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GEOLOGIST'S REPORT DRILLING TIME AND SAMPLE LOG

OPERATOR MITCHELL EXPLORATION, INC

LEASE POTOSI-SIMON #1

FIELD _____

LOCATION 1480' FSL & 1020' FWL = E/2 W/2 SW

SEC. 13 TWP. 27 RGE. 24W

COUNTY FORD STATE KS.

CONTRACTOR DUKE RIG #1

COAM. 6-30-12 COMP. 7-11-12

RID 5113 LOG TO 5115'

SAMPLES SAVED FROM 3800' TO RTD

DRILLING TIME KEPT FROM 3400' TO RTD

SCALES EXAMINED FROM 3800' TO RTD

GEOLOGICAL SUPERVISION FROM 4150' TO RTD

MUD UP DISPL @ 3595' TYPE MUD CHEMICAL

API # 15-051-29, 816-0000

FORMATION	TOP	LOGS	BATHY	TOP	SAMPLES	STRUCT.
						COND.
ANHYDRITE	1475 + 991		1475+991			+1
BASE ANHY	1518 + 948		1520+946			-2
STOTLER	3490-1024		3490-1024			-2
LANESING	4152-1686		4152-1686			-2
WUNCIE SH	4272-1806		4276-1804			0
STRYK SH	4457-1991		4456-1990			-3
MARMAITON	4584-2118		4584-2118			-1
PHANEE	4720-2254		4717-2251			-3
CHEROKEE SH	4194-2328		4194-2328			+4
HICK LS	4844-2378		4843-2377			+2
ATOKA SH	4931-2465		4930-2464			+3
MORRIS	4943-2477		4943-2477			+3
MISSISSIPPI	4981-2515		4980-2514			+11

ELEVATION
KB 2466
DF 2454
Measurements Are All
From KB 2466

CASING RECORD

SURFACE 8 5/8" @ 346'

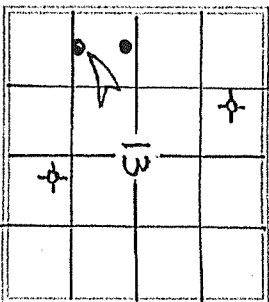
W/225 SKS.

PRODUCTION 5 1/2" @ 5106'

W/175 SKS. Prod 1454'

60' OF 20"

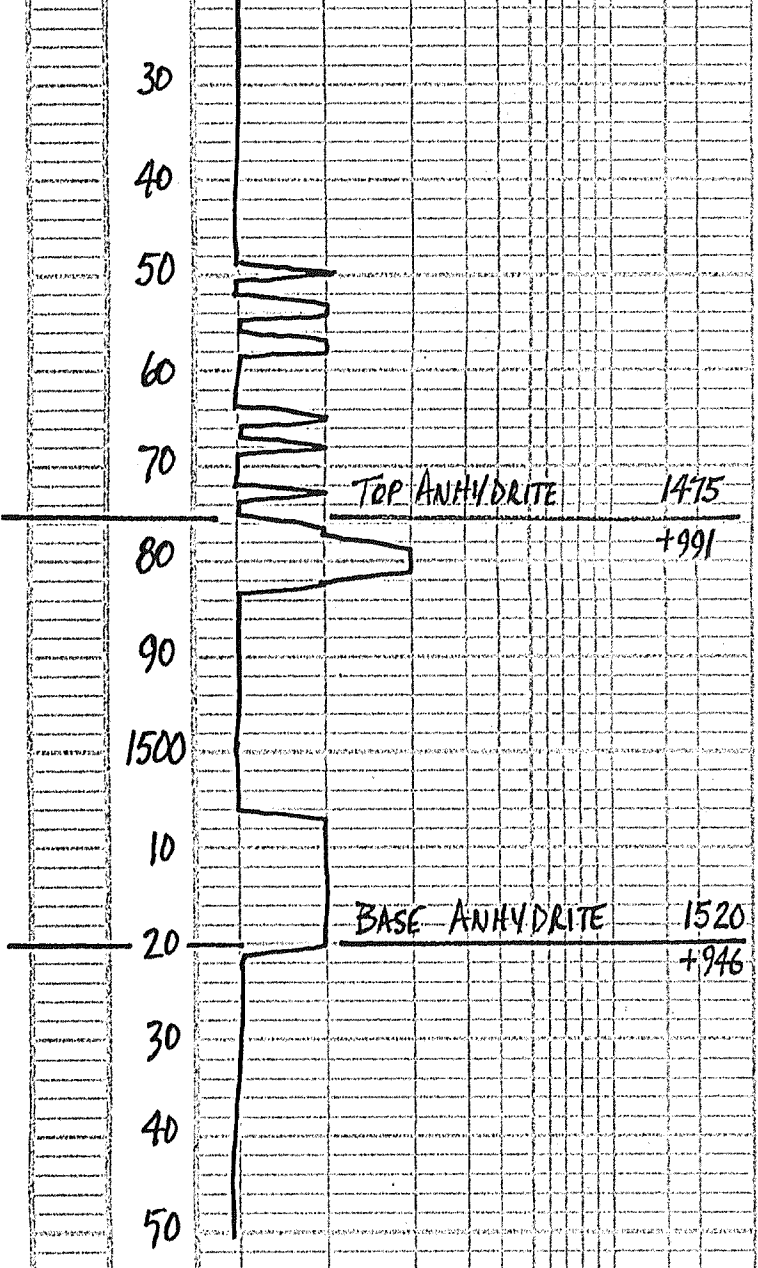
WELL LOG SURVEYS
COMP NEAR DENSITY
DUAL INDUCTION

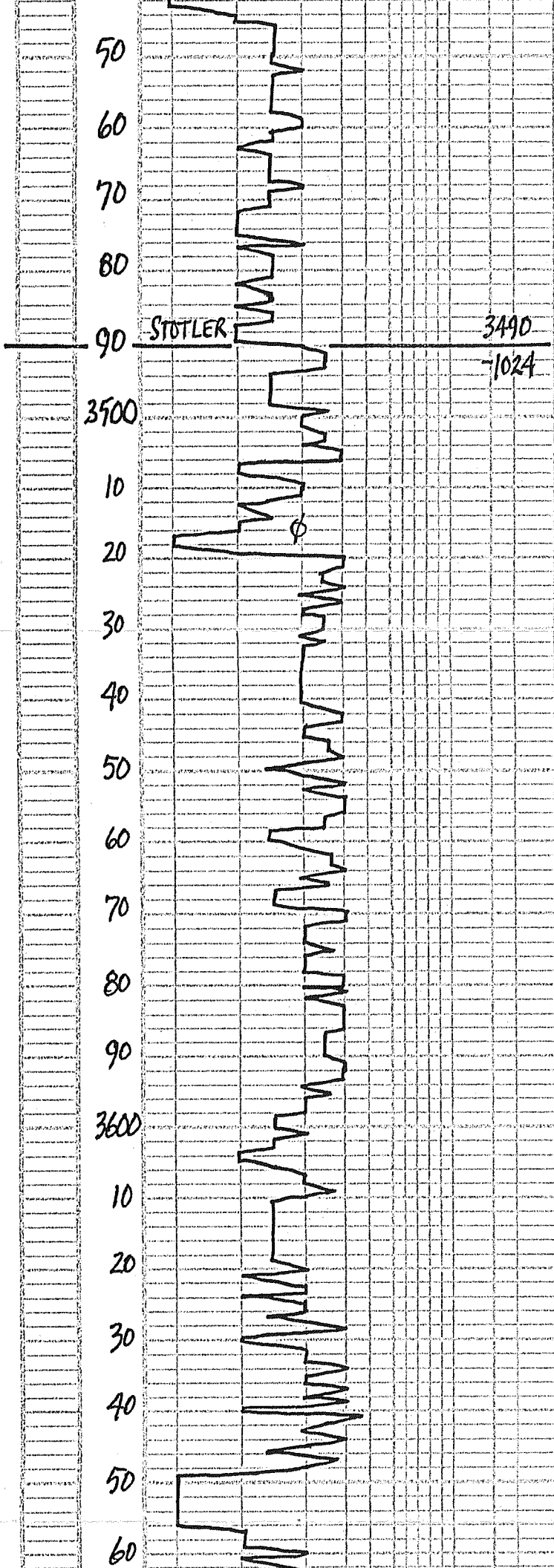


DATE	DEPTH	LOG	TIME	DEPTH
6-30-12	MRT			
7-01	WOC @ 349'			
7-02	DRLG @ 1362'			
7-03	DRLG @ 2500'			
7-04	DRLG @ 3200'			
7-05	DRLG @ 3878'			
7-06	DRLG @ 4455'			
7-07	SHORT TRIP @ 4797'			
7-08	DST #2 @ 4810'			
7-09	DST #3 @ 4950'			
7-10	DST #4 @ 5035'			
7-11	RUNNING Osg.			

REFERENCE WELL FOR STRUCTURAL CORRELATION

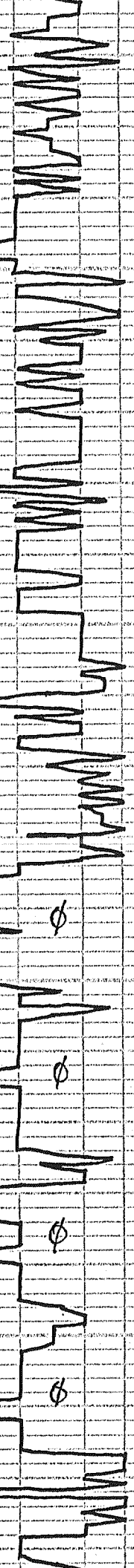
REF. Potosi #1 OIL WELL, 2390' FSL & 725' FWL 13-27-24W





← DISPLACED

70
80
90
3700
10
20
30
40
50
60
70
80
90
3800
10
20
30
40
50
60
70
80



LT CRM Foss LS P-F φ = NS

20 LT CRM Foss LS P-F φ NS NO ODOR

40 LT TAN V. Foss LS FAIR φ = NS

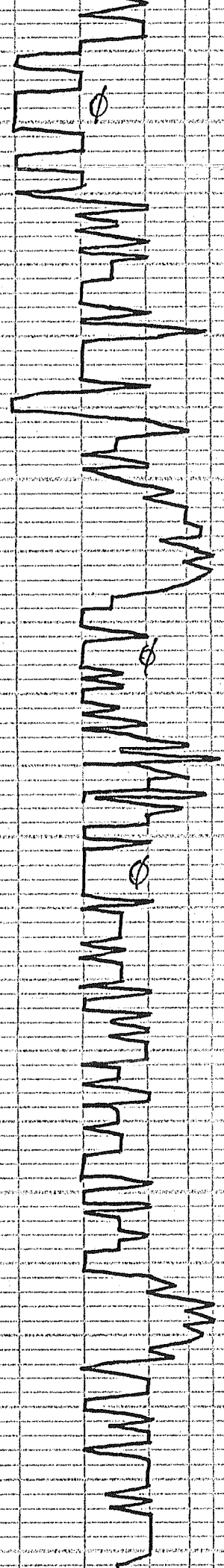
60 LT TAN = BUFF NOD = FESS LD LS
P-F φ NS NO ODOR

80 LT CRM = LT TAN V. Foss LS FAIR φ
NS NO ODOR INC GRP GRN SPS

00 WK = LT CRM Foss Lty LS P-F φ
NS, NO ODOR

← VISC: 45
WT: 90
LCM: 2#

90
3900
10
20
30
40
50
60
70
80
90
4000
10
20
30
40
50
60
70
80
90
4100



20 TAN = GRAY COL = FOSS LS FAIR ϕ
NS NO ODOR

40 LT CRM LT TAN FOSS LS FAIR ϕ
NS NO ODOR

60 WH = CRM FU = XLN LS POOR ϕ NS
INC BRN RUST SHS

MUD: CO. ✓
← VISC: 45 CHL: 6500*
WT: 8.9 LCM: 1 1/2*
FILT: 9.2

80 LT CRM SEMI = FOSS LS P-F ϕ
NS NO ODOR FEW DNSE SHS

90 LT CRM LT TAN SEMI OOL LS
FAIR ϕ - NS INC GRAY SHS

LITAN = BUFF SLI = FOSS LS
P-F ϕ - NS NO ODOR

20 WH = LT CRM SLI = OLY LS - NS

WH = LT CRM SLI = FOSS LS PLY
OLY POOR ϕ - NS NO ODOR

40 CRM = BUFF SEMI = FOSS LS
P-F ϕ - NS NO ODOR

LT CRM = LT TAN FOSS LS F ϕ
NS

60 WH = V. LT GRN SLI = FOSS LS
P-F ϕ NS NO ODOR

WH = LT CRM SLI = FOSS LS
P-F ϕ NS

50 LT GRN = CRM FOSS LS P-F ϕ NS
NO ODOR

LT GRN = CRM FOSS LS - NS

60 LT TAN = CRM SEMI = FOSS LS
P-F ϕ - NS NO ODOR

10 WH = CRM FU = XLN LS POOR ϕ
NS

20 FLOOD LT CRM WH = V. OOL FOSS
LS FAIR ϕ - NS NO ODOR

10
20
30
40
50
60
70
80
90
4200
10
20
30
40
50
60
70
80
90
4300
10
20

HEEBNER

4152
-1686

TDR

DOUGLAS

LANSING

4270
-1804

CFS →

LT CRM SUB OOL LS SLI CRM
NS NO ODOR

40 CRM - TAN SEMI-FOSS LS
P-F φ - NS NO ODOR

FLOOD DK GRAY SHS & GRAY LS

60 WH - CRM SEMI-FOSS LS P-F φ
NS NO ODOR

BLK CARB SHS!

80 DIRTY GRAY LS SLI-FOSS - NS
LT GRAY - GRN SOFT SHS

LT GRAY - TAN SLI-FOSS LS POOR φ
NS, NO ODOR

80 LT CRM - LT TAN SLI-FOSS LS
POOR φ - NS

10 LOTS WH - LT CRM SEMI-FOSS LS
PTLY CRM FAIR φ - NS NO ODOR

20 LT GRAY - GRN GUMBO SHS

30 GRN - GRN SHS FEW DNSE GRAY
FA - XLN LS - NS

40 LT GRAY - TAN FUSSENO LS POOR φ
NS NO ODOR

50 LT GRAY - BUFF OOL LS POOR φ
NS NO ODOR OOL - SOLID

60 CRM - BUFF SLI-FOSS LS P-F φ
NS NO ODOR

70 LOTS LT BLUE - GRAY SHS

80 TAN - BUFF V. FA - XLN DNSE LS
POOR φ - NS NO ODOR

86) WH - LT CRM SLI-FOSS LS
PTLY CRM P-F φ - NS NO ODOR

30 MIN: WH - LT CRM SEMI-FOSS LS
CRM - ATG P-F φ - NS NO ODOR

60 MIN: WH - LT CRM SEMI-OOL LS
PTLY CRM P-F FOSS φ - NS

90 WH - LT CRM SLI-FOSS LS POOR φ
NS NO ODOR

10 DK GRN SMOKEY Δ & ATG LS
DNSE POOR φ - NS NO ODOR

20 LT CRM - LT TAN SLI-FOSS LS
POOR φ - NS NO ODOR

LT CRM LT TAN SLI-FOSS LS
POOR φ - NS, NO ODOR

← VISC: 53
WT: 9.1
LCM: 2#

← GEBL. ON LOCATION

850# PP

NO KICKS

ADDING PRE-MIX

NO KICKS

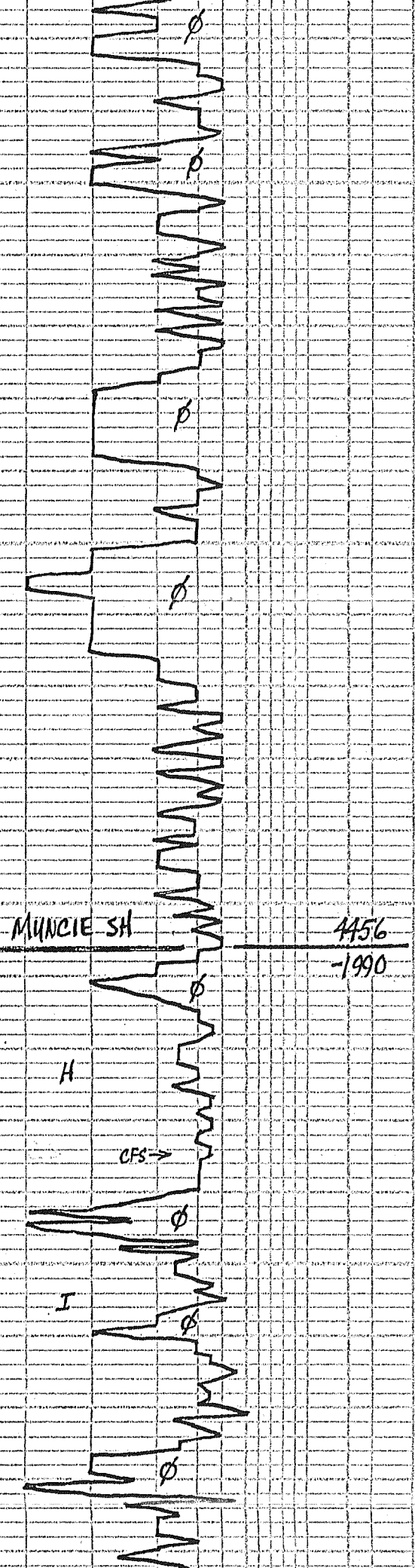
← VISC: 52
WT: 9.2
LCM: 2#

900# PP
54 STROKES

NO KICK

← VISC: 47
WT: 9.2
LCM: 2#

30
40
50
60
70
80
90
4400
10
20
30
40
50
60
70
80
90
4500
10
20
30
40



40. G.P. SHS & GRAY MERT. SLI FOSS
LS POOR ⌀ - NS

LT CRM LT TAN SEMI-FOSS LS
P-F FOSS ⌀ PTLY CRK - NS
NO ODOR

60. FINEY GRD WH-LT CRM SLI-FOSS
LS P-F ⌀ - NS, NO ODOR

WH-LT CRM SLI-FOSS LS POOR ⌀
NS NO ODOR PTLY CRK

80. LT CRM LT TAN SLI-FOSS LS
POOR ⌀ - NS NO ODOR

LT CRM LT TAN SLI-FOSS LS
POOR ⌀ - NS, NO ODOR

90. BLK SHS & WH FN-XLN LS
CRK P-F ⌀ - NS, NO ODOR

10. WH-LT CRM SLI-FOSS LS
P-F ⌀ - NS PTLY CRK

20. WH-LT CRM SLI-FOSS LS
CRK - NS, POOR ⌀ - NS

30. WH-LT CRM FN-XLN CRK LS
P-F ⌀ LT TAN LG FOSS LS
FAIR ⌀ - NS NO ODOR

40. FLOOD LT TAN SLI-FOSS LS
POOR ⌀ - NS NO ODOR

50. FEW GRAY DNSE LSH LS
POOR ⌀ - NS, NO ODOR

60. FAIR AMT DR. GRAY-BLK SHS

70. CRM-LT TAN SLI-FOSS LS
POOR ⌀ - NS PTLY CRK
NO ODOR

80. WH-CRM-LT TAN SLI-FOSS LS
POOR ⌀ - NS NO ODOR

85. LT CRM SLI-FOSS LS POOR ⌀
NS NO ODOR

30 MIN. CRM-LT TAN SLI-FOSS
LS POOR ⌀ - NS NO ODOR

90. FRED CRM-LT TAN SLI-FOSS LS
POOR ⌀ - NS, NO ODOR

10. CRM-LT TAN SEMI-FOSS LS
P-F ⌀ - NS NO ODOR SLI CRK

20. WH-CRM FN-XLN DNSE LS
POOR ⌀ - NS NO ODOR

30. FLOOD LT CRM-TAN DOLD LS
P-F ⌀ - NS, NO ODOR

40. WH-V. LT GRAY LSH LS POOR ⌀
NS

50. V. LT TAN-CRM-WH SLI-FOSS LS
P-F ⌀ - NS PTLY CRK

60. LOT GRAY SHS & SHLN LS - NS

}
NO KICKS
}
← VISC: 47
WT: 9.2
LCM: 2#

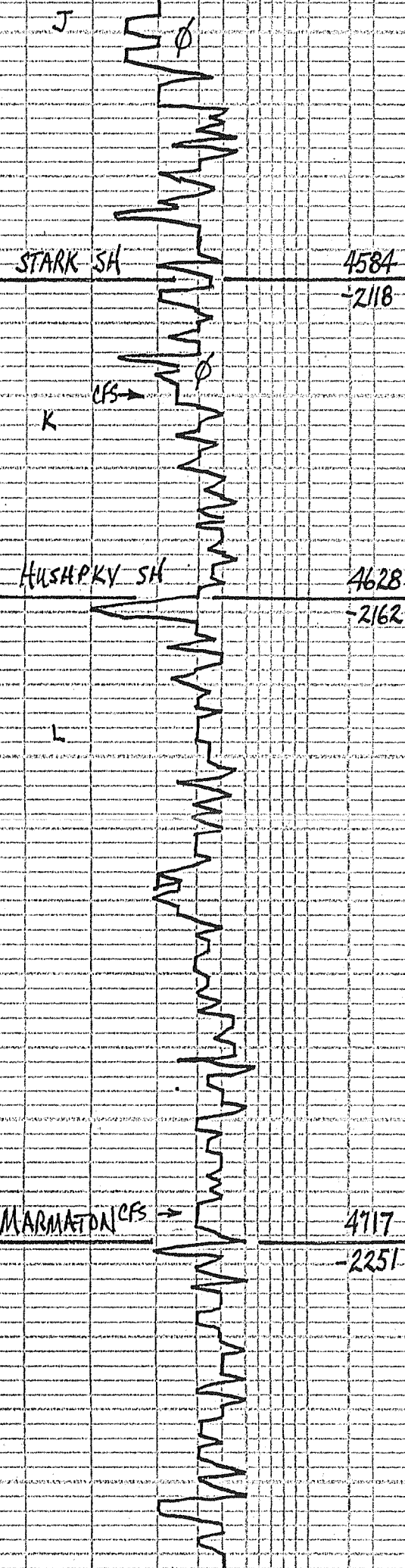
JET #1 ADD PREMIX
}
← BUCK CHRONO.

← MUD CO V
VISC: 52 FILT: 9.6
WT: 9.3 CHL: 6,000

← NO KICK

}
NO KICKS
}
← VISC: 51
WT: 9.3
LCM: 1 1/2 #

50
60
70
80
90
4600
10
20
30
40
50
60
70
80
90
4700
10
20
30
40
50
60



70. LT. CRM - TAN SUB. DOC. LS FAIR ϕ
NS NO ODOR

80. LT. CRM - LT. TAN SEMI. FOSS. LS
POOR ϕ - NS

90. LOTS DK GRAY - BLUE - BLK SHS
CRM LS FA - NS

00. TAN - BUFF SLI - FOSS. LS
POOR ϕ - NS NO ODOR LOTS GRAY
BLK SHS

30 MIN. CRM - TAN - BUFF SLI - FOSS
LS P-F FOSS. ϕ - NS NO ODOR

60 MIN. WH - CRM - TAN SLI - FOSS
LS P-F ϕ - NS NO ODOR

10. WH - LT. CRM SLI - FOSS LS
PTLY CR. - NS NO ODOR

20. LT. CRM - LT. TAN FU - XLN LS
DNSE POOR ϕ - NS

30. LS AA - NS $\frac{1}{2}$ INC. GRAY SHS

40. CRM - TAN FU - XLN LS DNSE -
CR. POOR ϕ - NS
 $\frac{1}{2}$ BLK SHS

50. WH - CRM LT. TAN FU - XLN LS
POOR ϕ - NS NO ODOR

60. FLOOD V. LT. GRAY FU - XLN LS
DNSE - CR. POOR ϕ - NS

70. FLOOD GRAY FU - XLN LS $\frac{1}{2}$ GRAY
SHS

80. PRED. GRAY - TAN DNSE - MEALY
LS POOR ϕ - NS NO ODOR

90. FLOOD GRAY NOD. LS W/SPICES
GRAINY DNSE - MEALY NS

00. FLOOD GRAY NOD - SPIC. LS
POOR ϕ - NS NO ODOR

10. FLOOD GRAY NOD - MOLT. LS
POOR ϕ - NS NO ODOR

30 MIN. LS AA - NS $\frac{1}{2}$ BLK SHS

20. LOTS DK GRAY - BLK SHS $\frac{1}{2}$ LS

30. CRM - LT. TAN - BUFF FU - XLN LS
POOR ϕ - NS NO ODOR

40. CRM - TAN FU - XLN LS SLI - CR.
- DNSE POOR ϕ - NS

50. LT. CRM - LT. TAN FU - XLN LS
PTLY CR. - NS NO ODOR

60. FLOOD WH - LT. CRM SLI - FOSS
LS POOR ϕ - NS NO ODOR

70. DK GRAY - BLK SHS

← VISC: 51
WT: 9.3
LCM: 1 1/2 #
15 UGK H.W.
NO RECYCLE
BUGK H.W.

← ADDING PREMIX
16 UGK

← VISC: 52
WT: 9.2
LCM: 2 #

← VISC: 51
WT: 9.1
LCM: 2 #

70
80
90
4800
10
20
30
40
50
60
70
80
90
4900
10
20
30
40
50
60
70
80

PAWNEE

CHEROKEE SH

HUCK LS

ATOKA SH

MISS

4794

-2328

4843

-2317

4930

-2464

4943

-2477

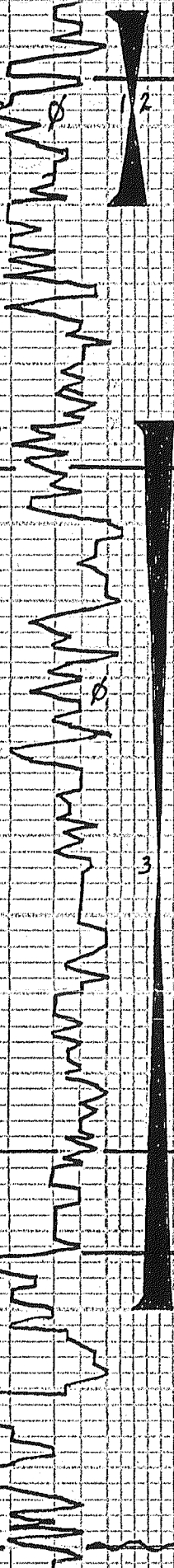
4980

-2514

2BUCK HW RECYCLE
V:56
WT:94
FIL:1.7
CHL:5,600

CFS →

CFS →



80. LOTS TAN-BUFF-SLI-FASS LS
POOR ϕ - NS NO ODOR

90. LOTS LTCRM-LT TAN V. FASS LS
P-F OOL ϕ - NS NO ODOR

99) LTCRM-TAN V. FN-XLN LS
DNSE-VPOOR ϕ - NS NO ODOR

30 MIN: DK GRN-BLK SHS &
LT CRM-TAN FN-XLN DNSE LS

60 MIN: LTCRM-LT TAN SEMI-DR
LS POOR ϕ NO VIS STN LT OODR

10) LTCRM-SLI-FASS OOL LS P-F OOL
 ϕ FEW W/ LT STN 55G LT-FAR OODR

30 MIN: FEN-LS LTCRM-TAN FASS
OOL LS W/ P-F FASS ϕ W/ 55 LTGFD

LT-FAIR OODR SLT CRM

60 MIN: DECREAS IN LS AA FT OODR
SLI INC CHY

30. PRED LTCRM SLI-FASS LS POOR ϕ
2 PCS SCAT LT STN, FT OODR

40. BLK SHS & WH-LTCRM-TAN LS
FN-XLN DNSE-CHY-NS

NH CRM-LT TAN SLI-FASS LS POOR ϕ
NS NO OODR PLY CHY

60 FLOOD-BLK SHS!

70 FLOOD LTCRM TAN FN-XLN LS
DNSE-CHY POOR ϕ - NS NO OODR

80 SEVERAL PCS LT TAN V. FASS OOL LS
W/ FAIR INTER OOL-FASS ϕ W/ 55 LTGFD

FRNT OODR CLEAN ROCKS

30 MIN: FEN-LS W/ 55 FFD INC
TAN-CRM SLI-CHY LS POOR ϕ - NS

60 MIN: FEN-PCS TAN V. FASS LS
W/ FAIR ϕ - 55 LTGFD, LT OODR

BLK SHS
STILL FEW PCS TAN LS W/ 55 FFD

60 LT-DK TAN FN-MO-XLN DNSE
LS POOR ϕ - NS NO OODR

10 LTCRM-TAN FN-XLN LS POOR ϕ
NS NO OODR GRN-GRN SHS

20 CRM-TAN DNSE-CHY LS-NS
FEW STN NO OODR

30 LTCRM-MEALY-FN-XLN LS
DNSE-CHY-NS

40 CRM-TAN-LT GRN LS FN-XLN
MEALY-DNSE-NS NO OODR

50) FLOOD WH-LTCRM FN-XLN LS
PLY CHY POOR ϕ - NS NO OODR

30 MIN: FEW LT TAN FN-XLN LS
W/ POOR ϕ LT STN NO FO, NO OODR

60 MIN: LTCRM-LT TAN FN-XLN
LS POOR ϕ FEW PCS DK EDGE STN

NO FO, NO OODR PLY CHY

60 LOTS GRN, GRN, GOLD, PURPLE SH

70 PRED BRIGHT GRN PURPLE SHS
FEW LT GRN V. FN-GR SILTSTONE

80 NO STN
FEW CRM-LT GRN SHARP Δ -NS
FEW LT TAN STN Dolo W/ STN
TRACE FO, NO OODR P-F ϕ

90 LT TAN VELL-ORANGE WEA Δ W/
FAIR WEA ϕ SCATN STN 55G FO
FT OODR ON BREAK, LOTS PCS
W/ STN

SHORT TRIP 25 STANS @
4797-CLEAN & SMOOTH
COND. HOLE 1 HR.

DRLG 13' CFS 1 1/2 HRS
CAME OUT FOR DST.
(PIPE STRAP 21' SHORT)
S.H.F. = 10

DST #1 4785-4810
HIT SOLID BRIDGE GOING
IN HOLE WITH TEST TOOL
@ 34:50- CAME OUT.
COND. HOLE & ADD MUD.

DST #2 4785-4810'
30-45-45-60
IF: STR BLOW BOB 2 MINS.
FF: BOB 1 MIN. GTS 5 MINS
GA: 5.24 K IN 40 MINS.
REC: 200 CGO = 20%G, 80%O
126 G MO = 15%W, 25%O, 60G
63 O GCM = 20%O, 20%W
30%W, 30%G
389 TF CHL = 50,000 PPM
SIP: 857-852 OIL = 44%
IFP: 68-101 FFP: 116-172

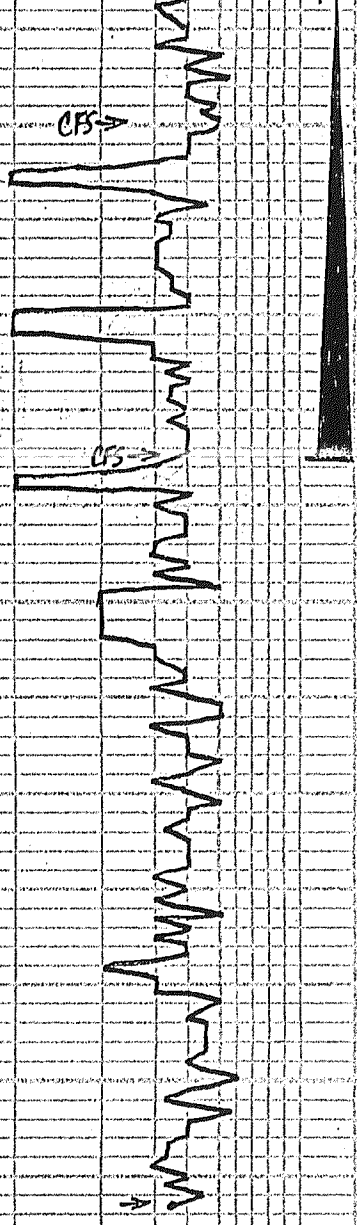
TONS TRIP GAS
ADDING \downarrow PRE MIX

HOTWIRE STILL
OFF CHART

DST #3 4837-4950
30-45-45-60
IF: STRO BLOW BOB 2 MINS.
FF: STRO BLO INEA GTS 3 MINS.
GA: 13.00K IN 40 MINS.
REC: 90 SO GCM = 3%O, 5%G 92M
SIP: 1382-1378
IFP: 89-95 FFP: 102-110

HOTWIRE STILL
READING BIG GAS
70 TUCK

90
5000
10
20
30
40
50
60
70
80
90
5100
10
20
30



RTD 5113
LTD 5115

00) LOTS WH WEA'D W/FAIR Ø
FEW SCAT STN TRACE FD FT ODOR
LOTS WH FAI-MD-XLN LS - NS
30 MIN: FLOOD WH - LT CRM LS
FN: XCN DNSEI CRU - NS
10 LT CRM FN: XCN & MICRO OOL LS
P-F Ø 2 RES VSSLTGFD
20 FLOOD LT CRM MICRO OOL LS
FEW DOLD LS P-F Ø SCAT STN
PLY CRU NO ODOR

DST#4 4940-5035
30-45-45-60
IF: STR BLOW BOB 1 MIN.
GTS IN 10 MINS INITIAL
FF: STR BLOW BOB 30 SEC.
GA. 9.52 K MAX
REC: 60' MUD = 100% M
SIP: 240-236
JFP: 112-97 FFP: 90-86
MUD: CO CK
VISC: 60 FILT: 9.2
WT: 9.3 CHL: 6,200

30) FEW LT TAN SUGR DOLD W/P F Ø
W/ VSSLTGFD FT ODOR ON BREAK

35) FEW LT TAN FN: GR DOLD W/P F Ø
W/ VSSLTGFD, PLY CRU FT ODOR
30 MIN: WH: DOLD LT TAN FN: MD XCN
LS & DOLD LS DOLD Ø - NS
PLY CRU LT ODOR? GAS?
60 MIN: LS MA - NS INC CRU

50) LT CRM FN: MD-XCN LS P-F Ø
NS NO ODOR, PLY CRU

60) FEW LT TAN BUFF FN: GR SUGR
DOLD P-F Ø - NS NO ODOR

70) INC LT TAN: GR FN: XCN SUGR DOLD
FAIR Ø - NS, NO ODOR PLY CRU

80) LT TAN: BUFF FN: XCN DOLD P-F Ø
NS NO ODOR

90) LOTS YELL LT ORANGE SHARP Δ
& LT CRM FN: MD: XCN LS - NS

00) FLOOD V LT YELL TAN FN: MD: XCN
LS P-F Ø - NS NO ODOR PLY CRU

10) FLOOD LT CRM - LT TAN FN: MD: XCN
LS P-F Ø - NS NO ODOR

VISC: 53
WT: 9.3
LCM: 2#

REACHED RTD 1:45 PM 7-10-12
PULLED 10 STD SHORT TRIP
CONDITION HOLE 1 1/2 HRS.
CAME OUT FOR E-LOGS.

