

WELL LOGISTICS REPORT
DRILLING TIME & SAMPLE LOG

COMPANY	BEREXCO LLC		ELEVATIONS
LEASE	STONE		KB 2942
LOCATION	1896FNL A 1862FFEL		DF 2939
SEC.	19	TWP. 26S	GL 2929
COUNTY	FINNEY , STATE KANSAS		RNG 33W
FIELD	IVANHOE EXTENSION		MEASUREMENTS ARE
CONTRACTOR	BEREDCO DRIG. RIG NO. 2		ALL FROM KB
COMM.	7-2-2012		TD
COMPL.	7-16-2012		TD
RTD	5350	LTD	5334
No. of DST'S	3	No. of CORES	NONE
SAMPLES SAVED FROM	3700	TO	TD
DRILLING TIME KEPT FROM	3700	TO	TD
SAMPLES EXAMINED FROM	3700	TO	TD
GEOLOGICAL SUPERVISION FROM	3700	TO	TD
GEOLOGIST ON WELL	EDWIN H. GRIEVES		
FORMATION TOPS			
BASE HEEBNER	SAMPLE	LOG	SUBSEA
LANSING FM.	393	3919	- 97
MARMATON	3926	3912	- 104
CHEROKEE	4568	4543	- 162
MORROW	4697	4678	- 1736
CHESTER	4943	4926	- 1984
ST. LOUIS	5062	5046	- 2107
TD	5153	5129	- 2187
	5350	5334	
E-LG LOG ADRESS SPGR			
DEN-NEUT-GRCALIPER			
ML-SOMC			
API NO. 15-005-22165			

REMARKS *Earth-Tech had an unmanned gas detection trailer on this well from 3700 feet to total depth.*

E-log tops 13 to 16 feet high to sample log tops

DST #4 Morrow Staddle Test 4935-5085
 TO Strong Blow BOB 1 3/4 min - Strong Blow Back
 FO Strong Blow BOB 2 1/2 min - Strong Blow Back
 Rec 34 ft G+OCM 2 1/2 Gas 16% oil 82% mud then unloaded clean oil
 1034 ft CO Circ out 21.4 Gravity @ 60°
 542 ft CO Circ out Drill Collars
 90 ft OCM 63% oil 94% mud
 1700 ft Total fluid
 Last sample into truck 10% gas, 36% oil, 54% mud
 Tool sample 100% oil
 IHP 1464#
 IPP 245 to 450# in 30 min
 ISIP 967# in 60 min
 FFP 498 to 709# in 60 min.
 FSIP 921# in 120 min
 FHP 2440#

*Frack 1000 ft
 100 m. +
 100 ft
 Geo 1000 ft*

LITHOLOGY

SANDSTONE	SILTSTONE
LIMESTONE	DOLOMITE
SHALE	GRANITE WASH
CHERT	ANHYDITE & GYP

CHROMATOGRAPH

HOT WIRE BY
TOTAL GAS VOLUME

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

DRILL TIME
SCALE

5 10 15

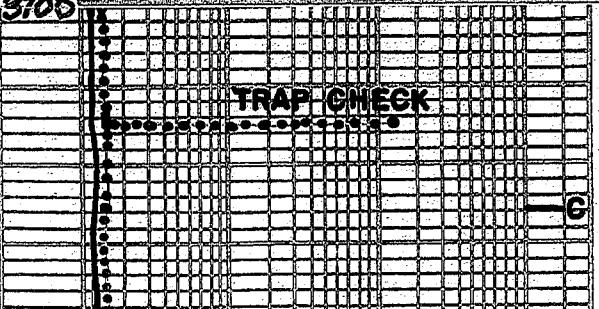
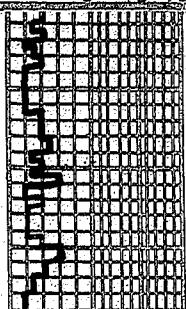
SAMPLE DESCRIPTION

GAS SCALE

10 100 1000

3700

TRAP CHECK



Interbedded limestones & scattered thin shales 3800

Thin shales

① Faster Drdg. Lms. abn wht. To crm-chlk
2nd tan, grayish. IP's crypto to v.v. fine ln.
TRs. sub-chlk, sub-succo, to succo.
dul H. to H. yel. fluoc., No Cat, abn. pr.
to TRs. fr. micro-ppt. + poss. intercal.
por.

② Slower Drdg. Lms. grayish. Tan to TRs
H. gray.; crypto. To v.v. fine ln; sub-chlk
sub-succo, packstone. + TRs sub-litho. or.
dul H. yel. fluor. IP's No Cat, No Vis por.

③ Scattered thin Shales H. to med gray
sl. to extremely calc. IP's

WOB 23000-30000

RPM 70
SPM 54
PP 1000

3900

Base Helderberg

3931-989

CH

G21 BLK. SH. GU

TORONTO

3945-1003

CH

Sh v. drk gray to black-carb
Lms. grayish. Tan; cry. fine ln. packstone
To sub-lit. sub-calc.; dul. H. yel. fluor. No Cat
No Vis por; poss. transg. gray opp.

Sh H. gray, greenish IP's

Lms. huy tan. wht. To crm-chlk + tan
crypto. To v.v. ln. sub-chlk, sub-succo
To succo; dul. H. yel. fluor.; No Cat
abn. pr. to calc. + transg. micro-ppt. prob.
INTERCALA-POR

Lms. grayish. Tan to tan; crypto. To v.v. fine ln.
sub-chlk, sub-succo + packstone; dul. H. yel. to tan
H. yel. fluor.; No Cat, No Vis por

Lms. tan; crypto. To v.v. fine ln;
sub-chlk; sub-succo + packstone; dul. H. yel. to tan
H. yel. fluor.; No Cat, No Vis por
IP's micro-ppt. + prob. intercal. por

Lms. H. tomed. gray; crypto. To v.v. fine ln.;
sl. tan sub-chlk; tan sub-succo + packstone
TRs. dul. yel. fluor.; No Cat, No Vis por

LANSING FMS.

3976-1034

CH

Lms. simili 3959-3976 or string team
2600C

Lms. simili 3988-4013 becoming oolitic

Lms. huy tan. wht. To tan; abn. H. tan
To tan; crypto. To v.v. fine ln; TRs sub-chlk
sub-succo to succo; TRs phantom oolitic to

sl. tan; phantom oolitic to dull. tan
yel. fluor.; No Cat, abn. pr. to calc. + transg.
micro-ppt. + prob. intercal. por

Lms. grayish. Tan to tan; crypto. To v.v. fine ln;
TRs. sub-chlk, sub-succo to succo + packstone

TRAP CHECK

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Sub-succincto succo; trs. pl. iron oxide to
Sl. tan, phantom col. blstic, idulit. fol.
yel. fluor.; Nolat; 26n. PR to test. fsgd
micro-pp. & Prob. intercpx por.
Lms. grayish. tan to tan; crypto to v.v. ln. xli;
trs. sub-blk, sub-succo to succo + packst.;
26n. phantom colitic to bl. oolitic idul. fol. to yel.
Nolat; No but scattered trs. in litho.
Lms. tan; crypto to v.v.; packets to tan; bl. litho
yel. fluor. - No but, Novis POR.

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Lms. tan, grayish. IP's to tan H. gray; crypto
to v.v. ln. xli; tan; sub-blk, sub-succo
& packst.; dul. bl. yel. fluor. Nolat
No Vis POR

4100

TRAP CHECK

Lms. tan; crypto to v.v. ln. xli; v. to extely
oolistic &/or sl. to bl. oolitic matrix
sub-succo to succo + tes. packst.; dul. yel.
fluor.; Nolat; abu gr. fsgd to exel oolistic por.
Poss. intercpx por. IP's; Quest. POR

Lms. similar 4110-4128 becoming less
oolistic & more oolitic

Lms. tan, wht to cream. chlk + tan to grayish tan
crypto. to v.v. ln. xli; tan; sub-blk, sub-succo
to succo + packst.; dul. yel. fluor.; Nolat
No Vis POR

WOB 40000-42000
RPM 70-75
SPM 54
PP 950

Lms. v. abu. wht. to cream. chlk + tan to grayish tan
crypto. to v.v. ln. xli; v. to extely phantom colitic
to v. to extely oolitic matrix & trs. sub-blk
sub-succo to tan. succo + packst.; dul. yel.
fluor.; Nolat; scattered tes. pr.
micro-pp por. IP's

Lms. grayish. tan to tan; crypto. to v.v. ln. xli; tan
sub-blk, sub-succo + packst.; dul. yel. fluor.
IP's; No Cut; No Vis POR

Lms. hvy. trs. wht. to cream. chlk & grayish tan; crypto
to v.v. ln. xli; v. to v. oolistic &/or sl. to
v. oolitic matrix sub-blk to packst.;
dul. H. yel. fluor.; Nolat; abu gr. fsgd to exel
oolistic por.; Prob. No POR

4200

Lms. similar 4196-4219 becoming
sl. to bl. oolistic &/or very oolitic
matrix sub-blk, tan sub-succo + packst.
dul. H. to dul. yel. fluor.; Nolat; hoy. tes. pr. to
tes. fsgd. oolistic por.; Prob. No POR

Lms. H. tan to tan, grayish. IP's; crypto. to v.v. ln. xli
tan; sub-blk, sub-succo + packst.; dul. yel. fluor.

dul. bl. yel. fluor.; Nolat; No Cut; No Vis POR
Lms. grayish tan to tan; crypto. to v.v. ln. xli;
sub-blk, sub-succo + packst.; dul. yel. fluor.; Nolat
No Vis POR

Lms. tan; v.v. ln. xli; sub-succo to tan.
trs. oolitic; dul. yel. fol. bl. yel. fluor.
Nolat; abu gr. fsgd to exel micro-pp +
poss. intercpx. por.

Lms. H. gray to tan, crypto to v.v. ln. xli.
mostly sl. to very oolitic; chlk, sub-blk
sub-succo + packst.; dul. yel. fol. bl. yel. fluor.
yel. fluor.; Nolat; v. scattered trs.
micro-pp por.

4300

Lms. tan, to abu. wht. to cream - chlk +
grayish. tan to tan; crypto. to v.v. ln. xli;
sl. to bl. oolistic IP's &/or sl. to v. oolitic

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Lms. Tres. To 4601. WBL. 1000 m thick
grayish tan to tan; crypto. to v.v. tan; dr.
sl. to cal. ooidicastic IP's to silt to ooidic
IP's; matrix vol. rock - chalk, sub-chalk,
sub-silic & packstr. dol. H. yel. to
dol. yel & tres yel. Fluor. No Calc;
tres pt to fa. ooidicastic &/or tres. poor.
micro-p.p. por.

Lms H. gray, tanish gray to grayish tan; crypto.
to v.v. tan; dr.; tres. sub-chalk, sub-silic &
packstr. tres sub-silic. dr. dol. H. yel. to
dol. yel & tres yel. Fluor. No Calc;
 tres pt to fa. ooidicastic &/or tres. poor.
micro-p.p. por.

Sh. v. dark gray to black - chalk.
Lms similar 46382 - 46044

Lms. abn. wht. to cream - chalky calc. oolithes IP's and
tan grayish. IP's, crypto. to v.v. tan. dr. sub-chalk,
sub-silic to silt. v. dol. yel. fluor. No Calc
 tres. to tan. tres pt. very micro-p.p. por.

Lms. lt. gray. to tan; crypto. to v.v. tan. dr.
tres. sub-chalk, sub-silic & packstr.
dol. yel. fluor. IP's, No Calc, No Vis por.
v. abn. chert. gray, opaque

Sh. med to v. dark gray to v. dark gray to bl. chalk

Interbedded Limestones
① Lms. similar 4430 - 4455
② Lms. H. med & tres dark gray; crypto. to
v.v. tan. dr.; sl. tres. sub-silic & packstr.;
v.v. sl. tres. v. dark yel. fluor.; No Calc;
No Vis por w/ tres. chert gray, opaque

Lms. med to dark gray - fels. to very shly
gr. dr. to v. calcs. shs. IP's; crypto. to v.v. tan
 tres. sub-silic & packstr.; No fluor. No Calc
No Vis por

Sh. lt. to med. gray; silt calc. IP's
soft mushy IP's when wet
Lms. abn. wht. to cream - chalky calc. oolithes
crypto. to v.v. tan. dr. tres. sub-chalk, sub-silic
to silt. dol. H. yel. to dol. yel. fluor.
No Calc; v. sl. tres (2 pieces) dol. yel.
fluor. w/ tan oil stain when stored
good milky cut; v. widely scattered
v. tan. milky cut - p.p. por. w/ poss intercal.

4574 - 4607 Lms. lt. tomed. gray. tanish IP's
to tan; crypto. to v.v. tan. dr. sub-chalk, phantom
oolitic to tres. oolitic; tres. sub-chalk, sub-silic
packstr. + sl. tres. sub-silic. dol. H. yel. to
dr. sub-chalk, dol. H. yel. to
w/ sl. tres. chert gray. to tan, opaque

Lms similar 46574 - 4607 w/ tres to
tan tres. chalk - whit. to cream.

Sh. v. dark gray. to bl. chalk - chalk
Lms. lt. gray. to tan; crypto. to v.v. tan. dr.; sub-silic
& packstr. tres. oolitic dol. H. yel. fluor. No Calc; No Vis por
Lms. lt. gray. to abn. wht. to cream - chalk
w/ tan oolites IP's & calc. to tan; crypto. to
v.v. tan. most calc. dol. H. yel. to
oolitic calc. matrix v. dark chalk. dr. sub-chalk
sub-silic & sl. tres. packstr. dol. H. yel. fluor. &
No Calc; tres. p.p. ooidicastic por. scattered tres
p.p. micro-p.p. por. tan, opaque to sl. tan & tan.

4400

BLK SH. 4U

CN GAS 7U

BLK SH. 9U

WOB 40000 - 45000
RPM 70-75
SPM 54
PP 930
CN GAS 12U

MARINA 10m
4568 - 1626

TRAP CHECK

SLI. SHOW 8U
WOB 40000 - 42000
RPM 75
SPM 54
PP 1000

RECYCLE ? 7U

PALINCE
4638 - 1696

BLK SH. 4U

CFS
0

Sub-fusco + Si, YAS, P2000 ft., v. dol. lit. yel. - CFS - 5
 Nolcut, T28, P2000 ft., scattered calc.
 ph. micr. - pp. - por. hoy, f. schist.
 gray to tan, opaque Si, f. test. tenui.
 4659-46676. Lms. similizie 4638-4645
 w/ scattered dol. lit. yel. Flex. No cut
 No Vis POR
 Sh. v. deh. gray to black-carb.
 Lms. grayish tan to tan; crypto. to v. tan; v. M.
 trs. dol. sub-dol. sub-succo, packstone and
 sub-lithogr.; scattered fels w/ dolite, yel. to
 yel. dolom.; Dolom; NoVis POR
 Sh. v. deh. gray to black-carb.
 Lms. Similizie 4678-4691

F156077
 4678-1736
 CFS
 NOE 10000
 RPM 52
 SPM 52
 PP 950
 BLK SH 25 U

Cherokee Fm.

4692-1750

35 U

CN GAS 25U

Interbedded Limestones and Shales

- ① Lms. grayish tan to tan; crypto. to v. tan; v. M.
Sl. to subcalcareous, sub-succo, packstone and
sub-lithogr.; scattered fels w/ dolite, yel. to
yel. dolom.; Dolom; NoVis POR.
- ② Lms. med. to dolite gray - v. to estab. Sh.
grading to extremely calc. Shs; crypto. to v. tan;
v. M. sub-calcareous, sub-succo, packstone and
sub-lithogr.; dolite gray; Dolom; NoVis POR
Nolcut NoVis POR
- ③ Sh. med to v. dark gray, Sl. to estab. calc.
+ v. dark gray to black-carb. looking

4800

C4 3 3 2 1

4831-4888 Lms w/ thin interbeds Shs

- ① Lms. lt. to med gray - sl. to very shaly and
grayish. tan to tan; crypto. to v. v. tan; v. M.
sub-dolite to dolite sub-succo, packstone.
+ fels sub-lithogr.; trs. fossil, trs. phytoc.
oolitic for trs. oolitic; dol. lit. to very
flex. P's; Dolom; NoVis POR.
- ② thin scattered Shs med to dolite
gray; sl. to very calc

4900

Morrow Fm

4943-2001

CFS
S

CFS
S

SHOW 37U

4888-4943 Lms Similizie 4831-4888
w/ abn. interbeds Shales med to v. dark
gray; sl. to estab. calc + v. deh. gray to
black-carb.
 A 4943-4951 Sh. med gray, greenish
Tp's to olive green + blue green
 B Fragm. lms Similizie 4958-4974
Less Show, Less Por
 C Sh. Similizie 4943-4951
 D 4958-74 Fragm. lms grayish tan
tan w/ abn. sp. to even brownish tan
oil stain; v. v. tan to orange (composed
Lms. gas, fass. f. eggs. + fels oolites)
(crypto. to v. v. tan) matrix
sub-dolite, sub-succo, packstone
fr. oil oiled; dol. gl. dol. oiled yel.
flex.; exch. fl. to exch. stony
Cust. h. h. t. as pr. f. test. f. egg
intercgr. por, trs. wiggles
Por I P's
 E 4974-4997 Sh. med. gray, grayish
Tp's to tan gray, white trs. to abn.
siltstone, gray, tan, v. tan, Gt. 2 sdts
lt. gray, mostly dol. to dol. to dol. to oil
stain; v. v. tan / P's, 2nd; poorly sorted;
v. dol. yel. flex. dolom.; Dolom; NoVis POR

C4 5521

CFS
S

W/1tes Frgm. lns. siltites 4998-74
w/ no cut; No Vis/for

E F 4997-5003 Qtz Sdst huytes. Sl.
tou. silty, dark tan to brown grayish IP's
siltite/lime. 2inq., petro. w/ 1/2-1/3
Qtz. Sdst. Qtz. to tan. Greenish/tan
v. dull, gl. yel. Fluorite/glass to
excellent white; 2bu petro.

F + huytes qd. mixed w/o tan interc.

Pore
5003-5043 82-96% Sh med to dk.
gray, calc IP's, fr. Lungs & fossil fragm.
1703 to Fragm. Lns. tan/dul. yel. Fluorite
No cut; No Vis Pore No Show

5 to 15% Qtz Sdst w/ sl. more silt
& siltites otherwise similar to
4997-5003

5043-5050 Qtz Sdst lt gray w/
v. 2by. sp. to even dark tan to dk
oil sl. siltite Sdst tan v. fr. tan
w/ 1tes fr. Qtz. qrs, 2inq.; petro.
huytes. fr. 5044, tan/yell. filled;
fr. 5045. Calc w/ tan frags. Fair
oil adeq; v. 2bu petro. to even
tan to brown oil sl. v. dk. yel. yel.
Fluorite w/ glass to clear stony
Caves; 2bu petro. to tan
micro-pp to loose 2. por.
huytes sm. clusters to loose zones

G. 5050-5062 Sh. med to dk gray,
silty IP's, tan frags & fossil fragm.
inclusions IP's; huytes siltite.
lt. tanmed gray. Sh. filled & tan
& fragm. Lns. No Show

5162-5144 Lns. lt. tanmed gray.
tanish IP's to tan; cr. to dk.
tan. Sub-dk, packed tan sub-lt. yel.
No Fluorite; No cut; No Vis Pore

TRIP GAS 60 U

CFS
0

3211

5003 C 3211 SHOW 34U

CFS
0

C 3211

CFS
0

C 3211 SHOW 35U

CFS
0

C 3211 Chester Fm
5062-9120

CFS
0

C 3211

CFS
0

C 3211 CN GAS? 12U

CFS
0

5100

C

C 3211

C

C 3211 St. Louis

5153-2211

C

Lms. tan, grayish. IP's; crypto. tan (v. sil.)
fully to extrab. oolitic (sm, med & lg);
matrix sub-cllk, sub-succo &
tan. packed tan sub-lt. yel. to dk yel.
Fluorite; No cut; No Vis Pore
with TRS to 2bu loose oolites

5200

C

Dol. lt. gray; v.v. tan. sub-succo
to succo; yel. Fluorite; No cut; No Vis Pore

CFS
0

Interbedded to Gradational Limestones
Lms. similar 5153-5270 grading to
Lms. lt. gray tan. crypto. tan. v. fr.

C

Lms. 5 cm. lare 5 15 3-210 graying to
Lms. lt gray to tan; crypto-tan. v. fu
x/lm; sub-chlk, sub-succo & peckstn;
dul. lt. yel. to yel. flwo.; No cut
No Vis Pot.; w/ scattered tressert
ott wht, gray. to tan; opaque

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TD 5350

7 $\frac{7}{8}$ inch Bit Info:

#1 New Smith F124
in 1800 out 4990

#2 Rerun Smith F27P
in 4990 out 5350 TD

Cir. Points

1. 4018	7. 4650	13. 5030
2. 4029	8. 4930	14. 5050
3. 46068	9. 4950	15. 5060
4. 4176	10. 4970	16. 5080
5. 4280	11. 4990	17. 5277
6. 4618	12. 5010	18. 5350TD

DST #1 Marionton B⁴ 4580-4618
TO weak surface blow
FO v. weak surface blow dried 3 min
Rec 5 ft 100% Mud
Tool sample 100% mud w/ spty oil specks

IHP 2191#
IFP 6 to 7 in 15 min
ISIP 14# in 30 min

FFP 6-8# in 30 min
FSIP 16# in 60 min
FHP 2189#

DST #2 Morrow 4954-4990
Packer Failure

DST#3 Morrow 4961-4990
MisRun Tool Plugged

Daily Delg. Progress

1.	3360	7:AM	7-7-12
2.	3700	7:05PM	7-7-12
3.	4018	7:00 AM	7-8-12
4.	4456	7:00 AM	7-9-12
5.	4618	7:00 AM	7-10-12
6.	4773	7:00 AM	7-11-12
7.	4990	7:00 AM	7-12-12
8.	4990	7:00 AM	7-13-12
9.	5169	7:00 AM	7-14-12
10.	5350	7:00 AM	7-15-12
11.	5350	7:00 AM	7-16-12
12.	5350	7:00 AM	7-17-12

Med-Enfa

Date	7-6 8:50A	7-7 9:10A	7-8 9:15A	7-9 9:00A	7-10 10:15A	7-11 11:40A	7-12 11:15P	7-13 7:30A
Depth	2729	3402	4029	4489	4618	4858	4990	4774
WT.	9.6	9.6	9.0	9.3	9.3	9.4	9.4	9.4
Vis	30	30	47	51	64	55	51	68
PV	-	-	15	16	18	17	18	22
YP	-	-	17	20	23	20	14	22
GS	-	-	14/33	14/31	15/45	15/40	16/38	26/22
NL	-	-	8.0	6.4	6.4	7.2	8.0	8.0
Cake	-	-	-	1/20	1/20	1/20	1/22	1/22

7.	4990	7:00 AM	7-12-12
8.	4990	7:00 AM	7-13-12
9.	5169	7:00 AM	7-14-12
10.	5350	7:00 AM	7-15-12
11.	5350	7:00 AM	7-16-12
12.	5350	7:00 AM	7-17-12

Mud Info:

Date	7-6	7-7	7-8	7-9	7-10	7-11	7-12	7-13
	8:50A	8:50A	9:50A	9:00A	10:15A	11:40A	7:15P	7:30P
Depth	2729	3402	4029	4489	4618	4858	4990	5174
WT.	9.6	9.6	9.9	9.3	9.3	9.4	9.4	9.4
Vis	30	30	47	51	64	55	51	68
PV	-	-	15	16	18	17	18	22
YP	-	-	17	20	23	20	14	22
GS	-	-	14/33	14/37	15/45	15/40	16/38	24/62
WL	-	-	8.2	6.4	6.4	7.2	8.2	8.0
Cake	-	-	-	1/32	1/32	1/32	1/32	1/32
pH	7.0	7.0	11.0	10.5	11.0	10.0	10.5	10.5
Chl	36000	18000	1900	1900	1800	2400	3000	3100
C _a	hug.	hug.	40	40	40	40	40	40
LCM	2	2	2	2	1	3	3	3

Date 7-14 7-15 7-16
4:15P 7:30A 1:30P

Depth 5277 5350 5350

WT. 9.5 9.6 9.3

Vis 52 62 55

PV 16 20 16

YP 14 22 20

GS 18/66 26/68 20/42

WL 8.4 6.4 8.2

Cake 1/32 1/32 1/32

pH 9.5 11.5 10.5

chl 3800 3800 3500

C_a 40 40 40

LCM 3 2 3

OPERATOR BEREXCO LLC

LEASE STONE NO. 2-19

ELEVATION 2942 KB RTD 5350

LOCATION 1896 FNL & 1862 FEL

SEC. 19 TWP. 26S RNG. 33W

COUNTY FINNEY STATE KANSAS