

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 |
|--|---|

| 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)</i> <i>(Submit ACO-4)</i> | PRODUCTION INTERVAL: Top Bottom |
|---|---|------------------------------------|

| 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: | |
|----------------|-------|---------|------------|--|

| | |
|-----------|-------------------------------|
| Form | ACO1 - Well Completion |
| Operator | Stelbar Oil Corporation, Inc. |
| Well Name | BERTRAND TRUST 1-13 |
| Doc ID | 1362652 |

All Electric Logs Run

| |
|---|
| |
| Comp. Sonic w/Integrated Transit Times Log |
| Array Induction Shallow Focused Elec. Log |
| Compact Photo Density Dual Spaced Neutron Micro-Resistivity Log |
| Micro-Resistivity Log |
| Borehole Profile Log |

| | |
|-----------|-------------------------------|
| Form | ACO1 - Well Completion |
| Operator | Stelbar Oil Corporation, Inc. |
| Well Name | BERTRAND TRUST 1-13 |
| Doc ID | 1362652 |

Tops

| Name | Top | Datum |
|--------------|------|-------|
| B/Anhydrite | 2406 | +779 |
| Stotler Lst. | 3384 | -199 |
| Heebner Sh. | 3738 | -553 |
| Lansing | 3784 | -599 |
| Stark Sh. | 4036 | -851 |
| Marmaton | 4159 | -974 |
| Pawnee | 4245 | -1060 |
| Morrow Sh. | 4477 | -1292 |
| Miss. | 4581 | -1396 |



8628
8524

TICKET NUMBER 53548
LOCATION Oakley, KS
FOREMAN Walt Dunkel

PO Box 88 Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

Invoice # 810795

| DATE | CUSTOMER # | WELL NAME & NUMBER | SECTION | TOWNSHIP | RANGE | COUNTY | |
|-----------------------------------|------------|---------------------------------------|---------|----------|------------|------------|--------|
| 7-21-17 | 7396 | Bertrand 1-13 | 13 | 1.3S | 38W | Wallace | |
| CUSTOMER | | WELL | | TRUCK # | DRIVER | TRUCK # | DRIVER |
| Stelbar Oil Corp | | Wallace East to C.L. 3-south 1/2 West | | 735 | Cory Davis | | |
| MAILING ADDRESS | | CITY | | STATE | | ZIP CODE | |
| 1625 N. Waterfront Pkwy. Ste. 200 | | Wichita | | KS | | 67206-6602 | |

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 315 CASING SIZE & WEIGHT 8 5/8 - 2.3#
 CASING DEPTH _____ DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 15.2 SLURRY VOL _____ WATER gal/sk _____ CEMENT LEFT in CASING 15'-20'
 DISPLACEMENT 18 3/4 DISPLACEMENT PSI _____ MIX PSI _____ RATE 5 Bpm

REMARKS: Safety meeting, rig up on Starling Dels, Circ casing on bottom mix 210 SKS com, 3% cc - 2% bel, Displace 18 3/4 BBL, H₂O, Skat in, 1/2# Flo-Seal

Cement Die/Circ

Approv 4 DRC to Pit

Thank You
Walt + Crew

| ACCOUNT CODE | QUANTITY or UNITS | DESCRIPTION of SERVICES or PRODUCT | UNIT PRICE | TOTAL |
|--------------|-------------------|------------------------------------|-----------------|------------|
| Ceo 471 | 1 | PUMP CHARGE | 1,150.00 | 1,150.00 |
| Ceo 002 | 45 | MILEAGE | 7.15 | 321.75 |
| Ceo 710 | 9.87 | Tan Mileage Delivery | 1.75 | 727.26 |
| CC5871 | 210 | Surface Blend II | 23.00 | 4,830.00 |
| CC6075 | 5.3# | Flo-Seal | 3.00 | 159.00 |
| | | | | 7,238.01 |
| | | | Less 30% | - 2,171.40 |
| | | | | 5,066.61 |
| | | | SALES TAX | 227.00 |
| | | | ESTIMATED TOTAL | 5,293.61 |

Ravin 3737

AUTHORIZATION Alan Lofth

TITLE _____ DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



8664
8579

TICKET NUMBER 53584
LOCATION Oak Hills
FOREMAN Miles Shaw

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

WELDED TICKET & TREATMENT REPORT
CEMENT **Invoice # 810852**

| DATE | CUSTOMER # | WELL NAME & NUMBER | SECTION | TOWNSHIP | RANGE | COUNTY |
|--|------------|--------------------|----------|----------|--------------------|---------|
| 7-25-14 | 7396 | Bertand trust 1-13 | 13 | 135 | 35W | Wallace |
| CUSTOMER Stelbar Oil Corp | | | TRUCK # | | | |
| MAILING ADDRESS 1625 N. WATERFRONT PKWY, Ste. 200 | | | 753 | | DRIVER Trevin W | |
| CITY Wichita | | | 5307-129 | | DRIVER Stevan C | |
| STATE KS | | | 703 | | | |
| ZIP CODE 67206-6602 | | | | | | |

JOB TYPE PTA HOLE SIZE 7 7/8" HOLE DEPTH 4660' CASING SIZE & WEIGHT _____
 CASING DEPTH _____ DRILL PIPE 4.5" TUBING _____ OTHER _____
 SLURRY WEIGHT 13.8 SLURRY VOL 1.4 WATER gal/sk _____ CEMENT LEFT in CASING _____
 DISPLACEMENT _____ DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting and resumption Sterling drilling Rig #5 Plug as ordered
 1st plug 50 sk @ 2395'
 2nd plug 100 sk @ 1420'
 3rd plug 50 sk @ 360'
 4th plug 10 sk @ 40' W plug
 R H 30 sk MH 15 sk
255 sk 60/40 48 1/4 #10 sk

Thanks Miles + crew

| ACCOUNT CODE | QUANTITY or UNITS | DESCRIPTION of SERVICES or PRODUCT | UNIT PRICE | TOTAL |
|--------------|-------------------|------------------------------------|---------------------|---------------------|
| CE0451 | 1 | PUMP CHARGE | 1900. ⁰⁰ | 1900. ⁰⁰ |
| CE0002 | 35 | MILEAGE | 7.15 | 250.25 |
| CE0710 | 11.09 Ton | Ton Mileage delivery | 1.75 | 679.26 |
| CC5829 | 255 sk | Lite Weight Blend II | 16. ⁰⁰ | 4080. ⁰⁰ |
| CC6075 | 64 # | Celloflite / floscal | 3. ⁰⁰ | 192. ⁰⁰ |
| CP8228 | 1 | 8 5/8" Wooden Plug | 165. ⁰⁰ | 165. ⁰⁰ |
| | | | Subtotal | 7266.51 |
| | | | less 30% discount | 2179.95 |
| | | | Subtotal | 5086.56 |
| | | | SALES TAX | 201.88 |
| | | | ESTIMATED TOTAL | 5288.44 |

Ravin 3737

AUTHORIZATION Alan Loffe TITLE _____ DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

GEOLOGIC REPORT

DAVID J. GOLDAK

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

Well Name: Bertrand Trust #1-13
Location: Section 13 - T13S - R38W
License Number: API: 15-199-20443
Spud Date: 07 / 20 / 2017
Surface Coordinates: 335' FSL and 1875' FWL
NE - SW - SE - SW

Region: Wallace Co., KS
Drilling Completed: 07 / 25 / 2017

Bottom Hole
Coordinates:
Ground Elevation (ft): 3172' K.B. Elevation (ft): 3185'
Logged Interval (ft): 3300' To: 4666' Total Depth (ft): 4666'
Formation: Mississippian - St Louis
Type of Drilling Fluid: Chemical - Mud-Co

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

OPERATOR

Company: Stelbar Oil Corporation
Address: 1625 N. Waterfront Pkwy., Suite 200
Wichita, Kansas 67206-6602

GEOLOGIST

Name: David J. Goldak
Company: D. J. GOLDAK, INC.
Address: 155 N. Market, Suite 710
Wichita, Kansas 67202

General Info

CONTRACTOR: Sterling Drilling, Rig #5

BIT RECORD:

| No. | Size | Make | Jets | Out | Feet | Hours |
|-----|--------|-----------|-------|-------|-------|-------|
| 1 | 12-1/4 | JZ-HAOTC | 4-16s | 315' | 315' | 3.00 |
| 2 | 7-7/8 | JZ-PLT516 | 5-15s | 4666' | 4351' | 63.50 |

SURVEYS: 315'-0.25; 4666'-1.00

GENERAL DRILLING & PUMP INFORMATION:

Collars: 18 joints of collars (6.25"x2.25"): 531.65'
Drilling w/ PDC: 14,000-16,000 lbs on bit and 100-110 RPM.
Pumping w/ PDC: 70 S/M; 10.8 B/M; 900-1000 psi at standpipe.

Daily Status

07/20/17 - Spud at 7:15 PM; Set 8-5/8" csg @ 310'
 07/21/17 - 315' WOC; PD @ 4:15 AM
 07/22/17 - 2,110' Drilling; Dispace mud @ 3,572'
 07/23/17 - 3,610' Drilling
 07/24/17 - 4,345' Drilling
 07/25/17 - 4,666' Waiting on loggers



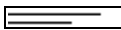
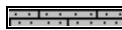
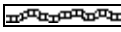



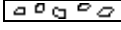



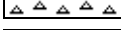

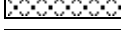
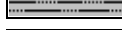
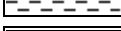
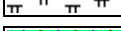

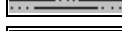



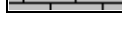

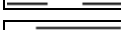




| | Log Tops | Sample Tops |
|--|----------|-------------|
|--|----------|-------------|

| | | |
|----------------|--------------|--------------|
| Wabaunsee | 3330 (-145) | 3335 (-150) |
| Stotler | 3380 (-195) | 3384 (-199) |
| Topeka | 3496 (-311) | 3501 (-316) |
| Lecompton | 3646 (-461) | 3651 (-466) |
| Heebner | 3734 (-549) | 3738 (-553) |
| Lansing | 3780 (-595) | 3784 (-599) |
| Muncie Creek | 3948 (-763) | 3952 (-767) |
| Stark Sh | 4031 (-846) | 4036 (-851) |
| Hushpuckney Sh | 4079 (-894) | 4084 (-899) |
| Base of KC | 4139 (-954) | 4144 (-959) |
| Marmaton | 4152 (-967) | 4159 (-974) |
| Pawnee | 4241 (-1056) | 4245 (-1060) |
| Cherokee Sh | 4300 (-1115) | 4304 (-1119) |
| Lower Cher Sh | 4339 (-1154) | 4343 (-1158) |
| Johnson Zone | 4378 (-1193) | 4381 (-1196) |
| Morrow Sh | 4473 (-1288) | 4477 (-1292) |
| Mississippian | 4576 (-1391) | 4581 (-1396) |
| Total Depth | 4662 (-1477) | 4666 (-1481) |

DSTs

None

ROCK TYPES

| | | | |
|--|---|---|--|
|  Anhy |  Gyp |  Shgy |  Sandylms |
|  Bent |  Igne |  Sltst |  Shale |
|  Brec |  Lmst |  Ss |  Sltstn |
|  Cht |  Meta |  Till |  Shlyslts |
|  Clyst |  Mrlst |  Carb sh |  Sltys h |
|  Coal |  Salt |  Dol |  Lms |
|  Congl |  Shale |  Dtd | |
|  Dol |  Shcol |  Gry sh | |

ACCESSORIES

- MINERAL**
- [Symbol] Anhy
 - [Symbol] Arggrn
 - [Symbol] Arg
 - [Symbol] Bent
 - [Symbol] Bit
 - [Symbol] Breclfrag
 - [Symbol] Calc
 - [Symbol] Carb
 - [Symbol] Chtdk
 - [Symbol] Chtlt
 - [Symbol] Dol
 - [Symbol] Feldspar
 - [Symbol] Ferrpel
 - [Symbol] Ferr
 - [Symbol] Glau
 - [Symbol] Gyp
 - [Symbol] Hvymin
 - [Symbol] Kaol
 - [Symbol] Marl
 - [Symbol] Minxl
 - [Symbol] Nodule
 - [Symbol] Phos
 - [Symbol] Pyr

- [Symbol] Salt
- [Symbol] Sandy
- [Symbol] Silt
- [Symbol] Sil
- [Symbol] Sulphur
- [Symbol] Tuff
- [Symbol] Chlorite
- [Symbol] Dol
- [Symbol] Sand
- [Symbol] Sltly

- FOSSIL**
- [Symbol] Algae
 - [Symbol] Amph
 - [Symbol] Belm
 - [Symbol] Bioclst
 - [Symbol] Brach
 - [Symbol] Bryozoa
 - [Symbol] Cephal
 - [Symbol] Coral
 - [Symbol] Crin
 - [Symbol] Echin
 - [Symbol] Fish
 - [Symbol] Foram

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

- STRINGER**
- [Symbol] Anhy
 - [Symbol] Arg
 - [Symbol] Bent
 - [Symbol] Coal
 - [Symbol] Dol
 - [Symbol] Gyp
 - [Symbol] Ls
 - [Symbol] Mrst
 - [Symbol] Sltstrg
 - [Symbol] Ssstrg
 - [Symbol] Carbsh

- [Symbol] Clystn
- [Symbol] Dol
- [Symbol] Grysh
- [Symbol] Gryslt
- [Symbol] Lms
- [Symbol] Sandylms
- [Symbol] Sh
- [Symbol] Sltstn

- TEXTURE**
- [Symbol] Boundst
 - [Symbol] Chalky
 - [Symbol] Cryxln
 - [Symbol] Earthy
 - [Symbol] Finexln
 - [Symbol] Grainst
 - [Symbol] Lithogr
 - [Symbol] Microxln
 - [Symbol] Mudst
 - [Symbol] Packst
 - [Symbol] Wackest

OTHER SYMBOLS

- POROSITY TYPE**
- [Symbol] Earthy
 - [Symbol] Fenest
 - [Symbol] Fracture
 - [Symbol] Inter
 - [Symbol] Moldic
 - [Symbol] Organic
 - [Symbol] Pinpoint
 - [Symbol] Vuggy

- SORTING**
- [Symbol] Well
 - [Symbol] Moderate
 - [Symbol] Poor

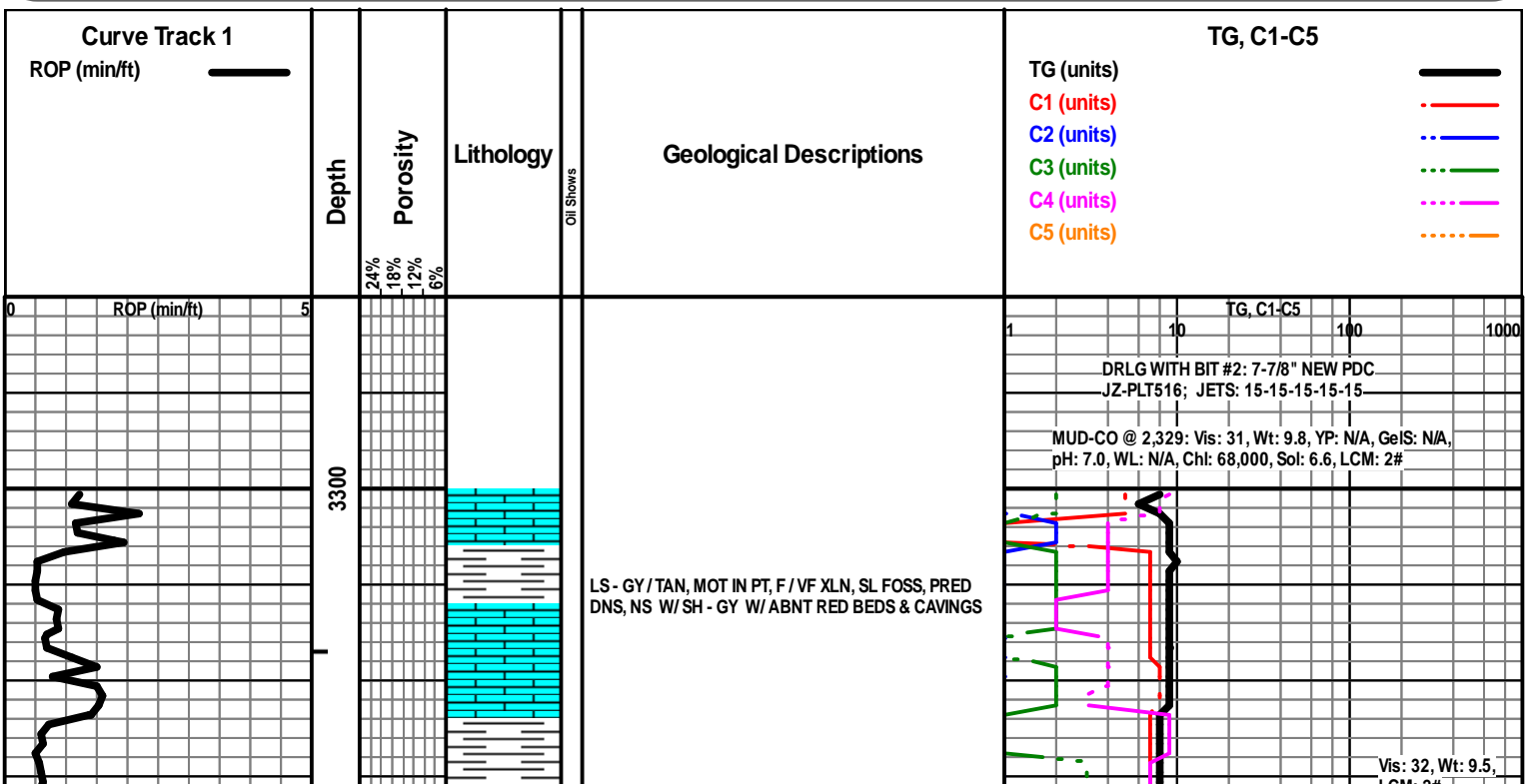
- ROUNDING**
- [Symbol] Rounded
 - [Symbol] Subrnd
 - [Symbol] Subang
 - [Symbol] Angular

- OIL SHOWS**
- [Symbol] Even
 - [Symbol] Spotted
 - [Symbol] Ques
 - [Symbol] Dead
 - [Symbol] Gas show

- INTERVALS**
- [Symbol] Core
 - [Symbol] Dst

- [Symbol] Dst_1_t
- [Symbol] Dst_1_b
- [Symbol] Dst

- EVENTS**
- [Symbol] Rft
 - [Symbol] Sidewall
 - [Symbol] Conn



WABAUNSEE
3335 (-150)

SH - GY W/LS - TAN / CRM, VF / F XLN, AREN IN PT,
SCAT FOSS, PRED DNS, NS

LCM: 2#

LS - TAN / CRM / SCAT GY, VF / F XLN, SIM TO ABOVE,
NS W/ ABNT RED BEDS & CAVINGS

PRED SH - GY, SLTY IN PT

STOTLER
3384 (-199)

LS - GY / TAN / SCAT BRN, MOT IN PT, VF / F XLN, SCAT
FOSS, PRED DNS, NS W/ ABNT RED BEDS & CAVINGS

LS - TAN / GY / SCAT CRM, MOT IN PT, VF / F XLN, FOSS
IN PT, PRED SN, NS W/ SH - GY

LS - GY / TAN, F / VF XLN, SCAT FOSS, PRED DNS, NS
W/ SH - GY W/ MOD AMT RED BEDS & CAVINGS

LS - V SIM TO ABOVE, PRED DNS, NS

LS - CRM / TAN, F / VF XLN, SCAT REXLN CALC, FOSS
IN PT, SL OOL, SCAT P / F INTXLN + VUG POR, NS

LS - TAN / GY, VF / F XLN, SL FOSS, PRED DNS, NS W/
SH - GY W/ MOD RED BEDS & CAVINGS

TOPEKA
3501 (-316)

LS - TAN / CRM / BRN, F / VF XLN, OOL + FOSS IN PT,
SCAT P INTXLN + PPT POR, PRED DNS, NS

LS - TAN / CRM / WHT, F / VF XLN, SCAT REXLN CALC,
FOSS + OOL IN PT, SCAT P / TR F INTXLN POR, TR VUG
POR, PRED DNS, TR DEAD OIL STN, NSFO, NO ODOR

TG, C1-C5

Vis: 30, Wt: 9.6,
LCM: 2#

ROP (min/ft)

0

5

10

100

1000

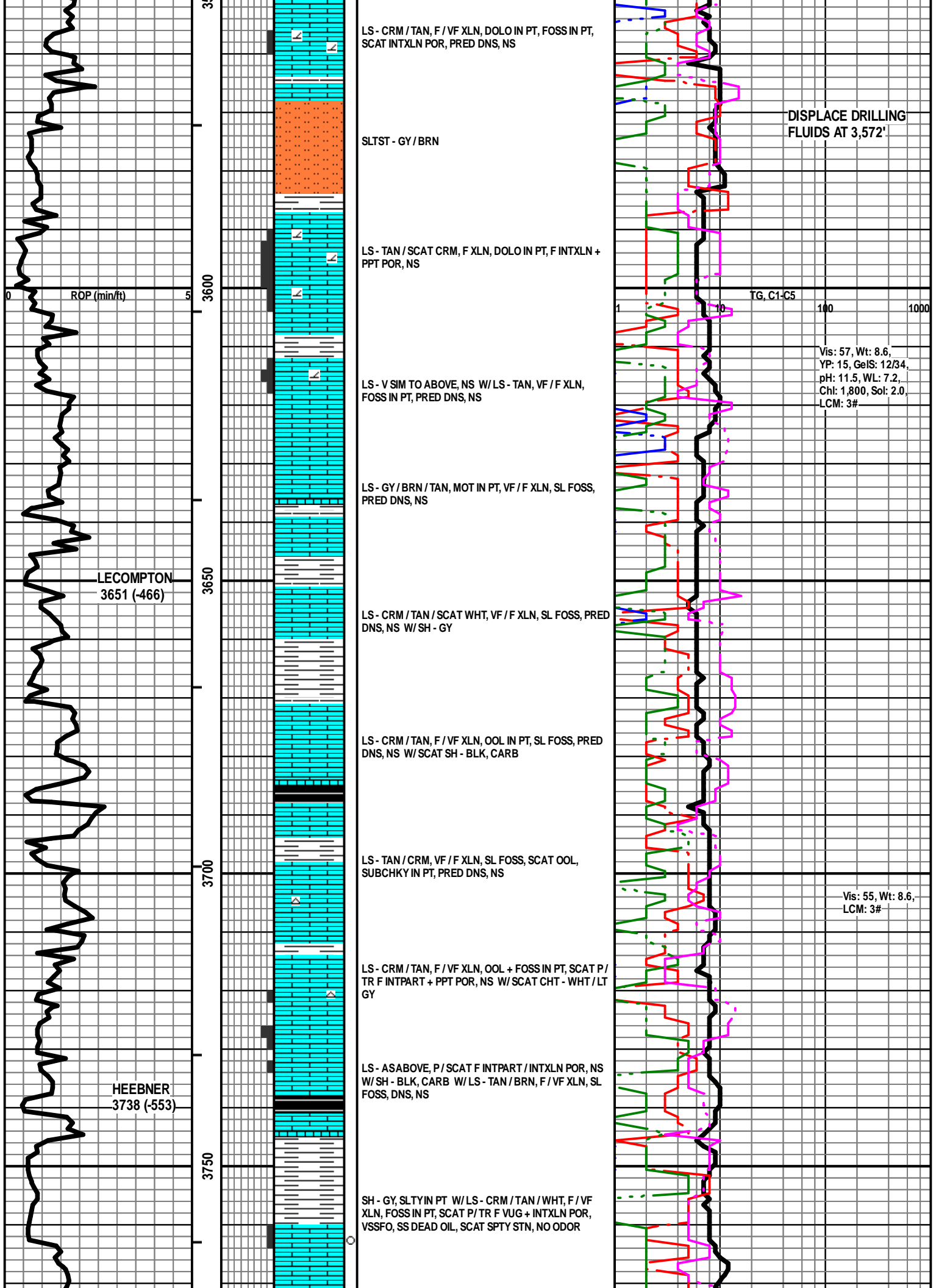
3350

3400

3450

3500

3550



LS - CRM / TAN, F / VF XLN, DOLO IN PT, FOSS IN PT, SCAT INTXLN POR, PRED DNS, NS

SLTST - GY / BRN

LS - TAN / SCAT CRM, F XLN, DOLO IN PT, F INTXLN + PPT POR, NS

LS - V SIM TO ABOVE, NS W/LS - TAN, VF / F XLN, FOSS IN PT, PRED DNS, NS

LS - GY / BRN / TAN, MOT IN PT, VF / F XLN, SL FOSS, PRED DNS, NS

LECOMPTON
3651 (-466)

LS - CRM / TAN / SCAT WHT, VF / F XLN, SL FOSS, PRED DNS, NS W/SH - GY

LS - CRM / TAN, F / VF XLN, OOL IN PT, SL FOSS, PRED DNS, NS W/SCAT SH - BLK, CARB

LS - TAN / CRM, VF / F XLN, SL FOSS, SCAT OOL, SUBCHKY IN PT, PRED DNS, NS

LS - CRM / TAN, F / VF XLN, OOL + FOSS IN PT, SCAT P / TR F INTPART + PPT POR, NS W/SCAT CHT - WHT / LT GY

HEEBNER
3738 (-553)

LS - ASABOVE, P / SCAT F INTPART / INTXLN POR, NS W/SH - BLK, CARB W/LS - TAN / BRN, F / VF XLN, SL FOSS, DNS, NS

SH - GY, SLTY IN PT W/LS - CRM / TAN / WHT, F / VF XLN, FOSS IN PT, SCAT P / TR F VUG + INTXLN POR, VSSFO, SS DEAD OIL, SCAT SPTY STN, NO ODOR

DISPLACE DRILLING
FLUIDS AT 3,572'

TG, C1-C5

Vis: 57, Wt: 8.6,
YP: 15, GeIS: 12/34,
pH: 11.5, WL: 7.2,
Chl: 1,800, Sol: 2.0,
LCM: 3#

Vis: 55, Wt: 8.6,
LCM: 3#

ROP (min/ft)

3600

3650

3700

3750

1

10

100

1000

LANSING
3784 (-599)

A
0 ROP (min/ft) 5

B

C

D

E / F

G
MUNCIE CK
3952 (-767)

H

3800

3850

3900

3950

LS - CRM / TAN / WHT, F / VF XLN, FOSS IN PT,
SUBCHKY IN PT, PRED DNS, NS

LS - CRM / TAN, F / VF XLN, OOL IN PT, SL FOSS, F / G
OOM POR, F INTXLN POR, NS W/ SUBCHKY IN PT /
DNS

LS - ASABOVE, PRED SUBCHKY / DNS, NS W/ SH - GY /
RED / GRN

LS - CRM / TAN, VF / F XLN, OOL IN PT, SCAT P / TR F
VUG + INTXLN POR, PRED DNS, NS

LS - TAN / CRM, F / VF XLN, OOL IN PT, SL FOSS, SCAT
P / F VUG POR, TR INTOOL POR, NS

LS - V SIM TO ABOVE, SCAT REXLN CALC, SCAT POR,
NS

LS - TAN / CRM / SCAT BRN, VF / F XLN, SL FOSS, PRED
DNS, NS W/ SCAT CHT - WHT / CRM W/ SH - GY / BLK

LS - TAN / BRN / SCAT CRM, F / VF XLN, OOL + FOSS IN
PT, P / G VUG + PPT POR, NS

LS - TAN / BRN / GY, F / VF XLN, OOL + FOSS IN PT,
PRED DNS, NS

LS - TAN / CRM, F / VF XLN, SCAT REXLN CALC, OOL IN
PT, F / G VUG + INTXLN POR, NS

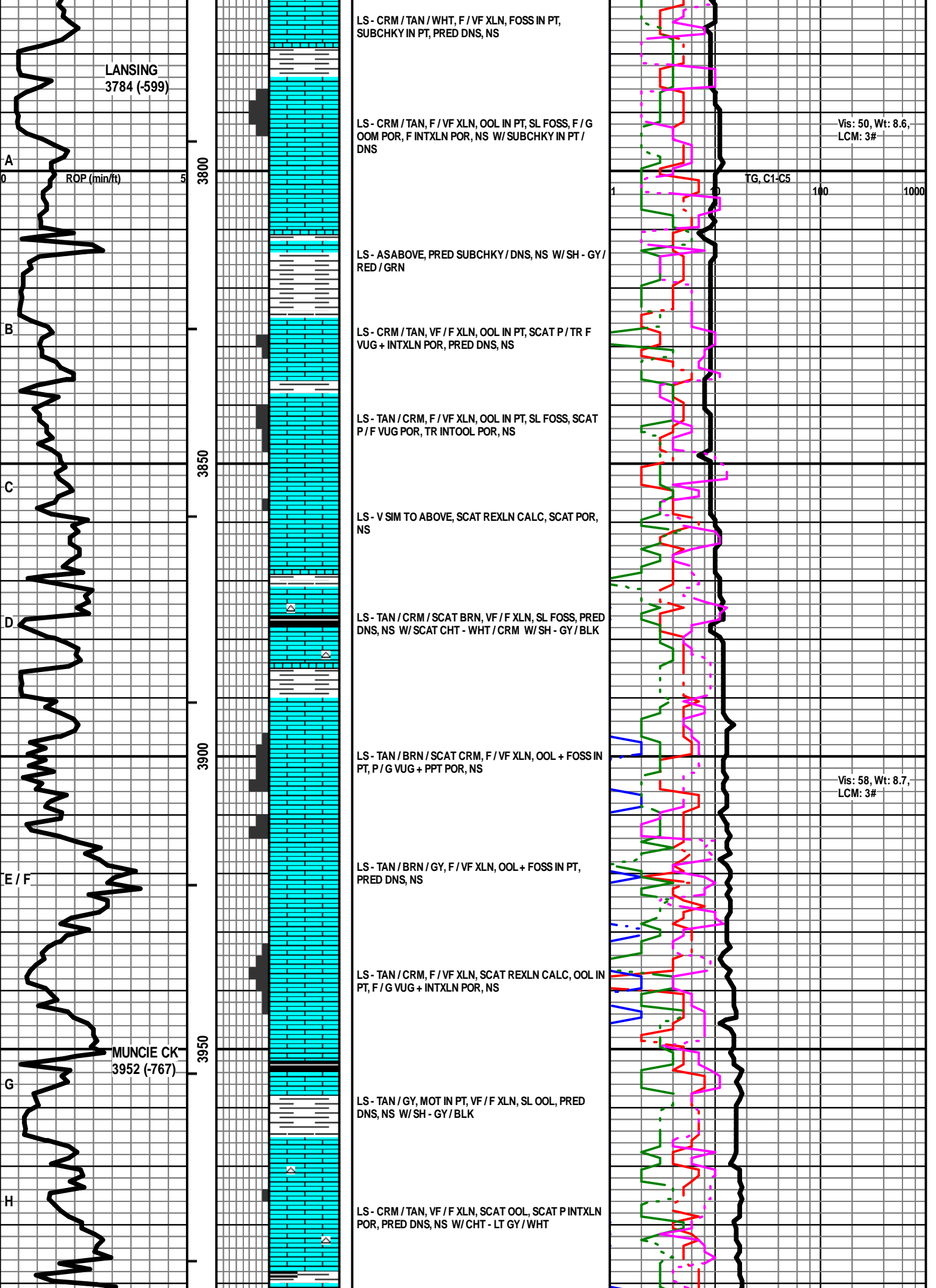
LS - TAN / GY, MOT IN PT, VF / F XLN, SL OOL, PRED
DNS, NS W/ SH - GY / BLK

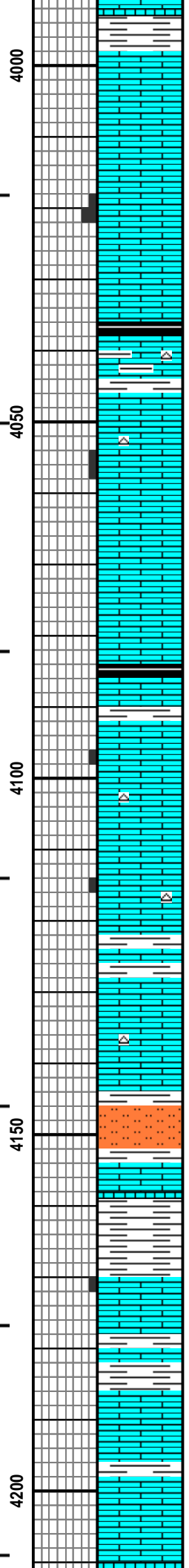
LS - CRM / TAN, VF / F XLN, SCAT OOL, SCAT P INTXLN
POR, PRED DNS, NS W/ CHT - LT GY / WHT

Vis: 50, Wt: 8.6,
LCM: 3#

TG, C1-C5
100 1000

Vis: 58, Wt: 8.7,
LCM: 3#





LS - TAN / BRN / GY, MOT IN PT, VF / F XLN, SL FOSS,
PRED DNS, NS W / SH - GY

LS - TAN / CRM, F / VF XLN, SL FOSS, SCAT P / F INTXLN
+ VUG POR, PRED DNS, NS

LS - TAN / CRM / SCAT BRN, MOT IN PT, VF / F XLN, SL
FOSS, PRED DNS, NS W / SCAT CHT - LT GY / WHT W /
SCAT SH - BLK, CARB

LS - CRM / TAN, F / VF XLN, SCAT REXLN CALC, FOSS
IN PT, SCAT OOL, SCAT P INTXLN POR, TR P VUG POR,
PRED DNS, NS

LS - AS ABOVE, PRED DNS, NS W / LS - TAN / BRN,
MOT IN PT, F XLN, SCAT OOL, DNS, NS W / SCAT SH -
BLK, CARB

LS - CRM / TAN / SCAT GY, VF / F XLN, SL FOSS, TR P
INTXLN POR, CHKY IN PT / DNS, NS W / SCAT CHT - LT
GY

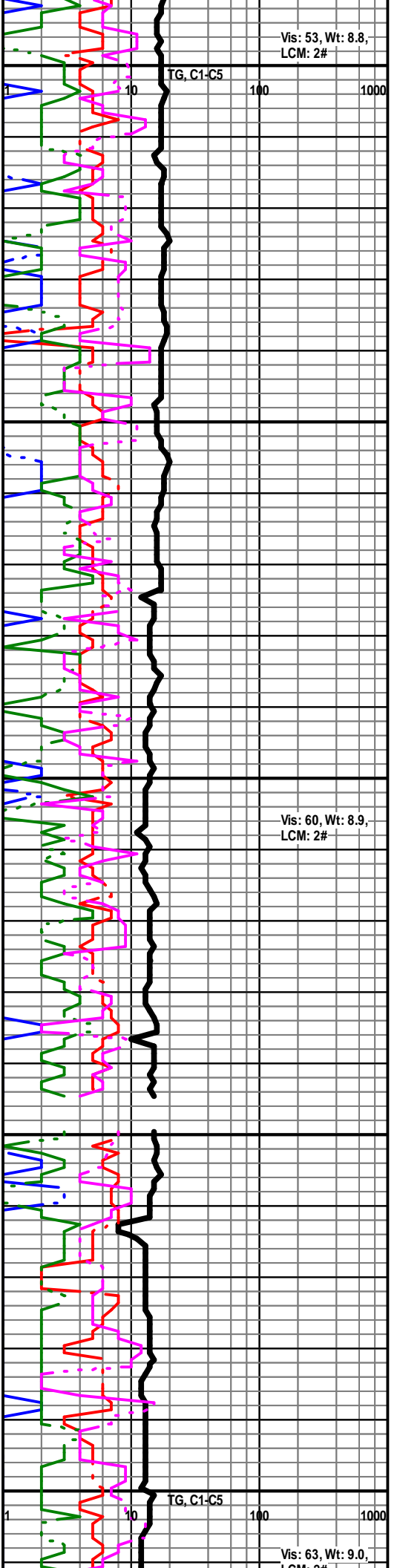
LS - CRM / TAN, VF / F XLN, OOL IN PT, TR P VUG POR,
SUBCHKY IN PT, PRED DNS, NS W / SCAT CHT - LT GY

LS - V SIM TO ABOVE, CHKY IN PT, PRED DNS, NS W /
SCAT CHT - LT GY W / SLTST - LT / MED GY

SLTST - LT / MED GY W / LS - TAN / BRN, F / VF XLN, SL
FOSS, PRED DNS, NS W / SH - GY

LS - CRM / TAN, F XLN, SCAT REXLN CALC, SL FOSS,
SCAT INTXLN POR, PRED DNS, NS W / SH - GY / GRN

LS - TAN / CRM / GY / SCAT BRN, F / VF XLN, SL FOSS,
PRED DNS, NS W / SH - GY



ABNT SH - GY W/LS - TAN / BRN / GY, VF / F XLN,
ARGIL IN PT, PRED DNS, NS

LS - TAN / GY, VF / F XLN, SL FOSS, TR P INTXLN POR,
PRED DNS, NS W/LS - TAN / BRN / SCAT GY, MOT IN
PT, F / VF XLN, SL OOL, PRED DNS, NS W/SCAT SH -
GY / BLK, CARB IN PT

LS - BRN / GY / SCAT TAN, VF / F XLN, SCAT FOSS,
PRED DNS, NS

LS - V SIM TO ABOVE, NS W/SCAT CHT - TAN / GY W/
SCAT SH - BLK, CARB

LS - TAN / BRN / SCAT CRM, VF / F XLN, OOL + FOSS IN
PT, SCAT CHKY, PRED DNS, NS W/CHT - GY / TAN /
WHT W/SH - BLK, CARB

LS - TAN / CRM / BRN, VF / F XLN, SCAT REXLN CALC,
OOL + FOSS IN PT, TR P INTXLN POR, PRED DNS, NS
W/SCAT CHT - LT GY / WHT W/SH - GY / BLK

LS - TAN / BRN / SCAT CRM, MOT IN PT, F / VF XLN, SL
FOSS, PRED DNS, NS W/SCAT CHT - LT GY / TAN W/
SH - GY / BLK

LS - TAN / BRN / SCAT GY, MOT IN PT, VF / F XLN, SL
FOSS, SUBCHKY IN PT, PRED DNS, NS W/SH - GY /
BLK

LS - TAN / BRN, VF / F XLN, SCAT OOL, SUBCHKY IN PT,
PRED DNS, NS W/SCAT CHT - GY / BRN W/SH - GY

LS - TAN / BRN, F / VF XLN, OOL IN PT, PRED DNS, NS
W/SCAT CHT - GY / TAN W/SH - GY

PAWNEE
4245 (-1060)

CHEROKEE
4304 (-1119)

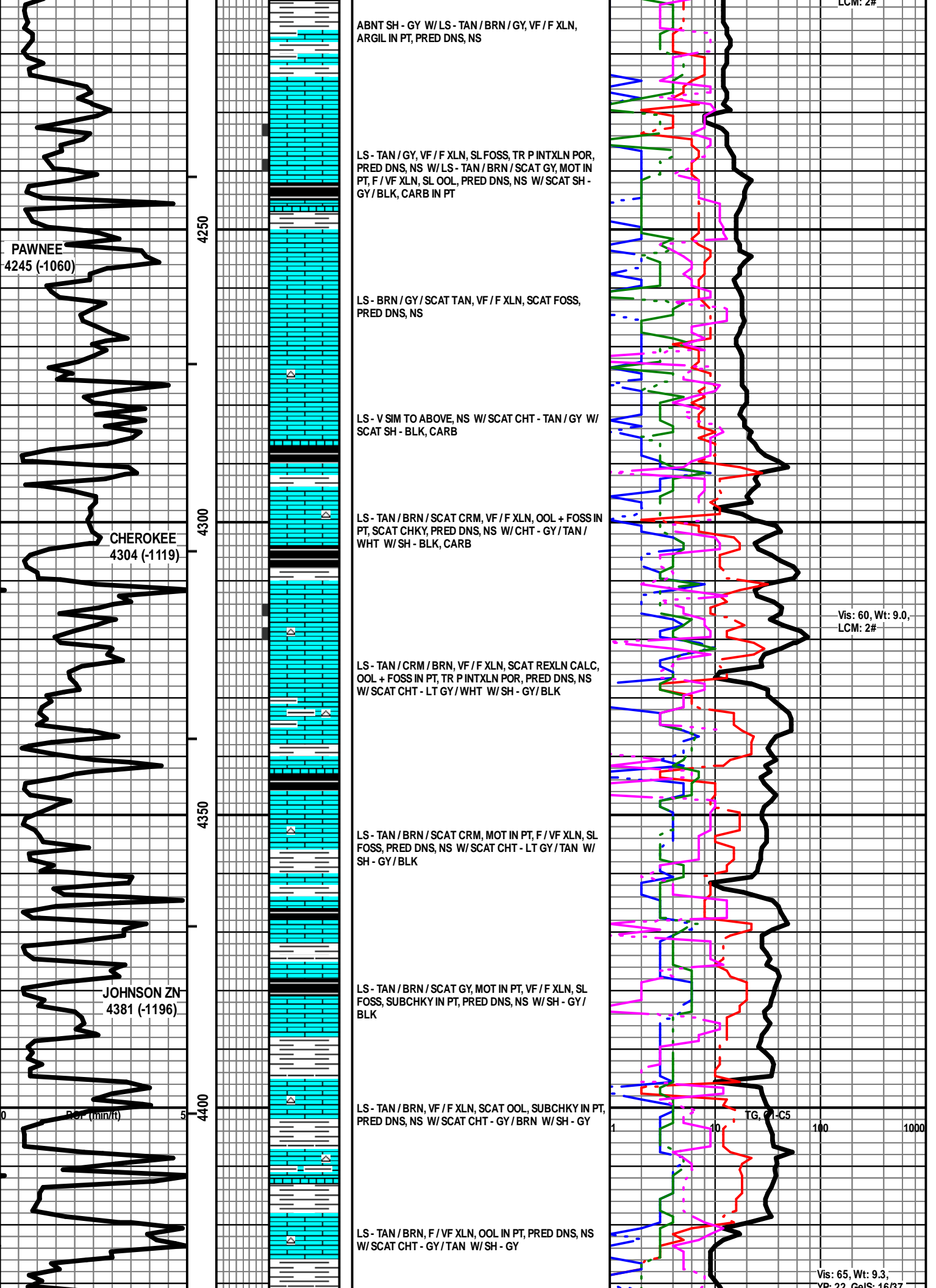
JOHNSON ZN
4381 (-1196)

Por (min/ft)

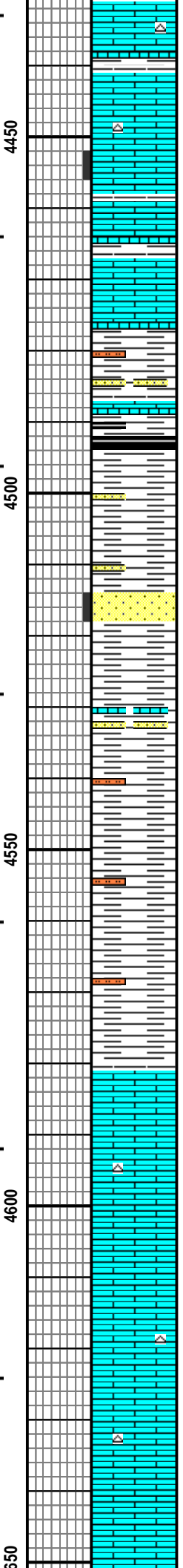
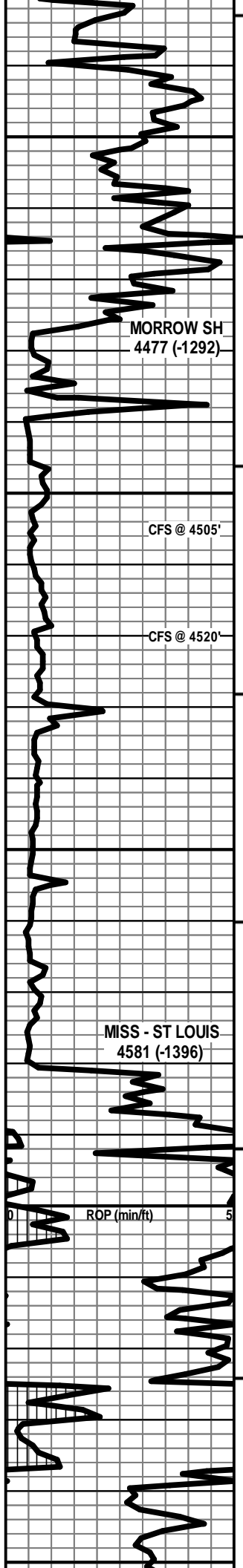
Vis: 60, Wt: 9.0,
LCM: 2#

TG, C-5

Vis: 65, Wt: 9.3,
YP: 22, CaS: 16/37



Temp: 22, Cels: 70.37,
pH: 10.5, WL: 8.0,
Chl: 4,000, Sol: 7.0,
LCM: 2#



LS - TAN / CRM / BRN / GY, MOT IN PT, F / VF XLN, OOL
IN PT, SL FOSS, SUBCHKY IN PT, PRED DNS, NS W/
SCAT CHT - GY / TAN

LS - TAN / CRM / BRN, F / VF XLN, OOL + FOSS IN PT,
SCAT P VUG + MOLDIC POR, PRED DNS, NS

LS - TAN / CRM / BRN, MOT IN PT, VF / F XLN, OOL +
FOSS IN PT, SUBCHKY IN PT, PRED DNS, NS

SH - GY / BLK, CALC IN PT, CARB IN PT W/ SCAT
SLTST - GY / GRN W/ SCAT SS - LT GY, VF / F GR, FW
SRTD, SA / SR, V CALC IN PT, P / NO VIS POR, NS

PRED SH - GY / BLK W/ TR DIRTY SS, CLAYEY IN PT

SH - GY / SCAT BLK W/ SS - LT GY, PRED VF / SCAT F
GR, FW SRTD, SA / SR, SIL CEM, TR GLAUC, ARGIL IN
PT, P / TR F POR, NS

SH - GY W/ MOD AMT SS - AS ABOVE, NS

PRED SH - GY, SLTY IN PT W/ SCAT SS - AS ABOVE, NS
W/ SCAT LS - BRN / GY, MOT, VF XLN, DNS, NS

PRED SH - GY, SLTY IN PT

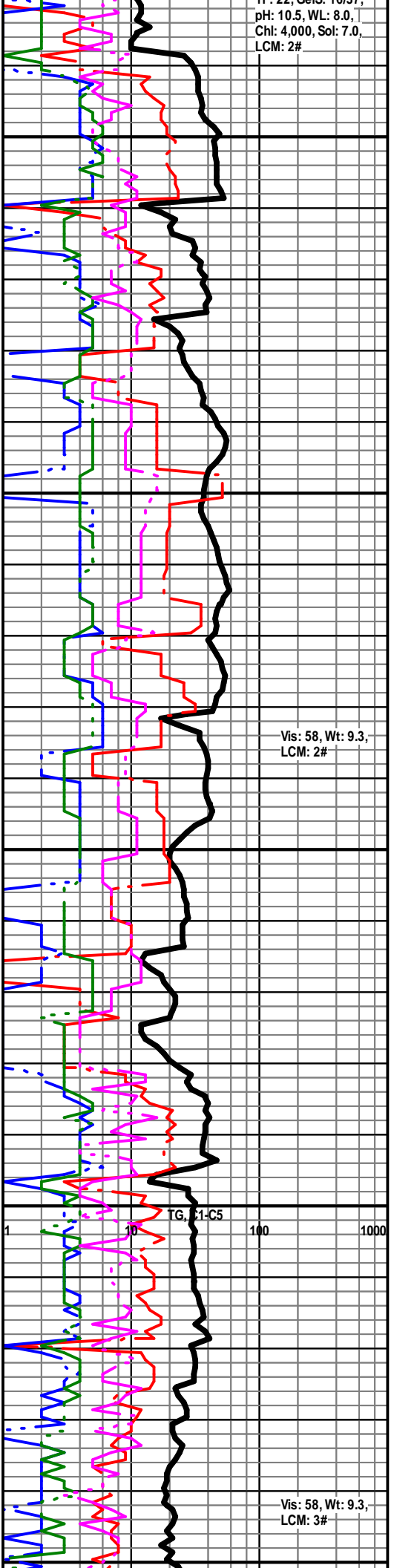
PRED SH - GY, SLTY IN PT

LS - CRM / TAN, VF / F XLN, SL OOL, PRED DNS, NS W/
TR CHT - LT GY

LS - CRM / TAN, VF / F XLN, OOL IN PT, PRED DNS, NS
W/ TR CHT

LS - CRM / TAN, VF / F XLN, SCAT CRYPTO XLN, OOL IN
PT, PRED DNS, NS W/ SCAT CHT

LS - CRM / TAN, VF / F XLN, SCAT CRYPTO XLN, OOL IN
PT, PRED DNS, NS W/ SCAT CHT



Vis: 58, Wt: 9.3,
LCM: 2#

Vis: 58, Wt: 9.3,
LCM: 3#

LS - CRM / TAN, VF / F XLN, SCAT CRYPTO XLN, OOL IN
PT, TR P INTOOL POR / MOD CHKY, PRED DNS, NS W/
SCAT CHT

TOTAL DEPTH 4666 (-1481)

