

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1249139
OIL & GAS CONSERVATION DIVISION

Form ACO-1
August 2013

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

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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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: _____

1249139

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 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				

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> _____ <input type="checkbox"/> Commingled <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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ALLIED OIL & GAS SERVICES, LLC 064630

Federal Tax I.D. # 20-8651475

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

SERVICE POINT:
Dakley, KS

DATE <u>12-17-14</u>	SEC. <u>18</u>	TWP. <u>5</u>	RANGE <u>32</u>	CALLED OUT	ON LOCATION <u>1:30 pm</u>	JOB START <u>2:30 pm</u>	JOB FINISH <u>3:00 pm</u>
LEASE <u>Ratcliff</u>	WELL # <u>1-18</u>	LOCATION <u>Gaminto Co. Line, 1 N,</u>			COUNTY <u>Rawlins</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one) <u>NEW</u>			<u>2W, 1 Yr, 1/2 in info</u>				

CONTRACTOR Murphy S
 TYPE OF JOB Surface
 HOLE SIZE 12 1/4 T.D. 302'
 CASING SIZE 8 7/8 DEPTH 303.28'
 TUBING SIZE _____ DEPTH _____
 DRILL PIPE _____ DEPTH _____
 TOOL _____ DEPTH _____
 PRES. MAX _____ MINIMUM _____
 MEAS. LINE _____ SHOE JOINT _____
 CEMENT LEFT IN CSG. 25'
 PERFS. _____
 DISPLACEMENT 18245 661

OWNER Same
 CEMENT AMOUNT ORDERED 180 s/s com 380cc
 COMMON 180 s/s @ 12.90 3222.00
 POZMIX @ _____
 GEL @ _____
 CHLORIDE 58# @ 1.10 58.80
 ASC @ _____

EQUIPMENT
 PUMP TRUCK CEMENTER LaRone Ewens
 # 323/281 HELPER Wayne Maghughy
 BULK TRUCK
 # 818/287 DRIVER Kevin Ryan
 BULK TRUCK
 # _____ DRIVER _____

Material Total @ 3,780.80
(1134.24/30%)
 HANDLING 189.84 @ 2.48 468.72
 MILEAGE 2.72 mi x 35 x 2.75 838.70

REMARKS:
Mix 180 s/s cement
Displace with water
Cement did circulate.
15 s/s to pit

TOTAL _____

CHARGE TO: Samuel Gay & Associates
 STREET _____
 CITY _____ STATE _____ ZIP _____

SERVICE
 DEPTH OF JOB _____
 PUMP TRUCK CHARGE 1512.25
 EXTRA FOOTAGE @ _____
 MILEAGE MELW 35 @ 7.20 269.50
 MANIFOLD @ 275.00
MELW 35 @ 4.40 154.00
(1055.45/30%) TOTAL 3,518.17

To: Allied Oil & Gas Services, LLC.
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PLUG & FLOAT EQUIPMENT
 @ _____
 @ _____
 @ _____
 @ _____
 @ _____

PRINTED NAME Rodney Farr
 SIGNATURE Rodney Farr

TOTAL _____
 SALES TAX (If Any) _____
 TOTAL CHARGES 7,298.97
 DISCOUNT 2,189.69 (30%) IF PAID IN 30 DAYS
5,109.27 Net.



CEMENTING LOG

STAGE NO. _____

Date 12-19-14 District Oakley, CO Ticket No. 64630
 Company Sampson & Associates Rig Meridian
 Lease Roxcliff Well No. 1-18
 County Rawlins State CO
 Location 18-S-32 Field _____
Gam N to the Lind, W, 24, 1720, 120, 120 with
 CASING DATA: Conductor PTA Squeeze Misc
 Surface Intermediate Production Liner
 Size 8 7/8 Type new Weight 2.9 # Collar _____

Casing Depths: Top R.B Bottom 303.28

Drill Pipe: Size _____ Weight _____ Collars _____
 Open Hole: Size 12 1/4 T.D. 302 ft ft. P.B. to _____ ft.
 CAPACITY FACTORS:
 Casing: Bbls/Lin. ft. .864 Lin. ft./Bbl. _____
 Open Holes: Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Drill Pipe: Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Annulus: Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Perforations: From _____ ft. to _____ ft. Amt. _____

CEMENT DATA:
 Spacer Type: _____
 Amt. _____ Skys Yield _____ ft³/sk Density _____ PPG _____
 LEAD: Pump Time _____ hrs. Type Com 320cc
 Excess _____
 Amt. 180 Skys Yield 1-18 ft³/sk Density 15-8 PPG _____
 TAIL: Pump Time _____ hrs. Type _____
 Excess _____
 Amt. _____ Skys Yield _____ ft³/sk Density _____ PPG _____
 WATER: Lead _____ gals/sk Tail _____ gals/sk Total _____ Bbls. _____
 Pump Trucks Used 373/281 - Wayne
 Bulk Equip. 878/287 - Kevin

Float Equip: Manufacturer _____
 Shoe: Type _____ Depth _____
 Float: Type _____ Depth _____
 Centralizers: Quantity _____ Plugs Top _____ Btm. _____
 Stage Collars _____
 Special Equip. _____
 Disp. Fluid Type Water Amt. 19.45 Bbls. Weight _____ PPG _____
 Mud Type _____ Weight _____ PPG _____

COMPANY REPRESENTATIVE _____

CEMENTER Latane

TIME	PRESSURES PSI		FLUID PUMPED DATA			REMARKS
	DRILL PIPE CASING	ANNULUS	TOTAL FLUID	Pumped Per Time Period	RATE Bbls Min.	
x 2:30						Hold safety meeting
}						Start water
						Start cement - 180 SKs
						weigh cement 15.8 #
				3.0		stop cement
				15.45		wash pump & lines
x 3:00						Displace with water
						Cement did circulate
						1.3 SKs top it

Thank you
 [Signature]

Hold safety meeting

ALLIED OIL & GAS SERVICES, LLC 064803

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley, KS

DATE 1-7-15 SEC 18 TWP 5 RANGE 32 CALLED OUT _____ ON LOCATION 6:30 a.m. JOB START 11:00am JOB FINISH 12:00pm

LEASE Reteliff WELL# 148 LOCATION Gem N to County line, W, COUNTY Rawlins STATE KS

OLD OR NEW (Circle one) NEW 2W, 1/2 N, W + Sinto

CONTRACTOR Murfin 8 OWNER Same

TYPE OF JOB PTA

HOLE SIZE 2 7/8 T.D. 4000'

CASING SIZE _____ DEPTH _____

TUBING SIZE _____ DEPTH _____

DRILL PIPE 4 1/2 DEPTH 2770'

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. _____

PERFS. _____

DISPLACEMENT 5 Bl H₂O 7 Bl br med

EQUIPMENT _____

CEMENT AMOUNT ORDERED 255 sks @ Lite

60/40 41.9 gal 74# Flo-seal

PUMP TRUCK CEMENTER Paul Beaver

373/281 HELPER Tyler Flipse / Juan 3

BULK TRUCK DRIVER George Grant

818/287

BULK TRUCK DRIVER _____

COMMON	_____	@	_____	_____
POZMIX	_____	@	_____	_____
GEL	_____	@	_____	_____
CHLORIDE	_____	@	_____	_____
ASC	_____	@	_____	_____
Lite	<u>255 sks</u>	@	<u>18.92</u>	<u>4824.60</u>
Flo-seal	<u>64 #</u>	@	<u>2.97</u>	<u>190.08</u>
Material Total	_____	@	_____	<u>5014.68</u>
(<u>1509.91/303</u>)	_____	@	_____	_____
HANDLING	<u>273.87 ft³</u>	@	<u>2.48</u>	<u>679.20</u>
MILEAGE	<u>11.44 tons x .75 mi x</u>	@	<u>2.75</u>	<u>1101.10</u>
TOTAL	_____	_____	_____	_____

REMARKS:

mix 50 sks @ 2770', Displace w/wood

mix 100 sks @ 1930', Displace w/wood

mix 50 sks @ 350'

mix 10 sks @ 40' w/ wooden plug

mix 30 sks in R.H.

mix 15 sks in m.H.

Thank You!
Paul + Crew

CHARGE TO: Samuel Gray + Assoc.

STREET _____

CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB	_____	_____	<u>2770'</u>
PUMP TRUCK CHARGE	_____	_____	<u>2483.59</u>
EXTRA FOOTAGE	_____	@	_____
MILEAGE <u>MHW</u>	<u>35</u>	@	<u>7.70</u> <u>269.50</u>
MANIFOLD	_____	@	_____
<u>M/LV</u>	<u>35</u>	@	<u>4.40</u> <u>154.00</u>
TOTAL	_____	_____	<u>4607.39</u>

(1406.21/303)

PLUG & FLOAT EQUIPMENT

<u>5/8 Wooden plug</u>	_____	@	_____	<u>110.00</u>
_____	_____	@	_____	_____
_____	_____	@	_____	_____
_____	_____	@	_____	_____
TOTAL	_____	_____	_____	<u>110.00</u>

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PRINTED NAME Traavis Martin

SIGNATURE Traavis W. Martin

SALES TAX (If Any) _____

TOTAL CHARGES 9812.07

DISCOUNT 2910.62 (30%) IF PAID IN 30 DAYS

6,901.44 Net.



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

Well Name: RATCLIFF 1-18
 Well Id:
 Location: SEC. 18 5S-32W RAWLINS COUNTY, KANSAS
 License Number: 15-153-21084-0000 Region: WILDCAT
 Spud Date: DEC. 20, 2014 Drilling Completed: JAN. 6, 2015
 Surface Coordinates: 1980 FSL/ 1980 FWL

Bottom Hole
 Coordinates:
 Ground Elevation (ft): 3079' K.B. Elevation (ft): 3084'
 Logged Interval (ft): 3504' To: 4706' Total Depth (ft): 4706'
 Formation: Lansing, Kansas City
 Type of Drilling Fluid: Natural Chemical

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

OPERATOR

Company: Samuel Gary Jr. & Assoc.
 Address: 1515 Wynkoop, Ste. # 700
 Denver, Colo. 80202
 Geo: Dan Pritchard

GEOLOGIST

Name: Schuyler Hedrick
 Company: Earth Tech OGL, Inc.
 Address: PO Box 683
 Hooker, Okla . 73945
 Off. 888-543-8378 Cell: 580-754-0231

ROCK TYPES

	Anhy		Gyp		Shgy		Sandy lms
	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

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

MINERAL

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

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

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

STRINGER

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

TEXTURE

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

OTHER SYMBOLS

INTERVALS

- Core
- Dst
- Dst

EVENTS

- Rft
- Sidewall

POROSITY TYPE

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

SORTING

- Well
- Moderate
- Poor

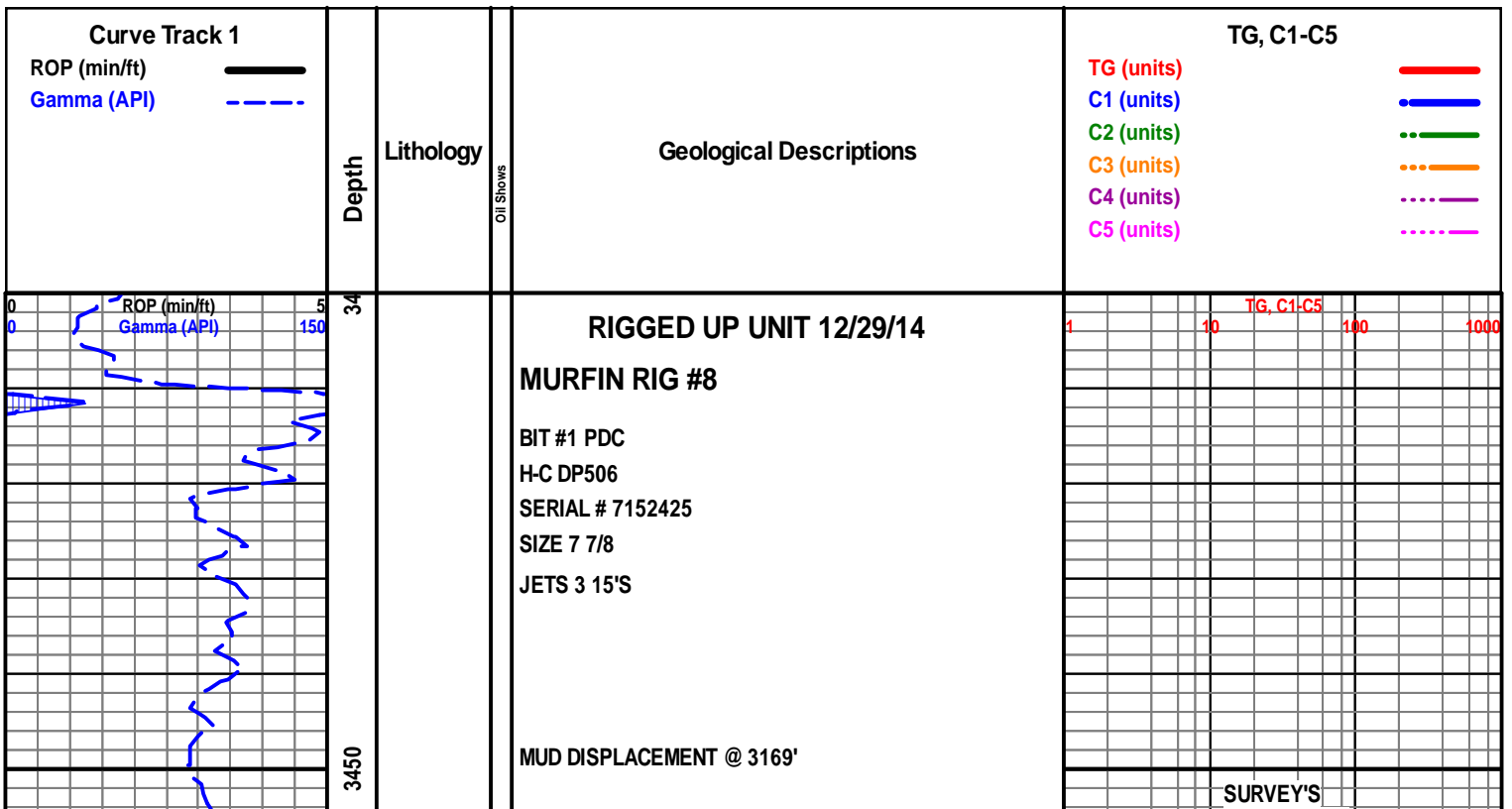
ROUNDING

- Rounded
- Subrnd
- Subang

- Angular

OIL SHOWS

- Even
- Spotted
- Ques
- Dead
- Gas show



302' 1/2 DEG.
3504' 1/2 DEG.

BIT #2 TRI-CONE
H-C GX20C
SERIAL # 5246043
SIZE 7 7/8
JETS 3 15'S

BIT TRIP @ 3504'
STRAP 1.97 SHORT TO BOARD

START 24 HR. MANNED UNIT 12/29/14

SH- RD TO DK RD ORNG GRN, FRM TO SFT GMMY IP,
BLCKY, SLTY TXT, TR INTER-BD LS

FORAKER 3518' (-434')

LS- OFF WHT TO CRM LT TN, HD DNS TO BRTT IP, F-XLN,
S-CHLKY, RE-XLN IP, IMBD SM FOSS FRGS THRU, HVY TR
SFT TO V GMMY WHT CHLK THRU TRAY, TR IMBD SM CLR
QRTZ GRNS IP, DLL YEL TO YEL MIN FLO SCAT THRU, NO
VIS POR, NO VIS CUT OR SHOW

LS- CRM TO LT TN, HD DNS TO BRTT IP, VF/F-XLN,
S-CHLKY, SCAT IMBD SM FOSS FRGS, HVY TR SFT WHT
CHLK, TR IMBD GY TO DK GY SH, V DLL YEL MIN FLO,
NO VIS POR, NO VIS CUT OR SHOW

LS- LT TN TO TN CRM IP, HD DNS TO TR BRTT IP, VF-XLN,
F-XLN IP, S-CHLKY, TR IMBD SM CLR QRTZ GRNS IP, SLI
TR IMBD SM FOSS FRGS, IMBD LMNTD SH, DLL YEL MIN
FLO IP, NO VIS POR, NO VIS CUT OR SHOW

SH- LT RD TO RD GY, FRM TO V GMMY, BLCKY, SLTY TXT
IP, TR INTERBD LS'S, TR LG PRED UNCONSOLIDATED
QRTZ GRNS

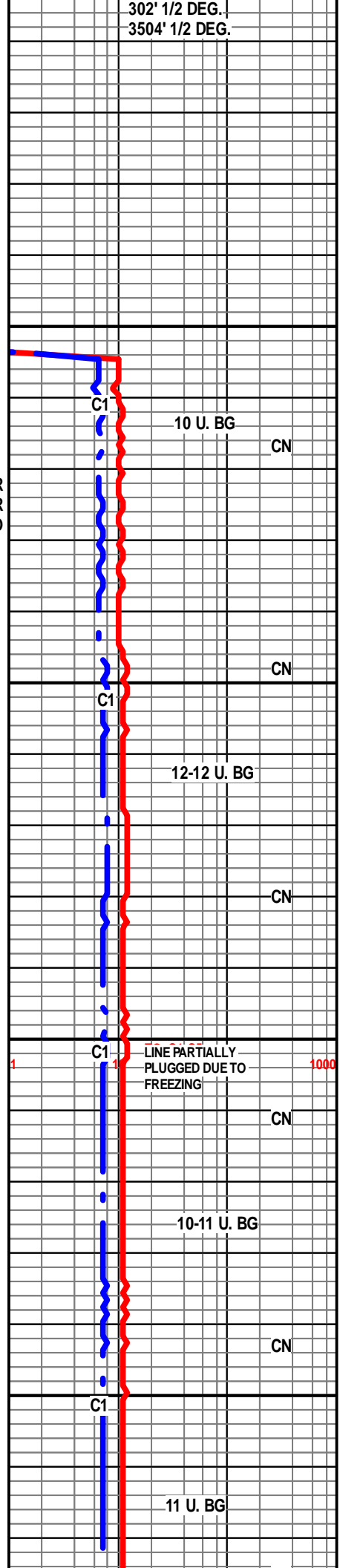
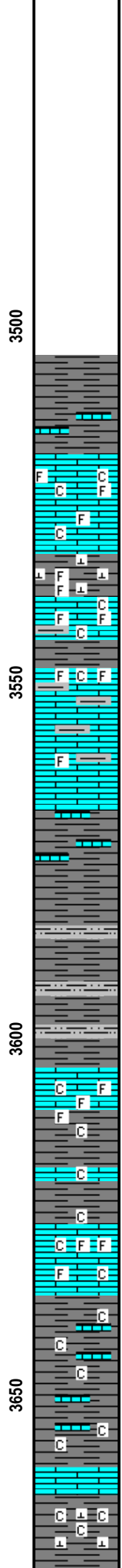
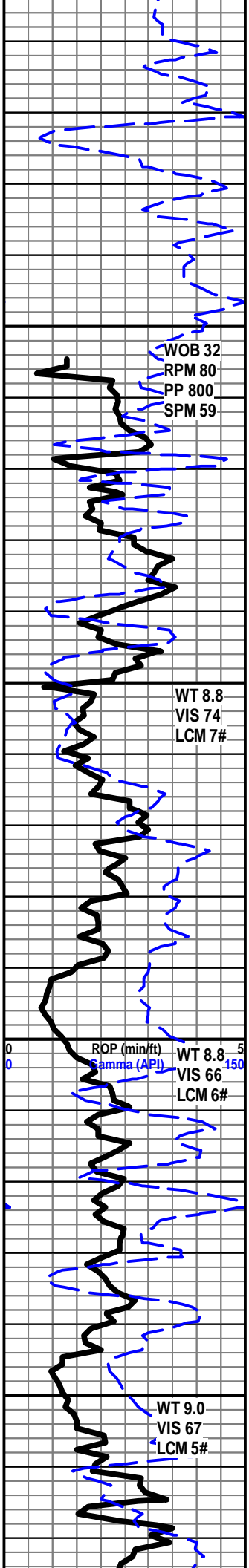
SH- RD TO DK RD GY, FRM TO V GMMY, BLCKY, V SLTY
TXT, TR IMBD RND CLR QRTZ GRNS, TR INTER-BD LS

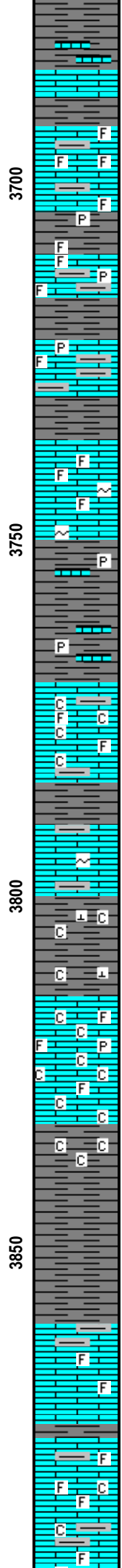
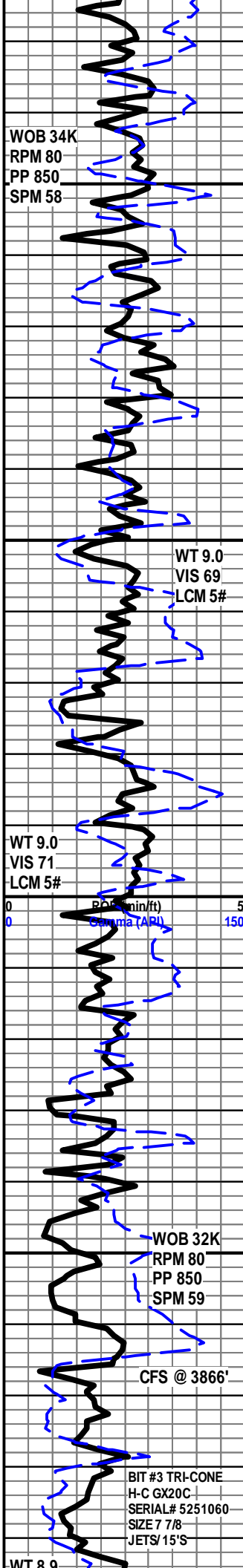
LS- CRM TO LT TN TN, HD DNS, VF-XLN, S-CHLKY IP,
IMBD LG FOSS FRGS, HVY TR SFT TO GMMY WHT CHLK,
TR IMBD GY SH, DLL YEL MIN FLO, NO VIS POR, NO VIS
CUT OR SHOW

LS- LT TN TO TN CRM IP, HD DNS TO BRTT, F/MD-XLN,
RE-XLN, S-CHLKY, HVY TR IMBD SM FOSS FRGS, TR
IMBD SM CLR QRTZ GRNS IP, TR IMBD SH, DLL YEL TO
YEL MIN FLO, NO VIS POR, NO VIS CUT OR SHOW

SH- RD TO DK RD BRN, FRM TO GMMY, BLCKY, V SLTY
TXT, INTER-BD LS THRU, HVY TR SFT WHT CHLK THRU
TRAY

SH- GY TO MD GY RD GRN MOTT, FRM TO SFT IP, BLCKY,
SLTY TXT IP, CALC-IP, TR SFT WHT CHLK





SH- RD TO DK RD, V GMMY TO FRM IP, V SLTY, TR INTER-BD LS

LS- OFF WHT TO CRM GY IP, HD DNS TO BR TT, MD/F-XLN, RE-XLN, HVY TR IMBD MICRO-FOSS THRU, SCAT IMBD GY TO DKY GY, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

LS- OFF WHT TO CRM, HD DNS TO TR BR TT IP, MD-XLN, RE-XLN, S-SUCRO IP, TR IMBD SM FOSS FRGS, TR PYR, IMBD GY SH IP, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

LS- OFF WHT TO LT GY RD, HD DNS TO BR TT, MD/F-XLN, HVY TR IMBD RD SH, SLI TR IMBD FOSS FRGS, IMBD DISS PYR IP, NO VIS FLO, NO VIS CUT OR SHOW

LS- LT TN TO TN CRM IP, HD DNS, VF/F-XLN, S-SUCRO IP, IMBD LG FOSS FRGS, TR IMBD GLAUC, SLI TR IMBD SM CLR QRTZ GRNS, V DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

SH- RD TO DK RD GRN MOTT, V GMMY TO FRM IP, V SLTY TXT, TR INTER-BD LS, TR PYR

LS- CRM TO LT TN, HD DNS, VF/F-XLN, S-CHLKY, SCAT IMBD SM FOSS FRGS, TR IMBD RD SH, HVY TR GMMY WHT CHLK THRU TRAY, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

LS- LT GY TO GY OFF WHT IP, HD DNS, VF-XLN, S-CHLKY IP, IMBD GY SH THRU, TR IMBD GLAUC, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

SH- RD TO BRN GRN MOTT, GMMY TO FRM IP, BLCKY, SLTY TXT, CALC-IP, SFT WHT CHLK THRU TRAY

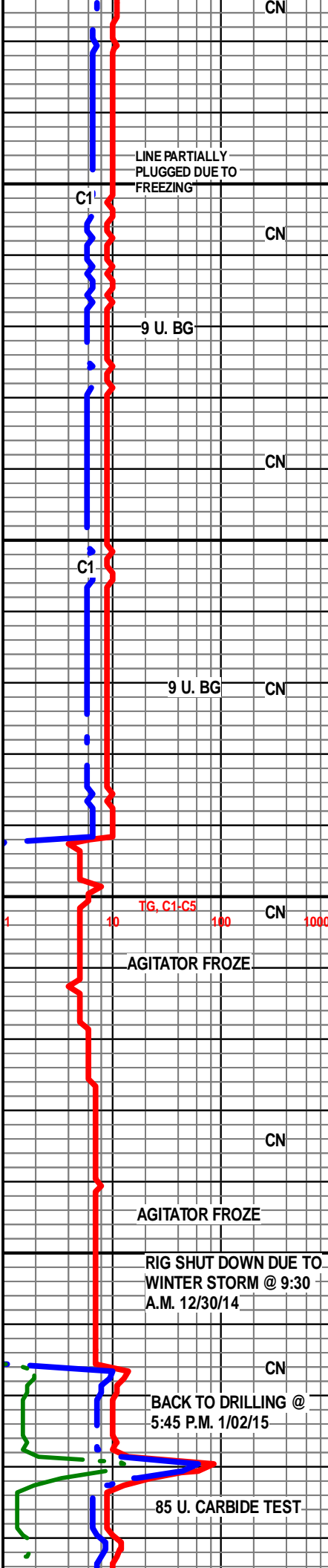
LS- CRM TO LT TN, HD DNS TO TR BR TT IP, VF/F-XLN, S-CHLKY, ABTD SFT TO GMMY WHT CHLK THRU TRAY, TR IMBD MICRO FOSS, SLI TR DISS PYR IP, DLL YEL MIN FLO SCAT IP, NO VIS POR, NO VIS CUT OR SHOW

SH- LT RD TO RD BRN, V GMMY TO TR FRM IP, V SLTY TXT, HVY TR GMMY WHT CHLK

TOPEKA 3860' (-776)

LS- OFF WHT TO CRM, HD DNS TO TR BR TT IP, VF/F-XLN, S-SUCRO IP, SLI TR IMBD SM FOSS FRGS, TR IMBD RD SH, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

LS- LT TN TO TN CRM IP, HD DNS TO TR BR TT IP, VF/F-XLN, RE-XLN IP, S-CHLKY, ABTD IMBD FOSS FRGS THRU, HVY TR SFT WHT CHLK THRU TRAY, TR INTER-BD GY SH IP, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW



LINE PARTIALLY PLUGGED DUE TO FREEZING

9 U. BG

9 U. BG

AGITATOR FROZE

AGITATOR FROZE

RIG SHUT DOWN DUE TO WINTER STORM @ 9:30 A.M. 12/30/14

BACK TO DRILLING @ 5:45 P.M. 1/02/15

85 U. CARBIDE TEST

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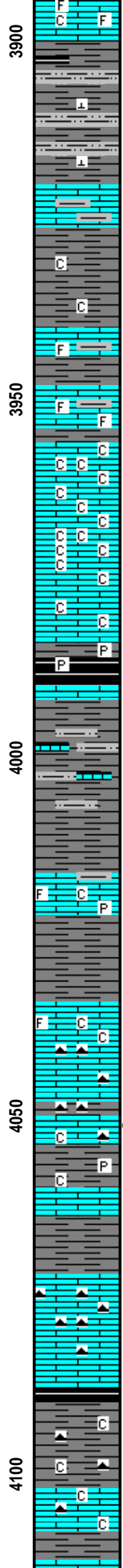
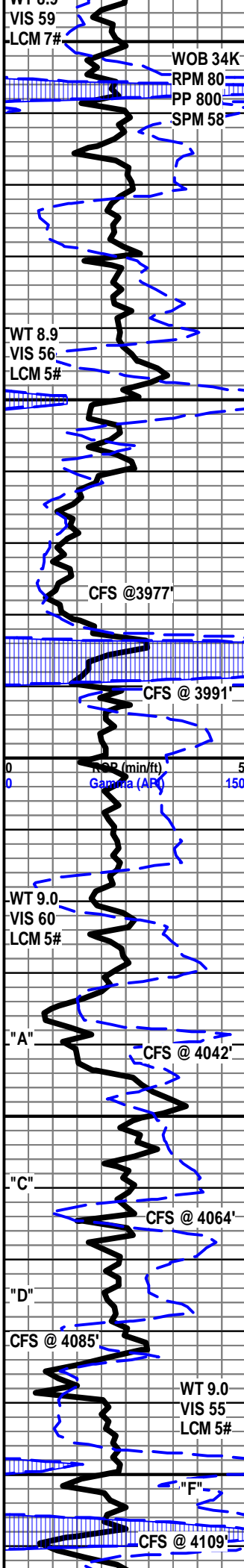
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SH- GY TO DK GY, FRM BLCKY, SLTY TXT IP, TR CALC-IP, BLK SFT CARB IP

SLSTN & SH- OFF WHT TO GY MD GY RD IP, V FRM TO SFT IP, V SLTY TXT, IMBD V/V/F-GRNS THRU, QRTZ GRNS, CALC-IP

LS- CRM TO LT TN, HD DNS, VF/F-XLN, RE-XLN IP, IMBD SM CLR QRTZ GRNS, TR IMBD RD SH, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

SH- RD TO DK RD PRP, FRM TO GMMY, V SLTY TXT, IMBD V/V/F-GRNS THRU, TR SFT TO GMMY WHT CHLK

LS- TN TO DK TN, HD DNS, F/MD-XLN, S-SUCRO IP, IMBD SM FOSS FRGS, SCAT IMBD CLR QRTZ GRNS, INTER-BD GY TO RD SH IP, V DLL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW

LS- WHT TO OFF WHT CRM, HD TO V BRTT, MD-XLN, V CHLKY MTRX, ABDT GMMY CHLK THRU TRAY, IMBD SM RND CLR QRTZ GRNS THRU, DLL YEL TO YEL MIN FLO THRU, TR PR INTER-XLN POR IP, NO VIS CUT OR SHOW

HEEBNER 3984' (-900')

SH- BLK SFT CARB, W/ TR IMBD DISS PYR & PYR CLSTRS

SH- GY TO LT GY OFF WHT IP, V FRM BLCKY TO SFT IP, V SLTY, IMBD V/V/F-GRNS THRU, HVY TR IMBD PYR, TR INTER-BD LS

LS- CRM TO LT TN TN, HD DNS, VF/F-XLN, RE-XLN IP, IMBD RD SH, TR IMBD FOSS FRGS, SLI TR SFT TO GMMY WHT CHLK, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

LANSING 4033' (-949')

LS- OFF WHT TO CRM LT TN IP, HD DNS TO BRTT, F/MD-XLN, RE-XLN, S-CHLKY, SCAT IMBD SM RND CLR QRTZ GRNS, TR IMBD FOSS FRGS IP, HVY TR SFT TO FRM WHT CHLK, TR ORNG CHRT, DLL YEL TO YEL MIN FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW

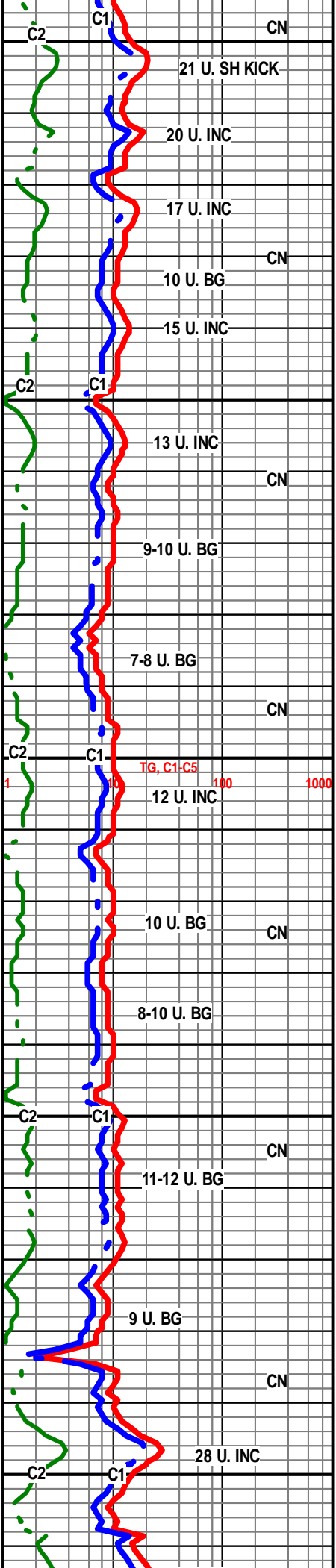
4050'-4053' LS- OFF WHT TO LT GY BLK (W/BLK TAR OIL STN IN 30%-40%), HD DNS TO BRTT IP, F/MD-XLN, S-SUCRO IP, TR IMBD CHLK IP, TR ORNG CHRT IN TRAY, IMBD V SM CLR GRNS, YEL GLD FLO IN 30%, BR YEL GLD FLO IN 10%, PR INTER-XLN POR IN 1%, TR FR INTER-XLN IP, GD FLSH CUT, GD TO FR SLW STRM IN 50%, LT TN LCH ON DSH, NO OIL ODOR

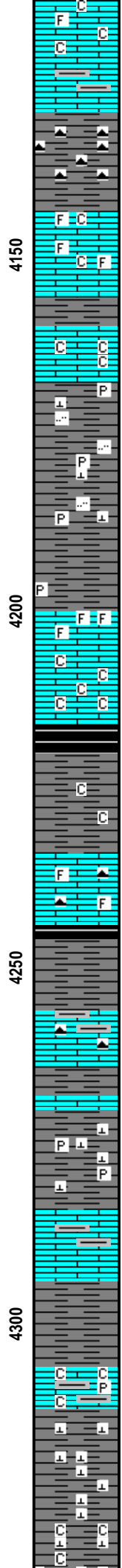
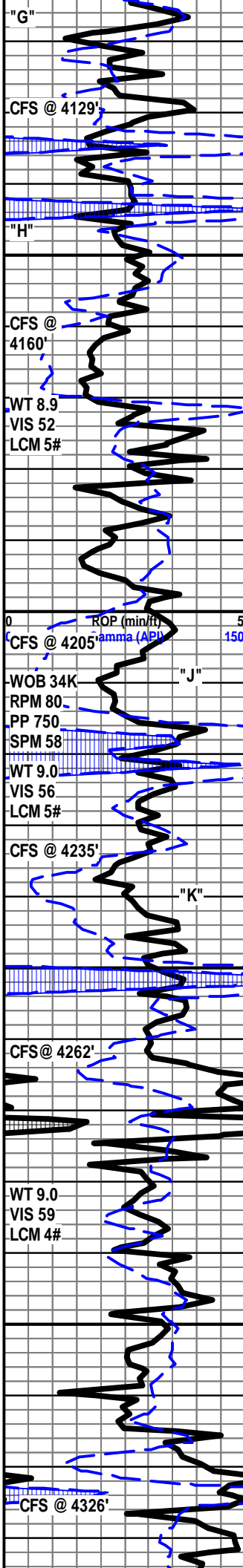
LANSING "D" ZONE 4072' (-988')

LS- CRM TO LT TN WHT IP, HD DNS TO BRTT IP, F/V-F-XLN, RE-XLN IP, TR IMBD CLR QRTZ GRNS, HVY TR ORNG CHRT IN TRAY, V DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

4102'-4104' LS- OFF WHT TO CRM IP (W/ TN TO BRN OIL STN IN 40%), HD DNS TO BRTT, VF/F-XLN, S-CHLKY, IMBD SM S-ANG CLR QRTZ GRNS, TR ORNG CHRT IN TRAY, DLL YEL FLO IN 10%-20%, PR INTER-XLN POR, TR PR MICRO VUG POR IP, FR FLSH CUT, GD SLW STRM IN 40%, NO LCH ON DSH, NO OIL ODOR

LANSING "G" ZONE 4112' (-1028')





LS- LT GY TO OFF WHT, HD DNS, VF/F-XLN, SLI TR IMBD FOSS FRGS, HVY TR SFT WHT CHLK IN TRAY, IMBD GY SH IP, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

SH- DK GY TO MD GY, FRM BLCKY TO SFT SPNLTY, SLTY TXT IP, HVY TR ORNG CHRT THRU TRAY

LS- OFF WHT TO LT TN, HD DNS, VF/F-XLN, S-CHLKY IP, SCAT IMBD SM FOSS FRGS, TR IMBD CLR QRTZ GRNS, V DLL YEL MIN FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW

LS- CRM TO OFF WHT, HD DNS TO BRIT, F/MD-XLN, V S-CHLKY, SCAT IMBD SM CLR QRTZ GRNS, TR IMBD SFT WHT CHLK, DLL YEL TO YEL MIN FLO THRU, TR PR TO FR INTER-XLN POR IP, NO VIS CUT OR SHOW

SH- RD TO DK RD GY GRN MOTT, SFT TO V GMMY, SLTY TXT, CALC-IP, TR PYR

LANSING "J" ZONE 4200' (-1116')

LS- CRM TO LT TN, HD DNS TO TR BRIT IP, F/MD-XLN, S-CHLKY IP, IMBD MD TO LG S-ANG CLR QRTZ GRNS THRU, SLI TR IMBD SM FOSS FRGS IP, HVY TR SFT TO GMMY WHT CHLK THRU TRAY, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

SH- BLK SFT CARB, W/ GY TO DK GY RD, SFT SPLNTY TO FRM IP, SLTY TXT IP, TR SFT WHT CHLK,

LS- CRM TO OFF WHT, HD DNS TO BRIT IP, VF/F-XLN, RE-XLN IP, S-SUCRO IP, IMBD S-ANG CLR QRTZ GRNS, IMBD ORNG CHRT IP, SLI TR IMBD SM FOSS FRGS IP, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

LS- OFF WHT TO LT GY GY, HD DNS, VF/F-XLN, RE-XLN IP, HVY TR IMBD GY SH THRU, IMBD LG FOSS FRGS, SLI TR IMBD ORNG CHRT, NO VIS FLO, NO VIS CUT OR SHOW

BKC 4270' (-1186')

SH- GY TO LT GY RD IP, FRM BLCKY TO SFT IP, V CALC, TR IMBD DISS PYR IP

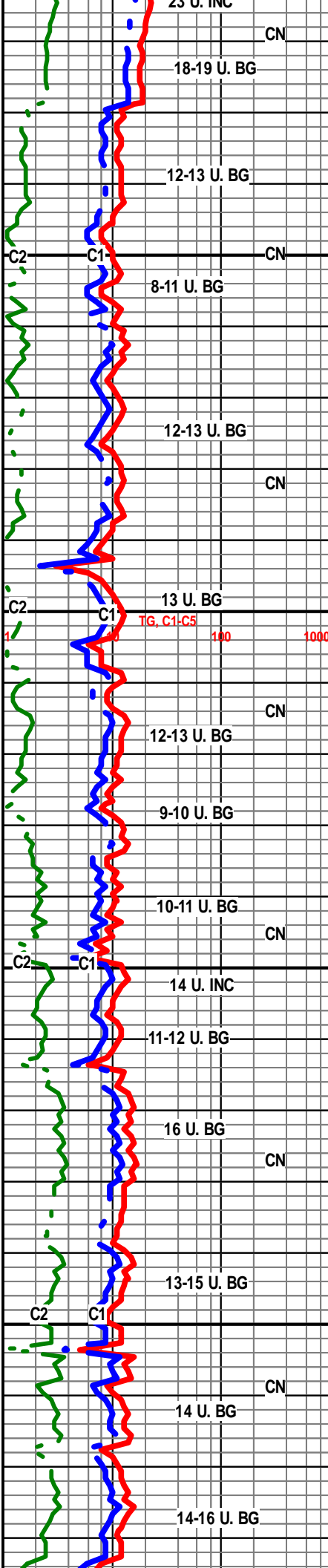
LS- OFF WHT TO LT GY, HD DNS, VF/F-XLN, RE-XLN IP, IMBD GY SH THRU, TR IMBD SM CLR QRTZ GRNS, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

SH- RD TO DK RD GRN MOTT, SFT TO GMMY IP, V SLTY TXT, TR GRN CLY

LS- OFF WHT TO CRM LT GY IP, HD DNS, F-XLN, S-CHLKY, IMBD GY SH, HVY TR SFT WHT CHLK, TR IMBD DISS PYR, V DLL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW

SH- GY TO MD GY RD MOTT, V FRM TO SFT IP, BLCKY, V CALC, TR RD CLY

SH- GY TO DK GY, V FRM TO SFT IP, BLCKY, V CALC, HVY



23 U. INC
18-19 U. BG

12-13 U. BG

8-11 U. BG

12-13 U. BG

13 U. BG

12-13 U. BG

9-10 U. BG

10-11 U. BG

14 U. INC

11-12 U. BG

16 U. BG

13-15 U. BG

14 U. BG

14-16 U. BG

C2 C1 CN

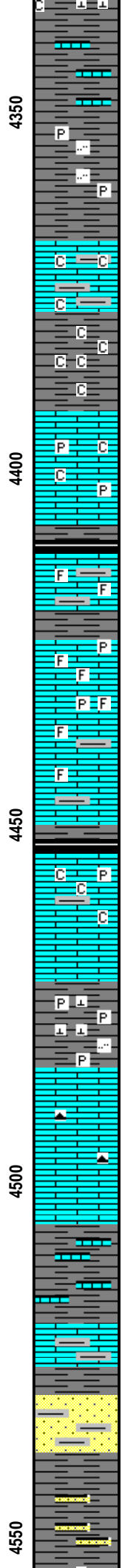
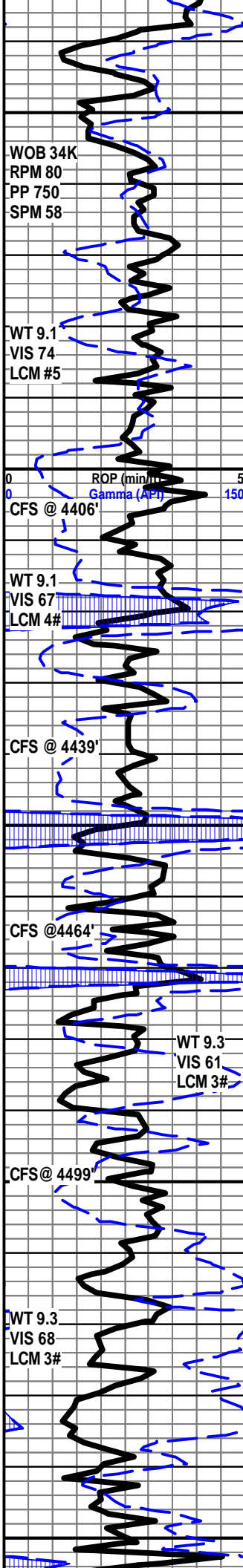
C2 C1 CN

C2 C1 CN

C2 C1 CN

C2 C1 CN

TG, C1-C5 100 1000



TR SFT TO GMMY WHT CHLK, TR YEL CLY

SH- RD TO DK RD GY OFF WHT MOTT, FRM TO SFT, BLCKY, SLTY TXT, HVY TR INTER-BD LS

SH- RD TO DK RD PRP, SFT TO GMMY IP, V SLTY TXT, TR IMBD DISS PYR IP

LS- OFF WHT TO LT GY GY, HD DNS TO BRTT IP, F-XLN, S-CHLKY MTRX, HVY TR IMBD GY SH, SLI TR IMBD RD SH, TR IMBD SFT WHT CHLK, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

LABETTE SHALE 4378' (-1294')

LS- CRM TO LT TN, HD DNS TO BRTT IP, VF/F-XLN, S-SUCRO IP, IMBD S-ANG CLR QRTZ GRNS, TR IMBD DISS PYR IP, TR SFT TO FRM WHT CHLK, DLL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW

LS- OFF WHT TO GY, HD DNS, VF-XLN, RE-XLN, HVY TR IMBD DK GY SH, TR SCAT IMBD MICRO FOSS, NO VIS FLO, NO VIS CUT OR SHOW

LS- CRM TO LT TN TN, HD DNS TO TR BRTT IP, F/MD-XLN, RE-XLN, IMBD SM FOSS FRGS THRU, HVY TR IMBD DISS PYR, IMB GY SH IP, DLL YEL FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW

LS- OFF WHT TO CRM, HD DNS TO TR BRTT IP, VF/F-XLN, S-CHLKY IP, IMBD DK GY SH IP, IMBD FOSS FRGS, DLL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW

FORT SCOTT 4454' (-1370')

LS- OFF WHT TO CRM LT GY IP, HD DNS TO BRTT IP, VF/F-XLN, RE-XLN IP, IMBD GY SH IP, TR IMBD PYR, TR SFT TO FRM WHT CHLK, YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW

SH- GY TO MD GY RD IP, V FRM BLCKY TO SFT IP, SLTY TXT IP, HVY TR IMB PYR, V CALC

CHEROKEE 4485' (-1401')

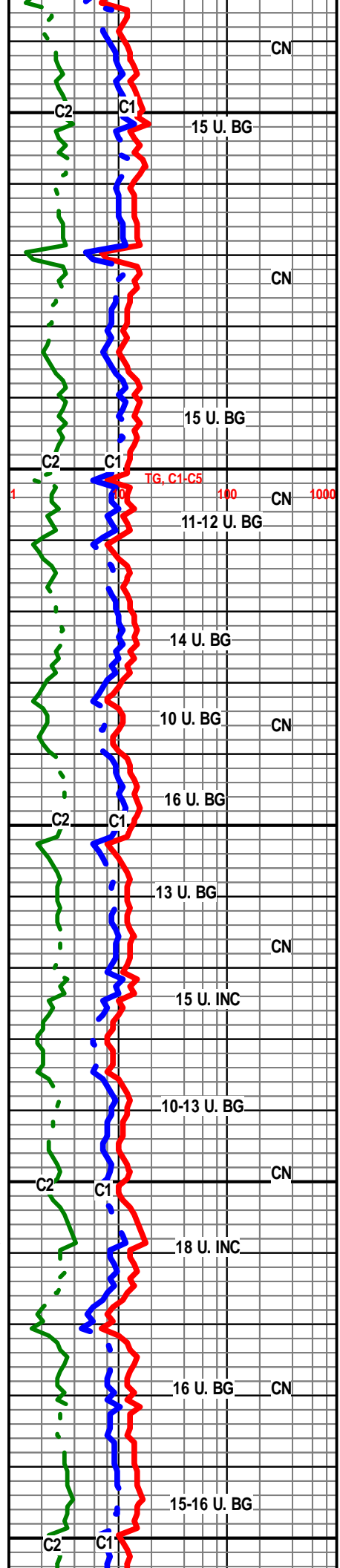
LS- CRM TO LT TN, HD DNS TO BRTT, F/MD-XLN, RE-XLN, S-SUCRO, IMBD S-ANG TO ANG CLR QRTZ GRNS THRU, TR ORNG CHRT IN TRAY, DLL YEL TO YEL FLO IN 30%, PR TO FR INTER-XLN POR IN 1%, NO VIS CUT OR SHOW

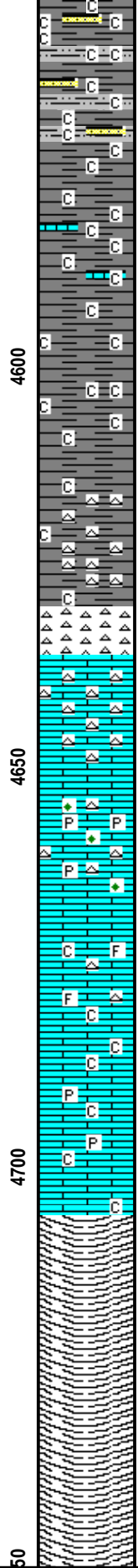
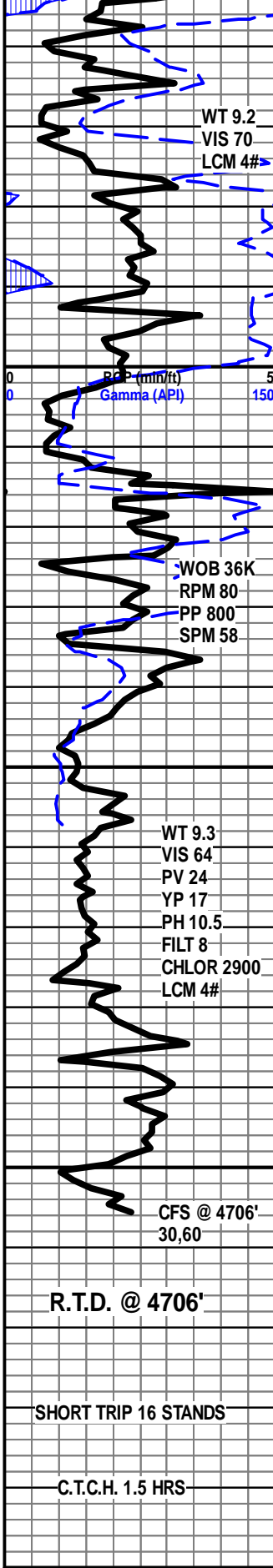
SH- RD TO GY GRN MOTT, SFT TO FRM IP, SLTY TXT, HVY TR INTER-BD LS THRU

LS- WHT TO OFF WHT LT GY, HD DNS, VF-XLN, S-CHLKY, IMBD GY SH THRU, TR INTER-BD RD & GRN SH, TR SFT TO GMMY WHT CHLK, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

SS- CLR FRSTY, HD TT TO TR FRI IP, IMBD F/MD S-ANG TO S-RND CLR QRTZ GRNS, SIL CMNT GRDNG TO CALC CMNT IP, FR SRT, IMBD RD & GY SH, NO VIS FLO, PR INTER-GRN POR IP, NO VIS CUT OR SHOW

SH- RD TO DK RD GRN MOTT, SFT TO FRM IP, SPLNTY, SLTY TXT, INTER-BD SS THRU





SH- RD TO GY, SFT TO GMMY IP, V SLTY TXT, IMBD V/V/F GRNS THRU, TR INTER-BD SS, ABDT GMMY WHT CHLK THRU

SH- RD TO DK RD PRP YEL MOTT, SFT TO GMMY, SLTY TXT, ABDT GMMY WHT CHLK THRU, TR INTER-BD LS

SH- RD TO DK RD YEL GRN, V GMMY TO SFT IP, ABDT GMMY WHT CHLK THRU

SH- RD TO DK RD, SFT TO GMMY IP, ABDT WHT TO CLR CHRT THRU TRAY, HVY TR GMMY WHT CHLK

MISSISSIPPIAN 4636' (-1552')

LS- WHT TO OFF WHT, V HD DNS, VF-XLN, CRYPTO-XLN IP, TR IMBD FOSS FRGS IP, ABDT WHT TO CLR CHRT THRU TRAY, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

LS- OFF WHT TO WHT LT GY IP, HD DNS, VF-XLN, TT SUCRO MTRX, HVY TR CLR TO WHT CHRT THRU, TR IMBD CHLOR, TR IMBD PYR, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

LS- OFF WHT TO CRM, V HD DNS, VF-XLN, TT SUCRO MTRX, WHTHRD IP, TR IMBD WHT CHRT, SLI TR IMBD MICRO FOSS IP, SLI TR SFT WHT CHLK, NO VIS FLO, NO VIS CUT OR SHOW

LS- CRM TO LT TN, HD DNS TO TR BRTT IP, VF/F-XLN, SUCRO, WHTHRD IP, HVY TR IMBD SFT WHT CHLK, TR IMBD PYR IP, NO VIS FLO, NO VIS POR, NO VIS CUT OR SHOW

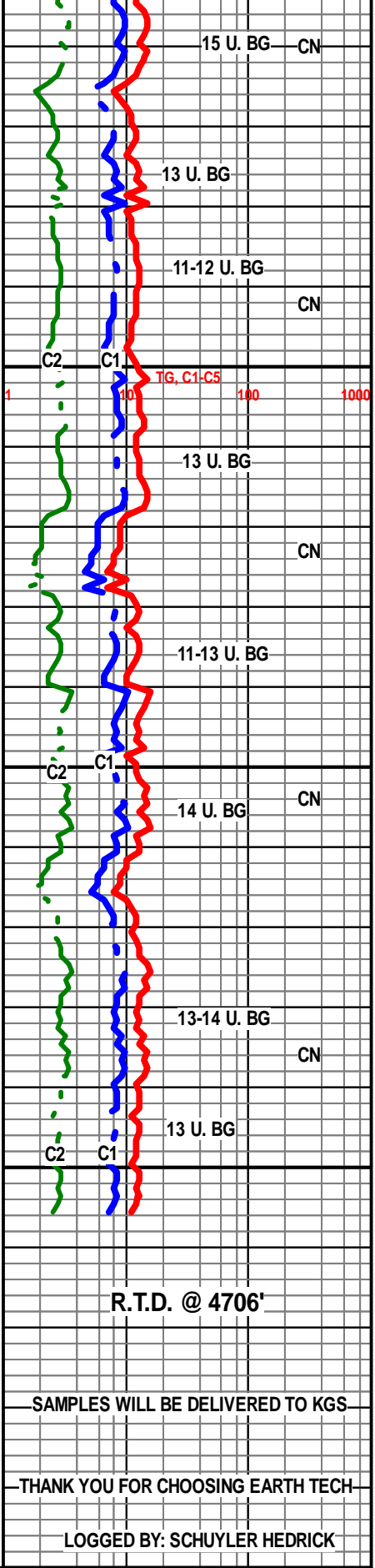
R.T.D. @ 11:00 A.M. 1/06/15

DROP SURVEY

T.O.F.L. @ 3:45 P.M. 1/06/15

WEATHERFORD/ LIBERAL, KS

LOGGERS T.D.



R.T.D. @ 4706'

SAMPLES WILL BE DELIVERED TO KGS

THANK YOU FOR CHOOSING EARTH TECH

LOGGED BY: SCHUYLER HEDRICK

R.T.D. @ 4706'

SHORT TRIP 16 STANDS

C.T.C.H. 1.5 HRS

CFS @ 4706'
30,60