



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

WELL PLUGGING APPLICATION

Form KSONA-1, Certification of Compliance with the Kansas Surface Owner Notification Act,
MUST be submitted with this form.

OPERATOR: License #: _____
Name: _____
Address 1: _____
Address 2: _____
City: _____ State: _____ Zip: _____ + _____
Contact Person: _____
Phone: (_____) _____

API No. 15 - _____
If pre 1967, supply original completion date: _____
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
County: _____
Lease Name: _____ Well #: _____

Check One: Oil Well Gas Well OG D&A Cathodic Water Supply Well Other: _____
 SWD Permit #: _____ ENHR Permit #: _____ Gas Storage Permit #: _____

Conductor Casing Size: _____ Set at: _____ Cemented with: _____ Sacks
Surface Casing Size: _____ Set at: _____ Cemented with: _____ Sacks
Production Casing Size: _____ Set at: _____ Cemented with: _____ Sacks

List (ALL) Perforations and Bridge Plug Sets:

Elevation: _____ (G.L. / K.B.) T.D.: _____ PBTD: _____ Anhydrite Depth: _____
(Stone Corral Formation)

Condition of Well: Good Poor Junk in Hole Casing Leak at: _____
(Interval)

Proposed Method of Plugging (attach a separate page if additional space is needed):

Is Well Log attached to this application? Yes No Is ACO-1 filed? Yes No

If ACO-1 not filed, explain why:

Plugging of this Well will be done in accordance with K.S.A. 55-101 et. seq. and the Rules and Regulations of the State Corporation Commission

Company Representative authorized to supervise plugging operations: _____

Address: _____ City: _____ State: _____ Zip: _____ + _____

Phone: (_____) _____

Plugging Contractor License #: _____ Name: _____

Address 1: _____ Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Phone: (_____) _____

Proposed Date of Plugging (if known): _____

Payment of the Plugging Fee (K.A.R. 82-3-118) will be guaranteed by Operator or Agent

Submitted Electronically



CERTIFICATION OF COMPLIANCE WITH THE KANSAS SURFACE OWNER NOTIFICATION ACT

This form must be submitted with all Forms C-1 (Notice of Intent to Drill); CB-1 (Cathodic Protection Borehole Intent); T-1 (Request for Change of Operator Transfer of Injection or Surface Pit Permit); and CP-1 (Well Plugging Application). Any such form submitted without an accompanying Form KSONA-1 will be returned.

Select the corresponding form being filed: C-1 (Intent) CB-1 (Cathodic Protection Borehole Intent) T-1 (Transfer) CP-1 (Plugging Application)

OPERATOR: License # _____
Name: _____
Address 1: _____
Address 2: _____
City: _____ State: _____ Zip: _____ + _____
Contact Person: _____
Phone: (_____) _____ Fax: (_____) _____
Email Address: _____

Well Location:
____ - ____ - ____ - ____ Sec. ____ Twp. ____ S. R. ____ East West
County: _____
Lease Name: _____ Well #: _____

If filing a Form T-1 for multiple wells on a lease, enter the legal description of the lease below:

Surface Owner Information:

Name: _____
Address 1: _____
Address 2: _____
City: _____ State: _____ Zip: _____ + _____

When filing a Form T-1 involving multiple surface owners, attach an additional sheet listing all of the information to the left for each surface owner. Surface owner information can be found in the records of the register of deeds for the county, and in the real estate property tax records of the county treasurer.

If this form is being submitted with a Form C-1 (Intent) or CB-1 (Cathodic Protection Borehole Intent), you must supply the surface owners and the KCC with a plat showing the predicted locations of lease roads, tank batteries, pipelines, and electrical lines. The locations shown on the plat are preliminary non-binding estimates. The locations may be entered on the Form C-1 plat, Form CB-1 plat, or a separate plat may be submitted.

Select one of the following:

- I certify that, pursuant to the Kansas Surface Owner Notice Act (House Bill 2032), I have provided the following to the surface owner(s) of the land upon which the subject well is or will be located: 1) a copy of the Form C-1, Form CB-1, Form T-1, or Form CP-1 that I am filing in connection with this form; 2) if the form being filed is a Form C-1 or Form CB-1, the plat(s) required by this form; and 3) my operator name, address, phone number, fax, and email address.
- I have not provided this information to the surface owner(s). I acknowledge that, because I have not provided this information, the KCC will be required to send this information to the surface owner(s). To mitigate the additional cost of the KCC performing this task, I acknowledge that I must provide the name and address of the surface owner by filling out the top section of this form and that I am being charged a \$30.00 handling fee, payable to the KCC, which is enclosed with this form.

If choosing the second option, submit payment of the \$30.00 handling fee with this form. If the fee is not received with this form, the KSONA-1 form and the associated Form C-1, Form CB-1, Form T-1, or Form CP-1 will be returned.

I Submitted Electronically

I



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

Well Name:	SHAY #1	CATO EXPLORATION, LLC
Location:	Sec. 22-16S-28W	LANE Co., KS
License Number:	15-101-22527	Region: WILDCAT
Spud Date:	07/21/2014	Drilling Completed: 07/31/2014
Surface Coordinates:	SHL: 1250' FWL & 1670' FNL OF Sec. 22-16S-28W LANE CO., KS	
Bottom Hole Coordinates:	REPORT FOR: MR. MACK BLACKFORD LOGGER: MR. LEVI CAMPBELL	
Ground Elevation (ft):	2653'	K.B. Elevation (ft): 2660'
Logged Interval (ft):	1430' To: 4579'	Total Depth (ft): 4579'
Formation:	LANSING/ KANSAS CITY	
Type of Drilling Fluid:	FRESH WATER/NATIVE MUD	

CORE

Contractor: DB
Core #: 1
Formation: LANSING
Core Interval: From: 3960' Cut: 70'
To: 4030' Recovered: 70'
Bit type: DB: SERIAL# 3893
Size: 7 7/8"
Coring Time: 7.3 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: DB
CORE #: 2
FORMATION: KANSAS CITY "B" & "C"
FROM: 4118' CUT: 61'
TO: 4179' RECOVERED: 61'
BIT TYPE: DB: SERIAL# 3893
SIZE: 7 7/8" TIME: 5.5 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_gnrlr
- Lmyslst
- Bent
- Brec
- Clyst
- Coal
- Congl
- Dol

- Igne
- Lmst
- Mrlst
- Shale
- Shale
- Shcol
- Sitysh
- Shgy
- Ss

- Till
- Sandylms
- Hotsh
- Sltst
- Dolc ss
- Lmysnd
- Calc dolo
- Dolomtc Im
- Dolo cmtd Im

- Trip chrt
- Spic chrt
- Dolc chrt
- Dk chrt
- Chrt
- Calc chrt

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

- Mrst
- Ssstrg
- Sltstrg

TEXTURE

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

STRINGER

- Arg
- Bent
- Coal
- Dol
- Ls

OTHER SYMBOLS

POROSITY

- Earthy
- Fenest
- Fracture
- Inter
- Moldic

- Organic
- Pinpoint
- Vuggy

OIL SHOW

- Even

- Spotted
- Ques
- Dead

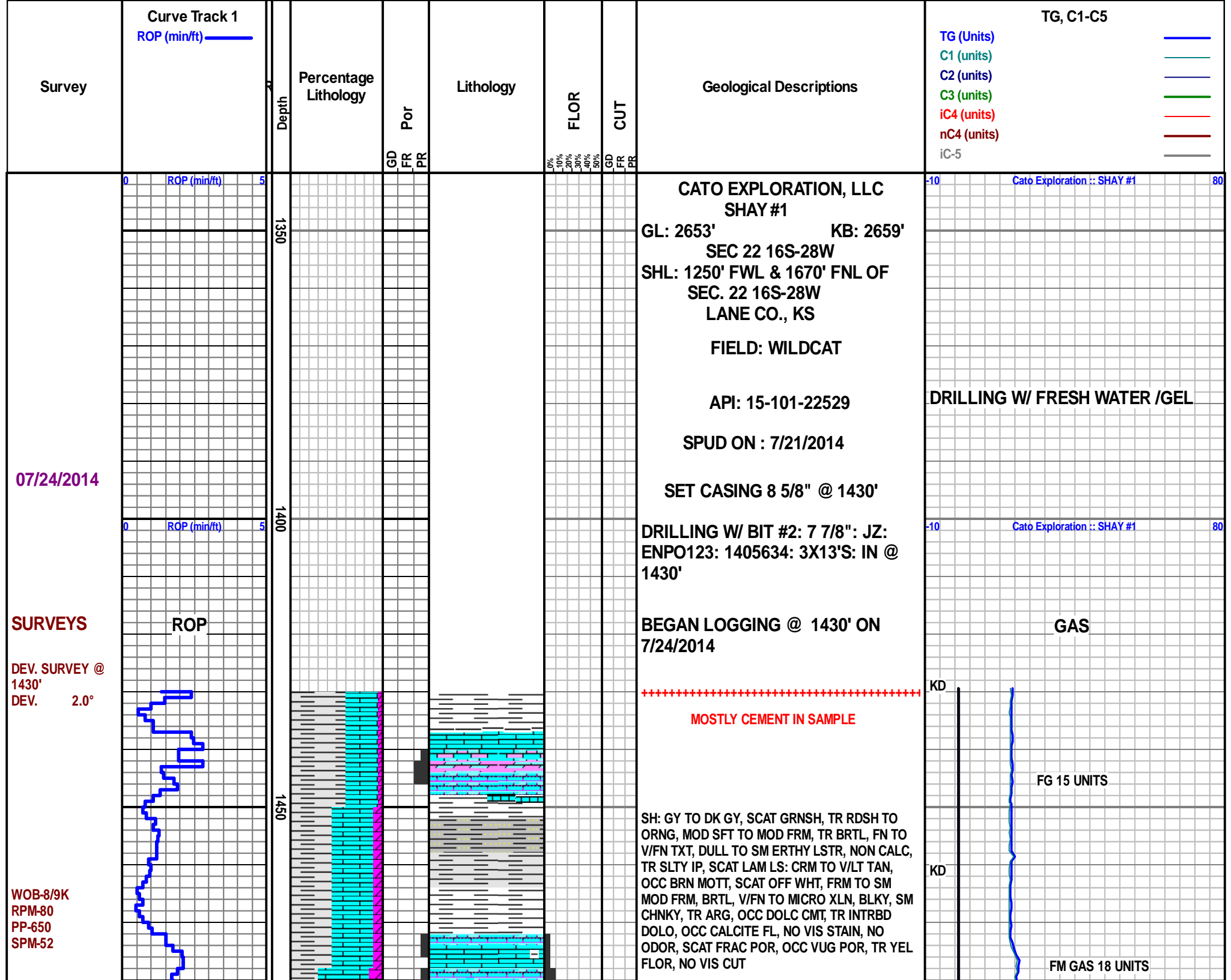
INTERVAL

- Core

- Dst

EVENT

- Rft
- Sidewall



Curve Track 1
ROP (min/ft)

TG, C1-C5

TG (Units) ———
 C1 (units) ———
 C2 (units) ———
 C3 (units) ———
 iC4 (units) ———
 nC4 (units) ———
 iC-5 ———

Survey

Percentage
Lithology

Lithology

FLOR

CUT

Geological Descriptions

Depth

Por
GD
FR
PR

0%
10%
20%
30%
40%
50%

GD
FR
PR

0 ROP (min/ft) 5

-10 Cato Exploration :: SHAY #1 80

1350

**CATO EXPLORATION, LLC
SHAY #1**
 GL: 2653' KB: 2659'
 SEC 22 16S-28W
 SHL: 1250' FWL & 1670' FNL OF
 SEC. 22 16S-28W
 LANE CO., KS
 FIELD: WILDCAT
 API: 15-101-22529
 SPUD ON : 7/21/2014

DRILLING W/ FRESH WATER /GEL

1400

DRILLING W/ BIT #2: 7 7/8": JZ:
 ENPO123: 1405634: 3X13'S: IN @
 1430'

-10 Cato Exploration :: SHAY #1 80

07/24/2014

SET CASING 8 5/8" @ 1430'

BEGAN LOGGING @ 1430' ON
 7/24/2014

GAS

SURVEYS

ROP

+++++ MOSTLY CEMENT IN SAMPLE +++++

KD

FG 15 UNITS

DEV. SURVEY @
 1430'
 DEV. 2.0°

1450

SH: GY TO DK GY, SCAT GRNSH, TR RDSH TO
 ORNG, MOD SFT TO MOD FRM, TR BRTL, FN TO
 V/FN TXT, DULL TO SM ERTHY LSTR, NON CALC,
 TR SLTY IP, SCAT LAM LS: CRM TO V/LT TAN,
 OCC BRN MOTT, SCAT OFF WHT, FRM TO SM
 MOD FRM, BRTL, V/FN TO MICRO XLN, BLKY, SM
 CHNKY, TR ARG, OCC DOLC CMT, TR INTRBD
 DOLO, OCC CALCITE FL, NO VIS STAIN, NO
 ODOR, SCAT FRAC POR, OCC VUG POR, TR YEL
 FLOR, NO VIS CUT

KD

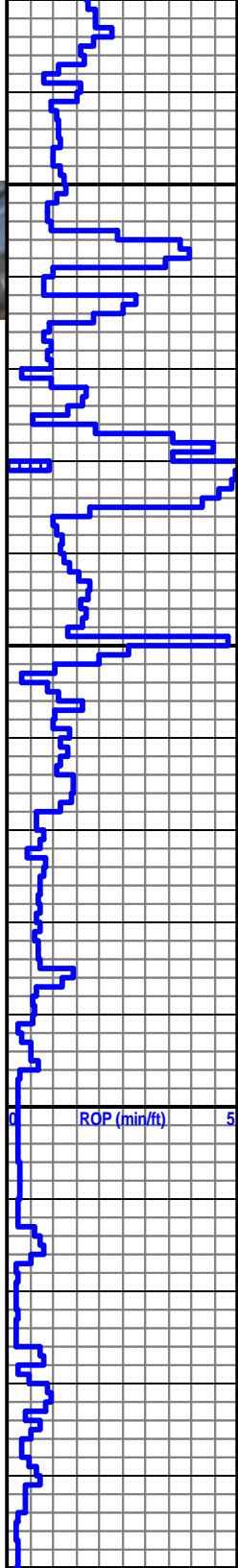
FM GAS 18 UNITS

WOB-8/9K
 RPM-80
 PP-650
 SPM-52



RIG REPAIR -
WORK ON
ROTARY CHAIN

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

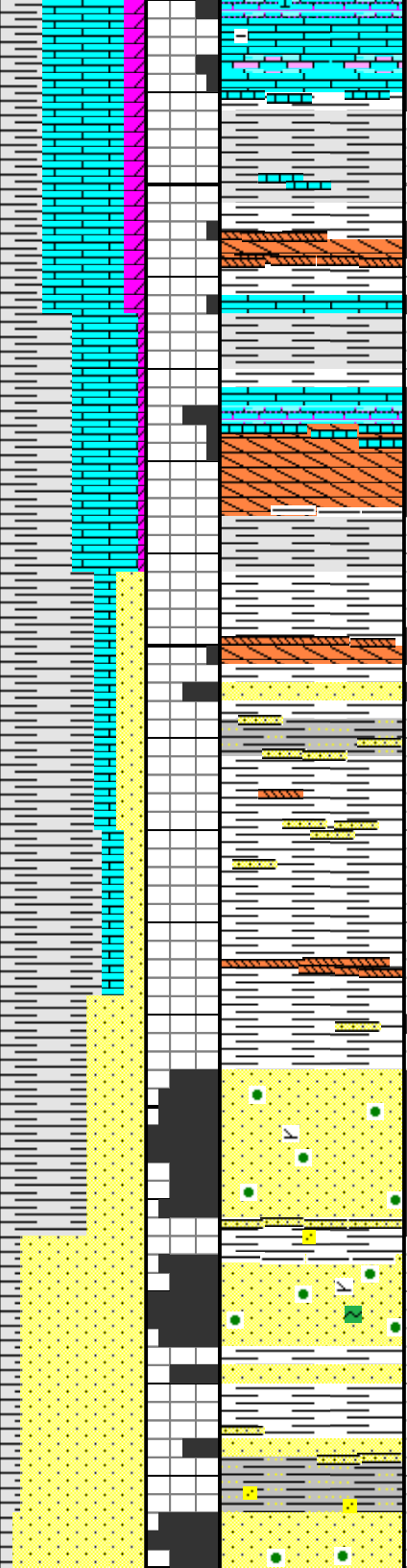


1500

1550

1600

16



BLAINE @ 1505'

(1155')



GYP: OFF WHT, FRSTD, TR CLR TO TRNSP, FRM TO MOD FRM, TR BRTL, MICRO XLN, TR FN XLN, BLKY, TR CHNKY, TR INTRBD LS: CRM, OFF WHT, TR WHT, FRM, BRTL, V/FN TO MICRO XLN, PLTY, BLKY, TR DOLC, NO VIS STAIN, NO ODOR, SCAT FRAC POR, TR LAM SH: GRNSH, GY TO LT GY, OCC ORNG, MOD FRM, BLKY, V/FN TXT, DULL LSTR, OCC YEL FLOR, NO VIS CUT



FLOWER POT @ 1543'

(1117')

SH: ORNG, LT ORNG, TR RDSH/ ORNG, FRM, SM MOD FRM, OCC BRTL, V/FN TXT, TR SLTY IP, DULL TO SM ERTHY LSTR, BLKY, OCC CHNKY, NON CALC, OCC THN BDD GYP, TR LENTC / LAM SS: OPQ TO TRNSL, SM TRNSP, MOD FRM, SM FRI, FN L TO TR FN U GRNS, SUB ANG, MOD SRTD, MOD CONSL, SIL CMT, NO VIS STAIN, NO ODOR, SM XGRNLR POR, OCC DULL BLU TO PALE YEL FLOR, NO VIS CUT

CEDAR HILLS @ 1596'

(1064')

SS: OPQ, TRNSL, SM TRNSP, SCAT FRSTD, UNCONSL, FN U TO MED L GRNS, SCAT MED U GRNS, RNDD GRNS, WELL SRTD, UNCONSL, SCAT FERR CTG, OCC CRSE U WELL RNDD QRTZ GRNS, OCC GLAUC, NO VIS STAIN NO ODOR, ABNDNT XGRNLR POR, SCAT LAM SH: RDSH TO RDSH/ORNG, OCC ORNG, MOD FRM, TR BRTL, V/FN TO FN TXT, TR AREN, BLKY, TR CHNKY, ERTHY LSTR, OCC V/DULL BLU TO V/DULL PALE YEL FLOR, NO VIS CUT

KD
KD
KD
KD
-10
KD
KD

FM GAS 19 UNITS

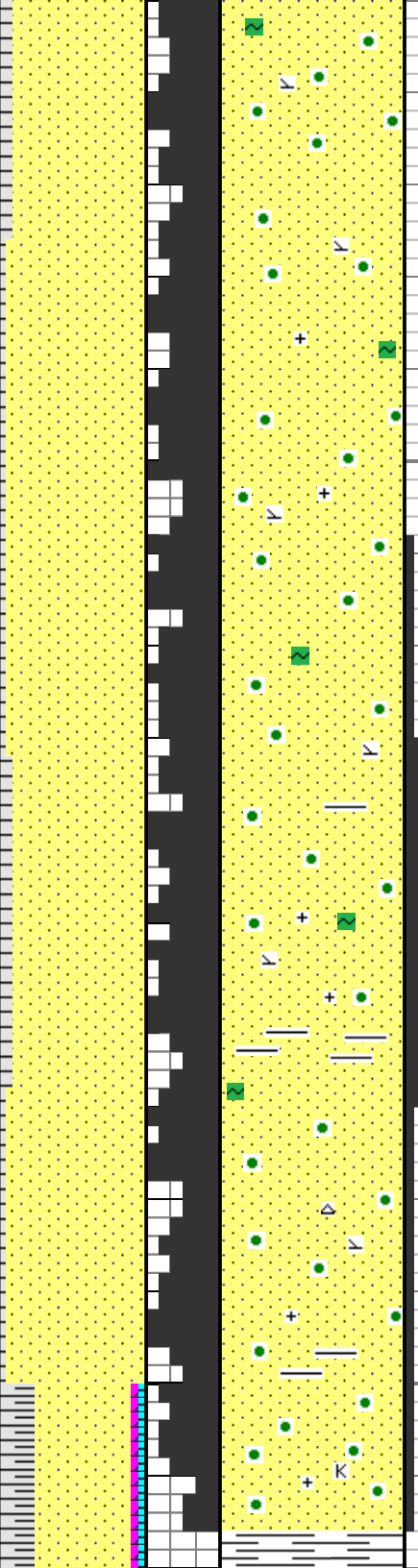
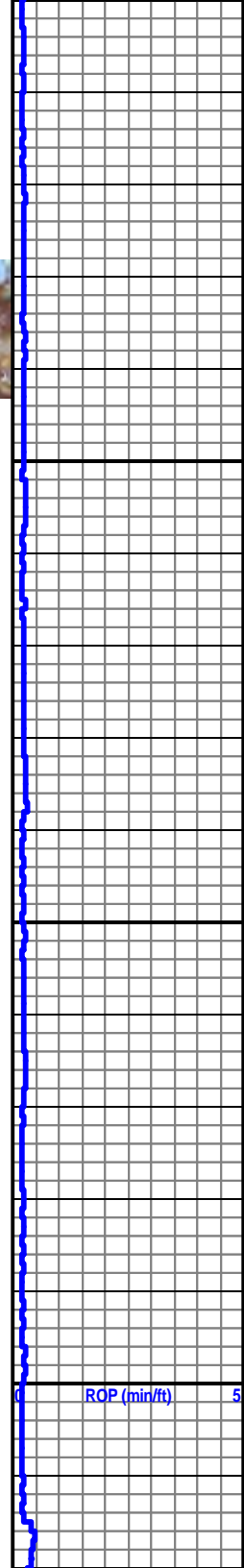
Cato Exploration :: SHAY #1

MWT 8.7

80



WOB-30/35K
RPM-90
PP-850
SPM-60



SS: OPQ TO TRNSL, SM FRSTD, RDSH, TR CLR TO TRNSP, OCC OFF WHT, V/FEW CLSTRS, FN L TO FN U GRNS, TR MED L GRNS, RND TO TR SUB RND, MSTLY UNCONSL, MOD TO WELL SRTD, TR SIL CMT, SCAT FERR CTG GRNS, TR INTST GLAUC, OCC FELSPR, NO VIS STAIN, NO ODOR, ABNDNT XGRNLR POR, NO VIS FLOR, NO CUT

KD

SS: OPQ TO TRNSL, SM FRSTD, RDSH, TR CLR TO TRNSP, OCC OFF WHT, V/FEW CLSTRS, FN L TO FN U GRNS, TR MED L GRNS, RND TO TR SUB RND, MSTLY UNCONSL, MOD TO WELL SRTD, TR SIL CMT, SCAT FERR CTG GRNS, TR INTST GLAUC, OCC FELSPR, NO VIS STAIN, NO ODOR, ABNDNT XGRNLR POR, OCC V/DULL BLU TO V/DULL PALE YEL FLOR, NO VIS CUT

KD

SS: OPQ, SM FRSTD, TRNSL TO TRNSP, TR RDSH CTG, TR WHT TO OFF WHT, V/FEW CLSTRS, MOD FRM TO FRM, FRI, FN U TO SM FN L GRNS, SCAT MED L GRNS, RNDD TO TR SUB RND, WELL SRTD, MSTLY UNCONSL, OCC SIL CMT, SCAT FERR CTG GRNS, OCC INTST GLAUC, OCC MICS, OCC CHRT AREN, NO VIS STAIN, NO ODOR, ABNDNT XGRNLR POR, INCRSE V/DULL PALE YEL TO V/DULL BLUSH FLOR, NO VIS CUT

KD

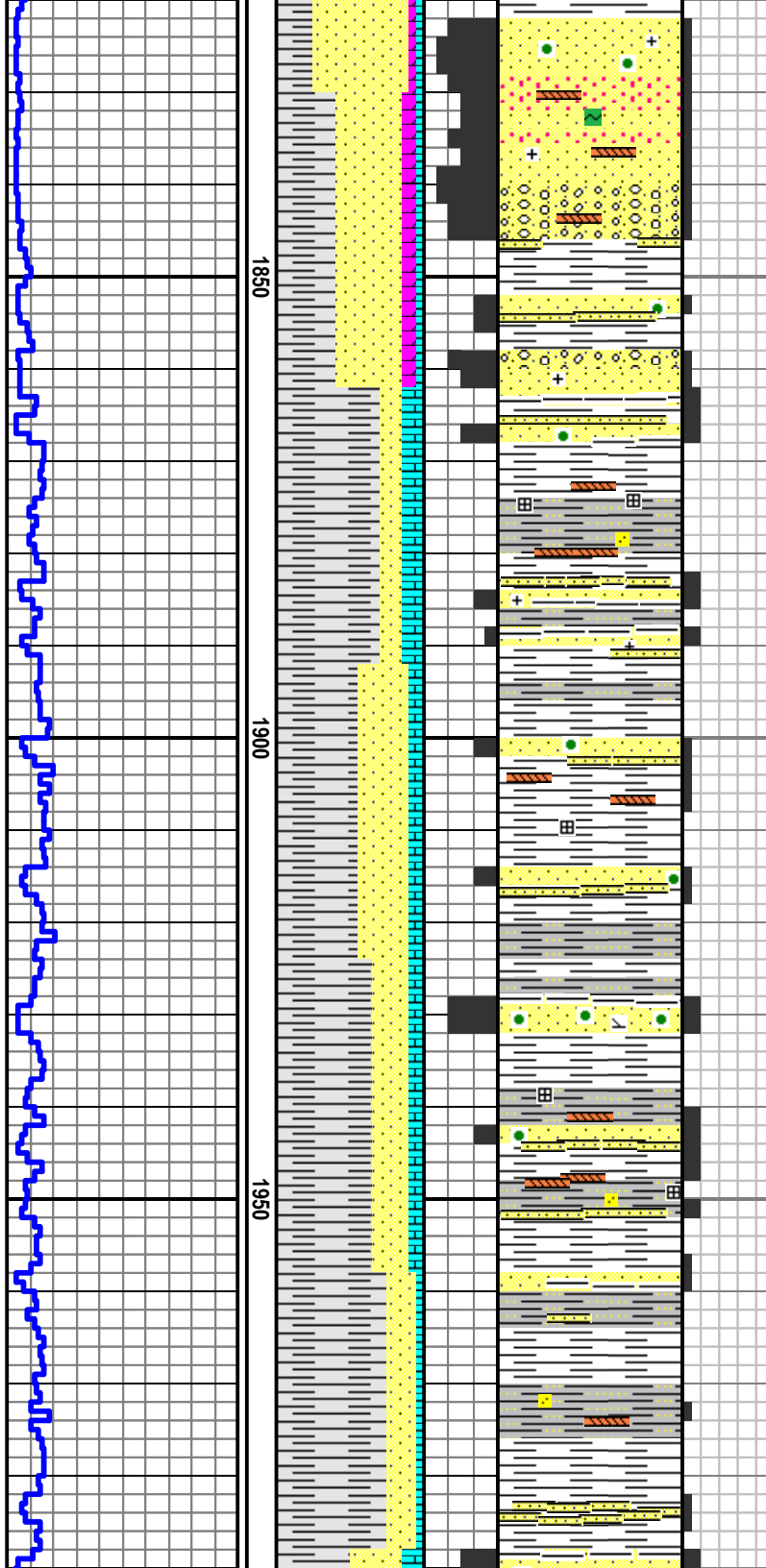
SS: OFF WHT, SCAT TO SM RDSH, OPQ TO TRNSP, SM TRNSL, TR GRNSH MOTT, FRM, TR HRD, INCRSNG CONSL, SCAT FRI, FN L TO

-10 KD

Core Exploration :: SHAY #1

80

WOB-30K
RPM-70
PP-1000
SPM-60



DECRSING FN U GRNS, FINING UPWARD, SM
SUB RND GRNS, SM SUB ANG GRNS, MOD SRTD,
MOD CONSL, TR DOLC CMT, TR IMBDD GYP,
INCRSE GLAUC, OCC FELDSPR, NO VIS STAIN,
NO ODOR, SM XGRNLR POR, TR LAM SH: ORNG,
RDSH/ORNG, MOD FRM, OCC FRM, TR BRTL,
V/FN TO FN TXT, TR AREN, BLKY, SCAT CHNKY,
NON CALC, OCC DULL BLU FLOR, NO VIS CUT

SALT PLAINS @ 1868'

+++++ (792) +++++

SH: ORNG, PALE ORNG, TR RDSH/ORNG, SCAT
GRNSH, SM MOD FRM, TR BRTL, V/FN TXT, SCAT
FN TO SLTY TXT, OCC AREN, MSTLY BLKY, TR
CHNKY, NON CALC, SM MUDST, TR LAM/IMBDD
HALITE EUHED, SM LAM TO LENTC SS: OFF
WHT, OCC GYSH, TR GRN MOTT, OCC OPQ, FRM
TO SM MOD FRM, SM FRI, FN L GRNS, OCC V/FN
U GRNS, ANG TO SUB ANG GRNS, WELL CONSL,
MOD TO PR SRTD, SIL CMT, OCC DOLC, OCC
INTRBD GYP, NO VIS STAIN, NO ODOR, SCAT
XGRNLR POR,

SH: ORNG, RDSH/ORNG, MOD SFT TO MOD FRM,
OCC BRTL, V/FN TO TR SLTY TXT, ERTHY LSTR,
CHNKY, TR BLKY, SM MUDST, OCC INTRBD GYP,
OCC IMBDD HALITE, OCC PYRC, 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, TR DULL BLU
FLOR, NO VIS CUT

MUD CK @ 1910'
WT 9.1
VIS 27
PH 7.0
CHL 1000
CAL HVY
SOL 5.7%
WTR 94.3%

KD

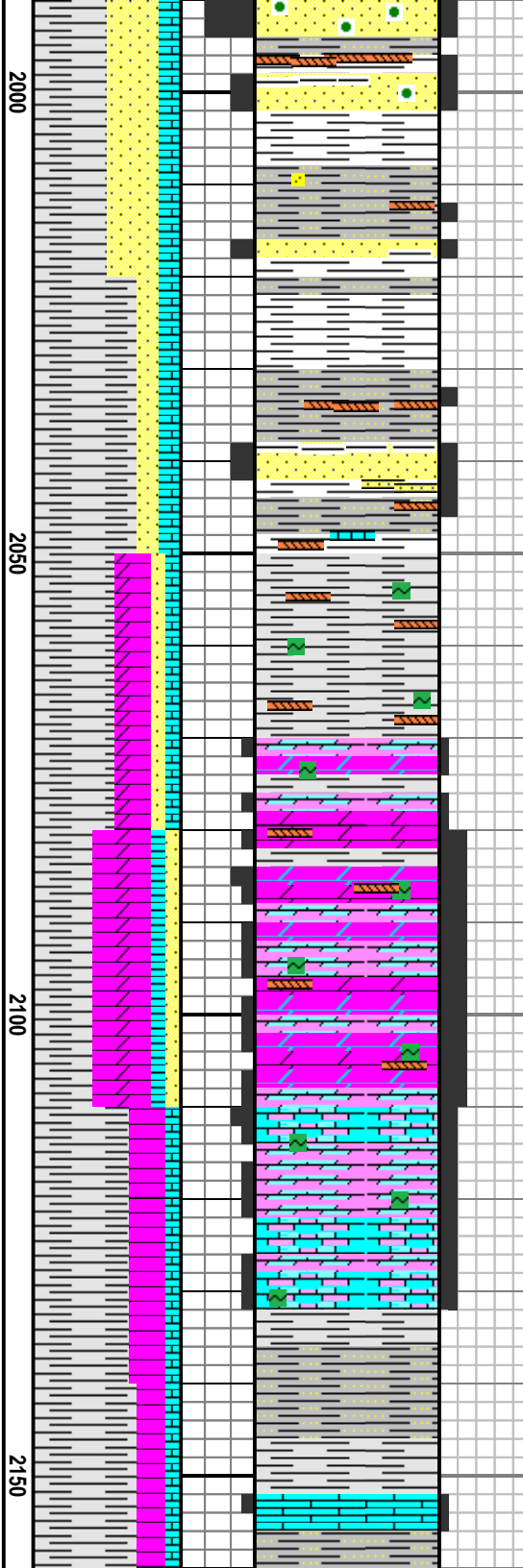
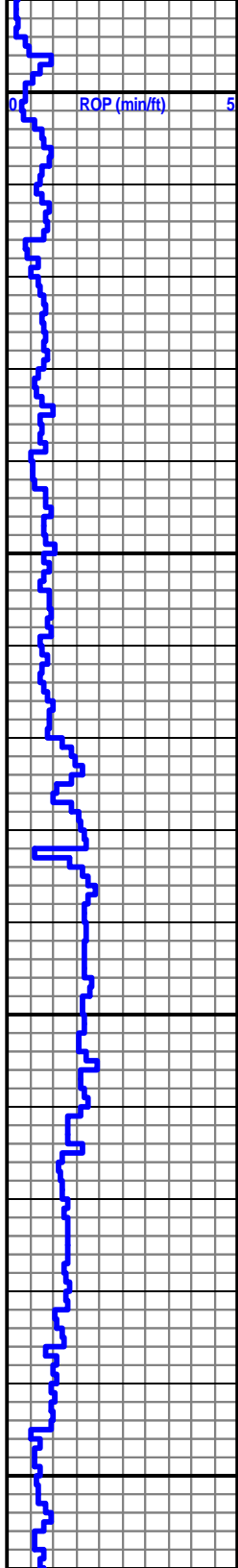
KD

KD

KD

KD

KD



SH: ORNG, RDSH/ORNG, MOD SFT TO MOD FRM, OCC BRTL, V/FN TO SM SLTY TXT, SCAT AREN, 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 ABDNT XGRNLR POR, TR DULL BLU FLOR, NO VIS CUT

DOLO: TRNSL TO OPQ, OCC CLR, MOD SFT TO MOD FRM, OCC FRM, OCC BRTL, FN TO V/FN XLN, CHNKY, SM PLTY, OCC CALC CMT, SM GYPSM, TR GLAUC, NO VIS STAIN, NO ODOR, OCC XLN POR, OCC DRK STRW FLOR, NO VIS CUT

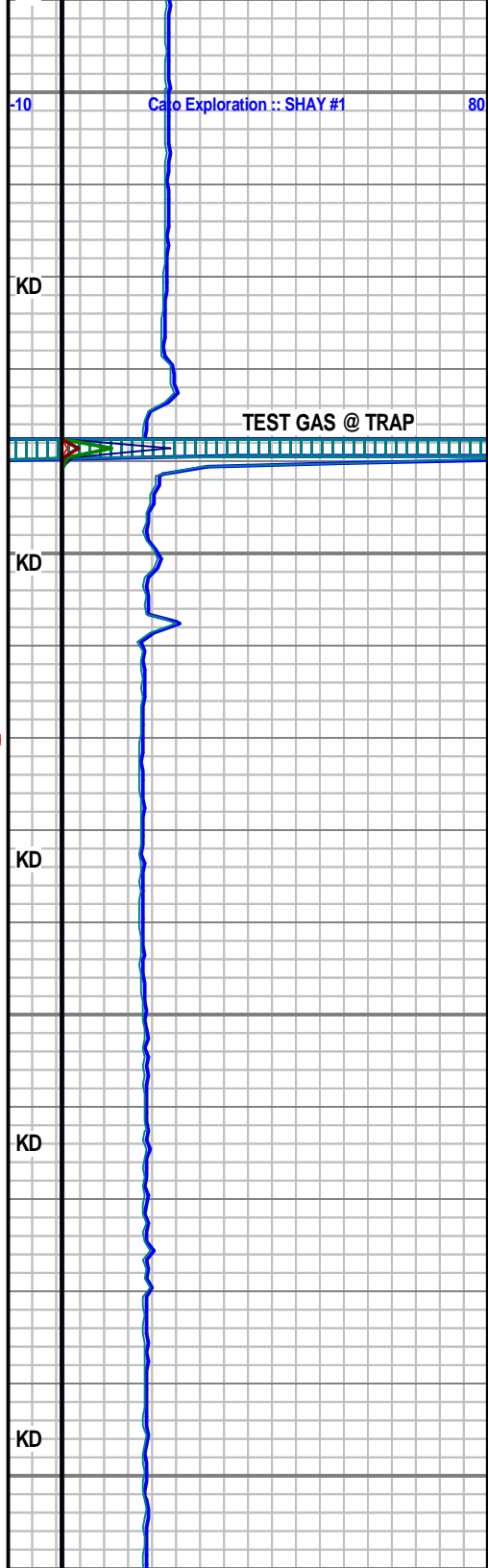
STONE CORRAL @ 2070'

+++++ (590')

DOLO: OFF WHT, SM LT TN, TR OPQ TO TRNSL, MOD SFT TO MOD FRM, OCC FRM, OCC BRTL, V/FN TO FN XLN, CHNKY, SM PLTY, SCAT BLKY, OCC CALC CMT, TR GYPSM, OCC GLAUC, NO VIS STAIN, NO ODOR, SM XLN POR, OCC VUG POR, SCAT DULL YEL FLOR, NO VIS CUT

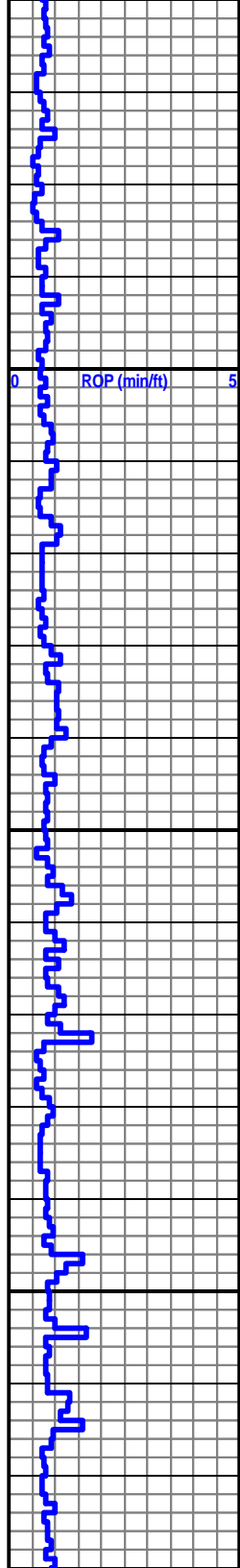
SH: RDSH/ORNG, SM ORNG, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN TXT, OCC SLTY TXT, DULL TO ERTHY LSTR, NON CALC, TR DOLO: OFF WHT, SM LT GY, SCAT TRNSL TO OPQ, MOD FRM TO FRM, OCC MOD SFT, V/FN TO FN XLN, CHNKY, SM PLTY, SCAT BLKY, OCC CALC CMT, OCC GLUAC, NO VIS STAIN, NO ODOR, SM XLN POR, OCC VUG POR, OCC PALE YEL TO YEL FLOR, NO VIS CUT

SH: ORNG, SM RDSH/ORNG, OCC LT GY, OCC GY, MOD SFT TO MOD FRM, OCC BRTL, V/FN TO FN



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

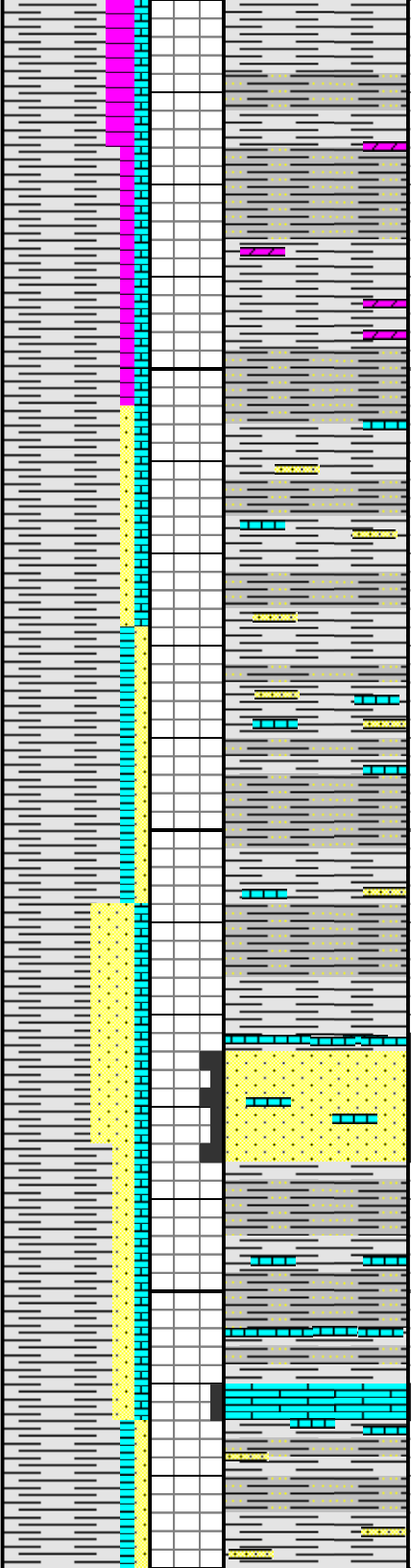
WOB- 30K
RPM- 80
PP- 200
SPM- 60



2200

2250

2300



TXL, TR SLTY TXT, ERTHY TO SLI DULL SLTR,
NON CALC

SH: ORNG, SM RDSH/ORNG, OCC LT GY, MOD
SFT TO MOD FRM, OCC FRM, OCC SFT, OCC
BRTL IP, V/FN TO FN TXT, TR SLTY IP, ERTHY TO
DULL LSTR, NON CALC, OCC DOLO STRNGR

SH: ORNG, SM RDSH/ORNG, OCC LT GY, MOD
SFT TO MOD FRM, OCC SFT, OCC BRTL, V/FN TO
FN TXT, TR SLTY TXT IP, DULL TO ERTHY LSTR,
NON CALC, OCC UNCONSL SS STRNGR, OCC LS
STRNGR

SH: ORNG, SM RDSH/ORNG, OCC RDSH/BRN,
MOD SFT TO MOD FRM, OCC SFT, OCC FRM, OCC
BRTL, V/FN TO FN TXT, OCC SLTY IP, DULL TO
ERTHY LSTR, NON CALC, TR UNCONSL SS
STRNGR, OCC LS STRNGR

SH: ORNG, SCAT RDSH/ORNG, MOD SFT TO MOD
FRM, OCC SFT, OCC BRTL, V/FN TO FN TXT, OCC
SLTY IP, DULL LSTR, SLI ERTHY IP, NON CALC,
SM SS: CLR, SM TRNSL, OCC OPQ, MOD FRM TO
FRM, V/FN U TO FN L GRN, RNDD GRN, SM SUB
RNDD GRN, MSTLY UNCONSL, MOD SRTD, OCC
CALC CMT, NO VIS STAIN, NO ODOR, OCC
XGRNLR POR, OCC STRW TO YEL FLOR, NO VIS
CUT

SH: ORNG, SM RDSH/ORNG, MOD SFT TO MOD
FRM, OCC FRM, OCC SFT, OCC BRTL, V/FN TO FN
TXT, TR SLTY IP, DULL TO ERTHY LSTR, NON
CALC, OCC LS STRNGR, OCC UNCONSL SS
STRNGR

SH: ORNG, SM RDSH/ORNG, SM RSH/BRN, SCAT
LT GY, TR GY, MOD SFT TO MOD FRM, OCC FRM,
OCC BRTL, V/FN TO FN TXT, SM SLTY IP, DULL

KD

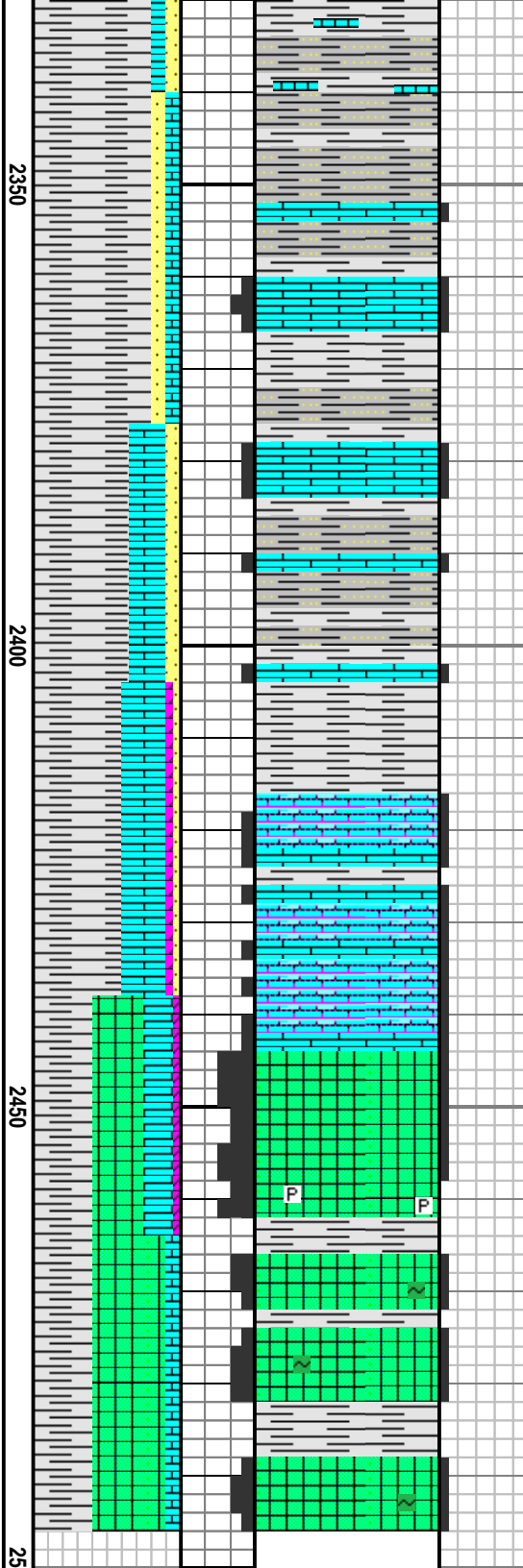
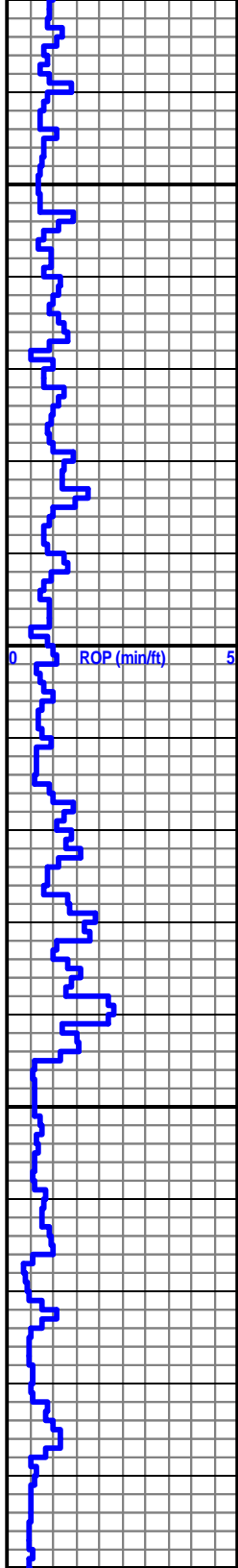
KD

KD

KD

KD

-10 Cato Exploration :: SHAY #1 80



OCC BRTL, V/FN TO FN TXT, SM SLTY IP, DULL TO ERTHY LSTR, NON CALC, OCC SS STRNGR, OCC LS STRNGR

SH: GY, SM ORNG, SM RDSH/ORNG, OCC LT GY, OCC BLK, MOD SFT TO MOD FRM, OCC FRM, OCC BRTL, V/FN TO FN TXT, OCC SLTY TXT IP, DULL TO ERTHY LSTR, NON CALC, OCC SS STRNGR

SH: GY, SM ORNG, SCAT RDSH/ORNG, OCC LT GY, MOD SFT TO MOD FRM, OCC BRTL, V/FN TO FN TXT, OCC SLTY IP, DULL TO ERTHY LSTR, NON CALC, OCC LS STRNGR

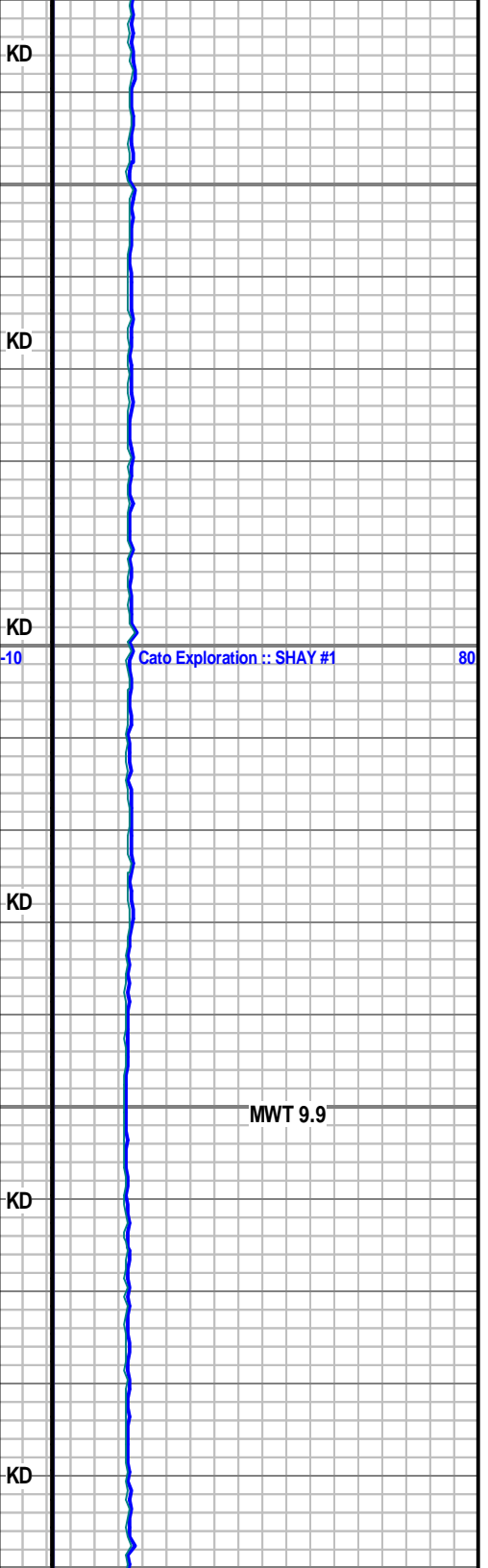
HUTCHINSON @ 2417' MD

(243')

LS: OFF WHT, SM LT GY, TR LT GY/OFF WHT MOTT, MOD SFT TO MOD FRM, OCC FRM, V/FN XLN, CHNKY, SM BLKY, TR PLTY, OCC DOLC CMT, NO VIS STAIN, NO ODOR, TR XLN POR, OCC HL FRAC POR, OCC STRW FLOR, NO VIS CUT

SALT: OFF WHT, SM LT GY, TR DK GY, OCC TO TR CLR TO TRNSP, MOD SFT TO MOD FRM, V/FN TO FN XLN, CHNKY, SM BLKY, OCC PYR INC, NO VIS STAIN, NO ODOR, TR XLN POR, OCC VUG POR, OCC STRW FLOR, NO VIS CUT

SALT: OFF WHT, SM LT GY, OCC TRNSL, MOD SFT TO MOD FRM, OCC FRM, OCC FRI, V/FN TO FN XLN, CHNKY, SM BLKY, OCC GLAUC, NO VIS STAIN, NO ODOR, TR XLN POR, TR LAM SH: GY TO LT GY, MOD FRM, V/FN TO SLTY TXT, CHNKY TO PLTY, NON CALC, TR MICRO MICA, OCC STRW TO PALE YEL FLOR, NO VIS CUT



WORK ON PUMP

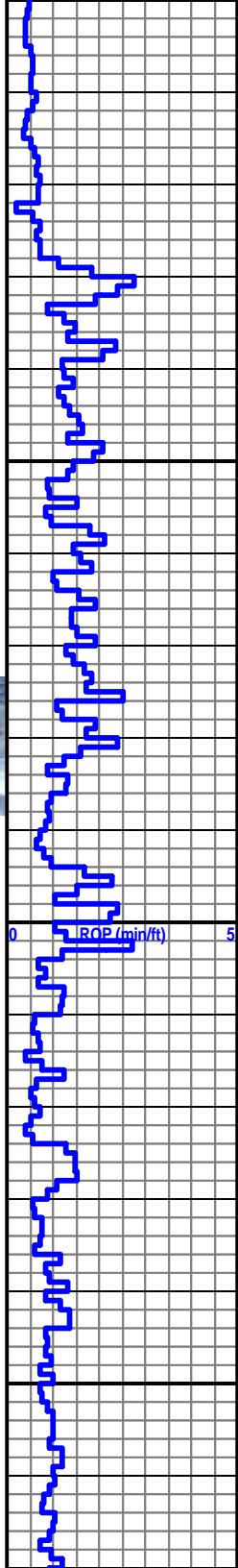
WOB- 28K
RPM- 100
PP- 900
SPM- 59

07/25/2014

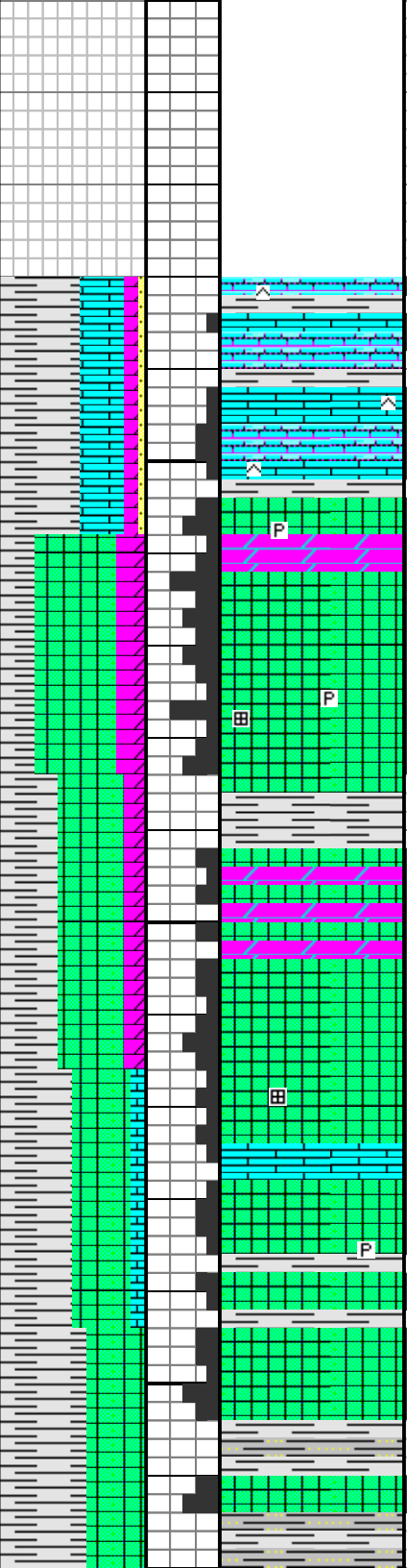
MWT 9.9

RIG REPAIR ::
WORK ON
ROTARY TABLE

WOB- 25K
RPM- 90
PP- 800
SPM- 52



2500
2550
2600
2650



NO SAMPLE CAUGHT

LS: OFF WHT, SM LT GY, SCAT GY, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, CHNKY, SM BLKY, OCC PLTY, TR DOLC CMT, OCC SIL CMT IP, NO VIS STAIN, NO ODOR, SM XLN POR, OCC HL FRAC POR, OCC STRW FLOR, NO VIS CUT

SALT: OFF WHT, SM LT GY, TR DK GY, OCC TO TR CLR TO TRNSP, MOD SFT TO MOD FRM, V/FN TO FN XLN, CHNKY, SM BLKY, OCC LRG CLR CUBIC HALITE, OCC PYR INC, NO VIS STAIN, NO ODOR, TR XLN POR, OCC VUG POR, TR DULL YEL FLOR, NO VIS CUT

MUD PUMP DOWN :: PULL UP INTO SURFACE CASING TO REPLACE MUD PUMP @ 2601'

+++++

SALT: OFF WHT, SM LT GY, OCC DRK GY, OCC CLR TO TRNSL, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, CHNKY, SM BLKY, OCC PYR INC, NO VIS STAIN, NO ODOR, OCC XLN POR, OCC VUG POR, OCC DULL YEL FLOR, NO VIS CUT

SALT: OFF WHT, SM LT GY, OCC GY, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, CHNKY, SM BLKY, NO VIS STAIN, NO ODOR, TR XLN POR, OCC HL FRAC POR, OCC DULL YEL FLOR, NO VIS CUT

KD

KD

CON GAS 19 UNITS

KD

-10

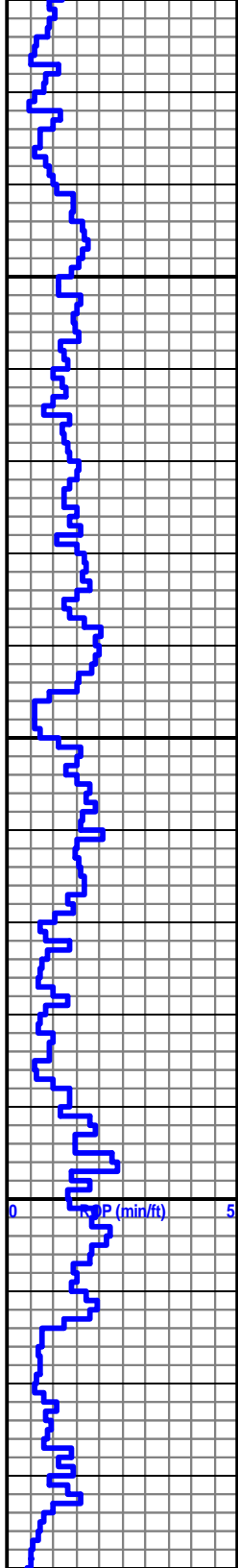
Cato Exploration :: SHAY #1

80

KD

KD

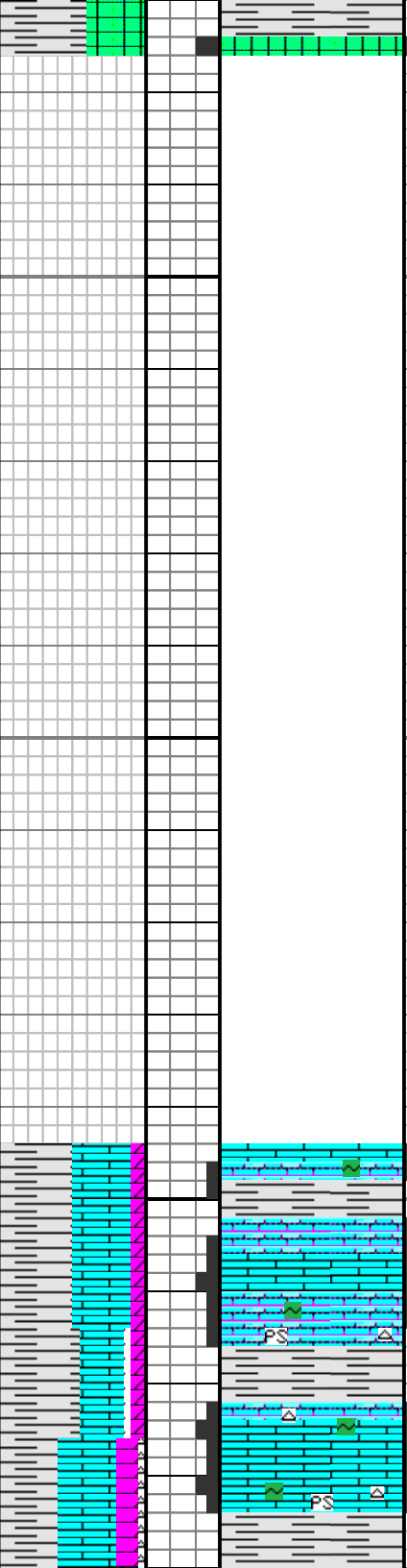
WOB- 32K
RPM- 80
PP- 800
SPM- 58



2700

2750

2800



NO SAMPLE CAUGHT

CHASE @ 2691' MD

NO SAMPLE CAUGHT

NO SAMPLE CAUGHT

NO SAMPLE CAUGHT

LS: OFF WHT, TR LT GY, OCC GY, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, CHNKY, SM BLKY, OCC DOLC CMT, OCC GLAUC, NO VIS STAIN, NO ODOR, TR XLN POR, OCC VUG POR, TR PALE YEL FLOR, NO VIS CUT

LS: OFF WHT, SM LT GY, OCC GY, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, CHNKY, SM BLKY, OCC DOLC CMT, OCC GLAUC, OCC WHT HRD CRYPTO XLN ANG CHRT, OCC PCKSTN, NO VIS STAIN, NO ODOR, TR XLN POR, OCC VUG POR, SCAT PALE YEL TO STRW FLOR, NO VIS CUT

LS: OFF WHT, SM LT GY, TR GY, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, CHNKY, SCAT BLKY, OCC PLTY, TR DOLC CMT, OCC WHT HRD MIC XLN ANG CHRT, OCC GLAUC, OCC PCKSTN, TR XLN POR, OCC VUG POR, TR PALE YEL

KD

KD

KD

KD

KD

KD

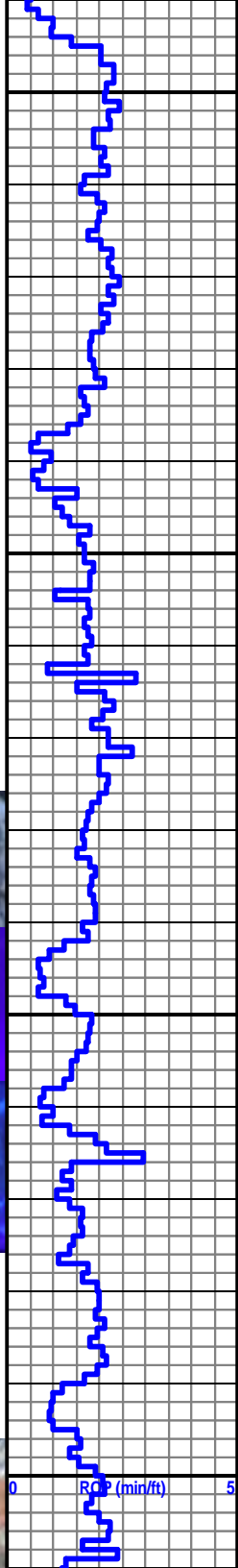
Cato Exploration :: SHAY #1

FM GAS 19 UNITS

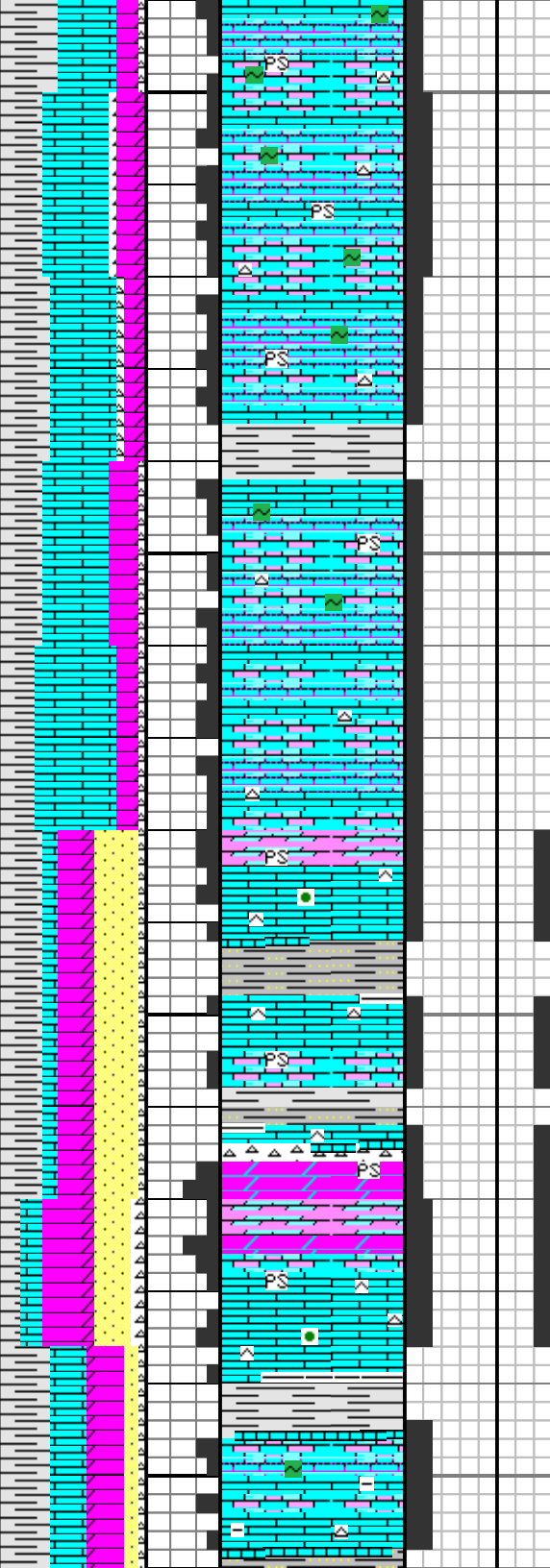
80

07/26/2014

WOB- 30K
RPM- 80
PP- 700
SPM- 54



2850
2900
2950
3000



FLOR, NO VIS CUT

LS: LT GY, SM GY, OCC OFF WHT, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, CHNKY, SM BLKY, OCC PLTY, OCC DOLC CMT, OCC ARG, OCC GLAUC, OCC OFF WHT TO WHT HRD MIC XLN ANG CHRT, OCC PCKSTN, TR XLN POR, SCAT PALE YEL FLOR, NO VIS CUT

LS: LT GY, SM GY, OCC OFF WHT, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, CHNKY, SM BLKY, TR PLTY, OCC DOLC CMT, OCC GLAUC, OCC WHT TO OFF WHT HRD MIC XLN ANG CHRT, OCC PCKTN, SM XLN POR, TR PALEYEL FLOR, NO VIS CUT

LS: OFF WHT, SM LT GY, TR GY, MOD SFT TO MOD FRM, TR FRM, V/FN TO FN XLN, CHNKY, SM BLKY, OCC PLTY, OCC DOLC CMT, OCC GLAUC, OFF WHT TO OFF WHT HRD MIC XLN ANG CHRT, TR PCKSTN, SCAT XLN POR, TR PALEYEL FLOR, NO VIS CUT

LS: GY, SM LT GY, TR OFF WHT, MOD FRM TO MOD SFT, OCC FRM, V/FN TO FN XLN, CHNKY, SM BLKY, TR DOLC CMT, OCC OFF WHT TO WHT HRD MIC XLN ANG CHRT, TR PCKSTN, TR XLN POR, TR PALE YEL FLOR, NO VIS CUT

LS: TAN, GY TO LT GY, TR TO OCC WHT TO OFF WHT MOTT, TR DK GY MOTT, FRM, TR HRD, SM BRTL, V/FN XLN, MSTLY PACKST, MSTLY SIL, TR ARG, SM INTRBD DOLO W/TR LAM, TR WHT TO GYSH/WHT SHRP ANG CHAL CHRT W/OCC SPIC, OCC QRTZ OVRGRWTH, OCC V/DK ASPHLTC STAIN ALONG FRAC, NO ODOR, TR XLN POR, SCAT FRAC POR W/SM HAIRLINE, OCC PP POR, SCAT LAM SH: GY TO LT GY, MOD FRM, FN TO SLTY TXT, DULL LSTR, CHNKY TO PLTY, NON CALC, TR MICRO MICA, TR TO SCAT DK YEL W/OCC YEL FLOR, WK MLKY STRW CUT W/10% HCL, WK SPTY PAL

COUNCIL GROVE @ 2995'

+++++
(-335')

LS: OFF WHT TO LT CRM, OCC WHT, OCC TO TR V/LT GY MOTT, MOD FRM, OCC FRM, TR CRMBLY, V/FN TO FN XLN, PLTY, SM CHNKY, TR SIL, SCAT

MWT 9.5
VIS 35

FM GAS 18 UNITS

KD

KD

KD

KD

CON GAS 21 UNITS

MWT 9.5
VIS 31

TEST GAS @ TRAP

KD

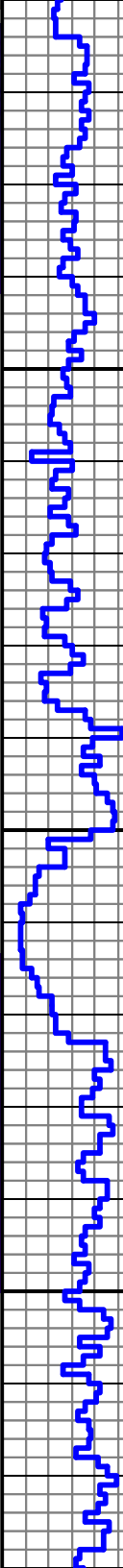
-10

Cato Exploration :: SHAY #1

80

WOB-30K
RPM-80
PP-700
SPM-54

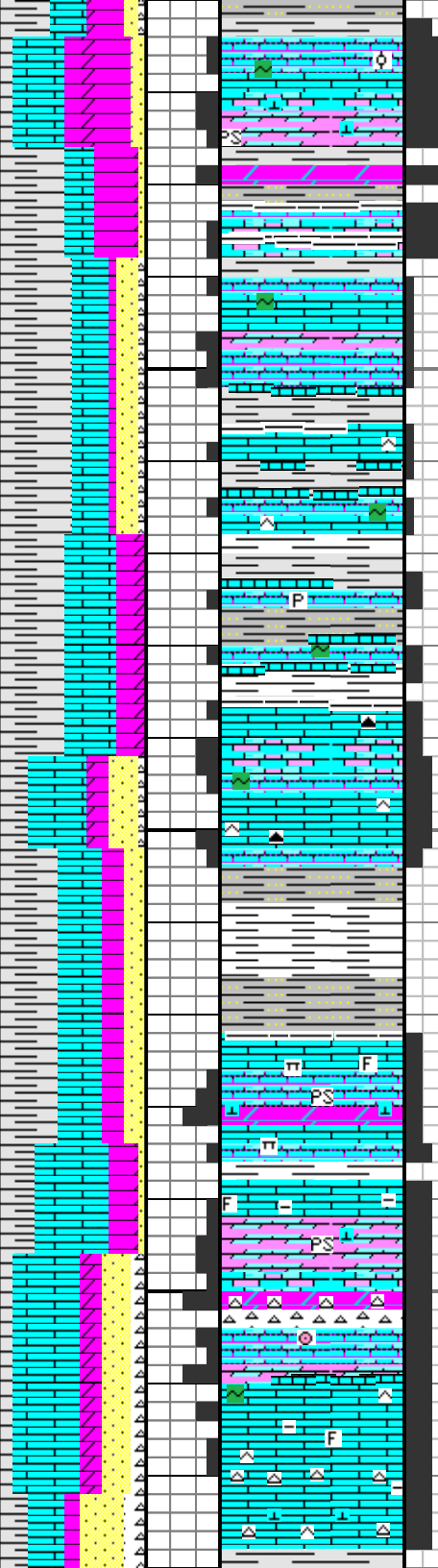
WORK ON MUD
PUMP



3050

3100

3150



DOLC CMT, SCAT INTRBD DOLO, TR GLAUC, OCC WHT CALCITE FL, OCC MIN PYR INC., OCC OOLTC, OCC WHT ANG CHAL CHRT, OCC V/DK BRN SPOT STAIN, NO ODOR, SCAT XLN POR, TR FN TO HAIRLINE FRAC, SM LAM SH: GY TO TR LT GY, OCC GRNSH/GY, TR MOD FRM, SM BRTL, V/FN TXT, TR SLTY IP, PLTY, TR CHNKY, NON CALC, SCAT V/DULL YEL FLOR, TR V/WK MLKY WHT CUT W/10% HCL, THIN FAINT BLU RES RING

LS: CRM TO LT CRM, SM OFF WHT, OCC WHT, TR GY TO LT GY MOTT, MOD FRM, TR FRM, MSTLY BRTL, V/FN TO MICRO XLN, BLKY, TR PLTY, TR CHNKY, SCAT DOLC CMT, TR ARG, DECRSE SIL, TR INTRBD DOLO, SCAT GLAUC, OCC MIN PYR INC., NO VIS STAIN, NO ODOR, TR XLN POR, SCAT FRAC POR W/HAIRLINE, TR DULL YEL TO TR DK YEL FLOR, NO VIS CUT

LS: CRM TO LT CRM, SM OFF WHT, OCC WHT, TR GY TO LT GY MOTT, MOD FRM, TR FRM, MSTLY BRTL, V/FN TO MICRO XLN, BLKY, TR PLTY, TR CHNKY, SCAT DOLC CMT, TR ARG, SCAT SIL, TR INTRBD DOLO, SCAT GLAUC, OCC THN BDD DK CHAL CHRT, NO VIS STAIN, N OODOR, TR XLN POR, SCAT FRAC POR W/HAIRLINE, LAM SH: LT GY TO GRNSH/GY, ORNG TO RDSH/ORNG, MOD SFT, OCC MSHY, CHNKY, V/FN TXT, DULL LSTR, SCAT DULL YEL FLOR, TR V/WK MLKY STRW CUT W/10% HCL, NO VIS RES RING

ADMIRE @ 3123'

(-463')

+++++
LS: TAN TO LT TAN, TR DK CRM, TR TO SCAT OFF WHT, OCC WHT, FRM, SM BRTL, V/FN XLN, TR FN XLN, SCAT PACKST, CHNKY, TR PLTY, SM ARG, TR SIL, TR DOLC CMT, TR INTRBD DOLO, TR MRL, TR CALCITE FL, OCC TO TR FOSS FRAGS, NO VIS STAIN, NO ODOR, TR XLN POR, SCAT TO SM HAIRLINE FRAC, OCC MOLDC POR, TR TO SCAT DULL YEL TO OCC YEL FLOR, V/WK TO WK MLKY STRW CUT W/10% HCL, WK TO MOD FR SPTTY PALE YEL RES RING

LS: OFF WHT TO V/LT TAN, OCC WHT, SCAT CRM

KD
KD
KD
KD
KD
KD
KD
KD
KD
KD

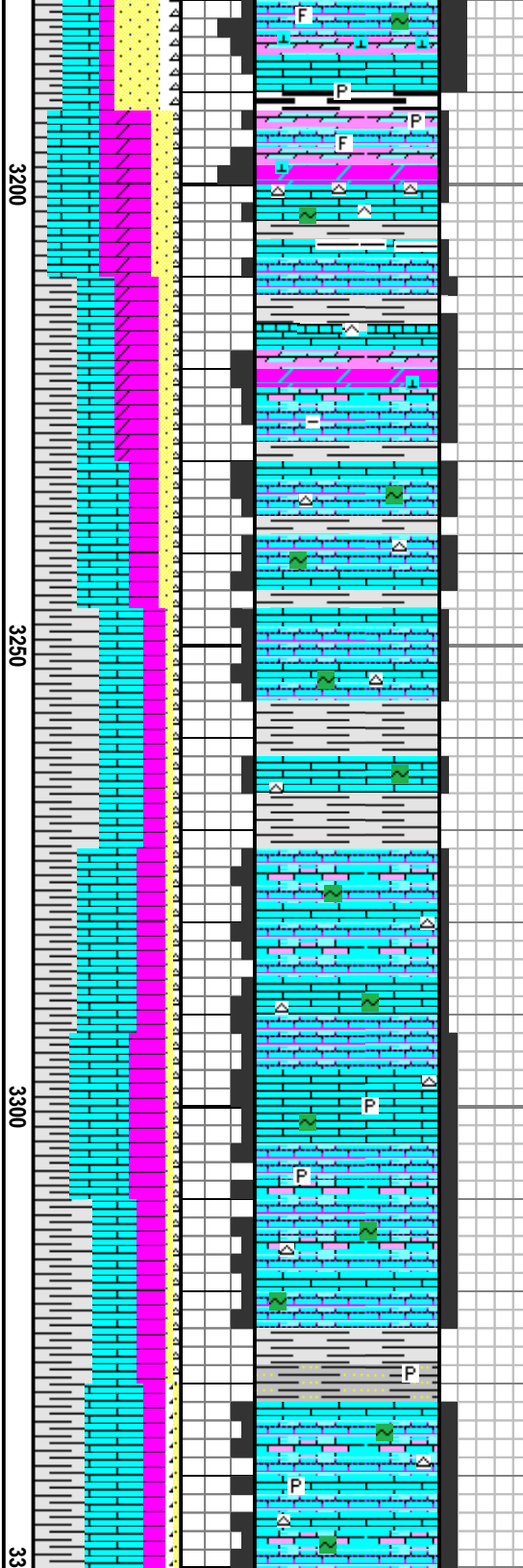
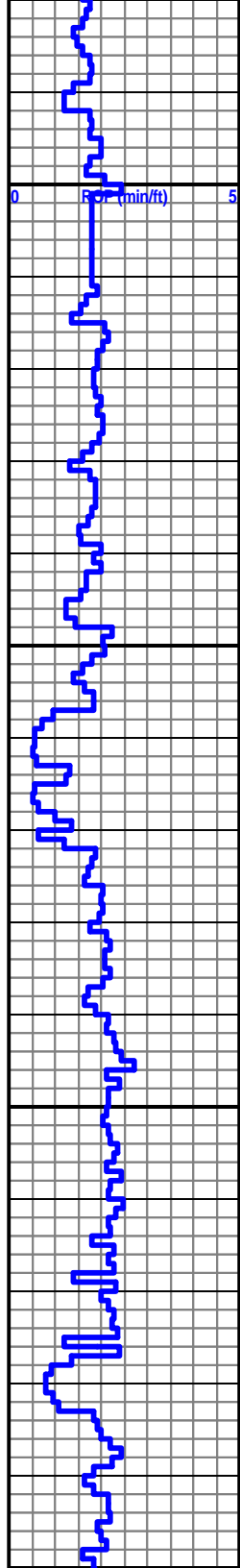
MWT 9.5
VIS 32

FM GAS 21 UNITS

V/ DULL PALE YEL FLOR,
FAINT MLKY CUT W/10% HCL

DID NOT KICK
GEOLOGRAPH IN
AFTER
CONNECTION

WOB-40K
RPM-70
PP-800
SPM-58



TO DK CRM, SCAT GYSH MOTT, FRM TO SM MOD
FRM, SM BRTL, V/FN XLN, SCAT MICRO XLN, OCC
PACKST, PLTY, SCAT BLKY, SM SIL, OCC DOLC
CMT, TR INTRBD DOLO, TR WHT TO OFF WHT
SHRP ANG CHAL CHRT W/OCC SPIC, TR TO
SCAT CHNKY CALCITE FL, TR PYRC, OCC
GLAUC, TR TO OCC FOSUS, NO VIS STAIN, NO
ODOR, TR VUG POR, TR XLN POR, SCAAT FRAC
POR, TR LAM SH: GY TO LT GY, TR ORNG, MSTLY
SFT TO MOD SFT, TR MSHY, DULL LSTR, NON
CALC, TR TO SCAT DULL YEL TO TR PALE YEL
FLOR, NOCUT

LS: LT GY, SM GY, SCAT GYSH MOTT, TR OFF
WHT, MOD FRM TO FRM, SM MOD SFT, V/FN XLN,
TR MIC XLN, OCC PCKSTN, PLTY, SM BLKY, SCAT
CHNKY, TR SIL CMT, OCC DOLC CMT, OCC WHT
TO OFF WHT HRD MIC XLN ANG CHRT, OCC
GLAUC, NO VIS STAIN, NO ODOR, SM XLN POR,
OCC VUG POR, TR PALE YEL FLOR, NO VIS CUT

LS: GY, SM LT GY, SCAT LT GYSH MOTT, OCC
OFF WHT, MOD FRM TO FRM, TR MOD SFT, V/FN
TO FN XLN, TR MIC XLN, OCC PCKSTN, CHNKY,
SM BLKY, SCAT PLTY, TR SIL, OCC DOLC CMT,
OCC WHT HRD MIC XLN ANG CHRT, OCC GLAUC,
NO VIS STAIN, NO ODOR, SM XLN POR, OCC
VUG POR, TR PALE YEL TO YEL FLOR, NO VIS
CUT

LS: LT GY, SM GY, OCC OFF WHT, OCC LT GY
MOTT, MOD FRM TO FRM, OCC MOD SFT, V/FN TO
FN XLN, OCC PCKSTN, CHNKY, SM BLKY, OCC
SIL, OCC DOLC CMT, OCC WHT HRD MIC XLN
ANG CHRT, OCC GLAUC, OCC PYR INC, NO VIS
STAIN, NO ODOR, SM XLN POR, OCC VUG POR,
TR PALE YEL FLOR, NO VIS CUT

-10 KD 80

KD

KD

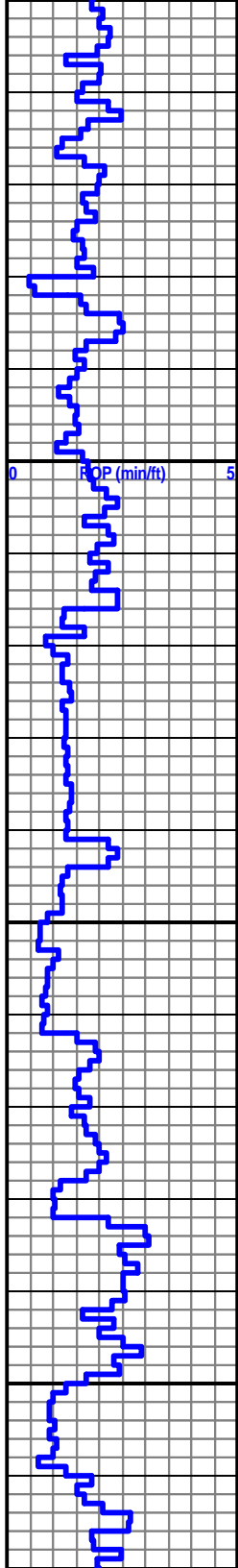
KD

KD

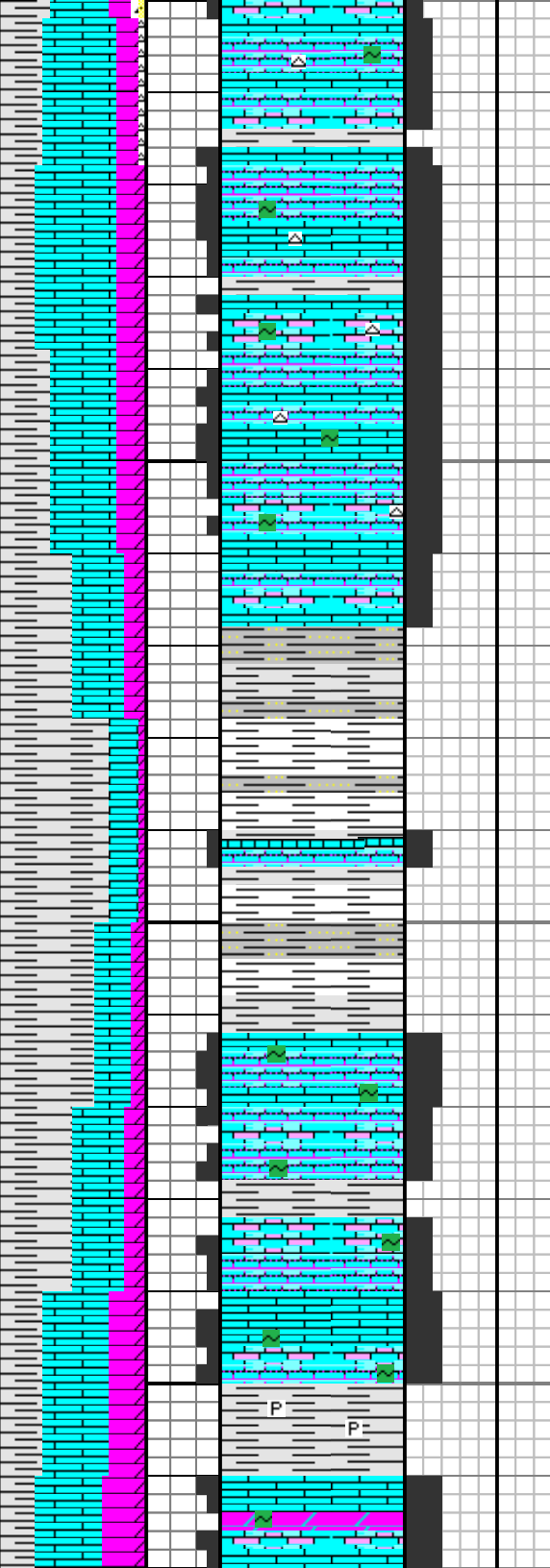
Geo Exploration :: SHAY #1

MUD CK @ 3262'
WT 9.2
VIS 33
PH 7.0
CHL 18,500
CAL HVY
SOL 5.4%
WTR 94.6%
LCM 1#

WOB- 35K
RPM- 70
PP- 650
SPM- 50



50
3400
3450
3500



LS: LT GY, SM OFF WHT, SCAT GY, SCAT GY/BLK MOTT, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, OCC PCKSTN, CHNKY, SM BLKY, OCC DOLC CMT, OCC OFF WHT HRD MIC XLN ANG CHRT, OCC GLAUC, NO VIS STAIN, NO ODOR, TR XLN POR, OCC VUG POR, SCAT PALE YEL FLOR, NO VIS CUT

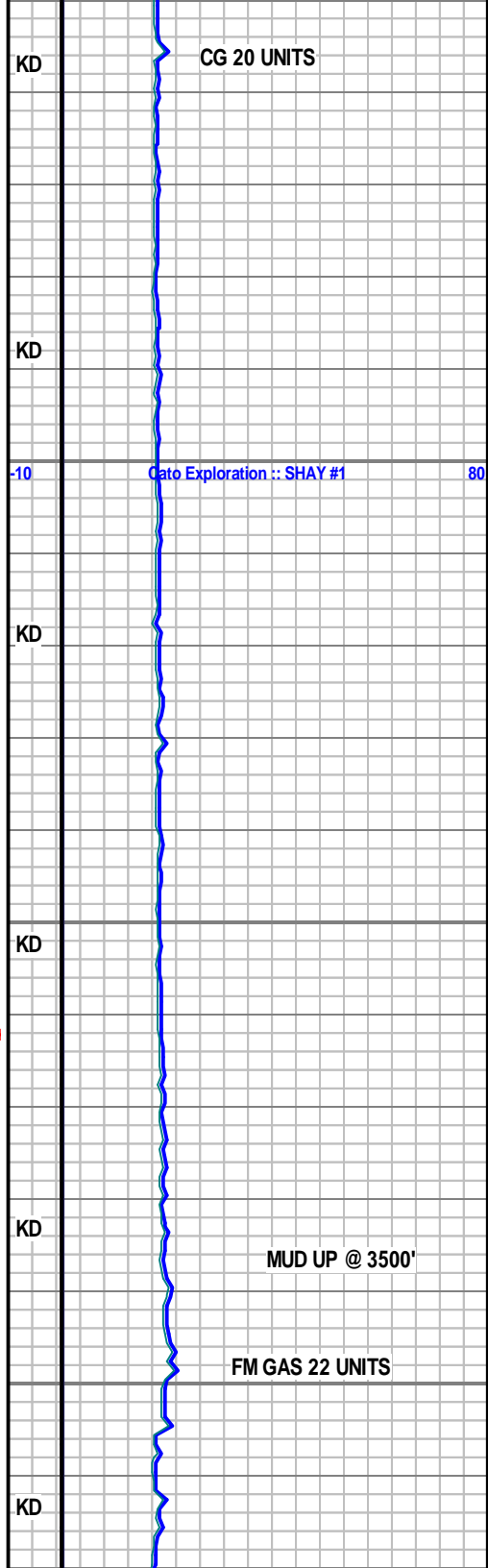
LS: LT GY, SM OFF WHT, TR GY, MOD SFT TO MOD FRM, OCC SFT, OCC FRM, V/FN TO FN XLN, OCC PCKSTN IP, CHNKY, SM PLTY, TR BLKY, OCC DOLC CMT, OCC OFF WHT TO WHT HRD MIC XLN ANG CHRT, OCC GLAUC, NO VIS STAIN, NO ODOR, SM XLN POR, TR VUG POR, SCAT PALE YEL TO YEL FLOR, NO VIS CUT

SH: ORNG, SM DRK GY, SCAT GY, OCC LT GY, MOD SFT, TR SFT, TR BRTL, V/FN TO FN TXT, DULL LSTR, BLKY, SM CHNKY, NON CALC, OCC SLTY IP, TR LS: OFF WHT TO WHT, SM LT GY, SM GY, MOD SFT TO MOD FRM, OCC FRM, V/FN TO FN XLN, OCC PCKSTN IP, CHNKY, SM BLKY, TR PLTY, OCC DOLC CMT, NO VIS STAIN, NO ODOR, SM XLN POR, OCC VUG POR, TR PALE YEL TO YEL FLOR, OCC STRW FLOR, NO VIS CUT

WABUNSEE @ 3462'
(-802')

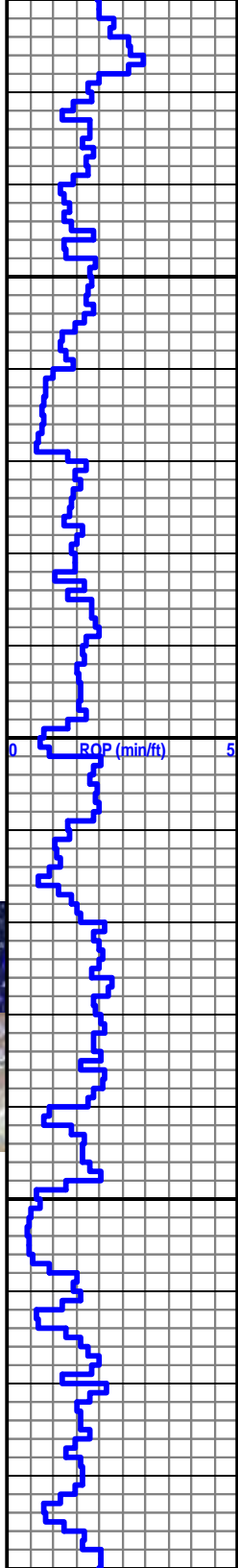
LS: OFF WHT, SM LT GY, OCC GY, MOD SFT TO MOD FRM, OCC SFT, V/FN TO FN XLN, CHNKY, SM BLKY, OCC PLTY, OCC DOLC CMT, OCC GLAUC, NO VIS STAIN, NO ODOR SM XLN POR, OCC VUG POR, TR PALE YEL FLOR, NO VIS CUT

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



07/27/2014

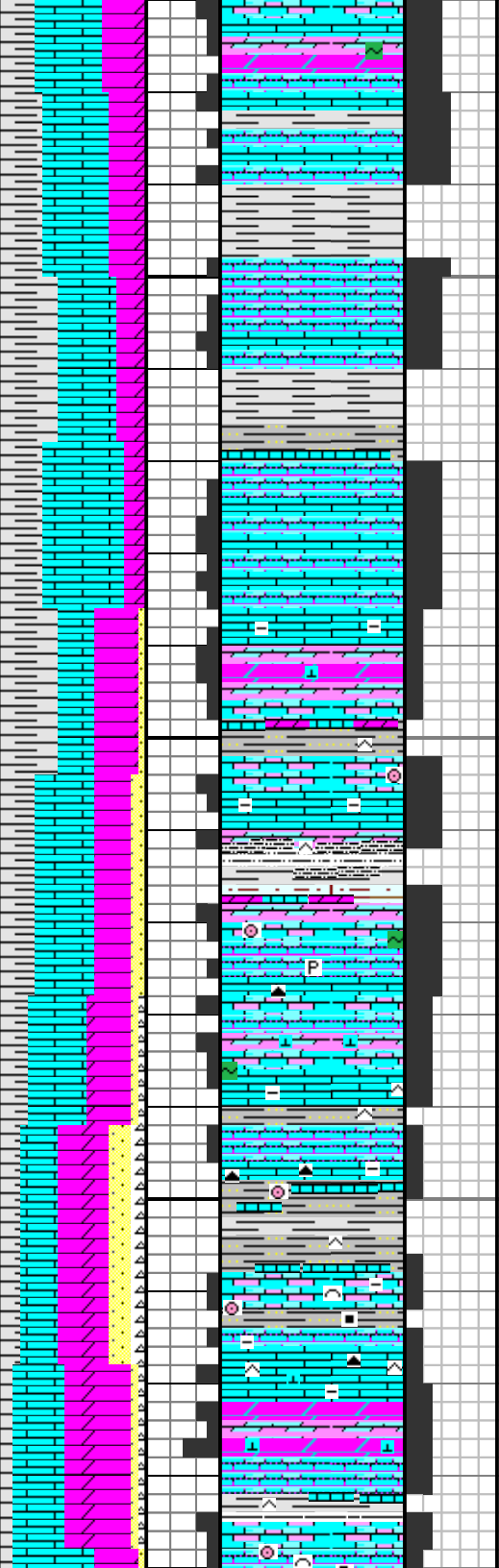
WOB- 35K
RPM- 80
PP- 850
SPM- 56



3550

3600

3650



YEL FLOR, NO VIS CUT

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

TOPEKA @ 3569'

(-909')

+++++

LS: LT CRM, SM LT TN, SM LT TN MOTT, TR LT GY, OCC LT GY MOTT, MOD SFT TO MOD FRM, OCC FRM, CHNKY, SM BLKY, TR PLTY, TR DOLC CMT, OCC GLAUC, NO VIS STAIN, NO ODOR, SM XLN POR, OCC VUG POR, SCAT PALE YEL TO YEL FLOR, NO VIS CUT

LS: OFF WHT, SCAT CRM TO DK CRM, TR TAN, OCC GYSH TO BRN MOTT, MOD FRM, SCAT FRM, OCC CRMBLY, V/FN TO TR MICRO XLN, BLKY/CHNKY, SM PLTY, SM ARG, TR DOLC CMT, TR WELL IND, SCAT INTRBD DOLO, TR OPQ CALCITE FL W/OCC DRSY EUHED, OCC GLAUC, OCC CRIN FRAGS, OCC ASPHLT ALONG FRAC, SM HAIRLINE FRAC, TR PP TO OCC VUG POR, TR LAM SH: GY TO TR LT GY, SCAT DK GY, SCAT SFT, SM FRM, TR MSHY, FN TO SLTY TXT, DULL LSTR, BLKY, TR CHNKY, TR CALC, TR SLTST W/SCAT WELL IND, SM SIL, SCAT DULL YEL/YEL FLOR, NO CUT

LS: CRM TO DK CRM, SCAT TAN TO LT TAN, TR TO SCAT OFF WHT TO WHT, FRM TO SM MOD FRM, TR CRMBLY, V/FN TO MICRO XLN, TR FN XLN, BLKY TO PLTY, SCAT CHNKY, SM ARG, INCRSE DOLC CMT, TR SIL, SM INTRBD DOLO, TR DK V/HRD WHT MOTT CHAL CHRT, OCC OPQ EUHED DRSY CALCITE, OCC GLAUC, OCC BIOCLST W/CRIN, NO VIS STIAN, NO ODOR, SCAT FRAC TO HAIRLINE FRAC, TR FN VUG TO PP POR, TR LAM SH: DK GY TO SM GY, SM HRD, BRTL, FN TO SLTY TXT, DULL LSTR, BLKY, TR SIL, OCC CRIN, SCAT TO TR DK YEL FLOR, NO

MWT 8.6
VIS 46

KD

KD

-10

KD

KD

KD

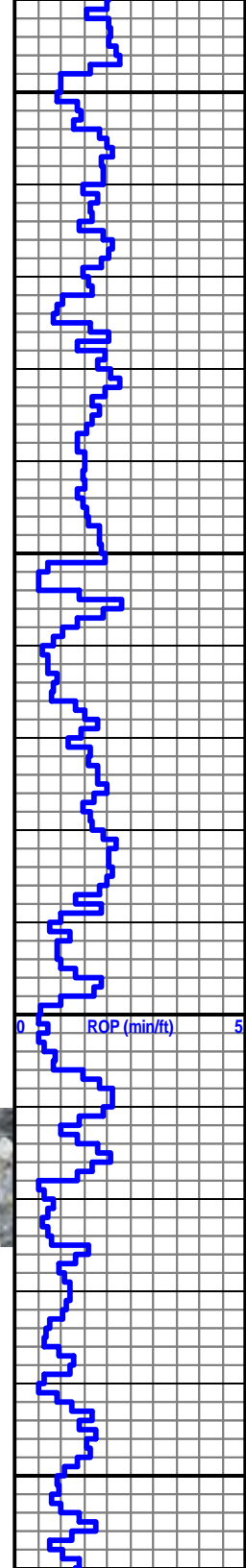
Sato Exploration :: SHAY #1

80

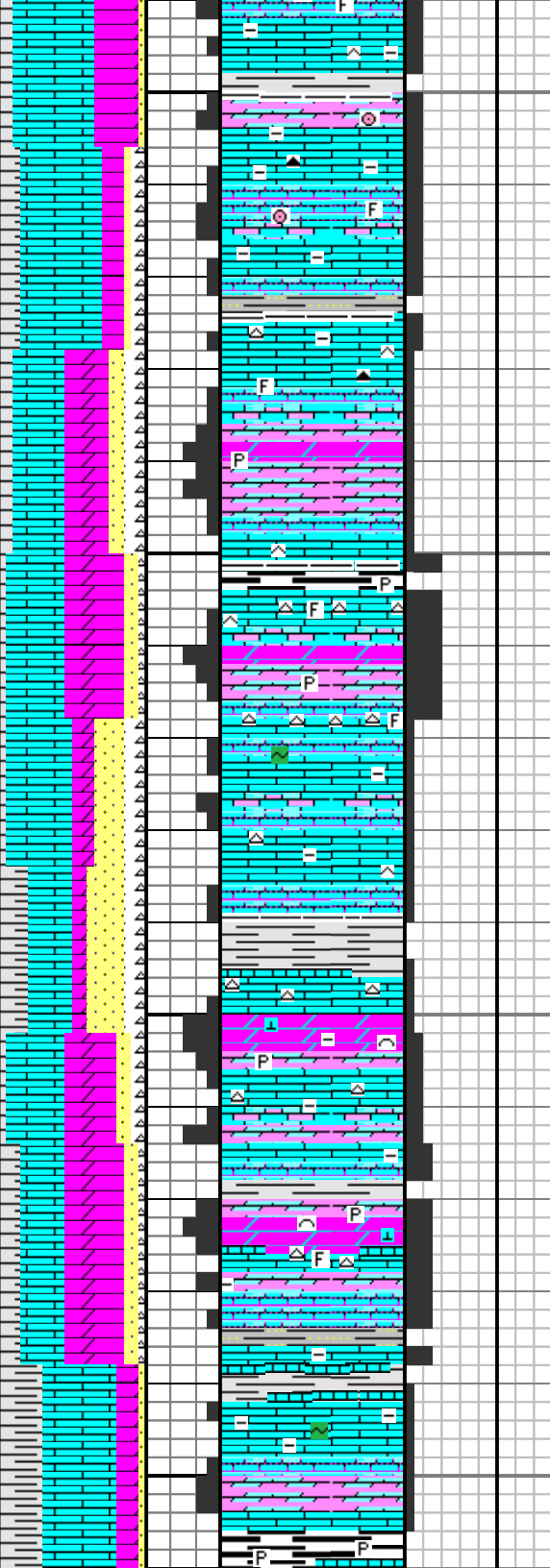
SCAT V/DULL YEL
FLOR, NO CUT



WOB-35K
RPM-80
PP-850
SPM-56



3700
3750
3800
3850



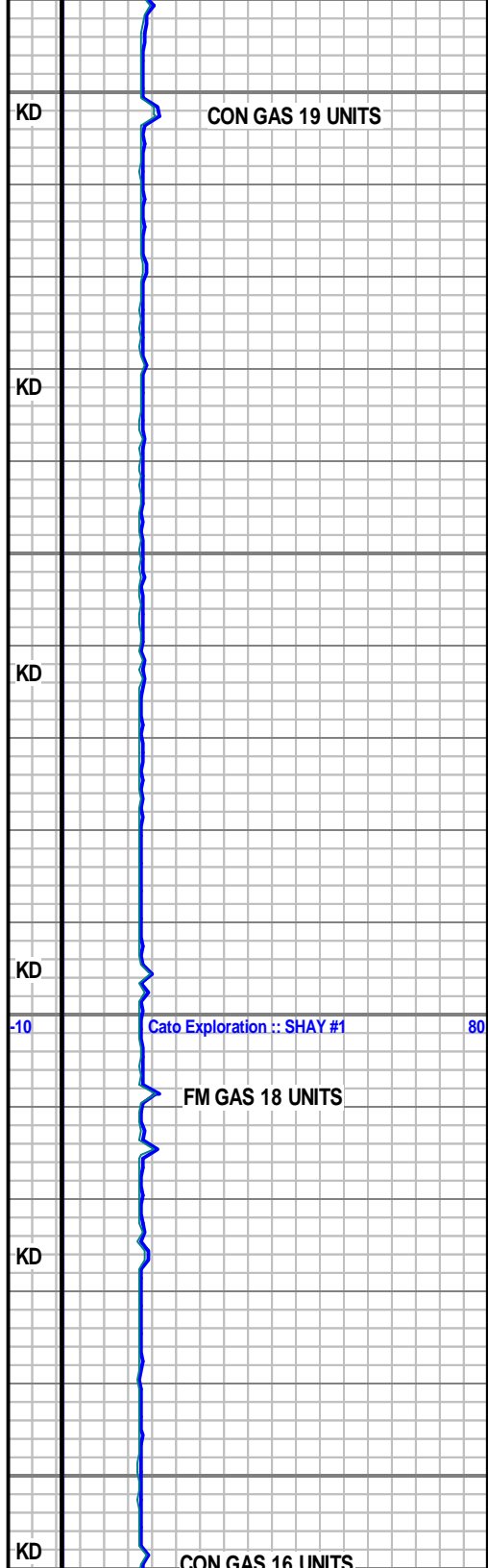
VIS CUT

LS: CRM, SCAT TAN, SM TO SCAT OFF WHT, TR BRN MOTT, FRM TO SM MOD FRM, BRTL, FN TO V/FN XLN, BLKY, SM CHNKY, DECRSING ARG, SM DOLC CMT, INCRSING INTRBD/LAM DOLO, TR GY TO WHT SHRP ANG CHAL CHRT W/TR TAN MOTT, OCC MIN PYR INC., OCC FOSS FRAGS W/OCC CRIN, TR DK SPOT STAIN, NO ODOR, SCAT XLN POR, SM HAIRLINE TO FN FRAC, TR DK YEL TO DULL YEL FLOR, NO VIS CUT

LS: OFF WHT TO TR WHT, SM V/LT CRM, TR CRM, TR GYSH/TAN MOTT, FRM TO TR HRD, MICRO TO SM V/FN XLN, TR WELL IND, MSTLY BLKY, TR PLTY, TR CHNKY, SM DOLC CMT, TR ARG, INCRSE SIL, TR INTRBD DOLO, OCC GLAUC, OCC MIN PYR INC., SCAT OPQ TO OFF WHT SHRP ANG CHAL CHRT W/TR FOSUS W/OCC SPIC, NO VIS STAIN, NO ODOR, SCAT FRAC POR, OCC XLN POR, SCAT DULL TO V/DULL YEL FLOR, NO VIS CUT

LS: V/LT CRM TO OFF WHT, SCAT CRM, INCRSE GYSH, SCAT OFF WHT, OCC WHT, SM MOD FRM, SCAT CRMBLY, SM MICRO XLN, SM V/FN TO FN XLN, CHNKY, TR BLKY, SCAT ARG, TR SIL, SM DOLC CMT, SM INTRBD/LAM DOLO, TR CALCITE FL, TR WHT TO OFF WHT ANG CHAL CHRT, OCC MIN PYR INC., OCC GLAUC, TR BIOCLST W/DOLC MTX, TR SH PRT, TR DK SPOT STAIN, OCC ASPHLT, NO ODOR, SCAT XLN POR, SCAT FRAC POR, OCC PP/MOLDIC POR, SCAT DULL YEL TO OCC DULL PALE YEL FLOR, NO VIS CUT

HEEBNER @ 3856'
(-1196')



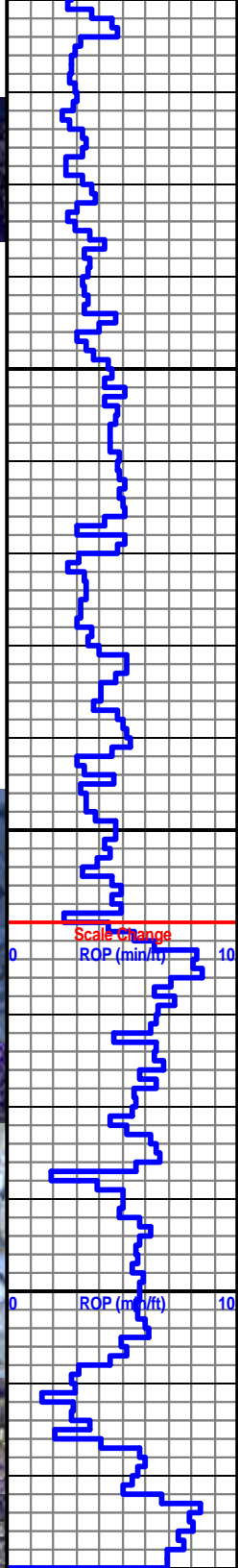
WOB-40K
RPM-70
PP-900
SPM-60



DEV. SURVEY @
3960'
DEV. 1.0°

WOB-5K
RPM-60
PP-300
SPM-46

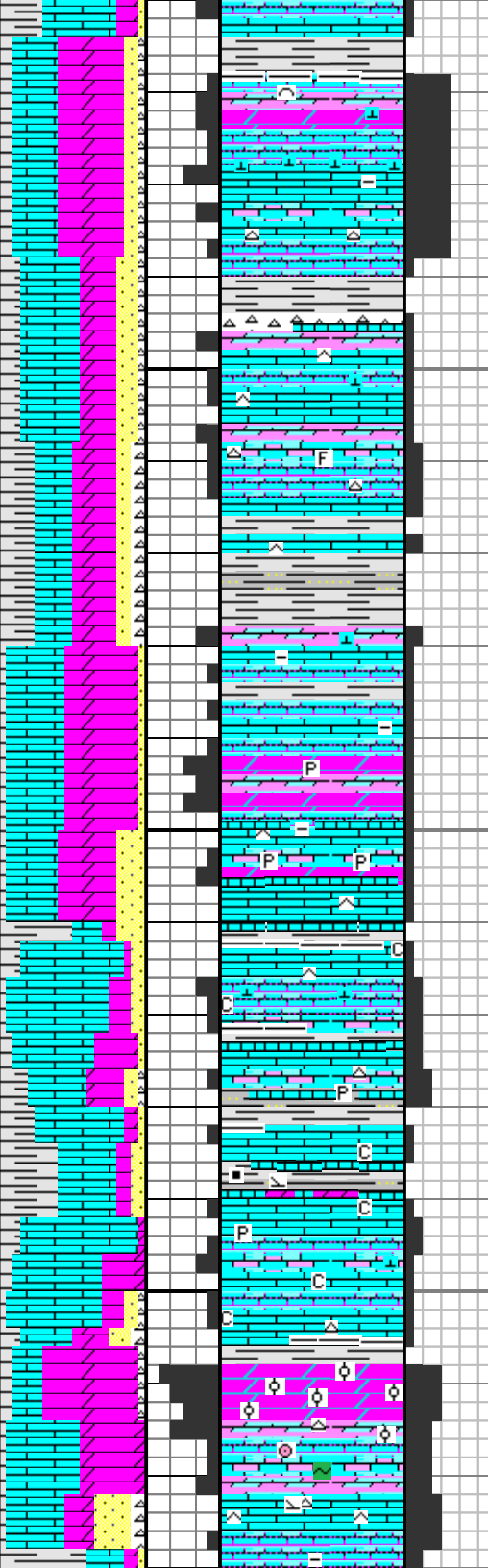
07/28/2014



3900

3950

4000



TORONTO @ 3869'

(-1219')

LS: OFF WHT TO WHT, SCAT LT CRM, TR V/LT CRM, SCAT LT GY MOTT, MOD FRM, MSTLY BRTL, TR CRMBLY, V/FN TO SM FN XLN, TR MICRO XLN, SCAT DOLC CMT, TR ARG, SM INTRBD/LAM DOLO, TR DRSY OPQ EUHED/SPRRY CALCITE, OCC GY/WHT MOTT ANG CHAL CHRT, TR BIOCLST W/MED TO FN XLN MTX, NO VIS STAIN, NO ODOR, SCAT XLN POR, TR VUG POR, TR FRAC POR, SCAT TO SM YEL TO PALE YEL FLOR, V/FAINT MLKY CUT, V/FAINT THN RES RING

LANSING @ 3894'

(-1234')

LS: LT CRM, SCAT CRM, TR OFF WHT TO WHT, OCC TAN TO BRN MOTT, FRM TO TR HRD, BRTL, MICRO TO SCAT V/FN XLN, MSTLY BLKY, TR CHNKY, OCC CHLKY, INCRSING DOLC CMT, SM SIL, TR RDSH TO WHT SHRP ANG CHRT, OCC DRSY EUHED CALCITE, OCC FOSS FRAGS, OCC DK BRN SPOT STAIN, TR PP TO VUG POR, TR XLN POR, SM FRAC POR W/SCAT HAIRLINE, OCC LAM GY TO DK GY V/FN TXT FRM PLTY SH, TR TO OCC DULL YEL FLOR, NO VIS CUT

TOH FOR CORING TOOLS : CORE BIT #1: 7 7/8" : DB: SERIAL# 3893: 6.5" BARREL: IN @ 3960'

LS: WHT TO OFF WHT, TR TO INCRSING CRM TO DK CRM, TR LT TAN MOTT, OCC BRN MOTT, MSTLY FRM TO MOD FRM, SM SFT, SCAT MSHY, V/FN TO MICRO XLN, SM CHLKY, CHNKY, SM PLTY TO BLKY, TR DOLC CMT, TR TO OCC INTRBD DOLO, OCC CALCITE FL, OCC PYRC, OCC OPQ ANG CHRT, NO VIS STAIN, NO ODOR, SCAT TO SM HAIRLINE FRAC, OCC PP POR, TR THN BDD GY GRNSH RDSH SM SLTY MOD SFT SH, TR DULL YEL TO DK YEL FLOR, NO VIS CUT

LS: WHT TO OFF WHT, TR TAN TO CRM, OCC TO TR GYSH MOTT, MSTLY MOD SFT TO SFT, TR FRM, TR BRTL, MSTLY CHNKY, TR MICRO TO OCC V/FN XLN, CHNKY, TR BLKY/PLTY, OCC TAB, TR DOLC CMT, SCAT ARG, OCC INTRBD DOLO, OCC GLAUC, OCC MIN PYR INC., OCC PLTY CALCITE FL, TR DK BRN TO BLK/BRN STAIN ALONG FRAC, NO ODOR, SCAT HAIRLINE FRAC, OCC XLN POR, TR LAM GY TO DK GY BLK TR FISS CARB SH, OCC DULL YEL TO DK YEL FLOR, NO VIS CUT

DOLO: LT BRN TO BRN, TR DK CRM, OCC OFF WHT, FRM TO MOD FRM, TR V/FRM, MSTLY BRTL, FN TO V/FN XLN, SM WEL IND, CHNKY, MSTLY CALC CMT, SM LAM LS W/SCAT SIL, OCC OPQ/RDSH CHAL CHRT NOD W/OCC FERR CTG, OCC GLAUC, ABNDNT OOLTIC W/OCC CRIN FRAG, OCC BRN SPOT STAIN, NO ODOR, ABNDNT MOLDIC POR, TR FN TO HAIRLINE FRAC POR, OCC XLN POR, SCAT DULL TO V/DULL YEL FLOR W/OCC DULL PALE YEL, NO VIS CUT

KD

KD

KD

KD

-10

KD

MUD CK @ 3960'
WT 8.9
VIS 51
PV 16
YP 12
GEL 8/29
PH 10.5
WL 5.6
CK 1.0
CHL 3200
CAL 10
SOL 4.2%
WTR 95.8%
LCM 1#
ECD 9.34

FM GAS 22 UNITS

TRIP GAS 22 UNITS

TR DULL PALE YEL FLOR, WOB-5K RPM-60 PP-300 SPM-46

YEL TO DK YEL FLOR

WOB-8/10K

FM GAS 26 UNITS

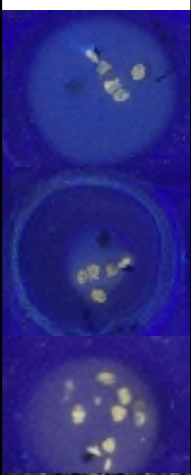
DULL YEL TO OCC V/DULL PALE YEL FLOR,

Cato Explora

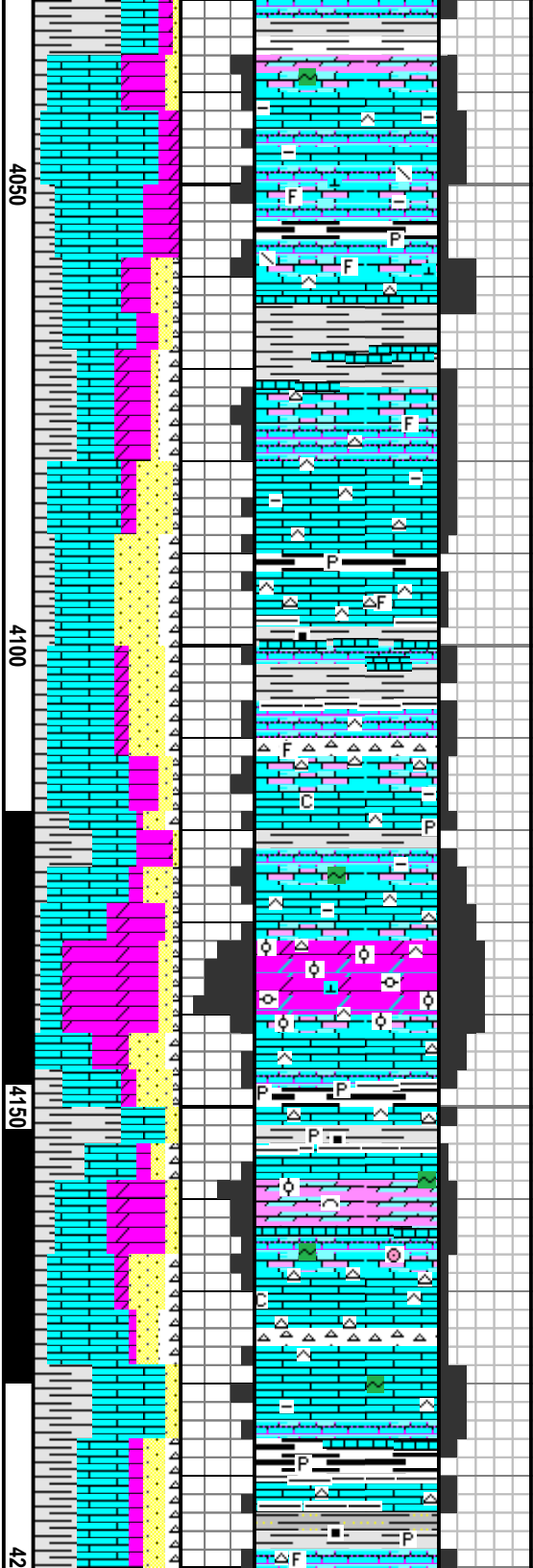
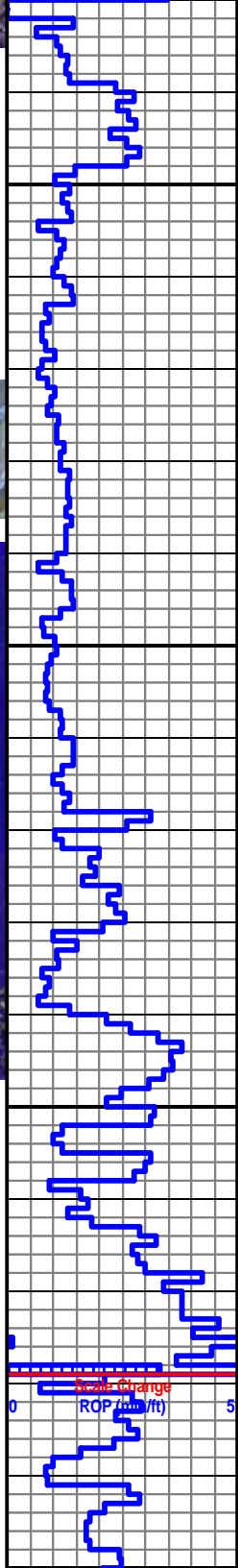
80

07/29/2014

WOB-30K
RPM-60
PP-800
SPM-58



07/30/2014



TOH W/ CORE RUN #1:: L/D CORE
:: P/U BIT #2: 7 7/8": JZ: ENP0123:
1405634: 3X13: IN @ 4030'

(-1395')

KANSAS CITY @ 4055'

LS: TAN TO SM BRN MOTT, SCAT OFF WHT, SM
LT CRM, TR GYSH, FRM TO SM MOD FRM, SM
BRTL, V/FN TO MICRO XLN, TR FN XLN, PLTY, SM
BLKY, SCAT CHNKY, SM DOLC CMT, TR SIL, TR
TO SCAT ARG, TR BLKY/PLTY OPQ CALCITE FL,
OCC GLAUC, TR FOSUS, OCC TO TR DK BRN TO
BLK STAIN ALONG FRAC W/OCC GIL, NO ODOR,
SCAT HAIRLINE FRAC, OCC FRAC, OCC XLN
POR, OCC MOLDIC POR, SM LAM SH: GY TO DK
GY, TR BLK, SM FISS, MSTLY V/FN TXT, DULL
LSTR, PLTY, TR CARB, SCAT DULL TO V/DULL
PALE YEL FLOR, NO VIS CUT

TOH TO P/U CORING TOOLS @
4118'

LS: CRM TO DK CRM, TR OFF WHT, FRM TO SCAT MOD FRM,
BRTL, V/FN TO MICRO XLN, PLTY, SCAT BLKY, TR DOLC CMT,
SM ARG, SCAT SIL, TR INTRBD DOLO, OCC MIN PYR, TR OPQ
TO BLU/GY SHRPANG CHRT, TR GIL ALONG POR, NO ODOR,
SCAT TO SM HAIRLINE FRAC, SCAT TO TR DULL YEL FLOR,
WK TO VWK SLO MLKY WHT CUT, TR WK SPTY PALE YEL
RES RING

DOLO: LT TAN, TR BRN, SCAT OFF WHT, OCC WHT, TR GY
MOTT, MOD FRM TO FRM, BRTL, V/FN TO FN XLN, CHNKY, TR
WELL IND, TR SIL, SM CALC CMT, SM WELL IND, SCAT
INTRBD LS, TR MRL, OCC LRG CHNKY CALCITE FL, OCC
MASS PYR, OCC OFF WHT TO OPQ SHRP CHAL CHRT,
ABNDNT OOLT W/OCC PISO, OCC DK SPOT STAIN, NO ODOR,
ABNDNT MOLDIC POR, OCC FRAC POR, SM YEL TO DULL YEL
FLOR, TR WK V/SLO MLKY STRW CUT, FAINT RES RING

LS: CRM, SM LT TAN, SCAT OFF WHT TO GYSH, FRM TO MOD
FRM, BRTL, MICRO XLN, SM V/FN XLN, MSTLY PLTY, TR BLKY
TO CHNKY, SM SIL, TR ARG, SCAT INTRBD CHLKY, SCAT LAM
DOLO, TR INTRBD DOLO, TR GLAUC, TR OPQ TO BLU/GYANG
SHRP CHAL CHRT, OCC PYRC, SCAT FOSUS W/ OCC
CRIN/OOLT, NO VIS STAIN, NO ODOR, TR TO SCAT XLN POR,
SCAT FRAC POR W/SM HAIRLINE, TR MOLDIC POR, TR DULL
YEL TO DK YEL FLOR, NO VIS CUT

TOH TO L/D CORE #2 :: P/U BIT #2::
IN @ 4179'

LS: CRM TO SM LT CRM, SCAT OFF WHT, SCAT
GYSH, TR TANGY, TR DK TAN MOTT, MOD FRM,
TR FRM, BRTL, MICRO TO TR FN XLN, PLTY,
BLKY, SM SIL, TR DOLC CMT, TR CHLKY IP TR

GEOLOGRAPH NOT WORKING:: REPAIR AIR
CLUTCH ON DRAWWORKS DURING TRIP IN
HOLE

MUD CK @ 3992'
WT 9.0
VIS 47
PV 14
YP 12
GEL 7/28
PH 10.0
WL 6.0
CK 1.0
CHL 5000
CAL 40
SOL 4.7%
WTR 95.3%
LCM TR
ECD 9.45

SM SIL

DECRSING ARG

TRIP GAS 21 UNITS

FM GAS 21 UNITS

DECRSE YEL FLOR

FM GAS 21 UNITS

TR DK YEL FLOR

TEST GAS @ TRAP

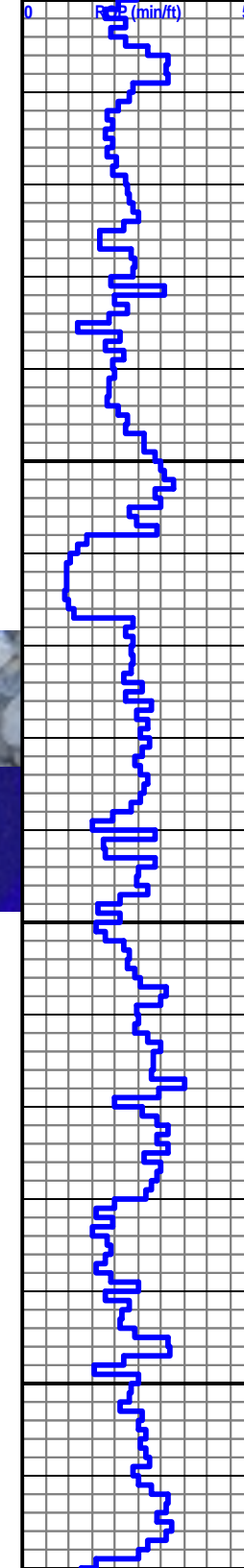
SH GAS 57 UNITS

KD

KD

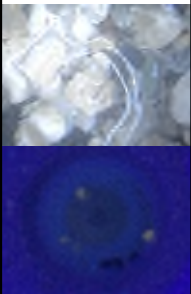
KD

KD

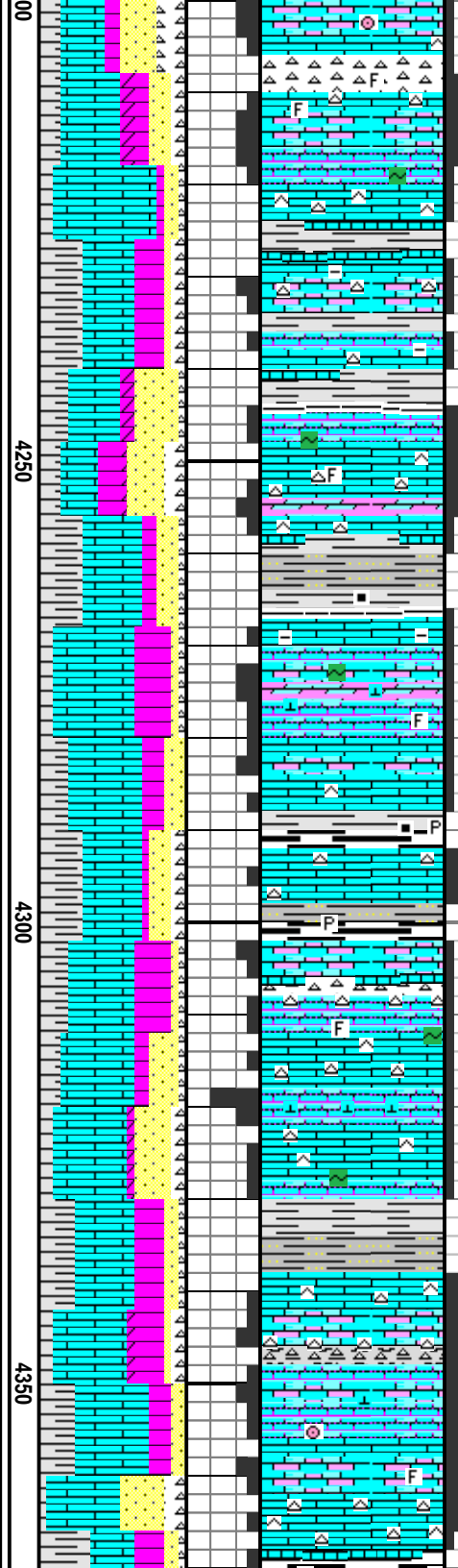


MSTLY DK YEL FLOR

WOB-38K
RPM-75
PP-900
SPM-59



07/31/2014



LS: OFF WHT, TR WHT, SCAT GY TO LT GY, TR TAN TO DK TAN MOTT, TR DK CRM, SM FRM, BRTL, MICRO XLN, SCAT V/FN XLN, PLTY, TR BLKY, OCC CHNKY, SM SIL, SCAT TO TR DOLC CMT, DECRSING ARG, TR INTRBD DOLO, TR TO SCAT OPQ TO BLU/GY ANG CHALCHRT W/OCC FOSS, OCC PYRC, OCC GLAUC, NO VIS STAIN, NO ODOR, SCAT FRAC POR, TR XLN POR, OCC VUG POR, SM LAM SH: GY TO SM DK GY, TR BLK, MOD FRM, SCAT FISS, V/FN TXT, DULL LSTR, OCC CARB, TR DK YEL FLOR, NO VIS CUT

LS: OFF WHT, TR WHT, SCAT GY TO LT GY, TR TAN TO DK TAN MOTT, TR DK CRM, SM FRM, BRTL, MICRO XLN, SCAT V/FN XLN, PLTY, TR BLKY, OCC CHNKY, SM SIL, SCAT TO TR DOLC CMT, DECRSING ARG, TR INTRBD DOLO, TR TO SCAT OPQ TO BLU/GY ANG CHALCHRT W/OCC FOSS, OCC PYRC, OCC GLAUC, NO VIS STAIN, NO ODOR, SCAT FRAC POR, TR XLN POR, OCC VUG POR, SM LAM SH: GY TO SM DK GY, TR BLK, MOD FRM, SCAT FISS, V/FN TXT, DULL LSTR, OCC CARB, TR DK YEL FLOR, NO VIS CUT

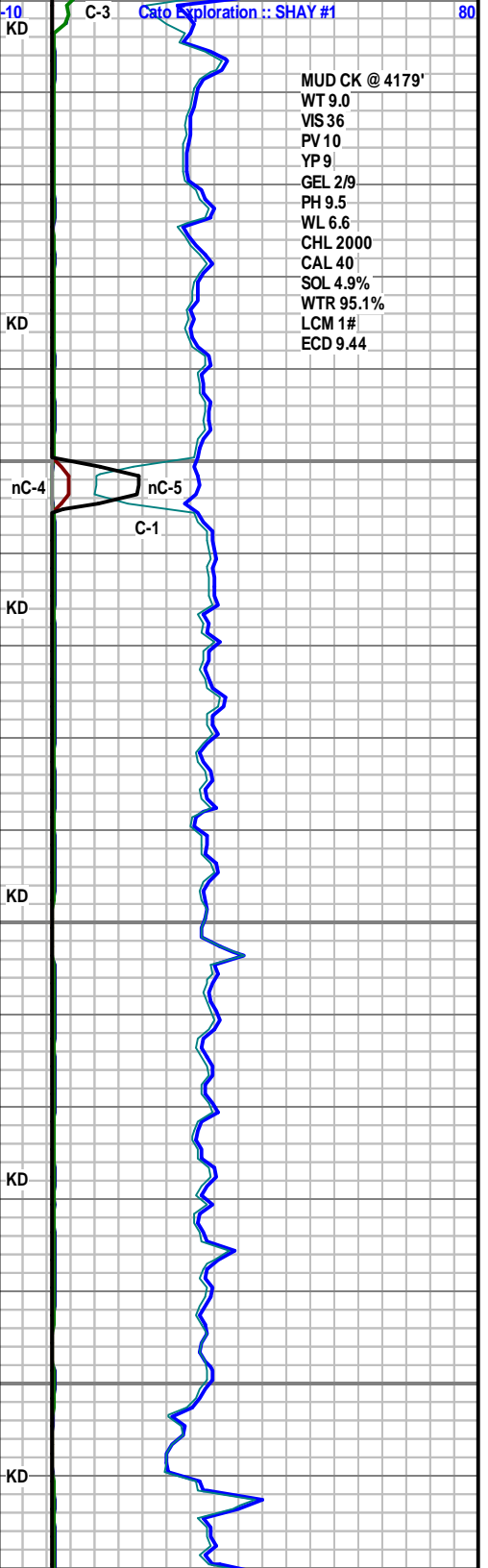
MARMATON @ 4267'

+++++(-1607)+++++

LS: CRM TO DK CRM, SCAT DK TAN TO TR BRN, TR TAN, TR GYSH, MSTLY MOD FRM, TR V/FRM, BRTL, OCC CRMBLY, V/FN XLN, TR MICRO XLN, BLKY/PLTY, SCAT CHNKY, OCC ARG, OCC SIL, SM DOLC CMT, SCAT INTRBD DOLO, TR DRSY EUHED CALCITE, OCC GLAUC, OCC FOSS FRAGS, NO VIS STAIN, NO ODOR, SCAT V/FN VUG TO PP POR, SCAT FN FRAC POR, OCC XLN POR, TR LAM SH: GY TO LT GY, OCC V/DK GY, MOD FRM TO SM MOD SFT, V/FN TXT, PLTY, NON CALC, TR SLTY IP, OCC V/DULL YEL TO DK YEL FLOR, OCC V/FAINT MLKY STRW CUT W/10% HCL, NO VIS

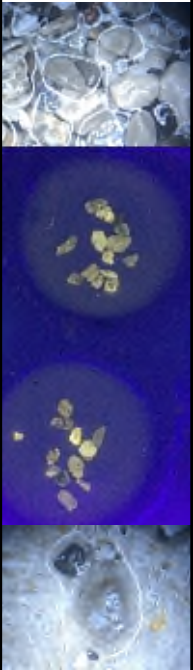
LS: DK TAN TO BRN, TR GYSH/TAN, TR OFF WHT TO LT CRM, SM V/FRM TO HRD, BRTL, V/FN TO MICRO XLN, PLTY, SM BLKY, TR CHNKY, SM SIL, TR TO SCAT DOLO CMT, SCAT INTRBD DOLO, SCAT OPQ TO SMKY ANG SHRP CHAL CHRT W/OCC SPIC, TR MIN PYR INC., OCC GLAUC, OCC FOSS FRAGS, NO VIS STAIN, NO ODOR, SM FN TO HAIRLINE 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 DK YEL FLOR W/TR DULL YEL, NO VIS CUT

LS: DK TAN TO BRN, TR GYSH/TAN, TR OFF WHT TO LT CRM, SM FRM TO V/FRM, BRTL, V/FN TO MICRO XLN, PLTY, SM BLKY, TR CHNKY, SM SIL, TR TO SCAT DOLO CMT, SCAT INTRBD DOLO, SCAT OPQ TO SMKY ANG SHRP CHAL CHRT W/OCC SPIC, TR MIN 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 DK YEL FLOR W/TR DULL YEL, NO VIS CUT

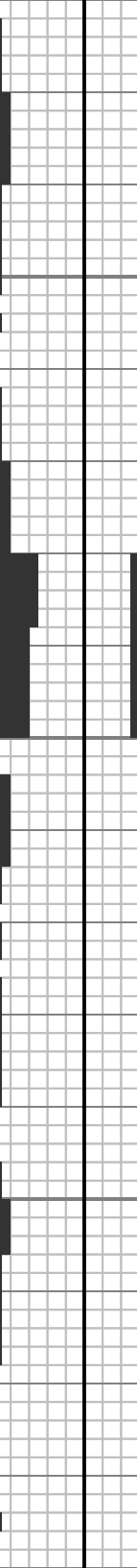
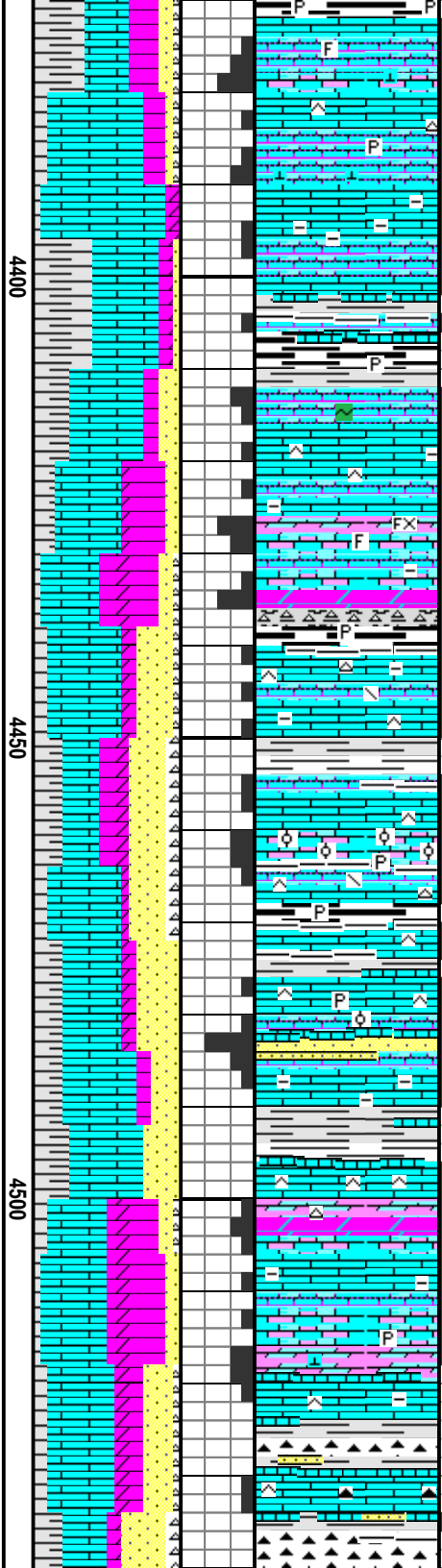
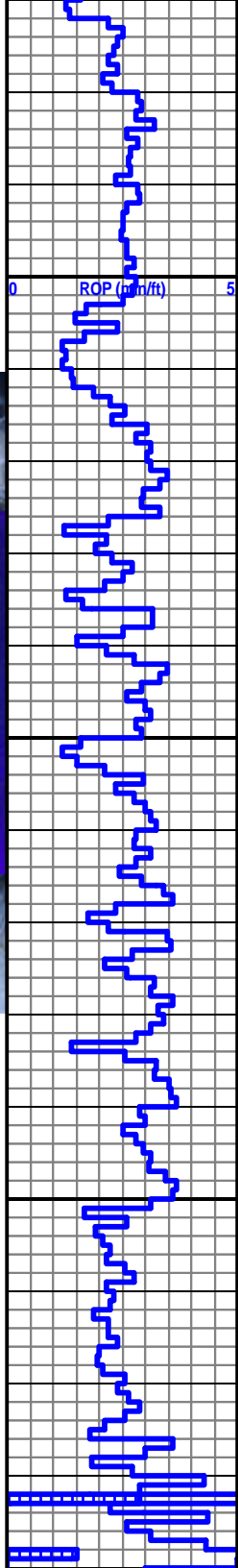


MUD CK @ 4179'
WT 9.0
VIS 36
PV 10
YP 9
GEL 2/9
PH 9.5
WL 6.6
CHL 2000
CAL 40
SOL 4.9%
WTR 95.1%
LCM 1#
ECD 9.44

WOB-38K
RPM-80
PP-950
SPM-55



WORK ON MUD
PUMP - REPLACE
LINER



MICRO XLN, PLTY, SM BLKY, TR CHNKY,
INCRSING ARG, SCAT SIL, TR DOLO CMT, TR
INTRBD DOLO, SCAT OPQ TO SMKY ANG SHRP
CHAL CHRT W/OCC SPIC, OCC CALCITE FL, TR
TO SCAT FOSS FRAGS, NO VIS STAIN, NO
ODOR, SM FN TO HAIRLINE FRAC W/TR SEALD,
TR MOLDIC POR, OCC XLN POR, SM LAM SH: GY
TO DK GY, OCC BLK, OCC V/DK GY, MOD FRM,
V/FN TXT, OCC CARB, OCC TO TR DK YEL FLOR
W/OCC DULL YEL, NO VIS CUT

CHEROKEE @ 4412'

(-1752')

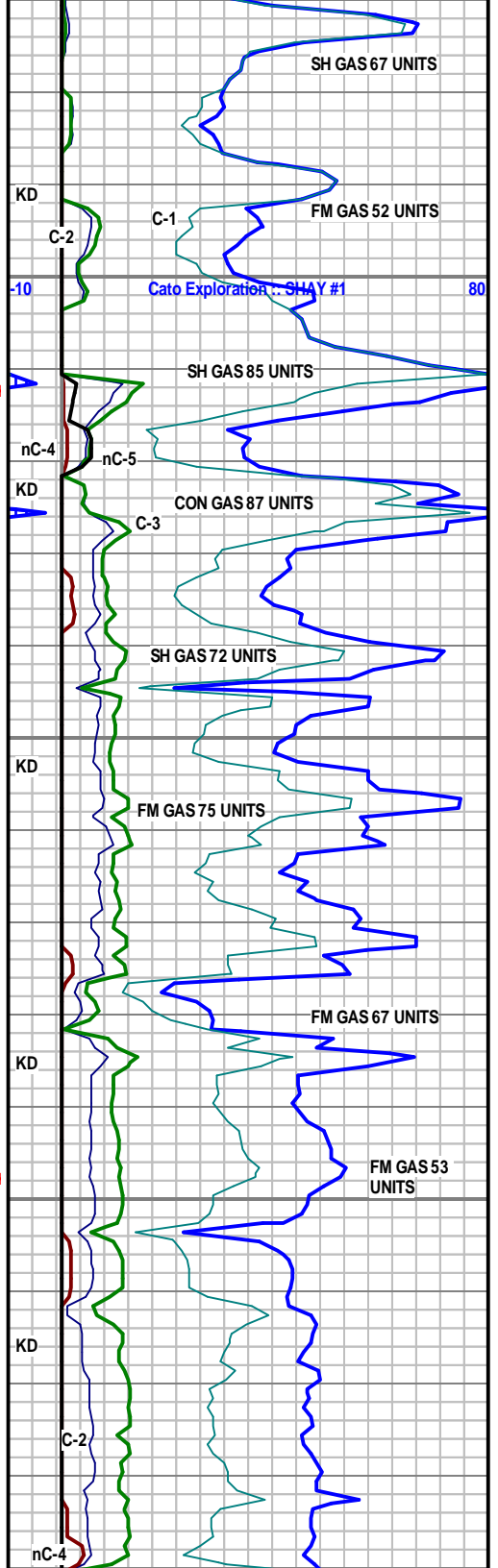
LS: V/LT TAN TO GYSH/TAN, SM GYSH/LT TAN,
TR CRM, TR BRN, SCAT OFF WHT, MOD FRM,
SCAT HRD/V/FRM, SCAT V/BRTL, MSTLY V/FN
XLN, TR TO SCAT MICRO XLN, PLTY, SM BLKY,
SM ARG, TR DOLC CMT, SCAT SIL, SCAT LAM
/INTRBD DOLO, TR OPQ TO WHT V/SHRP ANG
SPIC CHRT, OCC MIN PYR INC., OCC GLAUC,
SCAT FOSS, OCC GIL, NO ODOR, SCAT FRAC
POR, TR TO SCAT MOLDIC POR, OCC XLN POR,
SCAT LAM THN BDD SH: DK GY TO BLK, SM GY,
TR LT GY, SM CARB, TR PYRC, SCAT V/DULL
PALE YEL FLOR, TR DK YEL FLOR, SCAT V/FAINT
MLKY YEL CUT

LS: LT TAN TO OFF WHT, SM CRM, SCAT DK CRM,
TR TAN, TR V/DK BRN MOTT, TR GY MOTT, FRM
TO SM MOD FRM, MSTLY BRTL, MICRO TO SCAT
V/FN XLN, TR FN XLN, PLTY/BLKY, TR CHNKY,
SCAT DOLC CMT, SM SIL, SCAT INTRBD DOLO,
TR CALCITE FL, TR TO SCAT ANG WHT TO OPQ
CHAL CHRT W/OCC FOSS, TR OOLT W/SM FRI FN
XLN LS/DOLO MTX, OCC GIL, TR MOLDIC POR,
SCAT FRAC POR, INCRSE XLN POR, LAM SH: GY
TO DK GY, TR PRPL, TR BLK, MOD FRM TO TR
FRM, BRTL, SM FISS, TR CARB, OCC LENTC V/FN
RND GRN SS, TR DULL YEL FLOR, NO CUT

MISSISSIPPI @ 4495'

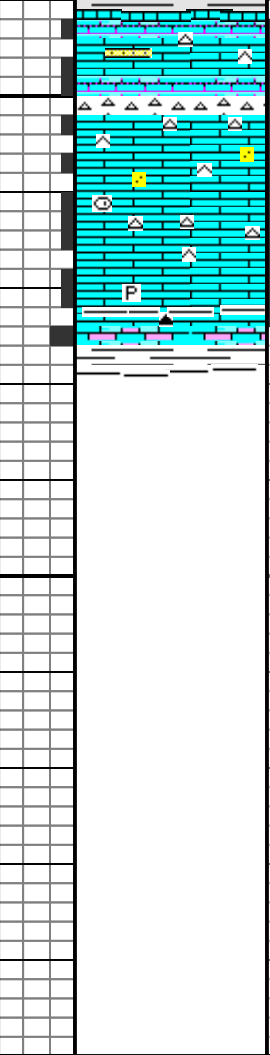
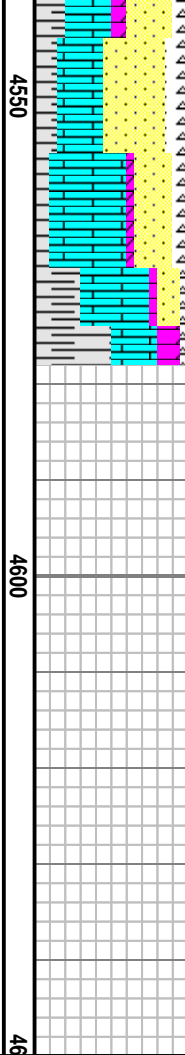
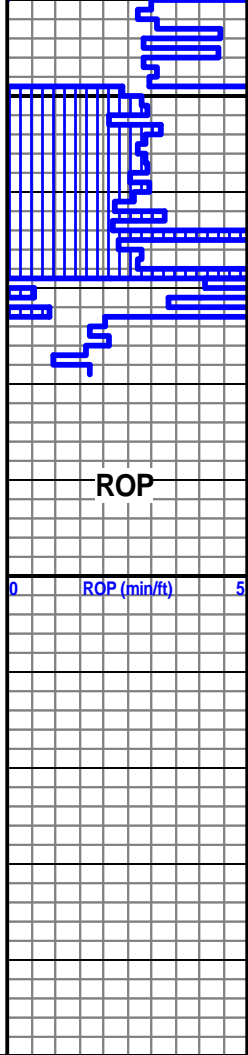
(-1835')

LS: OFF WHT, SCAT TAN TO LT TAN, TR
GYSH/TAN, TR WHT, FRM TO SCAT HRD, BRTL,
V/FN TO TR FN XLN, SCAT MICRO XLN, BLKY,
PLTY, DECRSING ARG, TR DOLC CMT, INCRSING
SIL, SCAT INTRBD DOLO, OCC OPQ TO TR DK
V/SHRP ANG CHAL CHRT, OCC CALCITE FL, OCC
PYR INC., OCC DK BRN/BLK ASPHLTC STAIN
ALONG V/FN FRAC, NO ODOR, SM HAIRLINE
FRAC, TR DISS FRAC, OCC XLN POR, TR LAM SH:
GY TO DK GY, MOD FRM, V/FN TXT, DULL LSTR,
OCC DULL TO V/DULL YEL FLOR, NO VIS CUT



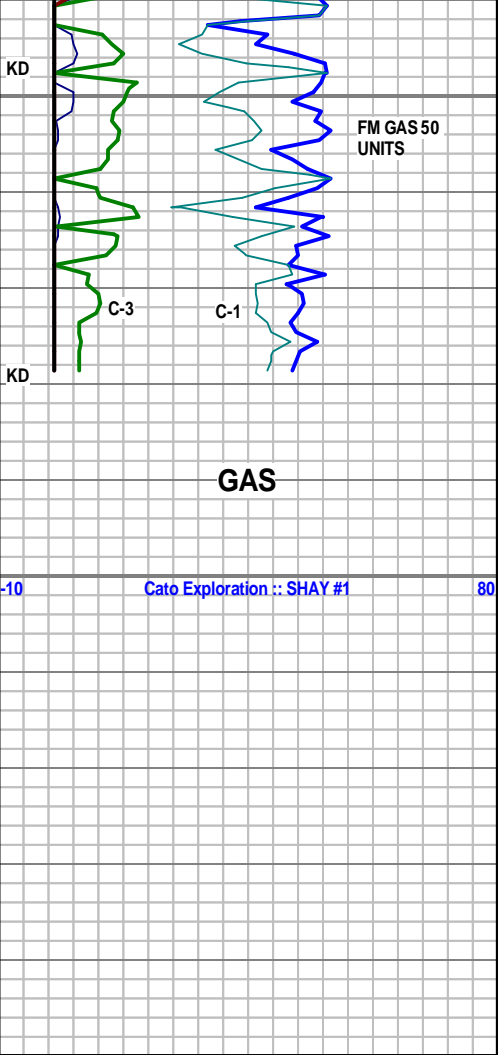
WOB-35K
RPM-80
PP-900
SPM-57

07/31/2014



LS: CRM TO DK CRM, SM V/LT TAN, FRM TO HRD,
SM BRTL, MICRO TO TR V/FN XLN, BLKY, PLTY,
SHRP, WELL IND, SM TO ABDNT SIL, OCC DOLC
CMT, SCAT WHT TO OFF WHT ANG SHRP CHAL
CHRT W/OCC PYRC, OCC MASS PYR, OCC FOSS,
NO VIS STAIN, NO ODOR, SCAT HAIRLINE FRAC,
TR INTRBD/LENTC SS: WHT TO OF FWHT, OPQ,
FRM, SM BRTL, V/WELL IND, V/FN U GRNS, ANG
TO SUB ANG, V/WELL CONSL, WELL SRTD, SIL
CMT, NO VIS STAIN, TR XGRNLR POR, OCC DK
DULL YEL FLOR, NO VIS CUT

DRILLER'S TD @ 4579' MD -1919'
SS ON 07/31/2014



October 22, 2014

Lori Greenwood
Cato Exploration, LLC
15 East 5th St., Ste 2100
Tulsa, OK 74103

Re: Plugging Application
API 15-101-22529-00-00
Shay 1
NW/4 Sec.22-16S-28W
Lane County, Kansas

Dear Lori Greenwood:

The Conservation Division has received your Well Plugging Application (CP-1).

Under K.A.R. 82-3-113(b)(2), you must notify DISTRICT 1 of your proposed plugging plan at least 5 days before plugging the well. DISTRICT 1's phone number is (620) 225-8888. Failure to notify DISTRICT 1, or failure to file a Well Plugging Record (CP-4) after the well is plugged will result in a penalty recommendation.

Under K.A.R. 82-3-600, you must file an Application for Surface Pit (CDP-1) if you wish to use a workover pit while plugging the well. Failure to timely file a CDP-1, failure to timely remove fluids, or failure to timely file Closure of Surface Pit (CDP-4) or Waste Transfer (CDP-5) forms will result in a penalty recommendation.

This receipt does NOT constitute authorization to plug this well if you do not otherwise have the legal right to do so.

This receipt is VOID after April 22, 2015. If the well is not plugged by then, you will have to submit a new CP-1 if you wish to plug the well.

The April 22, 2015 deadline does NOT override any compliance deadline given to you by Legal, District, or other Commission Staff. Failure to comply with any given deadline will still result in the Commission assessing penalties, or taking other legal action.

Sincerely,
Production Department Supervisor

cc: DISTRICT 1