

Max R. Lovely

58-278-2210

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY **Richie Exploration, Inc.**

LEASE **#1 Riegel 28AD**

FIELD **Wildcat**

LOCATION **N/2 NW/SE**

SEC **28** TWP **27** RGE **22W**

COUNTY **Ford** STATE **KS**

CONTRACTOR **Duke Rig #1**

SPUD **1-18-2013** COMP **1-29-2013**

RTD **5200** LTD **5205**

MUD UP **3599** TYPE MUD **Chem**

ELEVATIONS

KB **2431**

DF **2419**

GL **2419**

Measurements Are All From **KB**

CASING SURFACE **8 5/8 @ 394'**
PRODUCTION _____

ELECTRICAL SURVEYS
Comp **N/D**
Dual **IND**

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION		
				A	B	C
Anhydrite	1445	1430	1001	1009		
Base Anhydrite	1490	1473	950	962		
Stoller	3548	3550	1119	1102		
Heebner	4204	4216	1785	1762		
Lansing	4346	4351	1920	1905		
Stark	4689	4677	2246	2216		
Marmaton	4804	4811	2380	2356		
Pannee	4883	4889	2458	2432		
Cherokee SH	4932	4936	2505	2476		
Aloka SH	5018	5027	2588	2567		
Morrow						
Mississioi	5042	5046	2615	2588		

REFERENCE WELLS FOR STRUCTURE

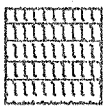

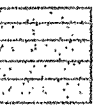

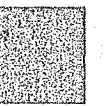
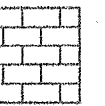
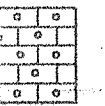

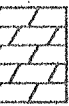
A **Ritche #1 Ford Feed Yard S/2 SE SW 29-27-22W**

B _____

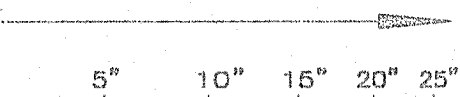
C _____

REMARKS

LEGEND

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

DRILLING TIME IN MINUTES PER FOOT
Rate of Penetration Decreases



DEPTH

LITHOLOGY

SAMPLE DESCRIPTIONS

OIL SHOWS

REMARKS

0144 901

ANHYDRITE
1445 +986
1450

BASE
ANHYDRITE
1490 +941

3400

3500

c

c

c

c

c

c

c

STOTLER
3548 - 1117

3600

7:AM 1-23-2012
DRLG @ 3610'

MUD CHECK
VLS 56 WT 8.6
CHLOR 2.300 LCM 2
FILT 7.2

GEO ON LOCK 3693'

GAS DETECTOR NOT WORKING

3700

C

C

C

3800

C

C

C

3900

C

LS, CRM, FXTLN, SOFT, CHLKY,
BLK MINS W/N, NO VIS Ø, NS

LS, BUFF, TAN, FXTLN, S → SL
HRD, ABUN FOSS, VG FOSS Ø
NS

LS, GRY, BRN, VFXTLN, HRD,
ABUN W CMT'D FOSS + ØOL'S,
NO APP Ø, NS

LS, TAN, HRD, FXTLN, ABUN SML
FOSS, SL ALGAL, FEW PCS
TAN CHT, G FOSS Ø, NS

LS, TAN, BRN, FXTLN, G SCT FOSS,
HRD, W CMT'D FOSS, NS

LS, TAN, BRN, SOFT, SL CHLKY
NS

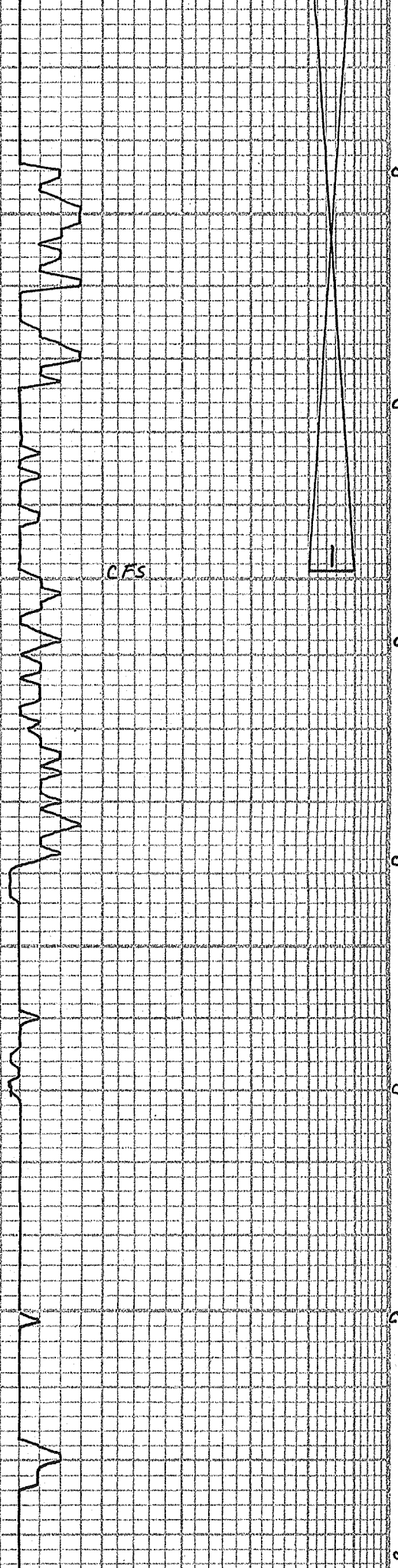
LS, WHT, VFXTLN, SL SUCR TXT,
SOFT, NS

SH, GRY, SLTY, ? REW

SH, GRY, LMY

LS, WHT/CRM, SOFT, SCT MXTLS
V SL CHLKY, G Ø, CLR OIL
SPTS, FLUOR Ø SPTS, LITESHOW
FEW SCT PP FLUOR
Ø SPTS

54 STRKS
@ 800#
VIS 45
WT 8.8
LCM 3



CFS

4000

4100

LS, WHY, F XTLN, BRITL, SOFT, VLT GRY TINT OIL (NO ODOR) SCT PP FLUORO SPTS

A.A.
LTGRY
TINT OIL

DST #1 3910-3999
30.45.30.45
IF: BOB 2 MIN ISI: NR
FF: BOB 4 MIN FSI: NR
REC: 305' M
732 W 34,000 CHLO
FP: 158-557, 573-857
SIP: 1339-1332
HP: 1925-1860

LS, BRN, F → M XTLN, V FOSS, HRD, FAIR CMT'D FOSS, F → G. Ø. NS

LS, WHY, CRM, V F XTLN, SOFT, V CHLKY

A.A.

LS, BUFF, F XTLN, HRD, SL FOSS, M HRD, NS

A.A.

LS, BUFF, F → M XTLN, GRNY, SOFT, 'MEALY', G XTLN Ø, NS

LS, F XTLN, GRNY, V SOFT, V BRITL, VG XTLN Ø, NS
CHLKY

A.A.

0
0 0
0 0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

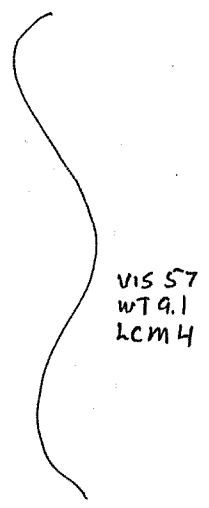
CHALK, LMY

A.A.

LS, TAN, F XTLN, V SOFT, V FOSS, VG FOSS Ø, SL ALGAL, V CHLKY, NS

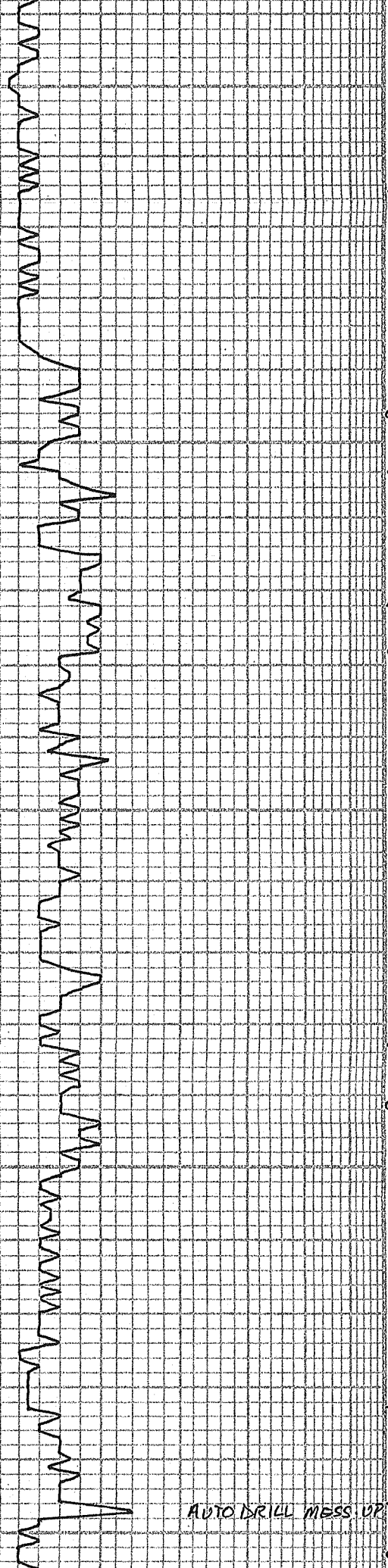
LS, A.A., INCR CHLK

7:AM 1-24-13
GIH W/TOOL. DST #1 @ 3999
MUD CHECK
VIS 45 WT 9.1
CHLOR 6,400 LCM 2
FILT 8.8



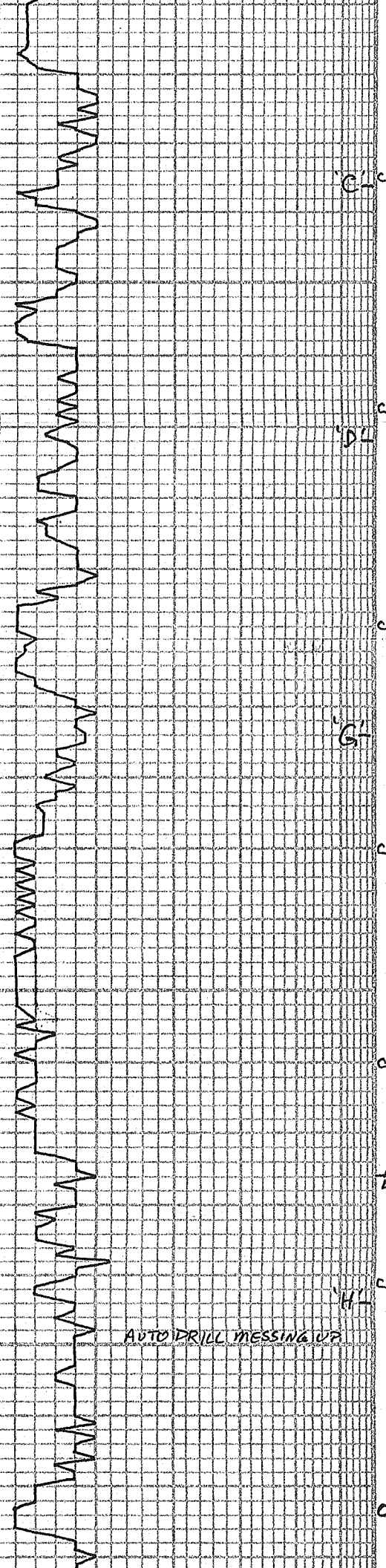
VIS 57
WT 9.1
LCM 4

ABUNDANT CHALK



			M.A.
			M.A.
			LS. CRM, TAN, VF XTLN, VG Ø, SL HRD, CRS TXT, ABUN FOSS + ALGAL, NS
			LS. DK CRM, V XTLN, SL OPAQ, VG XTLN Ø, NS
		Δ Δ Δ Δ Δ Δ	CHT, WHT, SL OPAQ, SCT SML FOSS FRAGS, FRESH
	4200		SH, GRY
	HEEBNER		SH, BLK
	4204 -1773		LS, GRY, VF XTLN, V DNS, V HRD, SL SCT SML FOSS, NO Ø, NS
			LS, CRM, F XTLN, SCT LG XTLS W/N, HRD, TITE, NS
	TORONTO		LS, BUFF, TAN, F 3M XTLN, HRD, ? Ø, NS
	4222 -1791		LS, WHT, SL DOLO, VF XTLN, DNS, HRD, NO FOSS, VF XTLN Ø, NS
			SH, DK GRY, BLK
			SH, LT GRY
			SH, LT GRY, STICKY
	DOUGLAS		LS, CRM, TAN, F XTLN, V HRD, FOSS, NO APP, NS
			SH, GRN/GRY
	4300		M.A.
			SH, GRY
	BROWN LIME		LS, TAN, BRN, F XTLN, M HRD, FOSS, V PYR, NS
	4333 -1902		LS, WHT, CRM, VF XTLN, HRD, BRTL, SL FOSS, NS
	LANSING		
	AUTO DRILL MESS. UP		
	4346 -1915		

MUD CHECK
 VIS 47 WT 9.1
 CHLOR 7,600 LCM 2
 FILT 9.6
 7:AM 1-25-13
 DRLG @ 4337



4400

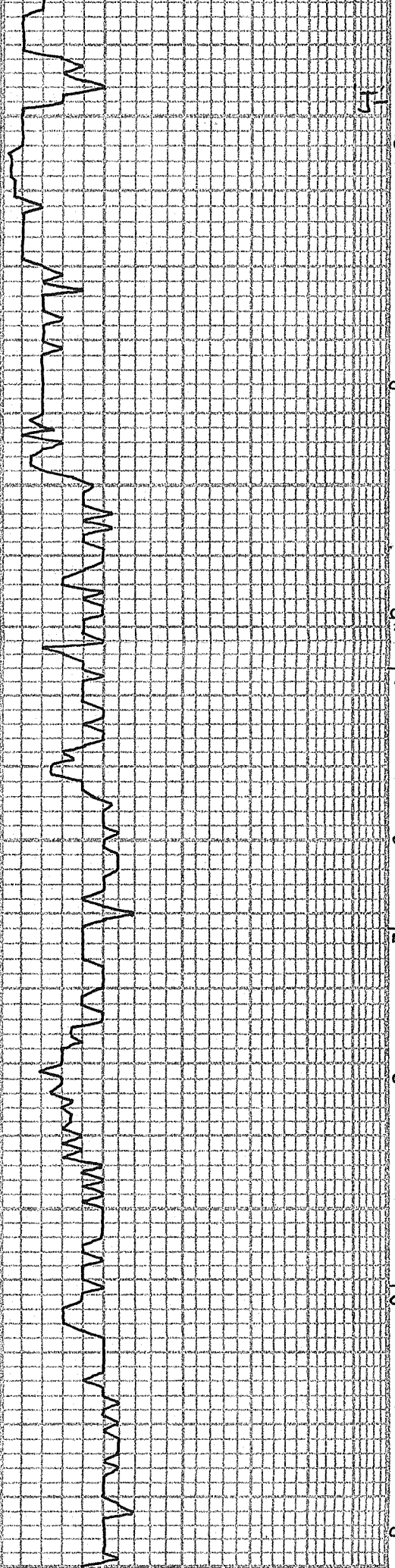
4500

MUNCIE SH
4526-2095

AUTO DRILL MESSING UP

LS, WHT, CRM, BRN, VFXTLN, CRMBLY, ? Ø. NS
SH, GRY
SH, GRY
LS, TAN, BRN/GRY, CRM, VFXTLN, DNS, HRD, NO APP. NS
LS, CRM, VFXTLN, SL GRNLR TXT, HRD, SCT TAN CHT, NO VIS Ø NS
SH, GRY
A.A.
CHY, WHT, SCT FOSS
LS, BRN, GRY, VFXTLN, VHRD, VDNS, VW CMT'D FOSS, TITE, NS
SH, GRY
LS, TAN, V DNS, V HRD, TITE, NS
CHY, GRAY, WHT, FOSS FRAGS NS
SH, DK GRAY, BLK, FISSLE
LS, BRN, CRM, VFXTLN, V HRD, DNS, FOSS, NO APP. NS
LS, BRN, CRM, M → CRS XTLN, HRD, G XTLN Ø. NS
LS, CRM, TAN, FXTLN, SL GRNLR TXT, CHLKY, NS
A.A.
LS, CRM, WHT, VFXTLN, HRD, FEW SCT FOSS, NO VIS Ø. NS
LS, TAN, FXTLN, M HRD, V G VUG Ø. NS
SH, DK GRAY, BLK
LS, TAN, BUFF, FXTLN, HRD, FOSS, PØ. NS
SH, GRY
LS, TAN, FXTLN, HRD, SL DNS, FOSS, PØ. NS
LS, WHT, FXTLN, HRD, FOSS, NS
SH, GRY
LS, WHT, FXTLN, SØ EX, BATTL, G INT XTLN Ø. NS
LS, TAN, VFXTLN, V DNS & HRD, TITE NS

VIS 48
WT 9.3
LCM 3



4600

4700

4800

LS, WHT, FXTLN, SOFT, BRTL,
Q INT XTLN PINS

LS, TAN, VFXTLN, V DNS + HRD,
TITE, NS

LS, TAN, S → M HRD, FXTLN, G VUG +
SL OOL Ø, OOL + FOSS FRAGS,
FAIR WCMT'D OOLS, NS

AA. INCR OOL + SOFTER

LS, TAN, VFXTLN, V OOL + FOSS,
VW CMT'D, TITE, HRD, NS

LS, TAN, FXTLN, HRD, DNS, TITE, NS

SH, GRY, BLK

LS, GRY, TAN, BUFF, FXTLN,
HRD, PXTLN Ø, NS

SH, DK GRY, FEW PDS
SH, BLK

LS, CRM, TAN, FXTLN, HRD,
BRTL, ND VIS Ø, NS

CHT, WHT, WHT/GRY, V SL SML
FOSS W/N, FRESH

CHT, DK GRY

SH, GRY, BLK

LS, TAN, CRM, GRY, VFXTLN,
V DNS, SCT. GRY + TAN, NS

LS, CRM, BUFF, FXTLN, M HRD,
V FOSS, P FOSS Ø, NS

LS, CRM, FXTLN, SOFT, CHLKY,
NS

SH, GRY

LS, BRN/TAN, FXTLN, HRD, FOSS,
TITE, NS

LS, WHT, VFXTLN, CHLKY, DNS,
HRD, NS

LS, GRY, VFXTLN, V DNS + HRD,
TITE, NS

SH, GRY

STARK
4669 - 2238

'K'
4676 - 2245

HUSHPOCKNEY
4712 - 2281

BKC
4761 - 2330

— NO KICKS —

ADD PREMIX

— NO KICKS —

VISS6
WT 9.3
LCM 1/2

7:AM 1-26-13
DRLG @ 4743'

MUD CHECK
VISSO WT 9.4
CHLDR 8,900 LCM 2
FILT 7.2

CARBIDE TEST
290 HW KICK

MARKHAM
4804-2373

LS, TAN, BRN, VF XTLN, DNS,
HRD, SCT BRN CHT, NO P, NS

LS, GRY, VF XTLN, HRD, G DOMO,
S M OOLS, W CMT'D OOLS, NO
APP, NO PERM, NS

LS, TAN, GRY, VF XTLN, V DNS,
V HRD, TITE, NS

SH, GRN, LT GRY

LS, TAN, FXTLN, HRD, V SCT
FOSS + FRAGS, NS

LS, WH, V CLEAN LS, HRD, DNS,
TITE, NS

SH, GRY, FISSLE

PAWNEE
4883-2452

LS, TAN, BRN, VF XTLN, DNS,
HRD, TITE, FRAC'D, NS

A.A.

SH, GRY

LS, WH, VF XTLN, V DNS, HRD,
V SML FOSS FRAGS, FRAC'D, NS

A.A.

CHEROKEE
4932-2501

SH, BLK

LS, CRM, WH, VF XTLN, HRD
DNS, TITE, NS

SH, BLK

CHT, BLK, BRN, V FOSS, FRESH
NS

LS, BRN, VF XTLN, V HRD, FOSS,
TITE, NS

LS, A.A.

5000

SH, GRY

HUCK
5012-2581

LS, TAN, VF XTLN, HRD, DNS, NO P, NS

LS, WH, SOFY, FXTLN, SML BRN O
SPTS ON BRK, TR GAS, PC G BRN STN NO ODR

LS, BRN, BR TL, SL HRD, FXTLN, MED LT BRN O
NO ODR

SIZE LT BRN OIL ON BRK

ATOKA
5018-2587

LS, TAN, VF XTLN, HRD, DNS, NO P, NS

LS, WH, SOFY, FXTLN, SML BRN O
SPTS ON BRK, TR GAS, PC G BRN STN NO ODR

SIZE LT BRN OIL ON BRK

SCT BRN
O STNG
TR GAS
NO ODR

25 STAND SHORT TRIP
(PULLED TIGHT)
DST #2 5004-5021
30.30.30.30
IF: SURF BLD, DIED
FF: SURF BLD
REC: 1'M
FP: 39-39, 39-39
SIP: 43-41
HP: 2518-2114

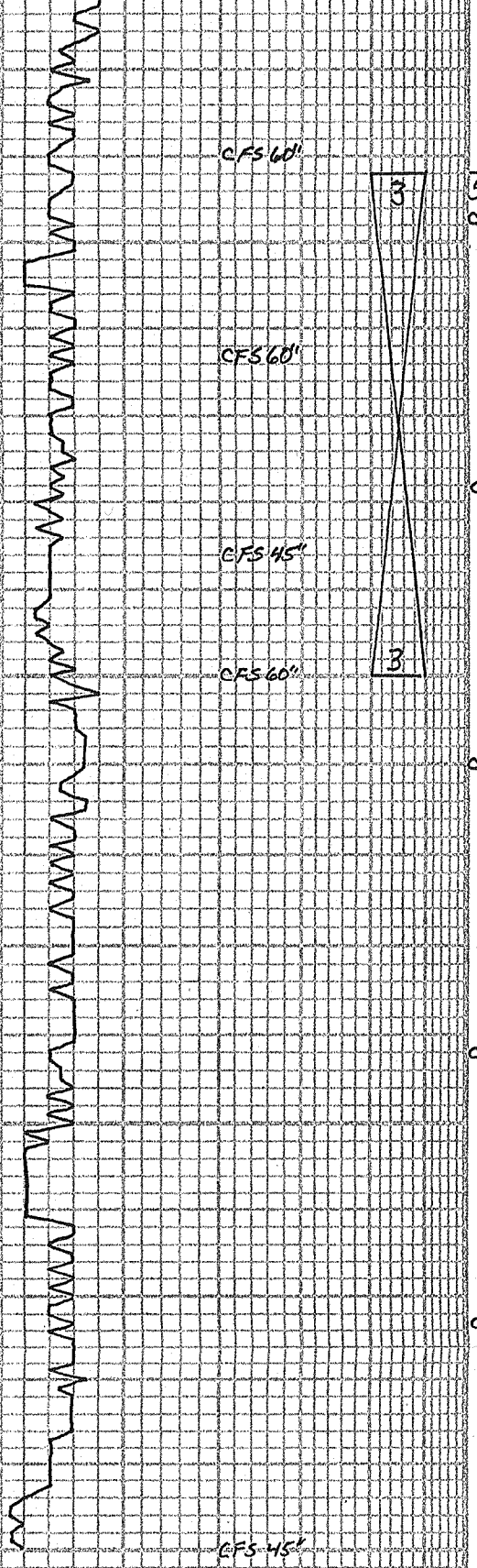
- NO KICKS -

VIS 51
WT 9.2
LCM 1

VIS 47
WT 9.4
LCM 1



CFS 60'



SH, GRN, GRY, BLK
 SLTSTN, GRY
 CHT, CLOUDY, OPAQ, SHARD
 SH, VARICOLOR, MUSTARD
 LS, TAN, FXTLN, HRD, NO VIS P, NS
 SH, GRY, GRN, PYR
 LS, WHT, 'ROTEN', G P, NS
 CHLRY APPEARANCE, GRY
 CHT, WHT, SMOKE, GRY
 Dolo, LT GRY, FXTLN GRNS, MHRD,
 P, NS
 Dolo, LT GRN, LMY, FXTLN, SOFT,
 P, NS
 LS, WHT, CRM, SL Dolo, SOFT,
 CHLRY, GXTLN P, NS
 Dolo, OFF WHT, TAN STRKS, FXTLN,
 ALMOST SUCR, HRD, P, NS
 LS, TAN, V. CLEAN, V. FXTLN, V. DNS,
 HRD, ? FRACS, TITE, NS
 SH, GRY, GRN
 SH, GRY, DK GRY
 LS, BRN, FXTLN, CLR CRS XTL,
 F, GXTLN P, NS
 LS, TAN, FXTLN, SL HRD + DNS,
 P, NS
 LS, WHT, SL Dolo, SOFT,
 PPXTLN P, NS
 CHT, WHT, OPAQ IN PCS,
 SCT FOSS, NS
 Dolo, GRY, F GRNLR TXT,
 M HRD, FEW SCT LG GRNS
 NS
 Dolo, GRY, GRN, SUCR, M HRD
 CHT, TAN, WHT, FRESH
 CHALK
 CHALK

1: AM 1-21-13
 COND² HOLE FOR DST2
 CARBIDE TEST: 25u Hw
 MUD CHECK
 VIS 48 WT 9.3
 CHLOR 8,000 LCM 3
 FILT 9.6
 MUD CHECK
 VIS 51 WT 9.2
 CHLOR 9,800 LCM 2
 FILT 9.2
 7: AM 1-28-13
 CFS @ 5063'
 CARBIDE TEST: NEGATIVE
 BUTANE TEST @ TRAILER:
 POSITIVE
 DST #3 5042-5100
 30:30.30.30
 IF: wk surf blo, dried
 FF: V WK SURGE, NO BUILD
 FLUSH TOOL, WK SURF BLO
 REC: 8'M
 FP: 60-62, 63-66
 SIP: 1062-804
 HP: 2588-2408
 VIS 59
 WT 9.3
 LCM 2
 10 STAMBS SHORT TRIP
 7: AM 1-29-2013
 COND² HOLE FOR LOGS

