



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1220484
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: _____

1220484

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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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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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CONSOLIDATED
Oil Well Services, LLC

269408

TICKET NUMBER 46846
LOCATION Oakley KS
FOREMAN Miles Shaw

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

FIELD TICKET & TREATMENT REPORT
CEMENT

43

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
7-10-14	2612	Cramer trust #1	27	145	30W	Lea Co
CUSTOMER			TRUCK #	DRIVER	TRUCK #	DRIVER
Cato Exploration			731	Jordan L		
MAILING ADDRESS			5297A7	Jallett		
CITY			460	Soft K		
STATE						
ZIP CODE						

JOB TYPE Surface HOLE SIZE 12 1/4" HOLE DEPTH 1517' CASING SIZE & WEIGHT 8 5/8" 24#
 CASING DEPTH 1517' DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 12.5/14.8 SLURRY VOL 19 11.34 WATER gal/sk _____ CEMENT LEFT in CASING 42.22
 DISPLACEMENT 94/12 bbls DISPLACEMENT PSI 500 MIX PSI 20 psi RATE _____

REMARKS: Safety meeting and rig upon Matherich drills r3 #102
Float equipment Float collar on top of 5" #1 Centralizer on sets #2
11, 20, 29 Run casing top bottom Circulate casing 30 min Pump 2 bbls
Water spacer mix 550 sls 65/35 per 68 gal 3% calcium 1/4 # flo seal tailed
in with 150 sls Class A Cement With 3% calcium 28 gal Cement did
Circulate 40 bbls top

Float collar did not hold left shut in with screws

Thanks Miles crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401B	1	PUMP CHARGE	1785.00	1785.00
5406	35	MILEAGE	5.25	183.75
5407A	30.98	Ton Mileage delivery	1.75	1897.25
1102	1800 #	Calcium Chloride	.94	1748.40
1104S	150 SLS	Class A Cement	18.55	2782.50
1107	183 #	Flo seal	2.97	543.51
111PB	3156 #	Bentonite gel	12.7	852.12
1127A	550 SLS	65/35 per Cement	16.00	8800.00
4204	1	8 5/8" Guide Shoe	524.00	524.00
4411	1	8 5/8" Rubber plug	141.75	141.75
			Subtotal	19258.73
			less 10% disc count	1925.87
			Subtotal	17332.85
			SALES TAX	990.50
			ESTIMATED TOTAL	18323.35

completed

Ravin 3737

AUTHORIZATION Joe Morris TITLE Company man DATE 7-10-2014

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.



CONSOLIDATED
Oil Well Services, LLC

269813

TICKET NUMBER 46633

LOCATION Oakley KS

FOREMAN Mikes Shaw

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

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
7-20-14	2612	Kramer trust	27	16S	30W	Lano
CUSTOMER <u>Catco Exploration</u>			Haley 1/8 2W 1W W+U Info			
MAILING ADDRESS			TRUCK #	DRIVER	TRUCK #	DRIVER
CITY			399	Sordant		
STATE			397	Coody R		
ZIP CODE						

JOB TYPE long string HOLE SIZE 7 7/8" HOLE DEPTH 4345 CASING SIZE & WEIGHT 5 1/2" 15.5 #
 CASING DEPTH 4337.50 DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 14.2 SLURRY VOL 1.42 WATER gal/sk _____ CEMENT LEFT in CASING 41.58
 DISPLACEMENT 163 bbls DISPLACEMENT PSI 900 MIX PSI 1500 psi RATE _____

REMARKS: Safety Meeting and rig upon Maverick drilling rig #102
Float equipment Centralizers on 2, 4, 6, 8, 10, 12 Run casing to bottom
Circulate casing 1 hr. Pump Mud Flush mix 2755 lb gwc with 5 # Kals-eal
Down casing Shut down Clear pump & lines release plug displace 10.3 bbl water
With one gal UCL in each 10 bbls Water 1. ft pressure 900 psi. Plug did land
@ 1500 psi and hold

Mix 305 lbs R H

Thanks Mikes Shaw

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401C	1	PUMP CHARGE	3175. ⁰⁰	3175. ⁰⁰
5406	55	MILEAGE	5.25	288.75
5407A	14.3 Tons	Ton mileage delivery	1.75	1376.63
1110 A	1525 #	Kals-eal	1.56	2379.00
1126	305 SWS	OUC Cement	23.70	7228.50
1142A	10 gal	UCL	41.10	411. ⁰⁰
11446	500 gal	Mud Flush	1. ⁰⁰	500. ⁰⁰
4130	6	5 1/2" Centralizers	60. ⁰⁰	360. ⁰⁰
4159	1	5 1/2" Float Shoe	433.75	433.75
4454	1	5 1/2" latch down plug	318.25	318.25
<input checked="" type="checkbox"/> completed				
			Subtotal	14951.90
			1-55 103 d	1495.19
			Subtotal	13456.71
			SALES TAX	650.68
			ESTIMATED TOTAL	14,107.39

Ravin 3737

AUTHORIZATION Josh Hartley 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.



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

Well Name: CRAMER TRUST #1 CATO EXPLORATION, LLC
Location: Sec. 27-16S-30W LANE Co., KS
License Number: 15-101-22527 Region: WILDCAT
Spud Date: 07/07/2014 Drilling Completed: 07/18/2014
Surface Coordinates: SHL: 1420' FWL & 1320' FSL OF
Sec. 27-16S-30W LANE CO., KS
Bottom Hole REPORT FOR: MR. MACK BLACKFORD
Coordinates: LOGGER: MR. LEVI CAMPBELL
Ground Elevation (ft): 2796' K.B. Elevation (ft): 2803'
Logged Interval (ft): 1517' To: 4350' Total Depth (ft): 4350'
Formation: LANSING/ KANSAS CITY
Type of Drilling Fluid: FRESH WATER/NATIVE MUD

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

CORE

Contractor: HALIBURTON
Core #: 1
Formation: LANSING D
Core Interval: From: 3978' To: 4038' Cut: 60'
Recovered: 58'
Bit type: IADC- M333: TYPE- FC3643A: SN-12143387
Size: 7 7/8"
Coring Time: 9.33 HRS

OPERATOR

Company: CATO EXPLORATION, LLC
Address: 15 EAST 5TH ST. , STE 2100
TULSA, OK 74103

GEOLOGIST

Name: MR. MACK BLACKFORD
Company: CATO EXPLORATION, LLC
Address: 15 EAST 5TH ST. , STE 2100
TULSA, OK 74103

Cores

CONTRACTOR: HALIBURTON
RUN #2 FROM: 4038' TO: 4067'
CUT: 29' RECOVERED: 29.65'
SIZE: 7 7/8"
IADC- M333: TYPE- FC3643A: SN-12143387
CORING TIME: 1.6 HRS



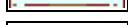
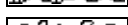







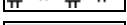








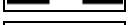









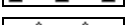


CONTRACTOR: HALIBURTON
RUN #3 FROM: 4156' TO: 4217'
CUT: 61' RECOVERED: 61.7'
SIZE: 7 7/8"
IADC- M333: TYPE- FC3643A: SN-12143387
CORING TIME: 3 HRS

Well Information

DRILLING CONTRACTOR: MAVERICK RIG 102
MUD CO.: MUD-CO / SERVICE MUD, INC.
ENGINEER- TYLER LANG
MUD LOGGING: XGP
LOGGER: LEVI CAMPBELL (405) 397-5932
levi.campbell@xgpmudlogging.com

BH: 5035/5032 TRAILER: H5 HASP: 4 MAC:6

ROCK TYPES

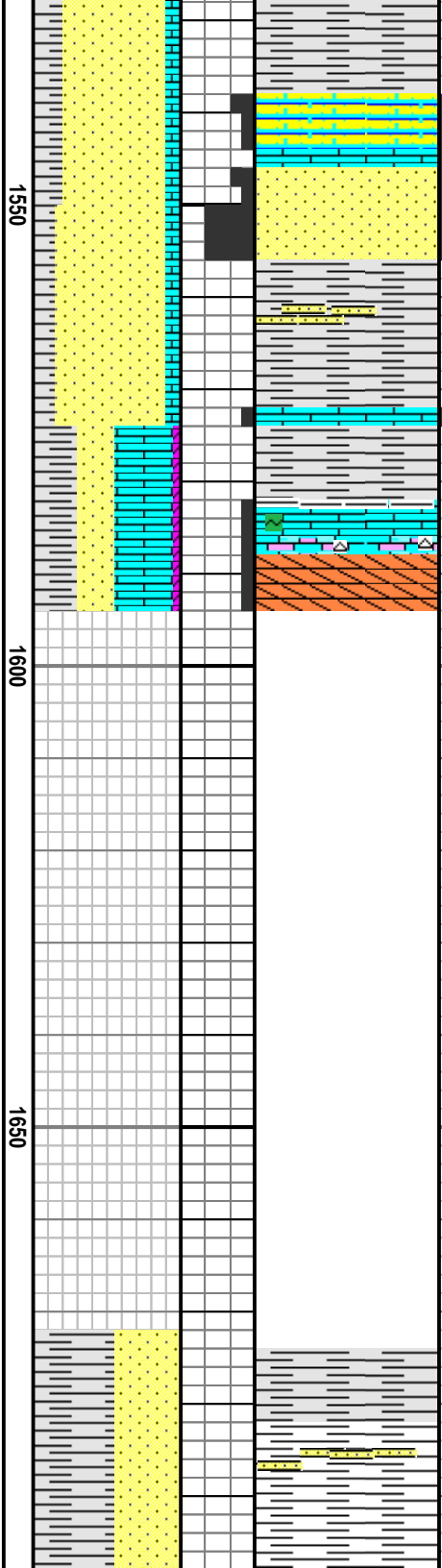
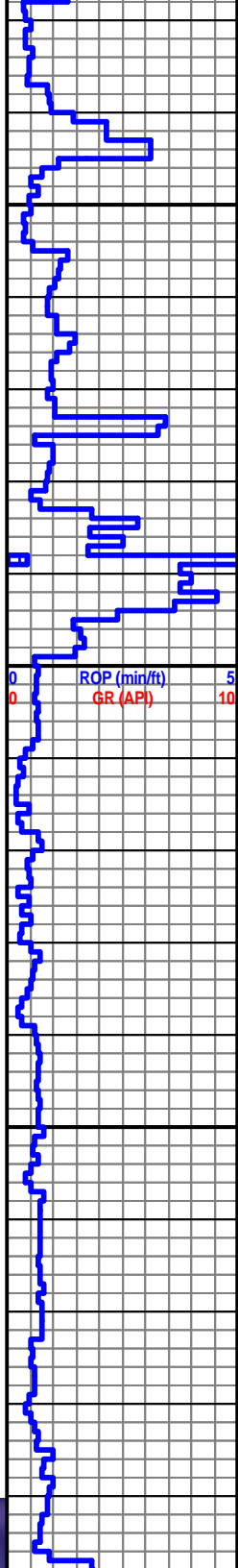
 Calc cmtd dolo  Chrt_gnrnr  Lmystst  Bent  Brec  Clyst  Coal  Congl  Dol	 Igne  Lmst  Mrlst  Shale  Shale  Shcol  Sltysh  Shgy  Ss	 Till  Sandylms  Hotsh  Sltst  Dolc ss  Lmysnd  Calc dolo  Dolomtc lm  Dolo cmtd lm	 Trip chrt  Spic chrt  Dolc chrt  Dk chrt  Chrt  Calc chrt
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ACCESSORIES

FOSSIL  Algae  Amph  Belm  Bioclst  Brach  Bryozoa  Cephal  Coral  Echin  Fish  Foram  Fossil  Gastro  Oolite  Ostra  Pelec  Pellet	 Pisolite  Plant  Strom  Crin MINERAL  Arggrn  Arg  Bent  Bit  Brecfrag  Carb  Chtdk  Chtlt  Feldspar  Qtz  Hvymin  Kaol	 Marl  Minxl  Phos  Pyr  Silt  Sil  Calc  Sand  Dol  Sidrte  Glauc STRINGER  Arg  Bent  Coal  Dol  Ls	 Mrst  Ssstrg  Sltstrg TEXTURE  Chalky  Cryxln  Earthy  Finexln  Grainst  Lithogr  Microxln  Mudst  Packst  Wackest
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WOB- 20K
RPM- 75
PP- 900
SPM- 58

WOB- 25K
RPM- 80 PP-
500 SPM-
60



FRM, OCC MOD HRD, MED U TO CRSE L GRN,
SUB ANG TO SUB RNDD, OCC RNDD, PR TO MOD
CONSL, PR TO MOD SRTD, OCC CALC CMT, NO
VIS STAIN, NO ODOR, TR PR TO FR INTRGRNLR
POR, TR PALE YEL FLOR, OCC STRW FLOR, NO
VIS CUT, NO VIS RES RING

SS: OPQ TO TRNSL, OCC CLR, MOD FRM TO FRM, SCAT MOD
HRD, MED U TO CRSE L GRN, SUB ANG TO SUB RNDD, OCC
RNDD, PR TO MOD CONSL, PR TO MOD SRTD, OCC CALC
CMT, NO VIS STAIN, NO ODOR, OCC PR TO FR INTRGRNLR
POR, TR PALE YEL FLOR, TR STRW FLOR, NO VIS CUT, VFNT
THN LT BLU RES RING

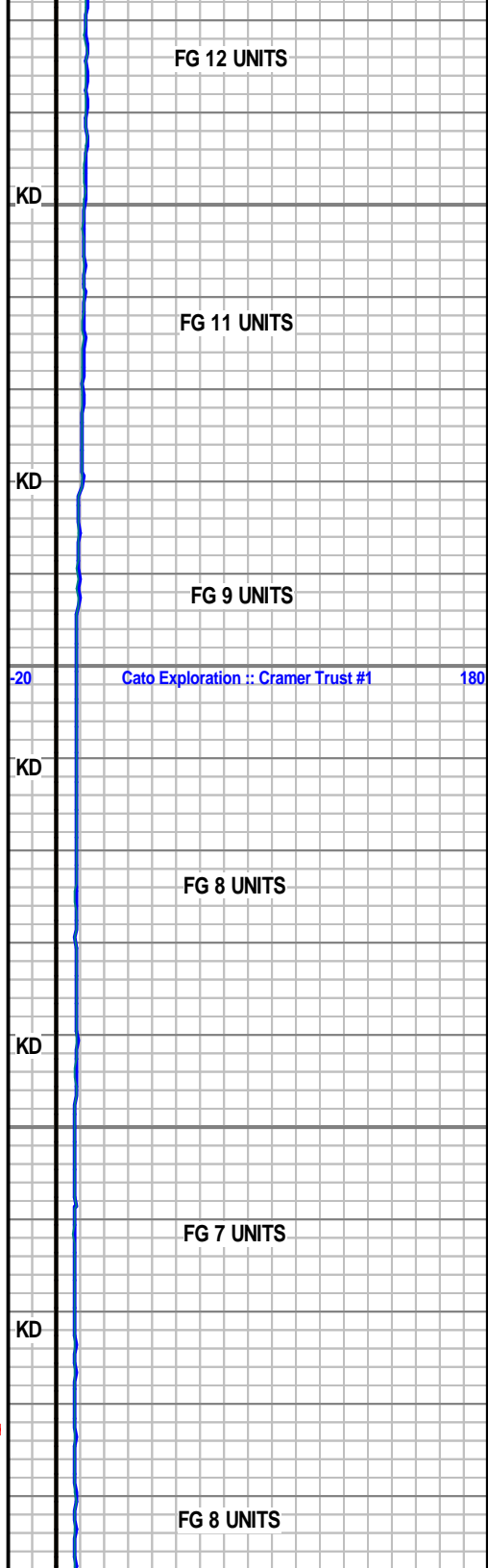
LS: CRM TO LT TAN, TR OFF WHT, MOD FRM, SM FRM, SM
BRTL, MICRO TO V/FN XLN, PLTY/BLKY, OCC CHNKY, TR ARG,
TR INTRBD DOLO, OCC GLAUC, SM GYPSM, NO VIS STAIN,
OCC XLN POR, OCC HAIRLINE FRAC, SCAT PALE YEL FLOR,
SCAT YEL FLOR, NO VIS CUT, NO VIS RES RING

NO SAMPLE DUE TO POSSUM
BELLY OVER TURNING

NO SAMPLE DUE TO POSSUM
BELLY OVER TURNING

FLOWER POT @ 1683'
(1120')

SS: OPQ TO TRNSL, SCAT CLR, OCC OFF WHT,
OCC LT GY, FRM TO MOD HRD, OCC MOD FRM,
MOTLY FUL CRNG, OCC MED U TO CRSE L GRN

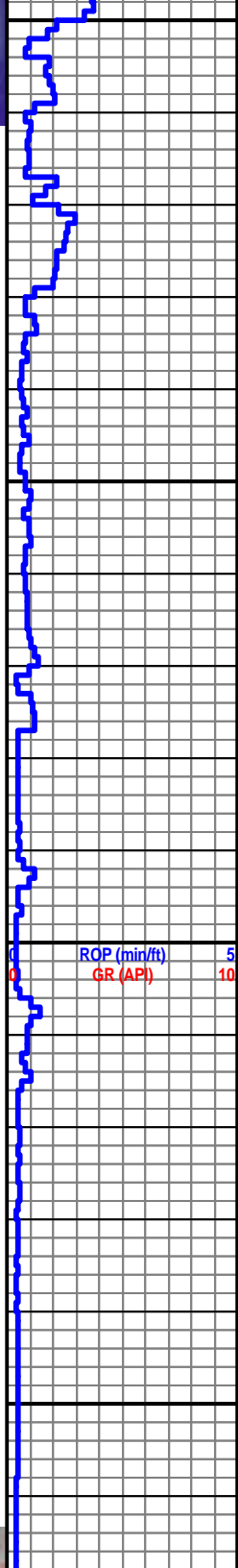




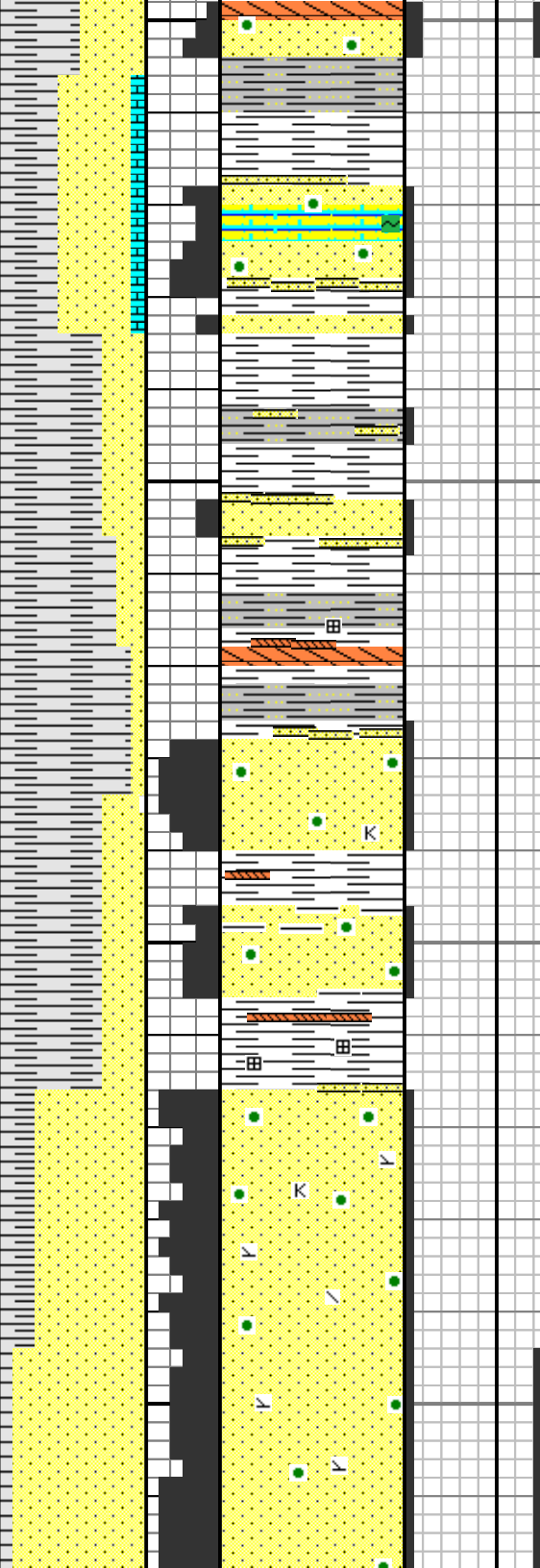
07/11/2014

RIG SERVICE -
WORK ON MUD
PUMP

WOB-28K
RPM-75
PP- 650
SPM- 60



1700
1750
1800
1850



MSTLY FN L GRNS, OCC MED U TO CRSE L SUB
RND GRN, ANG, SCAT SUB ANG, PR CONSL TO
BECMNG UNCONSL, PR TO MOD SRTD, TR CALC
CMT, OCC GLAUC, OCC LT BRN SPOT STAIN, NO
ODOR, OCC PR XGRNLR POR, SM LAM SH: RD
TO RDSH/BRN, MOD SFT, TR BRTL, V/FN TO FN
TXT, ERTHY LSTR, PLTY, OCC SLTY IP., TR STRW
FLOR, IMM D PALE YEL STRMING CUT
W/CRUSHED, FR SPTTY YEL RES RING

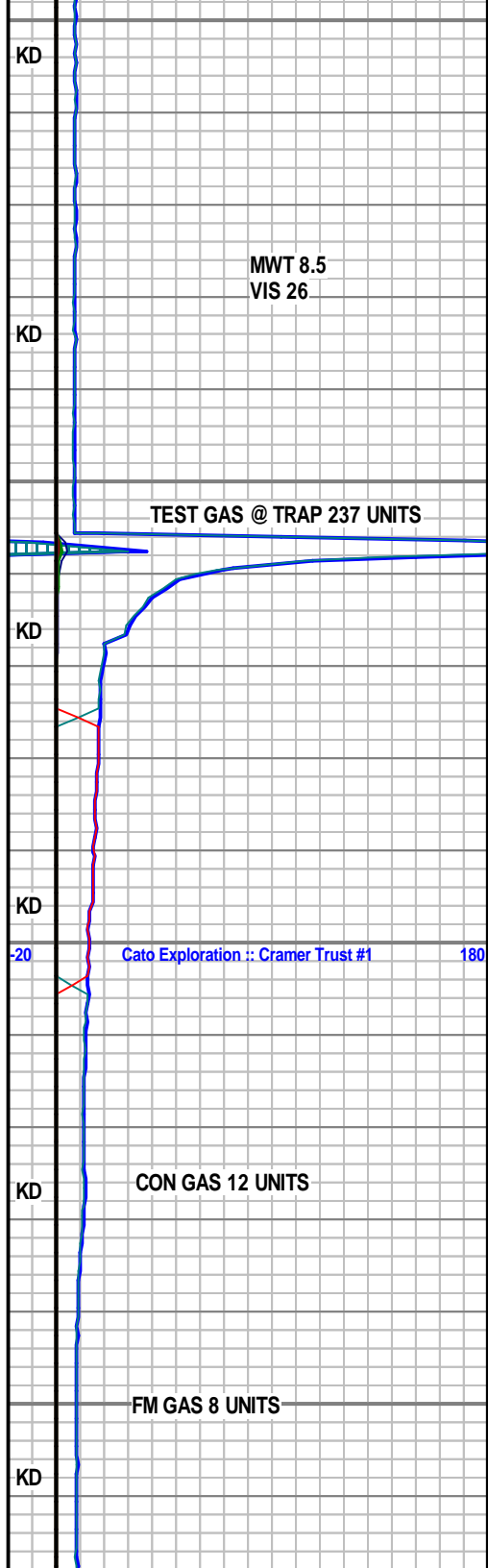
SH: ORNG, RDSH/ORNG, GRN MOTT, SCAT
ORNG/BRNSH, MOD FRM, TR BRTL, V/FN TXT, TR
FN TO STLY TXT, MSTLY ERTHY LSTR, CHNKY,
OCC BLKY, OCC AREN, OCC LENTC GYPSM, TR
LAM/LENTC SS: OPQ TO OFF WHT, MOD FRM TO
SCAT FRM, V/FN U TO FN L GRNS, ANG TO SM
SUB ANG GRNS, WELL CONSL, MOD TO FR
SRTD, SIL CMT, TR WELL IND, NO VIS STAIN, NO
ODOR, TR XGRNLR POR, TR DULL AMBER FLOR,
NO VIS CUT

+++++
CEDAR HILLS @ 1767'

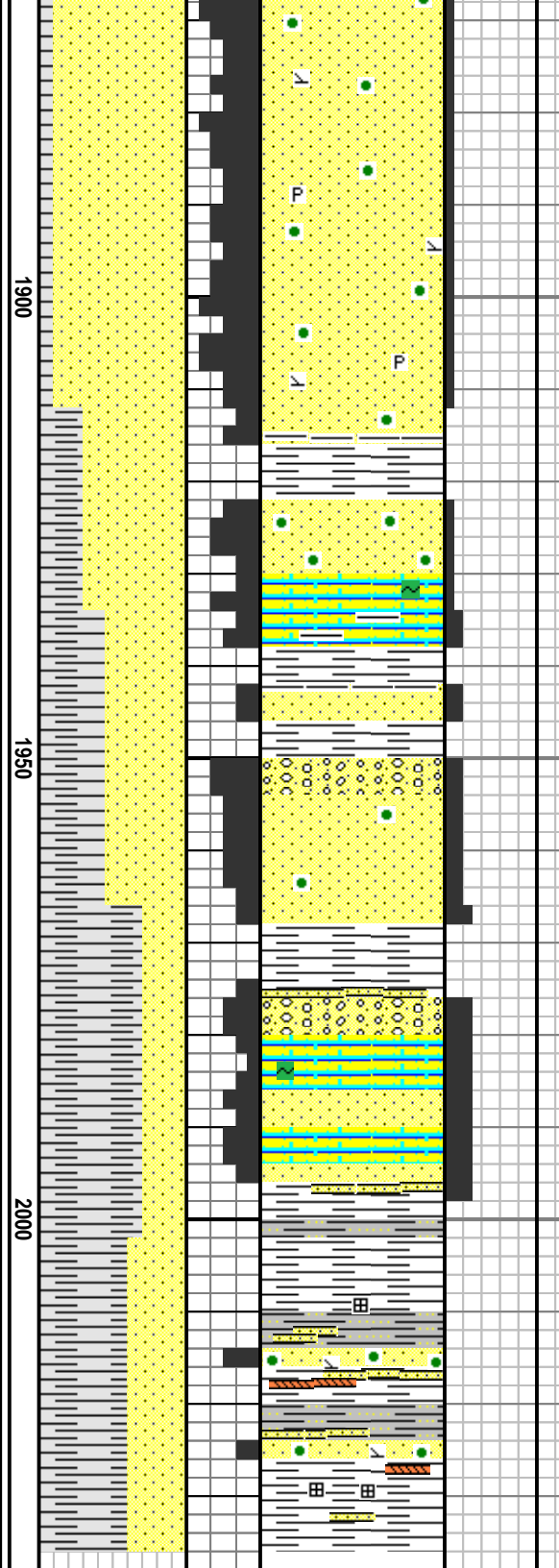
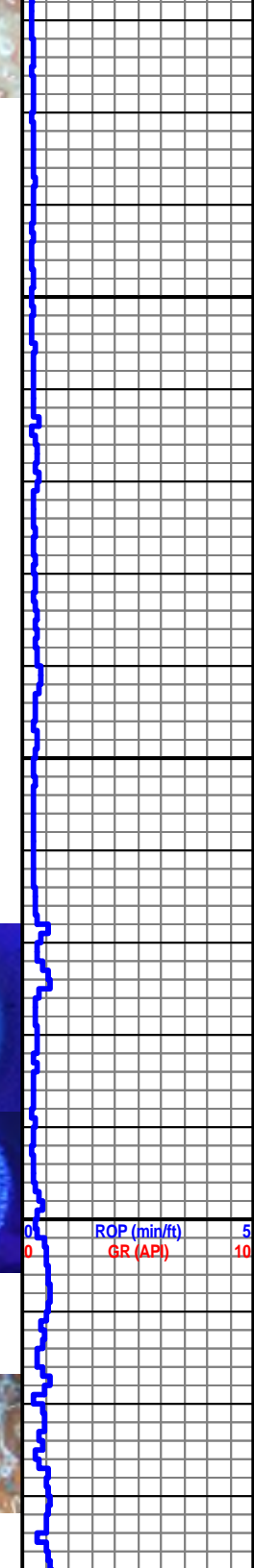
(1036')

SS: OPQ TO TRNSL, TR FRSTD, OCC OFF WHT,
FEW CLSTRS, FN L TO FN U GRNS, TR MED L
GRNS, RND TO SUB RND, MSTLY UNCONSL, MOD
TO WELL SRTD, SIL CMT, OCC FERR CTG GRNS,
OCC INTST KAOL, OCC SPTTY ASPHLTC CTG ON
GRNS, NO ODOR, ABNDNT XGRNLR POR, TR
LAM SH: ORNG TO ORNG/BRNSH, SCAT
RDSH/ORNG, MOD FRM, V/FN TO SLTY TXT,
ERTHY LSTR, CHNKY, OCC IMBDD HALITE, OCC
PALE YEL FLOR, TR V/WK SLO BLMNG PALE
YEL CUT, NO VIS RES RING

SS: OPQ TO TRNSL, TR FRSTD, OCC OFF WHT,
FEW CLSTRS, FN L TO FN U GRNS, TR MED L
GRNS, RND TO SUB RND, MSTLY UNCONSL, MOD
TO WELL SRTD, SIL CMT, OCC FERR CTG GRNS,
OCC INTST KAOL, OCC SPTTY ASPHLTC CTG ON
GRNS, NO ODOR, ABNDNT XGRNLR POR, OCC
PALE YEL FLOR, TR V/WK SLO BLMNG PALE
YEL CUT, V/WK SPTTY PALE YEL RES RING



WOB-30K
RPM- 75
PP-650/700
SPM-60



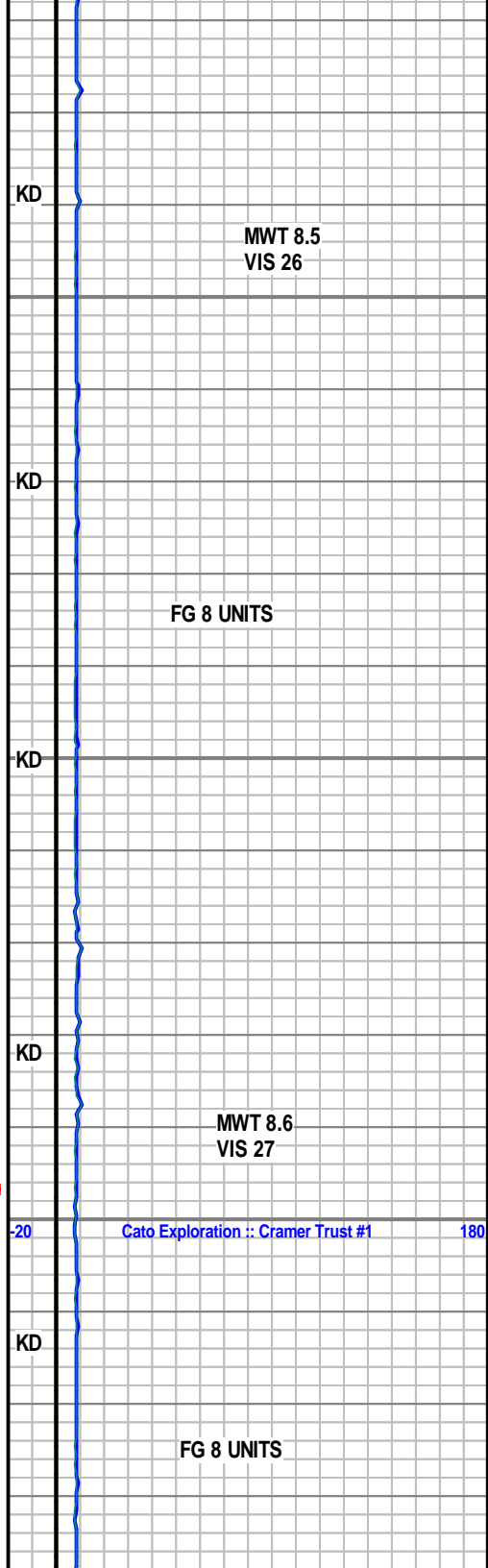
SS: OPQ, FRSTD, TRSNL, OCC TO TR OFF WHT, FEW CLSTRS, MOD FRM, FRI, FN U TO SM FN L GRNS, OCC MED L GRNS, RND TO TR SUB RND GRNS, MSTLY UNCONSL, WELL SRTD, SIL CMT, SCAT FERR CTD GRNS, OCC MIN MASS PYR, NO VIS STAIN, NO ODOR, ABNDNT XGRNLR POR, OCC DULL YEL FLOR, NO VIS CUT, NO VIS RES RING

SS: OFF WHT TO OPQ, SCAT TRNSL, TR FRSTD, FRM, SCAT MOD FRM, TR TO SCAT FRI, FN L TO TR FN U GRNS, SCAT V/FN L GRNS, FINING DOWNWARD, SUB ANG TO TR ANG GRNS, WELL CONSL, MOD SRTD, TR CALC CMT, OCC GLAUC, NO VIS STAIN, NO ODOR, SCAT XGRNLR POR, SM LAM SH: ORNG, RDSH/ORNG, MOD SFT TO MOD FRM, OCC BRTL, V/FN TO TR SLTY TXT, ERTHY LSTR, CHNKY, TR BLKY, TR BLU/WHT FLOR, V/WK TO WK SLO STRMNG WHT CUT, WK LRG SPTTY PALE YEL RES RING

SS: OFF WHT TO OPQ, SCAT TRNSL, TR FRSTD, FRM, SCAT MOD FRM, TR TO SCAT FRI, FN L TO TR FN U GRNS, SCAT V/FN L GRNS, FINING DOWNWARD, SUB ANG TO TR ANG GRNS, WELL CONSL, MOD SRTD, TR CALC CMT, OCC GLAUC, NO VIS STAIN, NO ODOR, SCAT XGRNLR POR, SM LAM SH: ORNG, RDSH/ORNG, MOD SFT TO MOD FRM, OCC BRTL, V/FN TO TR SLTY TXT, ERTHY LSTR, CHNKY, TR BLKY, SCAT BLU/WHT FLOR, IMMDD FR STRMNG WHT CUT, FR LRG SPTTY PALE YEL RES RING

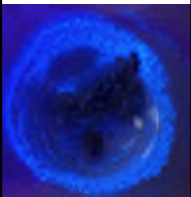
SALT PLAIN @ 1997'
(806')

SH: ORNG, RDSH/ORNG, MOD SFT TO MOD FRM, OCC BRTL, V/FN TO TR SLTY TXT, ERTHY LSTR, CHNKY, TR BLKY, OCC AREN, SM MUDST, OCC IMBDD FN XLN HALITE, TR LENTC TO LAM SS: OPQ, TRNSL TO TRNSP, SCAT FRSTD, V/FEW CLUSTRS, FN U TO TR FN L GRNS, RNDD GRNS, MSTLY UNCONSL, FR SRTD, SM TO SCAT V/LT FERR CTD GRNS, OCC IMBDD GYPSM, NO VIS STAIN, NO ODOR, SM TO ABNDNT XGRNLR POR, NO VIS FLOR, NO CUT

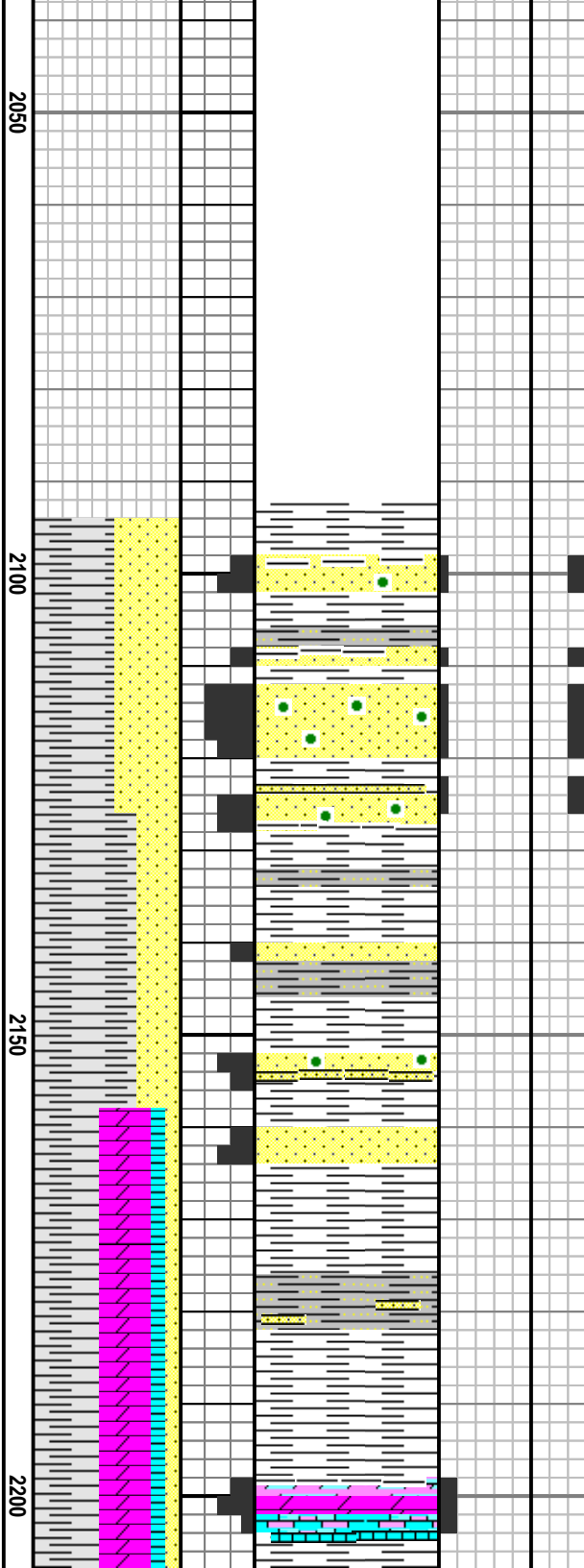
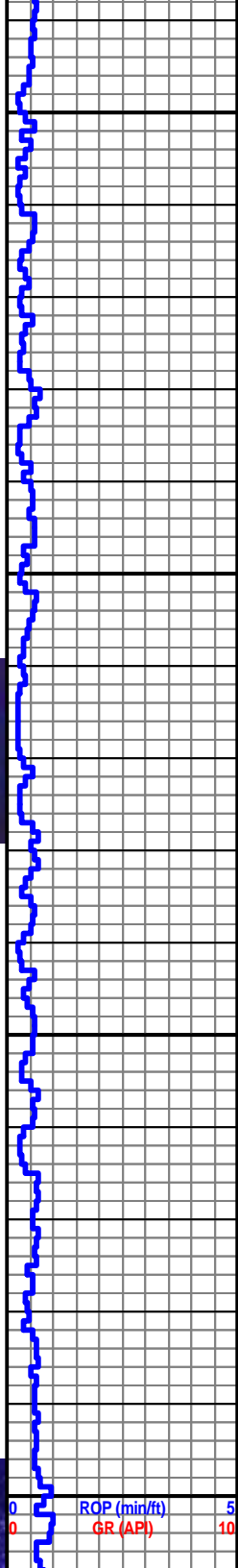


Cato Exploration :: Cramer Trust #1 180

WOB-30K
RPM-80
PP-800
SPM-60



WOB-30K
RPM-80
PP-850
SPM-60



NO SAMPLES

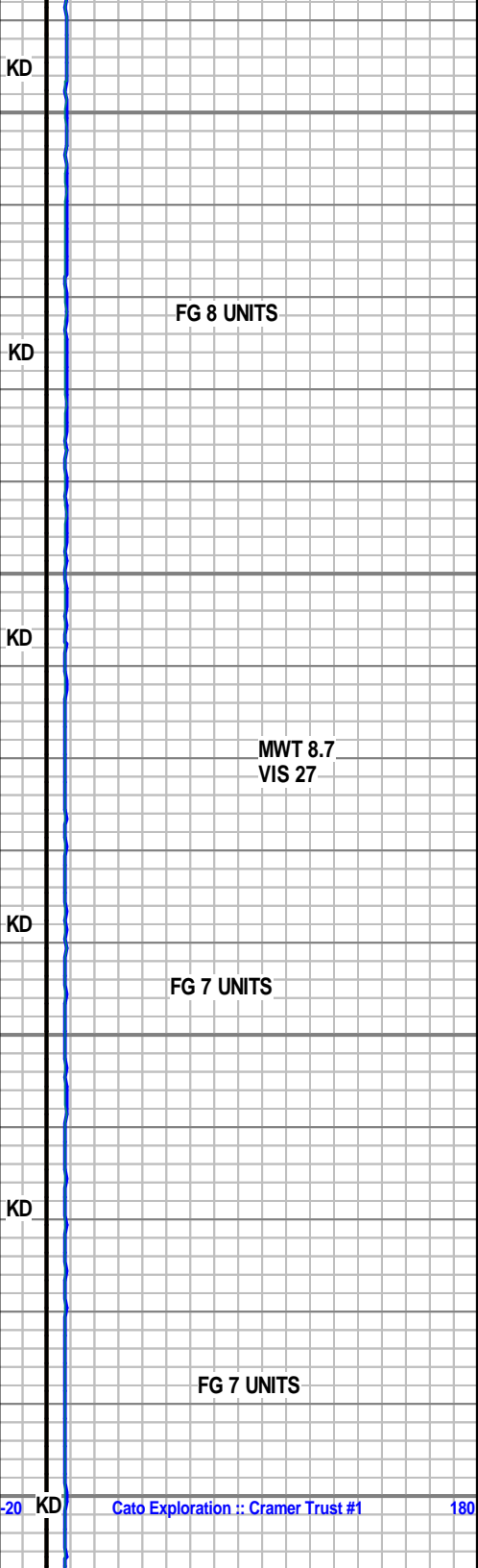
SH: ORNG, RDSH/ORNG, MOD SFT TO MOD FRM, OCC BRTL, V/FN TO TR SLTY TXT, ERTHY LSTR, CHNKY, TR BLKY, SM MUDST, TR LENTC TO LAM SS: OPQ, TRNSL TO TRNSP, SCAT FRSTD, V/FEW CLUSTRS, FN U TO TR FN L GRNS, RNDD GRNS, MSTLY UNCONSL, FR SRTD, SM TO SCAT V/LT FERR CTD GRNS, NO VIS STAIN, NO ODOR, SM TO ABDNNT XGRNLR POR, OCC BLU/WHT FLOR, WK STRMNG WHT CUT, WK TO TR FR BLU SPTTY RES RING

SH: ORNG, RDSH/ORNG, MOD SFT TO MOD FRM, OCC BRTL, V/FN TO TR SLTY TXT, ERTHY LSTR, CHNKY, TR BLKY, SM MUDST, TR LENTC TO LAM SS: OPQ, TRNSL TO TRNSP, SCAT FRSTD, V/FEW CLUSTRS, FN U TO TR FN L GRNS, RNDD GRNS, MSTLY UNCONSL, FR SRTD, SM TO SCAT V/LT FERR CTD GRNS, NO VIS STAIN, NO ODOR, SM TO ABDNNT XGRNLR POR, NO VIS FLOR, NO CUT

STONE CORRAL @ 2199'

+++++ (604) +++++

DOLO: OFF WHT. GYSH. TR OPQ TO TRNSL. MOD



FG 8 UNITS

MWT 8.7
VIS 27

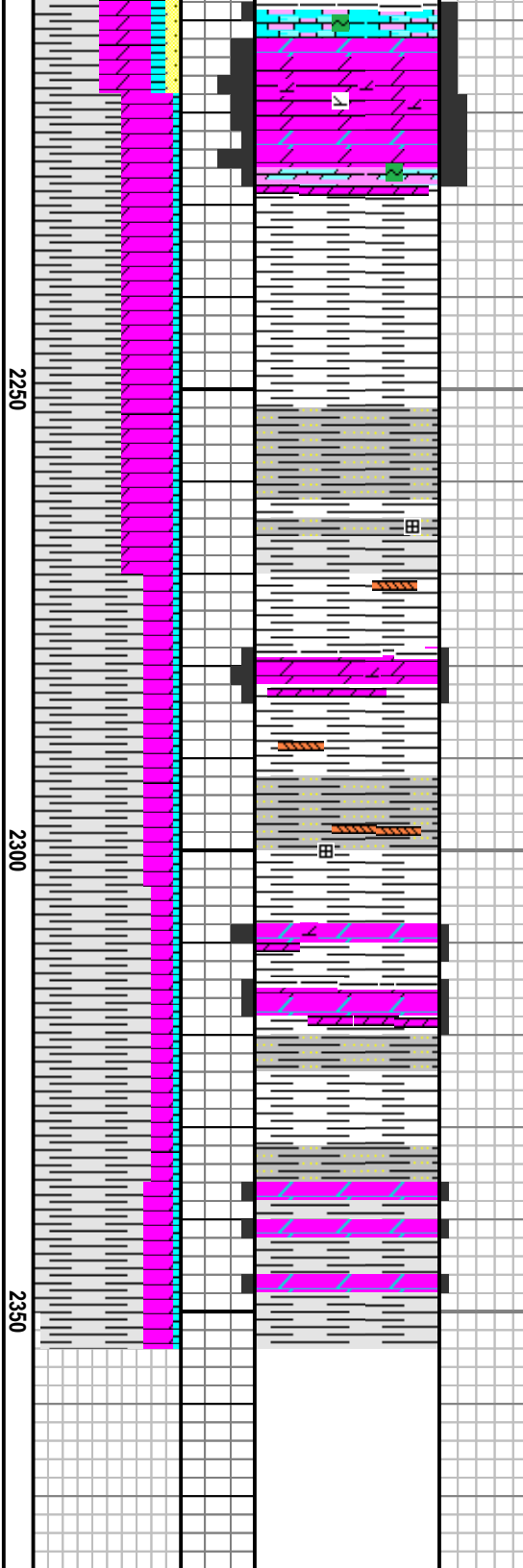
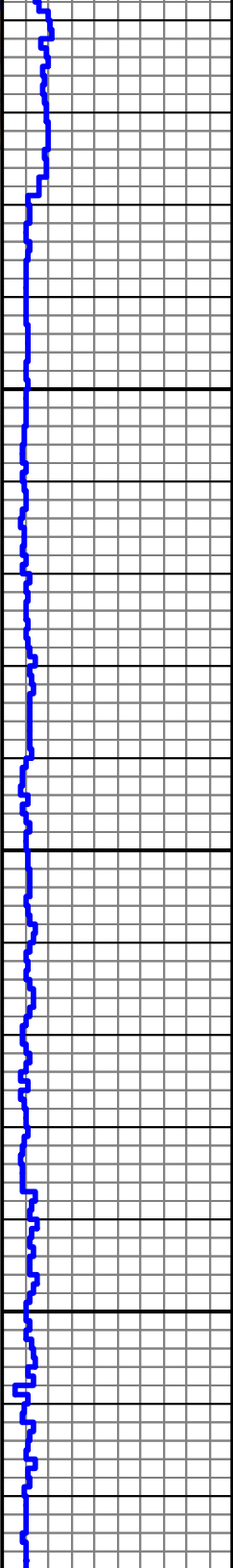
FG 7 UNITS

FG 7 UNITS



RIG SERVICE -
WORK ON MUD
PUMP

WOB-32K
RPM-80
PP-700
SPM-60



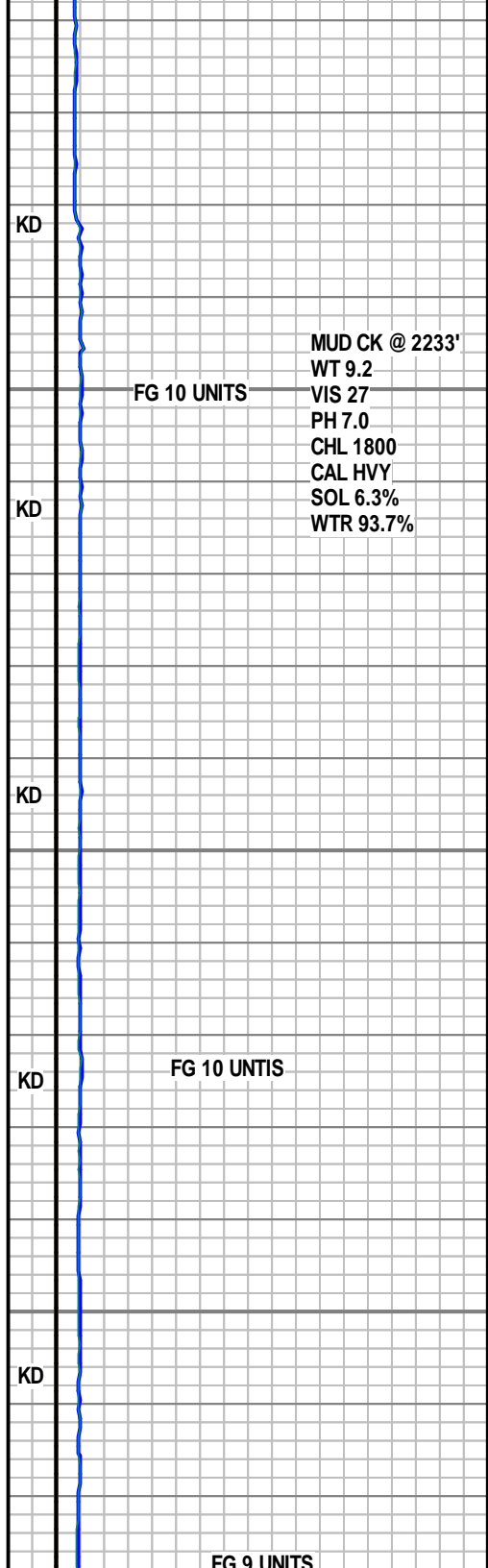
FRM, SM BRTL, FN TO SM V/FN XLN, MSTLY
CHNKY, SCAT PLTY, TR CALC CMT, TR INTRBD
LS, TR DRSY DOLO RHOMBS/EUHED W/OCC
FERR, OCC GLAUC, NO VIS STAIN, NO ODOR,
SCAT TO SM XLN POR, OCC PP POR, SCAT DULL
YEL FLOR, NO VIS CUT

SH: ORNG, RDSH/ORNG, OCC GY TO LT GY, MOD
SFT TO MOD FRM, OCC BRTL, V/FN TO INCRSE
SLTY TXT, ERTHY LSTR, CHNKY, TR BLKY, SM
MUDST, NON CALC

SH: ORNG, SM RDSH/ORNG, TR TAN/ORNG, TR
GRNSH MOTT, OCC TAN MOTT, MOD SFT TO MOD
FRM, OCC BRTL, V/FN TXT, OCC SLTY, V/DULL TO
ERTHY LSTR, MSTLY CHNKY, OCC BLKY, NON
CALC, OCC AREN, TR LENTC /THN BDD GYPSM,
OCC IMBDD HALITE, TR LAM DOLO: LT CRM TO
CRM, TR LT TANSH, TR LT GY MOTT, MOD FRM,
SCAT BRTL, V/FN TO MICRO XLN, TR FN XLN,
BLKY, SM CHNKY, TR CALC, OCC V/FN DRSY
DOLO RHOMBS, NO VIS STAIN, NO ODOR, TR
HAIRLINE FRAC, TR PP POR, OCC XLN POR, TR
TO OCC V/DULL YEL TO DK YEL FLOR, NO VIS
CUT

SH: ORNG, SM RDSH/ORNG, MOD SFT TO MOD FRM, OCC
FRM, V/FN TXT, V/DULL TO ERTHY LSTR, CHNKY, OCC BLKY,
NON CALC, TR DOLO: LT CRM TO CRM, OCC LT TAN, V/FN TO
MIC XLN, BLKY, SCAT CHNKY, TR CALC, NO VIS STAIN, NO
ODOR, OCC HL FRAC POR, OCC XLN POR, OCC PALE YEL TO
YEL FLOR, OCC STRW FLOR, NO VIS CUT, NO VIS RES RING

NO SAMPLE CAUGHT



KD

KD

KD

KD

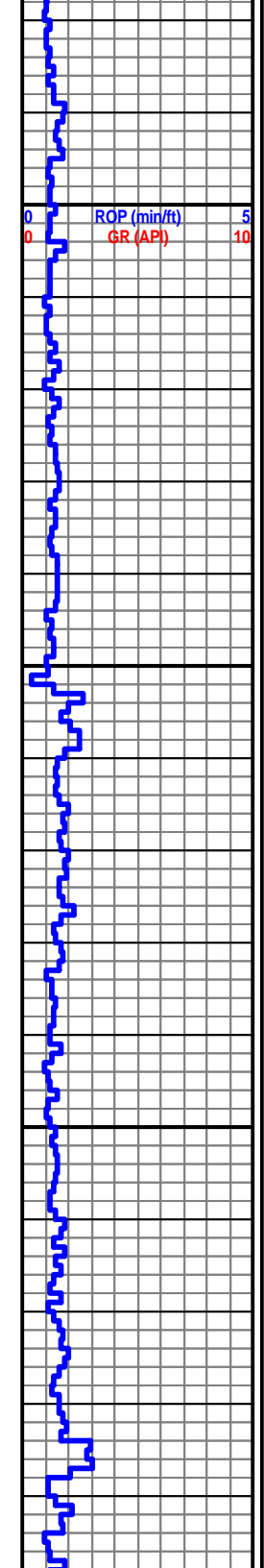
KD

MUD CK @ 2233'
WT 9.2
VIS 27
PH 7.0
CHL 1800
CAL HVY
SOL 6.3%
WTR 93.7%

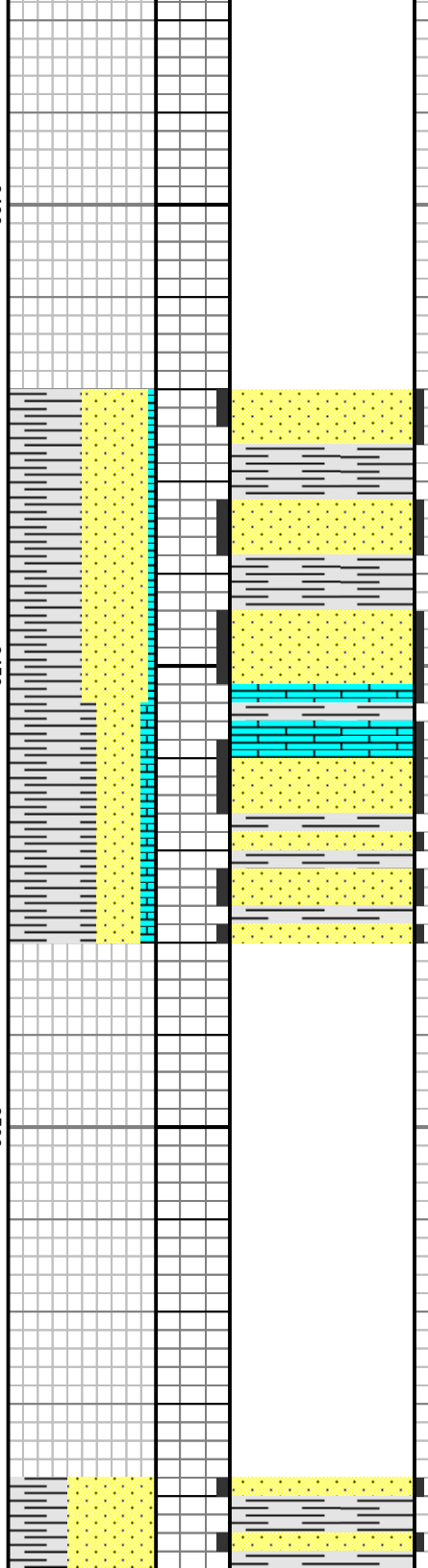
FG 10 UNITS

FG 10 UNITS

FG 9 UNITS



2400
2450
2500



SH: GY, SM LT GY, SM ORNG, SCAT RDSH/ORNG, MOD SFT TO MOD FRM, OCC SFT, OCC BRTL, V/FN TO FN TXT, OCC SLTYIP, DULL TO ERHTY LSTR, CHNKY, OCC PLTY, NON CALC, TR SS: CLR TO TRNSL, SCAT OPAQ, TR FRSTD, OCC WHT, MOD SFT TO MOD FRM, TR FRI, FN U TO FN L GRN, SUB RNDD, SCAT SUB ANG, OCC RNDD, MOD CONSL, MOD SRTD, SIL CMT, NO VIS STAIN, NO ODOR, TR XGRNLR POR, OCC PALE YEL TO STRW FLOR, NO VIS CUT, NO RES RING

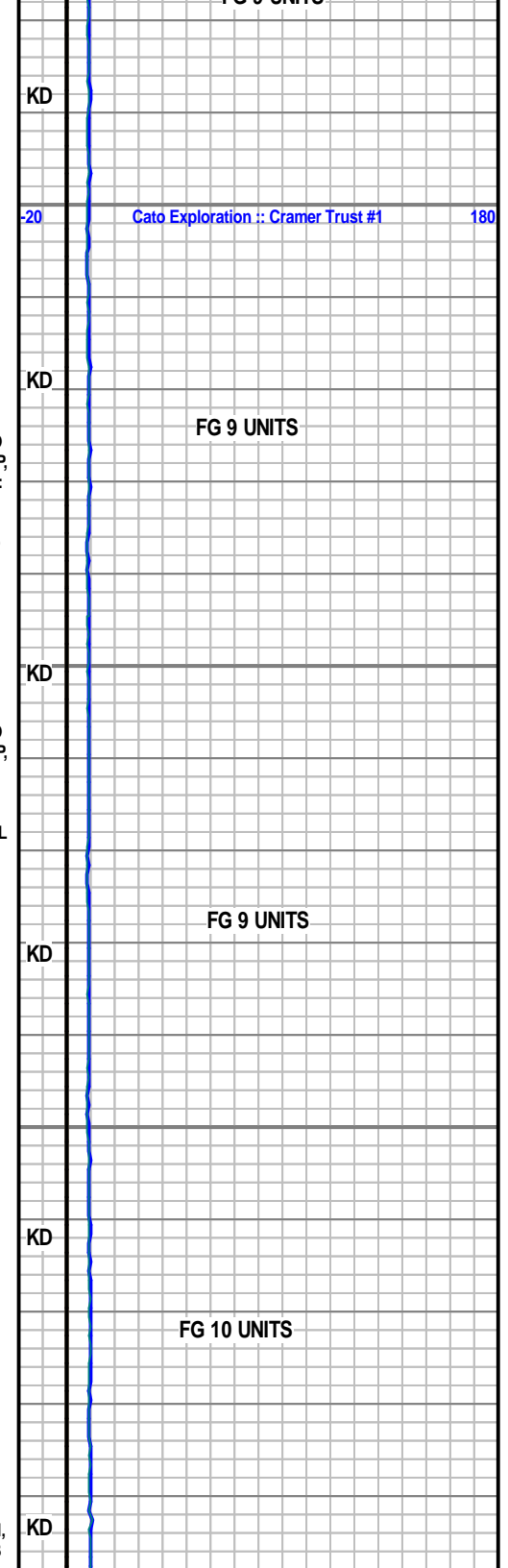
SH: ORNG, SM RDHS/ORNG, SM GY, SCAT LT GY, MOD SFT TO MOD FRM, OCC BRTL, OCC SFT, V/FN TO FN TXT, OCC SLTYIP, DULL TO ERHTY LSTR, CHNKY, SM PLTY, NON CALC, SCAT SS: OFF WHT TO LT GY, OCC CLR, OCC TRNSL, MOD SFT TO MOD FRM, OCC FRI, OCC FRM, FN U TO FN L GRN, SUB RNDD TO SUB ANG, OCC RNDD, MOD CONSL, MOD SRTD, SIL CMT, NO VIS STAIN, NO ODOR, SM XGRNLR POR, OCC STRW TO PALE YEL FLOR, NO VIS CUT, NO RES RING

SS: OFF WHT TO LT GY, OCC LT CRM, MOD SFT TO MOD FRM, OCC FRI, OCC FRM, V/FN U TO FN L GRN, SUB RNDD TO SUB ANG, TR RNDD, MOD CONSL, MOD SRTD, SIL CMT, NO VIS

NO SAMPLE CAUGHT

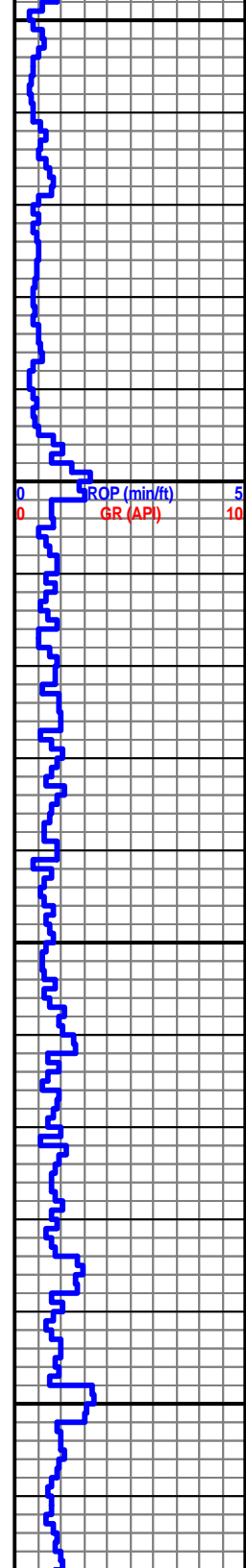
NO SAMPLE CAUGHT

NO SAMPLE CAUGHT

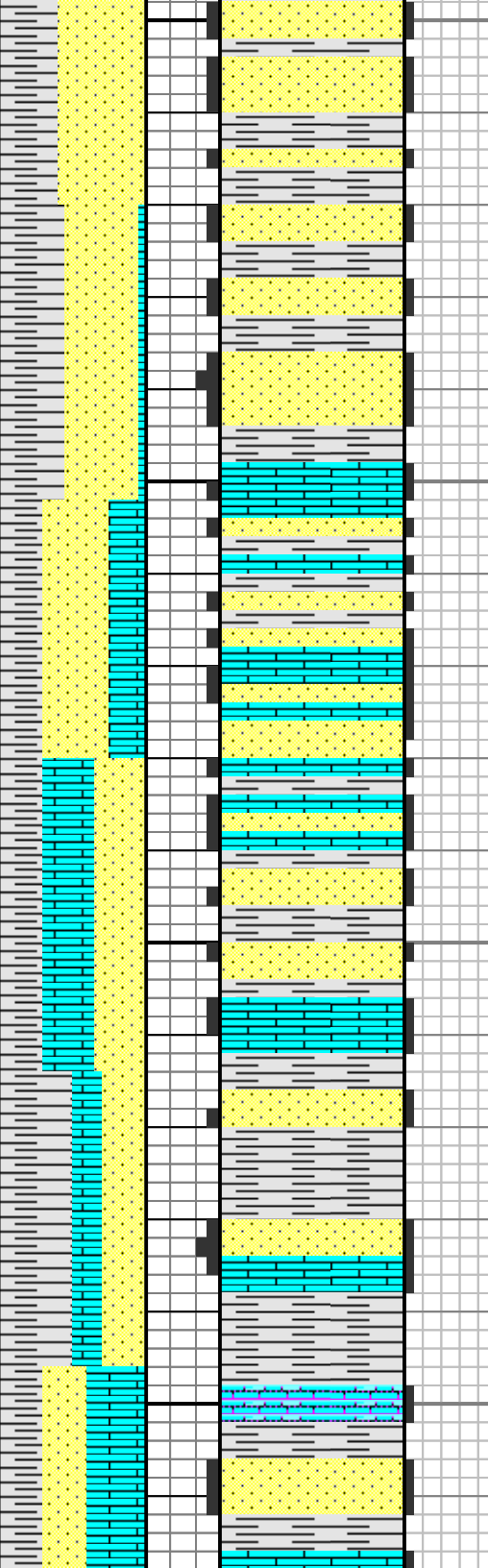


WOB- 28K
RPM- 80
PP- 900
SPM- 58

WOB- 30K
RPM- 85
PP- 800
SPM- 55



2650
2660
2670
2680
2690
2700



ANG, TR RNDD, MOD CONSL, MOD SRTD, SIL CMT, NO VIS STAIN, NO ODOR, OCC INTRGRNLR POR, OCC STRW FLOR, NO VIS CUT, NO RES RING, SM SH: ORNG, SM RDSH/ORNG, MOD SFT TO MOD FRM, OCC SFT, OCC BRTL, V/FN TO FN TXT, DULL TO ERTHY LSTR, CHNKY, SM BLKY, NON CALC

SS: OFF WHT TO WHT, OCC LT CRM, OCC LT GY, MOD SFT TO MOD FRM, OCC FRI, OCC SFT, V/FN U TO FN L GRN, RNDD TO SUB RNDD, OCC SUB ANG, MOD CONSL, MOD SRTD, SIL CMT, NO VIS STAIN, NO ODOR, OCC INTRGRNLR POR, OCC STRW TO PALE YEL FLOR, NO VIS CUT, NO RES RING, SM: ORNG, SM RDSH/ORNG, OCC LT GY, MOD SFT TO MOD FRM, OCC SFT, OCC FRM, V/FN TO FN TXT, DULL TO ERTHY LSTR, CHNKY, SM BLKY, NON CALC

LS: OFF WHT TO LT GY, OCC LT CRM, MOD SFT TO MOD FRM, OCC SFT, OCC FRM, V/FN TO FN XLN, CHNKY, SM BLKY, CALC CMT, NO VIS STAIN, NO ODOR, TR XLN POR, OCC STRW FLOR, NO VIS RES RING, SM SS: CLR, TR OPQ, TR FRSTD, MOD FRM TO FRM, OCC HRD, V/FN U TO FN L GRN, RNDD TO SUB RNDD, OCC SUB ANG, MOD CONSL, MOD SRTD, SIL CMT, NO VIS STAIN, NO ODOR, OCC XGRNLR POR, OCC STRW FLOR, NO VIS CUT, NO RES RING

LS: OFF WHT TO LT GY, OCC LT CRM, MOD SFT TO MOD FRM, OCC FRM, OCC SFT, V/FN TO FN XLN, CHNKY, SM BLKY, CALC CMT, NO VIS STAIN, NO ODOR, TR XLN POR, OCC STRW TO PALE YEL FLOR NO VIS CUT, NO RES RING, TR SS: OFF WHT TO WHT, OCC OPQ, OCC FRST, MOD FRM TO MOD SFT, OCC FRI, V/FN U TO FN L GRN, RNDD TO SUB RNDD, OCC SUB ANG, MOD CONSL, MOD WELL SRTD, SIL CMT, NO VIS STAIN, NO ODOR, OCC XGRNLR POR, OCC PALE YEL FLOR, NO VIS CUT, NO RES RING

SS: OFF WHT TO WHT, SCAT OPQ TO TRNSL, OCC CLR, MOD FRM TO FRM, OCC HRD, OCC FRI, V/FN U TO FN L GRN, RNDD TO SUB RNDD, OCC SUB ANG, MOD CONSL, MOD WELL SRTD, SIL CMT, NO VIS STAIN, NO ODOR, OCC XGRNLR POR, OCC STRW TO YEL FLOR, NO VIS CUT, NO RES RING, TR LS: OFF WHT TO WHT, OCC LT GY, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, CHNKY, SM BLKY, CALC CMT, NO VIS STAIN, NO ODOR, SM XLN POR, OCC STRW TO PALE YEL FLOR, NO VIS CUT, NO RES RING

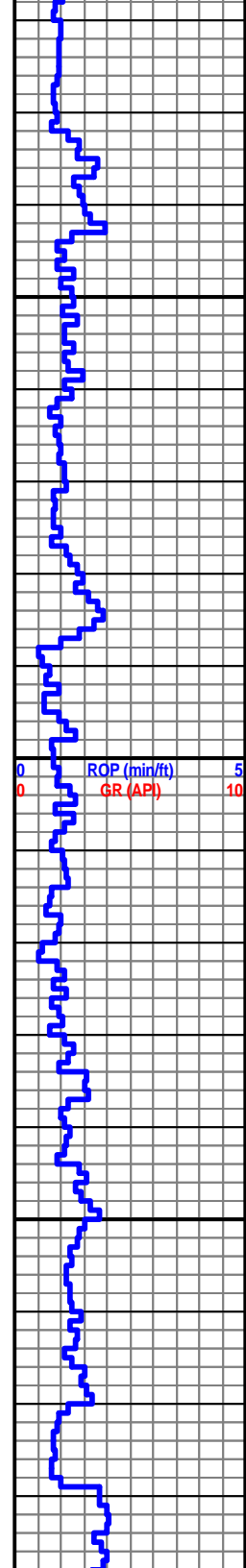
LS: OFF WHT, LT CRM, OCC LT TN, MOD SFT TO MOD FRM, OCC SFT, V/FN TO FN XLN, OCC MIC XLN, CHNKY, SM BLKY, OCC DOLC CMT, NO VIS STAIN, NO ODOR, SM XLN POR, OCC STRW FLOR, NO VIS CUT, NO RES RING, TR SS: OFF WHT TO WHT, OCC LT GY, MOD SFT TO MOD FRM, OCC FRM, TR FRI, V/FN U TO FN L GRN, SUB ANG TO SUB RNDD, OCC RNDD, MOD CONSL, MOD WELL SRTD, SIL CMT, NO VIS STAIN, NO ODOR, SM XGRNLR POR, OCC STRW FLOR, NO VIS CUT, NO

KD
KD
KD
KD
KD

FG 9 UNITS
Cato Exploration :: Cramer Trust #1
FG 10 UNITS
CG 12 UNITS

180

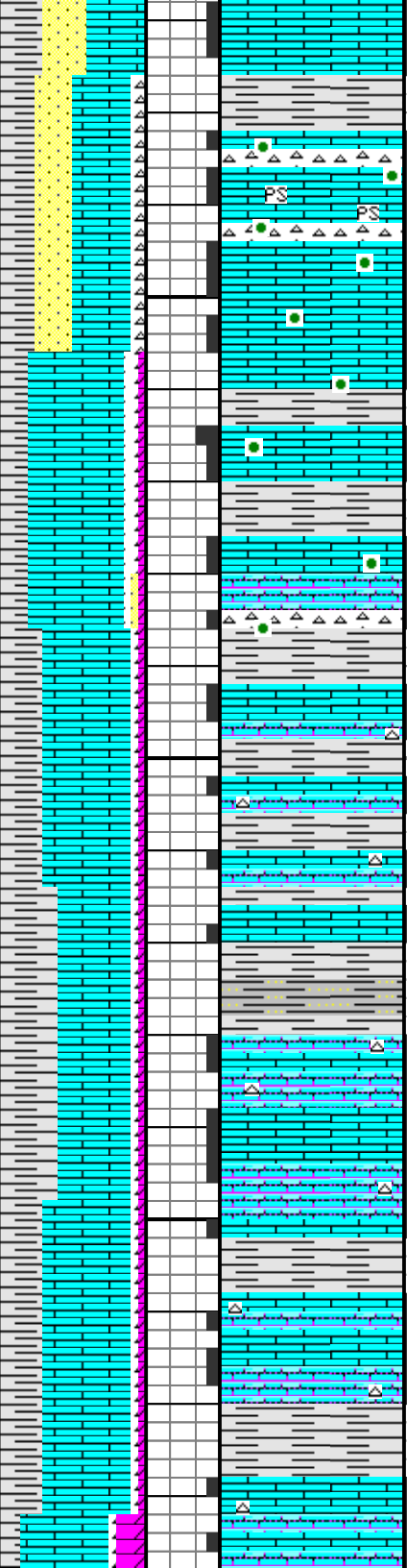
WOB- 30K
RPM- 70
PP- 800
SPM- 55



2750

2800

2850



RES RING

CHASE @ 2732' MD

(71')



LS: OFF WHT TO WHT, SM LT CRM, TR LT GY, MOD SFT TO MOD FRM, V/FN TO FN XLN, OCC MIC XLN, CHNKY, SM BLKY, CALC CMT, OCC OFF WHT HRD ANG CHRT, OCC QRTZ INC, NO VIS STAIN, NO ODOR, SCAT XLN POR, OCC VUG POR, TR YEL TO PALE YEL FLOR, NO VIS CUT, NO RES RING, SCAT SS: OFF WHT TO WHT, OCC LT GY, MOD SFT TO MOD FRM, OCC FRI, V/FN U TO FN L GRN, SUB ANG TO SUB RNDD, OCC RNDD, MOD CONSL, MOD WELL SRTD, SIL CMT, NO VIS STAIN, NO ODOR, OCC XGRNLR POR, TR YEL TO PALE YEL FLOR, NO VIS CUT, NO RES RING

LS: OFF WHT, SM LT CRM, SCAT LT GY, MOD SFT TO MOD FRM, OCC SFT, V/FN TO FN XLN, TR MIC XLN, CHNKY, SM BLKY, CALC CMT, OCC DOLC CMT, OCC QRTZ INC, OCC WHT HRD CRYPTO XLN ANG CHRT, NO VIS STAIN, NO ODOR, SM XLN POR, OCC VUG POR, OCC STRW TO YEL FLOR, NO VIS CUT, NO RES RING

LS: OFF WHT TO LT GY, TR LT CRM, OCC LT TN, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, TR MIC XLN, CHNKY, SM BLKY, CALC CMT, OCC DOLC CMT, OCC WHT HRD ANG CRYPTO XLN CHRT, NO VIS STAIN, NO ODOR, SM XLN POR, OCC VUG POR, OCC STRW FLOR, NO VIS CUT, NO RES RING

LS: OFF WHT TO LT GY, TR LT CRM, OCC GY, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, TR MIC XLN, CHNKY, SM BLKY, CALC CMT, OCC DOLC CMT, OCC WHT HRD ANG MIC XLN CHRT, NO VIS STAIN, NO ODOR, SM XLN POR, OCC STRW FLOR, NO VIS CUT, NO RES RING

LS: LT GY, SM OFF WHT, SCAT LT TN, SCAT LT CRM, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, CHNKY, SM BLKY, CALC CMT, OCC DOLC CMT, OCC WHT HRD MIC XLN ANG CHRT, NO VIS STAIN, NO ODOR, SM XLN POR, TR STRW TO YEL FLOR, NO VIS CUT, NO RES RING

KD

CG 12 UNITS

KD

FG 11 UNITS

KD

-20

Cato Exploration :: Cramer Trust #1

180

FG 9 UNITS

KD

LS: OFF WHT TO LT GY, TR LT CRM, OCC GY, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, TR MIC XLN, CHNKY, SM BLKY, CALC CMT, OCC DOLC CMT, OCC WHT HRD ANG MIC XLN CHRT, NO VIS STAIN, NO ODOR, SM XLN POR, OCC STRW FLOR, NO VIS CUT, NO RES RING

KD

FG 16 UNITS

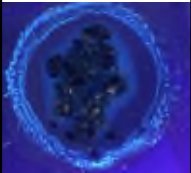
FG 9 UNITS

KD

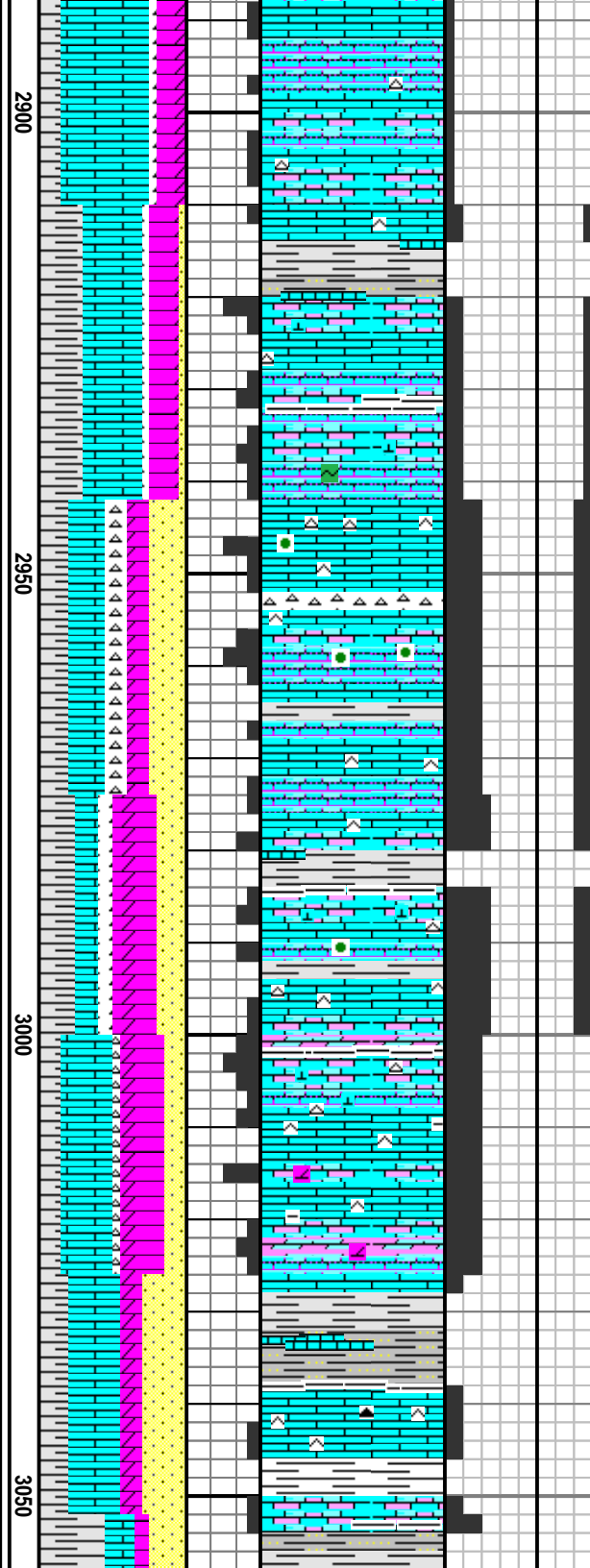
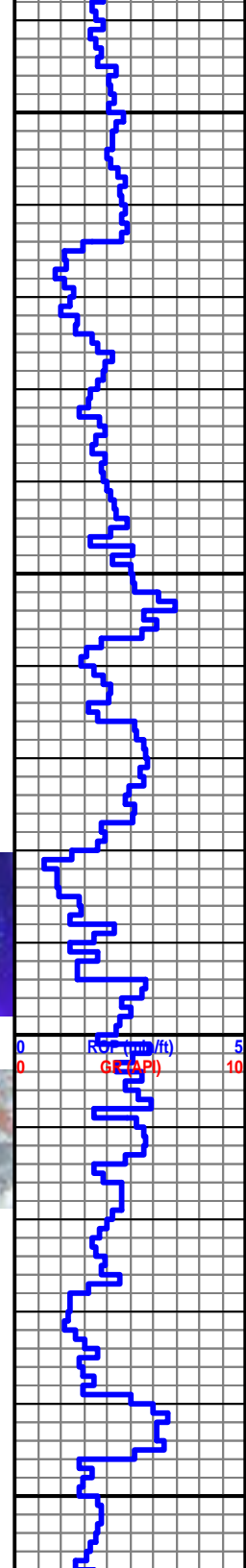
07/12/2014

WOB-30/32K
RPM-90
PP-800
SPM-60

JET PIT



WORK ON MUD PUMP



LS: LT TN, SM LT GY, SCAT OFF WHT, SCAT LT CRM, MOD SFT TO MOD FRM, TR FRM, V/FN TO FN XLN, CHNKY, SM BLKY, TR DOLC CMT, OCC CLR TO FRSTD HRD MIC XLN ANG CHRT, NO VIS STAIN, NO ODOR, TR XLN POR, OCC STRW FLOR, NO VIS CUT, NO RES RING

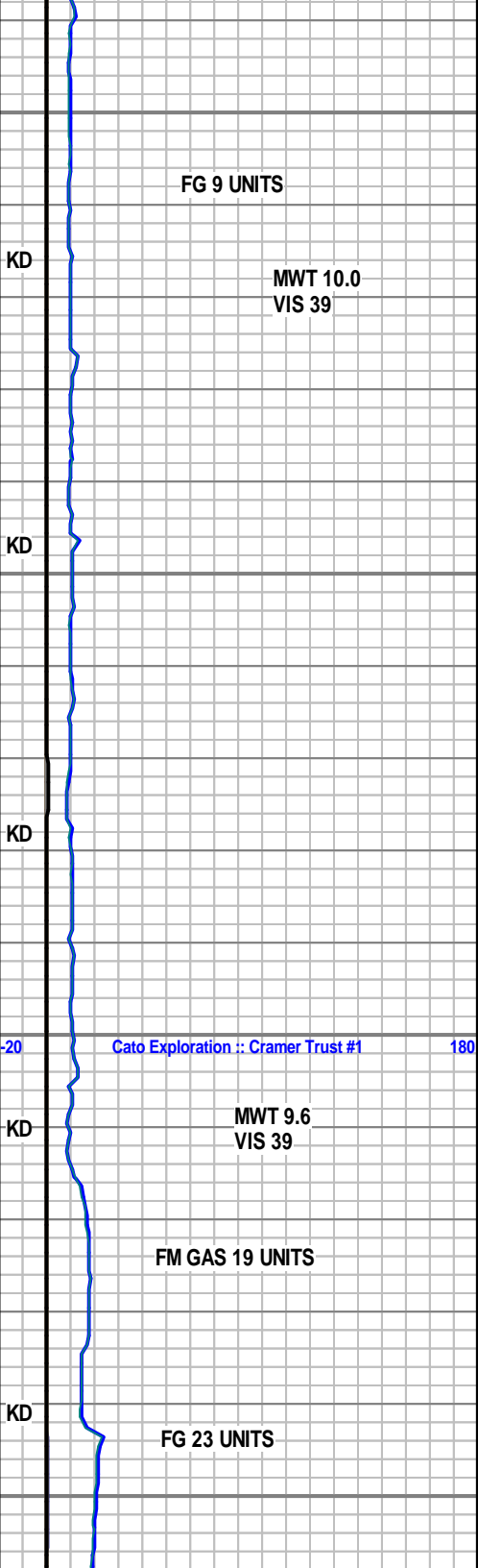
LS: CRM TO SCAT DK CRM, SCAT OFF WHT, TR GYSH, TR BLK STRI, OCC GRNSH, OCC TRNSP, MOD FRM, SCAT BRTL, FN TO V/FN XLN, SCAT PACKST/GRNST, CHNKY, SM PLTY, SCAT ARG, SM DOLC CMT, SM SIL, OCC CALCITE FL, TR DRSY EUHED/ SCALA QRTZ, TR WHT TO OFF WHT SHRP ANG CHAL CHRT, OCC GLAUC, TR ASPHLTC STRKS, NO ODOR, TR XLN POR, SCAT TO TR VUG W/TR PP POR, SM LAM SH: GY TO TR DK GY, OCC GRNSH GY, FN TXT, SM SLTY, DULL LSTR, NON CALC, SCAT TO SM DULL DK YEL TO AMBER FLOR, SLO WK MLKY PALE YEL CUT, MOD FR BRI PAL

LS: LT CRM TO CRM, TR DK CRM, SCAT OFF WHT, TR LT TAN, OCC LT GYSH, MOD FRM, OCC BRTL, TR CRMBLY, FN XLN, SM V/FN XLN, MSTLY PACKST W/TR GRNST, CHNKY, SCAT PLTY TO BLKY, SM INTRBD DOLO, INCRSE ARG, SCAT DOLC CMT, SM SIL, SCAT EUHED DRSY CALCITE, TR DOLO FL, OCC OPQ TO WHT CHAL CHRT, NO VIS STAIN, NO ODOR, SCAT TO SM XLN POR, SCAT VUG POR, TR FRAC POR, SCAT DK YEL FLOR, NO VIS CUT

COUNCIL GROVE @ 3039'

+++++
(-236')

LS: OFF WHT TO LT CRM, SCAT CRM, TR WHT, MOD FRM TO TR FRM, V/FN XLN, TR MICRO XLN, SM PACKST, BLKY TO SM CHNKY, OCC SPLTRY, SM SIL, TR INTRBD DOLO, OCC BRN/WHT MOTT ANG CHAL CHRT TR CAL CITE FL NO VIS STAIN

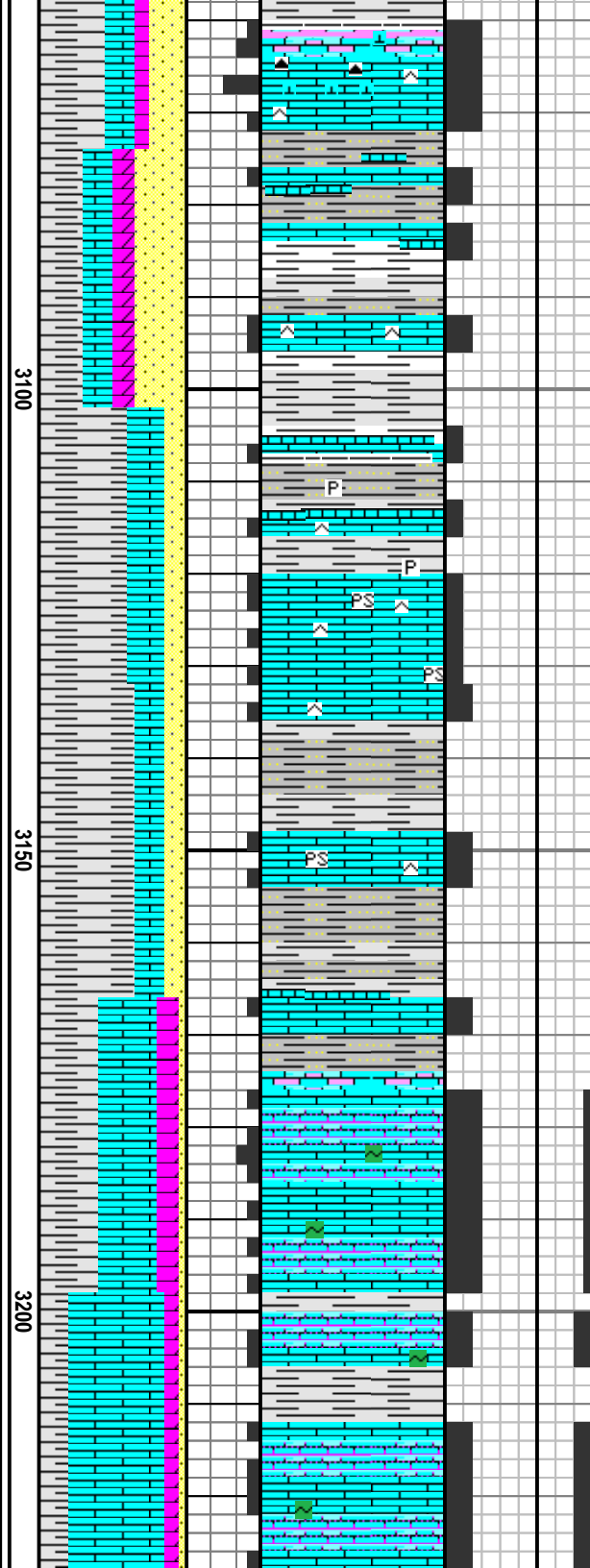
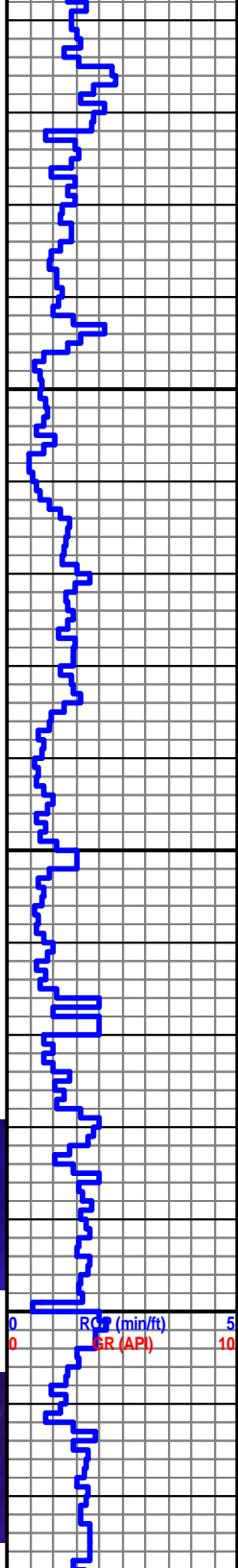


WORK ON MUD PUMP

MSTLY WHT TO OFF WHT LS

WOB-32/35K
RPM-65/70
PP-850
SPM-48

NO HOLE FOUND



NO ODOR, TR FRAC POR, TR PP POR, SM LAM SH: GY TO LT GY, SM BRN TO RDSH/BRN, TR ORNG, SM MOD SFT, FN TO SLTY TXT, ERTHY LSTR, CHNKY, TR PLTY, NON CALC, TR MICRO MICA, SCAT V/DULL YEL TO OCC DK YEL FLOR, NO VIS CUT

+++++

TOH FOR HOLE IN DRILL PIPE :: PULLED 6 STANDS AND L/D SINGLE :: @ 3089'

LS: OFF WHT TO LT CRM, OCC WHT, MOD FRM TO FRM, V/FN TO FN XLN, OCC MIC XLN, SM PACKSTN, BLKY, SM CHNKY, TR SIL CMT, NO VIS STAIN, NO ODOR, OCC HL FRAC POR, OCC XLN POR, TR STRW TO YEL FLOR, NO VIS CUT, NO RES RING, SM SH: GY TO LT GY, SCAT BRN TO RED/BRN, TR ORNG, MOD SFT TO SFT, OCC MOD FRM, FN TXT, SCAT SLTY IP, ERTHY LSTR, CHNKY, SCAT PLTY, NON CALC, OCC PYR INC

LS: LT CRM TO OFF WHT, OCC LT GY, OCC LT TN, MOD FRM TO FRM, OCC HRD, OCC MOD SFT, V/FN XLN, SCAT MIC XLN, SM PACKSTN, BLKY, SCAT CHNKY, TR SIL CMT, NO VIS STAIN, NO ODOR, TR XLN POR, TR STRW TO PALE YEL FLOR, OCC YEL FLOR, NO VIS CUT, NO RES RING, SM SH: ORNG, SM RDSH/ORNG, SCAT BRN/RED, OCC LT BRN, OCC LT GY, MOD SFT TO SFT, OCC MOD FRM, V/FN TO FN TXT, OCC SLTY IP, DULL TO ERTHY LSTR, NON CALC

TOH FOR HOLE IN DRILL PIPE:: @3166'

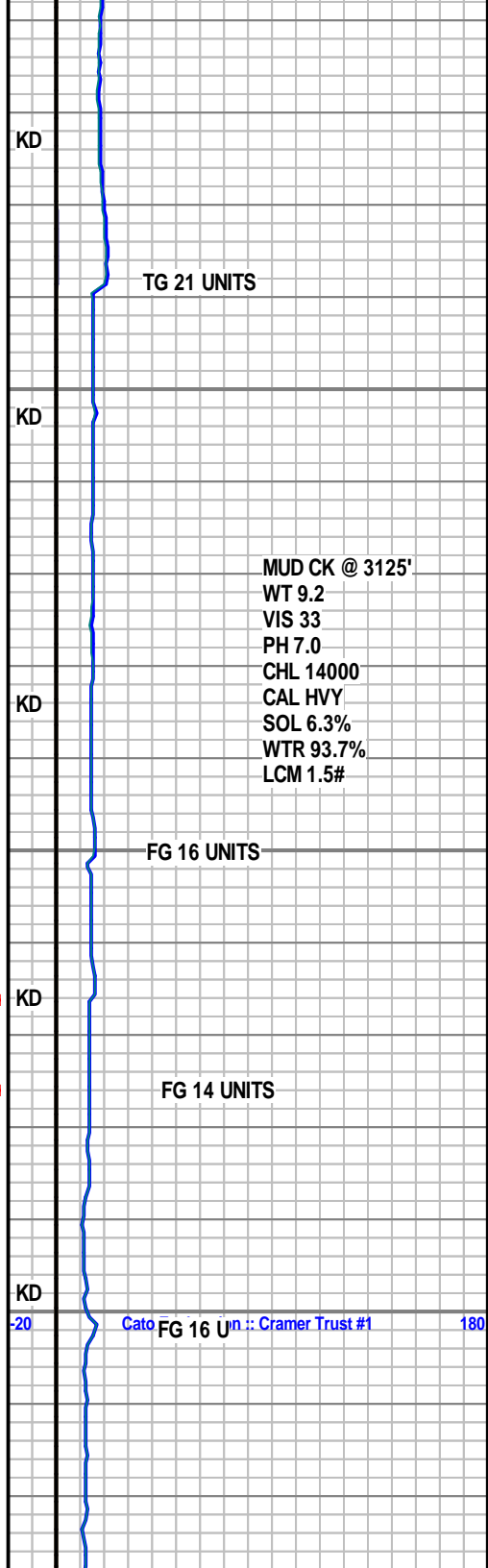
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ADMIRE @ 3165' MD (-362')

+++++

LS: OFF WHT, OCC WHT, OCC LT CRM, MOD SFT TO SFT, OCC MOD FRM, V/FN TO FN XLN, SCAT MIC XLN, OCC PACKSTN, BLKY, SM CHNKY, TR DOLC CMT, OCC GLAUC, NO VIS STAIN, NO ODOR, SM XLN POR, SCAT DULL YEL TO YEL FLOR, V/SLO YEL STRMING CUT, FR LRG SPTTY PALE YEL RES RING

LS: OFF WHT TO LT CRM, OCC LT TN, MOD SFT TO MOD FRM, OCC SFT, V/FN TO MIC XLN, TR FN XLN, CHNKY, SM BLKY, OCC DOLC CMT, OCC GLAUC, NO VIS STAIN, NO ODOR, SM XLN POR, OCC HL FRAC POR, TR PALE YEL TO YEL FLOR, IMMD PALE YEL STRMING CUT, FR LRG SPTTY PALE YEL RES RING



TG 21 UNITS

MUD CK @ 3125'
WT 9.2
VIS 33
PH 7.0
CHL 14000
CAL HVY
SOL 6.3%
WTR 93.7%
LCM 1.5#

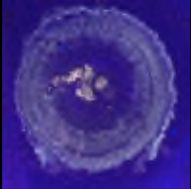
FG 16 UNITS

ADMIRE @ 3165' MD

(-362')

FG 14 UNITS

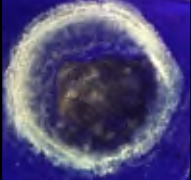
Cato FG 16 Un :: Cramer Trust #1 180



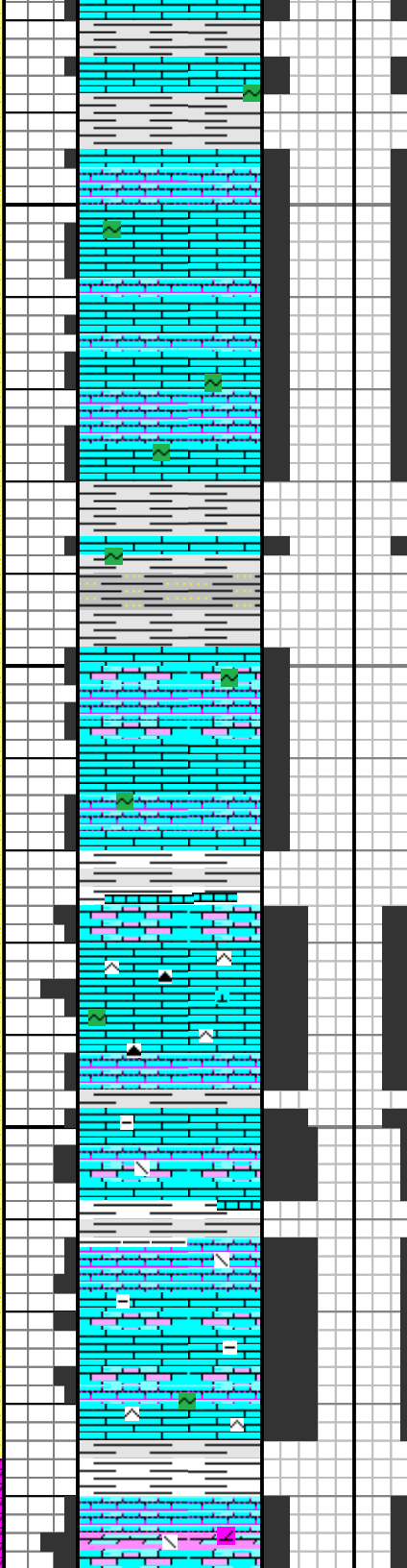
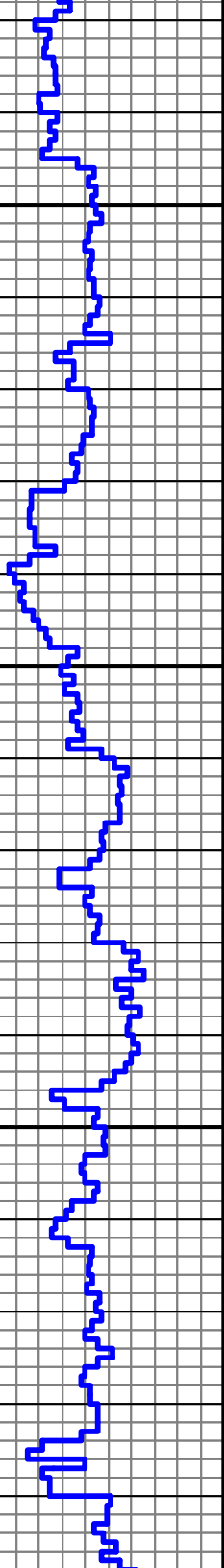
WOB- 32/34K
RPM- 75/80
PP- 850
SPM- 58



07/13/2014



WOB-32K
RPM-80/90
PP-800
SPM-58



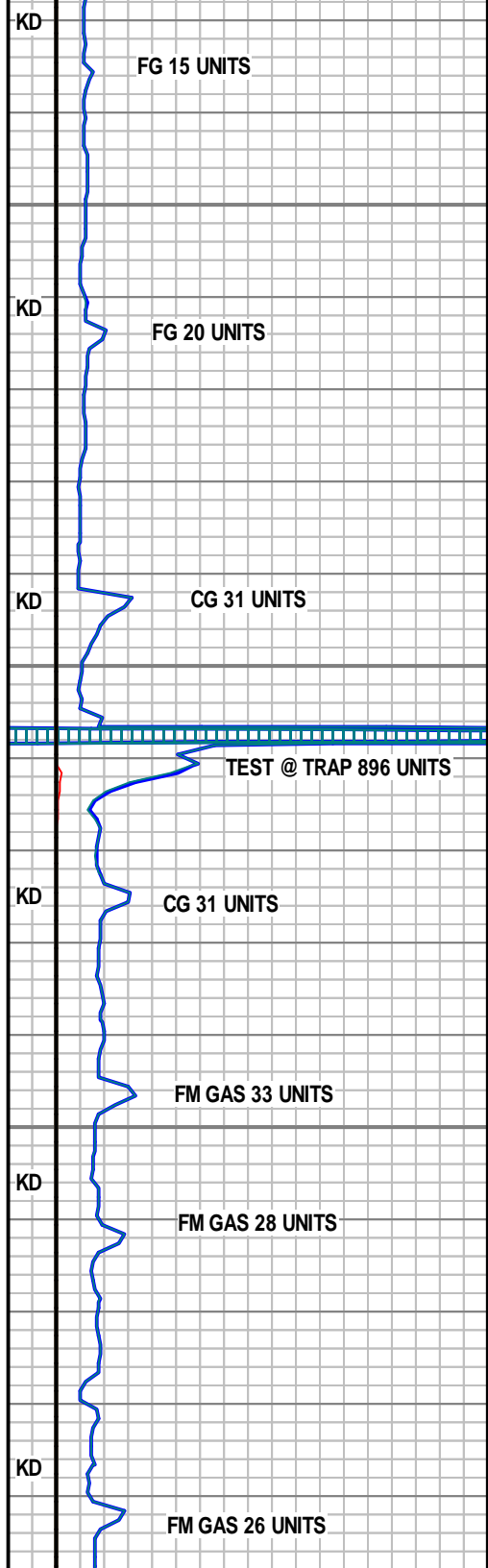
LS: OFF WHT TO WHT, TR LT CRM, MOD SFT TO SFT, OCC MOD FRM, V/FN TO FN XLN, OCC MIC XLN, CHNKY, SM BLKY, OCC DOLC CMT, OCC GLAUC, NO VIS STAIN, NO ODOR, TR XLN POR, TR PALE YEL TO STRW FLOR, IMM D PALE YEL STRMING CUT, TR LRG WK SPTTY PALE YEL RES RING

LS: OFF WHT TO WHT, TR LT CRM, OCC LT TN, MOD SFT TO MOD FRM, OCC SFT, OCC FRM, V/FN TO MIC XLN, SCAT FN XLN, CHNKY, SM BLKY, TR DOLC CMT, OCC GLAUC, NO VIS STAIN, NO ODOR, TR XLN POR, TR STRW FLOR, SLO PALE YEL TO YEL STRMING CUT, V/THN FNT PALE YEL RES RING

LS: LT CRM, SM OFF WHT, TR LT TN, MOD SFT TO MOD FRM, OCC FRM, OCC SFT, V/FN TO FN XLN, TR MIC XLN, CHNKY, SCAT BLKY, TR DOLC CMT, OCC GLAUC, NO VIS STAIN, NO ODOR, SM XLN POR, TR PALE YEL FLOR, NO VIS CUT, NO RES RING

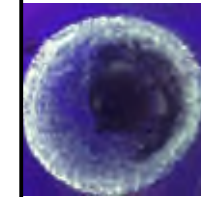
LS: OFF WHT, SM V/LT CRM, SCAT DK TAN TO BRN, SCAT GY, TR GYSH/BRN, MSTLY MOD FRM, SM BRTL, V/FN TO TR FN XLN, OCC PACKST, PLTY, SCAT BLKY, TR CHNKY, SCAT DOLO CMT, SCAT ARG, TR SIL, OCC DK ANG CHAL CHRT, OCC GLAUC, OCC CALCITE FL, TR DK GY TO BLK SPOT STAIN, NO ODOR, SCAT FRAC POR, TR P TO VUG POR, SCAT YEL W/ TR DULL YEL FLOR, V/FAINT IMM D MLKY YEL CUT, GD TO V/GD MLKY BRI STRW CUT W/10% HCL, GD THCK YEL RES RING

LS: BECMNG OFF WHT, TR WHT, DECRSE LT CRM, OCC LT TAN, SCAT GYSH W/TR BLK STRI/STRKS, MOD FRM, TR BRTL, V/FN TO TR FN XLN, CHNKY TO PLTY, SM DOLC CMT, DECRSNG ARG, TR LAM DOLO, SCAT INTRBD DOLO, OCC V/FN DOLO EUHED, OCC CHNKY CALCITE FL,

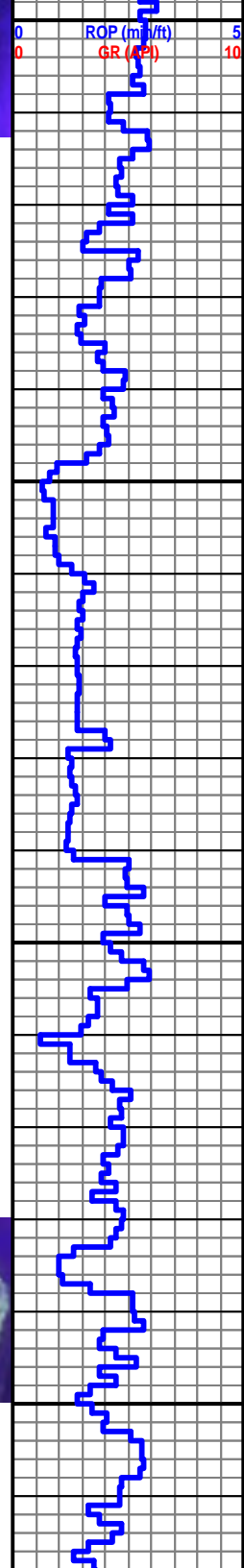




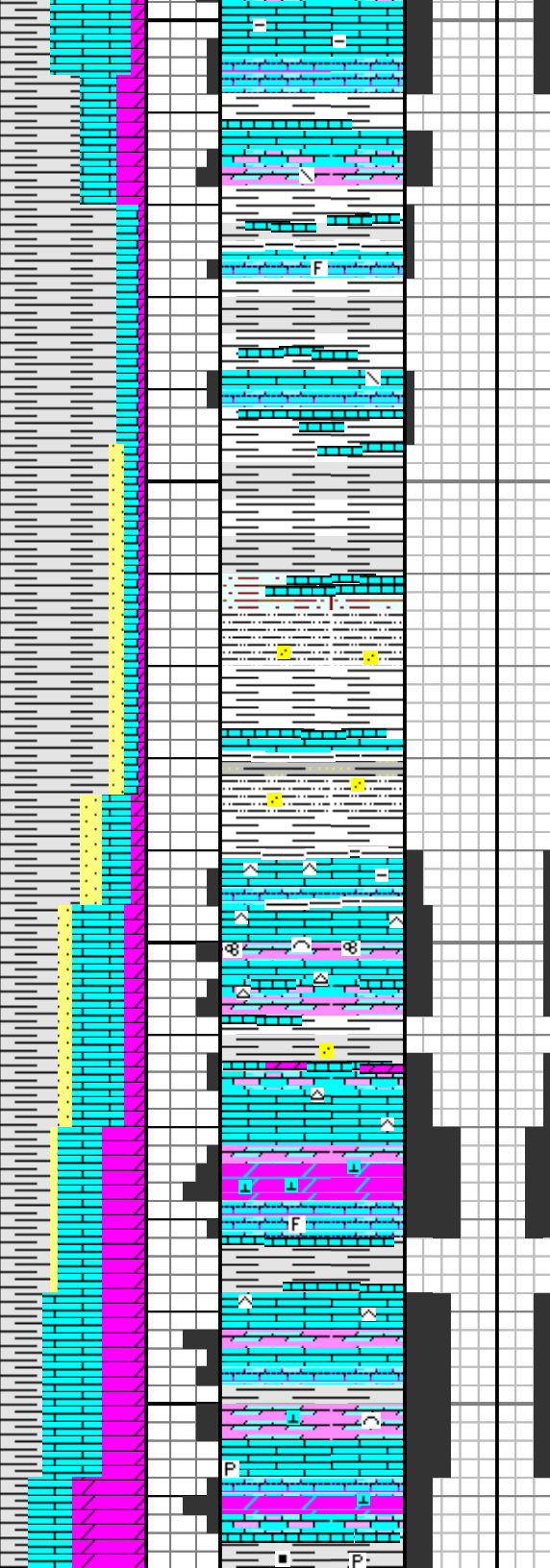
WOB-35K
RPM-70
PP-900
SPM-60



INCRSE DOLO



3400
3450
3500
3550



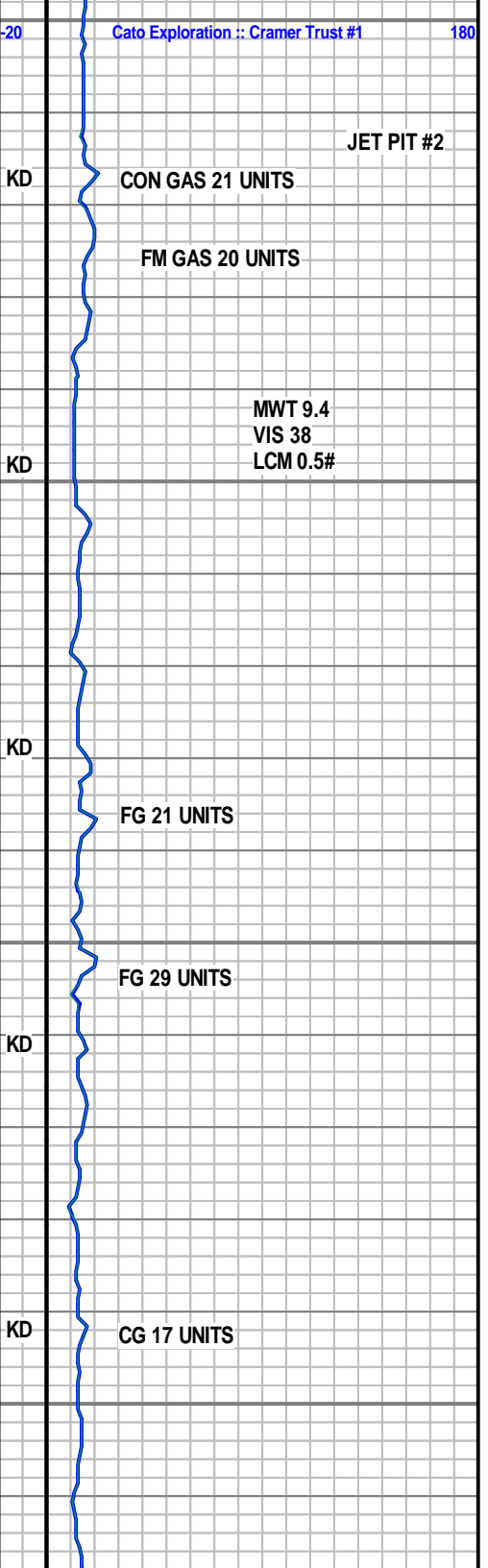
OCC GLAUC, OCC FOSS, INCRSE DK GY TO BLK SPOT STAIN W/OCC ASPHLT ALONG VUG/FRAC, TR FRAC POR, SCAT FN VUG TO PP POR, OCC XLN POR, SCAT DULL YEL FLOR, WK TO V/WK MLKY PALE YEL CUT, WK SPTTY PALE YEL RES RING

SH: ORNG TO TR DK ORNG, SM LT ORNG, TR RDSH/ORNG, OCC GRNSH, OCC GY, MSTLY MOD SFT, TR MOD FRM, TR BRTL, V/FN TXT, DULL LSTR, BLKY TO CHNKY, NON CALC, OCC SLI SLTY IP, TR INTRBD LS: WHT TO OFF WHT, TR GYSH MOTT, OCC BLK STRKS, MOD FRM, V/FN XLN, OCC FN XLN, OCC SLI SUC TXT, PLTY, SM CHNKY, SCAT DOLC CMT, SM INTRBD DOLO, TR ASPHLTC STAIN, NO ODOR, TR XLN POR, OCC DULL YEL TO DK YEL FLOR, NO VIS CUT

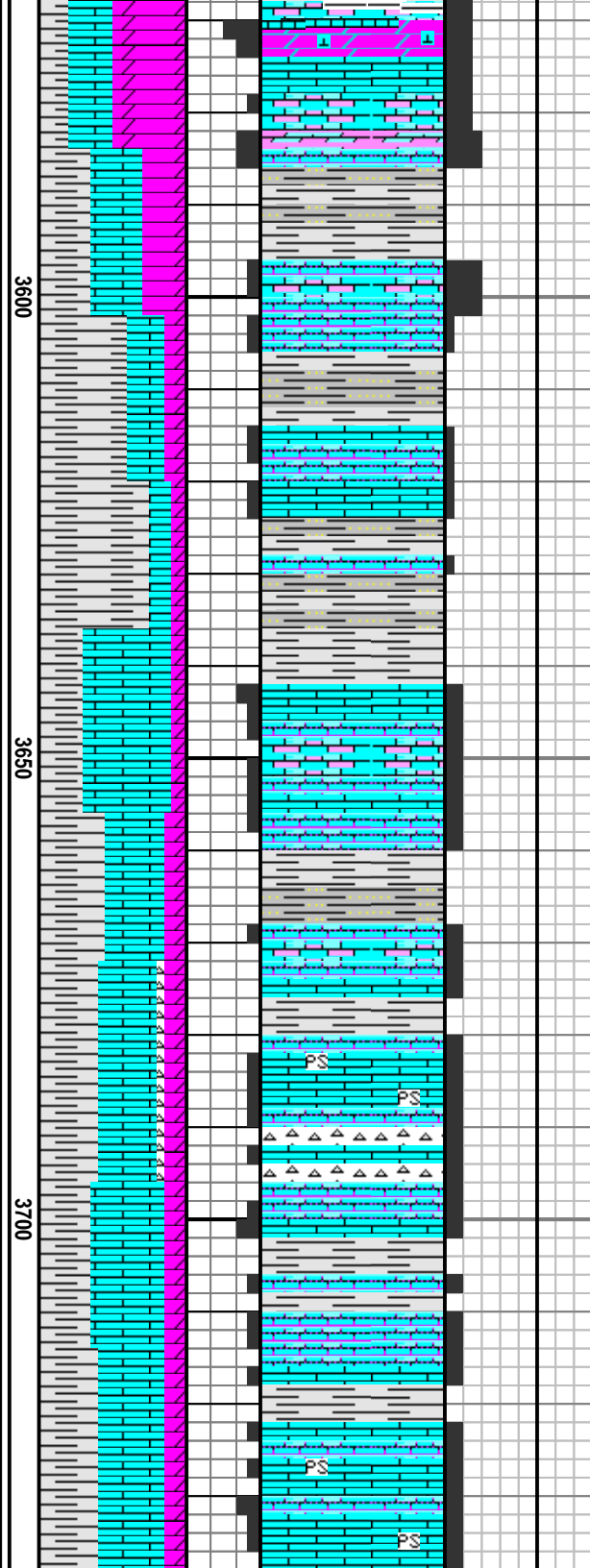
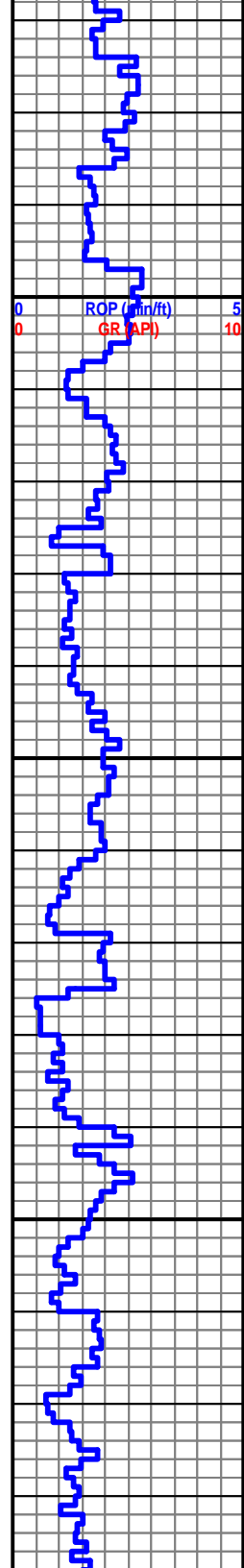
WABUNSEE @ 3491'
(-688')

LS: CRM TO SM OFF WHT, SCAT TAN TO LT BRN, TR GYSH TO GYSH/BRN, FRM TO SM MOD FRM, SM BRTL, V/FN TO MICRO XLN, PLTY, BLKY, TR CHNKY, SCAT ARG, TR DOLC CMT, SM SIL, TR DRYSY CALCITE, OCC BLU/GY CHRT NOD, OCC BIOCLST W/FRI CALCITE MTX W// FUS, OCC DK SPOT STAIN, NO ODOR, TR XLN POR, SCAT FN TO HAIRLINE FRAC, TR VUG POR, SM LAM SH: ORNG TO RDSH/ORNG, SM GY TO DK GY, MOD FRM, V/FN TXT, OCC SLTY IP, SCAT TO SM YEL TO PALE YEL FLOR, TR SLO FR MLKY PALE YEL CUT W/10% HCL, SPTTY PALE YEL RES RING

LS: CRM TO LT CRM, DECRSE WHT TO OFF WHT, TR TAN MOTT, OCC GYSH STRKS/MOTT, MOD FRM, V/FN TO TR FN XLN, TR V/FN SUC TXT, PLTY, SCAT CHNKY, SCAT DOLO CMT, OCC ARG, SCAT LAM DOLO, TR INTRBD DOLO, OCC CHNKY CALCITE FL, OCC MIN PYR INC., OCC BIOCLST W/FN XLN DOLO MTX, TR BRN SPOT STAIN, NO ODOR, SCAT XLN POR, TR TO SCAT VUG POR, TR LAM SH: GY TO DK GY, OCC LT GY, OCC



WOB- 35K
RPM- 80
PP- 900
SPM- 60



ORNG, V/FN TO TR SLTY TXT, OCC PYRC, TR YEL TO SCAT V/DULL YEL FLOR, WK PALE YEL MLKY CUT W/10% HCL, TR FR SPTY YEL RES RING

TOPEKA @ 3596'
(-793')

+++++

SH: ORNG, SM RD/ORNG, OCC BRN/RD, OCC LT BRN, OCC LT GY, MOD SFT TO SFT, OCC MOD FRM, V/FN TO FN TXT, OCC SLTY IP, DULL TO ERHTY LSTR, CHNKY, SM PLTY, OCC BLKY, NON CALC, TR LS: LT CRM, OCC OFF WHT, OCC LT TN, SFT TO MOD SFT, TR MOD FRM, V/FN TO FN XLN, OCC MIC XLN, CHNKY, SM BLKY, TR DOLC CMT, OCC BRN SPOT STAIN, NO ODOR, SM XLN POR, OCC VUG POR, OCC PALE YEL FLOR, NO VIS CUT, NO VIS RES RING

SH: ORNG, SM RD/ORNG, SCAT RD/BRN, OCC LT GY, OCC GY, MOD SFT TO SFT, OCC MOD FRM, V/FN TO FN TXT, OCC SLTY IP, DULL TO ERHTY LSTR, CHNKY, SCAT PLTY, OCC BLKY, NON CALC

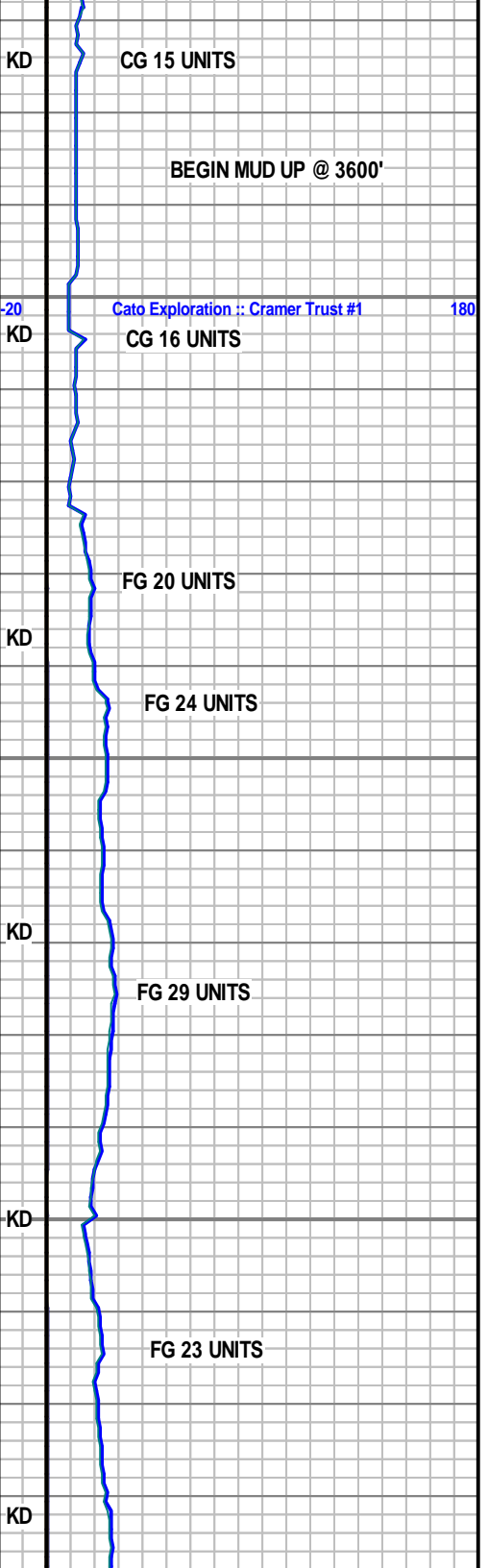
LS: OFF WHT, SCAT LT CRM, OCC LT TN, OCC LT GY, MOD SFT TO MOD FRM, OCC SFT, OCC FRM, V/FN TO FN XLN, OCC MIC XLN, CHNKY, SM BLKY, SCAT PLTY, TR DOLC CMT, NO VIS STAIN, NO ODOR, TR PALE YEL TO STRW FLOR, NO VIS CUT, NO RES RING

LS: OFF WHT, TR LT CRM, OCC LT TN, OCC LT GY, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, OCC MIC XLN, CHNKY, SM BLKY, SCAT PLTY, TR DOLC CMT, NO VIS STAIN, NO ODOR, SCAT XLN POR, TR PALE YEL FLOR, NO VIS CUT, NO RES RING

LS: OFF WHT, SM LT CRM, SCAT LT TN, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, OCC MIC XLN, CHNKY, SM BLKY, TR DOLC CMT, SCAT PCKSTN, OCC LT GRY V/HRD ANG CHRT, OCC BRN SPOT STAIN, NO ODOR, SM XLN POR, OCC VUG POR, TR STRW FLOR, NO VIS CUT, NO RES RING

LS: LT CRM, SCAT OFF WHT, SCAT LT TN, OCC LT BRN, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, OCC MIC XLN, CHNKY, SM BLKY, TR DOLC CMT, OCC PCKSTN, NO VIS STAIN, NO ODOR, SM XLN POR, TR STRW TO YEL FLOR, NO VIS CUT, NO RES RING

LS: LT CRM, SM LT TN, SCAT OFF WHT, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, OCC MIC XLN, CHNKY, SM BLKY, OCC DOLC CMT, OCC PCKSTN, NO VIS STAIN, NO ODOR, TR XLN POR, TR STRW TO YEL FLOR, NO VIS CUT, NO RES RING

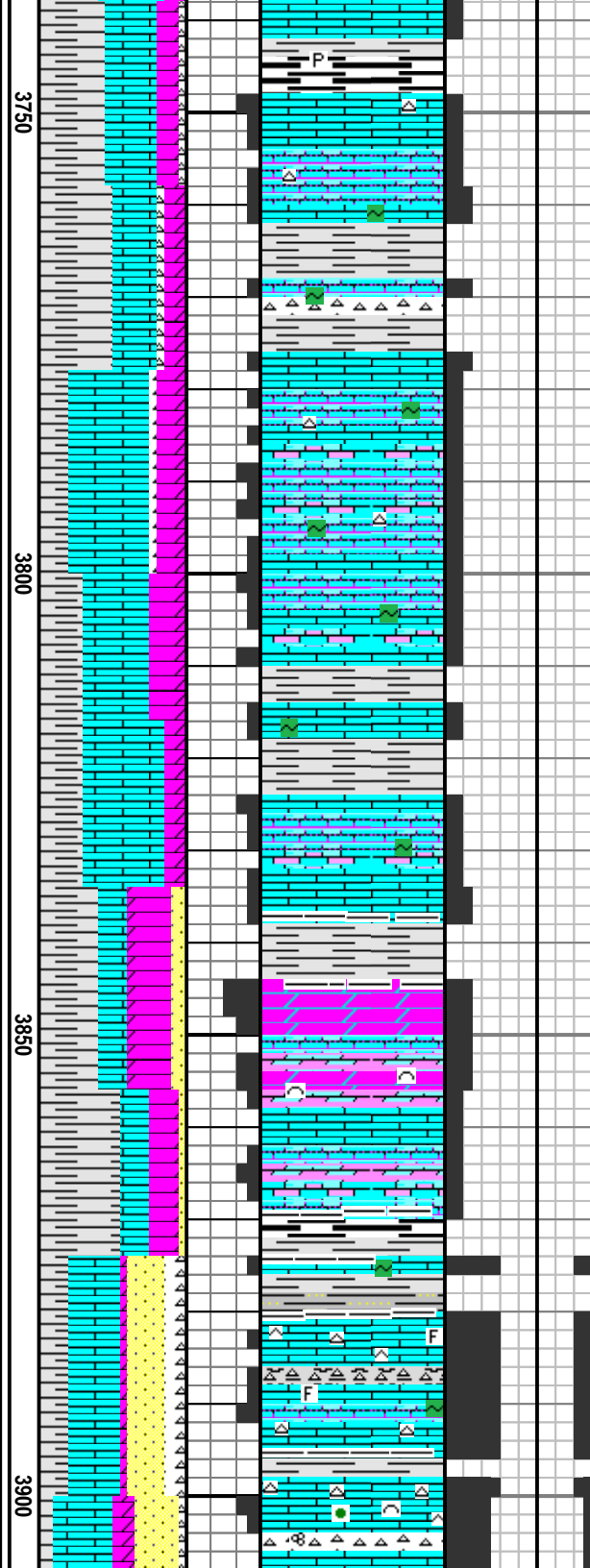
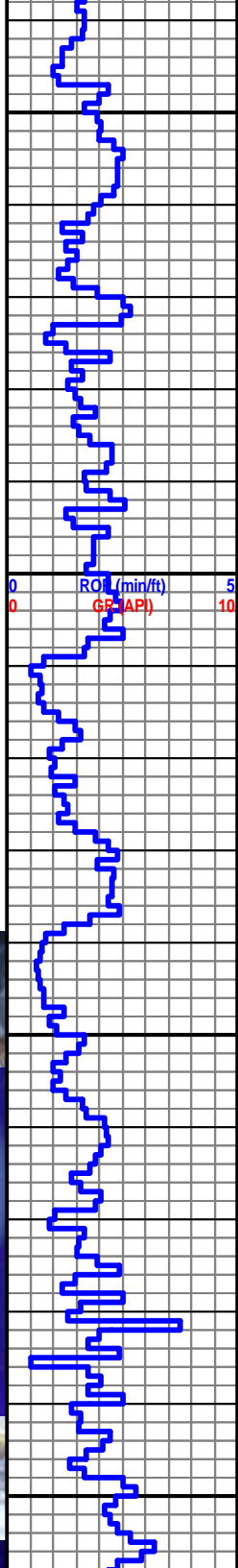


WOB- 22K
RPM- 80
PP- 900
SPM- 60

DEV. SURVEY @
3978'
DEV. 1.0*



07/14/2014



LS: LT CRM, SM LT GRY SCAT OFF WHT, MOD SFT TO SFT, SM MOD FRM, V/FN TO FN XLN, TR MIC XLN, CHNKY, SM BLKY, DOLC CMT, OCC PCKSTN, OCC PYR INC, OCC CLR TO FRSTD HRD ANG CHRT, OCC BRN SPOT STAIN, NO ODOR, SM XLN POR, OCC VUG POR, OCC STRW FLOR, NO VIS CUT, NO RES RING

LS: LT CRM, SM LT TN, SCAT OFF WHT, MOD SFT TO SFT, OCC MOD FRM, V/FN TO FN XLN, TR MIC XLN, CHNKY, SM BLKY, SCAT PLTY, TR DOLC CMT, OCC GLAUC, OCC CLR TO OPQ HRD ANG CHRT, OCC BRN SPOT STAIN, NO ODOR, SM XLN POR, OCC FRAC POR, OCC VUG POR, SCAT PALE YEL FLOR, NO VIS CUT, NO RES RING

LS: LT TN, SM LT CRM, TR OFF WHT, MOD SFT TO MOD FRM, OCC SFT, V/FN TO FN XLN, TR MIC XLN, CHNKY, SCAT BLKY, OCC PLTY, TR DOLC CMT, OCC GLAUC, OCC CLR TO FRSTD HRD ANG CHRT, OCC BRN SPOT STAIN, NO ODOR, SM XLN POR, OCC FRAC POR, TR PALE YEL FLOR, NO VIS CUT, NO RES RING

LS: LT CRM, SCAT LT TN, OCC OFF WHT, MOD FRM TO FRM, TR MOD SFT, V/FN TO MIC XLN, OCC FN XLN, CHNKY, SCAT BLKY, OCC PLTY, SCAT DOLC CMT, OCC GLAUC, NO VIS STAIN, NO ODOR, SM XLN POR, OCC HL FRAC POR, TR PALE YEL FLOR, NO VIS CUT, NO RES RING

LS: LT TN, SM LT CRM, OCC OFF WHT, MOD FRM TO FRM, TR MOD SFT, V/FN TO MIC XLN, TR FN XLN, CHNKY, SCAT BLKY, OCC PLTY, TR DOLC CMT, OCC GLAUC, OCC BLK SPOT STAIN, NO ODOR, SM XLN POR, OCC HL FRAC POR, TR PALE YEL FLOR, NO VIS CUT, NO RES RING

LS: GYSH TO GYSH/BRN, WHT TO OFF WHT MOTT, SM BRN, MOD FRM, SM CRMBLY, FN XLN, CHNKY, MSTLY BIOCLST W/DOLO MTX, NO VIS STAIN, NO ODOR, SM XLN POR, TR DULL YEL FLOR, NO VIS CUT

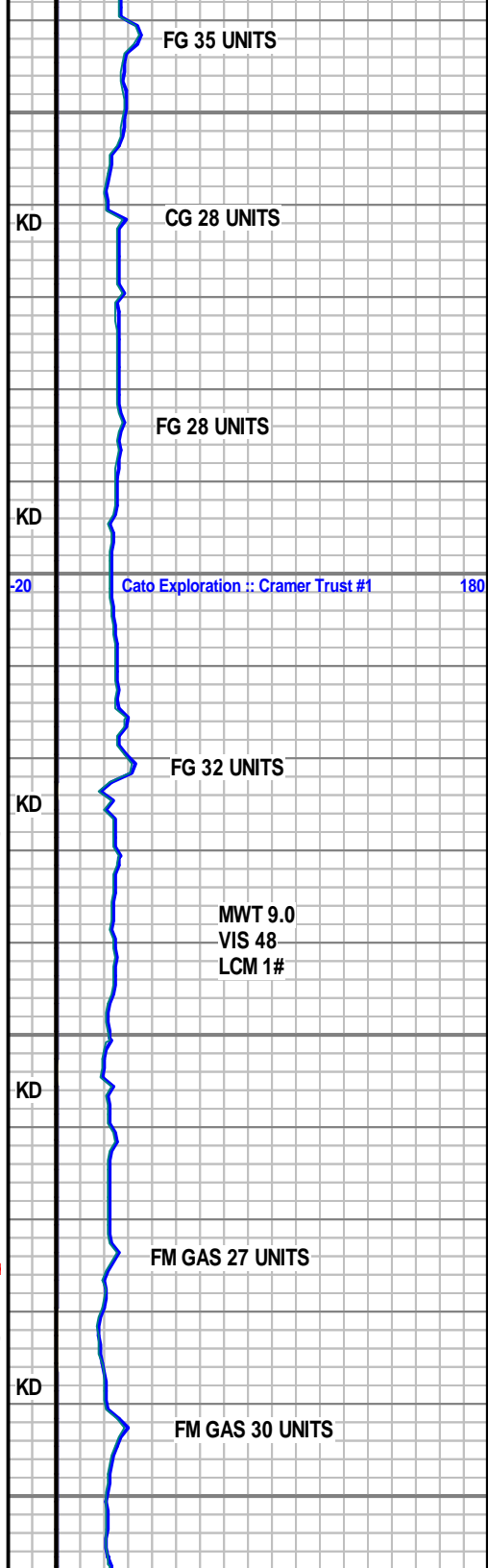
HEEBNER @ 3869'
(-1066')

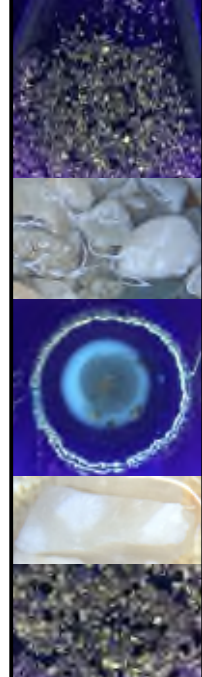
TORONTO @ 3881'
(-1078')

LS: CRM, SM LT TAN, OCC DK TAN, WHT MOTT, OCC OFF WHT, FRM, BRTL, MICRO TO TR V/FN XLN, BLKY, TR CHNKY, SCAT CHLKY, OCC DOLC CMT, TR ARG, TR QRTZ OVRGRWTH, OCC SPIC CHRT, TR WHT ANG CHAL CHRT, OCC GLAUC, SCAT FOSUS, OCC BRN SPOT STIAN, NO ODOR, SCAT HAIRLINE FRAC, TR MOLDIC POR, SM YEL W/OCC DULL YEL FLOR, WK STRMNG STRW CUT, SPTY YEL RES IRNG

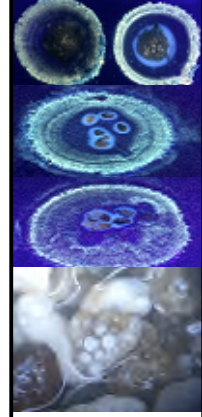
LANSING @ 3898'
(-1095')

LS: CRM TO LT CRM, SCAT V/LT CRM, OCC WHT, TR TO OCC

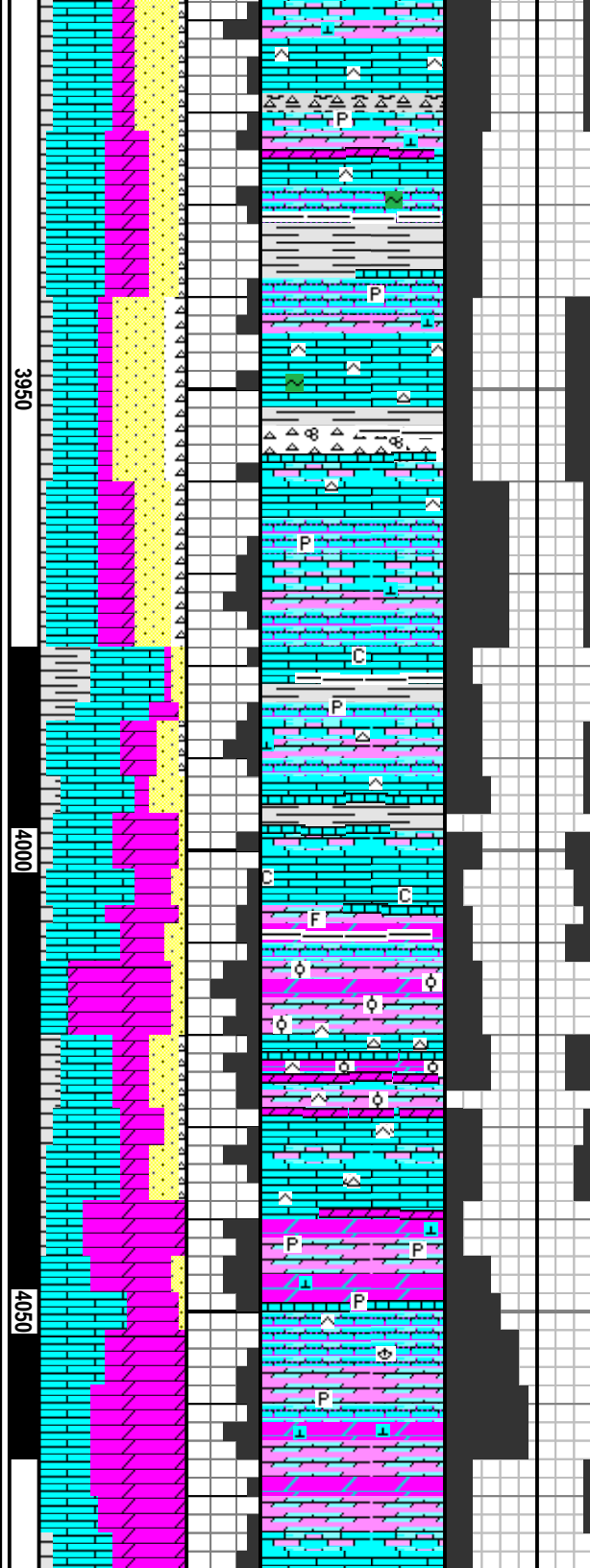
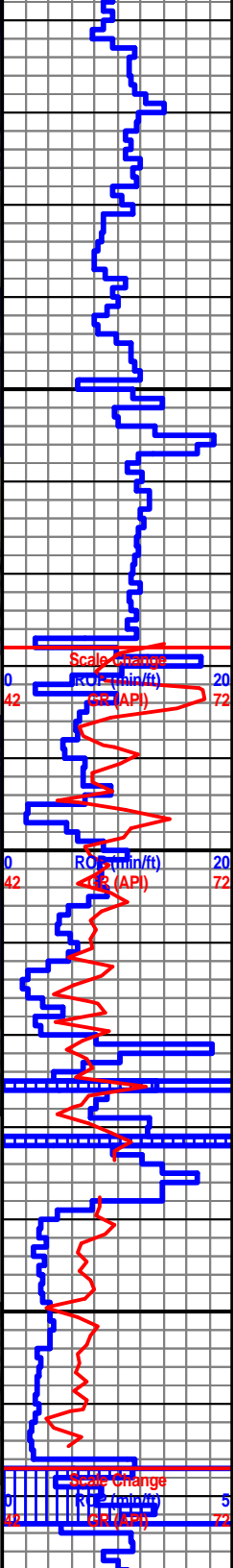
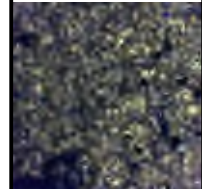




07/15/2014



07/16/2014
WOB-6/8K
RPM-45
PP-400
SPM-44



LT TAN, TR WHT MOTT, OCC BUFF MOTT, MOD FRM, TR HRD, BRTL, MSTLY MICRO XLN, TR V/FN XLN, BLKY, OCC PLTY, OCC CHNKY, SM SIL, TR ARG/CHLKY, INCRSING DOLO CMT, SCAT TO DECRSING SHRPPANG WHT TO OPQ CHAL CHRT W/TR RADIOLARIAN, OCC SPIC, TR CALCIT FL, TR QRTZ OVRGWTH, OCC GLAUC, OCC MIN PYR INC., TR BIOCLST W/OCC BRN STAIN, NO ODOR, SCAT FN FRAC POR W/HAIRLINE, TR PP POR, TR MOLDIC POR, SM YEL TO DULL YEL FLOR, V/WK SLO MLKY STRW CUT, V/FAINT YEL RE

LS: LT CRM, SCAT CRM, TR OFF WHT TO WHT, SCAT TAN TO BRN MOTT, FRM TO TR HRD, BRTL, MICRO TO INCRSE V/FN XLN, MSTLY BLKY, TR CHNKY, OCC CHLKY, SCAT DOLC CMT, SM SIL, TR LT TAN TO WHT SHRPPANG CHRT W/TR RADIOLARIAN, TR MIN PYR INC., OCC DRSY LRG EUHED CALCITE, OCC GLAUC, OCC FOSS FRAGS, DK BRN STAIN ALONG FRAC, TR PP POR, TR XLN POR, SM FRAC POR W/SCAT HAIRLINE, OCC LAM GY TO DK GY V/FN TXT FRM PLTY SH, TR TO INCRSING TO SM YEL FLOR W/TR DULL YEL, WK TO TR FR MLKY PALE YEL CUT W/10% HCL, WK SPTTY

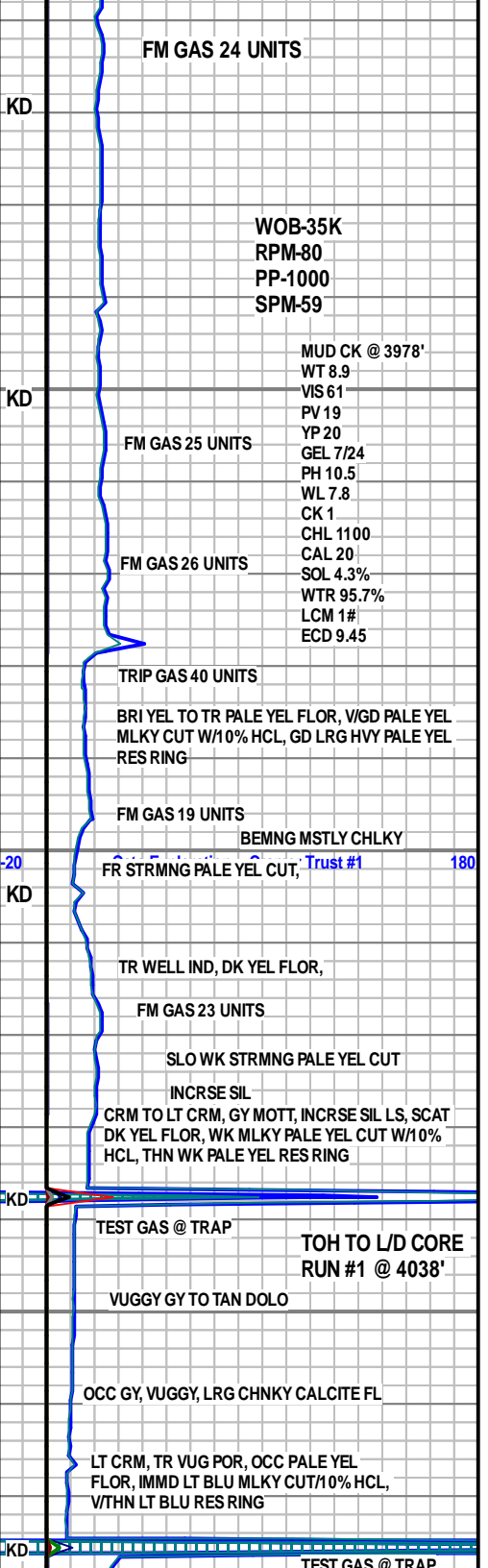
TOH TO P/U CORE TOOLS @ 3978'

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LS: OFF WHT TO LT CRM, SCAT LT TAN TO TAN, TR BRN MOTT, OCC WHT, MOD FRM, SCAT MOD SFT, MSTLY BRTL, V/FN XLN, SM MICRO XLN, BLKY, SCAT CHNKY, TR PLTY, SCAT ARG, SM DOLC CMT, OCC CHNKY CALCITE FL, OCC MIN PYR INC., SCAT TAN TO BRN SPOT STAIN W/TR DK BRN STAIN ALONG FRAC, TR WK ODOR, SCAT FRAC POR W/SM HAIRLINE, OCC PP/PITTING POR, OCC XLN POR, TR THN BDD LAM GY TO GRNSH/GY V/FN TXT PLTY SH, SCAT YEL TO DK YEL FLOR W/TR BRI YEL TO PALE YEL, TR IMMDD FR STRMNG PALE YEL CUT, THN GD PALEYEL RES RING

DOLO: TAN TO BRN, TR DK GY MOTT, SM LT TAN, TR WHT TO OFF WHT, MSTLYFRM, TR MOD SFT, FN TO V/FN XLN, MSTLY CHNKY, TR BLKY, SCAT WELL IND, MSTLY CALC CMT, OCC SIL, SM INTRBD LS, TR LAM LS W/CHLKY, OCC WHT SHRPPANG CHAL CHRT, ABNDT OOLTC, TR DK BRN SPOT STAIN, NO ODOR, SCAT XLN POR, SM MLDC POR, SM DK YEL FLOR, TR FR SLO STRMNG PALE YEL CUT, FR SPTTY PALE YEL RES RING

DOLO: GY TO SM LT GY, OCC DK GY, TR TAN TO LT TAN, SCAT OFF WHT, FRM, TR V/FRM, BRTL, TR CRMBLY, V/FN TO FN XLN, OCC MED XLN, OCC SUC TXT, PLTY, SM CHNKY, TR SIL, DECRSING CALC CMT, TR ARG, SM LAM LS, SCAT INTRBD LS W/TR DOLC CMT, TR DRSY EUHED CALCITE, TR CALCITE FL, TR PYR INC., OCC BRACH FRAGS, OCC LT SPOT STAIN, NO ODOR, SCAT TO SM FN VUG TO PP POR, TR HAIRLINE FRAC, TR XLN POR, SM DULL DK YEL MINRL FLOR, NO CUT

+++++
TOH TO L/D CORING TOOLS SAND CORE RUN #2: P/U BIT #2: 7 7/8": JZ: ENPO183: K09887: 3x14: IN @ 4067'



FM GAS 24 UNITS

WOB-35K
RPM-80
PP-1000
SPM-59

MUD CK @ 3978'
WT 8.9
VIS 61
PV 19
YP 20
GEL 7/24
PH 10.5
WL 7.8
CK 1
CHL 1100
CAL 20
SOL 4.3%
WTR 95.7%
LCM 1#
ECD 9.45

FM GAS 25 UNITS

FM GAS 26 UNITS

TRIP GAS 40 UNITS

BRI YEL TO TR PALE YEL FLOR, V/GD PALE YEL MLKY CUT W/10% HCL, GD LRG HVY PALE YEL RES RING

FM GAS 19 UNITS

BEMNG MSTLY CHLKY

FR STRMNG PALE YEL CUT, Trust #1 180

TR WELL IND, DK YEL FLOR,

FM GAS 23 UNITS

SLO WK STRMNG PALE YEL CUT

INCRSE SIL

CRM TO LT CRM, GY MOTT, INCRSE SIL LS, SCAT DK YEL FLOR, WK MLKY PALE YEL CUT W/10% HCL, THN WK PALE YEL RES RING

TEST GAS @ TRAP

TOH TO L/D CORE RUN #1 @ 4038'

VUGGY GY TO TAN DOLO

OCC GY, VUGGY, LRG CHNKY CALCITE FL

LT CRM, TR VUG POR, OCC PALE YEL FLOR, IMMDD LT BLU MLKY CUT W/10% HCL, V/THN LT BLU RES RING

TEST GAS @ TRAP

+++++
(-1279)

DOLO: LT CRM, SCAT OFF WHT, OCC LT TN, MOD FRM TO FRM, OCC MOD SFT, V/FN TO FN XLN, TR MIC XLN, CHNKY, SM BLKY, OCC PLTY, OCC CALC CMT, OCC PYR INC, OCC LT BRN SPOT STAIN, NO ODOR, SM XLN POR, OCC VUG POR, OCC HL FRAC POR, TR PALE YEL FLOR, NO VIS CUT, NO RES RING

DOLO: LT CRM, SCAT OFF WHT, TR LT TN, MOD FRM TO FRM, TR MOD SFT, V/FN TO FN XLN, SCAT MIC XLN, CHNKY, SM BLKY, TR PLTY, OCC CALC CMT, OCC LT BRN/BLK SPOT STAIN, NO ODOR, SM XLN POR, OCC HL FRAC POR, OCC VUG POR, TR PALE YEL TO YEL FLOR, SLO LT BLU MLKY VIS CUT W.10% HCL, V/THN FNT LT BLU RES RING

TOH P/U CORING TOOLS FOR CORE RUN #3 @ 4156'

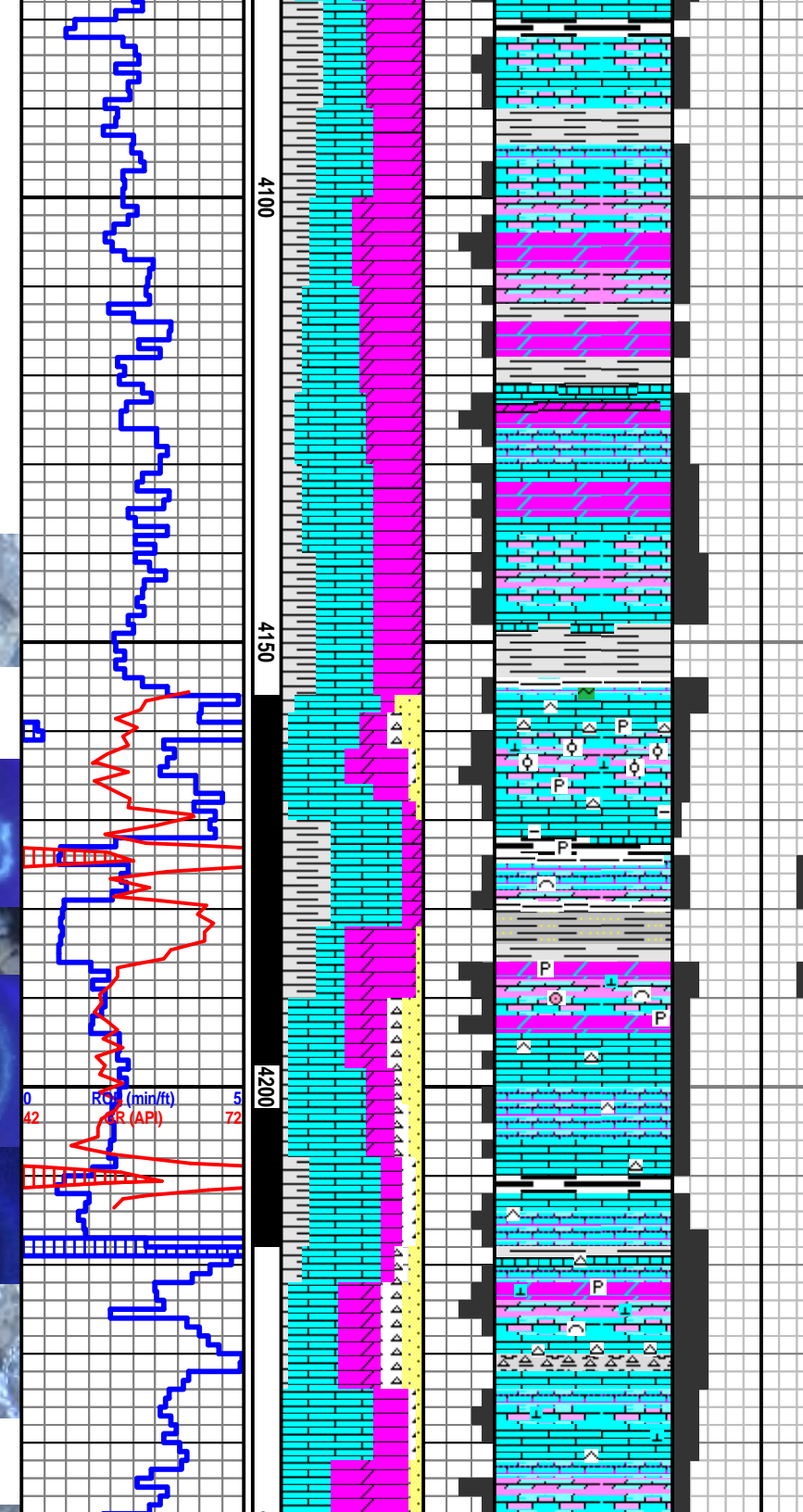
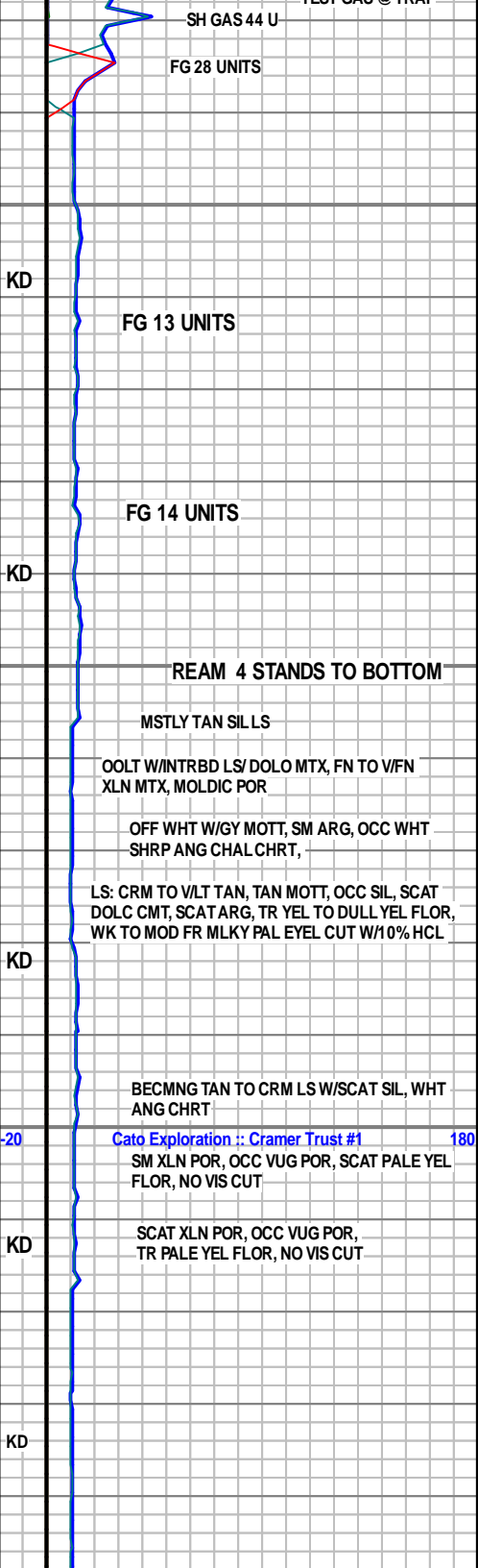
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LS: CRM, SCAT OFF WHT, SM V/LT CRM, TR GYSH TO GYSH/TAN MOTT, MSTLY MOD FRM, OCC HRD, BRTL, TR CRMBLY, MICRO XLN, SCAT TO SM V/FN XLN, CHNKY, TR BLKY, OCC WELL IND, OCC ARG, TR MIN PYR INC., TR EUHED CALCITE W/TR DRSY, OCC BLU/GY TO GY SHRPANG CHAL CHRT, OCC GLAUC, SM OOLTIC W/SCAT DOLO MTX, TR DK BRN STAIN ALONG FRAC, NO ODOR, SM TO SCAT FRAC POR W/SM HAIRLINE, OCC DIS FRAC, SM MOLDIC POR, OCC XLN POR, SCAT TO TR DK YEL FLOR W/OCC DULL YEL, NO VIS CUT

DOLO: GY TO LT GY, TR TO INCRSING LT CRM TO CRM, TR OFF WHT, SM FRM, MSTLYBRTL, V/FN TO MICRO XLN, SCAT V/FN XLN, SCAT WELL IND, BLKY, TR CHNKY, SM INTRBD LS, SM CALC CMT, OCC SIL, SM LAM TAN SILLS, SCAT INTRBD LS, OCC WHT ANG CHAL CHRT, SCAT MIN PYR INC., OCC GLAUC, SM FOSUS W/CRIN, TR GIL ALONG FRAC W/TR PYRC, OCC XLN POR, SCAT TO SM HAIRLINE FRAC, OCC MOLDIC TO PP POR, SCAT DULL YEL FLOR, TR WK MLKY PALE YEL CUT W/10% HCL, WK SPTY PALE YEL RES RING

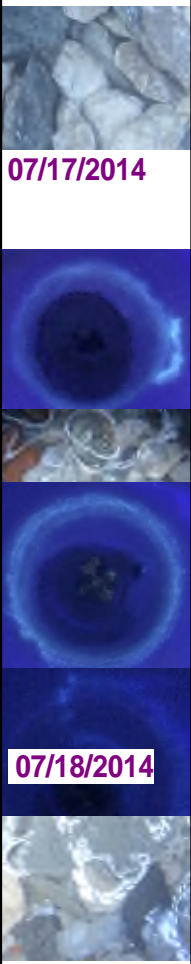
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TOH TO L/D CORE #3: P/U BIT #2: IN @ 4217'

LS: DK CRM TO SCAT TAN, INCRSING OFF WHT TO V/LT CRM, OCC WHT, TR DK TAN TO GYSH MOTT, MSTLY MOD FRM, TR FRM, BRTL, V/FN TO TR FN XLN, OCC MICRO XLN, PLTY, SCAT BLKY, SCAT ARG, TR SIL, TR DOLO CMT, SCAT INTRBD DOLO, SCAT TO TR THN LAM DOLO W/OCC PYRC, OCC TO TR WHT TO BLU/GY SHRPANG CHRT W/OCC SPIC, OCC FN CALCITE EUHED LINING PP POR/ DISS FRAC, NO VIS STAIN, NO ODOR, SM HAIRLINE FRAC, TR FRAC, TR PP TO FN VUG POR, SCAT TO SM DULL YEL TO TR DULL DK YEL FLOR, OCC W/WK MLKY PALE YEL CUT W/10% HCL



07/17/2014

07/18/2014

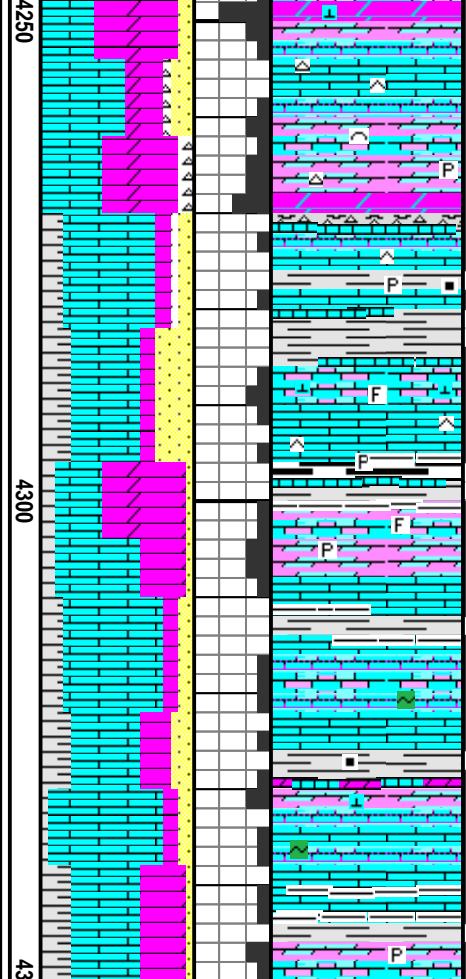


WOB-30K
RPM-70
PP-900
SPM-60

07/18/2014

ROP

ROP (min/ft) 5
GR (API) 72



LS: CRM TO LT CRM, SCAT V/LT TAN, SCAT GY, SCAT OFF WHT, OCC DK TAN TO BRN MOTT, FRM TO SM MOD FRM, TR CRMBLY, V/FN TO TR MICRO XLN, TR FN XLN, CHNKY, TR BLKY, TR PLTY, TR DOLC CMT, SCAT SIL, SM ARG, OCC CALCITE FL, OCC PYR INC., TR OPQ TO TRNSP SHRP ANG CHAL CHRT W/TR IMBDD FOSS, TR BIOCLST, NO VIS STAIN, NO ODOR, TR MOLDIC POR, TR XLN POR, SCAT FRAC POR W/HAIRLINE, OCC VUG POR, SCAT YEL TO DULL YEL FLOR, NO VIS CUT

MARMATON @ 4295'

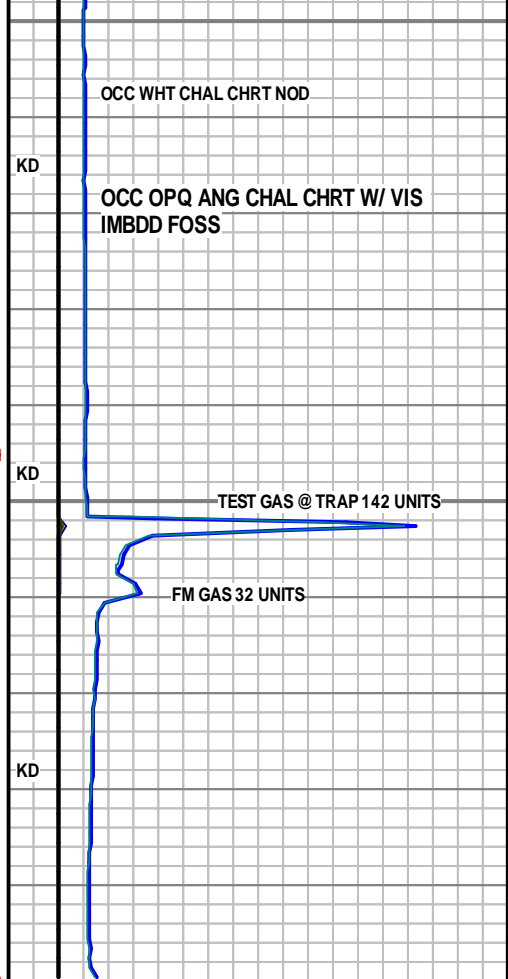
+++++
(-1492)

LS: DK TAN TO BRN, TR GYSH/TAN, TR OFF WHT TO LT CRM, SM V/FRM TO HRD, BRTL, V/FN TO MICRO XLN, PLTY, SM BLKY, TR CHNKY, SM SIL, INCRSING DOLO CMT, SM TO SCAT INTRBD DOLO, TR CALCITE FL W/OCC DRSY EUHED, TR PYR INC., OCC GLAUC, OCC FOSS FRAGS, NO VIS STAIN, NO ODOR, SM FN TO HAIRLINE FRAC, OCC XLN POR, OCC PP POR, SM LAM SH: GY TO DK GY, OCC BLK, OCC V/DK GY, MOD FRM, V/FN TXT, OCC CARB, OCC MASS PYR, TR TO SCAT DULL YEL TO OCC DULL PALE YEL FLOR, TR SLO FR MLKY PALE YEL CUT W/10% HCL,

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DRILLER'S TD @ 4350' (-1547') ON 07/18/2014

CATO EXPLORATION, LLC
CRAMER TRUST #1 GL:
2796' KB: 2803'
SEC. 27-16S-30W

1420' FWL & 1320' FSL OF SHL:
27-16S-30W LANE CO., KS SEC.



GAS



