Musgrove
Petroleum Geology
212 Main Street, Claflin KS

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY RJM COMPANY

LEASE RIEDL #4

FIELD LARKIN

LOCATION E2-SE-NE

SEC 10 TWSP 17 RGE 14

COUNTY BARTON STATE KANSAS

ELEVATIONS

KB 1986'

DF

GL 1978'

Measurements Are All From KB

CONTRACTOR Southwind Drilling, Inc. (Rig #3)

SPUD 11/15/2017 COMP 11/21/2017

RTD 3550' LTD 3552'

MUD UP 2595' TYPE MUD Chemical

CASING

SURFACE 8 5/8" @ 558'

PRODUCTION 5 1/2"@ 3528'

ELECTRICAL SURVEYS

Pioneer Energy Serv.

DIL, MEL, DCPD, BHCS

SAMPLES SAVED FROM 2900' TO RTD

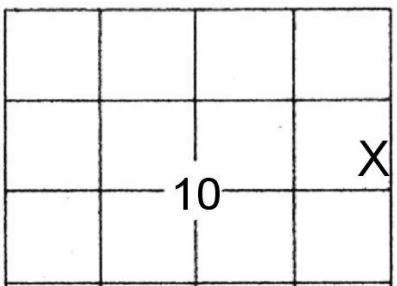
DRILLING TIME KEPT FROM 2900' TO RTD

SAMPLES EXAMINED FROM 2900' TO RTD

GEOLOGICAL SUPERVISION FROM 3000' TO RTD

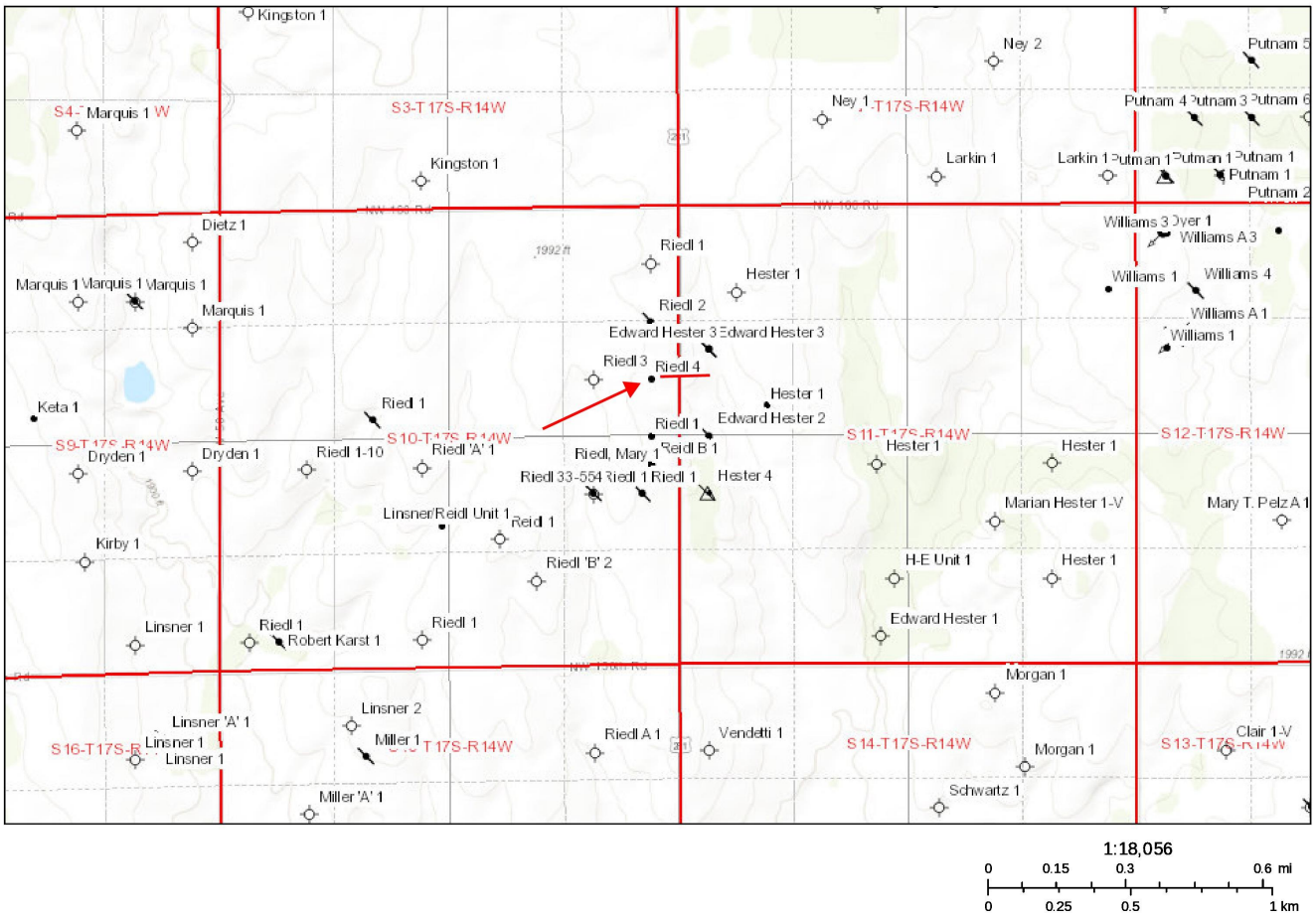
GEOLOGIST ON WELL JIM MUSGROVE

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	952 (+1034)	
B. ANHYDRITE	979 (+1007)	
HEEBNER	3135 (-1145)	3135 (-1149)
TORONTO	3149 (-1163)	3151 (-1165)
DOUGLAS	3160 (-1174)	3162 (-1176)
BROWN LIME	3204 (-1218)	3203 (-1217)
LANSING	3213 (-1227)	3213 (-1227)
BASE KC	3427 (-1441)	3423 (-1437)



BASE KC	3427 (-1441)	3423 (-1437)
CONGLOMERATE	3432 (-1446)	3428 (-1442)
ARBUCKLE	3489 (-1503)	3488 (-1502)
RTD	3552 (-1566)	3550 (-1564)

RJM OIL CO.- RIEDL #4



RJM Oil Company, Inc.

	DRILLING WELL				COMPARISON WELL				COMPARISON WELL			
	RJM OIL CO- RIEDL #4				ANSCHUTZ DRLG- RIEDL #1				ANSCHUTZ DRLG- RIEDL #3			
	E/2-SE-NE 10-17S-14W oil				E2-E2-E2 10-17S-14W oil				W2-SE-NE 10-17S-14W dry hole			
	1986 KB				1985 KB		Structural Relationship		1987 KB		Structural Relationship	
Formation	Log	Sub-Sea	Sample	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Anhydrite	952	1034			950	1035	1					
B. Anhydrite	979	1007										
Heebner	3135	-1149	3135	-1149	3131	-1146	3	-3	3138	-1151	2	2
Toronto	3149	-1163	3151	-1165					3150	-1163	0	-2
Douglas	3160	-1174	3162	-1176					3163	-1176	2	0
Brown Lime	3204	-1218	3203	-1217	3202	-1217	-1	0	3209	-1222	4	5
Lansing	3213	-1227	3213	-1227	3212	-1227	0	0	3217	-1230	3	3
BKC	3427	-1441	3423	-1437								
Conglomerate	3432	-1446	3428	-1442	3435	-1450	4	8				
Arbuckle	3489	-1503	3488	-1502	3459	-1474	-29	-28	3487	-1500	-3	-2
RTD	3550	-1564	3550	-1564	3480	-1495	-69	-69	3494	-1507	-57	-57
LTD	3552	-1566	3552	-1566								

DRILLSTEM TESTS

No	Interval	Formation
1	3216 -3274	Lansing A-F
2	3281-3299	Lansing G
3	3349-3410	Lansing H-J

ROCK TYPES

Chtcongl	Lmst fw<7	Carbon Sh
Dolprim	shale, gry	shale, red

OTHER SYMBOLS

Oil Show
- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Stn
- Dead Oil Stn
- Fluorescence
- Gas

DST
- DST Int
- DST alt
- Core
- tail pipe

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)

Curve Track #1

ROP (min/ft)
Gamma (API)
Cal (in)

1:240 Imperial

Depth | Intervals

Cored Interval
DST Interval

DST

Lithology

Oil Show

Geological Descriptions

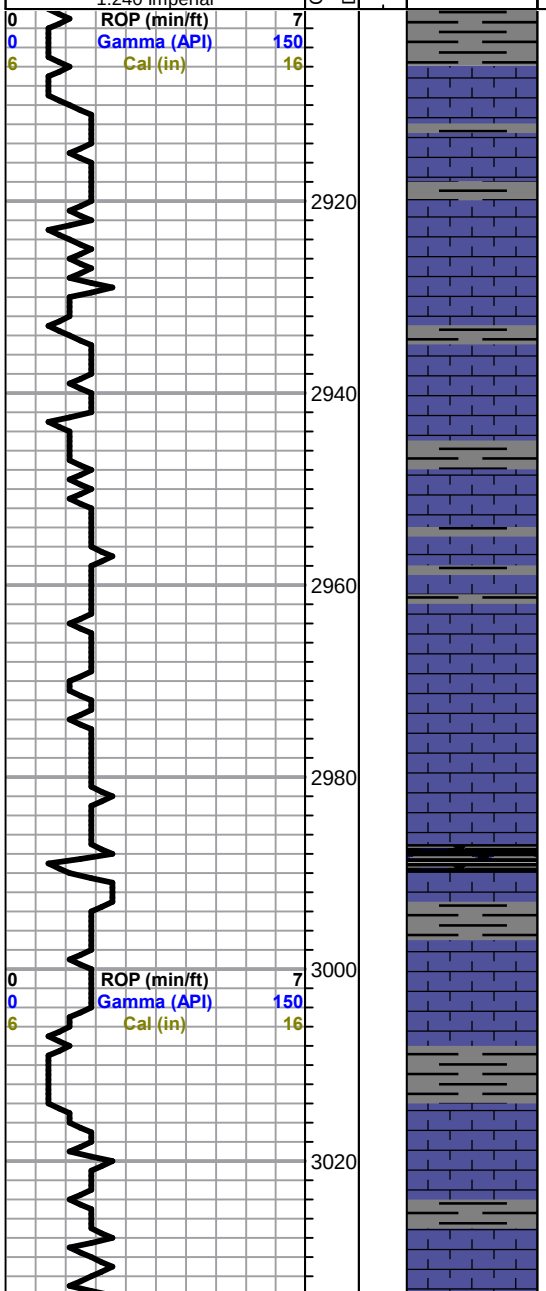
TG, C1 - C5

Total Gas (units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)

1:240 Imperial

Curve	Min	Max
ROP (min/ft)	0	7
Gamma (API)	0	150
Cal (in)	6	16

Curve	Min	Max
Total Gas (units)	0	100
C1 (units)	0	100
C2 (units)	0	100
C3 (units)	0	100
C4 (units)	0	100



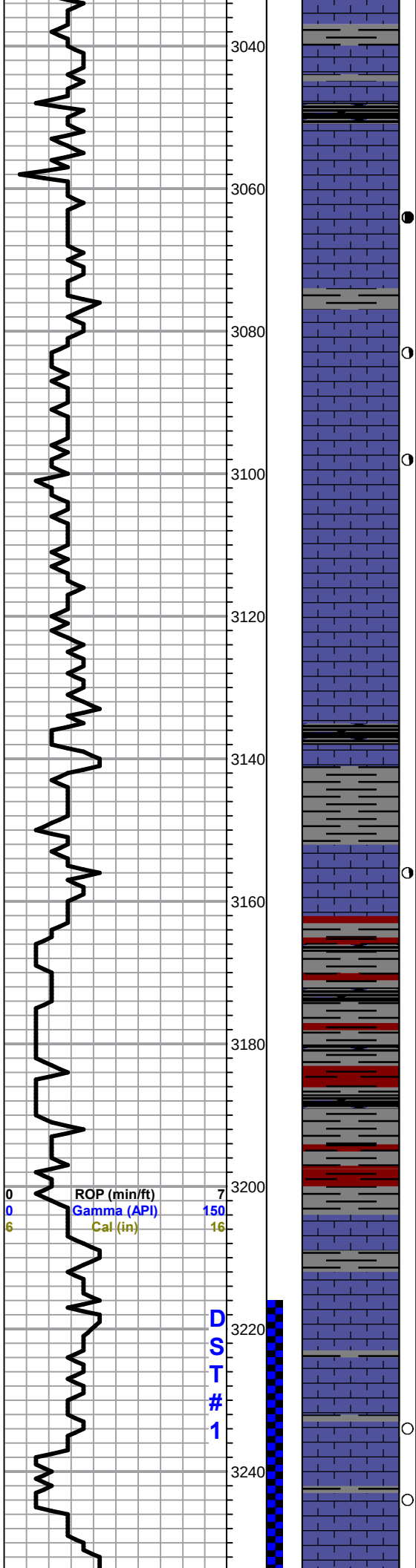
LS, tan, fxl, slightly chalky, poor visible porosity, no shows

Sh, black carb

LS, gry, white, chalky, / cherty, + tr. gry chert

Sh, gry, gryish green shale, tr. gry cherts

LS, gry, white, chalky, few gran.



Sh, black carb

LS, tan, ool, scattered porosity, dk brn stain, sfo, no odor

LS, gry, tan, fxl, few foss, scattered porosity, brn sptty stain, tr. fo, no odor, trace white chalk

LS, a/a, tr. brn dk brown stain, nsfo, no odor

LS, a/a

LS, a/a, tr. gry chert

Heebner 3135.0 (-1149.0)

Sh, black carb

Sh, gry, silty

Toronto 3151.0 (-1165.0)

LS, white, gry, foss, scattered porosity, tr. brn stain, tr. sfo, ft. odor

Douglas 3162.0 (-1176.0)

Sh, maroon, gry, greenish, green

Sh, a/a

Brown Lime 3203.0 (-1217.0)

LS, tan, brn, dense no shows

Lansing 3213.0 (-1227.0)

LS, tan, gry, mottled, foss, chalky, few cherty, tr. white chert

LS, tan, gry, highly ool, chalky, in pts, tr. golden brn stain, nsfo, no odor

LS, cream, white, oom, fair oom porosity, light brown stain, nsfo, ??? odor

DST#1 3216-3274
45-45-45-45

1st Open:
BOB 36 mins.

2nd Open:
BOB 26 mins.

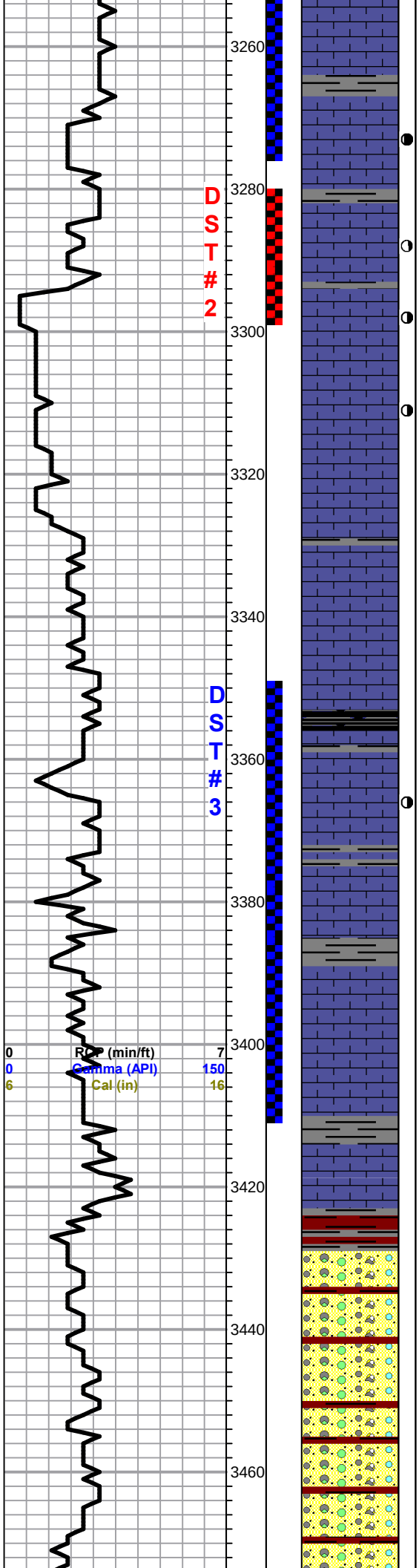
Recovery:
10' OGCMW (20%O, 5%W, 75% M)

126' OGCMW (3%G, 5%O, 15% W, 77%M)

Pressures:
ISIP 544 psi
FSIP 546 psi
IFP 11-45 psi
FFP 47-71 psi
HSH 1546-1547 psi

DST#2 3281-3299
45-45-45-45

1st Open:



LS, white, gry, few foss, (dense)

LS, gry white fxl, foss, fine vuggy type porosity, golden brown stain, sfo, odor , cherty in pts

LS, white, gry, foss, scattered porosity, tr. stain, tr. fo, no odor

LS, cream, white, oom, fair porosity, chalky, tr. stain, sfo, ft. odor

LS, a/a, tr. stain, sfo, odor

LS, gry, white, fxl, slightly cherty, chalky in pts, poor visible porosity, no shows

LS, gry, white, fxl, slightly cherty, chalky in pts, poor visible porosity

Sh, black carb

LS, gry, white, ool, oom, good oom porosity, dk brown/ light stain, sfo, odor

Sh, gry, greenish

LS, white, sub oom-oom, few ool, chalky, no shows

LS, tan, white, chalky, + gry cherts

V.C. shales, gry-maroon

BKC 3423.0 (-1437.0)

Sh, maroon, brick red, soft shale

Conglomerate 3428.0 (-1442.0)

Sh, red, soft, tr. gry, red, boney cherts

Chert, pk, orange, opaque, tr. red boney chert

Sh, rusty brown, maroon, + maroon, yellow ool cherts

a/a

1st Open:
BOB 15 mins.

2nd Open:
BOB 20 mins.

Recovery:
2' Clean Oil

386' Muddy Water

Pressures:

ISIP 519 psi
FSP 518 psi
IFP 14-112 psi
FFP 114-194 psi
HSH 1571-1573 psi

DST#3 3349-3410
45-45-45-60

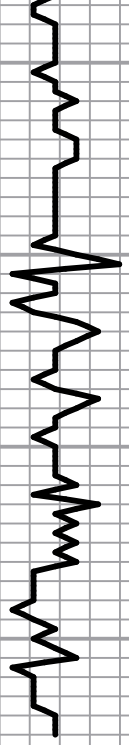
1st Open:
BOB 44 mins

2nd Open:
BOB 15.5 mins

Recovery
273' GIP

42' OGCM
(15%G, 25%O, 60%M)

Pressures:
ISIP 553 psi
FSIP 648 psi
IFP 11-18 psi
FFP 21-26 psi
HSH 1621-1630 psi



3480

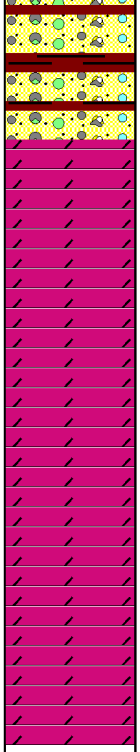
3500

3520

3540

3560

3580



a/a

Chert, gry, tan, white, ool, boney, opaque

Arbuckle 3488.0 (-1502.0)

Dol. white, crm, sandy, fxl, tr. pyrite, no shows

Dol, a/a + white, ool, chert, opaque

Dol, white, gry, med/ coarse xln, good inxln porosity, no shows

Dol, a/a + white chalk

Dol, a/a, tr. gry, tan, cherty dolomite

Tr. Dol. gry, tan, cherty, fxl, scattered porosity

RTD 3550.0 (-1564.0)

LTD 3552.0 (-1566.0)