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GEOLOGIST'S REPORT
 DRILLING TIME AND SAMPLE LOG

OPERATOR Ritchie Exploration, Inc.
 LEASE Roemer WELL NO. 1-34C
 FIELD Wildcat
 LOCATION 1700' ESL + 495' FWL
 SEC. 34 TWP. 12S RGE. 29W
 COUNTY Gove STATE Kansas

CONTRACTOR Duke drlg. co Rig 2
 COMPLETION 12-17-2012 COMP. 1-03-13
 RTD 4520' LOG TO 4522'
 SAMPLES SAVED FROM 3500' TO RTD
 DRILLING TIME KEPT FROM 3400' TO RTD.
 SAMPLES OBTAINED FROM 3500' TO RTD.
 GEOLOGICAL SUPERVISION FROM 3460' TO RTD.
 MUD W/ 3400' TYPE MUD Chemical

FORMATION	TOP	LOG	DEPTH	TOP	DEPTH	STRUCT.	CO. NO.
Anhydrite	2169	+524	2170	+525	+25		
Base Anh.	2204	+489	2201	+492	+21		
Stotler	3408	-715	3408	-715	+18		
Heebner sh	3768	-1075	3768	-1075	+16		
Lansing	3810	-1117	3806	-1115	+8		
Muncie sh.	3940	-1247	3941	-1248	+20		
STARX Sh.	4034	-1341	4033	-1340	+18		
Base K. C.	4081	-1393	4090	-1397	+22		
Altamont	4130	-1437	4132	-1439	+22		
Pawnee	4209	-1516	4211	-1518	+19		
Fort Scott	4288	-1595	4293	-1600	+20		
CHER. SH.	4318	-1625	4318	-1625	+17		
Johnson	4357	-1682	4357	-1684	+15		
Mississippi	4393	-1760	4390	-1697	-3		

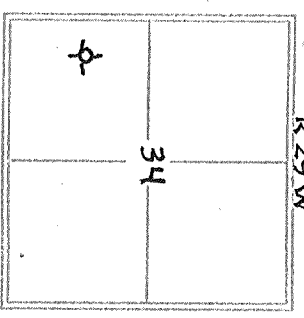
ELEVATION
 KB 2693'
 DF _____
 CI 2685'
 Measurements Are All
 From KB.

CASING RECORD

SURFACE 8 7/8" @ 238' w/
165 SX
 PRODUCTION None

ELECTRICAL SURVEYS

Nabbes
 Dual Induction
 density/Neutron.



REFERENCE WELL FOR STRUCTURAL COMPARISON Tidewater Oil Co. No. 1
E.M. Bland, C NE SE 23-12S-29W. 2761 K.B.

DATE	ESTIM	NO	SEE	WGS	TIME	ESTIM O
12-17-12	MIET	A	12 1/4	RE	-	23
12-18-12	238' surf woc	1	7 7/8	JZ	H & 20-d	4011
12-19-12	1654' drlg.	2	7 7/8	JZ	QX20	4198
12-20-12	2619' drlg	3	7 7/8	JZ	re ?	4522
12-21-12	3232' drlg + xmas					
12-27-12	START UP 3232'					
12-28-12	3421' drlg loc 1					
12-29-12	3740' drlg loc 2					
12-30-12	3925' DST.1					
12-31-12	4050' DST.2					
1-01-13	4100' DST.3					
1-02-13	4275' DST.4					
1-03-13	4472' drlg. 7)					

PRODUCTION

DESCRIPTION OF CORE

Lansing "H"	3960-63	LS, Grm. ft. tan, fn-xln, foss, 2 pccs sil stain on xln edges - sil foss No free oil. ? odor. V. CHKY
Lansing "I"	3991-3996	LS, lt tan, fn-xln, some dsq, 1 p w/ dead oil stain on xln edge, No free oil, No odor
Lansing "J"	4020-4024	LS, Grm, fn-xln. V-sil foss. 3 pccs w/ H-brn staining in pr xln-sil foss & NE No odor
Lansing "K"	4052-4059	LS, H. tan, fn-xln, V-sil foss, 3 pccs w/ greasy stain in poor foss & sil odor
Lansing "L"	4081-4080	LS, tan - light brown, + gray, fn-xln, foss, 3-4 pccs w/ greasy stain in poor xln. faint odor, NFO
Pawnee	4210-15	LS, Grm, fn-xln, sil foss, 2 pccs w/ H-brn staining in poor foss & N F NO odor
Myrick	4267-72	LS, tan, fn-xln + foss, w/ 475 pcc silmed brn stn + 376 in pr. fr pinpoint - fossy sil - 7 FR odor, CH

(NO OTHER SAMPLE SHOWS)

(BIT TRIP)

DEPTH 5" 10" 15" 20" 25"

SAMPLE DESCRIPTIONS

REMARKS

2100

10

20

30

40

50

60

70

80

90

2200

10

20

30

40

3400

10

20

30

40

50

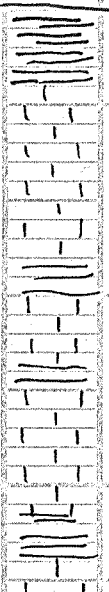
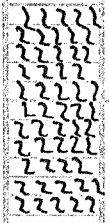
60

Anhydrite
2170' (+523)

Base Anh
2201' (+492)

AT START 3400'

STOTLER
3408 (-715)



Very poor weather, many prob w/rig -

on location -> drlg and working on. Rig -

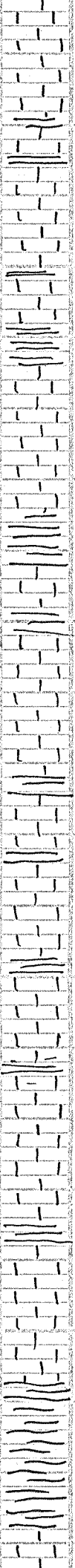
70
80
90
3500
10
20
30
40
50
60
70
80
90
3600
10
20
30
40
50
60
70
80

20' sps

φ

φ

10' sps



(samples start at 3520')

Ls. TAN. FN. XLN - FOSS. SLI
mat. tight. N.S.

sh. gray-mar

Ls. tan. fn. xln. SLI FOSS
pr. N.V. N.S.

sh. Gray - dk Gray

Ls. tan. fn. xln. SLI
FOSS - SLI oolitic pr
N.S.

sh. Gray's.

Ls. tan. - Cream, FOSS
w/ fair scatt φ.
N.S.

sh. Gray - dk Gray SLI mar

Ls. Crm - lt tan. fn. xln
SLI FOSS - pr φ N.S.

sh. med gray - dk Gray

Ls. Crm - tan. fn. xln -
SLI FOSS - scatt FOSS
N.S.

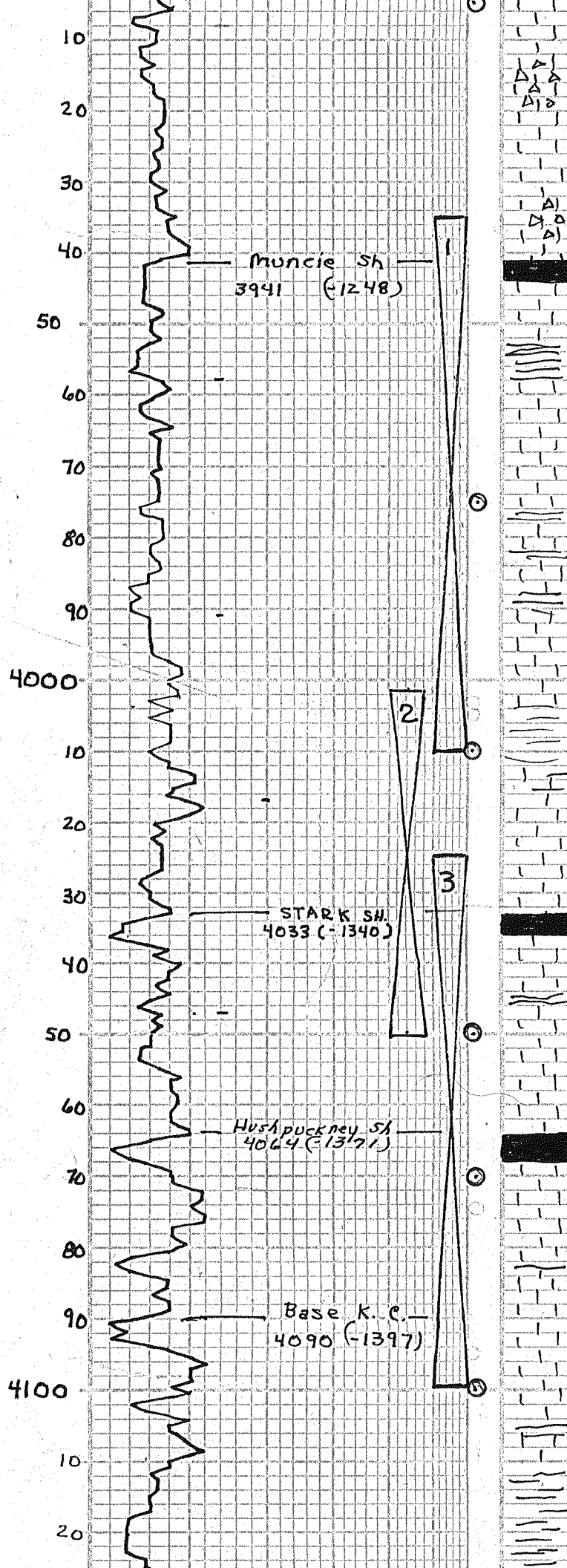
sh. dk Gray

Ls. Crm. fn. xln, FOSS.
fn φ. - Y CHRY. N.S.

sh. dk Gray - blk

shly - varicolored
some silty sh. + mic

10°-5° rig has prob with
engines. Lines + samples.



2 1pc w/ dashn - NFO No odor
SH. DRZ - GRY - MAR

ls. Crm. wh. gry, fn. xln. sli
ool, tr. d. N.S. lt. gry
op fresh Δ.

ls. Crm. wh. fn. xln. dse.
NVØ N.S. scatt Δ, chky

ls. wh. gry, dse, NVØ
lt. gry op fr Δ, N.S.
su chky

sh. blk. gry. gr. mar.

ls. lt. brn. dse, NVØ N.S.

sh. gry-mar

ls. Crm. H tan, fn. xln. su
foss. 2 pcs w/ sli. sta in pr
foss. Ø. NFO, odor, V. Chky.

ls. lt. tan - Gry, fn. xln. tight
RX, scatt lt. gry Δ. N.S.

ls. Crm. gry. fn. xln. dse,
NVØ, N.S., chky.

sh. gry-mar
ls. lt. tan. fn. xln. NVØ N.S.

sh. blk-mar

ls. lt. tan. fn. xln. fr. xln.
-dse, NVØ N.S. 1pc w
dead oil sta on edge. NFO
No odor

ls. lt. tan. fn. xln. tight.
NVØ N.S. - SHLY -

sh. blk- varicolored

ls. Crm. wh. fn. xln. v. sli
foss. 3 pcs w/ pr sta in
pr foss. Ø. NFO No odor

ls. Crm. wh. fn. xln. v. sli
foss., PR-NVØ. N.S. No odor

sh. blk carb

ls. Crm. lt. tan. fn. xln.
N.S. V. SHLY

SHLY. N.S. scatt H tan
ls. dse, NVØ N.S.

ls. H tan. fn. xln. sl. foss
3 pcs w/ gray sta in pr foss. Ø.
su ool

ls. tan. dse. NVØ N.S.
SHLY. + ls. v. sl. foss -
tight - N.S.

sh. blk- varicolored

ls. tan, fn. xln. dse, NVØ
N.S.

ls. tan. lt. brn, dse, NVØ
N.S.

ls. tan. lt. brn. gry, fn. xln
foss. 3-4 pcs w/ gray sta
+ faint odor. NFO

SH. GRV.

ls. tan. fn. xln. dse, NVØ
N.S.

ls. tan. fn. xln. dse, NVØ
N.S.

sh. black. Gry-mar. red.

WK - 808 23" 1st open
FR - 808 31" 2nd open
30" 45" 45" 60"

Rec: 30' ocm - 5% oil
95% mud
244' mw - 20% mud
80% wtr
274' Fluid

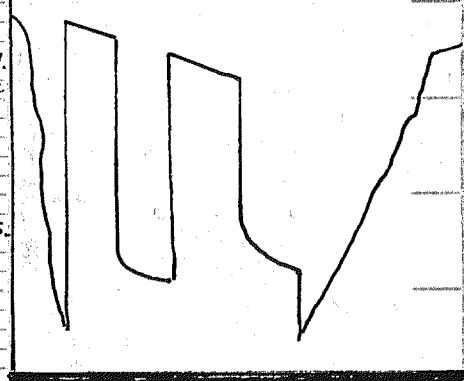
SIP: 1218^u - 1167[#]

FP: 61[#] - 119[#] + 126[#] - 202[#]

HP: 1990[#] - 1932[#]

T = N/A

DST No. 1



DST NO. 2 4001-4050

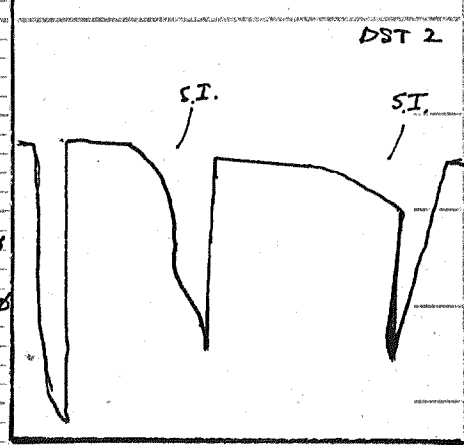
WK blow 1" 1st op + 1/2" 2nd op
30" 45" 30" 45"

Rec: 15' socm 1% oil
99% mud

SIP: 742[#] - 147[#]

FP: 46[#] - 51[#] & 53[#] - 55[#]

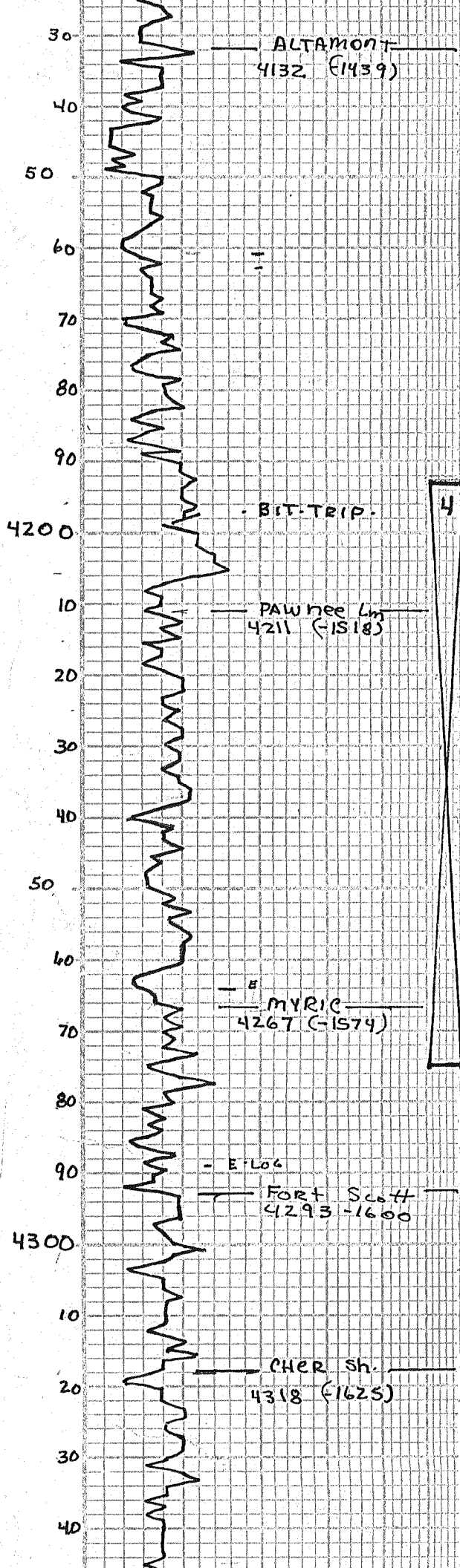
HP: 2034[#] - 1968[#]



DST NO. 3 4025-4100'

WK blow 1" 1st open
WK blow 2" - 2nd open
30" 45" 30" 45"

Rec: 75' oil spl'd mud
100% mud



Ls. tan. fn. xln. v. sl. foss tight RX. N.S. SHLY

Ls. Gry-tan. fn. xln. dse, NVØ. CHKY N.S.

sh. Gry-mar.

Ls. tan. H. brn. fn. xln. foss-matt, pr. Ø. N.S. No odor.

sh. gry-mar.

Ls. H. tan. Gry. fn. xln. v. sl. foss. TIGHT RX. PR-NVØ. N.S. No odor

SHLY + Ls. gla. tight RX N.S.

Ls. H. tan. H. Gry, dse NVØ. N.S.

Ls. H. tan. H. Gry, dse, NVØ N.S. SLI SHLY. No odor

Ls. tan. fn. xln. Gry dse NVØ N.S.

SH-bik. Gry-mar-red

Ls. Crm. fn. xln. sl. foss 2pc's w/ H. brn. str. in pr. foss. NFO No odor.

Ls. Crm. fn. xln. mostly tight N.S. Scatt. op. Δ. N.S.

Ls. H. tan. H. GRy, Dse, NVØ N.S.

Ls. tan. fn. xln. dse, NVØ N.S. Br. op fresh Δ

sh. drk Gry-bik.

sh. bik-drk Gry

Ls. H. tan. fn. xln. sl. foss SH.

SH-GRY'S-mar

Ls. tan. fn. xln. foss. 4-5 pc's w/ med. brn. str. + SFD in pr. fr. pp. foss. PR-odor, chky

SH-med. gry-drk Gry-mar

SH-BIK-Carb

Ls. brn-drk tan. fn. xln. sl. ool V-PSE + Hrd, NVØ N.S.

SH-BIK-GRN-mar.

Ls. tan. fn. xln. sl. foss V-Dse, HRP + TIGHT RX. N.S.

Ls. tan-brn. dse, 2-pc's w/ total dead oil str. on edges. No live oil. No odor + Bik Carb sh.

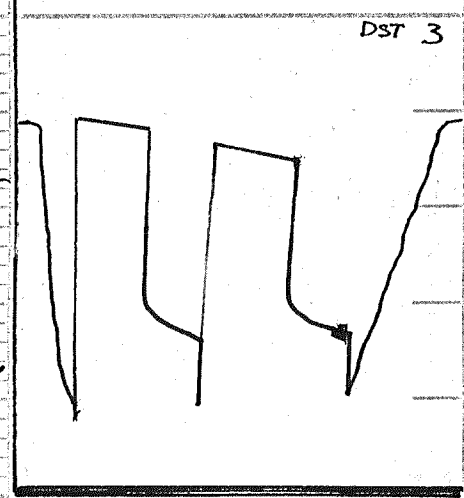
Ls. tan + sl. Gry. fn. xln. v. sl. foss. PR-NVØ N.S.

SH-Gry + drk GRy.

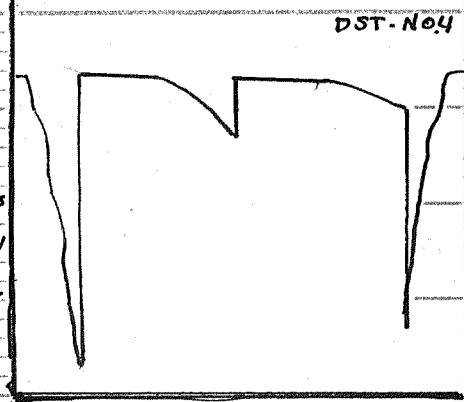
Ls. Crm. H. tan + Gry. fn. xln. dse, NVØ, N.S., CHKY

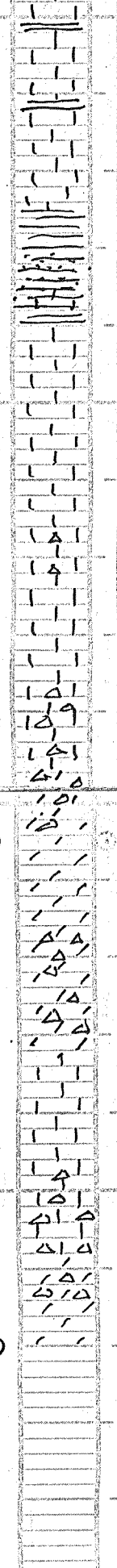
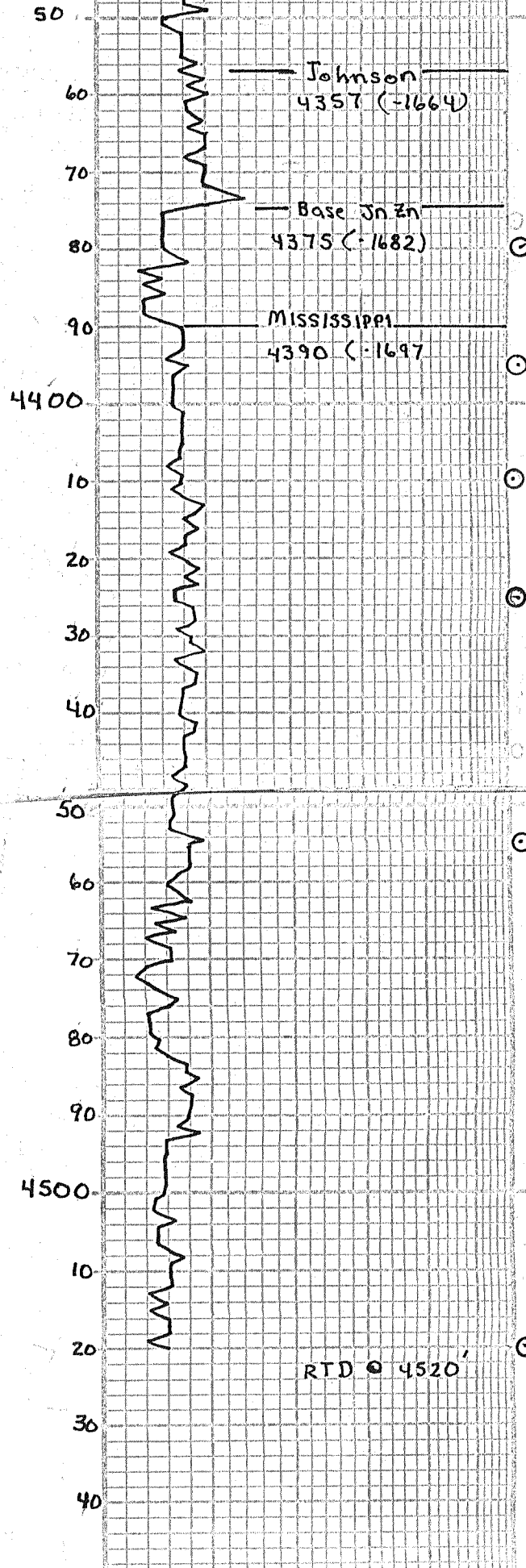
CH-bik-Carb

SIP: 1227[#] - 1195[#]
 FP: 61[#]-81[#] + 82[#]-97[#]
 HP: 2076[#] - 2055[#]



DST NO. 4 4193' - 4275'
 wk blow 1/2" 1st open +
 wk blow 1" 2nd open
 30" 30" 30" 30"
 Rec: 21' oil spt'd mud
 1% oil
 SIP: 275[#] - 152[#]
 FP: 65[#]-73[#] + 74[#]-77[#]
 HP: 2137[#] - 2068[#]





Ls. lt-tan - tan - Gry. dse,
 NVØ. N.S. SLI CHKY.

Ls. lt-tan - lt-gry., dse, NVØ
 N.S. CHKY.

Ls. tan - H-Gry, dse NVØ, lpe
 w/y dead oil str., NO live
 oil - V. CHKY.

Ls. q/a - dse, pr-NVØ. N.S.
 No odor

SH. GRAY-GRN. MAY - fr siltst
 N.S.

SH. Vari - ls-tan-dse, Δ-vari
 N.S.

Ls. lt-tan, fn-xln, v. SLI foss
 N.S., SHL-vari + chert N.S.

Ls. Crm-tan, fn-xln, foss -
 tight RP - N.S., GRAY-tan foss
 fr Δ. N.S.

Ls. Crm-GRY-vell, fn-xln -
 foss, scatt foss Δ, N.S.

Ls. Crm. lt-tan, fn-md xln
 st. foss, pr Ø. N.S. + Δ
 SLI CHKY.

Ls. Crm-mottled, fn-xln
 SLI foss, scatt Ø. N.S.

Ls. Crm. GRY, fn-xln -
 scatt lt-tan Δ, fresh
 foss - SHARP edges. N.S.

Ls. Crm-H-Gry, fn-xln -
 dse, NVØ, N.S., chert-lt.
 GRAY foss. SLI CHKY

SH-GRY-MAY.

DOL + SH - H. GRY, mealy.
 Gumbo-mucky. N.S.

DOL, GRY, fn-grnd - mealy
 + GRY, foss Δ, N.S.,

DOL - H. GRY FN-med xln,
 scatt xln Ø. chert, GRY, op
 some foss. N.S. No odor

Ls. BRN. DSE, NO VIS Ø.
 Chert GRY-tan fr-weather +
 foss in part. N.S. No odor

Ls + dol, tan ls + GRY dol,
 Dol. Md xln w/ scatt fr xln Ø.
 N.S., Ls dse N.S., Δ tan-gry
 fr- foss N.S.

Dol - H-tan + GRY, fn-med xln
 scatt xln Ø chert, Crm-gry
 fr-weather - Foss. N.S. No odor

DEPTH	DRILLING TIME Minutes/Foot	LITHOLOG	SAMPLE DESCRIPTIONS	REMARKS	
5"	10"	15"	20"	25"	

Rate of Penetration Increases

GY

COMPANY Ritchie Exploration, Inc.

LEASE Roemer # 1-34C

LOCATION 1700' E 1/4, 495' E 1/4 SEC 34 TWP 12S RNG 29W

COUNTY Gove STATE Kansas

ELEVATION: 2693' K.B.