



KANSAS CORPORATION COMMISSION 1090566
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

Confidentiality Requested:

Yes No

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: _____

1090566

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: _____ _____
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Form	ACO1 - Well Completion
Operator	RL Investment, LLC
Well Name	SCHWARTZ A-1
Doc ID	1090566

All Electric Logs Run

Sonic
Micro
Compensation Density Neutron
Dual Induction

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

Sam Brownback, Governor

August 21, 2012

Randall Pfeifer
RL Investment, LLC
217 SAINT PETER ST
MORLAND, KS 67650-5101

Re: ACO1
API 15-193-20852-00-00
SCHWARTZ A-1
SW/4 Sec.01-09S-31W
Thomas 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,
Randall Pfeifer

TO
 BOX 90 D
 OXIE KS 67740

SCHIPPERS OIL FIELD SERVICE L.L.C.

578

DATE <i>11/10/08</i>	SEC. <i>1</i>	RANGE/TWP. <i>2231</i>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <i>S</i>				WELL # <i>A-1</i>		
				COUNTY <i>711</i>	STATE <i>KS</i>	

CONTRACTOR <i>UV 8</i>	OWNER <i>1</i>			
TYPE OF JOB <i>Surf</i>				
HOLE SIZE <i>12 1/4</i>	T.D. <i>257</i>	CEMENT		
CASING SIZE <i>8 3/4</i>	DEPTH <i>252</i>	AMOUNT ORDERED		
TUBING SIZE	DEPTH			
DRILL PIPE	DEPTH			
TOOL	DEPTH			
PRES. MAX	MINIMUM	COMMON	<i>175</i>	@ <i>152</i>
DISPLACEMENT	SHOE JOINT	POZMIX		@
CEMENT LEFT IN CSG.		GEL	<i>4</i>	@ <i>26</i>
PERFS		CHLORIDE	<i>6</i>	@ <i>52</i>
		ASC		@
EQUIPMENT				@
				@
PUMP TRUCK				@
#				@
BULK TRUCK				@
#				@
BULK TRUCK				@
#				@
				@
		HANDLNG	<i>195</i>	@ <i>22</i> <i>527</i>
		MILEAGE	<i>25</i>	@ <i>11</i> <i>462</i>
				TOTAL

REMARKS	SERVICE <i>Surf</i>		
<i>Pls Down @ 8:30 PM</i>	DEPT OF JOB	@	
	PUMP TRUCK CHARGE	@	<i>1050</i>
	EXTRA FOOTAGE	@	
	MILEAGE <i>75</i>	@ <i>62</i>	
<i>Circ Cement to Pit</i>	MANIFOLD	@	
	<i>252</i>	@ <i>22</i>	
		TOTAL	

CHARGE TO: <i>RUB</i>	
STREET	STATE
CITY	ZIP

PLUG & FLOAT EQUIPMENT	@
------------------------	---

PERMIT TO
 RR 1 BOX 90 D
 HOXIE KS 67740

SCHIPPERS OIL FIELD SERVICE L.L.C.

581

DATE <i>6/11/12</i>	SEC. <i>1</i>	RANGE/TWP. <i>7-31</i>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <i>Schwartz</i>			WELL # <i>A-1</i>			
			COUNTY <i>HI</i> STATE <i>KS</i>			

CONTRACTOR <i>WV 8</i>	OWNER <i>R/L</i>				
TYPE OF JOB <i>Bottom Stage</i>					
HOLE SIZE <i>7 1/2</i>	T.D. <i>4727</i>	CEMENT			
CASING SIZE <i>5 1/2</i>	DEPTH <i>410</i>	AMOUNT ORDERED			
TUBING SIZE	DEPTH				
DRILL PIPE <i>4 1/2</i>	DEPTH				
TOOL <i>DV 2567</i>	DEPTH				
PRES. MAX	MINIMUM	COMMON	<i>173</i>	@ <i>15</i>	<i>2715</i>
DISPLACEMENT	SHOE JOINT	POZMIX		@	
CEMENT LEFT IN CSG.		GEL	<i>3</i>	@ <i>26</i>	<i>78</i>
PERFS		CHLORIDE		@	
		ASC		@	
EQUIPMENT				@	
		<i>Cal seal</i>	<i>18</i>	@ <i>30</i>	<i>540</i>
PUMP TRUCK				@	
# <i>201</i>		<i>Mul...</i>	<i>5000</i>	@ <i>1</i>	
BULK TRUCK		<i>KCL</i>	<i>2500</i>	@ <i>4200</i>	
# <i>100</i>				@	
BULK TRUCK				@	
#				@	
				@	
		HANDLING	<i>176</i>	@ <i>2</i>	<i>352</i>
		MILEAGE	<i>24</i>	@ <i>17</i>	<i>408</i>
		TOTAL			

REMARKS	SERVICE <i>Bottom Stage</i>		
<i>DV tool @ 2567</i>	DEPT OF JOB	@	
<i>Run down 9:15 AM</i>	PUMP TRUCK CHARGE	@	<i>1850</i>
<i>Open tool @ 9:40</i>	EXTRA FOOTAGE	@	
	MILEAGE <i>2400</i>	@ <i>6</i>	<i>1440</i>
	MANIFOLD	@	
	<i>1.5 in. vent 2400</i>	@ <i>2</i>	<i>300</i>
	TOTAL		

CHARGE TO: <i>R+L</i>	
STREET	STATE
CITY	ZIP

To: Schippers Oil Field Service LLC

PLUG & FLOAT EQUIPMENT	
<i>Bottom</i>	@

TO
 BOX 90 D
 OXIE KS 67740

SCHIPPERS OIL FIELD SERVICE L.L.C.

582

DATE	SEC.	RANGE/TWP.	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
					COUNTY	STATE
LEASE			WELL #			

CONTRACTOR		OWNER			
TYPE OF JOB					
HOLE SIZE	T.D.	CEMENT			
CASING SIZE	DEPTH	AMOUNT ORDERED			
TUBING SIZE	DEPTH				
DRILL PIPE	DEPTH				
TOOL	DEPTH				
PRES. MAX	MINIMUM	COMMON			
DISPLACEMENT	SHOE JOINT	POZMIX			
CEMENT LEFT IN CSG.		GEL			
PERFS		CHLORIDE			
		ASC			
EQUIPMENT					
PUMP TRUCK					
#					
BULK TRUCK					
#					
BULK TRUCK					
#					
		HANDLNG			
		MILEAGE			
		TOTAL			

REMARKS	SERVICE		
	DEPT OF JOB	@	
	PUMP TRUCK CHARGE	@	
	EXTRA FOOTAGE	@	
	MILEAGE	@	
	MANIFOLD	@	
	TOTAL		

CHARGE TO:	
STREET	STATE
CITY	ZIP

PLUG & FLOAT EQUIPMENT	
	@

OPERATOR

Company: R. L. INVESTMENT, LLC
Address: 217 SAINT PETER ST.
MORLAND, KS 67650-5101

Contact Geologist:
Contact Phone Nbr: 785-627-5711
Well Name: SCHWARTZ A-1
Location: 1320 FSL, 990 FWL, SEC 1-T9S-R31W API: 15-193-20852-0000
Pool: DEVELOPMENT Field: SCHWARTZ
State: KANSAS Country: USA

Scale 1:240 Imperial

Well Name: SCHWARTZ A-1
Surface Location: 1320 FSL, 990 FWL, SEC 1-T9S-R31W
Bottom Location:
API: 15-193-20852-0000
License Number:
Spud Date: 6/1/2012 Time: 12:00 AM
Region: THOMAS COUNTY
Drilling Completed: 6/11/2012 Time: 12:00 AM
Surface Coordinates:
Bottom Hole Coordinates:
Ground Elevation: 2950.00ft
K.B. Elevation: 2955.00ft
Logged Interval: 3300.00ft To: 4727.00ft
Total Depth: 4227.00ft
Formation: MISSISSIPPIAN
Drilling Fluid Type:

TOTAL DEPTH

Measurement Type:	Measurement Depth:	TVD:
RTD	4227.00	0.00
LTD	4228.00	0.00

LOGGED BY

Company: LARRY P. FRIEND
Address: 1639 BURNS
WICHITA, KS 67203-2757
Phone Nbr: 316-265-2228
Logged By: Geologist Name:

CONTRACTOR

Contractor: WW DRILLING, LLC
Rig #: 8
Rig Type: DOUBLE
Spud Date: 6/1/2012 Time: 12:00 AM
TD Date: 6/11/2012 Time: 12:00 AM
Rig Release: 6/11/2012 Time: 4:30 PM

CASING SUMMARY

	Surface	Intermediate	Main		
Bit Size					
Hole Size					
	Size	Set At	Type	# of Joints	Drilled Out At
Surf Casing	8.625 in	258 ft	23 LB	6	
Int Casing					
Prod Casing	5.5 in	4416 ft		105	

CASING SEQUENCE

Type	Hole Size	Casing Size	At
	0.00 in	0.00	0.00 ft

OPEN HOLE LOGS

Logging Company: SUPERIOR
 Logging Engineer: JEFF GRONEWEG
 Truck #:
 Logging Date: 6/11/2012 Time Spent: 5.25
 # Logs Run: 4 # Logs Run Successful: 4

LOGS RUN

Tool	Logged Interval	Logged Interval	Hours	Remarks	Run #
DI	4228.00ft	0.00ft	0.00		1
CND	4228.00ft	3350.00ft	0.00		1
SONIC	4228.00ft	0.00ft	0.00		2
MICRO	4228.00ft	3350.00ft	0.00		2

LOGGING OPERATION SUMMARY

Date	From	To	Description Of Operation
6/5/2012	4228.00ft	0.00ft	

FORMATION DEPTHS

FORMATION DEPTHS	SAMPLE	LOG	COMPARISON TO: MULL DRLG, SCHWARTZ #1 C-NW-SW, 1-9S-31W
STONE CORRAL	2566 (+389)	2557 (+398)	+9
BS STONE CORRAL	2596 (+359)	2588 (+367)	+9
TARK.	3607 (-652)	3607 (-652)	+6
HOWARD	3667 (-712)	3668 (-713)	+4
TOPEKA	3744 (-789)	3742 (-787)	+5
HEEBNER SHALE	3952 (-997)	3952 (-997)	+6
TORONTO	3976 (-1021)	3974 (-1019)	+7
LANSING	3992 (-1037)	3990 (-1035)	+7
MUNCIE CREEK SHALE	4111 (-1156)	4111 (-1156)	+7
STARK SHALE	4197 (-1242)	4196 (-1241)	+12
BASE KANSAS CITY	4255 (-1300)	4254 (-1299)	+10
MARMATON	4282 (-1327)	4283 (-1328)	+10
			COMPARISON TO: MAREXCO, 1-2 SCHWARTZ C-NE-SE, 2-9S-31W
"PAWNEE"	4382 (-1427)	4383 (-1428)	+9
"MYRICK STATION"	4417 (-1462)	4416 (-1461)	+15
"FT. SCOTT"	4453 (-1498)	4454 (-1499)	+11
"CHEROKEE"	4483 (-1528)	4483 (-1528)	+12
BASE PENN LIME	4543 (-1588)	4543 (-1588)	+16
MISSISSIPPIAN	4574 (-1619)	4573 (-1618)	+27
GILMORE	4693 (-1738)	4694 (-1739)	NA

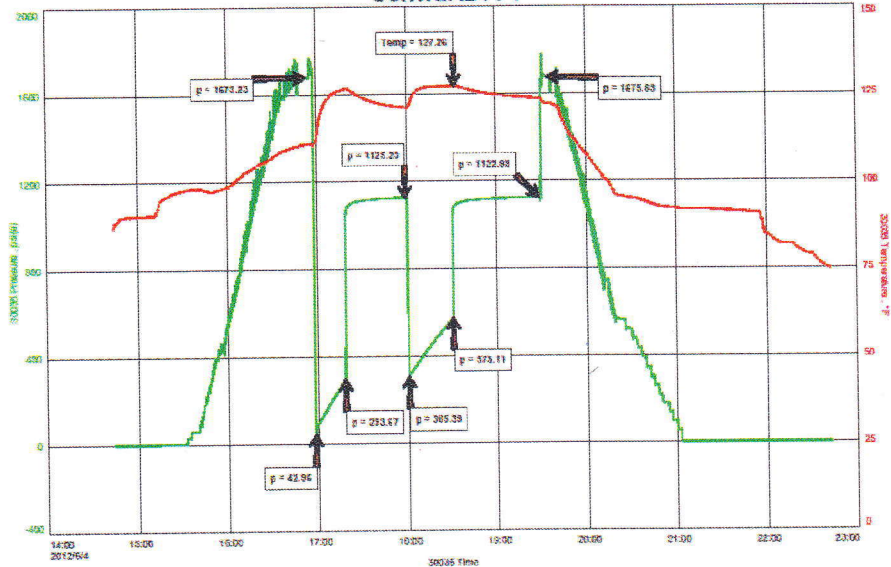
DRILLSTEM TESTS

No	Interval	Formation
1	3627-3679	HOWARD
2	3950-3983	TORONTO
3	4004-4032	LKC "C" ZONE
4	4031-4056	LKC "D" ZONE
5	4118-4171	LKC "H" "I" ZONES
6	4169-4200	LKC "J" ZONE

DST #1 CHART

R.L. Investment
 DST #1 Howard 3627-3679
 Start Test Date: 2012/08/04
 Final Test Date: 2012/08/04

Schwartz A-1
 Formation: DST #1 Howard 3627-3679
 Pool: Infield
 Job Number: S0160



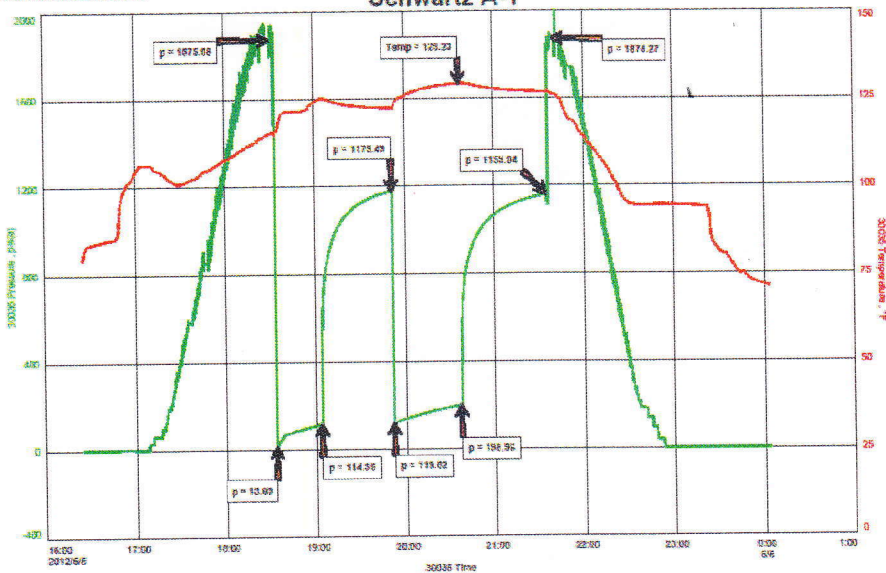
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DST #2 CHART

R.L. Investment
 DST #2 Toronto 3950-3983
 Start Test Date: 2012/08/05
 Final Test Date: 2012/08/06

Schwartz A-1
 Formation: DST #2 Toronto 3950-3983
 Pool: Infield
 Job Number: S0161



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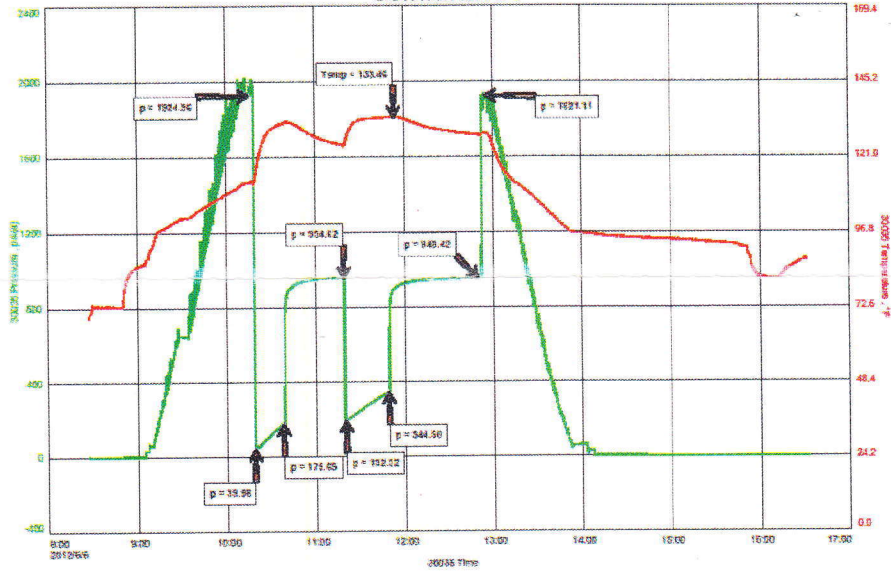


DST #3 CHART

R.L. Investments
 DST #3 Lansing "D" 4004-4032
 Start Test Date: 2012/06/05
 Final Test Date: 2012/06/05

Schwartz A-1
 Formation: DST #3 Lansing "D" 4004-4032
 Pool: Without
 Job Number: 50182

Schwartz A-1



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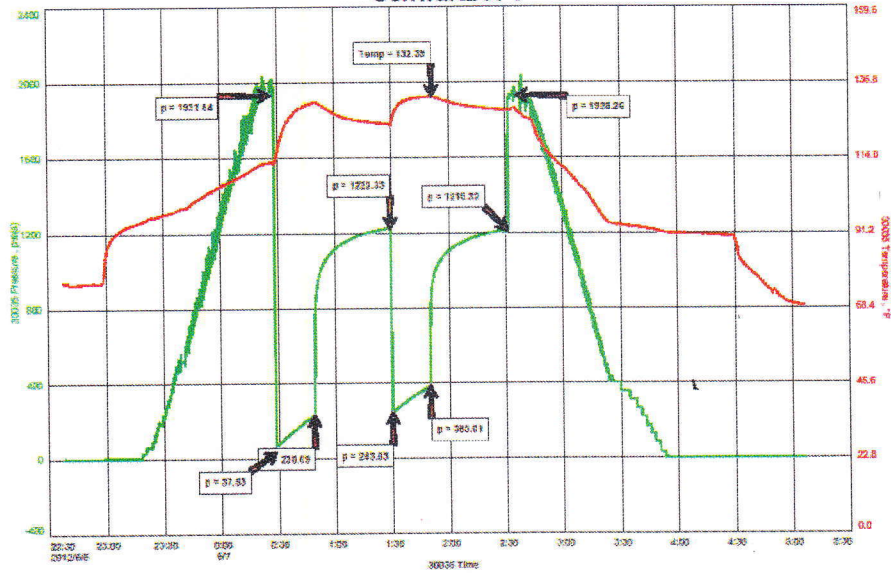
Fast

DST #4 CHART

R.L. Investments
 DST #4 Lansing "D" 4031-4056
 Start Test Date: 2012/06/05
 Final Test Date: 2012/06/07

Schwartz A-1
 Formation: DST #4 Lansing "D" 4031-4056
 Pool: In Field
 Job Number: 50183

Schwartz A-1



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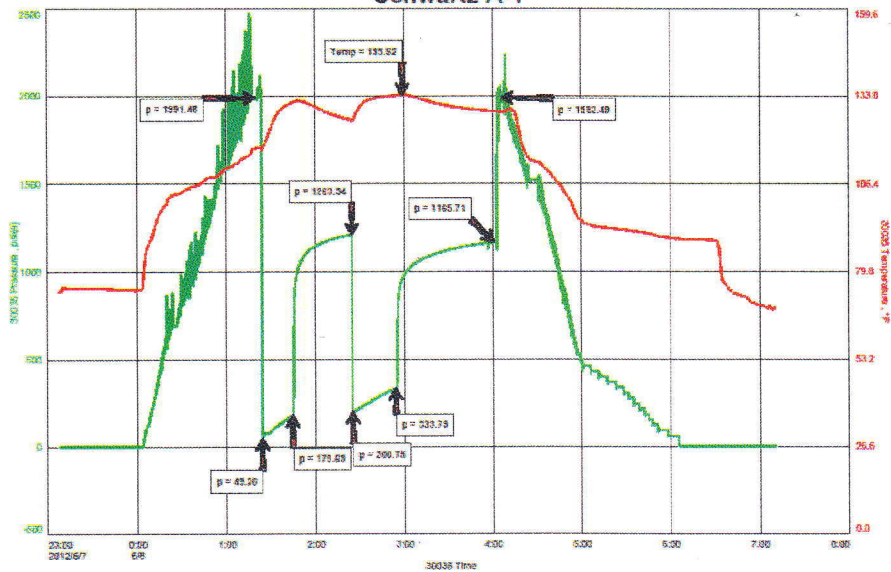
Fast

DST #5 CHART

R.L. Investment
 DST #5 Lansing "H-I" 4118-4171'
 Start Test Date: 2012/08/07
 Final Test Date: 2012/08/08

Schwartz A-1
 Formation: DST #5 Lansing "H-I" 4118-4171'
 Pool: In Field
 Job Number: 50184

Schwartz A-1



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Fast

ROCK TYPES

Brec	Dolsec	Lmst fw7>	Shgy	Slst
Coal	Lmst fw<7	Ss	Shcol	

ACCESSORIES

MINERAL

- Carbonaceous Flakes
- ▲ Chert, dark
- △ Siliceous
- Silty
- △ Chert White

FOSSIL

- ∩ Coral
- ⊕ Oolite

OTHER SYMBOLS

OIL SHOWS

- Even Stn
- Spotted Stn 50 - 75 %
- Spotted Stn 25 - 50 %
- Spotted Stn 1 - 25 %
- Questionable Stn
- D Dead Oil Stn
- Fluorescence

Curve Track #01

ROP (min/ft)

Depth | Intervals

DST Interval

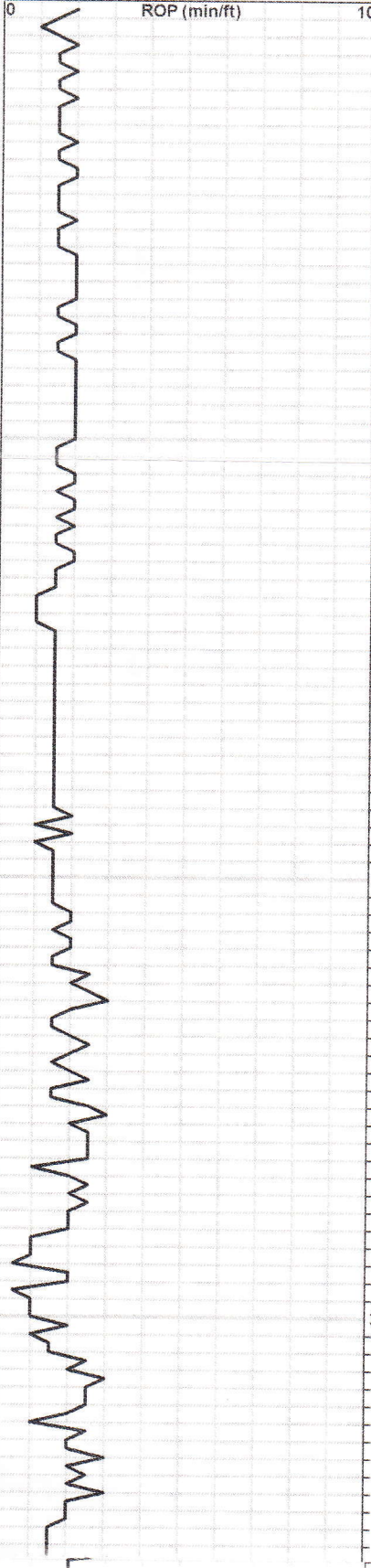
Interpreted Lithology

Oil Shows

Geological Descriptions

Comment

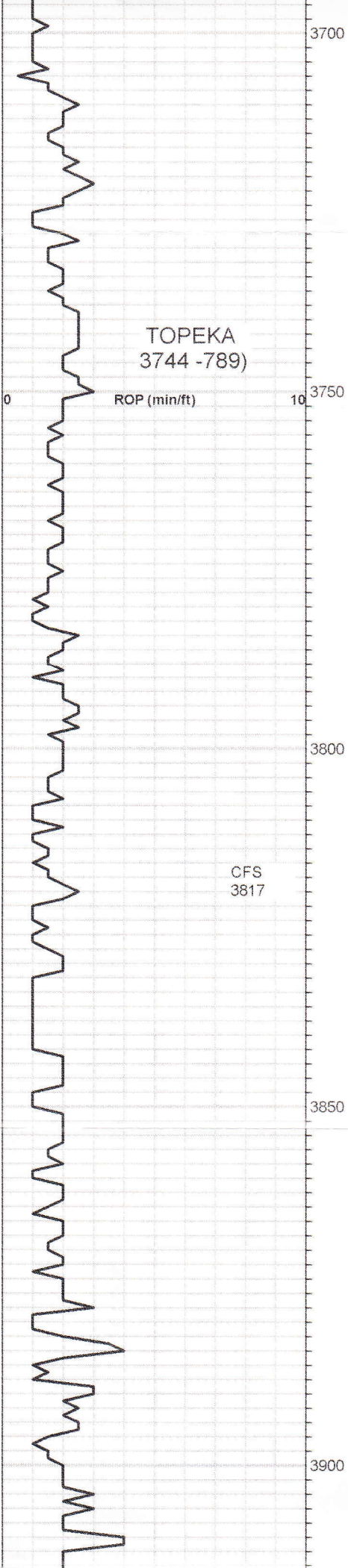
1:240 Imperial
ROP (min/ft)



Cored Interval
DST Interval
3350
3400
3450

7:00AM DEPTHS:
6/01/12: MIRU, SPUD
6/02/12: 550'
6/03/12: 2780'
6/04/12: 3665'
6/05/12: 3850'
6/06/12: 4032', DST #3
6/07/12: 4056', DST #4
6/08/12: 4171', DST #5
6/09/12: 4300
6/10/12: 4660
6/11/12: 4727, RIG RELEASED
@ 4:30PM.

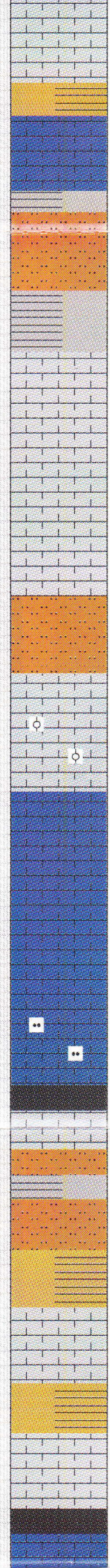
DEVIATION SURVEYS:
0.5 deg. @ 259'
1.0 deg. @ 3679'
1.25 deg. @ 4727'



TOPEKA
3744 -789)

ROP (min/ft)

CFS
3817



POR; NS

30: LS, REDDISH BRN, SLI. SHLY.

40: LS, BRN, VFXLN, SLI. CALCITIC, DSE; NS

50: SILTSTONE, TAN, V. LMY, FR. POR.

60: LS, TAN, FXLN, PR-FR. PPT-VUG. POR, SCAT. SPTY. BLK. OIL RESIDUE, FR. FLUSH CUT, NO ODOR.

70: LS, TAN, FXLN, SLI. FOSS. W/PR.-FR. XLN. POR; SHALE, RED & GRN; NS

80: LS, AS ABV, TR. SILTY, TR. CHLKY, PR-FR. XLN. POR; NS

90: LS, TAN, FXLN, PR. POR; NS

100 & 10: BRN, LMY. SILTSTONE AND SHALE, RED & BRN.

17: LS, TAN, OOL./ FOSS. W/ PR. INTER-OOL./ FOSS. PPT - VUG. POR, SLI. CALCITE FILL, DK SPTY - PARTIAL SAT. STN, SFO, PR-FR. FLUSH CUT; NO ODOR.

17 CIRC: LS, CRM-TAN, FXLN, W/ PR - FR. PPT. & XLN. POR, TR. CHLKY; NS

40: LS, TAN, FXLN, SUC, W/ PR. - GD. XLN & PPT. POR; NS

50: LS, AS ABV TO LS, CRM-TAN, LIT. IS SLI. CHLKY, PR. - GD. XLN. POR; NS, NO FLUOR.

60: LS, TAN, FXLN, SLI. SILTY, PR. - FR. XLN. POR & TR. BLK. CARB. SHALE; NS

70: LS, CRM-BRN, V. FOSS. WEATHERED, W/ FR. XLN. POR, TR. CHLKY, PR. - GD. XLN. POR SCAT. BRN, CARB. MATERIAL, I PC. W/ TR. HVY, BLK. OIL RESIDUE, NO OTHER SHOW.

80: GRY, LMY. SILTSTN; SHALE, RED & GRN; AND AS ABV.

90: LS, TAN, FXLN, TO V. FOSS, TR. CALCITIC, PR. - FR. XLN & PPT. POR, CP. PCS. W/ PR. SPTY. BLK OIL RESIDUE, TR. FO; NO ODOR

100: LS, CRM-TAN, FXLN, SUC, W/ PR. - GD. XLN. POR; SM. AMT. SHALE, RED & MAROON; NS

10: LS, CRM-BRN, FXLN, W/ PR. - FR. XLN. POR, 2 PCS. FRAGMENTAL / FOSS. LS W/ FR. INTER-FOSS. POR. & SPTY. STN, NFO.

20: LS, TAN-BRN, FXLN, W/ MOSTLY PR. XLN. POR; NS

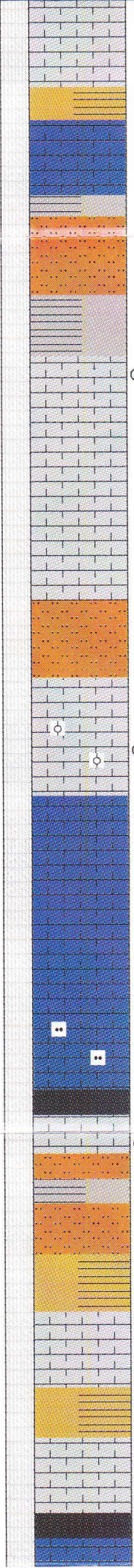
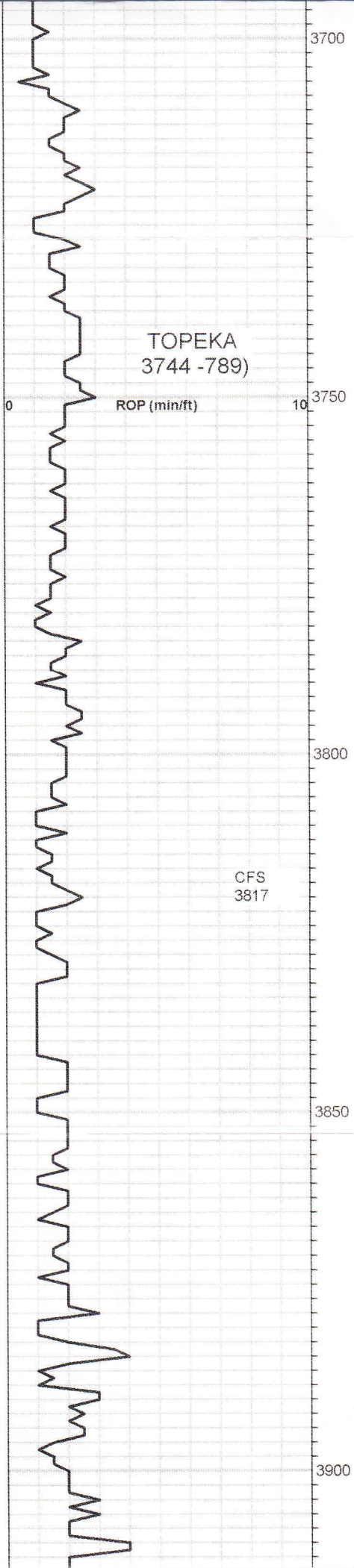
30: SHALE, GRY & RED; LS, TAN-BRN, FXLN, MOSTLY PR. VIS. POR, TR. W/ FR. - GD. PPT-

MUD @ 3679:
WT. 8.8
VIS: 67
FILT: 6.4
Ph: 11.5
CHLOR: 900

MUD @ 3966:
WT: 9.2
VIS: 51
FILT: 6.8
Ph: 11.0
CHLOR: 2,000 PPM

THESE OIL SHOWS LOOK SIMILAR TO SHOWS IN HOWARD - FROM ABOVE??

DST #2: 3950-3953
TORONTO
TIMES: 30-45-45-60
IF: BLOW OFF BTM 22"
FF: BLOW OFF BTM 30.5"
NO BLOWBACK
REC: 426' TOTAL FLUID:
80' SOCWM (5%)



POR; NS

30: LS, REDDISH BRN, SLI. SHLY.

40: LS, BRN, VFXLN, SLI. CALCITIC. DSE; NS

50: SILTSTONE, TAN, V. LMY, FR. POR.

60: LS, TAN, FXLN, PR-FR. PPT-VUG. POR, SCAT. SPTY. BLK. OIL RESIDUE, FR. FLUSH CUT, NO ODOR.

70: LS, TAN, FXLN, SLI. FOSS. W/PR.-FR. XLN. POR; SHALE, RED & GRN; NS

80: LS, AS ABV, TR. SILTY, TR. CHLKY, PR-FR. XLN. POR; NS

90: LS, TAN, FXLN, PR. POR; NS

100 & 10: BRN, LMY. SILTSTONE AND SHALE, RED & BRN.

17: LS, TAN, OOL./ FOSS. W/ PR. INTER-OOL./ FOSS. PPT - VUG. POR, SLI. CALCITE FILL, DK SPTY - PARTIAL SAT. STN, SFO, PR - FR. FLUSH CUT; NO ODOR.

17 CIRC: LS, CRM-TAN, FXLN, W/ PR - FR. PPT. & XLN. POR, TR. CHLKY; NS

40: LS, TAN, FXLN, SUC. W/ PR. - GD. XLN & PPT. POR; NS

50: LS, AS ABV TO LS, CRM-TAN, LIT. IS SLI. CHLKY, PR. - GD. XLN. POR; NS, NO FLUOR.

60: LS, TAN, FXLN, SLI. SILTY, PR. - FR. XLN. POR & TR. BLK. CARB. SHALE; NS

70: LS, CRM-BRN, V. FOSS. WEATHERED, W/ FR. XLN. POR, TR. CHLKY, PR. - GD. XLN. POR SCAT. BRN, CARB. MATERIAL, 1 PC. W/ TR. HVY, BLK. OIL RESIDUE, NO OTHER SHOW.

80: GRY, LMY. SILTSTN; SHALE, RED & GRN; AND AS ABV.

90: LS, TAN, FXLN, TO V. FOSS, TR. CALCITIC, PR. - FR. XLN & PPT. POR, CP. PCS. W/ PR. SPTY. BLK OIL RESIDUE, TR. FO; NO ODOR

100: LS, CRM-TAN, FXLN, SUC, W/ PR. - GD. XLN. POR; SM. AMT. SHALE, RED & MAROON; NS

10: LS, CRM-BRN, FXLN, W/ PR. - FR. XLN. POR, 2 PCS. FRAGMENTAL / FOSS. LS W/ FR. INTER-FOSS. POR. & SPTY. STN, NFO.

20: LS, TAN-BRN, FXLN, W/ MOSTLY PR. XLN. POR; NS

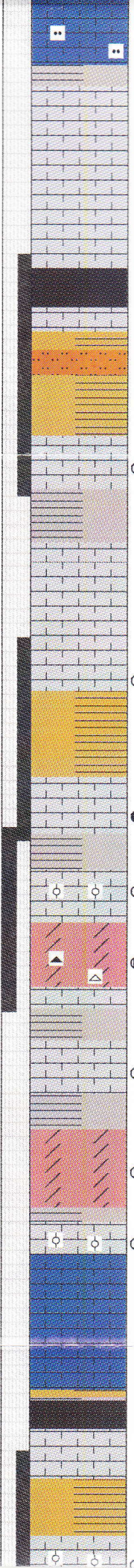
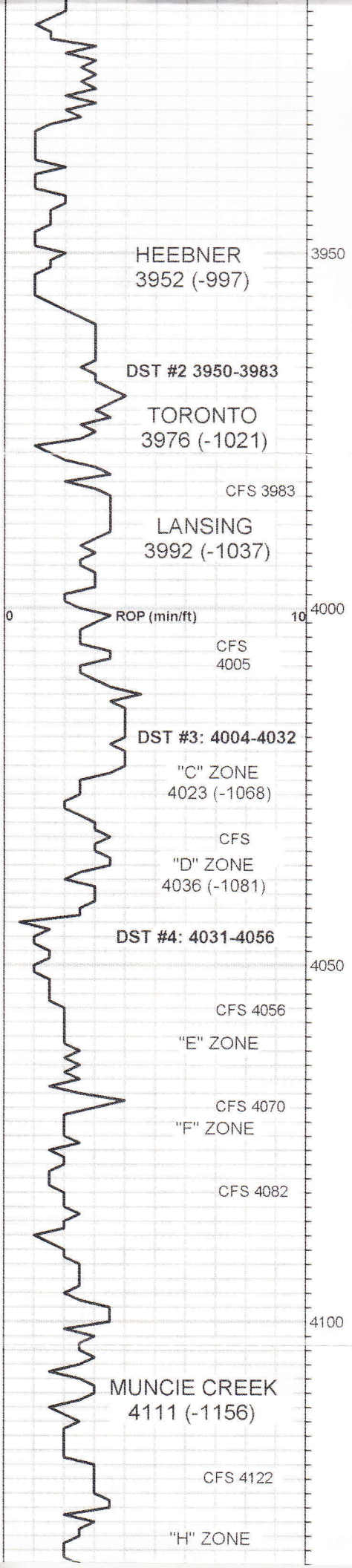
30: SHALE, GRY & RED; LS, TAN-BRN, FXLN,

MUD @ 3679:
 WT: 8.8
 VIS: 67
 FILT: 6.4
 Ph: 11.5
 CHLOR: 900

MUD @ 3966:
 WT: 9.2
 VIS: 51
 FILT: 6.8
 Ph: 11.0
 CHLOR: 2,000 PPM

THESE OIL SHOWS LOOK SIMILAR TO SHOWS IN HOWARD - FROM ABOVE??

DST #2: 3950-3953
TORONTO
TIMES: 30-45-45-60
IF: BLOW OFF BTM 22"
FF: BLOW OFF BTM 30.5"
NO BLOWBACK
REC: 426' TOTAL FLUID:
80' SOCWM (5%)



VUG. POR; NS

40: LS. CRM-BRN, FXLN, SLI. SILTY, PR. - FR. XLN. POR; SHALE, GRY & RED.

50: LS. CRM-BRN, FXLN, V. SLI. FOSS, SLI. CALCITIC, W/ PR. - GD. XLN. POR; NS

60: LS. TAN, FXLN, SUC, W/ PR. - GD. XLN. POR TO LS, GRY-BRN, FXLN, SLI. FOSS, DSE; NS

70: SHALE, BLK; AND LS, BRN, FXLN, SLI. FOSS, SLI. CHERTY, PR. POR; AND SM. AMT. GRY, LMY SILTSTN; NS

80: VARY COLORED SHALE.

83 CIRC: LS, CRM-TAN, FXLN, FOSS, SLI. CALCITIC, SLI. PYRITIC, W/ PR. - FR. INTER-FOSS. PPT - VUG. POR, FSFO, SPTY - FR. DK BRN. SAT. STN, FR. ODOR.

LS, CRM-TAN, VFXLN, SLI. FOSS, DSE TO SOME WEATH.. SLI. CHLKY, TR. SPTY GILSONITIC? STN, NO FLUOR, NO CUT.

20: TR. LS, FOSS / FRAGMENTAL, W/ PR - FR INTER-FOSS. PPT. POR, FR. DK BRN SAT. STN TR. FO; SLI. ODOR.

VARY COLORED SHALE.

32 CIRC: ABUNDANT LS, CRM-TAN, FXLN, FOSS, W/ PR - GD, SCAT. PPT - VUG - FOSS. CAST - SOLUTION POR, GSFO&G, SPTY. - TR. TOTAL SAT. STN, FR. ODOR.

56: LS, TAN-BRN, OOL. / FOSS, W/ PR. - FR. SCAT. PPT. POR, FR. DK. BRN SPTY. SAT. STN, SFO; SLI ODOR.

56 CIRC: DOL, TAN, FXLN, SUC, SLI. PYRITIC IN PT, SEV. PCS. W/ PR-FR- TR. GD, SCAT. PPT-VUG & XLN. POR, FSFO, SPTY TO TR. TOT. SAT STN (MUCH DOL, TITE W/ NS); LS, VFXLN, SEV. PCS. W/PR - TR. FR. VUG - FOSS. CAST. POR, PR-FR. SPTY SAT STN, F-GSFO; TR. CHT W/ TR. STN; FEW CALCITE GRNS; FR. ODOR

70 CIRC: LS, CRM-GRY, FN-CSE XLN, SLI. SUC, V. CALCITIC, SLI. FRAG, TR. V.SLI. CHLKY, PR-FR. XLN. POR, TR. VUG. POR, SFO, PR. SPTY. BRN TO BLK RESID. STN, SLI. ODOR

82 CIRC: DOL, TAN, F-MD XLN, PR. XLN. TO TR. FR. SCAT. PPT-VUG - SOLUTION POR, ONLY TR. BRN. SPTY. SAT. STN, TR. FO; SLI. ODOR.

100: TR. LS. (CP PCS/TRAY) V. OOL, W/ PR-FR. INTER-OOL. PPT-VUG. POR, SPTY. BRN. SAT. STN, SSFO; SOME DOL AS ABV. IN SMP

10 & 20: LS, CRM-TAN, VF-MD XLN, SLI. CALCITIC, DSE TO SOME SLI. CHLKY; NS

22 CIRC: SHALE, RD, GRN & BLK; LS, BRN, FOSS, DSE; NS

40: SHALE, VARY COLORED, SOME SILTY.

45 TR. LS, CRM, V. OOLITIC (FN-CSE OOLITES) FR. INTER-OOL. PPT. POR, PR.

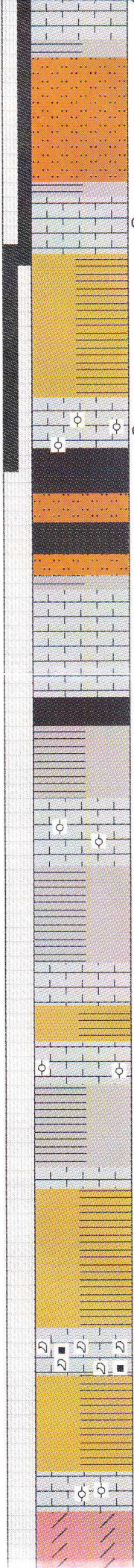
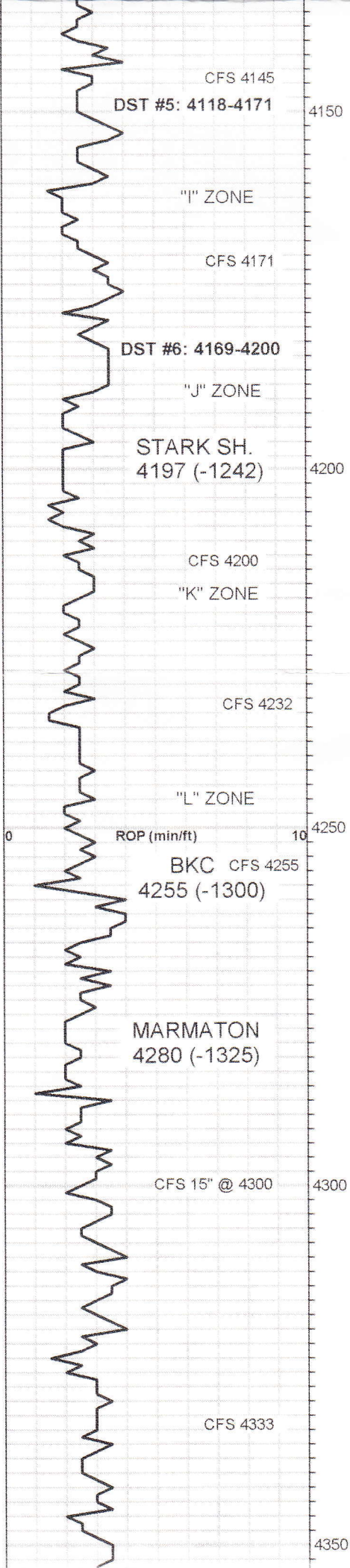
O, 47%W, 48%M),
346' SOSMW
 (1%O, 84%W, 15%M)
SAMPLE FROM TESTTOOL:
 (2%O, 96%W, 2%M)
CHLOR: 36,000 PPM
SYSTEM: 2,000 PPM
RW: .22 @ 73 DEG. F.
IFP: 13-114#, FFP: 119-199#
SIP: 1175-1159#
MAX. TEMP: 129 DEG. F.
SEE CHART ABOVE

DST #3: 4004-4032
"C" ZONE
TIMES: 20-40-30-60
IF: BLOW OFF BTM 2"
ISI: BLOWBACK BTM 12"
FF: BLOW OFF BTM 4".
REC: 1575' GAS IN PIPE,
973' TOTAL FLUID:
846' CLEAN GASSY OIL,
127' MUD CUT GASSY OIL
(30%G, 40%O, 30%M)
OIL GRAVITY: 39 @ 60 F.
IFP: 110-176#,
FFP: 192-345#
SIP: 955-949#
HP: 1924-1921#
MAX. TEMP: 133 DEG. F.
SEE CHART ABOVE

DST #4: 4031-4056
"D" ZONE
TIMES: 20-40-20-40
IF: BLOW OFF BTM 4.75"
FF: BLOW OFF BTM 5.5"
NO BLOWBACK
REC: 756' TOTAL FLUID:
191' SOSMW
(55%W, 45%M),
565' SMCW (97%W, 3%M)
CHLOR: 39,000 PPM
SYSTEM: 2,000 PPM
RW: .2 @ 60 DEG. F.
IFP: 38-230#, FFP: 243-383#
SIP: 1222-1210#
HP: 1932-1928#
MAX TEMP: 132 DEG. F.
SEE CHART ABOVE

MUD @ 4032:
 WT: 9.1
 VIS: 55
 FILT: 7.2
 Ph: 10.5
 CHLOR: 2,000 PPM

DST #5: 4118-4171
"H" & "I" ZONES
TIMES: 20-40-30-60
IF: BLOW OFF BTM 2.5"
ISI: BLOWBACK TO BTM 9"
FF: BLOW OFF BTM 4"



SPTY. STN, SSFO
 45 CIRC: LS, BRN, VFXLN, DSE TO LS, WEATH, CRM, SLI. CHLKY; AND V. LMY. SILTSTONE

60: V. LMY. TAN SILTSTONE.

71: SHALE, RED, GRY, GRN.
 71 CIRC: ABUND. LS, CRM-BRN, VF-FXLN, TR. SLI. CHLKY, V. SLI. CALCITIC, PR-GD. XLN POR & TR. SCAT. PR-FR. PPT & FOSS. CAST. POR, FSFO&G, TR. BLDG. OIL, SPTY- TOTAL BRN. SAT. STN; SLI. - FR. ODOR.

80 & 90: VARY COLORED SHALE, SOME LMY.

100 CIRC: FR. AMT. LS, CRM-BRN, VFXLN, DSE TO WEATH, V. SLI. CHALKY IN PT., W/ PR-GD. XLN. POR. & PR. SPTY. PPT. POR, FSFO&G (TR. BLDG OIL) & PR. SPTY, PARTIAL BRN. SAT. STN; ALSO FR. AMT. LS BRN, FN-MXLN, DSE, OOL, SLI. CALCITIC, W/ ONLY TR. SPTY. PPT. POR & SPTY. STN; SLI. ODOR

20: SHALE, GRY AND TAN, LMY SILTSTONE

30: LS, TAN-BRN, V. FOSS, SLI. CALCITIC, W/ PR. POR. TO TR. WEATH, SLI. CHLKY; NS

32: 20" CIRC: LS, AA, TAN-BRN, V. FOSS, PR-FR. XLN. POR, SOME WEATH, SLI. CHLKY, SOFT.

32: 40" CIRC: LS, GRY-BRN, VFXLN, DSE & TR. BLK SHALE.

55: SHALE, BRN & GRY.

55: 20" CIRC: LS, BRN, VFXLN, DSE TO SOME WEATH. W/ FR. XLN. POR; NS

55: 40" CIRC: SOME LS, CRM-BRN, V. OOL./ FOSS. W/ PR- TR. FR. XLN. POR; NS

70 & 80: SHALE, GRY, GRN, SOME SILTY; MUCH LS AA IN SAMPLE.

90: LS, GRY-BRN, VFXLN, SLI. FOSS, PR. POR & SHALE, VARY COLORED; NS

100: INC. SHALE, GRY & MAROON.

100: 15" CIRC: SOME LS, GRY-BRN, VFXLN, SOME OOL./ FOSS, DSE TO PR. POR; SHALE GRY, GRN; NS

20: TR. LS, BRN, SLI. FOSS W/ PR. POR; AND SHALE, MAROON, GRY, GRN, SOME LMY; NS

33: 10" CIRC: ABUNDANT CORAL W/ GD HONEY COMB POR & TR. BLK. CARB. SPKS - RESID. OIL?, NO FLUOR, NO CUT; ALSO LS, GRY-BRN, VFXLN, DSE TO TR. SLI. CHLKY.

50 & 60: LS, BRN, VFXLN, DSE, TO MUCH WEATH. CRM, SLI. CHLKY LS; TR. V. OOLITIC LS W/ PR. POR; NS

70: BRN. FXLN. DOL. LS TO DOL. W/ PR. XLN.

REC: 1850' GAS IN PIPE, 922' TOTAL FLUID: 783' CLEAN GASSY OIL, 139' MCGO (18%G, 59%O, 23%M). GRAVITY: 39.5 @ 60 F. IFP: 49-180#, FFP: 201-334# SIP: 1209-1166# HP: 1991-1992# MAX. TEMP: 134 DEG. F. SEE CHART ABOVE

DST #6: 4169-4200 "J" ZONE
TIMES: 20-40-20-40
IF: SURF. BLOW DIED 17"
FF: NO BLOW
REC: 3' SOCM (2%O)
IFP: 8-9#, FFP: 9-10#
SIP: 25-16#
HP: 2000-1999#
MAX. TEMP: 118 DEG. F.

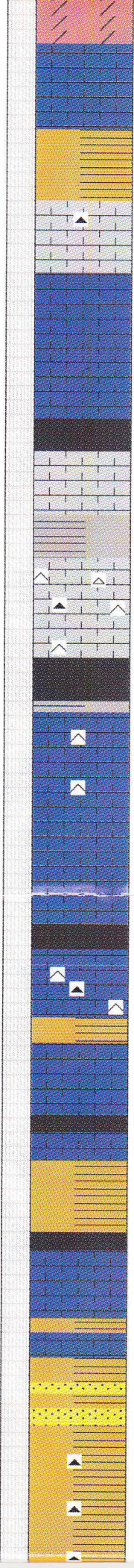
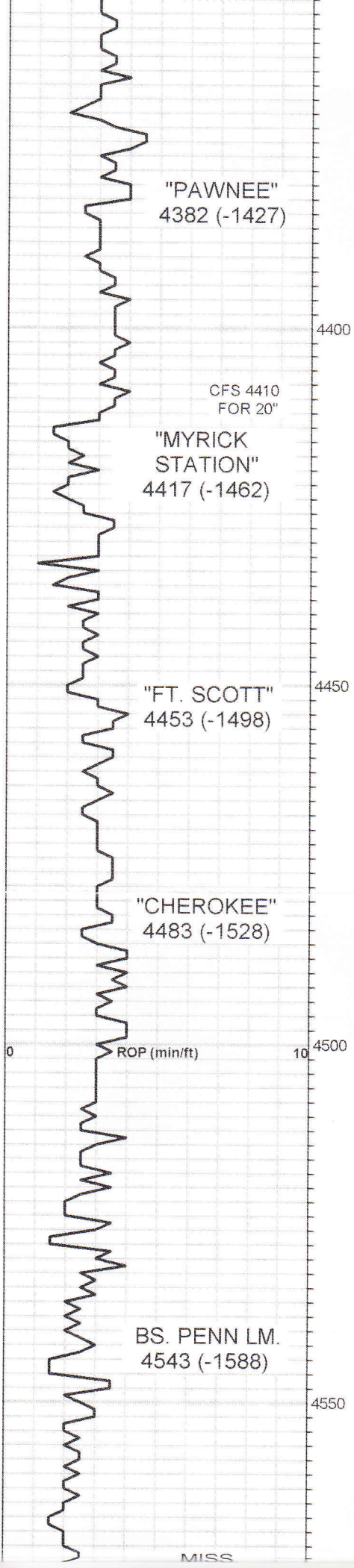
MUD @ 4200: WT: 9.0
 VIS: 55
 FILT: 7.2
 Ph: 11.0
 CHLOR: 2.700

PARTIALLY PLUGGED BIT / POOR SAMPLES - MIXED UP

SAME

TRIP OUT TO UNPLUG BIT @ 4300'

MUD @ 4300:
 WT: 9.2
 VIS: 66
 FILT: 7.6
 Ph: 10.5
 CHLOR: 2.500



POR; NS

80: LS, BRN, EARTHY, PR. XLN. POR; NS

90: SHALE, BLK, GRY & MAROON.

100: 2 PCS CHERT, W/ TR. PPT-VUG. POR, BLDG. O&G & SPTY. STN; CP. PCS. LS CALCITIC W/ FR. VUG. POR, SFO & SPTY. STN NO ODOR; AND MOSTLY LS, BRN, VFXLN, TR. V. OOL. MOSTLY PR. XLN. POR.

10: LS, DULL BRN, EARTHY, PR. POR; NS

10: 20" CIRC: LS, AS ABOVE AND SHALE, DK. GRY.

30: SHALE, BLK. & TR. PYRITE.

40: LS, BRN, FXLN, SLI. FOSS, W/ PR. XLN. POR. TO SOME WEATH, CRM SLI. CHLKY, SOFT; NS

43: 20" CIRC: LS, BRN, V. FOSS, CALCITIC, CHERTY, W/ PR. VIS. POR AND TR. CHERT, CRM-GRY, SHP; NS

43: 40" CIRC: LS, BRN, VFXLN, SLI. CHTY, DSE TO SOME SOFT, CHLKY; NS

60: SHALE, BLK.

70: LS, TAN, VFXLN, CHTY, HARD; NS

80 & 90: LS, BRN, VFXLN, DSE TO SM. AMT. LS, CRM, SLI. CHLKY; NS

100: SHALE, BLK AND LS, BRN, VFXLN, DSE, SLI. CHTY; NS

10: LS, TAN-BRN, VFXLN, SOME CHTY, DSE; TR. CHT. GRY;

20: LS, TAN-BRN, VF-FXLN, SLI. CALCITIC, PR.- TR. FR. XLN. POR; SOME CHLKY LM; SHALE, BLK, GRY, MAROON; NS

30: LS, TAN-BRN, VFXLN, DSE TO SOME WEATH, SLI. CHLKY; TR. SHALE, BLK, BRN; NS

40: SHALE, BLK AND VARY COLORED; TR. PYRITE.

50: LS, BRN, VFXLN, V. SLI. CALCITIC, SOME WEATH. CRM, SLI. CHLKY; SHALE, GRY, GRN, MAROON; NS

60: LS, BRN, VFXLN, DSE TO TR. WEATH, SLI. CHLKY; VARY COLORED SHALE; NS

70: TR. SST, PRLY SORTED, SILT TO MD GRND ANG-SBRD, CLR, TITE-FRIAB, FR. POR; NS

80: SHALE, VARY COLORED; TR. CHERT, ORG TR. LS, BRN, CALCITIC, SLI. GLAUC; TR. SST AS ABV; NS

90: LS, YELL-BRN CSELY FOSS. / FRAG., CHTY, HARD TO SOME WEATH. CHLKY

MISS

4574 (-1619)

4600

4650

4700

GILMORE CITY
4693 (-1738)

RTD 4727
LTD 4728

100: CHERT, GRY-YELLOWISH; MUCH LS, AS ABOVE, CSELY FOSS/FRAG, CALCITIC, WEATH, SOFT, SLI. CHLKY; NS

10: LS, GRY, V. FOSS, SLI. CHTY, V. SLI. GLAUC, PR. POR; & CHERT, GRY, FOSS; NS

20: LS, FXLN, BRN-GRY-YELLOWISH, FOSS. W/ PR. XLN. POR; CHERT, GRY-BRN, SOME FOSS, SHP; NS

30: LS, AS ABOVE, TR. IS WEATH, CRM, SLI. CHLKY. W/ PR. - TR. FR. XLN. POR; LESS CHT, GRY, FOSS, SHARP; NS

40: LS, BRN, VFXLN, DSE; LS, CRM, FXLN, CHTY, W/ PR. POR; CHT, CRM, GRY, BRN; NS

50: LS, CRM-TAN, FXLN, SLI. FOSS, PR-FR. XLN. POR; AND MUCH CHERT, CRM, GRY, BRN; NS

60: SM. AMT. LS, BRN, CSELY. OOLITIC W/ PR - TR. FR. INTER-OOL. POR; AND AS ABV; NS

70 & 80: CHERT, CRM-BLUE, SHP; AND TR. LS, TAN, FXLN, PR- FR. XLN. POR; NS

90: TR. LS, BRN, VFXLN, DSE; MOSTLY SHALE IN SAMPLE, GRY & MAROON; NS

100: AS ABOVE AND SM. AMT. CHT; MOSTLY, SHALE IN SAMPLE.

10 & 20: TR. LS, CRM-TAN, FXLN, W/ PR-FR. XLN. POR TO LS, BRN, VFXLN, DSE, SM. AMT. CHT, CRM-BLUE, SHP; MOSTLY SHALE; NS

27 & CIRC: TR. LS, BRN, VFXLN, DSE TO LS, CRM, FXLN; TR. CHT, CRM-BRN, SHP; MOSTLY SHALE; NS

MUD @ TD:
VIS: 50+
WT. 9.5