



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1150354  
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
-----------------------------------	-----------------	---

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: \_\_\_\_\_



1150354

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

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

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

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

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

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

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR. \_\_\_\_\_ Producing Method:  
 Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

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

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> _____	PRODUCTION INTERVAL: _____ _____
---	--	--



**#1 Kollman 24D**

1845' FSL & 985' FEL

135'S & 5'E of W/2 NE SE Section 24-17S-35W

Wichita County, Kansas

API# 15-203-20210-0000

Elevation: 3159' GL, 3164' KB

Sample Tops			Ref. Well
Anhydrite	2443'	+721	-9
B/Anhydrite	2463'	+701	-3
Stotler	3631'	-467	-5
Heebner	4016'	-852	-5
Lansing	4064'	-900	-6
Muncie Shale	4252'	-1088	-7
Stark Shale	4353'	-1189	-3
Hush	4400'	-1236	-4
BKC	4437'	-1273	-6
Marmaton	4455'	-1291	-1
Altamont	4498'	-1334	-4
Pawnee	4587'	-1423	-9
Myrick	4621'	-1457	-10
Fort Scott	4638'	-1474	-8
Cherokee Shale	4666'	-1502	-8
Johnson	4776'	-1612	-6
B/Johnson	4810'	-1646	-10
Morrow	4815'	-1651	-9
Mississippian	4884'	-1720	-6
RTD	5035'	-1871	



**CONSOLIDATED**  
Oil Well Services, LLC

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

257809

TICKET NUMBER 39424  
LOCATION Chanute, KS  
FOREMAN Walt Dinkler

**FIELD TICKET & TREATMENT REPORT**  
**CEMENT**

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
4-2-13	7178	Kollman 24D #1	24	17S	35W	Wichita
CUSTOMER			TRUCK #			
MAILING ADDRESS			DRIVER			
CITY			TRUCK #			
STATE			DRIVER			
ZIP CODE			TRUCK #			
			DRIVER			

JOB TYPE Production HOLE SIZE \_\_\_\_\_ HOLE DEPTH \_\_\_\_\_ CASING SIZE & WEIGHT 4 1/2" 10.5 #  
 CASING DEPTH \_\_\_\_\_ DRILL PIPE \_\_\_\_\_ TUBING 2 3/8 OTHER include 2401'  
 SLURRY WEIGHT 12.5 SLURRY VOL 1.28 WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING \_\_\_\_\_  
 DISPLACEMENT 9 bbls DISPLACEMENT PSI 600psi MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting and rig up to wellhead 2 3/8 tubing 4 1/2 casing  
lost 1200psi released open tank mix 4755/sk 60/40 po2 600psi 1/4" flange seal &  
520 # hulls displace 9 bbls water shut tank and tested to pump hold  
Returned and with clean. Cement did circulate to surface

Frank's Miles & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401B	1	PUMP CHARGE	16.95 <sup>00</sup>	16.95 <sup>00</sup>
5406	45	MILEAGE	5 <sup>00</sup>	225 <sup>00</sup>
5407A	20.42 Ton 5	Ton Mileage delivery	1.67	1534.50
1131	4755 s/s	60/40 po2	15.10	7172.50
1118B	2451 #	Rentonite gel	1.25	612.75
1105	500 #	Cotton seed hulls	1.55	275 <sup>00</sup>
1107	118.75 #	Flascol	2.82	334.88
			Subtotal	11849.63
			less 10% discount	1184.96
			Subtotal	10664.67
			SALES TAX	627.13
			ESTIMATED TOTAL	11291.80

completed

Ravin 3737

AUTHORIZATION Walter King 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.

W



**CONSOLIDATED**  
Oil Well Services, LLC

257719

TICKET NUMBER 39381  
LOCATION Oakley, KS  
FOREMAN Kelly Gabel  
Walt Dinke

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	
3-28-13	7173	Kollman 24D	24	17	35 <sup>th</sup>	Wichita	
CUSTOMER Ritchie Expl.			Ks				
MAILING ADDRESS			Scottchy 6540 CO. line 6 N 4 W 5:10				
CITY		STATE	ZIP CODE	TRUCK #	DRIVER	TRUCK #	DRIVER
				463	COYD		
				693	Travis Williams		

JOB TYPE Prod HOLE SIZE 7 7/8 HOLE DEPTH 5035 CASING SIZE & WEIGHT 4 1/2 10.5#  
CASING DEPTH 5032 DRILL PIPE \_\_\_\_\_ TUBING Pc Top # 63 OTHER Pc @ 2399  
SLURRY WEIGHT \_\_\_\_\_ SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 18' (shoe)  
DISPLACEMENT 7934 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: safety meeting, ran float equip, on JT # turbolizers 1, 3, 7, 17, 62, 64  
83, baskets - 1, 62, 83 Pc top # 63, ran pipe to bottom & circulated  
for 45 min, pumped 5 bbl water mud flush 5 bbl water, mixed  
305Ks R H & 205Ks M H, mixed 250 SKS OWC 5# Kol-seal down  
center, washed out pumps & lines, released Plug & displaced  
with 80 bbl water with a lift pressure of 800# & plug landed  
@ 1300#, released pressure, float held, rigged down.

*Thank You*  
*Walt, Kelly & crew*

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401P	1	PUMP CHARGE	<del>2950.00</del>	2950.00
5406	40 mi	MILEAGE	5.00	200.00
1126	300 SKS	OWC	22.55	6765.00
110A	1500 #	Kol-seal	.56	840.00
5407A	121.1	Ton mileage delivery	1.62	942.00
41161	1	4 1/2 A F4 Float shoe (F)	342.00	342.00
4139	7	4 1/2 Turbolizer (F)	60.00	420.00
4103	3	4 1/2 basket (W)	261.00	783.00
4227	1	4 1/2 insert (F)	141.00	141.00
4284	1	4 1/2 part collar (F)	189.00	189.00
11446	500 gal	Mud Flush	1.00	500.00
1111	100 #	Salt		NC
				15,723.00
				1577.30
				14,145.70
			SALES TAX	872.58
			ESTIMATED TOTAL	15018.28

*Completed*  
*2:00 10/90*

Form 3737

12:30 AM AUTHORIZATION Patten Briny TITLE \_\_\_\_\_ DATE 3-29-13

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

060185

Federal Tax I.D. # 20-8661476

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

SERVICE POINT:

*Oakley*

DATE <i>3-18-13</i>	SEC <i>24</i>	TWP. <i>17</i>	RANGE <i>35</i>	CALLED OUT	ON LOCATION	JOB START <i>5:00 pm</i>	JOB FINISH <i>5:30 pm</i>
LEASE <i>Rollman 24</i>	WELL # <i>1</i>	LOCATION <i>Scott City 4N W To - Dead End</i>			COUNTY <i>S.</i>	STATE <i>Ks.</i>	
OLD OR NEW (Circle one) <u>NEW</u>				<i>1N - 6W - S10</i>			

CONTRACTOR *Ww-2*

TYPE OF JOB *Surface*

HOLE SIZE *12 1/4* T.D. *227*

CASING SIZE *7 7/8* DEPTH *226.60*

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. *15'*

PERFS.

DISPLACEMENT *13.54*

EQUIPMENT

PUMP TRUCK CEMENTER *Darren Race*

# *423-281* HELPER *Tyler Flipse*

BULK TRUCK

# *396-306* DRIVER *Darren Hoeb*

BULK TRUCK

# DRIVER

OWNER *Same*

CEMENT

AMOUNT ORDERED *175 SKs Com 3% CC*

*2% Gel*

COMMON *175 SKs @ \$17.90 = \$3132.50*

POZMIX @

GBL *3 SKs @ \$23.40 = \$70.20*

CHLORIDE *6 SKs @ \$64.00 = \$384.00*

ASC @

@

@

@

@

@

@

@

HANDLING *189.24 CFX @ \$2.48 = \$469.32*

MILEAGE *8.64 X 55 X @ \$2.40 = \$1135.52*

TOTAL *\$5291.54*

REMARKS:

*Mix 175 SKs Cement*

*Displace with water*

*Cement Oil Circulate*

*Thank You.*

CHARGE TO: *Ritchie Exploration*

STREET

CITY STATE ZIP

SERVICE

DEPTH OF JOB *226.60'*

PUMP TRUCK CHARGE *\$1512.39*

EXTRA FOOTAGE @

MILEAGE *55 @ \$7.70 = \$423.50*

MANIFOLD *Sledge @ \$276.00*

*LU mileage @ \$4.90 = \$249.00*

TOTAL *\$2452.75*

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.

PRINTED NAME *Lonnie Lang*

SIGNATURE *Lonnie Lang*

SALES TAX (if Any)

TOTAL CHARGES *7,744.29*

DISCOUNT *1,703.74* IF PAID IN 30 DAYS

*6,040.54 Net.*

*Q*

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

July 02, 2013

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

Re: ACO1  
API 15-203-20210-00-00  
Kollman 24D 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

**TERRY HALL, D.D.**  
 Consulting Geologist  
 P.O. Box 505  
 Wichita, Kansas 67201  
 316-268-6431

**GEOLOGIST'S REPORT**  
 DRILLING TIME AND SAMPLE LOG

OPERATOR Ritchie Exploration, Inc.  
 LEASE Kollman WELL NO. 124D  
 FIELD \_\_\_\_\_  
 LOCATION 1845' ESL & 985' FEL  
 SEC. 24 TWP. 17S RGE. 35 W  
 COUNTY Michigan STATE KANSAS

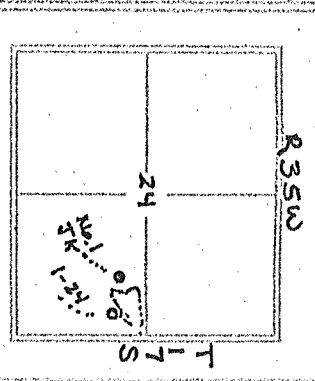
CONTRACTOR WUW - Big No. 2  
 CORNER 3-18-2013 COMP. 3-28-2003  
 ETD. 5035' LOG TO 5036'  
 SAMPLES SAID FROM 3700' TO RTD  
 DRILLING TIME KEPT FROM 3500' TO RTD  
 SAMPLES EXAMINED FROM 3700' TO RTD  
 GEOLOGICAL SUPERVISION FROM 3550' TO RTD  
 RUN UP 3400' TYPE LOG CHEMICAL

FORMATION	TOP	LOG	DEPTH	TOP	DEPTH	STRAT. COR.
Anhydrite	2441	+ 723	2443	+ 721	-7	
Base-Anh	2442	+ 702	2463	+ 701	-2	
Stortler	3630	- 466	3631	- 467	-4	
Heebner	4018	- 854	4016	- 852	-7	
Lansing	4065	- 901	4064	- 900	-7	
Muncie Creek	4249	- 1085	4252	- 1088	-4	
R-KC	4438	- 1274	4431	- 1273	-7	
Altamont	4505	- 1341	4498	- 1334	-11	
PAWNEE	4590	- 1426	4589	- 1425	-12	
QUEROKEE SH.	4668	- 1504	4666	- 1502	-10	
Johnson Zn	4778	- 1614	4776	- 1612	-8	
Morrav	4812	- 1648	4812	- 1648	-6	
Mississipp	4916	- 1752	4816	- 1752	-38	

ELEVATION  
 KB 3164  
 DF 3159  
 Measurements Are All From KB.

CASING RECORD  
 SURFACE 8 5/8" at 226'  
 PRODUCTION 4 1/2"

ELECTRICAL SURVEYS  
 Na-bor's Prod.  
 Dual Induction  
 Density Neutron  
 R35W



REFERENCE WELL FOR STRATIGRAPHIC CORRELATION  
Ritchie Exploration Inc. # 1  
J. Kollman - 2050' ESL & 1655' FEL - Sec 24 - 17S - 35W - 3172 KB

LOG	DEPTH	DESCRIPTION	LOG	DEPTH	DESCRIPTION
3-18-13	1127'	1127' - 1130' d-19	A	12 1/4	Smith M2517 227
3-19-13	1750'	1750' d-19			
3-20-13	3080'	3080' d-19	1	7 7/8	Smith F-27 5035
3-21-13	3960'	3960' d-19	2		
3-22-13	4110'	4110' d-19	3		
3-23-13	4190'	4190' d-19	4		
3-24-13	4376'	4376' d-19	5		
3-25-13	4520'	4520' d-19	6		
3-26-13	4580'	4580' d-19	7		
3-27-13	4885'	4885' d-19	8		
3-28-13	5035'	5035' E-log. Rpe 9	9		

FORMATION	DEPTH	DESCRIPTION
Lansing "C"	4102 - 4110'	Limestone, tan, fine-xln, foss w/ 3 pcs per tray w/ dark brown-black stain in scath
Lansing "D"	4119 - 4140'	Yogurt of VSS FO + faint odor ls. tan-grn. fn-xln. foss w/ 3-5 pcs w/ fair light-med. brown stain + sfs in fair ph. foss of "SKUNKY" odor
Lansing "E"	4170 - 4175'	Limestone, fn-xln, foss w/ 4-5 pcs w/ dark brn-blk heavy free oil in fair pp - foss of spotted salt + faint odor
Lansing "F"	4179 - 4196'	Limestone, tan, gray, trace xln. foss w/ 4-5 pcs w/ med. brown spotted salt + fair pp. foss of faint odor
Lansing "H"	4264 - 4271'	SFO in fn. poor punpoint of - fair odor
Lansing "I"	4298 - 4308'	Limestone, tan, fn-xln, foss w/ 8 pcs w/ med brown stain + sfs. in fair
Lansing "J"	4328 - 4346'	ls. tan. foss - cal - med. w/ sev. pcs w/ fair brown oil sfs + sfs. in fair
Lansing "K"	4370 - 4381'	ls. tan. fn-xln + foss of salt + sfs. in w/ med. dk brown sft + salt + sfs. in w/ med. dk brown sft + salt + sfs. in
Lansing "A"	4510 - 4520'	limestone, tan, fn-xln, sfs, foss w/ 3-4 pcs w/ med. brown stain + salt + sfs. in poor foss of faint odor
Altamont "B"	4540 - 4545'	ls. cream w/ med. brown stain + salt + sfs. in fair herodetic, fair odor
Mississipp	4906 - 4916'	SS. clg. quartzic, sub ang. fn. m. grnd clusters w/ sfo + faint odor in fr. grn of



DRILL STEM TESTS

No.	Interval	SP/Min	IS/Min	FR/Min	REQ/Min	LOG/Min	REMARKS
1	4085'-4110' 25'	4'-43" 36"	782# 45"	43-69" 45"	773# 60"	1957# 1953#	70' wcm 34% wtr 65' mud 84% wtr 135' Fluid
2	4110'-4140' 30'	5'-26" 36"	1097# 45"	272-451" 45"	1092# 60"	1933# 1932#	410' mud 70% wtr 570' mud 97% wtr 980' Total Fluid
3	4146'-4190' 44'	6'-52" 36"	1102# 45"	55-83" 45"	1095# 60"	1969# 1966#	170' wcm 75% m
4	4239'-4306' 67'	8'-70" 30"	1174# 45"	73'-100" 45"	1154# 60"	2033# 2033#	10' 50 wcm 4% o - 38% wtr 190' wcm 21% wtr 200' Fluid
5	4351'-4390' 39'	31'-240" 36"	1089# 45"	391' 30"	1087# 60"	2101# 2095#	20' C.D. + 60' mud 210' mcm 255' sctm cm 355' mud
6	4445'-4520' 75'	9'-38" 30"	1178# 45"	42'-69" 45"	1156# 60"	2113# 2112#	15' oil sp'd mud 100% m 125' wcm 20% wtr 140' total Fluid
7	4522'-4550' 28'	5'-22" 30"	382# 45"	24-46" 45"	379# 60"	2145# 2143#	65' oil sp'd mud 100% mud
8	4890'-4917' 27'	7'-32" 30"	985# 45"	38'-60" 45"	956# 60"	2372# 2365#	1' F.O. 26% 124' ocm 39% oil 125' Fluid

with the success on some DSTs and potential for injection well the Kollman 1-24D is running 4 1/2" production casing to further evaluate.

Respectfully

Jeff R. Mead  
petroleum geologist  
3-28-2013

LEGEND

Anhydrite	Salt	Sandstone	Shale	Carb sh	Limestone	Oal.Lime	Chert	Dolomite

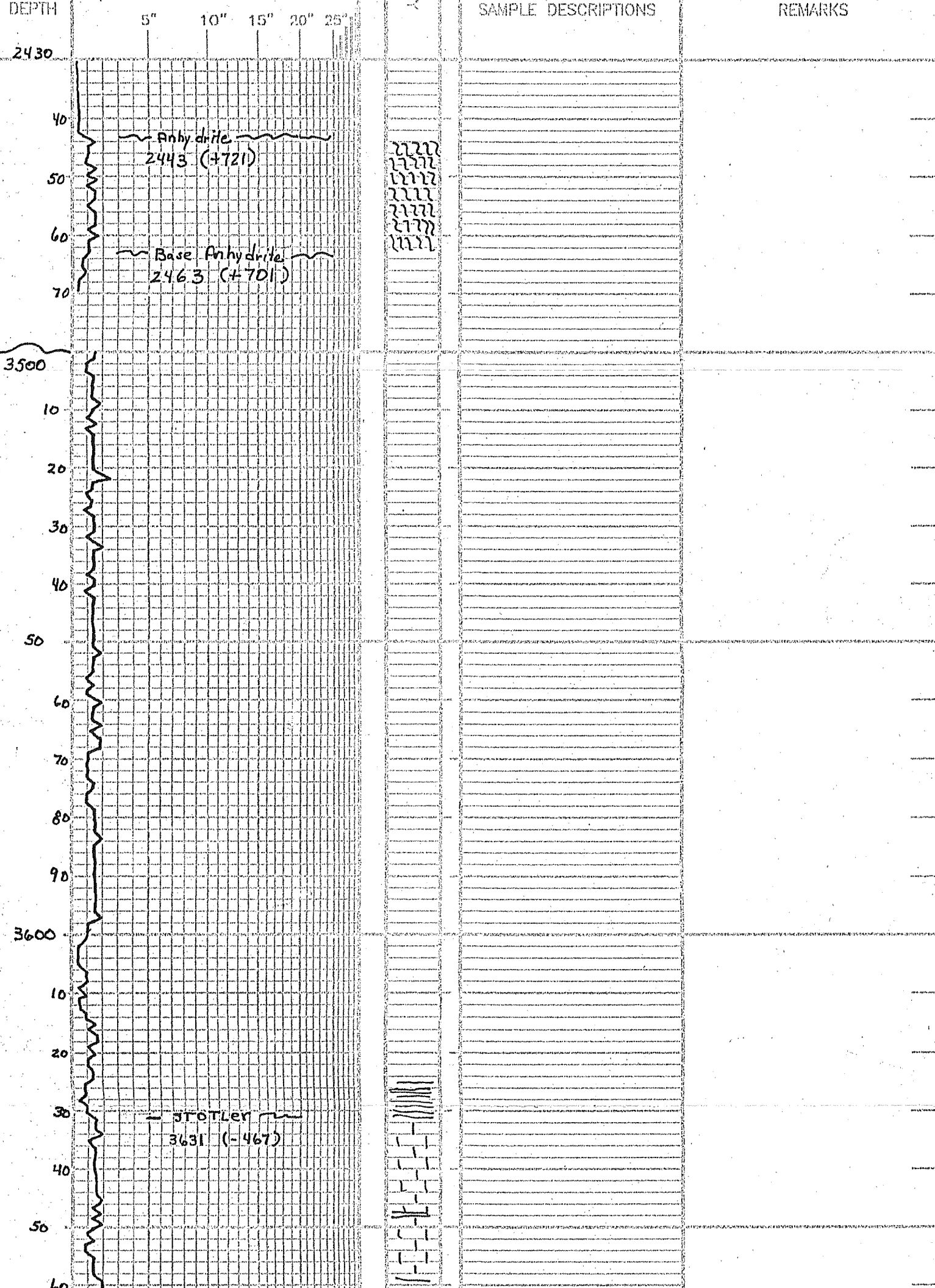
SCALE = 100'

DRILLING TIME IN MINUTES

PER FOOT

Rate of Penetration Increases

1 - 3 THOLOG



70  
80  
90  
3700  
10  
20  
30  
40  
50  
60  
70  
80  
90  
3800  
10  
20  
30  
40  
50  
60  
70  
80

Begin 10' samples



sh. gry-mar-red

ls. Crm-wh, fn-xln - foss  
-sl ool, scatt p. N.S., Chky

ls. Crm-wh, fn-xln + slt  
foss, Chky, N.S.

sh. gry-mar

ls. Crm-wh, fn-xln, Chky  
N.S.

sh. varicolored

ls. Crm + Gry, fn-xln, v slt  
foss, Chky, N.S.

ls. q/a, Crm-Gry, fn-xln N.S.

shale, gry-red-mar

ls. Crm + Gry, fn-xln +  
Chky, N.S.

sh. gry-MAR

ls. Crm-Gry, fn-xln - v. shly

sh. gry-MAR-red

ls. Crm, some Gry, fn-xln  
tight Rx., Chky, N.S.

ls. q/a - becoming shly  
also ls. tan-brn. fn-xln  
slt foss - N.S.

sh. gry.s.-red-mar

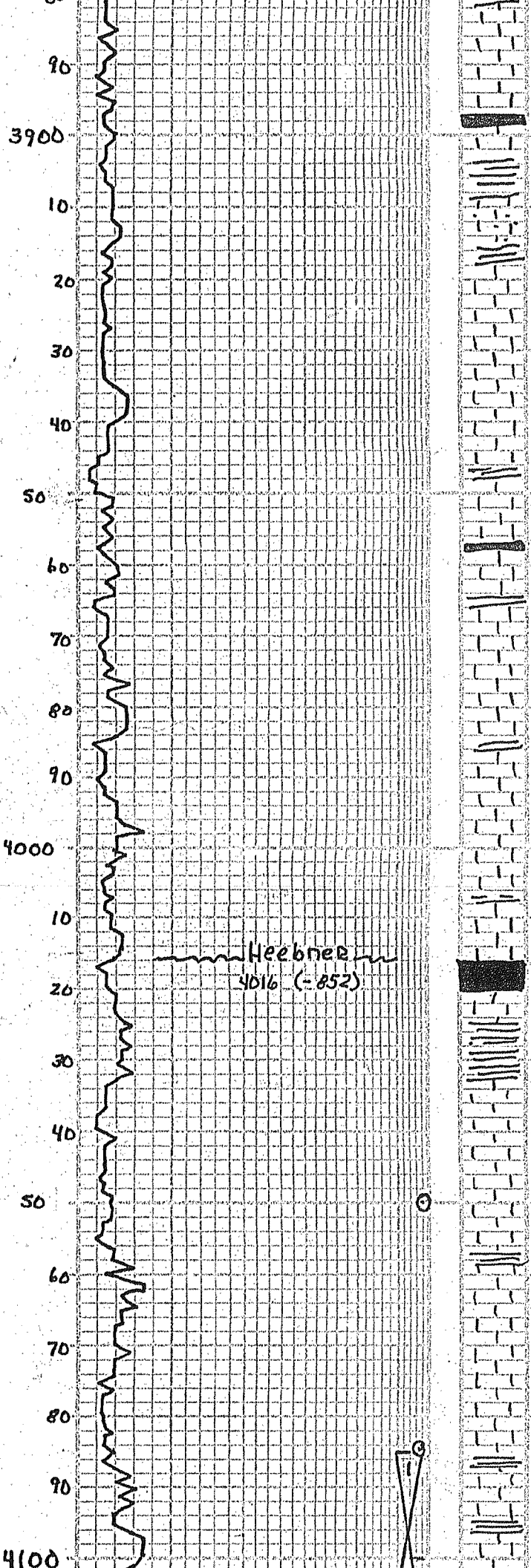
ls. Crm-wh-gry, fn-xln  
tight - Chky.

sh. gry-MAR

ls. Crm-Gry, fn-xln, slt foss  
Chky, pr. p. N.S.

DST NO1 4085' - 4110' "C" 2n  
wk inc blow + 2" both opens  
30" 45" 45" 60"

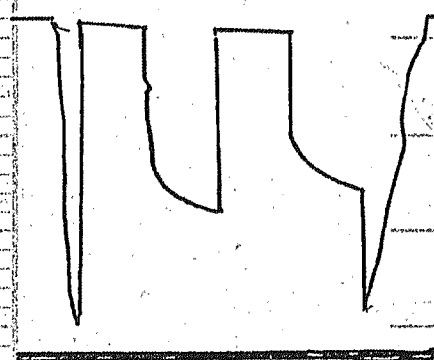
Rec: 70' wcm 34% wtn  
65' mw 84% wtr  
135' Fluid



ls. tan. fr. xln. some, SU foss. N.S.  
 sh. blk carb  
 ls. tan. fr. xln. sci foss -  
 scat fr. N.S.  
 sh. gry. mar.  
 ls. tan. fr. xln. foss w/  
 fr. foss. N.S. ? odor  
 ls. qtz tan. fr. xln. foss. fr. p  
 N.S. ? odor  
 ls. tan. fr. xln. foss. pr  
 foss. N.S., Cky  
 sh. blk carb  
 ls. tan. fr. xln. foss. pr p  
 N.S. Cky  
 sh. gry. mar.  
 ls. tan. fr. xln. - sh. ool. tight  
 rx. N.V.B. N.S.  
 sh. gry. mar.  
 ls. tan. fr. xln. foss w/ fr  
 foss. N.S. Cky  
 ls. tan. fr. xln. foss w/  
 fair foss. N.S. Cky  
 sh. blk carb  
 ls. tan. brn. fr. xln. tight rx  
 N.S.  
 sh. gry. mar.  
 ls. tan. fr. xln. foss w/  
 fair foss. N.S. No odor  
 ls. qtz tan. foss w/ qd. N.S.  
 N.S. No odor  
 sh. dk gry  
 ls. H. tan. fr. xln. - si. suc  
 w/ scat. xln. suc. N.S.  
 No odor  
 ls. tan. fr. xln. - suc w/  
 scat. xln. suc. N.S. No  
 odor  
 ls. tan. fr. xln., fr. N.S.  
 sh. gry.

SIP: 782<sup>#</sup> - 773<sup>#</sup>  
 FP: 4<sup>#</sup> - 43<sup>#</sup> + 43<sup>#</sup> - 69<sup>#</sup>  
 HP: 1957<sup>#</sup> - 1953<sup>#</sup>

DST # 1



DST No. 2. 4110' - 4150' "B"

Bob 7 1/2" 1st op NBB + 8 1/2" 2nd

30" 45' 30" 45"

REC: 410' mcw 70% wtr

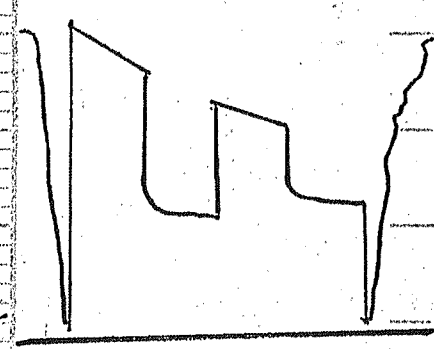
570' mcw 97% wtr

980' TOTAL FLUID

SIP: 1097<sup>#</sup> - 1092<sup>#</sup>

FP: 15<sup>#</sup> - 269<sup>#</sup> + 272<sup>#</sup> - 451<sup>#</sup>

HP: 1933<sup>#</sup> - 1932<sup>#</sup>



DST No. 3 4146' - 4190' "E-F"

wk inc 3" 1st op, wk inc 4" 2nd op

30" 45" 45" 60"

Rec: 170 w m 75% m

SIP: 1102<sup>#</sup> - 1095<sup>#</sup>

FP: 6<sup>#</sup> - 52<sup>#</sup> + 55<sup>#</sup> - 83<sup>#</sup>

HP: 1969 - 1966<sup>#</sup>

10  
20  
30  
40  
50  
60  
70  
80  
90  
4200  
10  
20  
30  
40  
50  
60  
70  
80  
90  
4300  
10  
20



ls. tan. fr. xln. foss. 3 pcs w/ drk. blk. stn + v. ss fo + faint odor  
fr ls. v. shly.

ls. tan. fr. xln. foss. 3-4 pcs w/ H. spt d. f.o. + str in pr. foss. "Skunky" odor

ls. tan. Crm. fr. xln. foss. w/ 4-5 pcs w/ H. med spt d. sat. + ss fo, skunky odor in fair ph. foss.

ls. tan. fr. xln. foss. - N.S.

sh. blk. drk. GRY - MAR

ls. tan. fr. xln. v. scl. foss. N.S.

ls. tan. - gry. fr. xln. - d. e. scl. dr. N.S. No odor

ls. tan. fr. xln. foss. 4-5 pcs w/ drk. gry. H. f.o. in fr. pp. foss. faint odor, spt d. sat.

ls. tan. gry. fr. xln. foss. 4-5 pcs w/ med. brn. sat. spt. + spt in fr. pp. foss. faint odor

SULY. GRV - MAR

ls. lt. tan. crm. fr. xln. - scl. ool. w/ fr. ool. sp. CHKY

ls. lt. tan. - Crm. fr. xln. - scl. ool. w/ pr. ool. sp. - N.S. V. CHKY

ls. lt. tan. - Crm. fr. xln. - ool. 1-2 pc. w/ d. s. in poor. v. q. N.F.O. No odor. CHKY

ls. lt. tan. - Crm. fr. xln. - scl. ool. + tight rx. N.S. CHKY

sh. blk. carb.

ls. tan. fr. xln. - tight rx. N.S.

ls. tan. fr. xln. foss. w/ 4-5 pcs w. drk. brown. stn + fr. sat. + f. pr. s. o. in fr. pp. FAIR odor.

ls. tan. fr. xln. sh. foss. 3-4 pcs w/ s. fo. in fr. pp. faint odor

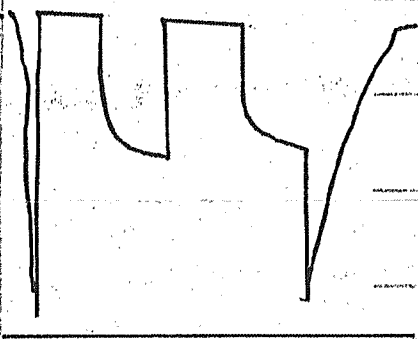
sh. blk. Carb.

ls. tan. fr. xln. - scl. foss. - N.S. No odor. SH. GRV.

ls. tan. fr. xln. - foss. w/ 3-4 pcs w/ med. brn. f.o. and q. sat. in fr. pp. FAIR odor

ls. tan. fr. xln. - tight rx. N.V. sp. - N.S.

CH. GRV'S - MAR

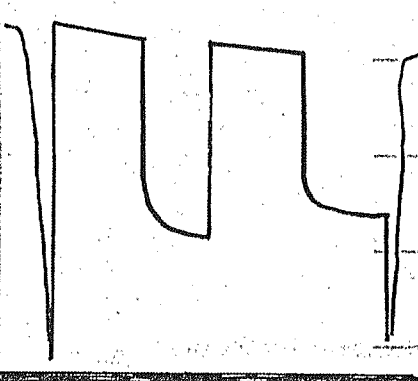


DST NO. 4 4239' - 4306' "H-I"

1st inc TO 4 1/2" 1st open NBB  
2nd inc TO 5" 2nd open NBB  
30" 45" 45" 60"

Rec: 10' 30" wcm 4% oil + 38% wtr  
196' wcm 21% wtr  
200' FLUID

SIP: 1174\* - 1154\*  
FP: 8\* - 70\* + 73\* - 100\*  
HP: 2633\* - 2633\*



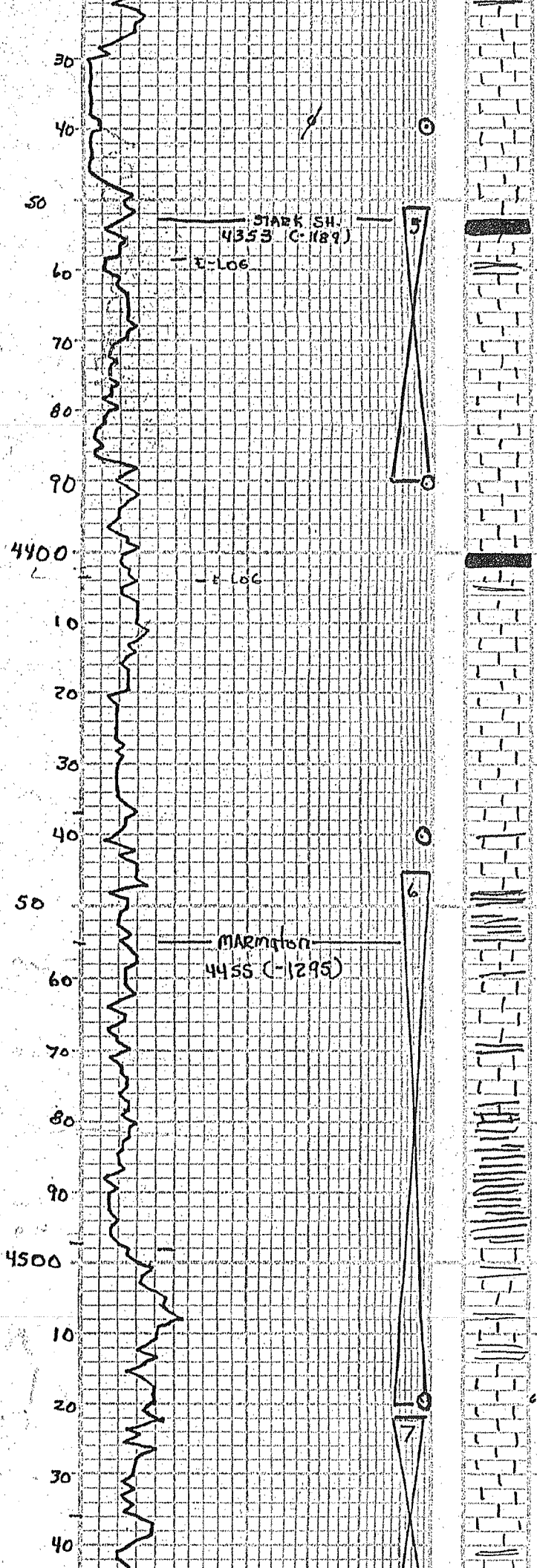
DST NO. 5 4351 - 4390' "K"

1st op. 6 1/2" - 80B, 2nd op 8 1/2" - 80B.  
30" 45" 30" 60"

Rec: 20' C.O.  
210' mcw 53% oil  
255' sat mcw 5% oil  
315' mcw 3% mud  
60' mw 38% mud  
840' Total Fluid

SIP: 1089\* - 1087\* #p 2101\*  
FP: 37\* - 240\* + 256\* - 391\* 2675\*  
DST # 5"

MUNCIE CRK  
4248 (1084)



Ls. tan. fn. xln + foss 7 col w/ fr. brn oil + sat in fr. f. foss - col. p. fair odor

Ls. tan. H. brn. col. r. coc. w/ sev. pc's w/ lt. md. brn. fr. at sat. faint odor.

SH-BK CARB

tr. med ls. N.S.  
SH. gray-mar

Ls. tan. fn. xln + foss w/ 6-7 pc's w/ med. drk brn fr. and spt. d. sat in fr. p. foss. p. fair odor

Ls. tan. fn. xln + foss - sli col w/ 4-5 pc's w/ drk brown sat. str. and sfo in fr. foss - col. p. faint odor

SH-BK Carb.

Ls. tan. fn. xln - dse, sli foss matrix, PR - N.V.P. N.S.

Ls. tan. fn. xln - dse, sli foss - N.V.P. N.S. tr. Δ

Ls. tan. fn. xln - dse, sli foss tr. Δ, N.S.

Ls. tan. fn. xln - dse, sli N.S.

tr. gray-mar shale

Ls. tan + brn. fn. xln. foss v. poor. foss. p. tr. 19ht. R.N. N.S.

Ls. TAN-BRN - dse N.S. + Sh  
SH - BK - GRAY - MAR

Ls. tan - brn. fn. xln - dse v. sli foss - N.V.P. N.S.

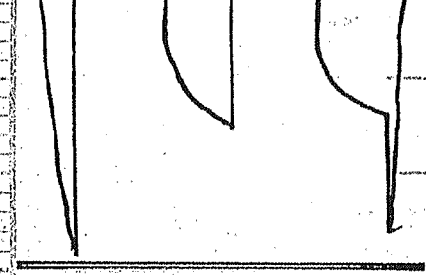
sh. var. colored

sh. var. colored

Ls. tan. fn. xln. sli. foss sli. fair. lt. gray. str. + sfo. in fr. xln. foss. p. faint odor

60' Ls. tan. fn. xln. sli. foss - 3-4 pc's w/ med. brn. spt. d. str. + sfo. in. poor. foss. p. faint odor.

Ls. Cym. tan. calcic. w/ 5-6 pc's w/ med. brn. spt. d. sat. str. + sfo. in. fr. inter. col. p.

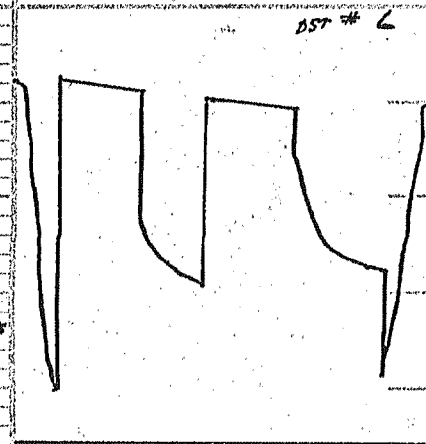


DST No. 6 4445' - 4520' RH "A"  
WK - 2 1/4" 1st op + w - 1 1/2" 2nd

30" 45" 45" 60"

Rec: 15' sli oil spt'd mud  
100% m  
125' wcm 20% w  
140' Total Fluid

SIP: 1170# - 1156#  
FP: 9# 38" + 42" - 69"



DST No. 7 4522' - 4550' "B"  
WK blow 1 1/2" 1st op - 1/2" 2nd op

30" 45" 45" 60"

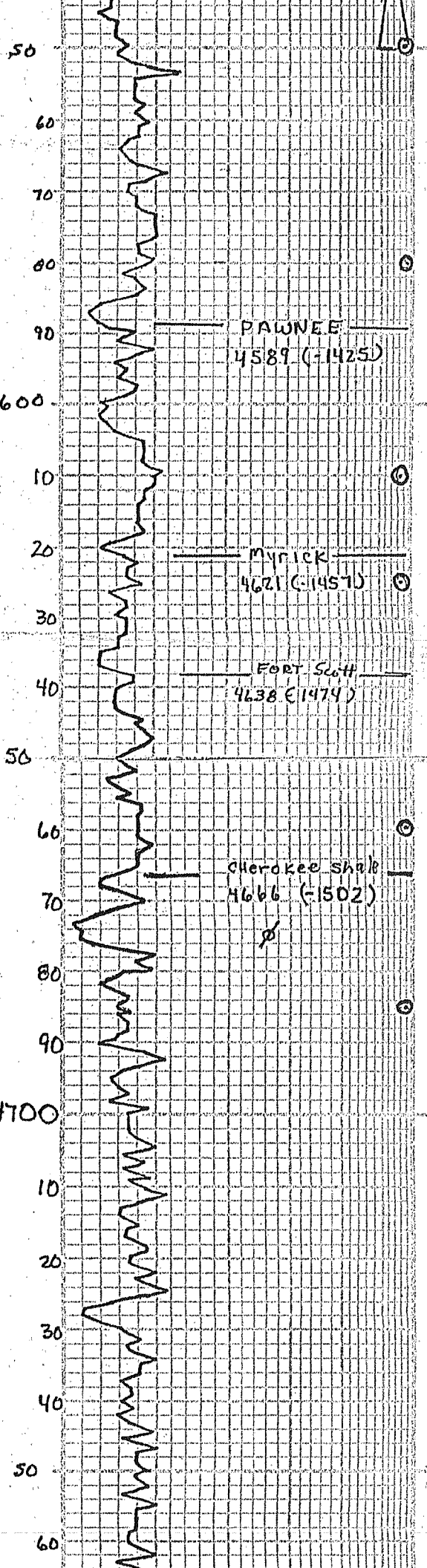
Rec: 65' oil spt'd mud  
100% m.

SIP: 382# - 379#

FP: 5# - 22# + 24-46#

HP: 2145# - 2143#





Sh. gry-mar

Ls. tan-gry-fn-xln-dse  
Sci foss, N.V.P., N.S.

Ls. lt tan fn-xln-sil  
foss-tight rx, PR-N.V.P.  
N.S.

Ls. lt-tan-H brn, fn-xln  
tight rx-N.V.P. N.S.  
SH-DK GRP

Ls. BRN FN-XLN-DSE w/  
foss-ool MATRIX, TIGHT,  
PR φ. N.S.

SH-DEK GRP-MAR.

Ls. lt-brn-brn, fn-xln +  
dse, foss-MATRIX, tight  
RX, N.S. No odor

SH-BLK-GRY-MAR

Ls. tan-brn, fn-xln: foss  
TIGHT RX, N.S.

Ls. tan, fn-xln-dse, N.V.P.  
N.S.

SH-BLK CARB

Ls. tan-brn: fn-xln-sil  
foss tight-N.S.

Ls. tan-brn, fn-xln, sil foss  
-sil ool MATRIX, N.S.

Sh. blk Carb

Ls. tan-brn, fn-xln + ool  
dse, w/ gd ool MATRIX to  
FX, PR φ. N.S.

Ls. tan-brn, ool matrix  
w/ scatt pr ool of 7 ok  
ool φ. N.S.

Ls. tan-brn, ool w/ scatt pr φ.  
N.S.

shale, black carb.

Ls. tan, fn-xln: foss →  
sil ool, scatt φ. N.S.

Ls. tan, fn-xln: foss-sil  
mott. some granular ls.  
N.S.

sh. dk gry

Ls. tan-gry, fn-xln: foss  
scatt mott foss φ N.S.

sh. dk gry-GM-MAR

Ls. lt brn, fn-xln: foss  
scatt φ. N.S.

sh. med-dk gry

Ls. tan-brn, fn-xln-dse  
v. sil foss, tight rx, N.V.P.  
N.S.

sh. dk gry

Ls. tan-H brn, fn-xln-sil  
foss-v sil ool, pr φ. N.S.

Ls. tan + brn, fn-xln-dse  
v. sil foss w/ poor foss φ  
N.S.

sh. dk gry

Ls. tan + brn, fn-xln +  
sil foss v. sil ool, pr φ. N.S.

DST No 8 4890-4917 Miss of  
w/ blow 1 1/2" 1st op + 2 1/4" 2nd op

30" 45" 45" 60"

26°

Rec: 1' mail 99% oil  
124' mail 39% oil  
ocm

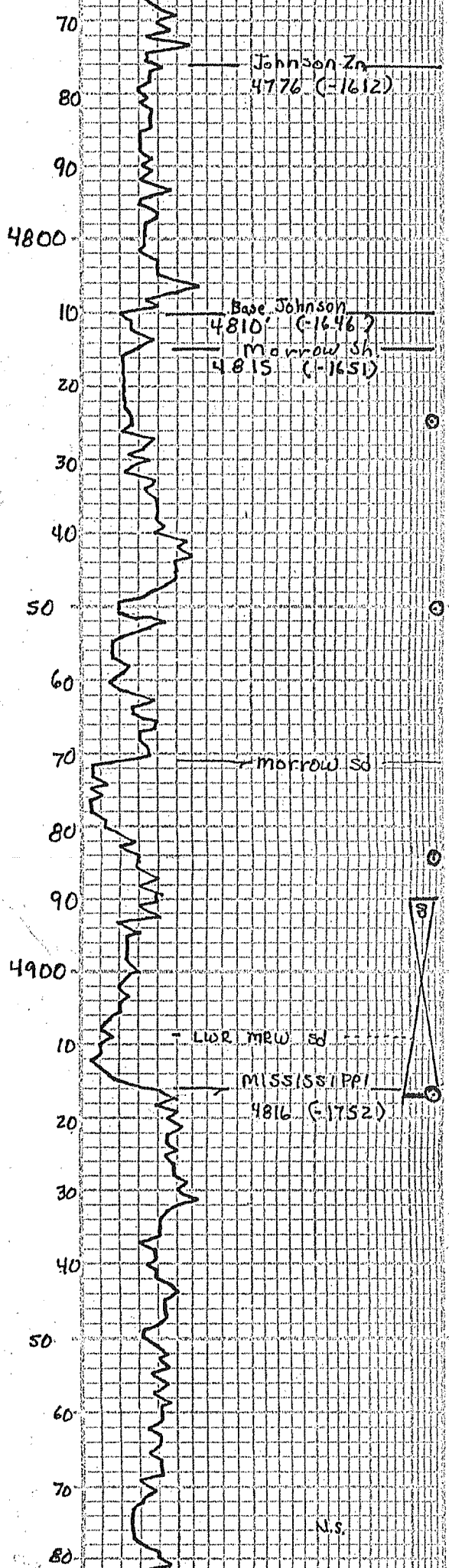
125' Fluid

SIP: 985# - 956 #

FP: 7#-32# + 38#-60#

#P: 2372# - 2365#

dst no 8



Ls. tan - H. brn. fn. xln. v. sli  
foss - NVB, sli CHKY. N.S.

sh. drk Gry

Ls. tan - brn. fn. xln - dse  
HED + TIGHT. RX, NVB  
N.S. sli CHKY

Ls. tan - GRAY - BRN, fn. xln  
- dse, sli FOSS, some Grq  
fr. PR FOSS. N.S.

Ls. tan - brn, fn. xln - dse  
sli FOSS, tr. P. N.S. NO  
odor.

Ls. tan - brn, fn. xln, sli FOSS  
tight rx, PR. N.S. NO odor.

sh. gry - grn - drk Gry.

sh. gry's - grn, N.S.

sh. gry - drk Gry, N.S.

Ls. tan, dse, NVB  
N.S.

ss. dr., quartzic, fn. - grnd  
calc. congl - glauc. - N.S.  
+ dol. of gry. shales.

Ls. tan, fn. xln - anq. - no  
real p. N.S.

ss. loose, quartzic, sub ang  
grms. - No. shales. + some  
Lbrn - tan, ls. tight pr. - NVB  
N.S.

Ls. tan + brn, fn. xln - sli ool  
matrix to dse, NVB. N.S.

SALV

Ls. tan - brn, fn. xln - sli  
ool tight rx. N.S.

ss. quartzic, fn. - md. grnd clusters  
v. friable, w/ drk brow. FD.  
in fr. intergru. p. faint ool

ss. quartzic, fn. - grnd, friable  
clusters, 2-3 pc's w/ s.o., bot  
mostly barren. Lt tan - brn  
fn. xln - sli. foss. N.S. Lots  
of caving sh.

Ls. brn, fn. xln - dse, sli  
foss. matrix, NVB. N.S.  
tr. eye.

tr. sd. stone, wh. dr. N.S.

Ls. tan - brn, fn. xln -  
sli ool to dse, w/ NVB  
N.S.

sh. black - Ven colored +  
Ls. gla N.S.

Ls. Crm - fn. xln + ool in  
matrix, N.S. sli CHKY

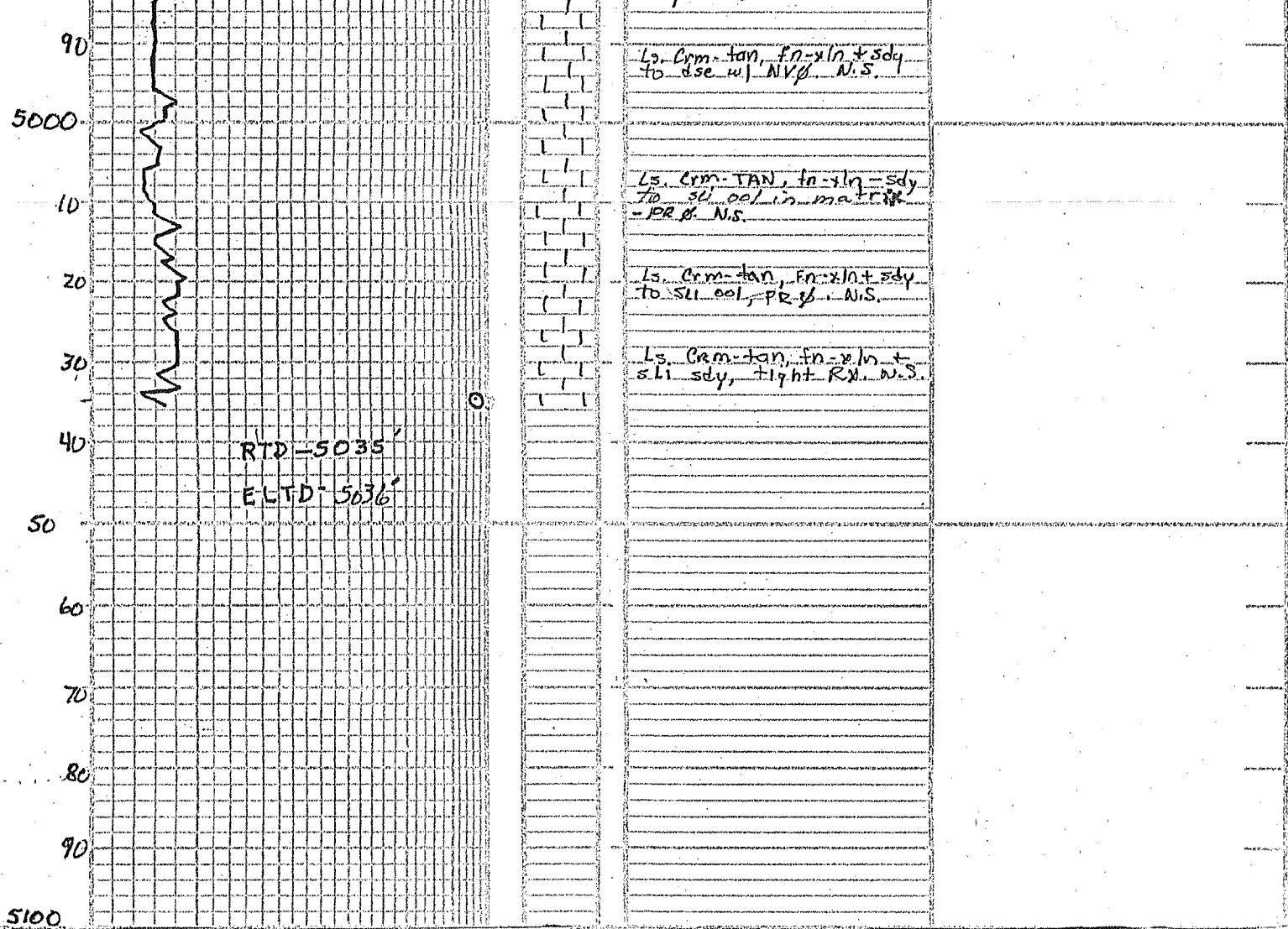
Ls. Crm - Lt tan, fn. xln  
sdy matrix + v. sli  
foss - sli CHKY. N.S.

Ls. Crm - Lt tan, fn. xln +  
sdy. CHKY. N.S.



sh. cavings from Morrow





DEPTH	DRILLING TIME Minutes/Foot Rate of Penetration Increases	LITHOLOGY	SAMPLE DESCRIPTIONS	REMARKS
	5" 10" 15" 20" 25"			

COMPANY Ritchie Exploration, Inc

LEASE Kollman 1-24 D

ELEVATION: 3164' K.B.

LOCATION 1845' ESE 1/4 985' REL SEC 24 TWP 17S RING 35W

COUNTY Wichita STATE Kansas