

GEOLOGIST'S REPORT

DRILLING TIME & SAMPLE LOG

COMPANY BEREXCO LLC
 LEASE STONE NO. 1-19
 LOCATION 1320' FNL & 350' FEL
 SEC. 19 TWP. 26S RNG. 33W
 COUNTY FINNEY STATE KANSAS
 FIELD IVANHOE EXTENSION

CONTRACTOR BEREDCO DRILG. RIG NO. 2
 COMM. 6-20-2011 COMP. 7-10-2011
 RTD 5310 LTD 5314

No. of DST'S 6 No. of CORES NONE
 SAMPLES SAVED FROM 3900 TO TD
 DRILLING TIME KEPT FROM 3900 TO TD
 SAMPLES EXAMINED FROM 3900 TO TD
 GEOLOGICAL SUPERVISION FROM 3900 TO TD
 GEOLOGIST ON WELL EDWIN H. GRIEVES

ELEVATIONS
 KB 2937
 DF 2935
 GL 2925
 MEASUREMENTS ARE ALL FROM KB

CASING RECORD
 8.625" x 1785' W / S X.
 6.625" x 1785' W / S X.
 6.625" x 1785' W / S X.

EL. LOG AR.IND.-SP.-GR
DEN-NEUT.-GR.-CALIPER
ML-SONIC

| SAMPLE | LOG | SUBSEA |
|--------|------|--------|
| 3914 | 3915 | 978 |
| 3930 | 3930 | 993 |
| 3959 | 3959 | 1022 |
| 4535 | 4534 | 1597 |
| 4674 | 4674 | 1737 |
| 4919 | 4921 | 1984 |
| 5053 | 5059 | 2112 |
| 5102 | 5093 | 2156 |
| 5310 | 5314 | |

REMARKS Earth-Tech had an unmanned gas detection trailer on this well from 3800 feet to total depth

Thank you,
 Edwin H. Grievess
 Geologist

LITHOLOGY

SANDSTONE
 LIMESTONE
 SHALE
 CHERT

SLTSTONE
 DOLOMITE
 GRANITE WASH
 ANHY & GYP

CHROMATOGRAPH

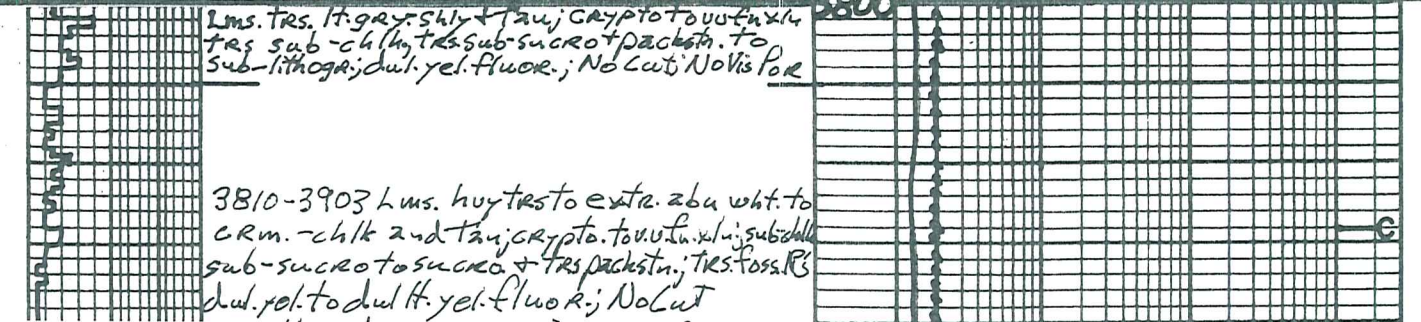
HOT WIRE BY TOTAL GAS VOLUME

- C1 = METHANE
- C2 = ETHANE
- C3 = PROPANE
- C4 = ISOBUTANE
- C5 = BUTANE
- C6 = ISOPENTANE
- C7 = PENTANE

DRILL TIME SCALE
5 10 15

SAMPLE DESCRIPTION

GAS SCALE
10 100 1000



3903-09 Lms. lt. to med. gray to grayish tan
sli. to v. sh. l. crypto. to v. u. f. x. l. n. x. l. n.
sub-chalk or sh. l. + packstn. No fluor. No cut
No vis por

3900 Base Heebner
3914-977

Sh. v. drk. gray to black-carb.
Lms. grayish tan; crypto. x. n. sub-lithogr.
dul. lt. yel. fluor. No cut; No vis por

BLK. SN. 19U

3918-3930 Sh. lt. green to lt. gray; silty IP's

3930-3939 Lms. 2 bu. wht. to cream-chlk
and tan; crypto. to v. u. f. x. l. n. sub-sucro
to sucro; dul. yel. fluor. No cut; 2 bu. poor
micro pp por; w/ trs. chert wht top; trans to opper

Lms. lt. gray to tan; crypto. to v. u. f. x. l. n. x. l. n. sub-chlk
sub-sucro + packstn. sli. to v. sh. l. sub-lithogr. dul. yel.
to yel. fluor. No cut; No vis por; abn. chert wht to
gray; trans to opper

Lansing Fm
3959-1022

Sh. med. to drk. gray; sli. to v. calc

3959-69 Lms. 2 bu. wht. to cream chlk +
cream to lt. tan, grayish IP's; crypto. to v. u. f. x. l. n. x. l. n.
phantom oolitic IP's; dul. yel. to dul. lt. yel.
fluor. No cut; hv. tes. poor micro-pp. por.

Lms. lt. gray to tan; crypto. to v. u. f. x. l. n. x. l. n. sub-chlk,
sub-sucro, packstn. + trs. sub-lithogr. dul. yel.
to dul. lt. yel. fluor. No cut; No vis por.
w/ interbeds sh. med to v. drk. gray - calc. IP's

3996-4015 Lms. wht. to cream chlk + tan
w/ sli. drk. tan sp. to even oil stn. v. u. f. x. l. n. to
v. u. f. x. l. n. x. l. n. v. sucro; strong oil cond.
f. l. y. sub-sucro; bet. yel. fluor. w/ flush to
gd. strong cut; abn. f. x. l. n. to excel. pp
micro-pp. + interxln. por

4000 SHOW 74U

Lms. grayish tan to tan; crypto. to v. u. f. x. l. n. x. l. n.
trs. sub-chlk, sub-sucro. + packstn.; dul. lt. yel
fluor. No cut; No vis por

TRIP GAS 342U

Sh. med to v. drk. gray - calc IP's
Lms. hv. tes. wht. to cream-chlk + tan; v. u. f. x. l. n. x. l. n.
x. l. n. j. ext. oolitic for sli. oolitic matrix
sub-sucro. to ext. sucro; gd. n. yellow
fluor. j. extr. abn. gd. to excel. oolitic
pp. w/ hv. tes. p. r. to f. x. l. n. + trs. gd. to excel
interxln. por

SHOW 44U

Lms. trs. wht. to cream-chlk + lt. tan to tan, grayish
IP's; crypto. to v. u. f. x. l. n. x. l. n. trs. sub-chlk,
sub-sucro + packstn.; dul. lt. to lt. yel
fluor. No cut; No vis por

HVY. OIL GASSIES IN MUD
PLUGGING OFF CHROMATOGRAPH

Sh. med to v. drk. gray, calc IP's
Lms. similar 4059-4092

4100

Lms. trs. wht. to cream-chlk + tan; crypto. to v. u. f. x. l. n. x. l. n.
x. l. n. w/ hv. tes. wht. to cream, med to coarse calc
x. l. s. + f. l. y. s. sli. to ext. oolitic for sli. to
ext. oolitic matrix chlk, sub-chlk, sub-sucro
to sli. trs. sucro + packstn. dul. yel. to
yel. fluor. No cut; abn. pp. to f. x. l. n. + trs. gd.
to sli. trs. excel. oolitic goss. trs.
interxln. por. IP's; quest. p. r. u.

4110-4142 Lms. lt. gray to tan; crypto. to v. u. f. x. l. n. x. l. n.
x. l. n. sli. trs. chlk, trs. sub-chlk, sub-sucro,
packstn. + trs. sub-lithogr. dul. yel. w/ trs.
lt. yel. fluor. No cut; No vis por

Sh. med to v. drk. gray - calc
Lms. 2 bu. wht. to cream-chlk + tan; v. u. f. x. l. n. x. l. n.
x. l. n. w/ trs. med to coarse, wht. to coarse calc x. l. s.
+ f. l. y. s. sli. to ext. oolitic for sli. to ext. oolitic matrix
sub-sucro to ext. sucro; dul. lt. to lt.
yel. fluor. No cut; abn. pp. to f. x. l. n. + trs. gd. to excel.
micro pp + interxln. por
Sh. v. drk. gray to black-carb
Lms. lt. gray to tan; crypto. to v. u. f. x. l. n. x. l. n.

SHOW 9U

dul. yol. to dul. lt. yel. + fluo. r.; No Lu
scattered poor micro-pp por

3903-09 Lms. lt. to med. gray to grayish tan
sli. to v. sh. l.; crypto. to v. u. xln.;
sub-chalky or shly. + packstn.; No fluor.; No cut
No vis por

3900 Base Heebner
3914-977

Shv. drk. gray. to black-carb.
Lms. grayish tan; crypto. to v. u. xln.; sub-lithogr.
dul. lt. yel. fluor.; No cut; No vis por

BLK. SM. 19U

3918-3930 Sh. lt. green to lt. gray; silty IP's

3930-3939 Lms. zbu. wht. to cream-chlk
and tan; crypto. to v. u. xln.; sub-sucro
to sucro; dul. yel. fluor.; No cut; zbu. poor
micro-pp por; w/ trs. Chert wht to gray; trans to appur

Lms. lt. gray to tan; crypto. to v. u. xln.; trs. sub-chlk
sub-sucro + packstn. w/ sh. tes sub-lithogr.; dul. yel
to yel. fluor.; No cut; No vis por w/ zbu. Chert wht to
gray; trans to appur

Lansing Fm
3959-1022

Sh. med. to drk. gray; sli. to v. calc
3959-69 Lms. zbu. wht. to cream-chlk +
crum. to lt. tan, grayish IP's; crypto. to v. u. xln.
phantom oolitic IP's; dul. yel. to dul. lt. yel.
fluor.; No cut; hv. tes. poor micro-pp por.

Lms. lt. gray to tan; crypto. to v. u. xln.; sub-chlk,
sub-sucro, packstn. + trs. sub-lithogr.; dul. yel.
to dul. lt. yel. fluor.; No cut; No vis por.
w/ interbeds sh. med. to v. drk. gray - calc. IP's

3996-4015 Lms. wht. to cream-chlk + tan
w/ sli. drk. tan sp. to even oil stn.; v. u. xln. to
v. u. xln. + trs. xln.; v. sucro; strong oil oolitic
faly. sulfur; ort. yel. fluor. w/ flush to
gd str. in cut; zbu. fa. gd. to excel. pp
micro-pp + interxln. por

4000 SHOW 74U

Lms. grayish tan to tan; crypto. to v. u. xln.
trs. sub-chlk, sub-sucro. + packstn.; dul. lt. yel
fluor.; No cut; No vis por

TRIP GAS 342U

Sh. med to v. drk. gray - calc IP's
Lms. hv. tes. wht. to cream-chlk + tan; v. u. xln.
xln.; extly. oolitic. You sli. oolitic matrix
sub-sucro. to extly. sucro; gd. n. yellow
fluor.; extr. zbu. gd. to excel. oolitic
por. w/ hv. tes. pr. to tes + trs. gd. to excel.
interxln. por

SHOW 44U

Lms. trs. wht. to cream-chlk + lt. tan to tan gray
IP's; crypto. to v. u. xln.; trs. sub-chlk,
sub-sucro + packstn.; dul. lt. to lt. yel
fluor.; No cut; No vis por

HVY. OIL GASSIES IN MUD
PLUGGING OFF CHROMATOGRAPH

Sh. med to v. drk. gray, calc IP's
Lms. similar 4059-4092

4100 CFS

Lms. trs. wht. to cream-chlk + tan; crypto. to v. u. xln.
xln. w/ hv. tes. wht. to cream, med. to coarse calc
xln. + frags; sli. to extly. oolitic. You sli. to
extly. oolitic; matrix chly. sub-chlk; sub-sucro
to sli. trs. sucro + packstn.; dul. yel. to
yel. fluor.; No cut; zbu. gd. to excel. tes. gd.
to sli. trs. excel. oolitic + poss. trs.
interxln. por. IP's; quest. por. u.

4112-4142 Lms. lt. gray to tan; crypto. to v. u. xln.
xln.; sli. trs. chlk. + sub-chlk; sub-sucro,
packstn. + trs. sub-lithogr.; dul. yel. w/ trs
lt. yel. fluor.; No cut; No vis por

Sh. med to v. drk. gray - calc
Lms. zbu. wht. to cream-chlk + tan; v. u. xln.
xln. w/ trs. med. to coarse wht. to coarse calc xln.
+ frags; sub-sucro to extly. sucro; dul. lt. to lt.
yel. fluor.; No cut; zbu. pr. fa. gd. to excel.
micro-pp + interxln. por

C
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CFS
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CFS
CFS

Lms. lt. gray. to tan; crypto to v.u. xln; sub-chalk, sub-sucro, pachs, sub-dul. yel. fluor; No cut; No Vis Por

Lms. v. to extly abn. wht. to crm. chlk & tan; crypto. to v.u. xln; v. to extly oolitic; matrix sub-sucro to v. sucro. + pachs, dul. yel. & dul. lt. to lt. yel. fluor; No cut; abn poor to excel oolitic POR; trs poor micro-p.p. por IP's; poss interst. por. IP's; Very Quest. Perm.

4200

Lms. similar 4164-4176 w/ trs lt. gray to grayish tan, sub-lithogr.

Lms. tan; crypto to v.u. xln; v. to extly oolitic; matrix sub-sucro to huylas su. ceo. + huylas pachs; abn. glau. yel. fluor; w. huylas faint to gd. staining to excel. Ring cuts v. abn. pr. trs. gd. to excel. oolitic por & huylas. prob pr. to be interst. por

SHOW 20U

4240-4302 Lms. trs. to huylas wht. to crm. chlk IP's & lt. gray to tan; crypto to v.u. xln; trs sub-chlk, sub-sucro, pachs & sub-lithogr.; dul. lt. yel. fluor; No cut widely scattered trs pr. micro-p.p. por w/ scattered trs chert wht. to gray; tr. transl. to opaque; w/ prob thin scattered interbeds sh. med. to drk gray. calc IP's

4300

Prob Sh. med. to v. drk. gray. calc. IP's

4310-12 Lms similar 4240-4302 Lms. huylas wht. to crm. chlk & tan; crypto to v.u. xln; trs sub-chlk, sub-sucro to sub-co & pachs; trs. v. oolitic; dul. yel. fluor. No cut; trs. excel. interoolitic POR & abn. pr. to trs pr. micro-p.p. por Lms. wht. to crm. chlk & tan; crypto to v.u. xln; trs. sub-chlk, sub-sucro & pachs; trs. v. oolitic; dul. yel. fluor; No cut; No Vis Por

POSS SHOW 16U

Lms. huylas wht. to crm. chlk & tan; crypto to v.u. xln; sub-sucro to v. sucro; trs. v. oolitic; matrix sub-sucro, trs sucro & pachs; dul. glau. to glau. yel. fluor; No cut; abn. pr. trs. pr. to exc. oolitic por & abn. pr. to exc. micro-p.p. & poss. interst. por.

Lms. lt. gray, grayish tan to tan; crypto to v.u. xln; sub-chlk, trs sub-sucro, pachs + sub-lithographic; dul. lt. yel. fluor; No cut No Vis Por

Sh. black - carb

Lms. similar 4355-4374 Lms. huylas wht. to crm. chlk & tan; crypto to v.u. xln; extly micro oolitic; matrix sub-sucro to sucro & pachs; glau. yel. fluor No cut abn. pr. to excel. oolitic por & poss interst. por IP's v. Quest. Perm

BLK. SH. 20U

Lms. similar 4410-4423

Lms. grayish tan to tan; crypto to v.u. xln; sub-chlk sub-sucro to sucro & trs. pachs; faint to ROLL oolitic; trs. sub-co to v. huylas & huylas sub-co to glau. to glau. yel. fluor; lt. to dk. gray staining sub huylas. pr. to exc. micro-p.p. por & poss interst. por; abn. pr. to exc. por

4400

Lms. lt. gray to tanish gray; crypto. xln. trs. sub-chlk, sub-lithographic; dul. yel. fluor; No cut; No Vis Por

SHOW 14U

Lms. trs. wht. to crm. chlk & tan; grayish IP's; crypto to v.u. xln; sub-chlk, sub-sucro to sucro & trs. micro oolitic; dul. yel. to tes. yel. fluor; No cut; abn. pr. to excel oolitic, p.p., micro; pr. to interst. por

BLK. SH. 24U

Lms. similar 4410-4423

4454-59 Lms. tan; crypto to v.u. xln; v. to extly oolitic; matrix sub-sucro to sucro; dul. yel. to tes. yel. fluor No cut; huylas pr. to li trs. tr. micro-p.p. por w/ trs. chert gray, opaque, foss. IP's

Lms. lt. gray to tan, mottled IP's; crypto. to v.u. xln; trs sub-chlk, sub-sucro & pachs; v. abn. phantom oolitic; huylas dul. yel. fluor; No cut; No Vis Por

Lms. tan; crypto to v.u. xln; sub-chlk, sub-sucro to sub-co; abn. sl. to v. oolitic; huylas pr. to li trs. tr. micro-p.p. por; dul. yel. to tes. yel. fluor; No cut; tes. pr. to exc. oolitic por; poss interst. por

4477-82 Lms. trs. wht. to crm. chlk & tan; crypto to v.u. xln; sub-chlk, sub-sucro to sub-co; huylas dul. yel. to tes. yel. fluor; No cut; tes. pr. to exc. oolitic por; poss interst. por

crypto. to v. fn. xln; sub-chlk; sub-sucro
+ pachstn; dul. yel. fluor. No cut; No Vis POR;
opaque, poss IP's
sh. med. to v. drk gray; jazic IP's

4484-4518 Lms. lt. gray to tan, mottled IP's
crypto. to v. v. fn. xln; trs sub-chlk;
sub-sucro, pachstn, sub-lithograpic
v. zbn. phantom galitic; dul. yel. fluor;
No cut; No Vis POR; sl. trs Cheat
tan; opaque

sh med to v. drk gray - sl. to extaly
calc grndng to shly lms

4535-4548 Lms similar R 4484-4518

4548-58 Lms. tan w/ zbn spid to even
dark tan to lt. brown; sl. crypto to
v. v. fn. xln; sl. to extaly calc; calc
sl. to shly calc; m. to shly calc
to v. sucro. + trs pachstn; ft to tire oil odor
brt; grainy yel. fluor. w/ flush to excel staining
cuts; 2 bn. IP's to good + trs excel. calc
POR. w/ hvy trs por to sh + trs gd. micro por
por + prob interx hvy por IP's; zbn
w/ very Quest. Perm

4560-4615 Interbedded Lms + scattered thin sh

- 1) Lms. tan; crypto to v. v. fn. xln; sub-chlk; sub-sucro
+ pachstn; dul. yel. fluor. j. No cut; No Vis POR;
- 2) Lms. lt. to tan; med. gray - sl. to shly; crypto
xln; sub-chlk; for shly + pachstn; trs. dul.
yel. fluor. No cut; No Vis POR
- 3) Sh. med. to v. drk gray; sl. to frly. calc.

Sh blk-carb

Lms. lt. gray; tanish IP's to test tan; crypto
to trs. v. fn. xln; sub-chlk; trs sub-sucro + pachstn
dul. yel. fluor; No cut; No Vis POR
Lms. hvy trs. w/ to crm. - chlk + tan; crypto
to v. v. fn. xln; oolitic or calcitic trs to shly
shly; sub-chlk; sub-sucro + trs sucro; dul.
gld. to gld. yel. fluor. No cut; zbn
por to calc. calcitic POR + abn. por to
+ trs gd. p. micro por + poss sl. trs
interx hvy por

4632-50 Lms. trs. w/ to crm. chlk + tan w/ hvy trs
gray to lt. gray sl. to shly; crypto to v. v. fn. xln;
sub-chlk; sub-sucro + pachstn; dul. yel. fluor. No cut; No Vis POR

Sh. v. drk gray to black-carb

Lms. trs. w/ to crm. chlk + tan; grayish. IP's
crypto to v. v. fn. xln; sub-chlk; sub-sucro
pachstn; 2 bn. sl. to shly oolitic tan; hvy trs
gray; idul; gld. yel. fluor; No cut; No Vis POR

Sh. black-carb

4674-4781 Interbedded Limestones + Shales

- 1) Lms. grayish. tan to tan; crypto. to v. v. fn. xln
sub-chlk; sub-sucro, pachstn + sub-lithograpic.
dul. yel. fluor. No cut No Vis POR.
- 2) Lms. lt. to med. gray - sl. to extaly. shly;
crypto xln; sub-chlk; for shly + pachstn;
No fluor; No cut; No Vis POR
- 3) Sh. med. to v. drk. gray - calc IP's to blk carb.

A. 4781-4880 Interbedded Lms + Shales and
scattered thin shales

- 1) Lms. grayish. tan to tan; crypto. to
v. v. fn. xln; sl. trs. sub-chlk; trs.
sub-sucro; pachstn; sub-lithograpic;
v. scattered trs. tan to brown. oil stain
w/ greenish yel. fluor. w/ good staining
cuts, v. v. sl. trs poor micro por
por. IP's; + Prob fracturing
- 2) Lms. lt. to med. gray - sl. to extaly shly.
crypto xln; trs sub-chlk; for shly;
pachstn. + sub-lithograpic; No fluor;
No cut; No Vis POR; Poss fracturing

3) Sh. med. to v. drk. gray - sl. to v. drk
calc. IP's; to black-carb. looking

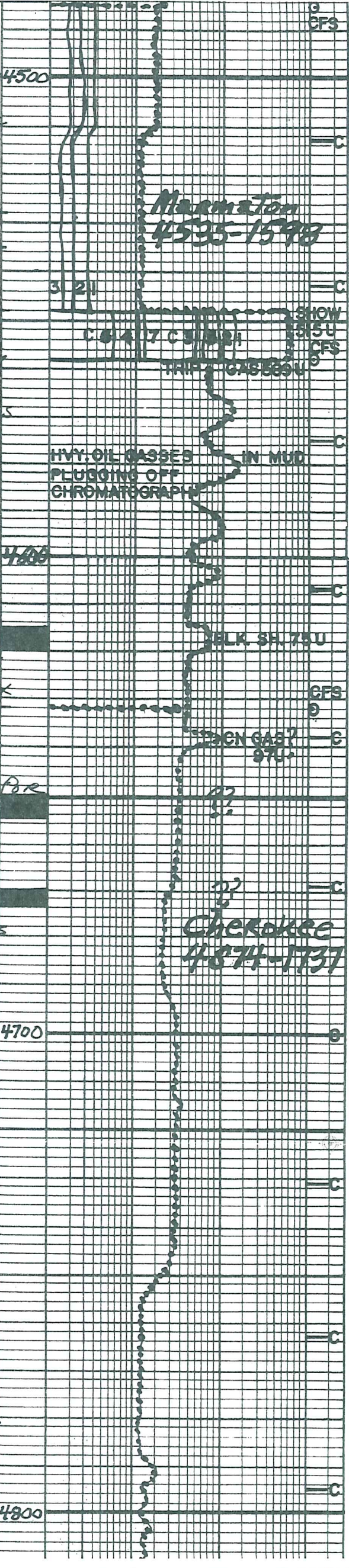
B. 4880-4919 Lms. w/ scattered thin shales

- 1) Lms. lt. to drk gray, tanish. IP's
crypto. to v. v. fn. xln; trs. sub-chlk;
trs. sub-sucro; pachstn + sub-lithograpic.
trs. v. dul. yel. fluor. No cut; No Vis POR.
- 2) Sh. drk gray - calc IP's to blk carb looking

C. 4919-4941 Lms. + Sh very
similar 4880-4919 w/ Shs increasing

D. 4941-4955 Lm. sh. gray to tan w/
spid. to even drk. tan to brn oil stain.
v. to calc. calc. composed

Lm. grs. + foss. frags; matrix crypto
to v. v. fn. xln; sub-sucro + sub-lithograpic
+ pachstn; tan to oil odor; dul. gld. to



micro-p.p. por; poss. intergr. por
u. prob fracturing

A E. Sh. med. to drk gray, splintery lps
and huyl. trs. H. green to olive green

F 4964-4973 Qtz sdst gray to abn tan
from oil stn.; v.v. fn. gr. - ang.
abn. sh. silt-filled; sl. trs. to abn
glauc. / or chlorite; trs w/ finely
disseminated pyrite; dul. yel. fluor.
w/ flush to gd. staining cuts; abn. pr. to
total. micro-p.p. por & prob.

Intergr. por; Quest. Perm
G 4973-78 Qtz sdst drk tan to drk
brn. from oil stn.; v.v. fn. gr. - ang.
almost all clean w/ fine to gd. sort.
scattered trs glauc. / or chlorite;
scattered trs finely disseminated
pyrite; gd. oil bdr. ; ald. yel.
fluor. w/ abn. pr. to total. trs gd
micro-p.p. + v. prob intergr. por

H. 4778-88 Sh. med. to drk gray
splintery lps w/ huyl. trs. H. green
to olive green

I. 4988-96 Lms. H. gray. to tan; crypto
to v.v. fn. xln; trs. sub-chlk, sub-succo,
pach. to trs. sub-lithogr. ; dul. H. yel.
fluor.; No cut; No vis por

B J. 4996-5011 Sh. med. to drk gray, splintery
lps & huyl. trs. H. grn to olive grn; w/ huyl.
trs. Lms. similar 4988-4996 prob.
staining from above & silt trs
silt tan, H. gray, sh. filled lps
No fluor.; No cut; No vis por

K. 5011-5031 Qtz sdst H. tan to tan from
even oil stn; flushed looking
v.v. fn. gr. - ang. pr. to gd. sort
clay filled lps, widely scattered
trs. glauc. / or chlorite; scattered
trs. finely disseminated pyrite;
faint oil bdr.; greenish yel. fluor.;
w/ flush to gd. staining cuts; abn. pr. to
fr + sl. trs. gd. micro-p.p. por. and
poss. intergr. por lps in bottom of
zn sli looser and better sorted

less clay filling sli better por, more
small clusters + loose qtz + more
friable

L. 5031-5047 Lms. H. gray to tan;
crypto to v.v. fn. xln; trs. sub-chlk,
sub-succo + pach. to trs. sub-lithogr.
; dul. H. yel. fluor. lps; No cut; No vis por w/
interbeds sh. med. to drk. gray,
splintery lps

M. 5047-5053 Qtz sdst tan to
brn from oil stn; v.v. fn. gr. - ang
silt-filled lps; pr. to gd. sort.
trs. finely disseminated pyrite
grn. yel. fluor. w/ flush to gd
staining cuts; huyl. trs. pr. to total. trs.
micro-p.p. por & poss. intergr. por

N. 4083-4082 Lms. H. to med. gray,
crypto to sli. trs. v.v. fn. xln;
trs. sub-chlk, trs. sub-succo, pach. to
sub-lithogr. ; trs. phyl. to
sub-lithogr. ; dul. H. yel. fluor. lps; No cut
No vis por

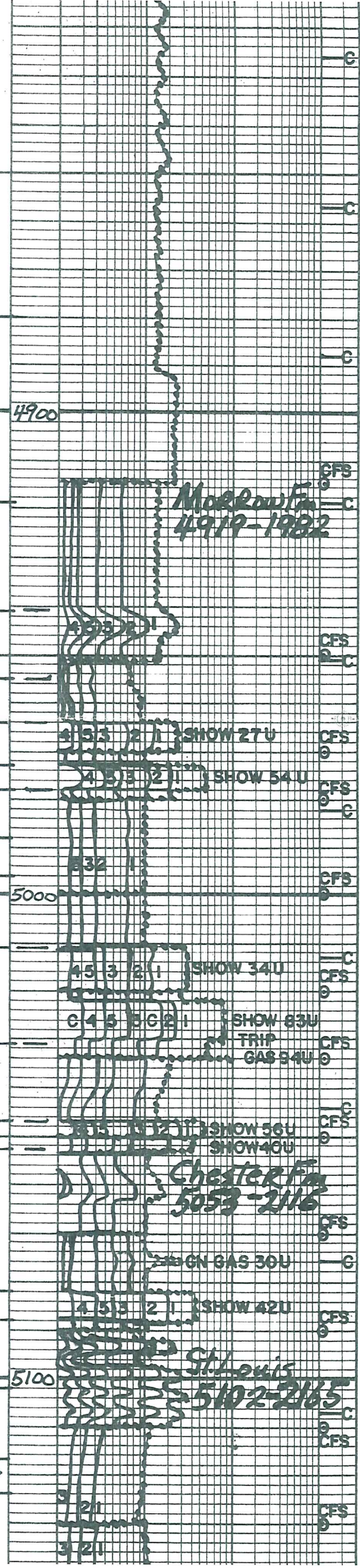
O. 4082-4088 Conglomerate
① Siltst pale green, dense, fine & hard
② Shs. gray + greens w/ trs. reds + maroons
③ Lms. tan to huyl. trs. gray; crypto to
v.v. fn. xln; trs. sub-chlk, sub-succo,
pach. to trs. sub-lithogr.
huyl. trs. sp. to drk to trs. black oil stn.
w/ dul. yel. to yel. fluor. w/ faint to
fr. staining to good ring cuts

P. 4088-5102 Congl. similar
4042-4088 w/ only v. scattered trs.
show interbedded w/
① Lms. H. gray to greenish gray; crypto
to v.v. fn. xln; v. to ext. micro-p.p. por
/ or sl. to total. Qtz sdst - v. to gr. - ang.
matrix sl. trs. sub-chlk + sub-succo,
dul. H. yel. fluor.; No cut; No vis por
② Lms. huyl. trs. w/ to green chlk w/ chlk
oolites lps + tan; crypto to v.v. fn. xln;
v. to ext. oolitic (sm. med. + lg)
matrix chlk, sub-chlk + sub-succo
dul. H. yel. fluor.; No cut; No vis por

Q 5102-5117 Lms. trs. w/ to crm-
chlk w/ chlk oolites lps + tan; crypto
to v.v. fn. xln; v. to ext. oolitic
(sm. med + lg); matrix chlk, sub-chlk,
sub-succo, pach. to trs. sub-lithogr.
; dul. H. yel. fluor. No cut; No vis por w/ sl. to huyl. trs. (in
clear, yellow, orange to tan; trans. por.
trans. + opaque

R 5117-5124 Lms. Pale green; crypto
xln; sub-lithographic; dul. H. yel.
fluor. No cut; No vis por w/ trs.
Chert orange, tan to gray; trans.
to opaque

DS 7745
Speed Below
LST 786
Speed Below



Morrow Fa
4919-1982

Chester Fa
5053-2116

St. Louis
5102-2115

5124-5176 Lms grayish tan to tan; crypto.
 x.ln.; sub-lithographic; dul. fl. yel. fluor
 No cut; No Vis Por. w/ prob scatter
 thin interbeds Lms similar
 5102-5117 OR stringing in samples
 from above w/ trs to abn. Chert
 orange, tan to gray; opaque to transl.

Lms. hv. trs. wht. to crm. chlk + tan, grayish. IP'S
 crypto. to v. v. fn. x.ln.; extely. oolitic (sm w/ trs
 med + lg) matrix chlk, sub-chlk, sub-sucro
 + packstn.; dul. yel. fluor.; No cut; No Vis Por
 sl. trs. Chert orange to tan; transl to opaque
 Lms. similar 5176-5191 w/ abn oolites
 sm, med + lg ie mcr. in med lg. and matrix
 mostly packstn

Lms. hv. trs. wht. to crm. chlk + tan, grayish IP'S
 crypto. to v. v. fn. x.ln.; extely. oolitic
 med to lg w/ trs sm; matrix chlk, sub-chlk
 sub-sucro + packstn.; dul. yel. fluor.;
 No cut; No Vis Por; trs chert orange to
 tan; transl to opaque
 Dol. sli. calc IP's; gray to tan;
 v. v. fn. x.ln.; u. f. calc; dul. fl. yel. fluor.; No cut
 No Vis Por. w/ Lms similar 5102-5117

Interbedded Limestones
 1) Lms hv. trs. wht to crm. chlk w/ chlk oolites IP'S
 + tan, grayish. IP'S; crypto. to v. v. fn. x.ln.; uery
 to extely. oolitic (sm, med + trs lg) to med to lg
 w/ trs sm; matrix chlk, sub-chlk, sub-sucro
 + trs packstn.; dul. yel. fluor.; No cut; No Vis Por
 2) Lms tan; crypto x.ln. packstn. to sub-l. thorp.
 dul. yel. fluor.; No cut; No Vis Por
 3) Trs chert wht opaque
 Dol. lt gray; v. v. fn. x.ln.; v. sucro; yel. fluor
 No cut; No Vis Por

Interbedded + or Gradational Limestones
 1) Lms sli. dololp's; trs. wht. to crm. chlk +
 grayish. tan to tan; crypto. to v. v. fn. x.ln.;
 v. to extely. oolitic (sm, med + trs lg.)
 matrix chlk, sub-chlk, sub-sucro and
 packstn.; dul. yel. fluor.; No cut; No Vis Por
 2) Lms. trs. sli. dololp's; grayish. tan to tan
 crypto. x.ln.; packstn. to sub-l. thorp.
 dul. fl. yel. fluor.; No cut; No Vis Por
 3) sl. trs. chert gray to tan; transl to opaque

TD 5310

Bit Info: 7 7/8 inch bits
 #1 New Smith FH 124 Y
 in 1792 out 5310 TD

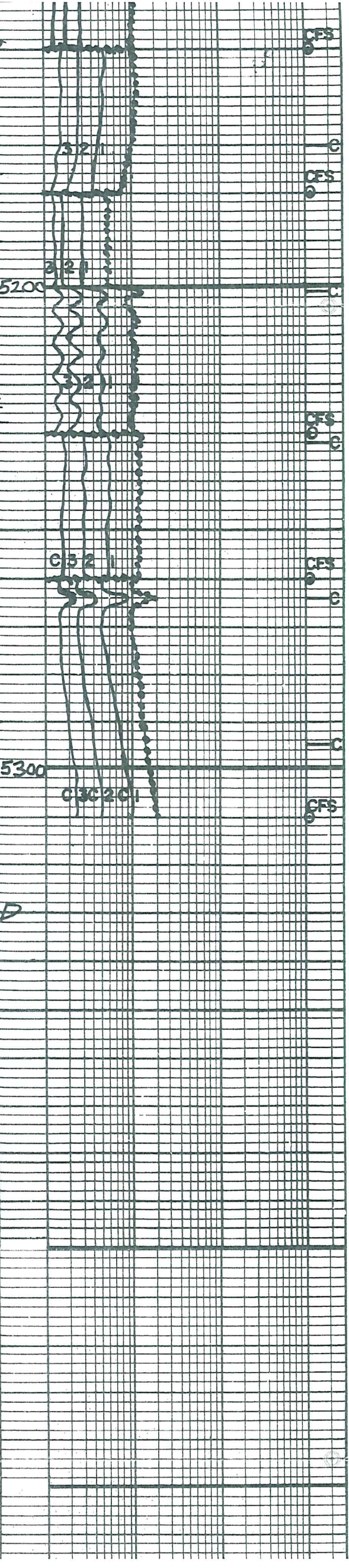
Dev. SURU:
 1. 997 3/4° 4. 4020 3/4° 7. 5310 1° TD
 2. 1792 3/4° 5. 4558 1/2°
 3. 2989 1/2° 6. 4980 3/4°

Cir Points:

| | | |
|----------|----------|-------------|
| 1. 4014 | 13. 4460 | 25. 5070 |
| 2. 4020 | 14. 4485 | 26. 5090 |
| 3. 4041 | 15. 4558 | 27. 5110 |
| 4. 4108 | 16. 4632 | 28. 5130 |
| 5. 4153 | 17. 4915 | 29. 5150 |
| 6. 4250 | 18. 4950 | 30. 5180 |
| 7. 4271 | 19. 4970 | 31. 5230 |
| 8. 4326 | 20. 4980 | 32. 5260 |
| 9. 4380 | 21. 5000 | 33. 5310 TD |
| 10. 4388 | 22. 5020 | |
| 11. 4425 | 23. 5034 | |
| 12. 4441 | 24. 5050 | |

Daily Dalg Progress:

| | | |
|----------|------------|-----------|
| 1. 3673 | At 7:00 AM | 6-27-2011 |
| 2. 3800 | At 5:47 AM | 6-27-2011 |
| 3. 4220 | At 7:00 AM | 6-28-2011 |
| 4. 4233 | At 7:00 AM | 6-29-2011 |
| 5. 4250 | At 7:00 AM | 6-30-2011 |
| 6. 4388 | At 7:00 AM | 7-1-2011 |
| 7. 4447 | At 7:00 AM | 7-2-2011 |
| 8. 4558 | At 7:00 AM | 7-3-2011 |
| 9. 4689 | At 7:00 AM | 7-4-2011 |
| 10. 4949 | At 7:00 AM | 7-5-2011 |
| 11. 4980 | At 7:00 AM | 7-6-2011 |
| 12. 5034 | At 7:00 AM | 7-7-2011 |
| 13. 5094 | At 7:00 AM | 7-8-2011 |
| 14. 5240 | At 7:00 AM | 7-9-2011 |
| 15. 5310 | At 7:00 AM | 7-10-2011 |



DST#1 Lansing "8" 3998-4008
 ID BOB 4 Min FO BOB 4 Min
 Rec 1622 ft fluid BHT 114°F
 884 GCO 40% Gas 60% Oil
 738 MGW 95% WTR 5% Mud
 oil Grav 38° API Rw. 17@75°
 chl 35000 ppm chl 1800 ppm

IHP 1925#
 JFP 57-366# in 30 min.
 JSIP 1096# in 60 min.
 FFP 385-602 in 60 min.
 FSIP 1095# in 120 min.
 FHP 1854#

DST#2 Lansing "G" 4234-4250
 IO weak surface blow inc to
 1/2" in 30 min FO No Blow
 Rec 30 ft 100% Mud BHT 115°F

IHP 2026#
 JFP 20-37# in 30 min.
 JSIP 1206# in 60 min.
 FFP 41-55# in 30 min.
 FSIP 1178# in 60 min.
 FHP 1972#

DST#3 Lower KC "A" 4000-4025
 IO Built to 2 inches in 30 min
 FO No Blow
 Rec 100 ft 100% Mud BHT 117°F

IHP 220#
 JFP 16-57# in 30 min.
 JSIP 1261# in 60 min.
 FFP 60-95# in 30 min.
 FSIP 1238# in 60 min.
 FHP 2032#

DST#4 Marmaton 4544-4558
 IF BOB 20 sec GTS during SI
 FF BOB 3 min Flowing Gas STM
 Rec 837 ft Total fluid + 3720 ft GIP
 651 ft gas oil and a little mud
 186 ft 75% G; 12% O; 3% W; 10% M
 BHT 122°F Grav. oil 34° API

IHP 2334#
 JFP 70-143# in 30 min.
 JSIP 892# in 60 min.
 FFP 195-258# in 60 min.
 FSIP 887# in 120 min.
 FHP 2180#

DST#5 Morrow 4953-4980
 IO weak surface blow FO v. weak
 surface blow Rec 15 ft 100% Mud
 BHT 125°F

IHP 2417#
 JFP 26-28# in 30 min
 JSIP 702# in 60 min
 FFP 30-33# in 30 min
 FSIP 842# in 120 min
 FHP 2302#

DST#6 Morrow 5014-5034
 IO Built to 2 inch in 30 min
 FO v. weak surface blow
 Rec 30 ft 100% Mud BHT 125°F

IHP 2435#
 JFP 28-61# in 30 min
 JSIP 768# in 60 min
 FFP 46-78# in 60 min
 FSIP 778# in 120 min
 FHP 2342#

Max. Inflow

| Date | 6-26 | 6-27 | 6-28 | 6-29 | 6-30 | 7-1 | 7-2 | 7-3 |
|-------|------|------|------|------|------|------|------|------|
| Depth | 376 | 377 | 4020 | 4108 | 4250 | 4388 | 4466 | 4550 |
| WT. | 9.5 | 8.5 | 8.8 | 8.85 | 8.9 | 9.0 | 9.1 | 9.2 |
| Vis | 30 | 44 | 47 | 47 | 47 | 48 | 52 | 53 |
| PV | 2 | 12 | 14 | 14 | 14 | 15 | 16 | 16 |

| | | | | | | | | |
|------|-------|-------|-------|-------|-------|-------|-------|-------|
| PV | 2 | 12 | 14 | 14 | 14 | 15 | 16 | 16 |
| YP | 3 | 14 | 15 | 15 | 16 | 18 | 19 | 19 |
| GS | 2/4 | 12/34 | 14/37 | 14/40 | 14/38 | 14/35 | 14/37 | 15/38 |
| WL | N/C | 8.8 | 7.6 | 8.0 | 8.0 | 8.0 | 7.3 | 8.0 |
| cake | - | 1/32 | 1/32 | 1/32 | 1/32 | 1/32 | 1/32 | 1/32 |
| pH | 7.0 | 10.5 | 9.5 | 8.5 | 9.0 | 9.5 | 10.0 | 10.0 |
| chl | 10000 | 1800 | 2800 | 2750 | 2750 | 3200 | 3800 | 4000 |
| Ca | HVY | 20 | 20 | 20 | 20 | 40 | 40 | 40 |
| LCM | 2 | 2 | 3 | 3 | 2 | 5 | 5 | 4 |

| | | | | | | |
|-------|---------------|---------------|---------------|--------------|--------------|-------------|
| Date | 7-4 10:00A | 7-5 12:00P | 7-6 11:00A | 7-7 1:15P | 7-8 6:30A | 7-9 12:P |
| Depth | 4714 | 4970 | 4980 | 5034 | 5110 | 5271 |
| WT | 9.1 | 9.3 | 9.3 | 9.3 | 9.0 | 9.1 |
| Vis | 50 | 50 | 51 | 56 | 53 | 58 |
| PV | 16 | 16 | 16 | 18 | 17 | 18 |
| YP | 18 | 19 | 19 | 20 | 20 | 22 |
| GS | 14/36 | 14/37 | 15/36 | 15/41 | 15/38 | 16/42 |
| WL | 8.0 | 7.6 | 8.0 | 8.0 | 8.0 | 8.0 |
| cake | 1/32 | 1/32 | 1/32 | 1/32 | 1/32 | 1/32 |
| pH | 10.5 | 11.0 | 10.0 | 10.0 | 11.0 | 10.0 |
| chl | 3500 | 3200 | 3000 | 3200 | 3000 | 3000 |
| Ca | 40 | 40 | 40 | 40 | 40 | 40 |
| LCM | 3 | 4 | 4 | 4 | 3 | 3 |

OPERATOR BEREXCO LLC LOCATION 1320'FNL & 350'FEL
 LEASE STONE NO. 1-19 SEC. 19 TWP. 26S RANG. 33W
 ELEVATION 2937KB RTD 5310 COUNTY FINNEY STATE KANSAS