

Confidentiality Requested:

Yes No

**KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

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

Gas DH EOR

OG GSW

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 EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

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 Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

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

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

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

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

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

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

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	DENNIS UNIT 5-3
Doc ID	1485630

All Electric Logs Run

Microlog
Porosity
Resistivity
Sonic



Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country Estates Road, Liberal KS 67901

PRESSURE PUMPING Job Log

Customer:	Berexco LLC	Cement Pump No.:	38117,19919 10Hrs	Operator TRK No.:	78868 Angel
Address:	2020 N Bramblewood	Ticket #:	1718 19709 L	Bulk TRK No.:	37712 Oscar 14354
City, State, Zip:	Wichita, Kansas 67206-1094	Job Type:	Z-42 Cement - Surface Casing		
Service District:	1718 - Liberal, Ks	Well Type:	OIL / GAS		
Well Name and No.:	Dennis Unit # 5-3	Well Location:	03-29S-33W	County:	Haskell State: Kansas

Type of Cmt	Sacks	Additives	Truck Loaded On		
A-Con	460	1/4# JSK Cello Flake	37712 Oscar	Front	Back
AA-2	205	10%GYP, 10%Salt, 5# Gilsonite, .5# Fluid Loss, 1/4# Defoamer	14354	Front	Back
				Front	Back

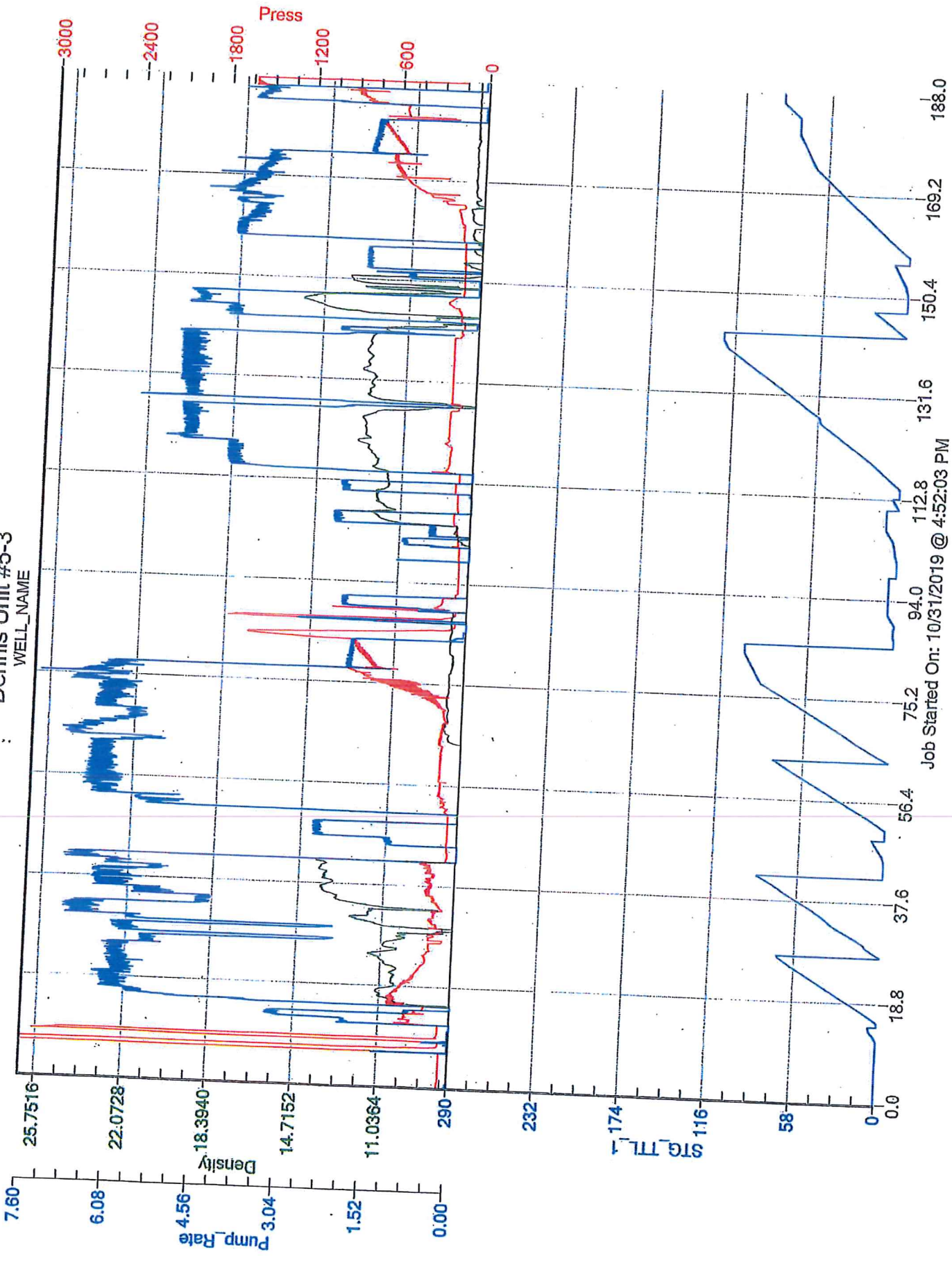
Lead/Tail:	Weight #1 Gal.	Cu/Ft/sk	Water Requirements	CU. FT.	Man Hours / Personnel	
Lead:	11.8	2.56	15.33	1177.6	Man Hours:	70
Tail:	14.8	1.51	6.65	309.55	# of Men on Job:	4

Time (am/pm)	(BPM)	Volume (BBLs)	Pumps		Pressure (PSI)		Description of Operation and Materials
			T	C	Tubing	Casing	
0300							On Location
0315							Safety Meeting
0400							Rig Up
1700					3000		Pressure Test Line
1706	5.7	66.1				430	Pump Lead 145sx @ 11.8#/GAL
1720	5.7	41.7				170	Pump Tail 155sx @ 14.8#/GAL
1735	4	7				ZERO	Shut Down Wash to Pit -- Drop L.D. Plug
1741	5.5	57.6 H2o				150	Displace W/ H2O
1753	2.1	76.6 Mud				800	Displace W/ Mud
1815						1500	Land / Pressure Plug -- Release Back -- Float Held
1825							Drop Trip Bomb (DV Opening Tool)
1850	3	5				950	DV Tool Opened Circulate Well w/ Mud
2300	3	22.8				ZERO	Pump Rat And Mouse Hole 50sx
2312		120.8					Pump Lead 265sx @ 11.8#/GAL
2335		13.4					Pump tail 50sx @ 14.8#/GAL
2345							Shut Down Wash to Pit -- Drop Closing Plug
2355	4	76.6				750	Displacement W/ H2o
0030	2					950	Land / Pressure Plug -- Release Back -- D.V. Held
0035							Rig Down
							Job Completed
							Thank You

Size Hole	7 7/8	Depth			TYPE	Cement Plug Container	
Csg.	5.5 15.5	Depth	5683'	L.D. Plug	5641'	Packer	Depth
D.V. Tool	3219'	Shoe jt	42			Retainer	Depth
Diff psi 1st	797.7psi	Diff psi 2nd	578.8psi			Perfs	CIBP

Customer Signature: *Dale Thompson* Basic Representative: Angel Echevarria
 Basic Signature: *[Signature]*
 Date of Service: 10/30/2019

Dennis Unit #5-3
WELL_NAME



Job Started On: 10/31/2019 @ 4:52:03 PM



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

Well Name: DENNIS UNIT # 5-3
Well Id:
Location: Sec 3 T29s R33w, Haskell County, Kansas
License Number: 15-081-22203
Spud Date: Oct. 08. 2019
Surface Coordinates: 1230' FNL & 1230' FEL
Region: US 83 NW
Drilling Completed: Oct. 29,2019

Bottom Hole
Coordinates:
Ground Elevation (ft): 2955' K.B. Elevation (ft): 2967'
Logged Interval (ft): 4000' To: 5690' Total Depth (ft): 5690'
Formation: Morrow, Marmaton
Type of Drilling Fluid: Natural Chemical

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

OPERATOR

Company: BEREXCO LLC
Address: 2020 N. BRAMBLEWOOD
WICHITA, KANSAS 67206
CO. ENG; Mr. Evan Mayhew

GEOLOGIST

Name: Edwin H. Grieves/Tim Hedrick
Company: GRIEVES AND CO.
Address: PO Box 3125
Edmond, Oklahoma, 74083-3125
Cell: 405-826-9027/Cell:580-754-0062

8 AM DEPTHS

1. 10-20-2019 8 AM 3380' DRILLING
2. 10-21-2019 8 AM 3765' DRILLING
3. 10-22-2019 8 AM 4153' DRILLING
4. 10-23-2019 8 AM 4468' DRILLING
5. 10-24-2019 8 AM 4722' DRILLING
6. 10-25-2019 8 AM 4920' DRILLING
7. 10-26-2019 8 AM 5224' DRILLING
8. 10-27-2019 8 AM 5356' DRILLING
9. 10-28-2019 8 AM 5520' DRILLING
10.10-29-2019 8 AM 5690. RTD

CIRC. POINTS

1. 4116'
2. 4641'
3. 4921'
4. 5280'
5. 5330'
6. 5370'
7. 5400'
8. 5430'
9. 5460'
10. 5590'
11. 5610'
12. 5690'

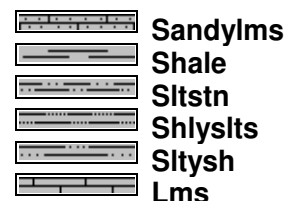
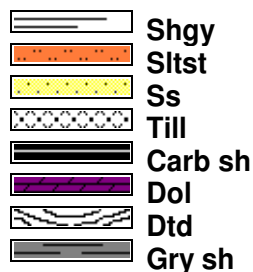
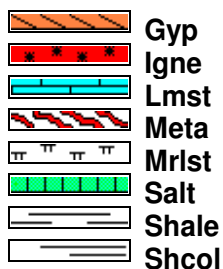
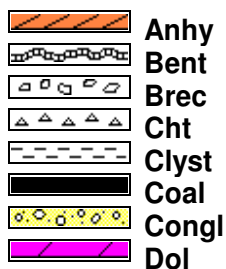
DATE	DEPTH	W/T	UIS	PV	YP	SS	P H	W.	CAKE	CHLOR	CALCIUM	LCM
20-Oct	3420	9.3	48	15	15	12.34	9	10.4	1	6000	160	3
21-Oct	3794	9.5	47	15	16	12.34	10.5	8.8	1	6000	40	3
22-Oct	4147	9.4	46	15	15	12.34	10	8	1	6000	40	4
23-Oct	4486	9.4	49	16	17	14.46	11	7.2	1	5200	10	2
24-Oct	4790	9.5	45	16	18	14.43	11	8.2	1	3800	30	2
25-Oct	4935	9.3	54	17	23	18.52	10	8.4	1	2600	20	4
26-Oct	5242	9.4	49	14	16	13.39	11	7.6	1	2450	10	3
27-Oct	5378	9.4	67	22	18	22.62	10.5	8.8	1	2500	20	4
28-Oct	5545	9.2	53	16	17	16.47	11	8	1	1800	10	3
29-Oct	5608	9.3	48	13	14	13.38	10.5	7.6	1	1450	10	4

*

DEV. SURVEYS

1. 453' = 3/4 DEG.
2. 830' = 3/4 DEG.
3. 1237' = 1 DEG.
4. 1765' = 1 DEG.
5. 2654' = 1 DEG.
6. 4761' = 3/4 DEG.
7. 5242' = 1 1/2 DEG.
8. 5690' = 1/4 DEG.

ROCK TYPES



ACCESSORIES

MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breclfrag
- Calc
- Carb
- Chtdk
- Chtit
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr

- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Sity

- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram

STRINGER

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

TEXTURE

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

OTHER SYMBOLS

POROSITY TYPE

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

SORTING

- Well
- Moderate
- Poor

ROUNDING

- Rounded
- Subrnd
- Subang

- Angular

OIL SHOWS

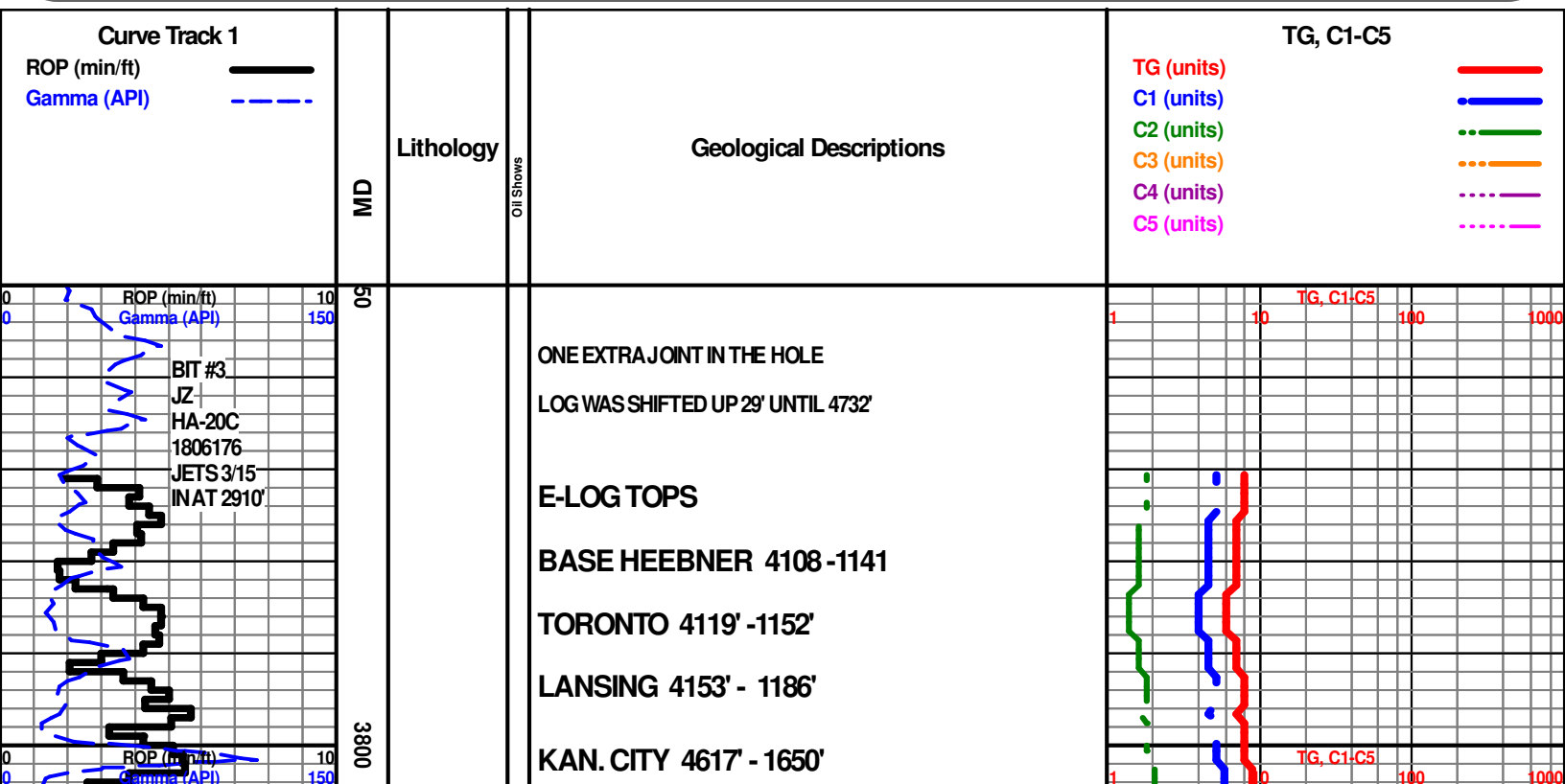
- Even
- Spotted
- Ques
- Dead
- Gas show

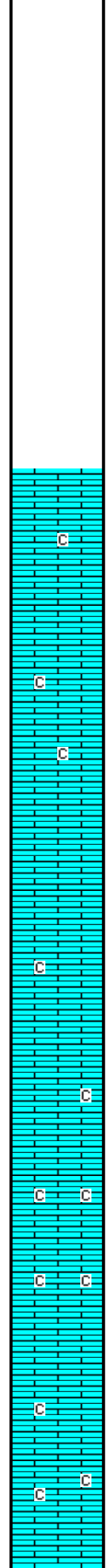
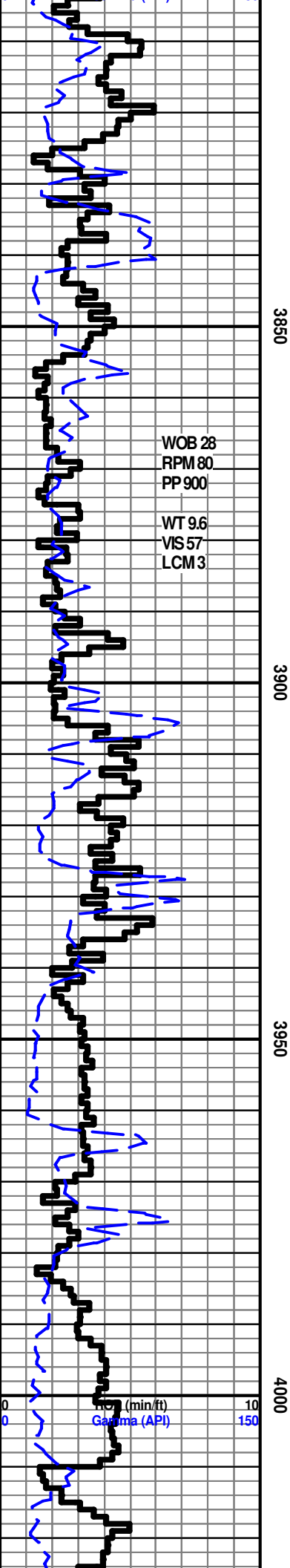
INTERVALS

- Core
- Dst
- Dst

EVENTS

- Rft
- Sidewall



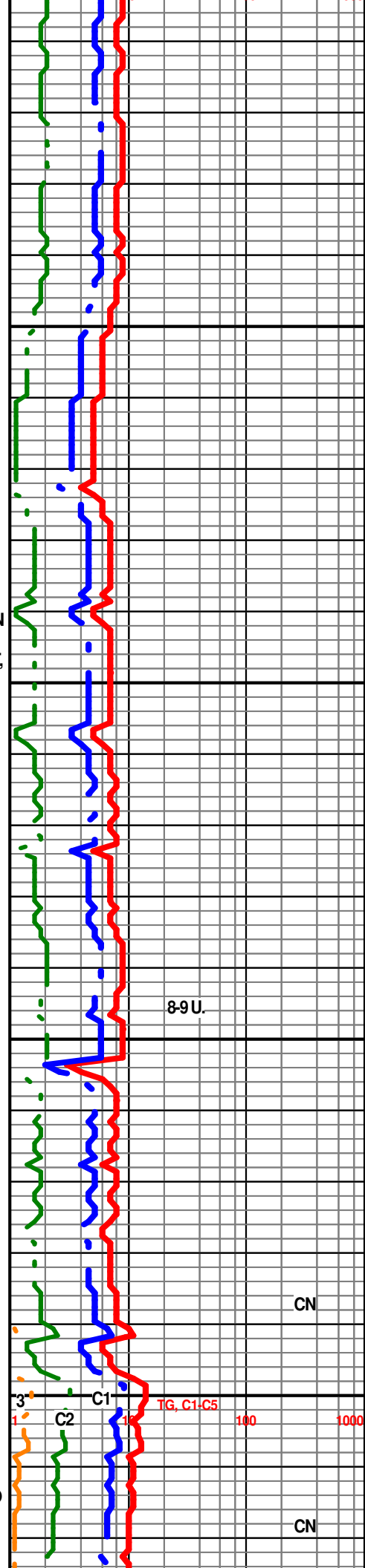


BKC 4760' -1793'
 MARMATON 4768' - 1801'
 PAWNEE 4886' - 1919'
 FT. SCOTT 4938' - 1971'
 CHEROKEE 4958' -1991'
 MORROW 5264' -2297'
 CHESTER 5440' -2473'
 ST. GEN. 5499' - 2532'
 ST. LOUIS 5555' -2588'
 E-LOG TD 5687'

3871-3906' LS- EXTREMELY WHT TO CRM CHLK & CRM TO LT TN GARYISH IP, CRYPTO-VV/FN-XLN , SUB CHLK YSUB SUCRO & PCKSTN, PHNTM OOLITES, DLL LT TO LT YEL, FLUOR, NO CUT, ABDT PR FR TO GD MICRO PP TO INTER-XLN POR IN SUCRO PART OF SAMPLES

3906-3936' LS- LT GRY TOTAN, CRYPTO TO VV/FN-XLN, TRS SUB SUCRO SUB CHLK TO PCKSTN, DLL YEL TO DLL LT YEL FLUOR, N CUT, PHNTM OOLITES IP, NO VIS POR

3936-4066' LS- EXTREMELY WHT TO CRM CHLK & CRM TO LT TN GARYSH IP, CRYPTO-VV/FN-XLN , SUB CHLK YSUB SUCRO & PCKSTN, PHNTM OOLITES, DLL LT TO LT YEL, FLUOR, NO CUT, ABDT PR FR TO GD MICRO PP TO INTER-XLN POR IN SUCRO PART OF SAMPLES

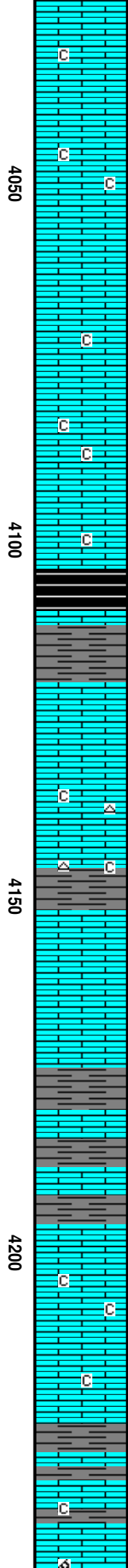
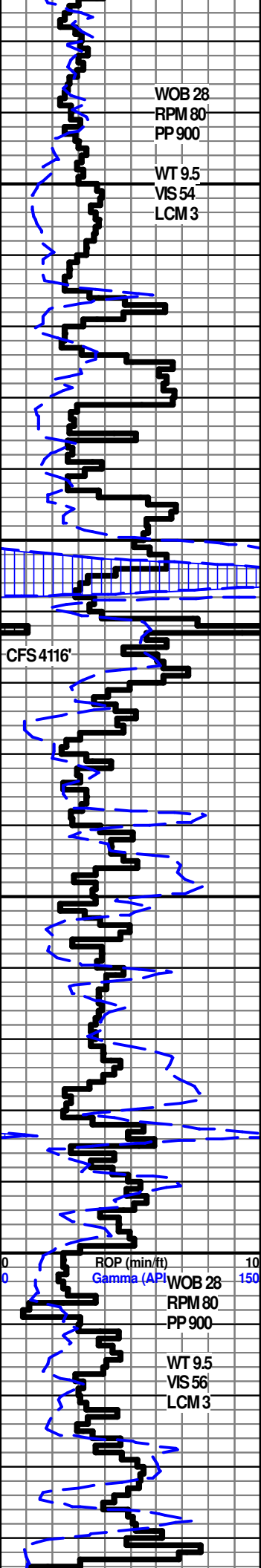


8-9 U.

CN

CN

3' C1 TG, C1-C5 100 1000
 1' C2



4066'-4104' INTERBEDDED LS- FASTER DRILLING SIMILAR TO 3900-3935'

4066'-4104' SLOWER DRILLING SIMILAR TO 3906' - 3936'

HEEBNER 4111' -1144'

4104'-4111' SH-V/DK GRY TO BLK SFT CARB

4111'-4120' SH- LT GRY TO GRY

4120-4127- LS GRYSH TAN, CRYPTO-VV/FN-XLN, SUB SUCRO & PCKSTN, DLL LT YEL FLUOR, NO CUT, NO VIS POR

4127-4141 LS- HVY TRS WHT TO CRM CHLK, LT TAN CRYPTO-VV/FN-XLN TRS SUB SUCRO TO V. SUCRO, DLL LT YEL FLUOR, TRS PR TO FR MICRO PP POR TO INTER-XLN POR, SLI TR CRM TO GY CHERT, NO VIS SHOW

LANSING 4154' -1187'

4141-4199'
LS- GRYSH TAN TO TAN, CRYPTO-VV/FN-XLN SUB SUCRO IP, V/DLL LT YEL FLUOR IP, NO CUT , NO VIS POR

SH- LT TO MED GY- TRS V/DK GY SLI TO EXTRMLY CALC

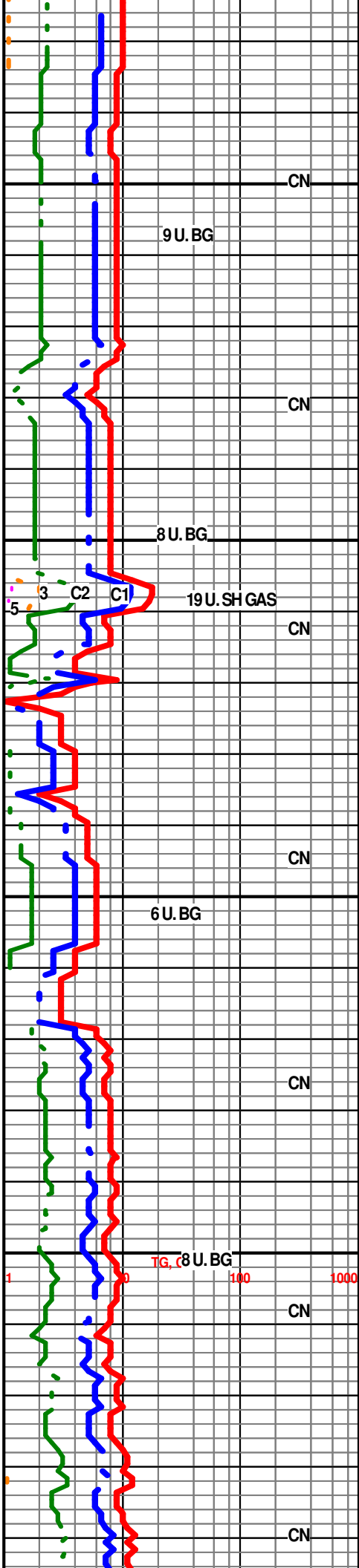
LANSING "B" 4199' -1232'

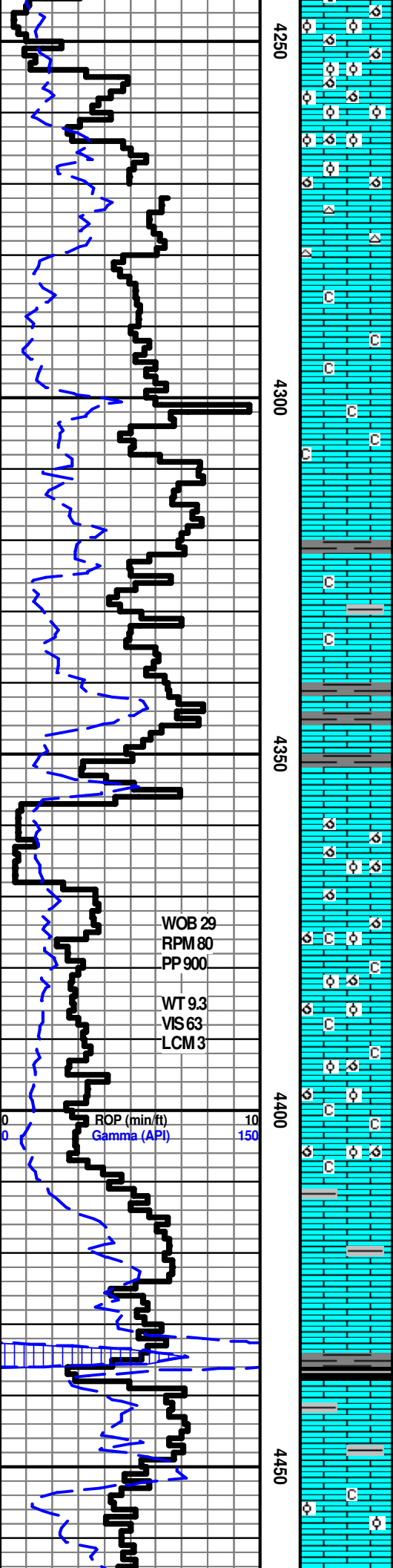
LS- GRYSH TAN TO TAN, CRYPTO-VV/FN-XLN , TR SUB CHLKY IP, DLL LT YEL FLUOR, NO CUT , NO VIS POR

4199-4211 LS- TAN LT TAN CRYPTO-VV/FN-XLN SUB SUCRO & PCKSTN, SCATTERED TRS CRM TO WHT CHLK PR MICRO PP POR, DLL T YEL FLUOIP, NO VIS CUT

4211-4243' LS- LT GRY TO GYISH TAN- CRYPTO-VV/FN-XLN, V/ SHLY IP, TRS WHT CHLK, TRS DLL LT YEL FLUOR, NO CUT , NO VIS POR

LANSING "C" 4243' - 1276'





4243- 4255' LS- TAN CRYPTO TO V/FN-XLN V/ OOLICASTIC, FRLY OOLITIC MTRX, SUB SUCRO, DLL LT YEL FLUOR, ABDT PR GD TO TRS EXCEL OOLICASTIC POR, NO CUT, QUEST PERM

4255'- 4270' LS SIMILAR TO 4272 TO 4284' LESS OOLICASTIC & MORE OOLITIC . NO VIS SHOW

4270'- 4280' LS- LT GRY TO TAN , CRYPTO-V/FN-XLN SUB SUCRO & PCKSTN, SLI TR TAN OPQUE CHERT, TR DLL LT YEL FLUOR, NO VIS POR, NO VIS SHOW

4280'- 4309' LS -EXTRMLY ABDT WHT TO CRM CHLK TO CRM LT TN CRYPTO-XLN SUB SUCRO IP, DLL LT YEL FLO, NO VIS POR, NO VIS SHOW

4309'- 4357' LS- GYISH TAN TO TAN- SLI TO FRLY SHLY IPS, CRYPTO-V/V/FN-XLN, SUB SUCRO SUB CHLKY IP, DLL LT YEL FLUOR IP, NO CUT, NO VIS POR

SH-THIN SCATTERED- MED TO DK GRY, SLI TO V/ CALC

LANSING "F" 4357' - 1390'

4357'-4369 LS-CRM SUB SUCRO TO SUCRO, EXTRMLY OOLICASTIC TO FRLY OOLITIC IP. CRYPTO-XLN IP, BRASS YEL FLUOR, ABDT PR TO EXCEL OOLICASTIC POR, NO VIS SHOW OR CUT

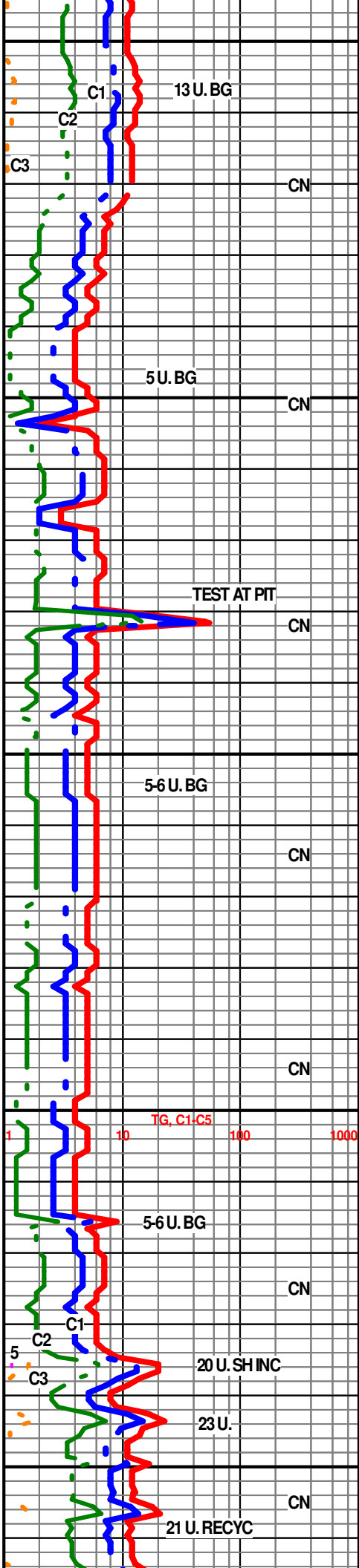
4369'-4411' LS- CRM TO GRYISH TAN ,SUCRO V/ SUCRO, V/ OOLICASTIC TO V/ OOLITIC, CRYPTO-V/V/FN-XLN, EXTRMLY ABDT WHT TO CRM CHLK, HVY TRS PR TO FR OOLICASTIC POR, TRS CHERT GRYOPQUE, NO VIS SHOW

4411'-4435' LS LT TOMED GRY, SHLY TO TAN CRYPTO-XLN TO S-LITHO PCKSTN, TRS DLL YEL FLUOR, NO VIS POR, NO VIS SHOW

4435'-4439' SH- V/DK GRY TO BLCK- CARB

4439'-4453' LS- MD TO DK GRY, FRLY TO V/ SHLY TO CALC SH & LT GRY TOTN, CRYPTO TO V/VFN XLN, S-CHLK &/OR SHLY, SLI TR S-SUCRO, DUL YEL FLO IP, NO CUT, NO VIS POR

4453'-4461' LS- TR WHT TO CRM CHLK, GRY TO TN, CRYPTOTO V/VFN XLN , SLI TO V/ OOL MTRX, S-CHLKY, S-SUCRO, DUL YEL FLO, NO CUT, ABDT PR TO TR FR MICRO PP POR



C1
C2
C3
13 U. BG

CN

5 U. BG

CN

TEST AT PIT

CN

5-6 U. BG

CN

5-6 U. BG

CN

C1
C2
C3
5
20 U. SH INC

23 U.

21 U. RECYC

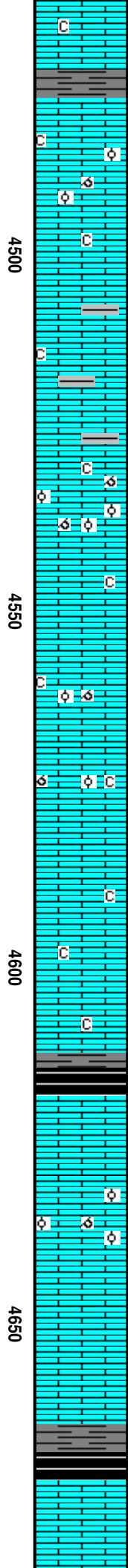
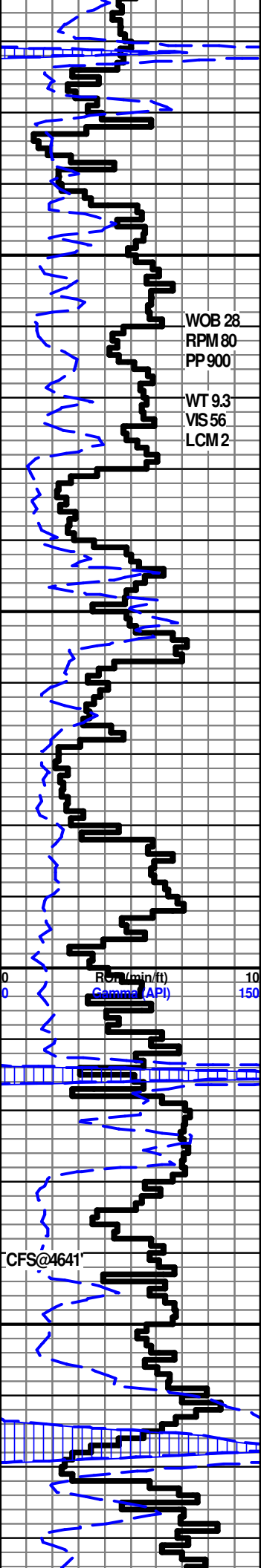
CN

WOB 29
RPM 80
PP 900

WT 9.3
VIS 63
LCM 3

ROP (min/ft)
Gamma (API)

1 10 100 1000
TG, C1-C5



4461'-4474' LS- LT GRY TO TN, CRYPTO XLN, TR S-CHLKY, PCKSTN & TR S-LITHOGR, DUL YEL FLOIP, NO CUT, NO VIS POR

4474'-4493' LS- WHT TO CRM CHLK, GRY TN TO TN, CRYPTO VV/FN XLN, SLI OOL TO PHNTM OOL MTRX, S-CHLK & S-SUCRO, DUL TO LT YEL FLO, NO CUT, ABDT PR TO TR FR MICRO PP POR

4493'-4530' LS TR WHT TO CRM CHLK, GRY TN TO TN, CRYPTO TO VV/FN XLN, S-CHLKY, S-SUCRO & PCKSTN, DUL YEL FLO IP, NO CUT, NO VIS POR W/ TR CRM TO TN CHRT, OPQUEW/ SCAT THIN MD TO DK GRY SH

4530'-4541' LSTR WHT TO CRM CHLK, GRY TN TO TN, SLI OOL & OR PHNTM OOL, S-CHLKY TO S-SUCRO TO TR PCKSTN MTRX, DUL TO LT YEL FLO IP, NO CUT, ABDT PR TO TR PROOLCST & MICRO PP POR, HVY TR GRY TO TN CHRT IN TRAY

4541'-4557' LS- TR WHT TO CRM CHLK, GRY TN TO TN, CRYPTO VV/FN XLN, S-CHLKY, S-SUCRO & PCKSTN, DUL YEL FLO IP, NO CUT, NO VIS POR W/ TR GRY TO TN CHRT

4557'-4582' LS- EXTRABD WHT TO CRM CHLK, GRY TN TO TN, CRYPTO TO VV/FN XLN S-CHLKY, S-SUCRO & PCKSTN, TRS PHTNM OOL, TR DUL YEL FLOIP, NO CUT, HVY TR PR MICRO PP POR, V/ QUEST PERM

4582'-4614' LS- SLI TOABN WHT TO CRM CHLK IP, LT GRY MD GRY TO TN, CRYPTO TO VV/FN XLN, S-CHLKY, S-SUCRO & PCKSTN W/ TR S-LITHOGR, DUL YEL FLOIP, NO CUT, NO VIS POR

4614'-4618' SH- V/DK GRY TO BLCK, CARB

KANSAS CITY "A" 4618' -1657'

4618'-4630' LS- LT GRY MD GRY TO TN, CRYPTO XLN TO VV/FN XLN, TR S-SUCRO, PCKSTN & S-LITHOGR, DUL YEL FLO IP, NO CUT, NO VIS POR

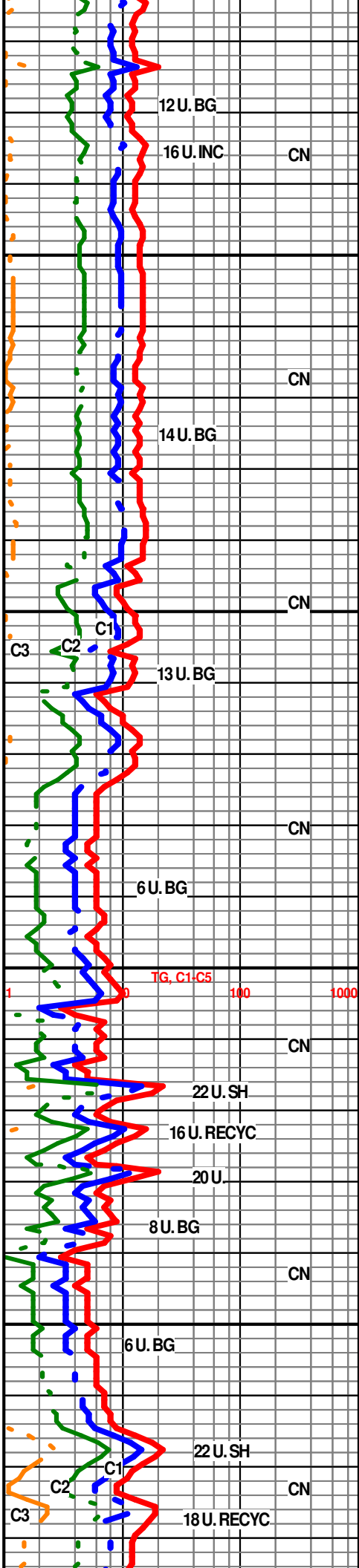
4630'-4638' LS- ABDT WHT TO CRM CHLK, LT GRY TO TN, CRYPTO TO VV/FN XLN, S-CHLKY, S-SUCRO & PCKSTN, TR DUL YEL FLO, NO CUT, NO VIS POR, W/ FEW PCS V/ OOL W/ S-SUCRO TO PCKSTN MTRX, DUL YEL FLO, NO CUT, EXCEL OOLCST POR, NO SHOW, QUEST PERM

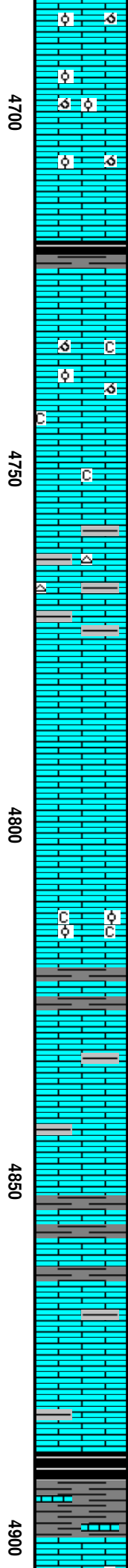
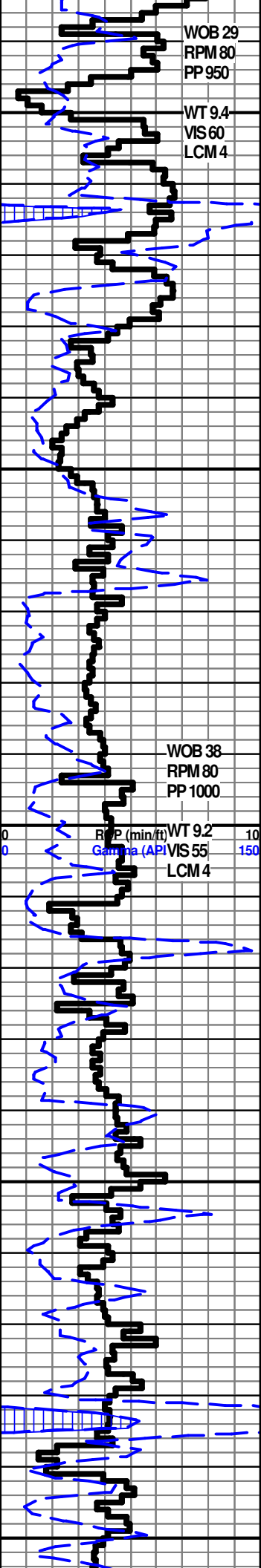
4638'-4664' LS- LT GRY TO TAN, CRYPTO TO VV/FN XLN, S-CHLKY, S-SUCRO & PCKSTN W/ TR S-LITHOGR, TR V/DUL YEL FLO, NO CUT, NO VIS POR

4664'-4673' SH- V/DK GRY TO BLCK, CARB

KANSAS CITY "B" 4673' -1706'

4673'-4685' LS- LT GRY TO TN, CRYPTO TO VV/FN XLN, TR S-CHLKY, TR S-SUCRO, PCKSTN & S-LITHOGR, DUL YEL FLO IP, NO CUT, NO VIS POR





4685'-4717' INTRBD LS
 1. SLW DRLNG LS LT GRY TO TN, CRYPTO TO V/V/FN XLN, S-CHLKY, S-SUCRO & PCKSTN, DUL YEL FLO IP, NO CUT, N VIS POR
 2 FST DLNG LS- HV TRS WHT TO CRM CHLK, LT GRY TO GRY TN, CRYPTO TO V/V/FN XLN, SLI TO V OOLCST &/ OR SLI OOL, S-SUCRO & PCKSTN, DUL YEL FLO, N CUT, ABDT PR FR TO G OOLCST POR, V/QUEST PERM

4717'-4723' SH- V/DK GRY TO BLCK

4723'-4729' LS- LT GRY TO TN, CRYPTO TO V/V/FN XLN, S-CHLKY, S-SUCRO & PCKSTN, DUL YEL FLO IP, NO CUT, NO VIS POR

4729'-4738' LS- TR WHT TO CRM CHLK, TN, CRYPTO T V/V/FN XLN SLI TO V/ OOLCAS &/OR OOL MTRX, S-CHLKY, S-SUCRO PCKSTN, DUL YEL FLO, NO CUT, ABDT PR TO FR OOLCST POR

4738'-4756' LS TR WHT TO CRM CHLK, LT GRY TO TN, CRYPTO TO V/V/FN XLN, S-CHLKY, TR S-SUCRO, PCKSTN TR S-LITHOGR, DUL YEL FLO, NO CUT, NO VIS POR

4756'-4774' LS- LT TO MD GRYSHLY GRDNG TO CACL SH MD DK TO V/DK GRY, NO POR, NO SHOW W/ GRY TO TN CHRT

4774'-4811' LS- CRM TN TO GRY IP, CRYPTO TO V/V/FN XLN, S-CHLKY, S-SUCRO, PCKSTN & TR LITHOGR, PHNTM OOL IP, DUL TO LT YEL FLO, NO CUT, NO VIS POR

4811'-4816' LS- HVY TR WHT TO CRM CHLK, CRM TO TN, S-CHLKY, S-SUCRO & TR PCKSTN, TR OOL, DUL YEL FLO, NO CUT, NO VIS POR

4816'-4887' LS W/ SCAT THIN SH

1. LS- LT GRY TO TN, CRYPTO TO V/V/FN XLN, S-CHLKY, S-SUCRO, PCKSTN & S-LITHOGR, OOL IP, ABD DUL YEL FLO, NO CUT, NO VIS POR W/ TR GRY TO TN CHRT IP

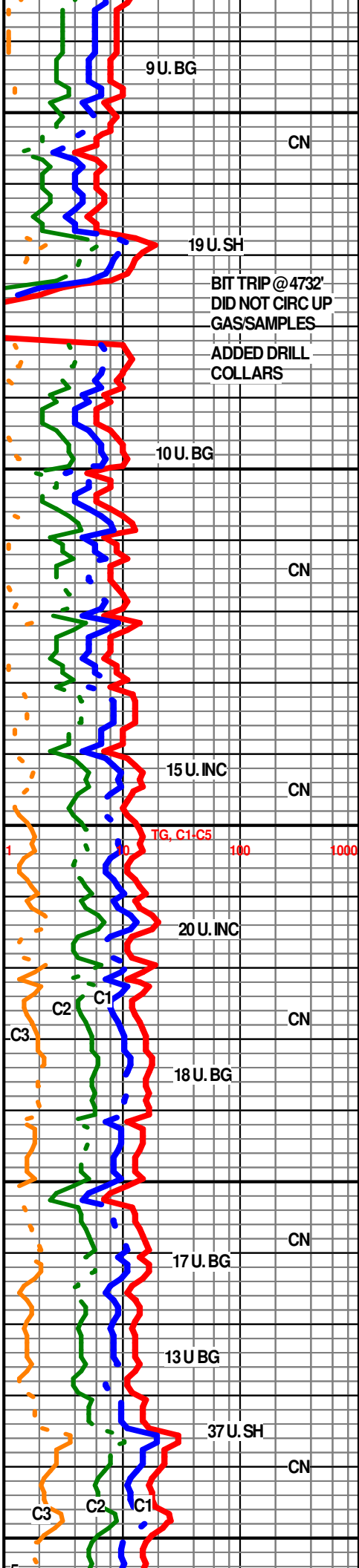
2. SCAT THIN SH- MD TO V/DK GRY, SLI TO V/ CALC IP

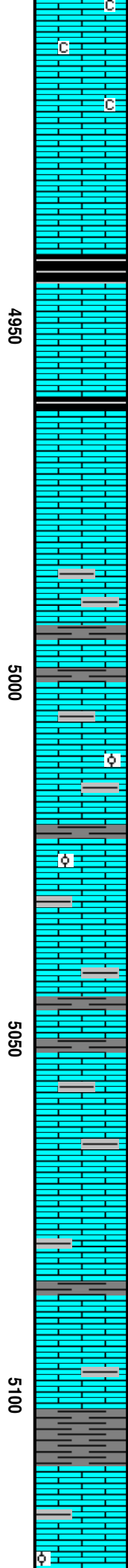
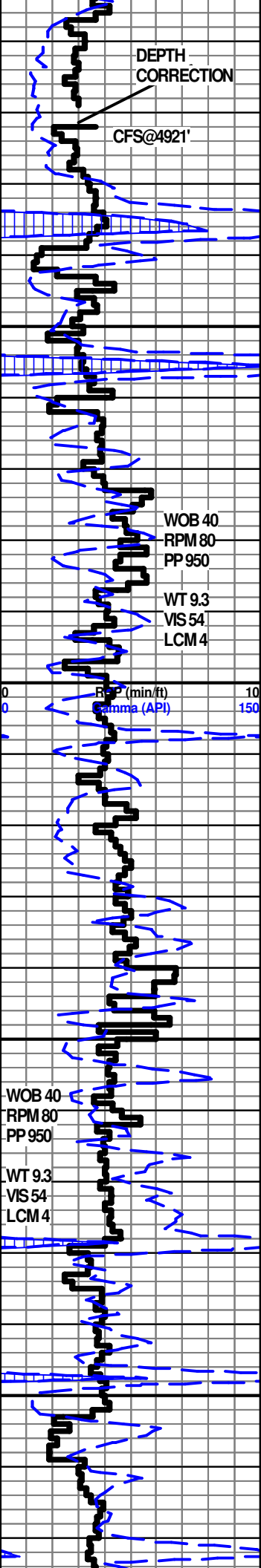
PAWNEE 4891' -1924'

4887'-4891' SH- MD GRY V/DK GRY TO BLCK, CARB

4891'-4899' SH- MD TO V/ DK GRY, SLI TO V CALC GRDNG TO SHLY LS

4899'-4909' LS TR WHT TO CRM CHLK, LT GRY TO TN, CRYPTO TO V/V/FN XLN, S-CHLKY, S-SUCRO & PCKSTN, DUL YEL TO YEL FLO, NO CUT, NO VIS POR





4909'-4928' LS- HVY TR WHT TO CRM CHLK, LT TN TO TN, CRYPTO TO VV/FN XLN, ABDT S-CHLKY, S-SUCRO TO TR SUCRO, SLI TR V/DK BRN TO BLCK OIL STN, DUL YEL FLO, MLKY TO FR RING CUTS, V/ SLI TR PR MICRO PP POR IP, SLI TR MD GRY CHRT

4928'-4937' LS- GRYL TN TO TN, CRYPTO TO VV/FN XLN, S-CHLKY, S-SUCRO & PCKSTN, OOL IP, DUL YEL FLO IP, NO CUT, NO VIS POR, SLI TR GRY TO TN CHRT

4937'-4943' SH- BLCK, CARB

FT SCOTT 4943' -1976'

4943'-4960' LS- GRY LT TN TO TN, CRY PTO TO VV/FN XLN, S-CHLKY, S-SUCRO & PCKSTN, SLI TO V/ OOL IP, DUL YEL FLO IP, NO CUT, NO VIS POR, SLI TR GRY TO TN CHRT

4960'-4962' SH- BLCK, CARB

CHEROKEE 4962' -1995'

4962'-4973' LS- GRYT TN TO TN, CRYPTO TO VV/FN XLN, TROOL, TR S-SUCRO, PCKSTN & S-LITHOGR, DUL YEL FLOIP, NO CUT, NO VIS POR, SLI TR GRY CHRT

4973'- 5281' INTEBEDDED LS & SHALES 1. 2. 3. BELOW

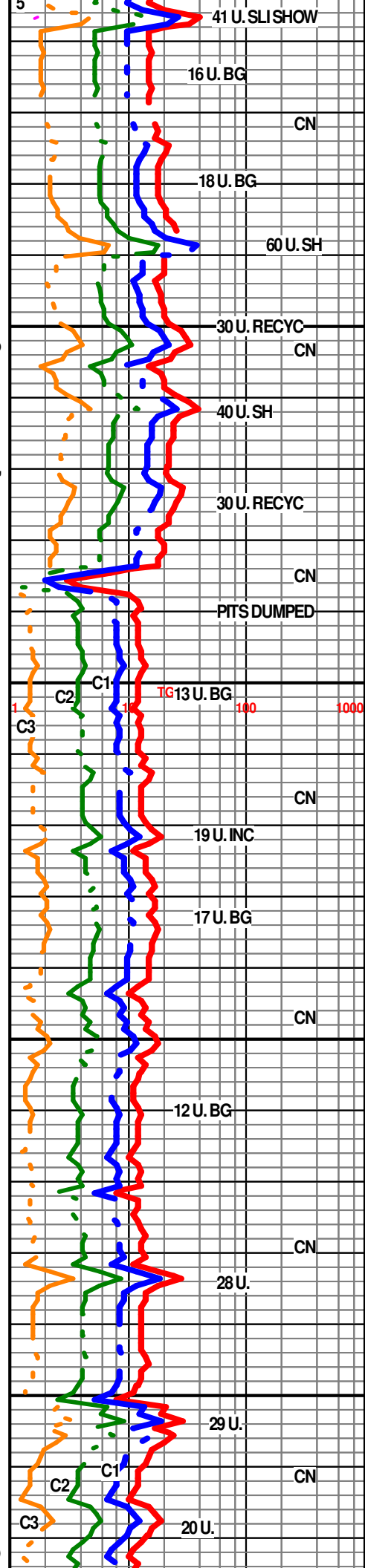
1. LS- LT GRY TO DK GRY, SLI TO EXTRLY SHLY GRDNG TO CALC SH, CRYPTO XLN, S-CHKLY &/OR SHLY & PCKSTN, NO FLO, NO CUT, NO VIS POR

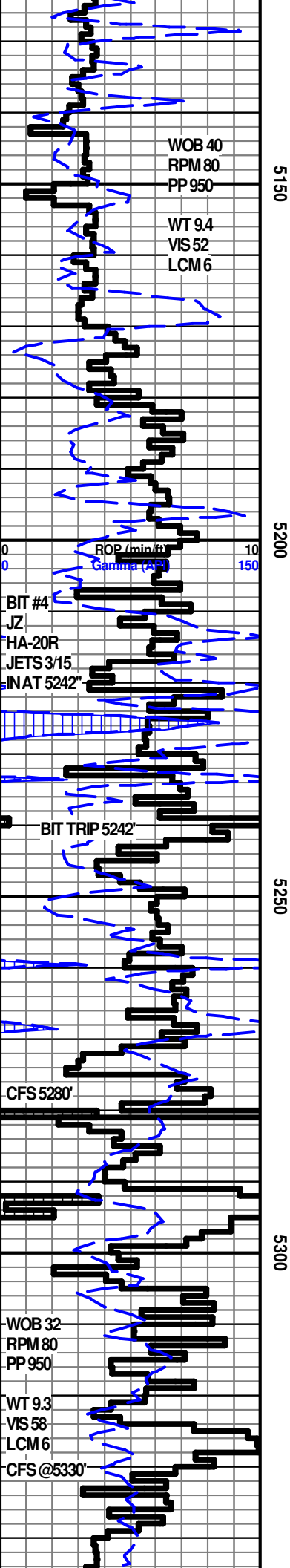
2. LS- LT GRY TO TN, CRYPTO TO VV/FN XLN, TR CHLK, TR S-CHLKY, S-SUCRO, PCKSTN & S-LITHOGR, SCAT TR OOL, DUL YEL FLO IP, NO CUT, NO VIS POR

3. SH- MD TO DK GRY, SH TO EXTRLY CALC GRDNG TO SHLY LS

4 SCAT TO ABDT SH- V/DK GRY TO BLCK, CARB

LS- LT GRY TO DK GRY, SLI TO EXTRLY SHLY GRDNG TO CALC SH, CRYPTO XLN, S-CHKLY &/OR SHLY & PCKSTN, NO FLO, NO





CUT, NO VIS POR

SH- MD TO DK GRY, SH TO EXTRLY CALC GRDNG TO SHLYLS

LS- LT GRY TO TN, CRYPTO TO VV/FN XLN, TR CHLK, TR S-CHLKY, S-SUCRO, PCKSTN & S-LITHOGR, SCAT TR OOL, DUL YEL FLO IP, NO CUT, NO VIS POR

LS- LT GRY TO DK GRY, SLI TO EXTRLY SHLY GRDNG TO CALC SH, CRYPTO XLN, S-CHKLY & OR SHLY & PCKSTN, NO FLO, NO CUT, NO VIS POR

2. LS- LT GRY TO TN, CRYPTO TO VV/FN XLN, TR CHLK, TR S-CHLKY, S-SUCRO, PCKSTN & S-LITHOGR, SCAT TR OOL, DUL YEL FLO IP, NO CUT, NO VIS POR

LS- LT GRY TO DK GRY, SLI TO EXTRLY SHLY GRDNG TO CALC SH, CRYPTO XLN, S-CHKLY & OR SHLY & PCKSTN, NO FLO, NO CUT, NO VIS POR

SH- MD TO DK GRY, SH TO EXTRLY CALC GRDNG TO SHLYLS

MORROW 5281' - 2314'

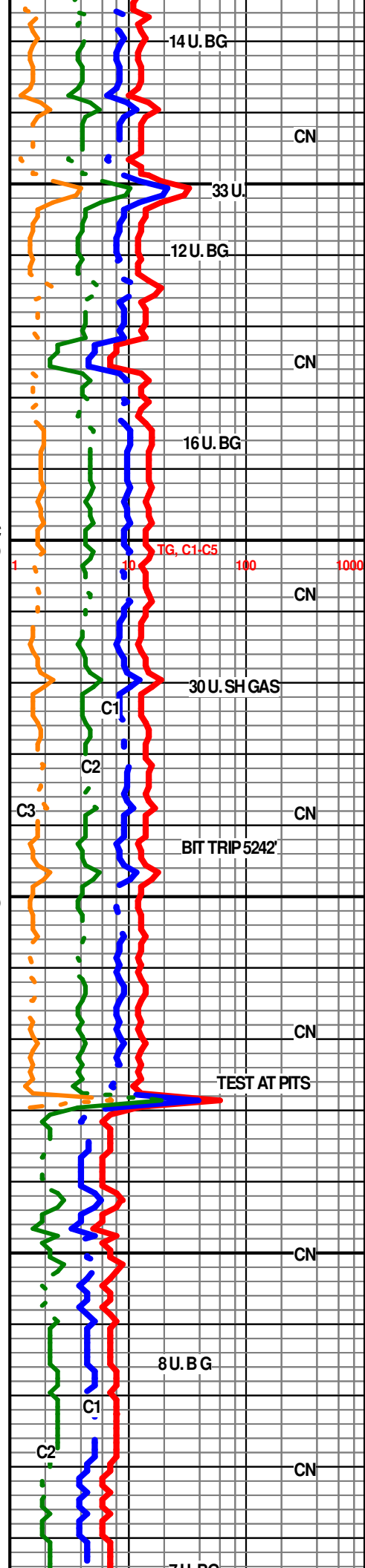
5281-5305' SH- MED GRAY SOFT -SILKY LUSTER W/ TRS LT GREEN TO OLIVE

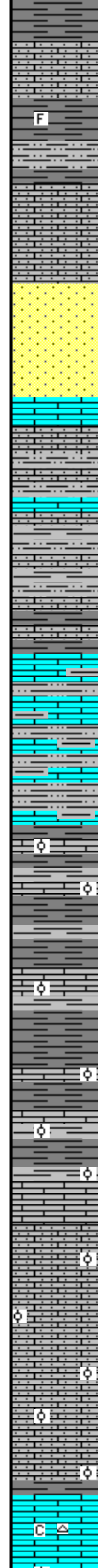
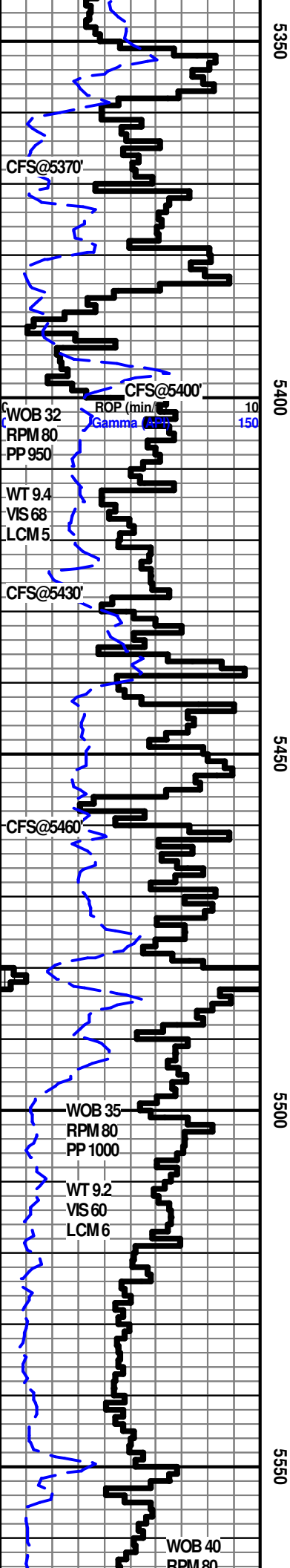
5305'-5339' INTERBEDDED SH & LM SDST.

1. SHL SIMILAR 5281-5305' BECOMING SILTY & QURTZ SANDY

2. LS- LT GRAY TO TAN VV/FN-COARSE GRAINS, COMPOSED LIME GRAINS, FOSS FRGS, SLI TR OOLITES, SUB SUCRO, TRS DLL YEL FLUOR, NO CUT , NOVIS POR, SLI T FRLY QURTZ SANDY W/ DEPTH

5339' -5350' SH- MED GRAY SOFT W/ SILKY LUSTER TO V/ DK GRYSPLINTRY. TR FOSS. TR LIME SDST IP SIMILAR TO





5305-5339'

5351'-5358' LIMEY SDST- SIMILAR TO 5305'-5339'

5358'-5369' SH- MED GRY SFT W/ SILKY LSTER, & DK GY TO V/ DK GRY SPLINTERY TR FOSS, SLI SILTY, GRDNG TO CLAY FILLED SILTS

5369'-5379' LM SDST SIMILAR TO 5305-5339' W/ ABDT WHT TO CRM CHLK, W/ TRS SPOTTED TO EVEN BRN OIL STN, W/GLDN YEL FLUOR & EXCEL STRMING CUTS, TR MICRO PP POR

5379-5385' LM SDST SIMILAR TO 5305'-5339'

5385'-5400' QURTZ SDST- ABNDT BRN OIL STN, GD OIL ODOR, VV/FN TO FN GRN, ANG TO S-ANG, PR TO FR SRT GLDN YEL FLUO, FLSH TO EXCEL STRMING CUTS, ABDT PR FR TO TRS GD INTERGRN TO TRS EXCEL MICRO PP POR IP

5400-5437' ABDT LS LT GRY TO TAN CRYPTO-XLN TO SLITHO TITE NO SHOW, HVY TRS LM SDST-SIMILAR TO 5305-5339' HVY TRS SILTST GRDNG TO CRM QURTZ SDST, VV/FN-GRN, ANG, V/CALC, NO SHOW, NO VIS POR, TRS LT TO MED GRY SH EXTRMY CALC, QURTZ GRAINS POSS STRINGING FROM ABOVE

CHESTER 5437' -2470'

5437'-5460' LS- LT TO MD GRY, CRYPTO-VV/FN-XLN SUB SUCRO & PCKSTN, NO FLUOR, NO VIS POR GRDNG TO THIN SCATTERED BEDS VV/FN-GRN SILTST, ANG, PR SRT, TANTO BRN FROM OIL STN, GLDN YEL FLUOR, GD TO EXCEL STRM CUTS, NO VIS POR, TRA BDT GREEN SHALES IP

5460-5519 VERAGATED CONGLOMERATE, 1. LS-LT GRAY TAN, LT GREEN TRS REDS, CRYPTO-VV/FN-XLN, SUB CHLKYSUB SUCRO SUB LITHO IP, TR SMLL TO MED OOLITES, ABDT MICRO OOLITIC W/ HVY TRS VV/FN- ANG QURTZ GRAINS TR DLL YEL FLUOR, NO CUT, NOVIS POR

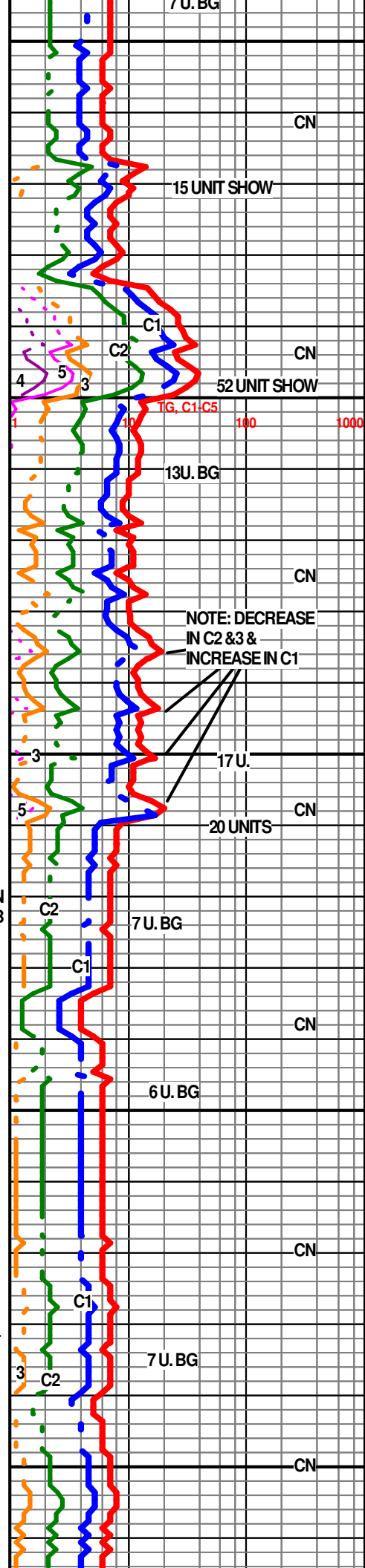
2. VERIGATED SHALES- GRAYS GREEN REDS PURPLES

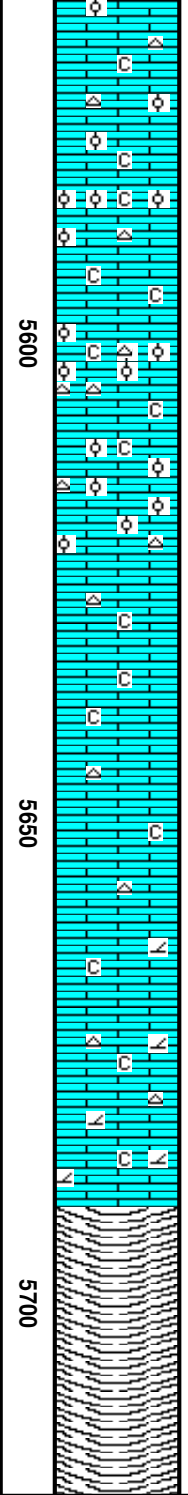
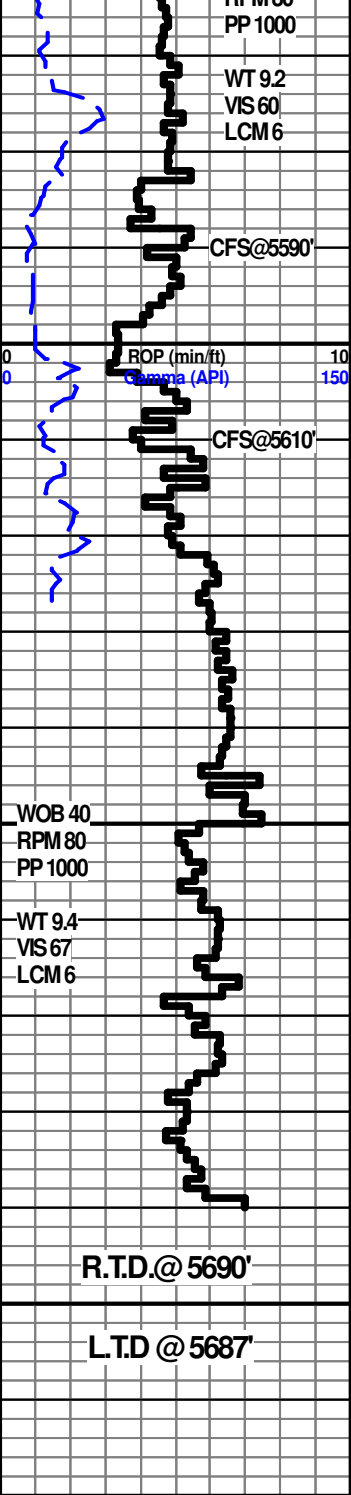
ST. GEN 5519'-2552'

5519'-5555' SAMPLES 90-95% MORROW SHALE CAVINGS, LS-LT GRY TOTAN: CRYPTO-VV/FN-XLN V/ TO EXTREMLY MICRO OOLITIC 7 HXY TRS QURTZ, VV/FN-GRN, SUB CHLKY, DLL YEL FLUOR, NO CUT, NO VIS POR

ST. LOUIS 5555' - 2588'

5555'- 5583' SAMPLES STILL EXTREMLY POOR, LS- TRS WHT TO CRM-CHLK & GRAYISH TAN TO TAN, CRYPTO-VV/FN-XLN,





FRLY TO V/OOLITIC (SMALL MED & LARGE OOLITES), SUB SUCRO, DLL LT YEL FLUOR, NO CUT, NO VIS POR, SLI TRS ORANGE TAN OPQUE CHERT

5583'-5588' LS- ABTD WHT TO CRM CHLK W/ CHLKY OOLITES IP, LT TAN CRYPTO-XLN V/OOLITIC (MED TO LRG OOLITES), CHLK, SUB CHLK, TR SUB SUCRO, DLL LT YEL FLUOR IP, PR TO FR PP TO INTER-OOLITIC POR, HVY TRS WHT GY TAN CHERT OPAQUE TO TRANSLCNT

5598'-5604' (GAS 5598-5601') LS-ABTD WHT TO CRM CHLK W/ CHLKY OOLITES, CRM TO TAN SIMILAR TO 5583-5588 W/ ABTD LT GRY MICRO OOLITES, SUB SUCRO, ABTD MICRO PP TO INTER-XLN POR, TRS CHERT WHT TO OPQUE, DLL LT YEL FLUOR, NO CUT, NO VIS SHOW

5604'-5622' LS- ABTD WHT TO CRM CHLK MTRX, SUB CHLKY, V/ TO EXTRMY OOLITIC, TRS CHERT WHT GRY TO TAN, TRS DLL LT YEL FLUOR, NO VIS POR, NO VIS CUT OR SHOW

5622'-5668'- INTERBEDDED & GRADATIONAL LIMESTONES 1. LS-CRM TO TAN GRAYISH IP, CRYPTO- V/V/FN-XLN, V/OOLITIC (SMALL MED TO LRG) SUB CHLKY SUB SUCRO, TRS DLL YEL FLUOR, NO CUT, NO VIS POR, NO VIS SHOW, TRS CHERT WHT GRY TO TAN OPQUE

5668'-5690' LS- CRM TO TAN GRAYISH IP, CRYPTO-V/V/FN-XLN TRS SUB CHLKY SUB SUCRO, TRS SUB LITHO, SLI TRS V/ DOLOMITIC, V/OOLITIC IP, TRS CHERT WHT GRY TO TAN OPQUE, DLL LT YEL FLUOR, NO VIS POR, NO VIS CUT

R.T.D @ 3:56AM 10/29/2019

CFS

SHORT TRIP CTCH

TOFL/ HALLIBURTON

