-Grn-Char-Gry-Red Fissil Abd Ls Crm-Wht FxIn-MicroxIn Micritic Chalk No Odor No Stn Tr Scatt ? Min Flor (Dull Wht) NS
 Sh Blk Carb-Grn-Char-Gry-Red Fissil Abd Ls Crm-Wht FxIn-MicroxIn Micritic No Odor No Stn Tr Scatt ? Min Flor (Dull Wht) NS

FORT SCOTT 4638' (- 1466)

Sh Blk Carb-Aqua-Grn-Char-Gry-Red Fissil Abd Ls Crm- Wht FxIn - MicroxIn Micritic Cht Gry Op Shp Vit No Odor No Stn Tr Scatt ? Min Flor (Dull Wht) NS
 Sh Blk Carb- Aqua- Char- Gry-Grn -Red Fissil Ls Crm-Tan FxIn-MicroxIn Micritic Barren No Odor No Stn Tr Scatt ? Min Flor (Dull Wht) NS

CHEROKEE SHALE 4666' (- 1494)

Sh Blk Carb-Char-Gry-Aqua-Grn-Maroon-Red Soft-Fissil Abd Ls Wht -Crm - Gry MicroxIn Micrite Barren No Vis Por No Odor No Stn ? Sli Min Flor (Dull Wht) NS
 Ls Wht-Crm MicrIn (Tr w/Pyr Includ) No Vis Por Grad V Poor OOL Por (w/OOL in pl) Chalk Tr No Dissolu No Leaching Barren Sh AA No Odor No Stn? Sli Min Flor (Dull Wht) NS
 Ls Wht-Crm MicrIn Dns Barren Cht Amber Translu Shp Vit Sh AA V Abd Varicolored No Odor No Stn ?Sli Min Flor AA NS
 Sh Blk Carb-Grn-Char-Aqua-Gry-Maroon-Red Fissil Abd Ls Crm-Wht FxIn-MicroxIn Micritic No Odor No Stn Tr Scatt ? Min Flor AA NS

Sh Blk Carb-Grn-Char-Aqua-Gry-Maroon-Red Fissil Abd Ls Crm-Wht FxIn-MicroxIn Micritic No Odor No Stn Tr Scatt ? Min Flor (Dull Wht) NS
 Sh AA V Abd Varicolored Ls Wht-Crm MicrIn Dns Barren Cht Amber Translu Shp Vit No Odor No Stn ?Sli Min Flor AA NS
 Ls Wht-Crm MicrIn Dns Barren Cht Amber Translu Shp Vit Sh AA V Abd Varicolored No Odor No Stn ?Sli Min Flor AA NS

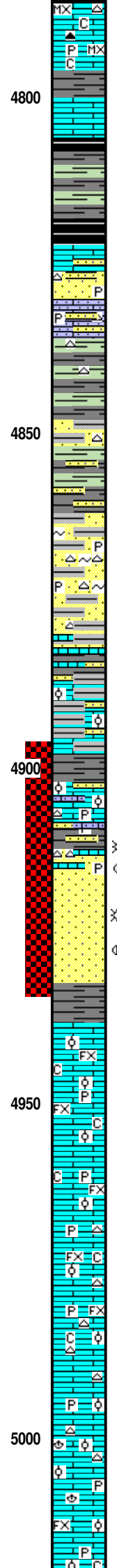
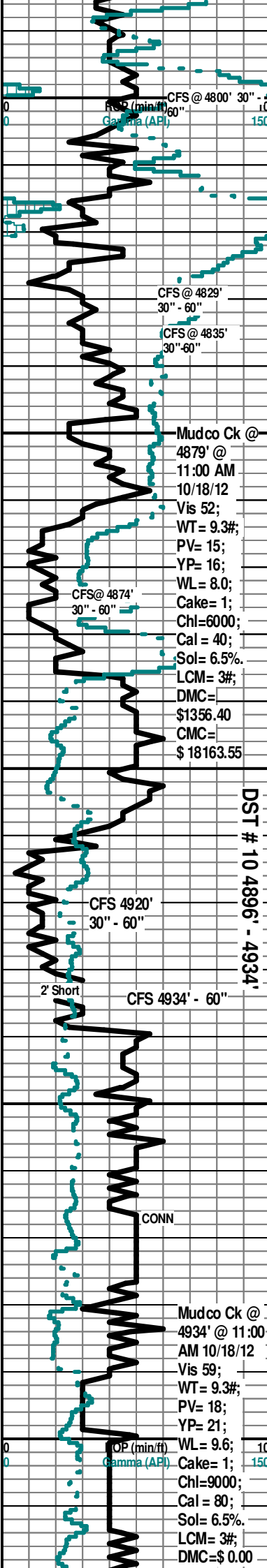
Sh Blk Carb-Grn-Char-Aqua-Gry-Maroon-Red Fissil Abd Ls Crm-Wht FxIn-MicroxIn Micritic No Odor No Stn Tr Scatt ? Min Flor (Dull Wht) NS
 Sh Grn -Char- Aqua-Gry- Red- Blk Carb Fissil Ls Crm-Gry FxIn-MicroxIn Micritic Barren Chalky No Odor No Stn Scatt ? Min Flor (Dull Wht) NS

Sh Grn -Char- Aqua-Gry- Red- Blk Carb Fissil Ls Crm-Gry FxIn-MicroxIn Micritic Barren Chalky No Odor No Stn Scatt ? Min Flor (Dull Wht) NS
 Ls Wht-Crm MicroIn-FxIn Micritic Dns Barren Grad Tr V Poor Pin-Pt IxIn Por (w/Sli Tr SG & SO (4 Pcs) Cht Wht-Amber Translu-Op Shp Vit Sh AA Varicolored V Abd No Odor No Stn (Except Tr/4 Pcs) Tr/Dull Wht Flor ? VSSG/VSSO (SFO W/Bkn Under Heat in Wtr) ? Sluff ? VSSG & VSSO ?

JOHNSON 4776' (- 1604)

Ls Crm-Gry MicroxIn Micritic Barren Chalky Sh Grn -Char- Aqua - Gry - Red - Blk Carb Fissil No Odor No Stn Scatt ? Min Flor (Dull Wht) NS

FH = 2193#;
 IF = 15-20#;
 FF = 23-33#;
 ISIP = 1283#; FSIP = 1285#;
 Temp = 110 degrees F;
 API Grv. = 30 degrees.



30" CFS @ 4800' Ls Wht-Crm MicroIn Micritic Dns Barren Grad Cht Wht-Amber Translu-Op shp Vit Pyr Mass Sh AA Varicolored V Abd No Odor No Stn ? Sli Min
BASE JOHNSON 4796' (- 1624)

60" CFS @ 4800' Ls Wht-Crm MicroIn Micritic Dns Barren Grad Cht Wht-Amber Translu-Op shp Vit Pyr Mass Sh AA Varicolored V Abd No Odor No Stn ? Sli Min Flor (Dull Wht) NS

MORROW SHALE 4814' (- 1642)

30" CFS @ 4829' Sh Char-Gry- Grn -Aqua-Blk Carb Fissil Ls Crm-Tan Fxln-MicroIn Micritic Barren ChtTan Transl Shp Vit AA No Odor No Stn No Flor NS

1ST MORROW SAND 4824' (- 1652)

60" CFS @ 4829' Sh Char-Gry- Grn -Aqua-Blk Carb Fissil Ls Crm-Tan Fxln-MicroIn Micritic Barren ChtTan Transl Shp Vit AA No Odor No Stn No Flor NS

60" CFS @ 4935' Sh Char-Gry- Grn -Aqua-Blk Carb Fissil Ls Crm-Tan MicroIn Micritic Barren Cht Tan Transl Shp Vit AA Chalk Abd Pyr Mass Tr Qtz Ss Wht-Clear Individual Grains Tr Clusters Well Rd-Well Sort (w/ Glacu Inclus) No Odor No Stn No Flor NS

Sh Char-Gry Soft "Gummy" V Abd Tr Pyr Inclus Tr Qtz Ss AA Tr Cht Wht AA no odor No Stn No Flor NS

30" CFS @ 4974' Qtz Ss Wht FGm Well Sort Sub Rd Friable Tr Glacu Barren Tr Small-Med Gms AA Ls Wht Fxln MicroIn Micrite Poor Ixln Por Cht Wht Op Shp Vit Pyr Mass Sh Char Carb-Gry-Aqua-Grn (w/Pyr Incus) Abd No Odor No Str No Flor NS

2ND MORROW SAND 4864' (-1692)

60" CFS @ 4974' Qtz Ss Wht FGm Well Sort Sub Rd Friable Tr Glacu Barren Tr Med-Lg Grns AA Ls Wht Fxln MicroIn Micrite Poor Ixln Por Cht Wht Op Shp Vit Pyr Mass Sh Char Carb-Gry-Aqua-Grn (w/Pyr Incus) Abd No Odor No Str No Flor NS

Sh AA V Abd "Gummy" Soft Qtz Ss AA Wht Fair Igran Por Well Sort Well Rounded Glacu Med-Lg Grns Tr CaCO3 Matrix Grad ? Dolo Matrix Pyr Inclus No Odor No Stn No Flor NS

MISSISSIPPIAN 4886' (- 1714)

Ls Wht Fxln Poor Ixln Por Grad Poor OOL Por (w/OOL in pl) Med Ooids Barren Qtz Ss AA Wht Fair Igran Por Well Sort Well Rounded Glacu Small Grns Tr CaCO3 Matrix Grad ? Dolo Matrix Sh AA V Abd "Gummy" Soft Pyr Inclus No Odor No Stn No Flor NS

30" CFS @ 4920' Sh Varicolored V Abd "Gummy" Soft w/ Pyr Inclus Ls Wht Fxln Poor Ixln Por Grad Poor OOL Por (w/OOL in pl) Med Ooids Barren Qtz Ss AA Wht Fair Igran Por Well Sort Well Rounded Glacu Small Grns Tr CaCO3 Matrix Grad ? Dolo Matrix Cht Tan Op Pyr Mass Shp Vit No Odor No Stn No Flor NS

60" CFS @ 4920' Ls Wht Fxln Poor Ixln Por Grad Poor OOL Por (w/OOL in pl) "Sandy OOL" Por Tr CaCO3 Matrix ? Tr Lt Brn Stn Qtz Ss Wht-Crm Med-Good Igran Por Lg Grns Ang-Sub Ang Well Sorted Poor Rd V Friable (w/SSG & SSO) (FSG & FSFO In Wtr Under Heat) Lt Brn Stn (No Glacu Inclus) Tr ? Carb Inclus Faint Odor No Flor (Gas & Oil Do Not Flor) Abd Sh Varicolored V Abd AA ? VSSG & VSSO ? in Qtz Ss

60" CFS @ 4934' Qtz Ss Wht-Crm Med-Good Igran Por Lg Grns Ang-Sub Ang Well Sorted Poor Rd V Friable (w/SSG & SSO) (FSG & FSFO In Wtr Under Heat) Lt Brn Stn (No Glacu Inclus) Tr ? Carb Inclus Ls Wht Fxln Poor Ixln Por Grad Poor OOL Por (w/OOL in pl) "Sandy OOL" Por Tr CaCO3 Matrix ? Tr Lt Brn Stn Faint Odor No Flor (Gas & Oil Do Not Flor) Abd Sh Varicolored V Abd AA ? VSSG & VSSO ? in Qtz Ss

Ls Wht-Crm Fxln Poor OOL Por (w/OOL in pl) Small-Med Ooids w/Poor - Fair Sorting (Small-Med Ooid) Grad Dns Micrite Barren Chalky Sh Blk Carb- Char (w/Carb & Pyr Inclus)-Gry-Aqua-Red Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm Fxln Poor OOL Por (w/OOL in pl) Small-Med Ooids w/Poor - Fair Sorting (Small-Med Ooid) Grad Dns Micrite Barren Chalky Sh Blk Carb- Char (w/Carb & Pyr Inclus)-Gry-Aqua-Red Soft-Fissil V ABD ? Sluff ? No Odor No Stn No Flor NS

Ls Wht-Crm Fxln Poor OOL Por (w/OOL in pl) Small-Med Ooids w/Poor - Fair Sorting (Small-Med Ooid) Grad Dns Micrite Barren Chalky Sh Blk Carb- Char (w/Carb & Pyr Inclus)-Gry-Aqua-Red Soft-Fissil V ABD ? Sluff ? No Odor No Stn No Flor NS

Ls Wht-Crm Fxln Poor OOL Por (w/OOL in pl) Small-Med Ooids w/Poor - Fair Sorting (Small-Med Ooid) Grad Dns Micrite Barren Chalky Sh Blk Carb- Char (w/Carb & Pyr Inclus)-Gry-Aqua-Red Soft-Fissil V ABD ? Sluff ? No Odor No Stn No Flor NS

Ls Wht-Crm Fxln Poor OOL Por (w/OOL in pl) Small-Med Ooids w/Poor - Fair Sorting (Small-Med Ooid) Grad Dns Micrite Barren Cht Amber Translu Shp Vit Chalky Pyr Mass Sh Blk Carb- Char (w/Carb & Pyr Inclus)-Gry-Aqua-Red Soft-Fissil V ABD ? Sluff ? No Odor No Stn No Flor NS

Ls Wht-Crm Fxln Poor OOL Por (w/OOL in pl) Small-Med Ooids w/Poor - Fair Sorting (Small-Med Ooid) Grad Dns Micrite Barren Cht Tan-Gry Translu-Op Shp Vit Fos (Brach) Chalky Pyr Mass Sh Blk Carb-Char (w/Carb & Pyr Inclus)-Gry-Aqua-Red Soft-Fissil V ABD ? Sluff ? No Odor No Stn No Flor NS

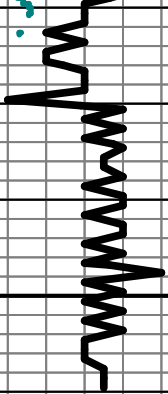
Ls Wht-Crm Fxln Poor OOL Por (w/OOL in pl) Small-Med Ooids w/Poor - Fair Sorting (Small-Med Ooid) Grad Dns Micrite Barren Chalky Fos (Brach) Pyr Mass Sh Blk Carb- Char (w/Carb & Pyr Inclus)-Gry-Aqua-Red Soft-Fissil V ABD ? Sluff ? No Odor No Stn No Flor NS

DST # 10
 4896'-4934'
 Times:
 30"-45"-30"-60".
 Blow: IF = Weak
 Build to BOB/ 8";
 FF=BOB/9".
 Recovery:
 TF=682': 3' O
 (100%); 184'
 OCWM (5% O, 5%
 Wtr, 90% M); 186'
 OCWM (10% O,
 30% Wtr; 60% M);
 310' MCW (90%
 Wtr, 10% M).
 Pressures:
 IH = 2489#;
 FH = 2356#;
 IF = 41-189#;
 FF = 197-323#;
 ISIP = 1153#;
 FSIP = 1137#;
 Temp = 121
 degrees F;
 Chl. = 24000 Ppm;
 RW = .41 @ 49
 degrees F.

Geograph Spring.
 Broke Due To
 High Wind @ 4910'

@ 4932' Kelly Was
 2' Short Correction
 Made to
 Geograph.

CMC=
\$ 18163.55



R.T.D. 5060' (-1888)
L.T.D. 5060' (-1888)

5050

5100

5150



Ls Wht-Crm FxIn Poor OOL Por (w/OOL in pl) Small-Med Ooids w/Poor - Fair Sorting (Small-Med Ooid)
Grad Tan Dns Micrite Barren Cht Wht-Gry Translu-Op Shp Vit Chalky Pyr Mass Sh Blk Carb- Char
(w/Carb & Pyr Inklus)-Gry-Aqua-Red Soft-Fissil V ABD ? Sluff ? No Odor No Stn No Flor NS

Ls Wht-Crm FxIn Poor OOL Por (w/OOL in pl) Small-Med Ooids w/Poor - Fair Sorting (Small-Med Ooid)
Grad Tan Dns Micrite Barren Cht Wht-Org Op Shp Vit Fos (Bry) Chalky Pyr Mass Sh Blk Carb- Char
(w/Carb & Pyr Inklus)-Gry-Aqua-Red Soft-Fissil V ABD ? Sluff ? No Odor No Stn No Flor NS

30" CFS @ 5060' Ls Wht-Crm FxIn Poor OOL Por (w/OOL in pl) Small-Med Ooids w/Poor - Fair Sorting
(Small-Med Ooid) Grad Tan Dns Micrite Barren Cht Wht-Org Op Shp Vit Fos (Bry) Chalky Pyr Mass Sh
Blk Carb- Char (w/Carb & Pyr Inklus)-Gry-Aqua-Red Soft-Fissil V ABD ? Sluff ? Dec No Odor No Stn
No Flor NS

60" CFS @ 5060' Ls Wht-Crm FxIn Poor OOL Por (w/OOL in pl) Small-Med Ooids w/Poor - Fair Sorting
(Small-Med Ooid) Grad Tan Dns Micrite Barren Cht Wht Op Shp Vit Chalky Pyr Mass Sh Blk Carb- Char
(w/Carb & Pyr Inklus)-Gry-Aqua-Red Soft-Fissil V ABD ? Sluff Dec ?No Odor No Stn No Flor NS

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

Geologist Left Location at : 11 30 AM on 10/20/2012.

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

January 23, 2013

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

Re: ACO1
API 15-203-20189-00-00
J. Kollman 1
SE/4 Sec.24-17S-35W
Wichita 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