



KANSAS CORPORATION COMMISSION 1103889  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
June 2009

Form Must Be Typed  
Form must be Signed  
All blanks must be Filled

**WELL COMPLETION FORM**  
**WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # 34132  
Name: Mikol Oil LLC  
Address 1: 1407 WASHINGTON CIR  
Address 2: \_\_\_\_\_  
City: HAYS State: KS Zip: 67601 + \_\_\_\_\_  
Contact Person: Larry Denning  
Phone: (785) 259-2360  
CONTRACTOR: License # 31548  
Name: Discovery Drilling  
Wellsite Geologist: Robert Stolze  
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  
 Conv. to GSW  
 Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_  
 Commingled    Permit #: \_\_\_\_\_  
 Dual Completion    Permit #: \_\_\_\_\_  
 SWD    Permit #: \_\_\_\_\_  
 ENHR    Permit #: \_\_\_\_\_  
 GSW    Permit #: \_\_\_\_\_  
11/13/2012    11/19/2012    11/20/2012  
Spud Date or    Date Reached TD    Completion Date or  
Recompletion Date       Recompletion Date

API No. 15 - 15-163-24083-00-00  
Spot Description: \_\_\_\_\_  
SE NW NE NW Sec. 34 Twp. 10 S. R. 16  East  West  
630 Feet from  North /  South Line of Section  
1965 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE  NW  SE  SW  
County: Rooks  
Lease Name: Patricia Well #: 1-34  
Field Name: \_\_\_\_\_  
Producing Formation: None  
Elevation: Ground: 2071 Kelly Bushing: 2079  
Total Depth: 3780 Plug Back Total Depth: \_\_\_\_\_  
Amount of Surface Pipe Set and Cemented at: 220 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: 23000 ppm Fluid volume: 400 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**

- Letter of Confidentiality Received  
Date: \_\_\_\_\_  
 Confidential Release Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution  
ALT  I  II  III Approved by: Deanna Garrison Date: 12/27/2012



1103889

Operator Name: Mikol Oil LLC Lease Name: Patricia Well #: 1-34  
 Sec. 34 Twp. 10 S. R. 16  East  West County: Rooks

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

Drill Stem Tests Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no. Submit Copy)</i>  List All E. Logs Run: <b>Attached</b>	<input checked="" type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum Attached Attached Attached
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CASING RECORD <input checked="" 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
Surface Pipe	12.25	8.625	23	220.88	Common	150	2%Gel&3%CC

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	-			

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

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____		Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No	
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 (Explain) _____	
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls. Gas-Oil Ratio Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Mikol Oil LLC
Well Name	Patricia 1-34
Doc ID	1103889

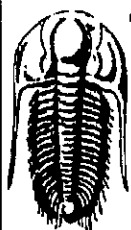
All Electric Logs Run

Compact Photo Density Compensated Neutron
Array Induction Shallow Focused Electric log
Spectral Gamma Ray
Microresistivity Log
Compensated Sonic with Integrated Transit Time

Form	ACO1 - Well Completion
Operator	Mikol Oil LLC
Well Name	Patricia 1-34
Doc ID	1103889

Tops

Base Anhydrite	1304	+775
Topeka	3015	-936
Heebner Shale	3252	-1173
Toronto Ls	3272	-1193
Lansing Group	3294	-1215
G Zone Porosity	3392	-1313
Stark Shale	3495	-1416
Base KS City Gp	3534	-1455
Conglomerate Zone	3569	-1490
Simpson SS	3631	-1552
Arbuckle Fm.	3665	-1586



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Mikol Oil LLC  
1407 Washington Circ  
Hays KS, 67601  
ATTN: Bob Stolze

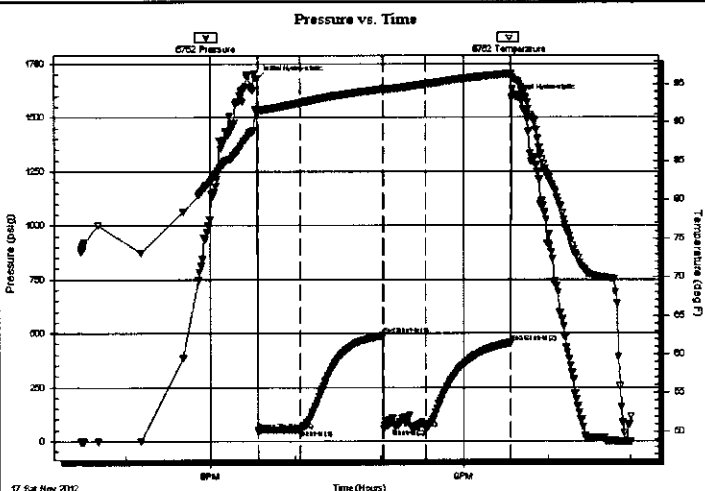
**34-10s-16w Rooks KS**  
**Patricia 1-34**  
Job Ticket: 51553      **DST#: 1**  
Test Start: 2012.11.17 @ 16:29:00

### GENERAL INFORMATION:

Formation: **KC "E-F"**  
Deviated: **No** Whipstock: **ft (KB)**  
Time Tool Opened: 18:33:40  
Time Test Ended: 23:01:00  
Interval: **3313.00 ft (KB) To 3390.00 ft (KB) (TVD)**  
Total Depth: **3390.00 ft (KB) (TVD)**  
Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
Test Type: **Conventional Bottom Hole (Initial)**  
Tester: **Cody Bloedorn**  
Unit No: **41**  
Reference Elevations: **2079.00 ft (KB)**  
**2074.00 ft (CF)**  
KB to GR/CF: **5.00 ft**

**Serial #: 6752**      **Inside**  
Press@RunDepth: **57.93 psig @ 3382.00 ft (KB)**      Capacity: **8000.00 psig**  
Start Date: **2012.11.17**      End Date: **2012.11.17**      Last Calib.: **2012.11.17**  
Start Time: **16:29:01**      End Time: **23:01:00**      Time On Btm: **2012.11.17 @ 18:33:00**  
Time Off Btm: **2012.11.17 @ 21:34:00**

**TEST COMMENT:** 30 - IF- 1/2" blow, dying  
60 - IS- No blow back  
30 - FF- No blow  
60 - FS- No blow back



### PRESSURE SUMMARY

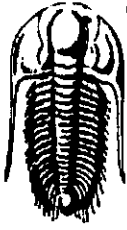
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1677.63	91.68	Initial Hydro-static
1	50.90	91.49	Open To Flow (1)
31	55.16	92.54	Shut-In(1)
89	490.54	94.30	End Shut-In(1)
90	58.83	94.24	Open To Flow (2)
120	57.93	94.96	Shut-In(2)
181	454.56	96.33	End Shut-In(2)
181	1593.03	96.37	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud with oil spots, 100%M	0.05

### Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mkol Oil LLC

**34-10s-16w Rooks KS**

1407 Washington Circ  
Hays KS, 67601

**Patricia 1-34**

Job Ticket: 51553

**DST#: 1**

ATTN: Bob Stolze

Test Start: 2012.11.17 @ 16:29:00

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4000.00 ppm			
Filter Cake: inches			

**Recovery Information**

Recovery Table

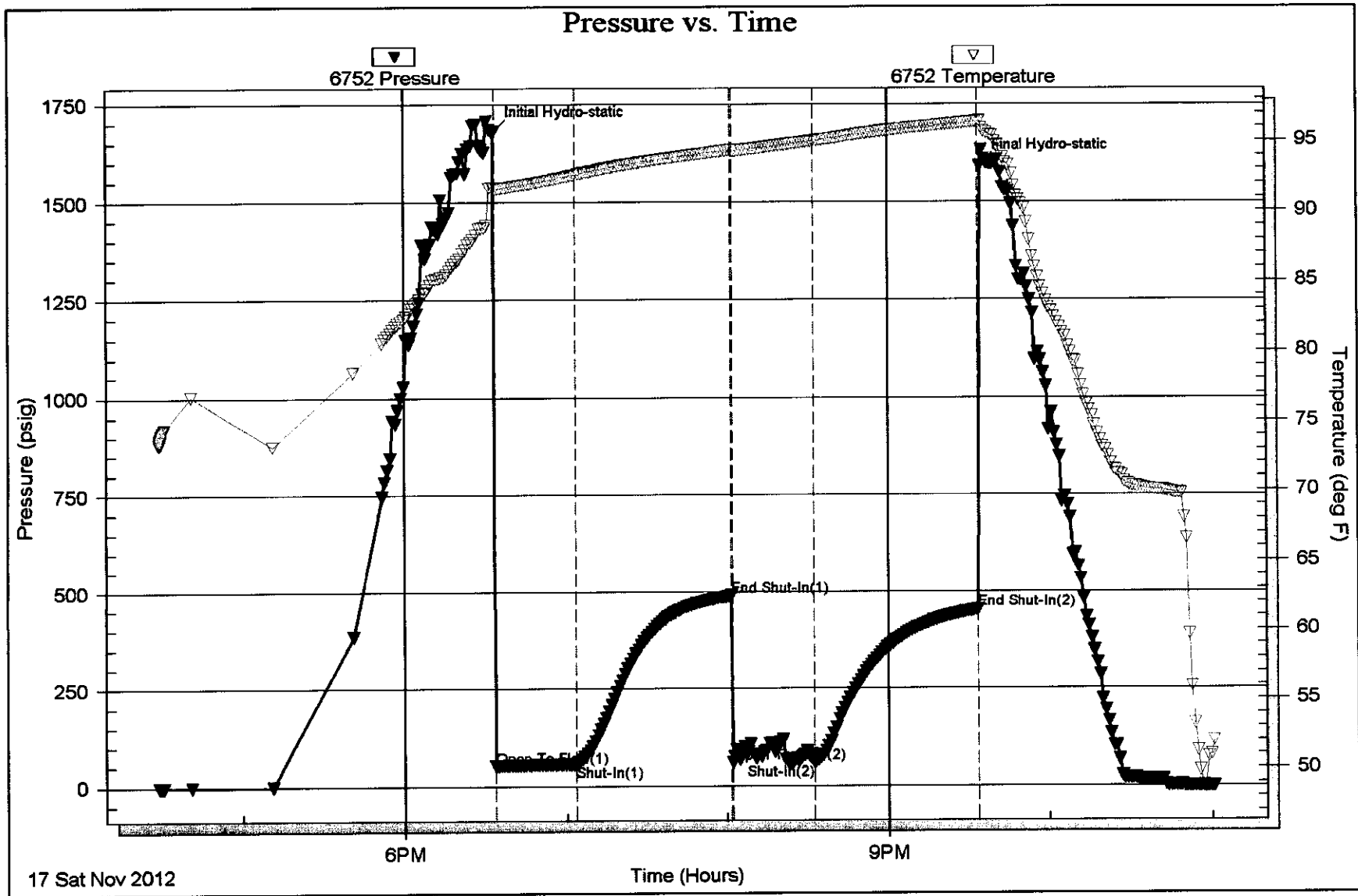
Length ft	Description	Volume bbl
10.00	Mud with oil spots, 100%M	0.049

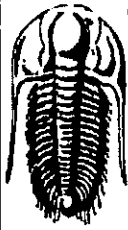
Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mikol Oil LLC  
1407 Washington Circ  
Hays KS, 67601  
ATTN: Bob Stozle

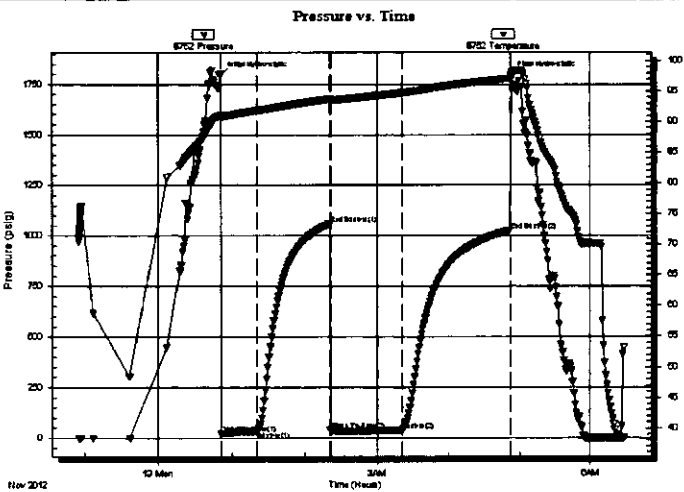
**34-10s-16w Rooks KS**  
**Patricia 1-34**  
Job Ticket: 51526      **DST#:2**  
Test Start: 2012.11.18 @ 22:55:00

## GENERAL INFORMATION:

Formation: **Simpson Sand**  
Deviated: No Whipstock: 2079.00 ft (KB)  
Time Tool Opened: 00:51:20  
Time Test Ended: 06:30:00  
Interval: **3538.00 ft (KB) To 3650.00 ft (KB) (TVD)**  
Total Depth: 3650.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Jim Svaty  
Unit No: 41  
Reference Elevations: 2079.00 ft (KB)  
2074.00 ft (CF)  
KB to GRVCF: 5.00 ft

**Serial #: 6752**      **Inside**  
Press@RunDepth: 39.57 psig @ 3545.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.11.18      End Date: 2012.11.19      Last Calib.: 2012.11.19  
Start Time: 22:55:01      End Time: 06:29:20      Time On Btrr: 2012.11.19 @ 00:51:00  
Time Off Btrr: 2012.11.19 @ 04:52:40

**TEST COMMENT:** 30-IFP- Weak Surface Blow  
60-ISIP- No Blow  
60-FFP- Weak Surface Blow - Surging  
90-FSIP- No Blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1795.79	91.05	Initial Hydro-static
1	21.83	90.69	Open To Flow (1)
30	31.46	91.82	Shut-In(1)
90	1058.82	93.73	End Shut-In(1)
91	37.86	93.52	Open To Flow (2)
151	39.57	94.74	Shut-In(2)
241	1026.66	97.04	End Shut-In(2)
242	1797.18	97.28	Final Hydro-static

## Recovery

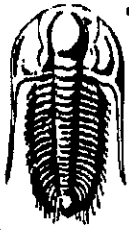
Length (ft)	Description	Volume (bbl)
45.00	WCM 2%w 98%m	0.35

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mikol Oil LLC  
1407 Washington Circ  
Hays KS, 67601  
ATTN: Bob Stolze

**34-10s-16w Rooks KS**  
**Patricia 1-34**  
Job Ticket: 51526      **DST#: 2**  
Test Start: 2012.11.18 @ 22:55:00

**Mud and Cushion Information**

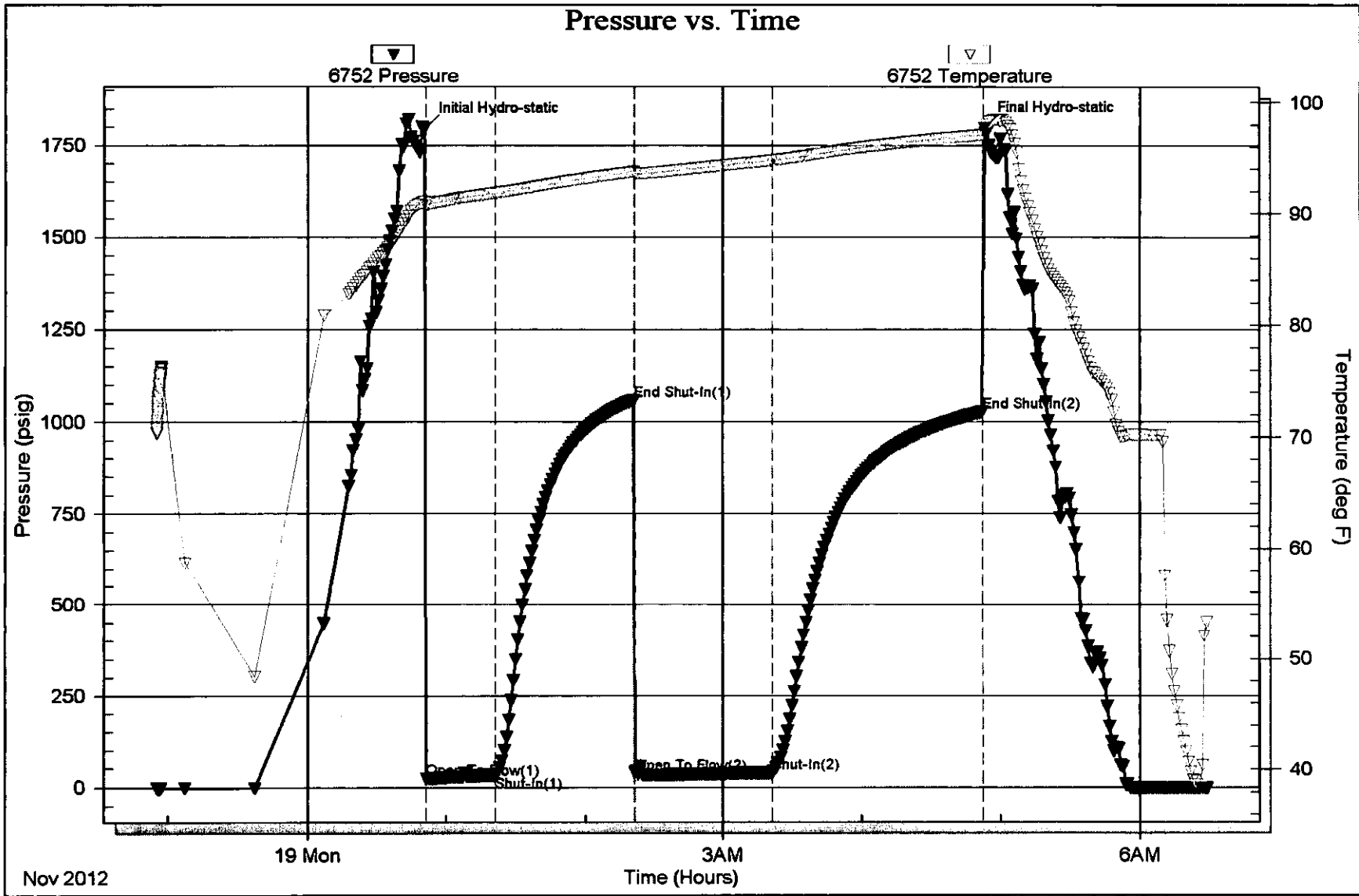
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.76 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8000.00 ppm			
Filter Cake: 1.50 inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
45.00	WCM 2%w 98%m	0.349

Total Length: 45.00 ft      Total Volume: 0.349 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:



# QUALITY OILWELL CEMENTING, INC.

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6095

Date	11-13-12	Sec.	34	Twp.	W	Range	16	County	ROCKS	State	KS	On Location		Finish	10:30pm
Location													Fairport. N to 290 W to T L N 1/4 W S into		
Leas.	Patricia 1-34			Well No.			1-34			Owner			Fairport		
Contractor	Discroly 4									To Quality Oilwell Cementing, Inc.			You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.		
Type Job	Surface									Charge To			Mikol Oil		
Hole Size	12 1/4			T.D.			220 FT			Street					
Csg.	6 3/8			Depth			823 FT			City			State		
Tbg. Size				Depth						The above was done to satisfaction and supervision of owner agent or contractor.					
Tool				Depth						Cement Left in Csg.			20 FT		
Cement Left in Csg.	20 FT			Shoe Joint			20 FT			Cement Amount Ordered			150 3% CC 2% gel		
Meas Line				Displace			1274 BBL								
EQUIPMENT										Common					
Pumptrk	5	No.	Cementer	Matt						150					
Bulktrk	14	No.	Helper	Brett						Poz. Mix					
Bulktrk	pu	No.	Driver	Kinnic M						Gel. 3					
JOB SERVICES & REMARKS										Calcium 5					
Remarks:													Hulls		
Rat Hole	Patricia 1-34												Salt		
Mouse Hole													Flowseal		
Centralizers													Kol-Seal		
Baskets													Mud CLR 48		
D/V or Port Collar													CFL-117 or CD110 CAF 38		
										Sand					
										Handling 158					
										Mileage					
Cement dul Cifa lute										FLOAT EQUIPMENT					
										Guide Shoe					
										Centralizer					
										Baskets					
										AFU Inserts					
										Float Shoe					
										Latch Down					
										Pumptrk Charge Surface					
										Mileage 31					
										Tax					
										Discount					
										Total Charge					
Signature <i>[Signature]</i>															

# QUALITY OILWELL CEMENTING,

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6226

Date	11-20-11	Sec.	34	Twp.	10	Range	16	County	Rooks	State	KS	On Location	300 AM	Finish	8:00 PM
Location								Report N to 290 W to T 1/2 N View into							

Lease	Patricia	Well No.	1-34	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.		
Contractor	Discount 4				Charge To	Mikol Oil	
Type Job	plug				Street		
Hole Size		T.D.	37 80	Depth	36 45	City	
Csg.		Depth		City		State	
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			
Tool		Depth		Cement Amount Ordered	245 <sup>60</sup> / <sub>40</sub>	9 1/2 gal 1/4 fl.	
Cement Left in Csg.		Shoe Joint					
Meas Line		Displace					

**EQUIPMENT**

Pumptrk	16	No.	Cementer	1/2	Common	147
			Helper		Poz. Mix	98
Bulktrk	8	No.	Driver	Clayton	Gel.	9
			Driver		Calcium	
Bulktrk	04	No.	Driver	Billy	Hulls	
			Driver		Salt	

**JOB SERVICES & REMARKS**

Remarks:	30 SWS	Flowseal	61#
Rat Hole	15 SWS	Kol-Seal	
Mouse Hole		Mud CLR 48	
Centralizers		CFL-117 or CD110 CAF 38	
Baskets		Sand	
D/V or Port Collar		Handling	

- 1 36 45 25 SWS
- 2 17 85 23 SWS
- 3 780 100 SWS
- 4 270 40 SWS
- 5 40 10 SWS

**FLOAT EQUIPMENT**

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

Lease	Patricia	Pumptrk Charge	Plug
Signature	Mike [Signature]	Mileage	31
		Tax	
		Discount	
		Total Charge	

# ROBERT STOLZLE

## CONSULTING PETROLEUM GEOLOGIST

4720 Cent St 204  
 6211 S. 204th St W. Edmond, MO 67522 - 0240 (316) 764 - 0505

### DRILLING TIME AND SAMPLE LOG

OPERATOR: Mikrol Drilling  
 LEASE: Patricia WELL NO.: 1-34  
 FIELD: Unnamed  
 LOCATION: 6.30'EWL, 196.5'EWL (SEWNENN)  
 SEC: 34 TWP: 10S RANGE: 16W1  
 COUNTY: Rooks STATE: KS  
 API NO.: 15-163-24083-00-00

CONTRACTOR: Discovery Drilling-Rig #4  
 COMPLETED: November 13, 2012 COMPLETED: 11/20/12  
 ROTARY TOTAL DEPTH: 3780' LOG TOTAL DEPTH: 3782'  
 GEOLOGICAL SUPERVISOR FROM: 3100' to: 720'  
 LOG-UP DEPTH: 2910' LOG TYPE: Chemical Polymer

FORMATION	DEPTH		STRUCTURAL
	TOP	LOG	
Stenocephal/Alph	1270 (+809)	1270 (+809)	-5'
Base Anhydrite	1304 (+775)	1304 (+775)	-6'
Topaz Fm	3011 (-932)	3015 (-936)	-10'
Harburt-sh	3149 (-110)	3252 (-113)	-15'
Lansing ls	3272 (-1193)	3272 (-1193)	-12'
Lansing sh	3292 (-1213)	3294 (-1215)	-13'
Lansing sh	3392 (-1313)	3392 (-1313)	-15'
Stark shale	3493 (-1414)	3495 (-1416)	-13'
Base KS (1514)	3535 (-1456)	3534 (-1455)	-3'
Conglomerate	3568 (-1489)	3569 (-1490)	-8'
Simpson ss	3630 (-1551)	3631 (-1552)	-6'
Aspen Fm	3662 (-1583)	3665 (-1586)	-16'
Total Depth	3780	3782	

**ELEVATIONS**  
 KB 2079  
 GL 2071  
 Measurements are all from KB

**CASING RECORD**  
 SURFACE: New 8 5/8"  
 @ 220' KB, PIC.  
 PRODUCTION: None,  
P.H.

**WIRELINE SURVEYS**  
Weatherford  
Blue Diamond  
Alpharray  
Industrial Spectral  
Sonotrac  
Smith Log Services

LOCATION MAP

34	34
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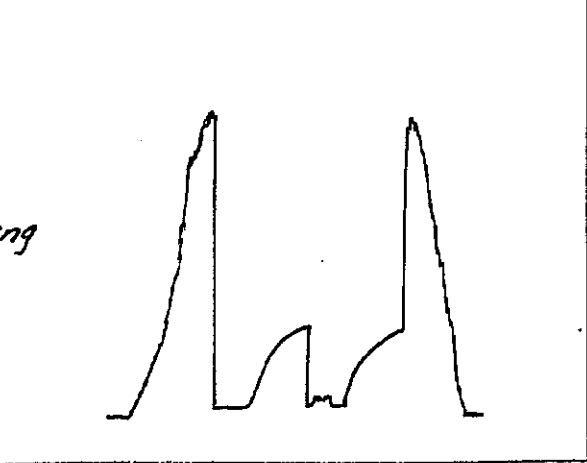
References Vail for Structural Correlation: Mica Hill Table 1-27 Page 54-55  
 Comments and Recommendations: Recommended well be plugged and abandoned.

DST # 1 ZONE: Lansing C, D, E and F zones  
 INTERVAL: 3313' - 3390'

Pressures:	Time	Press.	RECOVERY
1. Initial Hydrostatic		1678 psi	10' oil spotted
2. Initial Flow: Start	0	51 psi	Mud
3. Initial Flow: End	30	55 psi	
4. Initial Shut-in: End	60	491 psi	Blow Desc:
5. Final Flow: Start	0	59 psi	I.F. - 1/2" blow/dry
6. Final Flow: End	30	58 psi	I.S.I. - No blow
7. Final Shut-in: End	60	455 psi	F.F. - No blow
8. Final Hydrostatic			F.S.I. - No blow

BHT: 96°F  
 Rv: \_\_\_\_\_

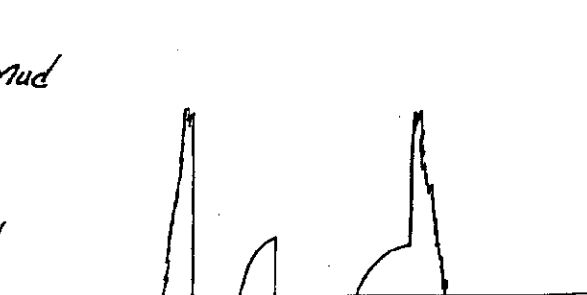
DST # 1 6752 Chart  
 Interval: 3313'-90' Depth: 3382'



DST # 2 ZONE: Conglomerate + Simpson Sand  
 INTERVAL: 3538' - 3650'

Pressures:	Time	Press.	RECOVERY
1. Initial Hydrostatic		1796 psi	45' water cut mud
2. Initial Flow: Start	0	22 psi	(2% water)
3. Initial Flow: End	30	31 psi	
4. Initial Shut-in: End	60	1059 psi	Blow Desc:
5. Final Flow: Start	0	38 psi	I.F. - Surface blow
6. Final Flow: End	60	40 psi	I.S.I. - No blow

DST # 2 6752 Chart  
 Interval: 3538'-3650' Depth: 3545'



7. Final Shut-in: End 90 | 1027 psi | E.E. - Wk. Surf. Blow

8. Final Hydrostatic: 1797 psi | E.S.I. - No blow

BHT: 97°F

Rv: \_\_\_\_\_

JUL 2

Rate of Penetration  
(minutes per foot)

1250

1300

1350

2900

Stone Corral  
Anhydrite  
(4809')

Base of  
Anhydrite  
(4775')

Displace Native Mud System  
at 2810'

Start 1' Drilling Time  
at 2950'

2950

3000

3050

3100

3150

TOPEKA Fm.  
(-932')

Start 10' Wet & Dry Samples  
at 3100'

LS: cm - tan, hrd - m. sst, idns,  
veg - mx/n, foss, Abun. sh.  
sync, tr. pr. pp. lag. d.

LS: cm - tan - grv, hrd - m. sst  
veg - mx/n, tr. mic, tr. chl.  
tr. chry, foss, sh. sand.

LS: A.A. NQ NSFOC

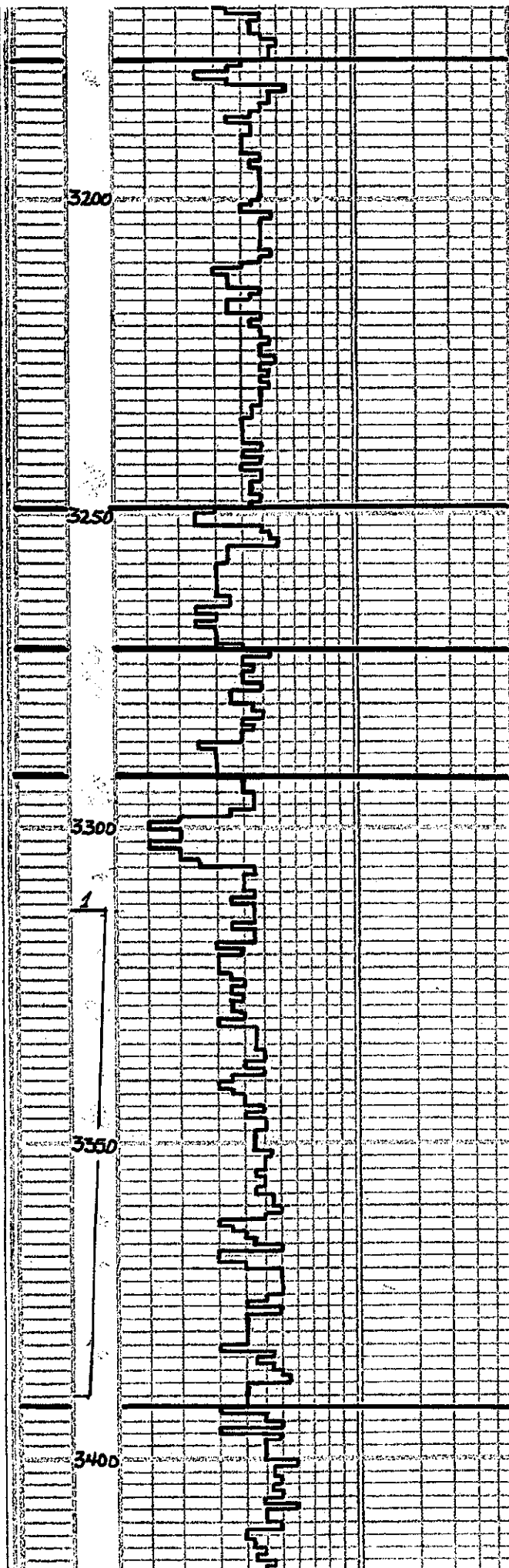
Sh. grv - blk, m. sst, idns,  
earth, tr. carb.

occ. sh. A.A.  
LS: cm - tan, hrd - m. sst, idns,  
veg. in. occ. foss & sh. sand

occ. sand NQ NSFOC  
LS: cm, hrd, dng, veg, mx/n,  
mic, tr. chl, occ. foss &  
sh. sand. NQ NSFOC

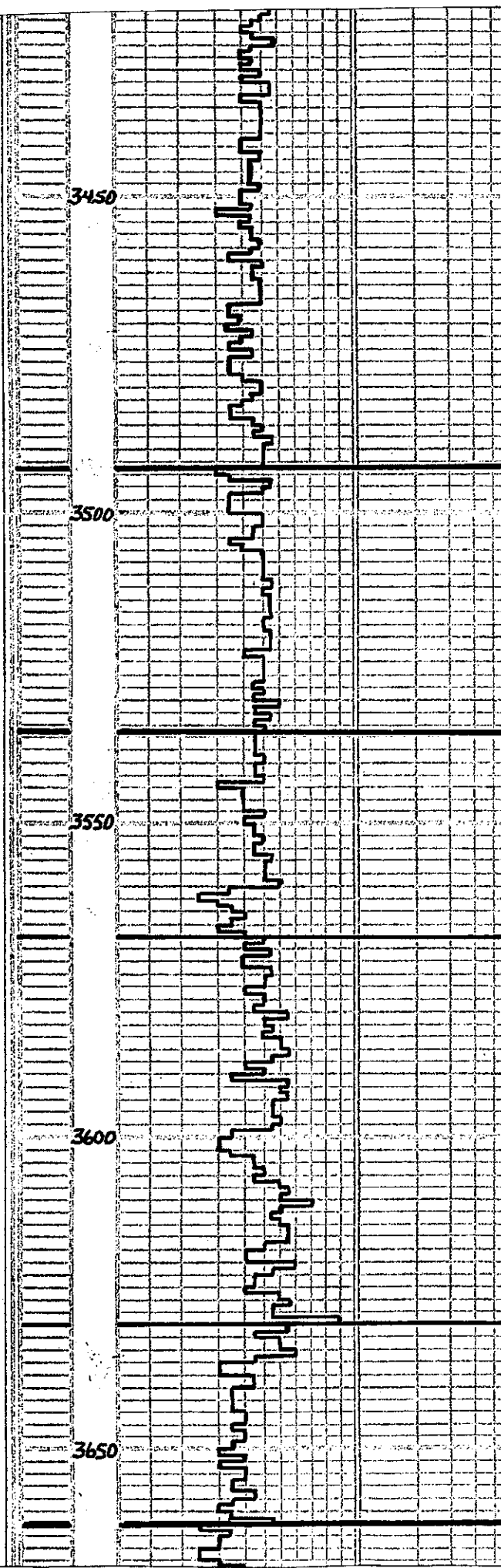
LS: cm, hrd, idns, mx/n, mik,  
tr. chry, tr. ch. grv, chl,  
f. r. foss. NQ NSFOC

LS: A.A. w/ LS: tan - grv, m. hrd  
- m. sst, foss, veg, mx/n,  
sh. sand. NQ NSFOC



<p>Ls. con. tan. h. gr. m. sst. brd. dms. vfg. mxln. mic. ch. ch. foss. sh. sand. No NSFDC</p> <p>Sh. gr. blk. m. sst. dms. carb. earthy</p> <p>Ls. con. tan. h. gr. m. sst. brd. vfg. mxln. mic. No NSFDC</p> <p>Sh. A.A.</p> <p>Ls. con. tan. h. gr. m. sst. brd. chky. vfg. mxln. mic. foss. sh. sand. No NSFDC</p> <p>Ls. A.A. tr. sst. 1-2 pc. w/ vfg. pp. q. w/ wk. stn. wk. cut. f. f. No F.O. No odor. v. wk. show</p> <p>Ls. A.A. No NSFDC</p>	<p>Queen Hill Shale (-1099')</p> <p>4</p>
<p>Sh. gr. de. gr. m. sst. m. brd. dms. brkly</p> <p>Ls. con. gr. h. gr. sst. chky. vfg. mxln. foss. abun.</p> <p>Sh. stn. No NSFDC</p> <p>Ls. con. h. gr. h. gr. m. sst. dms. vfg. mxln. tr. ch. ch. chky. abun. brn. sh. stn. occ. foss. No NSFDC</p> <p>Ls. con. gr. h. gr. m. sst. dms. vfg. mxln. occ. foss. sh. sand. tr. mic. tr. ch.</p>	
<p>occ. sst. de. gr. blk. m. sst. dms. carb. earthy</p> <p>Ls. A.A. No NSFDC</p> <p>Sh. gr. sst. clayey. earthy</p> <p>Ls. con. h. gr. dms. vfg. mxln. foss. sh. sand. No NSFDC</p> <p>tr. Sh. A.A.</p> <p>Ls. con. h. gr. dms. vfg. mxln. mic. tr. ch. occ. foss. sh. sand. No NSFDC</p> <p>Ls. con. h. gr. dms. vfg. mxln. tr. mxln. tr. foss. occ. sh. stn.</p>	<p>Heabner Shale (-1170')</p>
<p>Sh. gr. m. sst. dms. earthy</p> <p>Sh. gr. m. h. gr. dms. earthy</p> <p>brkly</p> <p>occ. Ls. A.A. No NSFDC</p> <p>Ls. con. h. gr. dms. vfg. mxln. mic. tr. ch. occ. foss. sh. sand. No NSFDC</p> <p>Ls. con. h. gr. dms. vfg. mxln. tr. mxln. tr. foss. occ. sh. stn.</p>	<p>Toronto Ls. (-1193')</p>
<p>Sh. gr. m. sst. dms. earthy</p> <p>Sh. gr. m. h. gr. dms. earthy</p> <p>brkly</p> <p>occ. Ls. A.A. No NSFDC</p> <p>Ls. con. h. gr. dms. vfg. mxln. mic. tr. ch. occ. foss. sh. sand. No NSFDC</p> <p>Ls. con. h. gr. dms. vfg. mxln. tr. mxln. tr. foss. occ. sh. stn.</p>	<p>Lansing Group (-1213')</p>
<p>Ls. con. h. gr. dms. vfg. mxln. mic. tr. ch. occ. foss. sh. sand. No NSFDC</p> <p>Sh. h. de. gr. m. h. gr. sst. s gl. ch. earthy</p> <p>Sh. A.A. less. clayey</p> <p>Ls. con. h. gr. dms. vfg. mxln. occ. foss. sh. sand.</p>	
<p>Sh. h. gr. r. p. m. sst. m. sst. dms. earthy. clayey.</p> <p>Ls. con. tan. h. gr. dms. vfg. mxln. mic. tr. ch. No NSFDC</p> <p>Ls. con. h. gr. dms. vfg. mxln. mic. chky. tr. pp. q. w/ vfg. pp. vug. q. tr. brn. stn. wk. cut. wk. cut. f. f. No F.O. No odor.</p> <p>Ls. con. h. gr. dms. vfg. mxln. occ. foss. sh. sand. tr. pp. vug. q. same mold. q. tr. stn. tr. cut. f. f. wk. odor. No F.O.</p>	<p>Weak Show</p> <p>Weak Show</p>
<p>Ls. wh. con. h. gr. dms. vfg. mxln. occ. foss. sh. sand. tr. pp. vug. q. tr. brn. stn. wk. cut. wk. cut. f. f. No F.O. No odor. v. wk. show</p> <p>Ls. A.A. tr. ch. tr. ch. No NSFDC</p> <p>Sh. de. gr. blk. m. sst. m. brd. dms. occ. carb. earthy</p> <p>Ls. con. gr. h. gr. m. sst. dms. vfg. mxln. mic. occ. foss. sh. sand. tr. pp. vug. q. tr. brn. stn. wk. cut. f. f. No F.O. No odor.</p>	<p>Very Weak Show</p>
<p>Ls. con. tan. h. gr. dms. vfg. mxln. occ. foss. sh. sand. tr. pp. vug. q. tr. brn. stn. wk. cut. wk. cut. f. f. No F.O. No odor.</p> <p>Ls. con. tan. h. gr. dms. vfg. mxln. occ. foss. sh. sand. tr. pp. vug. q. tr. brn. stn. wk. cut. wk. cut. f. f. No F.O. No odor.</p>	<p>Fair-Good Show</p>
<p>Ls. A.A. w/ tr. vug. q. tr. stn. wk. cut. f. f. No F.O. No odor.</p> <p>Ls. con. wh. h. gr. dms. vfg. mxln. occ. foss. sh. sand. tr. pp. vug. q. tr. brn. stn. wk. cut. wk. cut. f. f. No F.O. No odor.</p>	<p>G' Zone Porosity (-1318')</p> <p>Weak Show</p>
<p>Ls. wh. con. tan. h. gr. dms. vfg. mxln. mic. No NSFDC</p>	<p>Mud Check @ 3390 Mud. 8.9 lb. gal. Vis. 51 sec. 1gt.</p>





Ls: crm. tan, hrd, dns, VFG-  
 mxln, occ. chky. NQ NSFOC  
 Sh: gr. gn. - dk. gr. m. hrd.,  
 dns, blackly

Chl. 4,000 ppm  
 Solids 4.2%  
 LCM. 1 1/2 lb/lb

Ls: crm. - lb. gr. hrd, dns, VFG-  
 mxln, mic, occ. sft. + chky,  
 tr. sh. stnd. NQ NSFOC

Ls: crm. - tan - gr. hrd, dns,  
 VFG - mxln, mic, occ. sft.  
 + chky, rare foss

NQ NSFOC  
 Ls: crm. - tan - gr. hrd - sft +  
 chky, VFG - mxln, occ. mic,  
 rare foss. NQ NSFOC

Ls: crm. - gr. hrd - sft + chky  
 VFG - mxln, mic, rare foss,  
 will. 2 pc. p. tr. Vug,  
 moldic. o. w. sft. fr. cut. tr.

Very Weak Show

Ls: crm. - gr. hrd, dns, VFG -  
 mxln, mic, 1-2 pc. VUG, Vug,  
 2-3 pc. o. l. 1. h. brn. stn. i.  
 fr. cut. + sft. wk. odor, No. FO

Very Weak Show

Ls: A.A. 1-3 pc. w/ tr. p.  
 oom. p. 1 pc. in ear. p. l.  
 H. stn. tr. cut. + sft. wk. odor  
 No. FO, 1-2 pc. p.

Very Weak Show

Ls: A.A. sh. stnd. 2-3 pc. w/ tr.  
 - pr. p. Vug. p. show A.A.  
 Sh: dk. gr. - blk, m. sft. - m. hrd.  
 dns, mic. - earthy, carb.

Stark Shale  
 (-1414)

Ls: crm. - tan, hrd., dns, mxln,  
 mic, tr. pyr, occ. ool. w/ l.  
 tr. p. Vug. o. w/ l. o. p. sft. tr.  
 cut. tr. No. odor, No. FO, 1 pc. m.

Very Weak Show

Ls: crm. - tan, hrd - m. sft. chky  
 VFG - mxln, mic, tr. pyr, occ.  
 sh. stnd. NQ NSFOC

Mud Check @ 3520  
 M. w. 8.7  
 Vis. 8.3

Sh: gr. - dk. gr. m. sft., earthy  
 Ls: crm. - tan, hrd, dns, VFG - mxln,  
 mic, tr. p. Vug. o. l. h. brn. stn.  
 No. odor, No. FO, V. Vert. WK Show

W.L. 8.8  
 Chl. 8,000  
 Solids 2.4%  
 LCM. 1 1/2 lb

Ls: crm. - tan, hrd - m. sft. chky,  
 VFG - mxln, mic, pyr, tr.  
 foss. NQ NSFOC

Base of Ks.  
 City Group  
 (-1456)

Ls: A.A. tr. sh. stnd. NQ NSFOC  
 tr. 2-3 gr. hrd. o. l. h. brn. stn.  
 pr. sft. tr., V. w. em. tr. NQ NSFOC

Ls: crm. hrd, dns, VFG - mxln,  
 mic, sft. - V. sft. - calc.  
 ss: VFG. NQ NSFOC

Ls: A.A. w/ Ls, tan - brn, hrd,  
 dns, occ. rd. sft. stnd. NQ NSFOC  
 tr. Sh. hrd. blk. - gr. gn. m. sft.  
 earthy

Conglomerate  
 Zone  
 (-1489)

Sh: rd. brn, gr. gn., sft. V.  
 sft. clayey, earthy  
 Ls: crm. - tan, hrd, dns, VFG -  
 mxln, mic, occ. foss. NQ NSFOC

Ls: crm. - tan, hrd, dns, VFG - mxln,  
 mic, tr. sh. stnd, occ. p. b.  
 sft. NQ NSFOC

sup.

Sh: A.A.

Ls: crm. - gr. hrd, dns, VFG - mxln,  
 tr. rd. sft. tr. m. sft. chky, tr.  
 occ. V. sft. tr. V. ool. + foss.  
 tr. rd. sh. stnd. NQ NSFOC

Sh: tr. gr. - dk. brn, sft., earthy  
 - clayey, occ. sft.

Ls: crm. hrd, dns, VFG - mxln,  
 tr. rd. sh. stn. tr. p. NQ NSFOC

Ls: A.A. occ. pebble surface,  
 tr. br. ch. NQ NSFOC

Sh: m. sft. - rd. brn, on sft. l.  
 sft. clayey, occ. sft., earthy

Sh: tr. brn - tan - gr. sft. clayey  
 m. sft., earthy, occ. sft.

Ls: A.A. tr. ss. w/ tr. p. dns,  
 mod - w. sft. w. rare. NQ NSFOC

Cg: / Sh: A.A. occ. Ls: + ch. rd.  
 tr. ss: w/ tr. p. dns, VFG, mod.  
 - w/ rd. w. sft. w. em. tr.  
 tr. pl. gr. sh. No. vis. NQ NSFOC

Simpson  
 Sandstone  
 (-1551)

Cg: / Sh: A.A. occ. V. w. gn. occ.  
 Ls: ch. tr. ss. w/ tr. hrd. w/ l.  
 dns, tr. V. sft. w. sft. w. sft.  
 w. em. tr. No. vis. NQ NSFOC

Cg: / Sh: rd. brn - dk. gr. occ. V. w.  
 blk. gn. m. sft. tr. hrd. occ.  
 sft., earthy - blackly

Ls: A.A. calc. ag. ? NQ NSFOC

Brn: Cg: / Sh: A.A.

Poly. crm. - tan, hrd, dns, VFG - mxln,  
 tr. w/ tr. p. tr. Vug. o. l. h. brn. stn.  
 tr. cut. tr. wk. odor, occ. w. tr.

Arbyckle Fm.  
 (-1583)  
 Weak Show

