CSO RYAN "A" #1
SW NW NE 29-5S-32W
Rawlins County, Kansas

Contractor: Red Tiger Drlg.
Drilling Commenced: 3/14/77
Drilling Completed: 3/30/77
8 5/8" surface Casing 275'
Elevation GL 2943'
DF
KB 2949

RTD 4650
LTD

Circulations
3826 - 2 hrs. 5"
3860 - 60"
3876 - 30"
3916 - 45"
3960 - 60"
3973 - 180" Bon B 60".
3980 - 30"
4050 - 120" Bon B 60"
4095 - 60"
4098 - 60" Bon B 60"
4125 - 60" Bon B 5 hrs
4281 - 60"
4317 - 45"
4320 - 5 hrs. Bon B 30"
4550 - 60"
4650 - 3½ hrs. bit Circ for 4 hrs.

Morning Report Thur. 3/[illegible]/77

Drlg @ 2290
KB
[illegible] unit gas kick @ 620'
190 unit kick @ 820'
carried 65-75 units to 1560'

Ramada Inn, Colby Ks.
913-462-3933
Marty 226
Dennis 227

Bit Trip @ 2296
Smith DGJ-T

3/18/77

1990 - 2015 ss, wh., m-c gr., rd-subrd., well srtd, glauc., pyrite, calc., gd. ϕ, N.S.

2015 - 2025 Sh., gray to lt. tan, non-calc.

2025 - 2045 ss, lt. tan, f-m gr., well srtd rd. - sub rd., friable, gd. ϕ, N.S. becomes tight at base.

2045 - 55 sh, gray to lt. tan, non calc.

2055 - 75 ss, m-c gr., rd. to sub rd., well srtd, unconsolidated, good ϕ, N.S.

2075 - 2105 sh, green kaolinitic in part, non calc., silty 2094

2105 - 2162 ss, wh, m-c gr. rd.-sub rd., well srtd, calc., friable, pyritic, f-g. ϕ, N.S.

Morrison 2162 (+786)

2162 - 2240 sh, lt. green to lt gry, gry sh. is calc., green is kaolinitic.
2240 - 52 Sh, rd-brn, calc.
2252 - 60 sh. lt. green, kaolinitic
2260 - 70 Chert, orange, white, & clear.
2270 - 99 Sh., lt gray to tan, calc.
2299 - 2344 Anhy, wh to pink

2314 - 2318 - sh, redish brown, noncalc, ∠ anhy, wh. to pink.

Blaine Gypsum 2348 (+600)

2348 - 54 Gyp., wh. to clear.
2354 - 2408 Sh, reddish br., non calc, w/ minor amts of anhy.

Cedar Hills 2408 (+540)

2408 - 2438 Anhy, white

3/18/77

2438 - 55 SS, Red, f. gr., ang - subang., M. srtd., hematite cement, friable, f-g ◊, N.S.

2455 - 2630 sh., silty sh, ∠ silt st., red. brown, non calc., sh. are waxy.

Cimmaron Anhydrite 2630 +318 (+600')

2630-71 Anhy., wh.

2671-2685 SS gry w/ red bands, v.f.g., w. srtd, F-G ◊, N.S.

2685 - 2702 sh., lt. gry to lt. grn, non calc, fissi
2702 - 39 silty sh, ∠ vfg ss, wh to tan
2739 - 64 Anhy, sdy in part, red ∠ wh.

2764 - 81 Sdy Sh, green, non calc.
Anhy. at base

3/19/77

2781 - 2870 Red, gr. & grn. sh & silt stone, w/ few ss stringers.

2870 - 2885 ss, wh w/ blk grn. V. calc., friable F-g ø, N.S.

2885 - 98 Sh, lt. gray

2898 - 2908 ss, wh, non calc, f.g. w. srtd., f-g ø, N.S.

2908 - 25 Sh, lt. gray, non calc.

Fort Riley 2925. (+23) ~~+930~~

Bar Samples 2925 - 2965

2965 - 87 ss & Sdy LS
ss is quartzose, c.g., unconsolidated
LS is wh., chalky, sdy.

2987 - 3015 ss & Anhy, ss is cemented tight w/ silica, f.g., w. srtd, wh. No ø, N.S.

3015 - 28 Dol., pink, chalky, sdy, No ø, N.S.

Bad samples 3022 – 3088

3088 – 3125 Dol. : Dol. LS
lt. br. to wh., v f x ln, No ϕ, N.S.

3125 – 30 Sh, sdy, gray, non calc.

3130 – Anhy, dol. (?) poor smpls.

Bad samples 3140 – 3253

3/20/77
3243 – 50 Ls, wh, sli chlky, non-foss.
No ϕ N.S.

3250 – 3289 Sh, lt. gry, non calc., mod. calc. at Ls.

Neva Ls. 3289 (–348) +46

3289 – 3304 Ls, wh to lt. tan, sdy, s m-cxln, f ϕ, N.S.

3304 – 3334 shly Ls & sh, gray

3334 – 48 SS, gray, v.f.g., micaceous.
48 – 77 sdy sh & sh
3357 – 78 Ls, wh to lt. tan, m-cxln sdy, foss towards base – fusulinids, f-p ϕ, ss do.

3410
2958
460

3378-84 - SS

3384-94 LS, dk gray, vf x ln, No ϕ, NS

3394-3410 sdy sh. & sdy LS, LS is lt. tan, m-c x ln, SOO

FORAKER 3410 (-460) +40'

3410-17 LS, wh to lt tan, sdy, m-c x ln, sdy. F ϕ. N.S.

17-32 LS, dk gray, vf x ln (micrite) shly. NO ϕ NS.

32-46 LS, wh, sli sdy, shaly, foss. (mostly bor.) F ϕ, N.S.

46-68 LS, gray, shly, (micrite)

3468-77 Sh - rdsh brn. sli calc.

Indian Cave SS 3477 (-527)

3477-84 SS & silt stone, rdsh-brn.

3484-3515 LS & sh, LS is cream, dense, vf x ln (micrite) No ϕ N.S.

3515-38 LS, tan, M x ln, V. foss. (fuse, brachs), poor ϕ, N.S. dense near middle. sli shly throughout, sdy at base.

3538-64 LS, lt tan w/ some yellow tan, f-m x ln, No ϕ, N.S.

3564-72 Lmy SH, gray, [illegible] w/ carbonaceous mat.

3572 - 90 LS, gray to lt tan, sli shly in part, poor ø, ss do. Base is sdy mxln, foss. + LS, pelletal & sandy, sli. shly.

3590 - 3599 Sh

3599 - 3605 LS, wh. ~~foss~~ Packed biosparite v. foss mostly ~~foram~~, sli sdy?

3605 - 22 shly LSs & lmy shly siltstone, shly LS has grn & red sh., shly slts is brown

3622 - 54 LS, wh to lt gray, to lt tan Sparse biosparite, No ø N.S.

3654 - 74 LS, lt. tan, packed biosparite, becomes foss biosparite, f ø at top, N.ø towards base. N.S.

3/21/77

3674 - 86 LS, lt gray green, micrite becomes shly towards base., No ø. N.S.

3686 - 98 Sh & silt st., gray to lt. purple,

TOPEKA - 3698 (-750) +44

3698 - 3709 LS, shly, lt. gry grn. sh. is red brown. No ø., N.S.

3709-3[illegible] Sdy Dolomite, wh.,
v. sdy at top less sdy towards
base, top has F-g ∅, [illegible] is
tight, N.S.

3721-38 SS, brown, vfg, sli calc
F-g. ∅, N.S.

3738-82 LS, crm, packed bio-
sparite, ∅, SSDO in upper part.

3782-87 LS, crm, sparse biosparite
tight, N.S.

3787-92 LS, gry to tan, packed
biosparite, F intercryst & frac. ∅?
GSDO w/ FSFO. (Aug. 4"/foot)
No Gas kick

3792-3798 LS as above only P. ∅.
Shows as above

3798-3812 Sh, brown, silty, calc.

3812-22 LS, gray, sparse biosparite
F-G Intercryst ∅, N.S.

3822-27 Sh, lt gry, silty, calc, w/ thin

3827-51 LS - lt. tan, mdy, fossi (sparse biospa
[illegible], SSDO @ 3842

3851 - [redacted] Ls, lt. tan, mxln
as above, but w/ F ø. SSDO
69-73 as above only tight

HEEBNER SHALE 3873 (-924) tight

3873-79 Sh. black, v. calcareous,
occ. platy. No Gas kick

3879-83 Ls, gray, fxln, foss.
brachs, (foss biosparite)
3883-3904 sh, siltstone, grys & sl
shly lm. sh and siltstone
red brown to gray, shly lm is
gray.

TORONTO 3904 (-956)

3904-12 Ls, lt. tan, mxln,
v foss (packed biosparite)
f ø, SDO. 2.5 unit gas kick
at 3908.

3912 - 3919 sh & silty sh, red brown & red

LANSING 3919 (-970) tight

3919-30 Ls, Packed Biosparite, fos.
and abd. other brams, F-P ø, SDO, poor c
3930-39 As above, but w/ GSDO w/
some free oil.
39-42 sh, grn to grn gray, calc.

3942-45 LS as 30-39 (?)

3945-48 SA

B_1 3948-5[illegible] LS, wh to gray packed biosparite mostly forams, good intergran. & interxyl ϕ. GS Tarry oil w/ FS free oil, Fair cut.

3952-56 LS, wh, sparse biosparite No ϕ, N.S.

3956-3960 Sh & siltstone, red, brown siltstone is dense

B_2 39[illegible]-63 LS, wh, packed Biosparite, Mostly forams, F-G intergran & interxyl ϕ. GSDO (to FSFO. (upper zone tight) Flow 4" ff; No gas kick

3963-65 LS wh to lt. gray, foss. biosparite No ϕ, N.S.

3965-71 LS, wh, foss Biosparite extn, F ϕ; N.S.

3971-74 LS, lt. grn, gray Micrite No ϕ, N.S.

3974-77 Sh, blk to gray, foss. 4unit methane kick (shale gas)

3977-80 LS, wh to lt. gray grn, Micrite No ϕ, NS.

3980-88 Sh., gray to gray grn, silty in part

C_1 3988-89 Ls, Sparse-packed biosparite poor ϕ, FSDO, poor cut

3989-97 LS lt. gry to tan foss. biosparit & micrite No ϕ, VSSDO.

3997-4000 Ls, wh., sparse-packed biosparite P.-F. Ø GSDO, sli cut, No gas kick

4000-04 sh. brown, calc.

C_2 4004-4016 Ls wh to lt tan, sparse to packed biosparite, P. Ø except @:
4008-8 F-PØ, FSDO, sli SFO w/ F. cut. No Gas kick

4016-20 chert, orange
4020-25 Ls, wh to lt. tan foss. biosparite, chlky in part, P. Ø. V. sli. SDO
4025-28 Ls, lt. gray to lt. gra gray foss. biomicrite No Ø, N.S.
4028-38 Ls, gray to lt. brown, foss-sparse biomicrite & sparite No Ø, N.S.
4038-40 sh, brown, calc.

D 4040-43 Ls, crm. foss biomicrite, No Ø, N.S
43-60 Ls, crm. sparse-packed biosparite forams and bracks, P-F Ø, N.S. chalky in part.
60-70 Ls, gry, sparse biomicrite, sli shly, dense, NO Ø, N.S

70-72 Sh & Lmy sh, gry to dk gray
72-88 sh & sltysh. brown. Lmy

E 4085-88 Ls wh. sparse-packed biosparite P.Ø SFO, good cut 2 unit gas kick (methane & wet) @ 86

4088-93 Ls wh packed biospari E-Good moldic & Vug. Ø, GSFO, Good cut. 3 unit gas kick @ 4088 (methane & wet)

4093-97 Ls as above, but with some tight barren zones.

4097-4100 Ls, sparse-foss. biosparite No Ø, N.S.

4100-04 Sh & silty Sh, red brown to gray Gray sh is limy

4104-12 silty Sh, Ls, gray, No Ø, N.S.

4112-15 Sh & silty Sh, red brown

G 4115-18 Ls, wh, sparse-foss biosparite
15-7 No Ø, N.S.
16-6 4118-23 Ls, wh, spase to packed
17-5 18-5 biosparite, F interxyst Ø, SFO, Good cut
19-4 20-4 No gas kick.
21-4 4123-30 Ls, crm sparse biosparite
22-4 23-5 grades to gray biomicrite towards
24-7 25-6 base No Ø, N.S.

4130-44 Sh Red brn but top becomes gray towards base

H 4147-60 LS, lt gray foss. micrite ± crm sparse biospanite. Spanite has F intercryst ø, N.S.

BKC 4160 (-1211)

4160-64 Sh, gray, platey

4164-71 LS wh, sparse to packed biospanite No ø, V350, F cut

4171-78 SS, MG, w. Sil, red, calc, (Some gray shale)

4178-93 LS ± shly LS, lt. gray to gray foss micrite, Mod. dant of wh packed biospanite ± pellspanite w/ Good ø, N.S.

4193-4202 Sh, red ± gray, platey

4202-10 LS, tan to lt gray pellspanite. Good ø, N.S.

4210-14 LS, gray micrite to dk gray, shly micrite (foss. crinoid & brach

4214-20 sh, gray ± red gray

4220-24 LS, gray micrite ± gray tan pellspanite w/ F-G ø, N.S.

4224-40 Sh ± silty Sh. mostly red w/ some gray, sli waxy

4240 - 60 LS gray, shly micrite becoming tan pellspar ite, pellsparite has F-G ϕ, N.S.

4260 - 70 Sh, dk dry to black

FORT SCOTT 4270 (-1321)

4270-76 LS, crm, fpas-sparse biosparite No ϕ, ssDO

4276-82 LS wh sparse-packed biospārite, F. ϕ, ssDO

4282-92 LS, wh to tan sparse to packed biosparite P-F ϕ VSSDO Few spks FO.

4292 - 4300 Sh, ltgray grn to dk gray and black at base

4300 - 07 LS, fos. - sparse sparite tan to brown at base. GSFO 4302-04 F ϕ, good cut.

4307 - 11 Sh dk gray to blk

4311 - 16 LS fos sparse to packed foram(?) biosparite. F ϕ, GSFO Good cut, dead gas kick ϕ is molded smatt ing. ϕ intercon.

4316 - 25 LS, gray, foss micrite No ϕ, N.S.

CHEROKEE 4325 (-1376)

4325-32 Sh, dk gray to gray

4332-36 Ls gray to wh, micrit

No Φ, N.S.

.. ~~KB~~ 2949 NWb 626 +2323

	Smpl.		Log	
Cim Arby	2630	(+319) +41	2632	(+317) +43
Neva	3289	(-342) +47	3287	(-338) +51
Foraker	3410	(-461) +42	3407	(-458) +45
Topeka	3698	(-749) +45	3698	(-749) +45
Hecbner	3873	(-924) +42	3870	(-921) +45
Lansing A	3919	(-570) +44	3919	(-970) +44
B,	3948,	B, 3958	3947,	3960
C	3988		3996	
D	4040		4032	
E	4085		4086	
G	4115		4116	
H	4147		4142	
Bkc	4160	(-1211)	4156	(-1202) +18
FT Scott	4270	(-1321)	4265	(-1316)
Cher.	4325	(-1376)	4321	(-1372)
Miss	4472	(-1523) +43	4468	(-1519) +47
Arb RTD	4586 4650	(-1647) +31 (-1701)	4592	(-1643) +35
			4646	(-1697)

3394 - ~~3410~~ SSDO

3572 - 90 SSDO

* 3787 - 92 (77-3802 ?) SFO GSDO (Tested 45'm)

3827-51 SSDO

3851-69 SSDO

3904-12 SDO

3919-40 SSDO

3948-52 GSDO TO, FSFO

* 3961-63 GSDO TO, FSFO

* 3988-89 FSDO

* 3997-4000 GSDO

* 4006-08 FSDO

* 4085-93 ~~GSFO~~ 2 emit wet Gas kick

4118-23 GSFO

4270-82 SSDO

* ~~4202-04~~ 4311-16 GSFO