

Max R. Lovely

22-135-31W

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY **Fitchie Exploration, Inc.**

LEASE #1 **Selenke-Hockesmith**

FIELD **Unknown**

LOCATION **S2 S2 S2**

SEC **22** TWP **13** RGE **31W**

COUNTY **Gove** STATE **KS**

CONTRACTOR **WW #6**

SPUD **4-26-2013** COMP **5-7-2013**

RTD **4770** LTD **4765**

MUD UP **3500** TYPE MUD **Chem**

ELEVATIONS

KB **2895**

DF **2890**

GL **2890**

Measurements Are All From **KB**

CASING SURFACE **8 5/8 @ 221'**
PRODUCTION **4 1/2"**

ELECTRICAL SURVEYS
COMP W/D **SOMIC**
DUAL W/D

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION		
				A	B	C
Anhydrite	2374	2362	533			
Base Anhydrite	2395	2384	511			
Stoller	3553	3547	-652			
Heeber SH	3908	3904	-1009			
Lansing	3952	3946	-1051			
Muncie SH	4103	4101	-1206			
Stark SH	4192	4184	-1289			
BKC	4289	4282	-1367			
Altamont	4321	4316	-1421			
Myrie	4428	4423	-1528			
Fl. Scott	4450	4444	-1549			
Cherokee SH	4478	4472	-1577			
Johnson	4521	4516	-1621			
Missouri	4650	4638	-1743			

REFERENCE WELLS FOR STRUCTURE

A **Ritche Don Selenke #1 600' ESL, 1140' FEL 22-13-31W**

B

C

REMARKS

LEGEND

Anhydrite	Salt	Sandstone	Shale	Carb sh	Limestone	Ool. Lime	Chert	Dolomite

DRILLING TIME IN MINUTES PER FOOT

Rate of Penetration Decreases

5" 10" 15" 20" 25"

DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

OIL SHOWS

REMARKS

ANHYDRITE
2374 + 521

BASE
ANHYDRITE
2395 + 500

2400

3500

LS, GRY, V FXTLN → GRN LRXT,
SOFT, P MICROXTLN Ø, NS

SH, LT GRY, STICKY, GUMMY

A.A.

STOTLER
3553 - 658

LS, TAN, F → MXTLN, MHRD,
V FOSS + ALGAL, NS

LS, GRY → DK GRY, FXTLN,
SL FOSS, MHRD, P Ø, NS

LS, CRM, BUFF, MXTLN, BRTL,
SOFT, FOSS FRAGS W/N, G Ø
NS

LS, GRY, FXTLN, SHLY, SOFT, NS

3600

LS, A.A.

SH, GRY, GRN

LS, GRY, WHT, FXTLN, HRD,
V FOSS, DNS, TITE, NS

MUD CHECK
VIS 48 WT 8.6
CHLOR 1,200 LCM 2
FLT 6.4

LS, CRM, VF XTLN, CHLKY, SOFT,
NS

SH, GRY

LS, TAN, BRN, F → M XTLN,
S → M HRD, LG XTLS W/N,
V FOSS, NO APP Ø, NS

A.A.

SH, GRY, SNDY

LS, WHT, CRM, VF XTLN, DNS,
HRD, V CLEAN LS, TITE, NS

3700

LS, GRY / TAN, VF XTLN, HRD,
SCT FOSS, P Ø, NS

LS, GRY, F → M XTLN, HRD, BRTL,
SCT FOSS, NS

LS, BUFF / TAN, FXTLN MED XTLS
W/N, SL DOLD, BRTL, NO APP Ø,
NS

A.A.

LS, TAN, F → M XTLN, CHT INCL'S,
HRD, TITE, NS

3800

SH, BLK, CARB

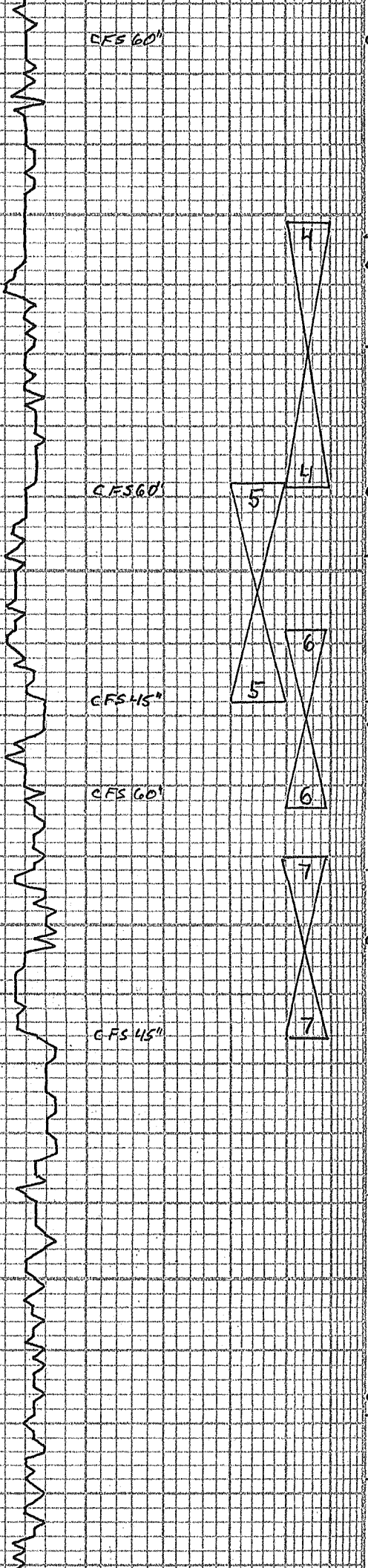
SH, GRY, SNDY

LS, CRM, BUFF, FXTLN CMT'D FOSS
ALGAL, SCT OOL'S, P FOSS Ø, NS

LS, A.A.

LS, CRM, FXTLN, SOFT, V OOL,
SLODM Ø, NS

SH, BLK



4100

MUNCIE
c 4103 - 1208

'H'
4119 - 1224

'I'
4148 - 1253

'J'
c 4168 - 1273

STARK
4192 - 1297

4200
c 4203 - 1308

HUSH
c 4233 - 1338
'L'

4239 - 1344

BKC
4269 - 1374

MARMATON
4278 - 1383

LS, WHT, F XTLN, M HRD, FEW FOSS
Pcs BRTL, P & F FOSS, O, NS

A.A.

SH, BLK, CARB

LS, WHT, F XTLN, M HRD, G SML
VUG Ø, F & G FLUOR STNG,
F & G FLUOR OIL ON BRK, FEW FO
ON SURF Ø. V LT OIL, G ASSY

LS, LT GRAY, WHT, V F XTLN, DNS,
HRD, TITE, NS

SH, GRV, BLK

LS, TAN, V F XTLN, V DNS, V HRD,
TITE, NS

LS, WHT, V FOSS, F & M OOLS +
FRAGS, V G FLUOR STNG Ø, G FO
ON BRK, Pcs G OIL SAT Ø, SL OIL
COAT'D VUG Ø, GAS BBLs,
? ENERGY, OIL WET ROCKS,
SLT STNG, GRV

LS, GRV CMT, V F XTLN, V OOL, MOSTLY G ODOR
W CMT'D, SCT OIL COAT'D VUG Ø, CHLTR GAS
W/G FLUOR O SPTS, LS Pcs W/G
VUG EDGE STNG, GRV LS W/OOLS
+ REW LG XTLs, SOFT, SCT OIL
COAT'D VUG Ø, NO VIS ENERGY, WET

CHT, TAN GRV, FOSS

SH, BLK, CARB
LS, DIRTY WHT, SOFT, CHLKY, FXTLN
G FLUOR STNG, V G OIL ON BRK,
HVY ODOR ON BRK

LS, BRN, FXTLN, HRD, V FEW FOSS
LS, BUFF/TAN, FXTLN W/LG NS
XTLS W/N, KARST Ø, G FLUOR
STNG, SHO GAS IN Ø, FLUOR FO
N/TRAY

LS, LT GRV, V F XTLN, HRD,
RE XTL'D FRACS, VP FRAC Ø
NS

SH, BLK

LS, WHT/BLK, CHLKY, SHLY,
SOFT, NS

LS, LT GRV CMT'D OOLS, VW
CMT'D OOLS, TITE, NS

A.A.

SH, GRV SLTY

LS, TAN, V F XTLN, DNS, HRD,
TITE, NS

LS, WHT F XTLN, SL CHLKY,

DST #4 4101-4139
30.45.45.60
IF: 1/2" ISI: NR
FF: VWSB FSI: NR
REC: 10' VSOCM - 1% OIL
TOOL: 1% OIL
FP: 5-8, 8-11
SIP: 467-63

DST #5 4138-4168
30.45.45.60
IF: 1" ISI: NR
FF: 1/2" FSI: NR
REC: 40' OCM - 24% OIL
TOOL: 11% OIL
FP: 6-14, 16-23
SIP: 684-523
HP: 1964-1958

7:AM 5-2-2013
DST #4 @ 4139'
MUD CHECK
VIS 47 WT 9.3 LCM1
CHLOR 2,200 FILT 6.0

7:AM 5-3-2013
DST #6
MUD CHECK
VIS 51 WT 9.2 LCM1
CHLOR 2,400 FILT 6.8

7:AM 5-4-2013 = DST #7
DST #6 4158-4183
30.45.45.60
IF: 8" ISI: NR
FF: 10 1/2" FSI: NR
REC: 220' MCW - 83% W
60' WCM - 31% W

CHLOR, 57,000
FP: 5-76, 77-131
SIP: 1064-1056
HP: 1989-1988

STRAP 4196.20
BOARD 4202.76
SHORT 6.56

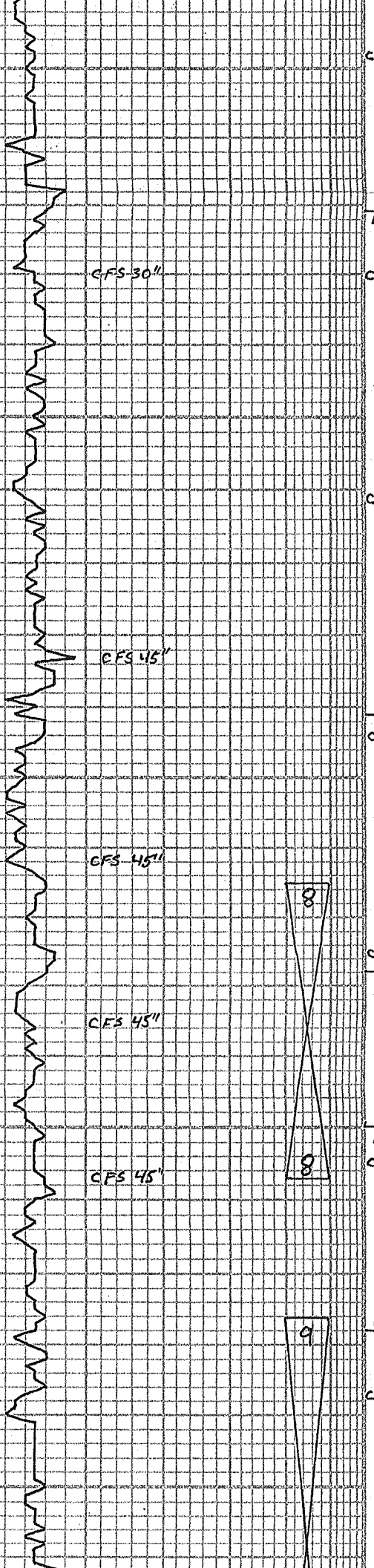
DST #7 4190-4216
30.45.45.60
IF: BOB 10 min
ISI: WK SURF 6L
FF: BOB 14 min
FSI: NR
REC: 1' CO
45' SO, WCM - 10% OIL, 60% W

WISP
ODOR
GASSY
VLT OIL

AMBER
OIL
SCT FLUOR
FO PROPS
G ODOR

HVY
ODOR
FLUORFO

HVY
ODOR
LT BRN
FO



4300

ALTA MONT
4321-1426

CFS 30"

PAWNEE
4391-1496

4400

CFS 45"

MYRIC
4428-1533

CFS 45"

FT SCOTT
4450-1555

CFS 45"

CHEROKEE
4478-1583

4500

S → M HRD
LS, AA, w/ LG BRN XTLS w/N,
BRTL, SL XTLN, NS
LS, WHI / TAN, F XTLN, M HRD,
DNS, NO APP, NS
LS, GRY, BRN, VF XTLN, HRD,
DNS, TITE, NS

LS, WHI, V CHLKY, SOFT,
BRTL, NS
LS, DK BRN, VF XTLN, CRYPTO,
V HRD, DNS, V CLEAN LS, SCT
CHT, NO, NS

SH, GRN, GRY, RED, SCT SLTY

LS, CRM, TAN, VF XTLN, BRTL,
G FRAC, SCT FOSS, RARE
DOL, NS

SH, GRY

SH, GRY, GRN, BLK

LS, WHI, F XTLN, M HRD,
PP, SCT CHT, WHI FOSS, NS

LS, BRN, VF XTLN, FOSS, HRD,
Pcs DNS, SOME CALC XTL'D
FRAC'D, NS

SH, BLK, FISSLE

CHALK, EVEN FLUOR STNG, F-36
FLUOR FO ON BRK

LS, WHI, F → M XTLN, SOFT → M HRD,
VG PP OIL FILL XTLN, M BRN
OIL ON BRK, V FEW FO N/ TRAY,
Pcs w/ WEA OIL FILL VU & Ø, NO
VIS ENERGY

SH, BLK, CARB, FLAKY CARB Pcs

LS, TAN, BRN, WHI, W CMT'D DOLS,
V HRD, NO, NS

LS, TAN/BRN, VF XTLN, V DNS,
V HRD, FEW SCT PHOSPHATE
NODES w/N, TITE, NS

LS, CRM, FXTLN, ABUN LG XTLS
& FOSS, W CMT'D INCL'S, VP, NS

SH, VAR COLOR

LS, GRY, WHI, F XTLN, INT BED'D
LG XTLS w/N, HRD, DNS, FEW
SCT FOSS, NO, NS

A.A.

SH, BLK, CARB

125' MCW, TR 78% W
500' SL MCW 94% W
TOOL: 3% O, 81% W
CHLOR: 75,000
FP: 15-166, 173-311
SIP: 996-963
HP: 2009-2009

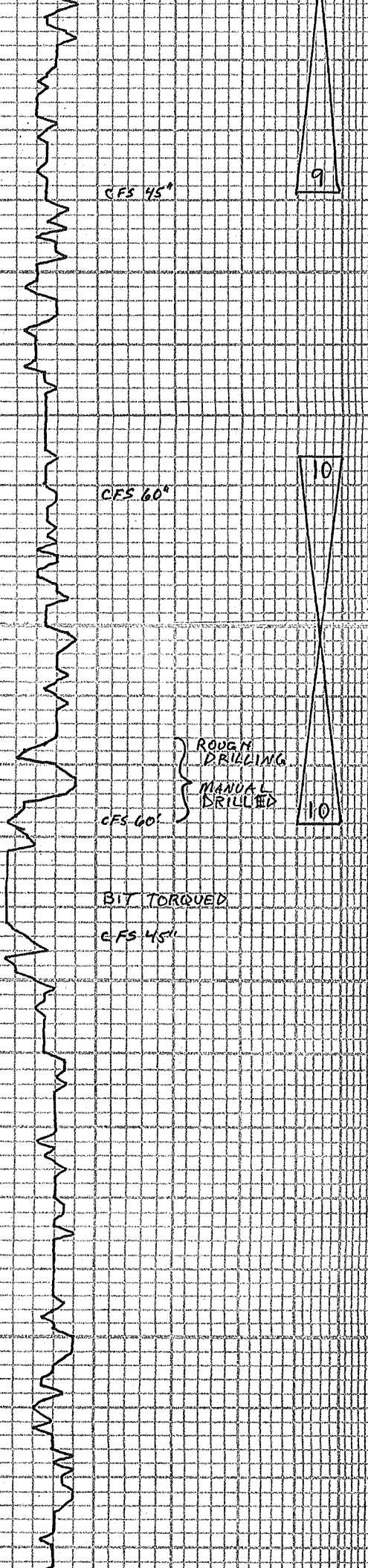
SHORT TRIP 15 STNDS
DST #8 4415-4457
30.45.45.60
IF: 5 1/4" ISI: NR
FF: 7 1/2" FSI: NR
REC: 5' CO 31° API
25' SOH MCW - 2% O, 54% W
185' MCW - 76% W
CHLOR: 70,000
TOOL: 8% O, 59% W
FP: 7-64, 68-99
SIP: 859-855
HP: 2145-2145

7:AM 5-5-2013
MUD CHECK
VIS 52 WT 9.3
CHLOR 2,800 LCM 1
FILT 8.0

DST #9 4476-4539
30.45.45.60
IF: 10 1/2" ISI: NR
FF: BOB 30 1/2" FSI: NR
REC: 275' GIP
160' G, VHMCO
(7% G, 46% M, 47% O)
TOOL: 8% G, 52% O, 40% M
FP: 7-57 50-69

VLT ODOR
FLUOR
VLT
ODOR
FO N/ TRAY

VIS 53
WT 9.2
LCM 2



JOHNSON
 4521-1626
 BASE
 4540-1645
 MORROWS D
 4548-1653
 MORROW SD
 4591-1696
4600
 MISS
 4650-1755
4700

SH, GRN, RED, BORG, GRY-SLT
 LS, BRN/TAN, VF XTLN, S M HRD, BRTL, Pcs DNS W/G STRKS OF G XTLN, GSSY, F-G BLEED, NAT FO M/TRAY, SOME SCT O+G FILL VUGY, Pcs SAT STNG
 LS, TAN, VF XTLN, V HRD, FEW SCT BLK DD OIL IN FRACS, NO ODOR
 LS, TAN, BUFF, VF XTLN, HRD, DNS, V FEW SCT FOSS, TITE, NS
 SH, LT GRY
 SS, CLR GRNS, WHT + LT GRN CMT, SOFT + HRD Pcs, ANG → SUBANG, Pcs NS
 SH, VARICOLOR
 SS, WHT / LT VLLW CMT, D, CHLKY, RND VF QTZ GRNS, LMY, ROTTEN → SOFT, NS
 LS, LT TAN, VF XTLN, DNS, SOFT → BRTL, NO APP, NS
 LS, WHT, LT TAN, VF XTLN, HRD, BRTL, NO APP, NS
 LS, WHT, CHLKY CMT, V SOFT, VAR, SIZE SUB RND GRNS W/N, SCT VAR, SIZE SS GRNS W/N, NS
 SS, CLR GRNS, F M GRNS, W SORT, PCMT'D, V G OIL FILL, G SFO, MED DK OIL, F → G SAT, VEL DULL OIL FLUOR
 SH, GRY, GRN
 SS, CLR, MED GRNS, SUB RND, LT GRN CMT'D, XCLT SFO, VG BLEED, GSSY, SL FRIABLE, HUY SHO FO M/TRAY
 SS, CLR, LG GRNS, SUB RND, HRD, G → VW CMT'D, F → G, DK → BLK OIL,
 LS, BURNT ORANGE, V HRD, V DNS, FEW FOSS, TITE
 SS, M → LG CLR GRNS, W SORT, SUB RND, Pcs HRD, MOSTLY SOFT, GRY CMT, BLK TARRY OIL ON BRK, FEW FO DROPS IN TRAY
 CHT, WHT, TAN
 LS, TAN, BRN, LT GRY, MOSTLY V DNS + HRD, FEW Pcs SL MOTTLED W/ RARE FOSS, NO VIS, NS
 LS, TAN, WHT, M XTLN, HRD, V BRTL IN Pcs, NO FOSS, NO Pcs NS
 LS, WHT, CHLKY, ABUN LG NODES THROUGHOUT, SOFT, NS
 LS, BRN, F XTLN, W CMT'D ABUN LG FOSS + FRACS, V HRD, SL FOSS, NS
 LS, GRY, WHT, TAN, F XTLN, V BRTL ABUN NODES + LG PBBLS W/ W CMT'D, TITE, NS
 LS, GRY, A.A.
 LS, GRY, CRM, F LS XTLN CMT'D LG NODES, BRTL, NS
 LS, GRY/BRN, A.A.

RAINBOW STR ODOR, FO M/TRAY & BLEED
 DD BLK OIL
 WISP ODOR
 T:AM 5-6-2013
 DRLG @ 4602'
 MUD CHECK
 VIS 55 WT 9.4
 CHLOR 3,400 LCM1
 FILT 10.4
 DST #10 4576-4628
 30.45.45.60
 IF: 1/2" 15: NR
 FF: SURF FSI: NR
 REC: 65' SOC M - 5% O
 TOOL: 25% OIL, 75% M
 FP: 9-27, 31-40
 SIP: 286-152
 HP: 2217-2215
 15 STAND SHORT TRIP FOR DST #10

CFS 45'

CFS 60'

CFS 60'

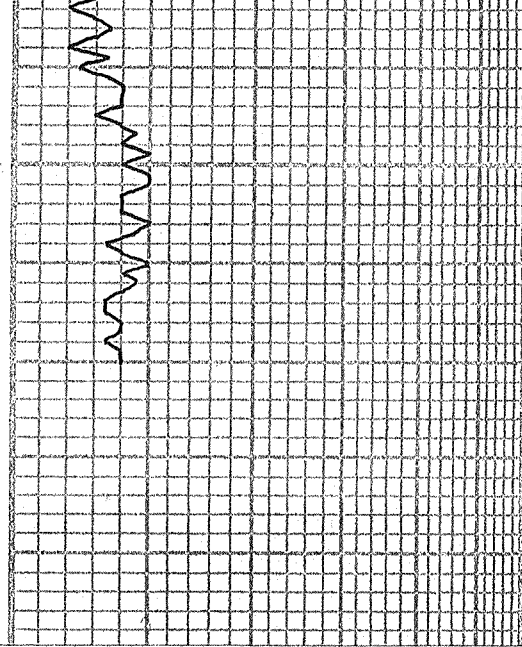
BIT TORQUED

CFS 45'

ROUGH DRILLING
MANUAL DRILLED

RAINBOW HUY ODOR
" FO
G ODOR

FO: TRAY TARRY OIL
G ODOR



LS, GRAY / WHIT, VF XTLN, V DNS,
V HRD, FEW SCT FOSS, T. TE,
SCT APRICOT DNS LS PCS

LS, BRN

7:AM 5-7-2013
DRLG @ 4769'
17 STDN SHORT TRIP