

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD
 Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or
Recompletion Date Recompletion Date

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	BEREXCO LLC
Well Name	LOVE 1-18R
Doc ID	1348101

All Electric Logs Run

Neutron-Density
Resistivity
Micro
Sonic

NO. 1-18
80' FEEL

RNG. HOW
Kansas

ELEVATIONS
KB 3329
DF 3327
GL 3317

MEASUREMENTS ARE
ALL FROM KB

Log #1
1-11-2017

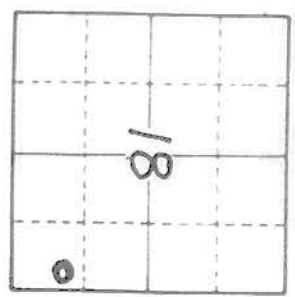
CASING RECORD
8 5/8" O.D. 1676 W 730 SX.

RES None

EL LOG A.O. RES. SP GR
Den. Neuf. R. Caliper
M. Sonic

400 TO TD
3400 TO TD
3400 TO TD
ROM 3400 TO TD
in H. Grievies

LOG SUBSEA



API# 15-187-21333

REMARKS EarthTech had an unmanned gas detection trailer on this well from 3400 feet to total depth

Thank you,
Edwin H. Grievies
Geologist

LITHOLOGY

- SANDSTONE
- LIMESTONE
- SHALE
- CHERT

- SLTSTONE
- DOLOMITE
- GRANITE WASH
- ANHY B GYP

CHROMATOGRAPH

HOT WIRE BY
TOTAL GAS VOLUME

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

WELL TIME SCALE

SAMPLE DESCRIPTION

GAS SCALE



grayish-tan totan; trs sub-chlk,
sub-sucro. to v. sucro. and
trs. pachstn; dul. yel. to sli. trs.
yel. fluor.; No Cut; abn. pr. fr.;
to qd. + trs. excel. micro-pp.
por. to interxn. por.

Lms. similar 3400-3444

3500

Lms. similar 3444-3478

Lms. similar 3400-3444

TRZP Check

Lms. lt. to med. gray + trs drk. gray.
sli. to extaly. shly. w/ trs grazing to
highly cz. ls. shs; crypto to trs
v. v. fn. xln; sub-chlk or shly,
trs sub-sucro. + pachstn;
trs. finely disseminated pyrite;
No fluor; No cut; No vis por.

3600

Sh. v. drk. gray to black-carb
Lms. grayish-tan; crypto xln; pachstn
+ sub-lith. agg; dul. yel. fluor; No cut
NO vis por

Sh. lt. gray to lt. green; soft & mushy
when wet; silty IPIS

Lms. trs. wht. to cam.-chlk. and
cam. to lt. tan; crypto. to v. v. xln
sub-chlk, sub-sucro to v. sucro. +
pachstn; dul. yel. fluor; No cut;
trs. poor micro-pp. por.

Lms. lt. gray to tan; crypto. to v. xln
trs. sub-chlk, sub-sucro + pachstn;
trs. w/ dul. vel. fluor.; No cut; No vis por

Base Heebner
3635-306

Bik Sh 120

Toronto
3665-336

to highly calc. shs.; subchlk to shly
+ packstn.; No fluor.; No cut
No vis por.

Lansing Fin
3697 - 368

3700

G1

Interbedded lms. + scattered thin shs

1. Lms. lt. gray. to tan; shly. IP's;
crypto. to v.v. fn. xln.; trs. subchlk to
shly.; sub-sucro. + packstn.;
dul. yel. fluor. IP's. No cut
No vis por

2. Lms. sli. to abn. wht. to crim-chlk
+ grayish. tan to tan; crypto. to
v.v. fn. xln.; trs. subchlk, sub-sucro
to sucro. and packstn.; dul. lt. yel
to dul. yel. fluor.; No cut; No vis por

3. scattered trs shs. med to drk gray
sli. calc. to very calc.

3800

G1

lms. hv. trs. to abn. wht. to crim-chlk
+ tan, grayish. IP's; crypto to v.v. fn. xln.;
sub-chlk; sub-sucro to trs. sucro.
+ packstn.; dul. yel. fluor. IP's; No cut
trs. to hv. trs. pr. to sli. trs. sr.
micro-pp. por. + pass. interxln. por
IP's

3900

No cut; v. zbn, pr., fr., gd. to
excel. oolitic por. + trs pr
to fr + slit asgd. micro-pd to
interxln. por; v. Quest. Perm.
POR Most parts

Lms. tan, grayish. IP's; crypto to
v.v. fn. xln.; sub-sucro + packstn;
dul. yel. fluor. IP's; No cut; No vis por

Lms. med. to dark gray. sl. to extly
shly. gradng. to highly calc. Shs;
crypto. to v.v. fn xln.; sub-chlk + shly
tas. sub-sucro + packstn; No fluor
No cut. No vis porosity

4000

Lms. lt. to med. gray, tanish IP's
crypto. to v.v. fn xln.; sub-chlk,
sub-sucro + packstn; dul. lt. yel
fluor. IP's; No cut; No vis por.

Lms. sl. trs. wht. to crm.-chlk + med.
gray; crypto. to v.v. fn. xln.; sub-sucro
to trs. sucro + packstn. dul. yel. fluor. IP's
No cut; No vis. por

4074-85 Lms. hvy trs. wht. to crm.-chlk
+ tan, grayish. IP's; crypto. to v.v. fn. xln.
v. to excel. oolitic for sl. oolitic IP's;
matrix sub-sucro to trs. sucro + packstn
dul. yel. fluor. No cut; zbn. pr. to fr
+ trs. gd. oolitic; pp + micro pp
por. Quest. Perm

4095-4093 Lms. med. to trs. dk gray
sl. to v. shly; crypto xln.; packstn;
No fluor; No cut; No vis por

4100

4093-4126 Lms. v. to extly zbn wht. to
crm.-chlk + tan; crypto. to v.v. fn.
xln.; frly to v. oolitic for frly to v.
oolitic; matrix sub-sucro to trs
sucro. + packstn; dul. yel. fluor.;
zbn. pr. to fr oolitic + trs. pr. to fr.
interxln. por; over all Quest. Perm.
Lms. med. gray. to tan; crypto. to v.v. fn.
xln.; sub-sucro. + packstn; trs su/
dul. yel. fluor.; No cut; No vis por;

Lms. similar 4093-4126

Lms. hvy trs. wht. to crm.-chlk + tan to
tan; crypto to v.v. fn. xln.; oolitic
to hvy. tabs. sl. to taly. oolitic
matrix chlk, sub-chlk, sub-sucro and
packstn. dul. lt. yel. fluor. IP's
No cut; hvy. trs. pr to trs fr. tagd.
oolitic. Por. Quest. Perm

Trap check

Kansas City Fm
4093 - 764

WOB	35000
RPR	70
SPR	60
PP	1000

Tan; opaque

4200

Lms. v. to extan. 2bn. wht to cam-
chlk. + tan; crypto. to v. v. fn. xln.;
v. oolitic for sli. oolitic IP's;
matrix chlk. sub-chlk. sub-sucro. 2nd
pacstn. + pacstn.; trs w/ dul.
yel. fluor.; No cut; hv. trs
w/ pr. to fr. oolitic por
v. Quest. Perm

4214-4303 Lms. med. gray grding.
tan; crypto. to v. v. fn. xln.;
trs. sub-chlk, trs. sub-sucro. 2nd
pacstn.; trs w/ dul. yel. fluor.;
No cut; No Vis Por.

BKG
4303-974

4300

Sh. med. to v. drk. gry.; sli. to
extly. calc. grding to extaly
shly. Lmsts

Marmaton
4321-992

Lms. tan w/ trs H. gry.; crypto xln;
pacstn. to hv. trs. sub-lithogr.
v. dul. yel. fluor.; No Cut; No Vis. Por.

4389-4394 Lms. H. gry. to tan; crypto
to v. v. fn. xln.; fair to v. oolitic for
sli. oolitic IP's; matrix sub-chlk
sub-sucro. + pacstn.; dul. yel. to sli. trs
yel. fluor.; No Cut; hv. trs
to fair oolitic por.; Quest. Perm

4400

Lms. grayish tan to tan; crypto to v. v. fn. xln.
trs. sub-chlk, trs. sub-sucro,
pacstn. + hv. trs. sub-lithogr.;
dul. H. yel. fluor. IP's; No Cut;
No Vis. Por.

NOVIS POR.

4466-77 Lms. grayish-tan to tan; crypto to v.v. fn. xln.; sub-sucro + packstn; dul. yel. fluor.; No Cut; NOVIS POR w/trs. Chert. H. gray, opaque

← 4477-80 Lms. tan; v.v. fn. to fn. xln.; sub-sucro to sucro; trs. phantom oolites IP; dul. yel. fluor.; No Cut; abn. pr. totx + trs. mlc ap to interior of por w/trs. Chert H. gray, opaque

Lms. similar 4466-4477

Sh. v. drk gray to black-carb

Lms. grayish-tan to tan; crypto to v.v. fn. xln.; trs. sub-chlk; sub-sucro + packstn; trs. dul. H. yel. fluor.; No Cut; No Vis POR w/hvy. trs Chert H. gray; opaque

Interbedded Limestones and Shales

1. Lms. grayish-tan to tan; crypto to v.v. fn. xln.; sub-chlk; sub-sucro + packstn; dul. H. yel to dul. yel fluor.; No Cut; NOVIS POR

2. Lms. lt. med to drk gray-sli to extely. Shly. gradng to v. calc. Shs.; crypto to trs. v.v. fn. xln.; sub-chlk to shly; trs. sub-sucro + packstn; No fluor.; No Cut; No Vis. POR.

3. Sh. med. to v. drk gray, sli to extely. calc. gradng. to Shly. lumps.

Lms. tan; crypto to v.v. fn. xln.; sub-chlk; sub-sucro + packstn; dul. gln. yel to gln. yel. fluor.; w/faint ring cuts; NO VIS POR.

Interbedded Limestones and Shales

1. trs. Lms. grayish-tan to tan; crypto

WOB 44000
RPM 72
SPM 60
PP 1000

1347 BITTRW
4489

Trip 535-370

J. SCOTT
4489-1160

4500

Recycle 320

Recycle 240

537

Recycle 210

WOB 42000
RPM 75
SPM 1000

4600

3. Shs. med to v. drk. gray slt to
extly. calc. grading to extly
shly. Lmsts

Interbedded Lmst Shs similar 4654-4738
w/interbeds Shs. very drk. gry.
to black carb

Interbedded Limestones and Shales
similar 4654-4738

Interbedded Limestones and Shales
similar 4654-4738 becoming
predominately interbedded
w/v. drk. gry to black-carb
shales

Interbedded Limestones and Shales
similar 4654-4738 w/abn
interbeds Shales v. drk. gry

WOB 38000
RPM 70
SPM 60
PP 1000

Blk Sh
434

Blk Sh
634

Rectals
724

WOB 40000
RPM 70
SPM 60
PP 1000

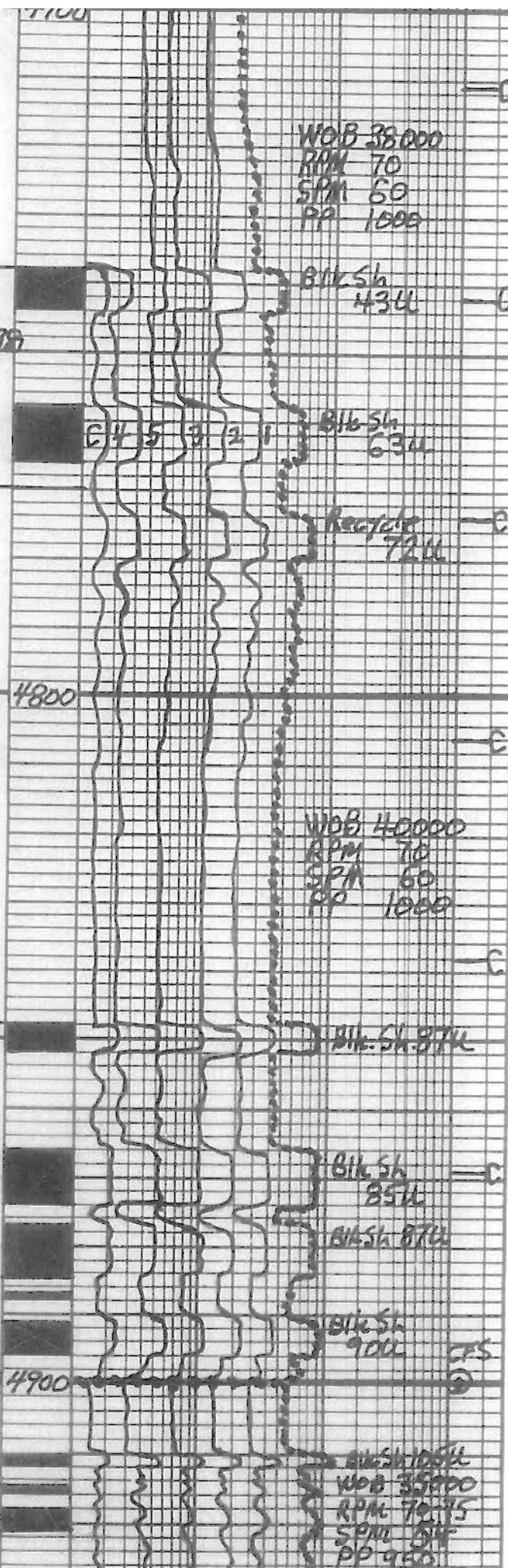
Blk Sh
874

Blk Sh
854

Blk Sh
874

Blk Sh
904

WOB 35000
RPM 70-75
SPM 54
PP 950



DST#1

Sample Morrow Fm
4987-1658

Sh. med. to v. drk gray, sil. to faly
calc. IP's

See Below

Some loose gas in sample
fr. formed; sub-ang to subrounded
frosted wht.

5000

Blush 664

4987-1658

GFS

Shout 544

Recycle 524

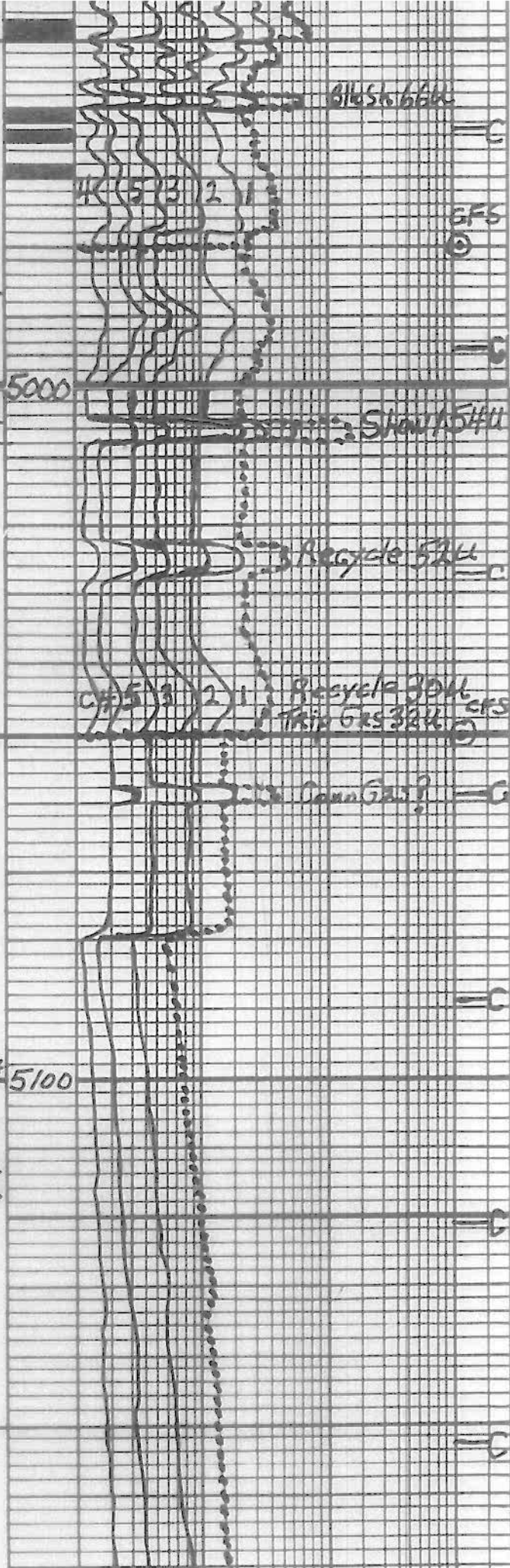
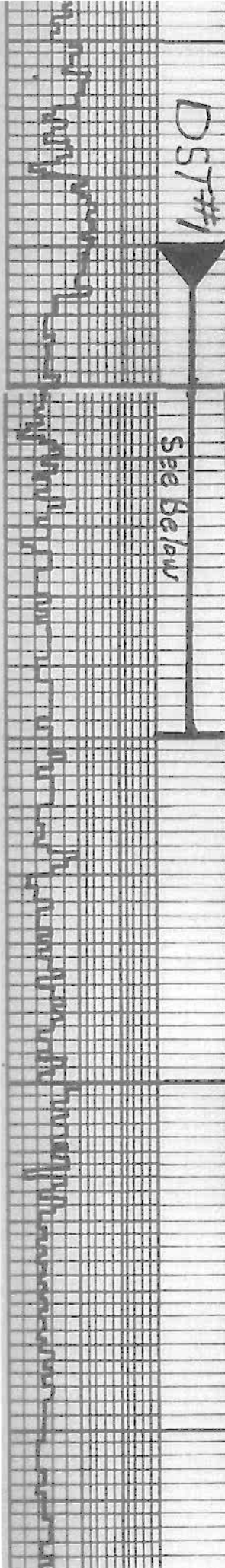
4987-1658

Recycle 304
Thin GFS 324

Can Gas?

Sh. med gray, soft w/ silky luster IP's
to firm + drk gray - splintery
w/ scattered trs. of lms. grays
to fms; crypto. to v.v. fr. xln;
palesth to sub-lithogr.; trs. less
dul yel. flodr. IP's; No Gut; No Vis for

5100



Sh. w/ incr. in Lmsts
Similar 5008-5224

Qtz Sdct. H. gray to tanish. H. gray; +
tas grayish tan; fn. med to coarse
gr. ang. w/ abn sub-ang, sub-rounded to
rounded; poly. sort. well cemented w/ silt
to v. fine. sd. trs. Lm grs. IP's; No fluor; No cut
No vis. por.; huytes to abn loose Qtz grs
more Lm grs w/ depth; matrix
becomes Lmst IP's w/ depth

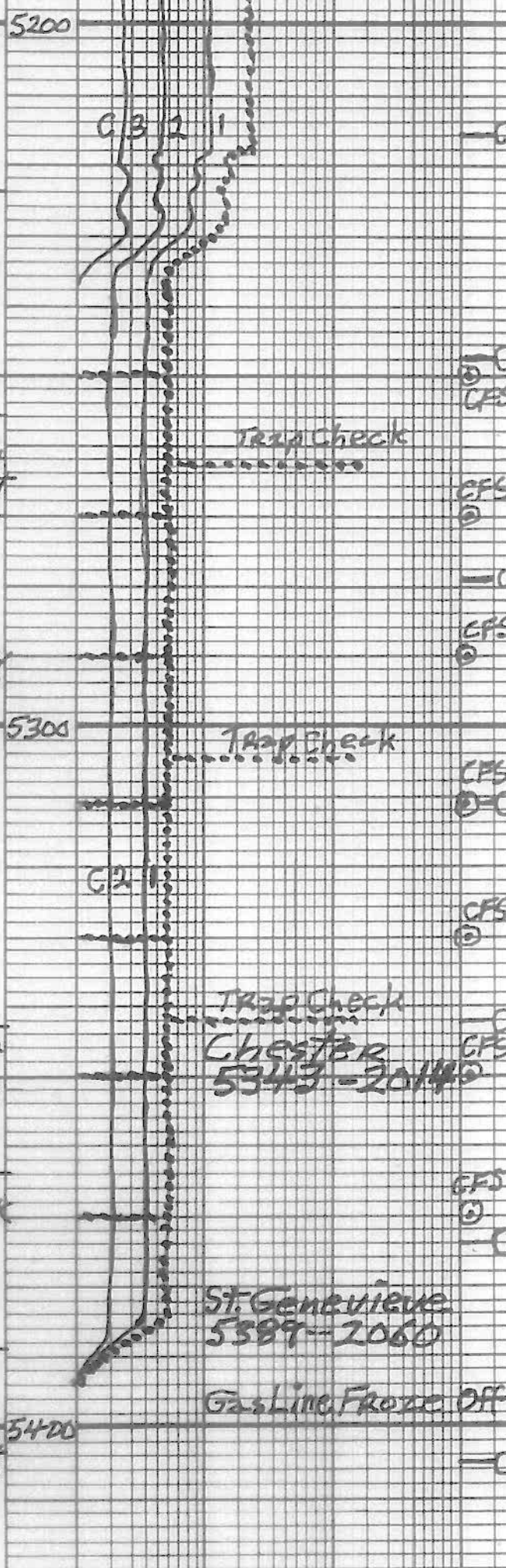
Sh. med. gray. soft to dark gray splintery
w/ tas, sdst composed Lm. grs + Qtz grs
v. fn. to med. grs.; poly sorted, ang.

w/ sh. matrix; glauc. to chloritic
IP's; No fluor; No cut; No vis. por.

Interbedded limestones and sh.
1. Lms. H. gray to H. green; crypto. to v. fine
tas. sub-chlk, sub-sucro + packstn;
abn. v. silty; dul. H. yel. fluor IP's; No cut;
No vis. por.

2. Shs verigated grays, greens, reds
+ tas maroons
Reworked + or weathered St Genevieve.
Lms. crm to H. gray w/ tas H. green + tr pink
crypto. to v. fine. xln.; v. to extraly
micro-oolitic + sl. to poly Qtz sdcty -
v. v. fn. gr. - ang.; matrix tas chlk
tas sub-chlk, sub-sucro; dul. H.
yel. fluor.; No cut; No vis. por.

Lms. H. gray, tanish gray, to grayish tan;
crypto. to v. v. fn. xln.; extraly micro-oolitic
+ sl. to poly Qtz sdcty - v. v. fn. gr. - ang.;
matrix tas sub-chlk sub-sucro.
+ trs. packstn; dul. H. yel. fluor.;
No cut; No vis. por.



Crypt to v.v. fm. xln.; v. to extaly oolitic

Layered to lg + trs sm; matrix chlk, sub-chlk
sub-sucro to trs sucro; strong oil adn
w/ saltur overtones; scattered spid
bn. oil str. w/ dul. gl. in to gl. yel. fluor.
w/ faint to fr. streaming cants
scattered trs to sl. trs fr
micro-por. por; extra abn
loose oolites

5461-5521 Lms. grayish tan to tan;
crypto to v.v. fm. xln.; v. to extaly
oolitic (sm, med to lg) matrix sub-sucro
+ packstr.; dul. tr. yel. fluor.;
No cut; No vis por. w/ sl. trs. chert
tan to gray; opaque to transl

Note: Sample became 95 to 998
MORROW 5h CAUINGS 5520

Lms. similar 5461-5521 w/ some amount
of wht. to CRM-chlk; w/ sl. trs chert
gray to tan; transl to opaque

5532-5547 Lms similar 5461-5521

5547-5553 Lms. lt. tan; crypto. to v.v. fm.
xln.; extaly. oolitic (med to lg + trs sm)
matrix sub-sucro. to sucro and
trs. No matrix; trs w/ spid tan oil str.
dul. gl. an. yel. fluor.; w/ faint to fr
streaming cants; trs up to trs por to
micro-por + sl. trs w/ No Matrix

5553-70 Lms. tan, grayish. IP; crypto to v.v. fm.
extaly oolitic (sm, med to lg) matrix trs sub-chlk
sub-sucro + packstr.; dul. tr. yel. fluor.;
No cut; No vis por w/ trs chert; w/ tan to gray transl to opaque

Lms. tan; crypto to v.v. fm. xln.; extaly oolitic
(med to lg + trs. sm) matrix sub-chlk, sub-sucro
to trs. sucro. + trs packstr. sl. trs No Matrix
scattered trs dark tan spid oil str w/
dul. gl. an. yel. fluor. w/ faint streaming cants
trs w/ pr. to tr. + sl. trs g.d. por + micro-por
+ sl. trs in trs oolitic por; huy trs
to abn. loose oolites

5451-2122

Show 32H

Trip Gas 620

EF5
B-C



5500



Show 22H

Trip Gas 14H

EF5
C



Show 16H

Show 9.6H

Trip Gas 72H

EF5
D

5600

WORTH 600
KING 70
SIN 54
PP 1100

see Below

DST #3

see Below

see Below

see Below

7 7/8" Bit Info
 #1 New Smith F121Y 1676 in 4489 out
 #2 New Smith F121Y 4489 TD

CIA Points:
 1. 4900 6. 5290 11. 5469
 2. 4980 7. 5311 12. 5560
 3. 5050 8. 5330 13. 5590
 4. 5250 9. 5350 14. TD
 5. 5270 10. 5370

Dev. Surv:
 1. 1110 1/4° 4. 4489 1/2° 7. TD
 2. 1676 3 3/4° 5. 5050 3/4°
 3. 1715 1° 6. 5469 1°

Daily Drilg. Progress:

1. 3400	10:07 PM	12-29-16
2. 3515	7:00 AM	12-30-16
3. 4004	7:00 AM	12-31-16
4. 4461	7:00 AM	1-1-17
5. 4673	7:00 AM	1-2-17
6. 5015	7:00 AM	1-3-17
7. 5050	7:00 AM	1-4-17
8. 5250	7:00 AM	1-5-17
9. 5432	7:00 AM	1-6-17
10. 5469	7:00 AM	1-7-17
11. 5560	7:00 AM	1-8-17
12. 5571	7:00 AM	1-9-17
13. 5590	7:00 AM	1-10-17
14.	7:00 AM	1-11-17

DST #1 MORROW 4980-5050
 ID weak surf. Blow Bit to 3/4"
 FD weak surface Blow
 Rec 40 ft Mud

IHP 2366# Max Temp 119°F
 IFP 19-25# in 30 min
 ISIP 44# in 60 min
 FFP 28-30# in 60 min
 FSIP 40# in 120 min
 FHP 2358#

DST #2 St. Louis "A" 5446-5469
 ID surface Blow built to BOB 27 min
 FD surface Blow Built to 3 1/2 inches
 Rec 220-ft MCW 45% mud 55% wtr
 Tool Samp 10% Mud 90% wtr
 chl 29000 ppm Pchl 1400 ppm
 Max Temp 134°
 IHP 2603#

IFP 21-55# in 30 min
 ISIP 1317# in 60 min
 FFP 68-105# in 60 min
 FSIP 1307# in 120 min
 FHP 2605#

DST #3 St. Louis "C" 5540-5560
 ID weak surf. blow built to 1/2" dia to surf blow
 FD No Blow
 Rec 5.6 ft Mud Tool Samp Mud

IFP 12-13ⁱⁿ 20 mm
 ISIP 27 # 260 min

FFP 13-14ⁱⁿ 30 min
 FSIP 157 # 120 min
 FHP 2624

DST #4 Lower St. Louis "C"
 5565-5590
 10 Surf. Blow Built To 9 1/2 inches
 FD Surf. Blow Built To 11 inches
 Rec 550 ft MGLW 352 M + 65 g wtr
 Tool Samp Plugged w/ Cuttings
 Chl 2200 ppm pit Chl 800 ppm
 Max Temp 142 °F

IHP 2609 #
 IFP 22-135ⁱⁿ 30 mm

ISIP 1192 260 min
 FFP 145-174ⁱⁿ 60 min
 FSIP 1190 # 120 min
 FHP 2624 #

Mud Info:

Date	12-29 10:30A	12-30 7:15A	12-31 11:40A	1-17 11:45A	1-2 11:45A	1-3 7:45A	1-4 12:10P	1-5 12:15P
Depth	3188	3570	4109	4489	4773	5050	5050	6290
Wt.	9.45	8.95	9.25	9.3	9.1	9.35	9.3	9.25
Vis	31	45	54	53	64	56	52	53
PV	3	14	16	17	17	17	16	15
YP	3	14	18	18	20	18	17	16
GS	3/4	13/43	18/47	17/50	18/55	17/48	17/53	18/47
WL	N/C	7.2	6.4	6.8	7.6	7.6	8.4	7.6
Cake	-	1/32	1/32	1/32	1/32	1/32	1/32	1/32
pH	7.0	11.0	11.5	9.5	10.5	9.0	8.5	10.5
Chl	3100	1100	1500	2100	1700	1000	1700	1050
Ca	Hy	20	20	20	60	40	40	20
LCM	4.0	3.0	4.5	6.0	4.5	14.0	11.0	11.0

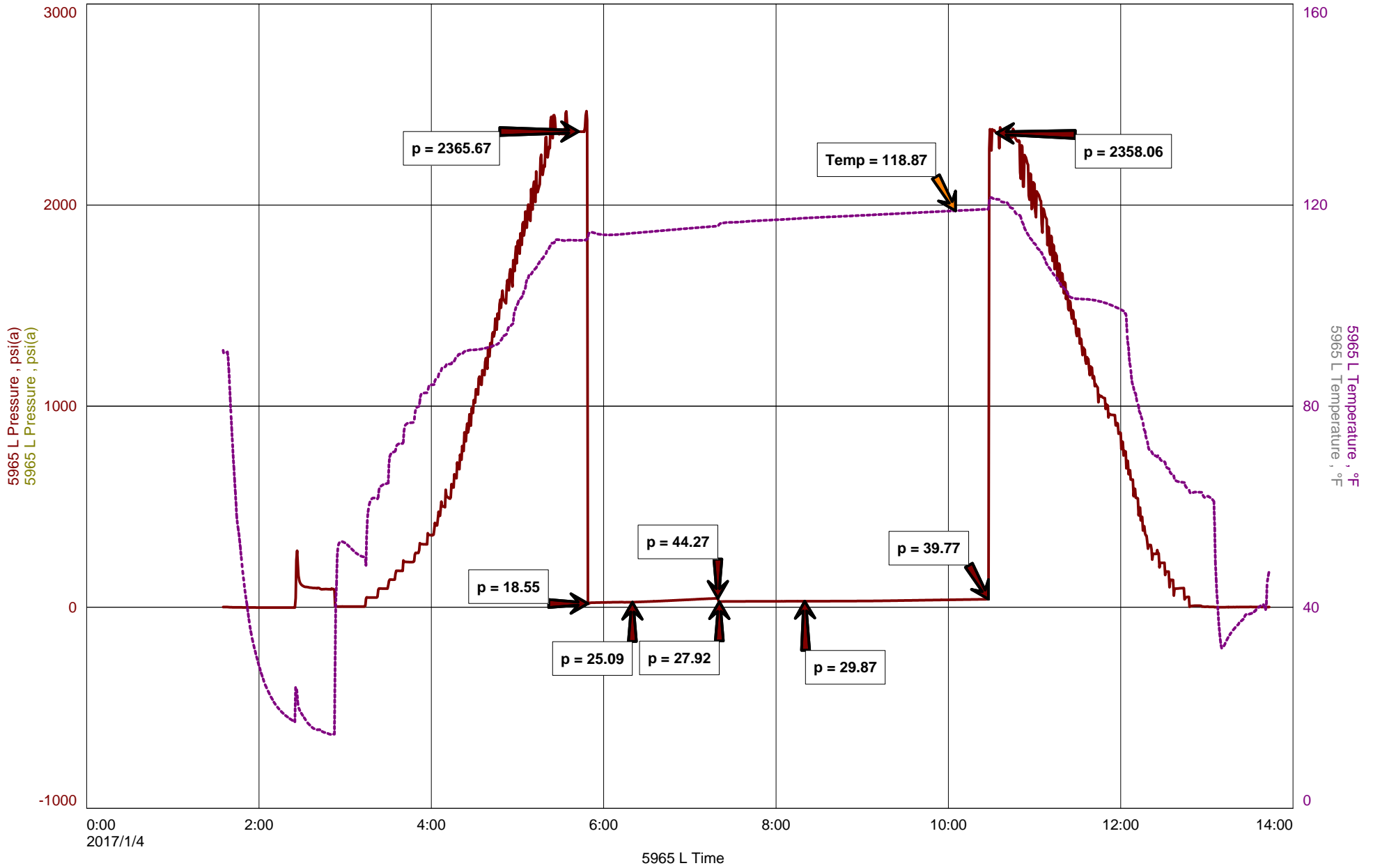
Date	1-6 11:55A	1-7 10:45A	1-8 5:45P	1-9 8:50A	1-10 7:55A
Depth	5469	5469	5560	5590	5592
Wt.	9.1	9.1	9.3	9.05	9.05
Vis	77	53	78	67	89
PV	21	15	20	18	24
YP	24	17	23	22	26

Vis	31	45	54	53	64	56	52	53
PV	3	14	16	17	17	17	16	15
YP	3	14	18	18	20	18	17	16
GIS	3/4	13/43	18/47	17/50	18/55	17/48	17/53	16/47
WL	1/6	7.2	6.4	6.8	7.6	7.6	8.4	7.6
cake	-	1/32	1/32	1/32	1/32	1/32	1/32	1/32
pH	7.0	11.0	11.5	9.5	10.5	9.0	8.5	10.5
chl	3100	1100	1500	2100	1700	1000	1700	1050
Ca	Hy	20	20	20	60	40	40	20
LCM	4.0	3.0	4.5	6.0	4.5	14.0	11.0	11.0

Date	1-6 11:55A	1-7 10:45A	1-8 5:45P	1-9 8:50A	1-10 7:55A			
Depth	5469	5469	5560	5590	5592			
Wt.	9.1	9.1	9.3	9.05	9.05			
Vis	77	53	78	67	89			
PV	22	15	20	18	24			
YP	24	17	23	22	26			
GIS	19/61	16/45	20/59	19/62	23/68			
WL	6.8	7.6	7.6	7.6	7.6			
cake	1/32	1/32	1/32	1/32	1/32			
pH	9.5	9.0	10.0	9.5	9.5			
chl	1400	1100	800	800	1200			
Ca	60	20	40	60	20			
LCM	12.0	12.0	12.0	11.5	13.0			

OPERATOR Berexco LLC LOCATION 1060' FSL + 380' FEL
 LEASE Love NO. 1-18 SEC. 18 TWP. 30S RANG. 40W
 ELEVATION 3329 KB RTD 5700 COUNTY Stanton STATE Kansas

Love 1-18 DST 1





Diamond Testing General Report

Wilbur Steinbeck
TESTER
CELL: 620-282-1573

General Information

Company Name Berexco

Contact

Well Name

Unique Well ID

Surface Location

Field

ED Job Number

W269

Love 1-18 Representative Wilbur Steinbeck

DST 1 Marrow 4980-5050 Well Operator Beredco #1

18-30s-40w Stanton/Ks Report Date 2017/01/04

Wildcat Prepared By Wilbur Steinbeck

Qualified By Ed

Test Information

Test Type

Conventional

Formation

Morrow

Well Fluid Type

01 Oil

Test Purpose (AEUB)

Initial Test

Start Test Date

2017/01/04

Start Test Time

01:35:00

Final Test Date

2017/01/04

Final Test Time

13:45:00

Test Recovery

Recovery

40' Mud

40' Total Fluid

Tool Sample=Mud



DIAMOND TESTING
 P.O. Box 157
HOISINGTON, KANSAS 67544
 (800) 542-7313
DRILL-STEM TEST TICKET
 FILE: Love 1-18 DST 1

TIME ON: 1:35
 TIME OFF: 13:45

Company Berexco Lease & Well No. Love 1-18
 Contractor Beredco #1 Charge to Berexco
 Elevation 3317 GL Formation Marrow Effective Pay _____ Ft. Ticket No. W269
 Date 01/04/17 Sec. 18 Twp. 30 S Range 40 W County Stanton State KANSAS
 Test Approved By Ed Diamond Representative Wilbur Steinbeck

Formation Test No. 1 Interval Tested from 4980 ft. to 5050 ft. Total Depth 5050 ft.
 Packer Depth 4975 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
 Packer Depth 4980 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4966 ft. Recorder Number 5965 Cap. 5000 P.S.I.
 Bottom Recorder Depth (Outside) 4981 ft. Recorder Number 5587 Cap. 5,000 P.S.I.
 Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type Chem Viscosity 56 Drill Collar Length 620 ft. I.D. 2 1/4 in.
 Weight 9.3 Water Loss 7.6 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
 Chlorides 1000 P.P.M. Drill Pipe Length 4327 ft. I.D. 3 1/2 in.
 Jars: Make STERLING Serial Number 2 Shale/J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.
 Did Well Flow? Yes Reversed Out No Anchor Length 70 ft. Size 4 1/2-FH in.
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2 in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: Built to 3/4" No Return
 2nd Open: Weak Surface Blow No Return

Recovered 40 ft. of Mud
 Recovered 40 ft. of Total Fluid
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____

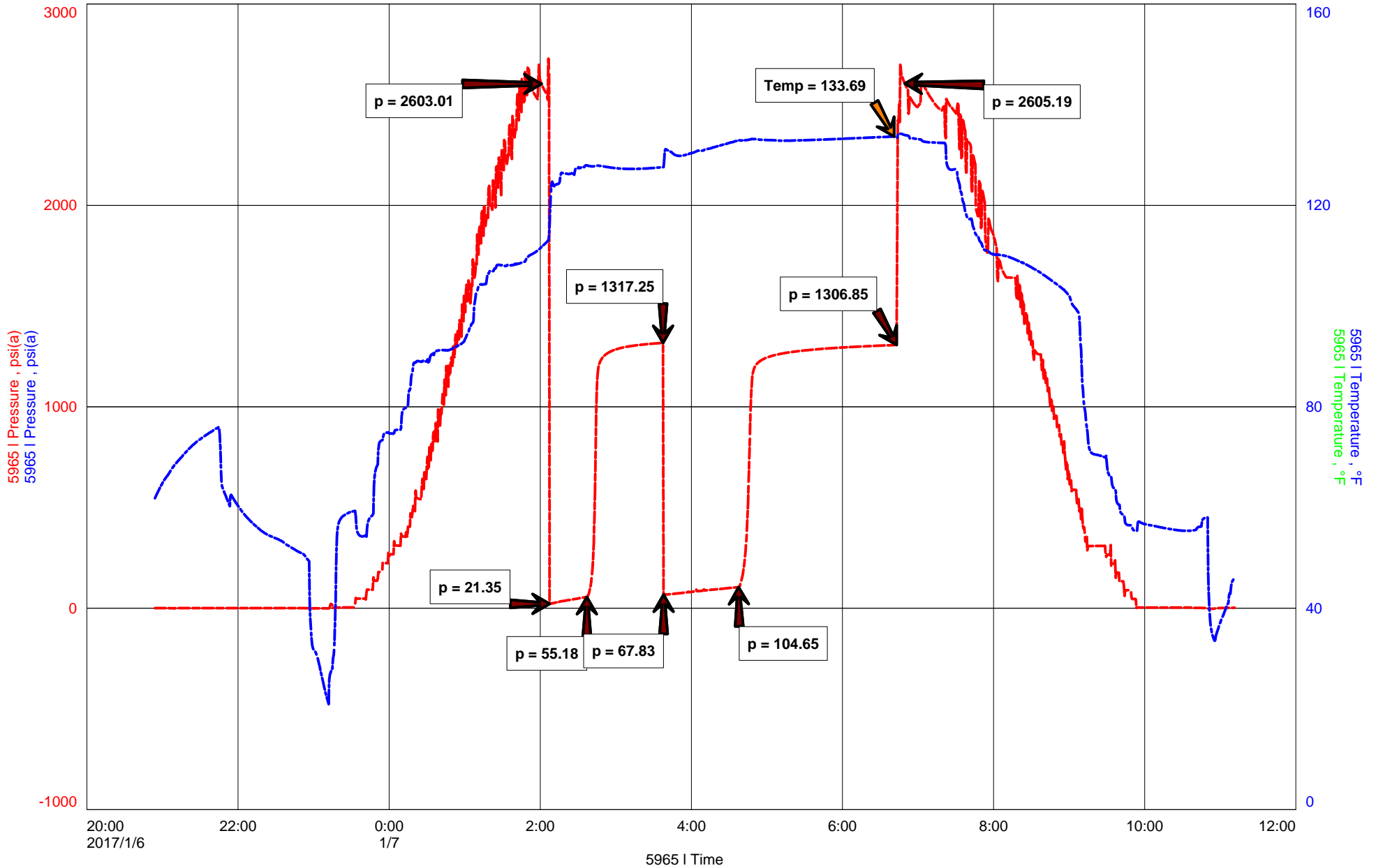
Recovered _____ ft. of _____	400 Miles RT	Price Job
Recovered _____ ft. of _____		Other Charges
Remarks: <u>Tool Sample=Mud</u>		Insurance
		Total

Time Set Packer(s) 5:50 A.M. P.M. Time Started Off Bottom 10:20 A.M. P.M. Maximum Temperature 119

Initial Hydrostatic Pressure..... (A) 2366 P.S.I.
 Initial Flow Period..... Minutes 30 (B) 19 P.S.I. to (C) 25 P.S.I.
 Initial Closed In Period..... Minutes 60 (D) 44 P.S.I.
 Final Flow Period..... Minutes 60 (E) 28 P.S.I. to (F) 30 P.S.I.
 Final Closed In Period..... Minutes 120 (G) 40 P.S.I.
 Final Hydrostatic Pressure..... (H) 2358 P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

Love 1-18 DST 2





Diamond Testing General Report

Wilbur Steinbeck
TESTER
CELL: 620-282-1573

General Information

Company Name	Berexco	ED	Job Number	W270
Contact		Love 1-18	Representative	Wilbur Steinbeck
Well Name		DST 2 St. Louis 5446-5469	Well Operator	Beredco #1
Unique Well ID		18-30s-40w Stanton/Ks	Report Date	2017/01/06
Surface Location		Wildcat	Prepared By	Wilbur Steinbeck
Field			Qualified By	Ed

Test Information

Test Type	Conventional		
Formation	St. Louis		
Well Fluid Type	01 Oil		
Test Purpose (AEUB)	Initial Test		
Start Test Date	2017/01/06	Start Test Time	20:54:00
Final Test Date	2017/01/07	Final Test Time	11:12:00

Test Recovery

Recovery

220' MCW 45%M 55%W
220' Total Fluid

Tool Sample=MCW 10%M 90%W

RW=29000ppm



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: Love 1-18 DST 2

TIME ON: 20:54
TIME OFF: 11:12

Company Berexco Lease & Well No. Love 1-18
Contractor Beredco #1 Charge to Berexco
Elevation 3317 GL Formation St. Louis Effective Pay _____ Ft. Ticket No. W270
Date 01/06/17 Sec. 18 Twp. 30 S Range 40 W County Stanton State KANSAS
Test Approved By Ed Diamond Representative Wilbur Steinbeck

Formation Test No. 2 Interval Tested from 5446 ft. to 5469 ft. Total Depth 5469 ft.
Packer Depth 5441 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 5446 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____
Top Recorder Depth (Inside) 5430 ft. Recorder Number 5965 Cap. 5000 P.S.I.
Bottom Recorder Depth (Outside) 5447 ft. Recorder Number 5587 Cap. 5,000 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.
Mud Type Chem Viscosity 77 Drill Collar Length 620 ft. I.D. 2 1/4 in.
Weight 9.1 Water Loss 6.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
Chlorides 1400 P.P.M. Drill Pipe Length 4793 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number 1 Shale/J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.
Did Well Flow? Yes Reversed Out No Anchor Length 23 ft. Size 4 1/2-FH in.
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

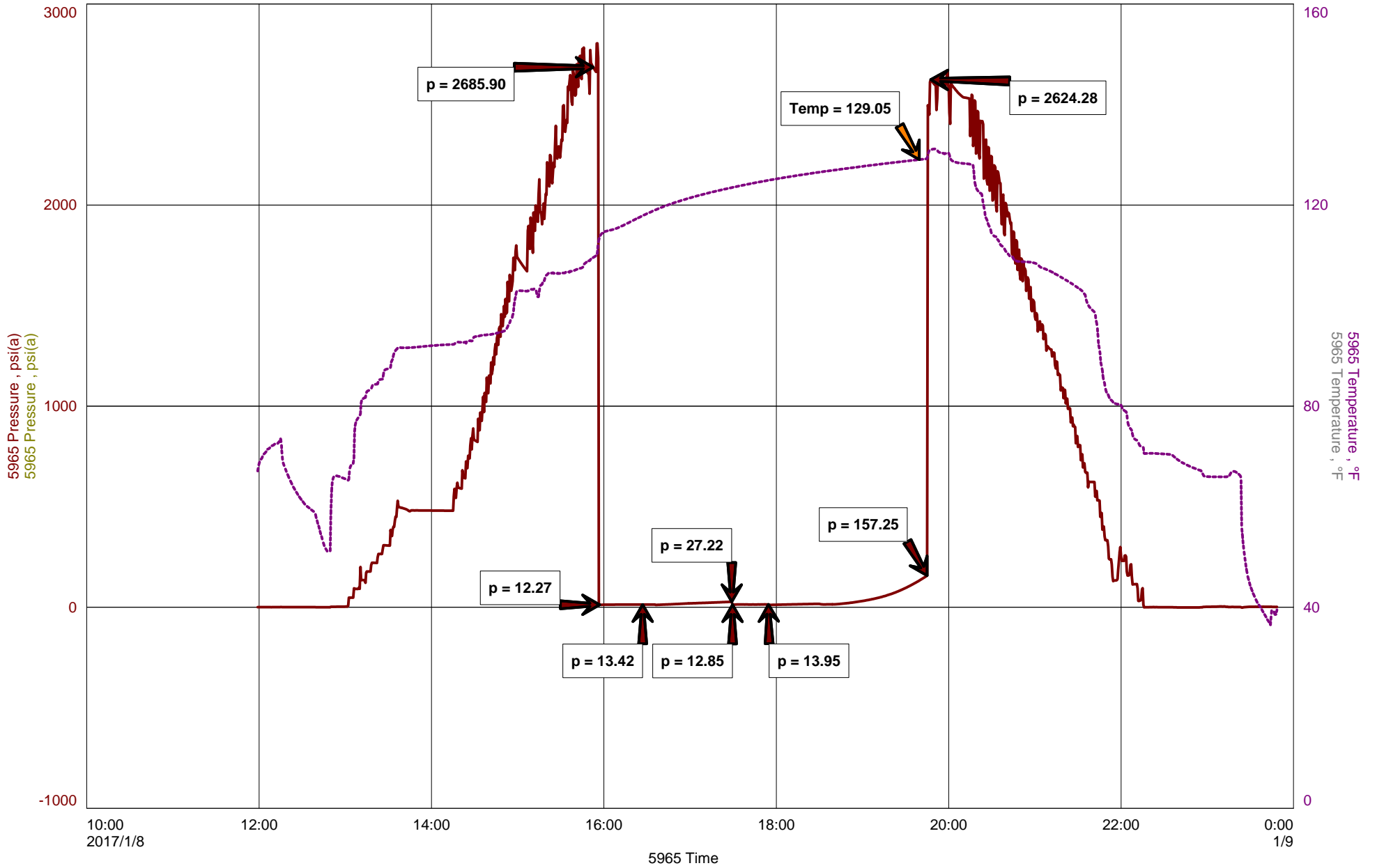
Blow: 1st Open: BOB in 27 min ? No Return
2nd Open: Built to 3 1/2" No Return

Recovered 220 ft. of MCW 45%M 55%W
Recovered 220 ft. of Total Fluid
Recovered _____ ft. of _____ 2 days standby
Recovered _____ ft. of _____ 2 hrs Standby
Recovered _____ ft. of _____ 30 Miles RT Price Job _____
Recovered _____ ft. of _____ Other Charges _____
Remarks: Tool Sample=MCW 10%M 90%W Insurance _____
RW=29000 Total _____

Time Set Packer(s) 2:07 A.M. P.M. Time Started Off Bottom 6:37 A.M. P.M. Maximum Temperature 134
Initial Hydrostatic Pressure..... (A) 2603 P.S.I.
Initial Flow Period..... Minutes 30 (B) 21 P.S.I. to (C) 55 P.S.I.
Initial Closed In Period..... Minutes 60 (D) 1317 P.S.I.
Final Flow Period..... Minutes 60 (E) 68 P.S.I. to (F) 105 P.S.I.
Final Closed In Period..... Minutes 120 (G) 1307 P.S.I.
Final Hydrostatic Pressure..... (H) 2605 P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

Love 1-18 DST 3





Diamond Testing General Report

Wilbur Steinbeck
TESTER
CELL: 620-282-1573

General Information

Company Name Berexco

Contact

Well Name

Unique Well ID

Surface Location

Field

	ED	Job Number	W271
	Love 1-18	Representative	Wilbur Steinbeck
DST 3 St. Louis "C"	5540-5560	Well Operator	Beredco #1
18-30s-40w Stanton/Ks		Report Date	2017/01/08
	Wildcat	Prepared By	Wilbur Steinbeck
		Qualified By	Ed

Test Information

Test Type

Formation

Well Fluid Type

Test Purpose (AEUB)

Conventional

St. Louis C

01 Oil

Initial Test

Start Test Date

Final Test Date

2017/01/08 **Start Test Time** **11:59:00**

2017/01/08 **Final Test Time** **23:48:00**

Test Recovery

Recovery

5'Mud

5' Total Fluid

Tool Sample=Mud



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: Love 1-18 DST 3

TIME ON: 11:59
TIME OFF: 23:48

Company Berexco Lease & Well No. Love 1-18
Contractor Beredco #1 Charge to Berexco
Elevation 3317 GL Formation St. Louis C Effective Pay _____ Ft. Ticket No. W271
Date 01/08/17 Sec. 18 Twp. 30 S Range 40 W County Stanton State KANSAS
Test Approved By Ed Diamond Representative Wilbur Steinbeck

Formation Test No. 3 Interval Tested from 5540 ft. to 5560 ft. Total Depth 5560 ft.
Packer Depth 5526 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 5540 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 5526 ft. Recorder Number 5965 Cap. 5000 P.S.I.
Bottom Recorder Depth (Outside) 5541 ft. Recorder Number 5587 Cap. 5,000 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type Chem Viscosity 78 Drill Collar Length 620 ft. I.D. 2 1/4 in.
Weight 9.2 Water Loss 7.6 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
Chlorides 800 P.P.M. Drill Pipe Length 4887 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number 1 Shale/J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.
Did Well Flow? No Reversed Out No Anchor Length 20 ft. Size 4 1/2-FH in.
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: Built to 1/2" and died to surface No Return
2nd Open: No Blow No Return

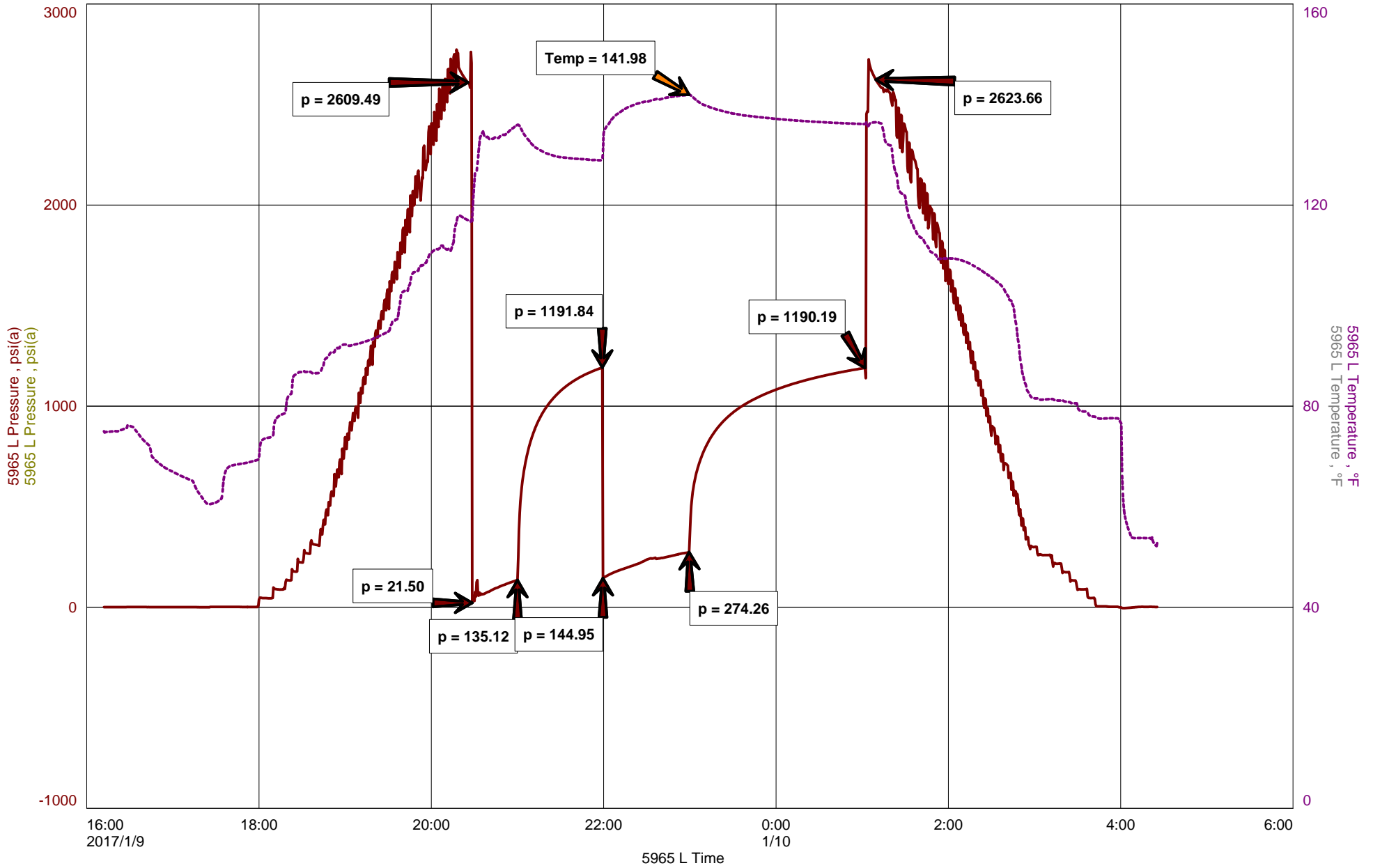
Recovered 5 ft. of Mud
Recovered 5 ft. of Total Fluid
Recovered _____ ft. of _____
Recovered _____ ft. of _____

Recovered _____ ft. of _____	30 Miles RT	1 hr standby
Recovered _____ ft. of _____		Price Job
Recovered _____ ft. of _____		Other Charges
Remarks: <u>Tool Sample=Mud</u>		Insurance
		Total

Time Set Packer(s) 15:55 A.M. P.M. Time Started Off Bottom 19:25 A.M. P.M. Maximum Temperature 129
Initial Hydrostatic Pressure..... (A) 2686 P.S.I.
Initial Flow Period..... Minutes 30 (B) 12 P.S.I. to (C) 13 P.S.I.
Initial Closed In Period..... Minutes 60 (D) 27 P.S.I.
Final Flow Period..... Minutes 30 (E) 13 P.S.I. to (F) 14 P.S.I.
Final Closed In Period..... Minutes 120 (G) 157 P.S.I.
Final Hydrostatic Pressure..... (H) 2624 P.S.I.

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Love 1-18 DST 4





Diamond Testing General Report

Wilbur Steinbeck
TESTER
CELL: 620-282-1573

General Information

Company Name	Berexco	ED	Job Number	W272
Contact		Love 1-18	Representative	Wilbur Steinbeck
Well Name		DST 4 St. Louis "Lower C" 5565-5590	Well Operator	Beredco #1
Unique Well ID		18-30s-40w Stanton/Ks	Report Date	2017/01/09
Surface Location		Wildcat	Prepared By	Wilbur Steinbeck
Field			Qualified By	Ed

Test Information

Test Type	Conventional		
Formation	St. Louis Lower C		
Well Fluid Type	01 Oil		
Test Purpose (AEUB)	Initial Test		
Start Test Date	2017/01/09	Start Test Time	16:12:00
Final Test Date	2017/01/10	Final Test Time	04:26:00

Test Recovery

Recovery

550' MCW 35%M 65%W
550' Total Fluid

Tool Sample=Plugged with cuttings

Chl=22



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: Love 1-18 DST 4

TIME ON: 16:12
TIME OFF: 4:26

Company Berexco Lease & Well No. Love 1-18
Contractor Beredco #1 Charge to Berexco
Elevation 3317 GL Formation St. Louis C Effective Pay _____ Ft. Ticket No. W272
Date 01/09/17 Sec. 18 Twp. 30 S Range 40 W County Stanton State KANSAS
Test Approved By Ed Diamond Representative Wilbur Steinbeck

Formation Test No. 4 Interval Tested from 5565 ft. to 5590 ft. Total Depth 5590 ft.
Packer Depth 5560 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 5565 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 5551 ft. Recorder Number 5965 Cap. 5000 P.S.I.
Bottom Recorder Depth (Outside) 5566 ft. Recorder Number 5587 Cap. 5,000 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type Chem Viscosity 67 Drill Collar Length 620 ft. I.D. 2 1/4 in.
Weight 9.0 Water Loss 7.6 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
Chlorides 800 P.P.M. Drill Pipe Length 4912 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number 1 Shale/J&J Test Tool Length 33 ft. Tool Size 3 1/2-IF in.
Did Well Flow? Yes Reversed Out No Anchor Length 25 ft. Size 4 1/2-FH in.
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: Built to 9 1/2" No Return
2nd Open: Built to 11" No Return

Recovered 550 ft. of MCW 35%M 65%W
Recovered 550 ft. of Total Fluid
Recovered _____ ft. of _____ Ruined 1 shale packer
Recovered _____ ft. of _____ 1 hr standby
Recovered _____ ft. of _____ 30 Miles RT Price Job _____
Recovered _____ ft. of _____ Other Charges _____
Remarks: Tool Sample=Plugged with cutting Insurance _____
CHL=22,000 Total _____

Time Set Packer(s) 20:30 A.M. P.M. Time Started Off Bottom 1:00 A.M. P.M. Maximum Temperature 142
Initial Hydrostatic Pressure..... (A) 2609 P.S.I.
Initial Flow Period..... Minutes 30 (B) 22 P.S.I. to (C) 135 P.S.I.
Initial Closed In Period..... Minutes 60 (D) 1192 P.S.I.
Final Flow Period..... Minutes 60 (E) 145 P.S.I. to (F) 274 P.S.I.
Final Closed In Period..... Minutes 120 (G) 1190 P.S.I.
Final Hydrostatic Pressure..... (H) 2624 P.S.I.

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DIAMOND TESTING, LLC

TESTER : TIM VENTERS
CELL # 620-388-6333

General Information

Company Name	BEREXCO, LLC	BRETT BLAZER	Job Number	T586
Contact		LOVE #1-18	Representative	TIM VENTERS
Well Name		DST #5, ST. LOUIS, 5505-5530	Well Operator	BEREXCO, LLC
Unique Well ID		SEC 18-30S-40W, STANTON CO. KS.	Report Date	2017/01/12
Surface Location			Prepared By	TIM VENTERS
Well License Number				
Field		WILDCAT		
Well Type		Vertical		

Test Information

Test Type	STRADDLE
Formation	DST \$5, ST. LOUIS, 5505-5530
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Start Test Date	2017/01/11	Start Test Time	16:43:00
Final Test Date	2017/01/12	Final Test Time	07:59:00

Gauge Name	5504
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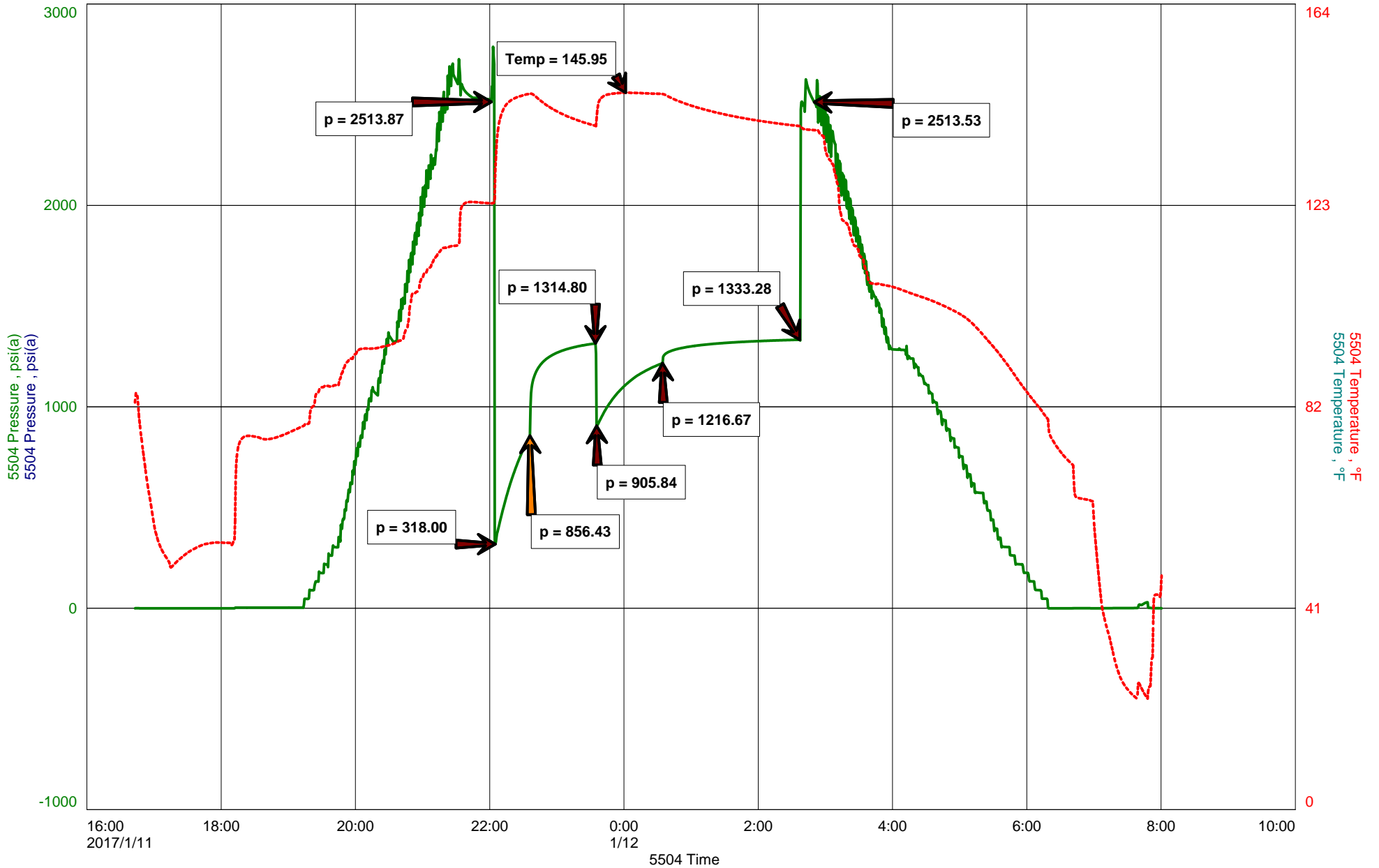
Test Results

RECOVERED: 665' GAS IN PIPE
285' WCM W/O SCUM, 4% OIL SCUM, 20% WATER, 76% MUD
285' SMCW, W/O SCUM, 4% OIL SCUM, 83% WATER, 11% MUD
2060' GW, 1% GAS, 99% WATER
2630' TOTAL FLUID

TOOL SAMPLE: 97% WATER, 3% MUD

CHLORIDES: 29,000 ppm
PH: 5.5
RW: .40 @ 46 deg.

LOVE #1-18





DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: LOVE1-18DST5

TIME ON: 16:43 1-11-17
TIME OFF: 07:59 1-12-17

Company BEREXCO, LLC Lease & Well No. LOVE #1-18
Contractor BEREDCO, LLC RIG #1 Charge to BEREXCO, LLC
Elevation 3329 KB Formation ST. LOUS Effective Pay _____ Ft. Ticket No. T586
Date 1-11-17 Sec. 18 Twp. 30 S Range 40 W County STANTON State KANSAS
Test Approved By ED GRIEVES Diamond Representative TIM VENTERS

Formation Test No. 5 Interval Tested from 5505 ft. to 5530 ft. Total Depth 5695 LTD ft.
Packer Depth 5500 ft. Size 6 3/4 in. Packer depth 5530 ft. Size 6 3/4 in.
Packer Depth 5505 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 5486 ft. Recorder Number 5504 Cap. 5,000 P.S.I.
Bottom Recorder Depth (Outside) 5527 ft. Recorder Number 13819 Cap. 5,025 P.S.I.
Below Straddle Recorder Depth 5692 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

Mud Type CHEMICAL Viscosity 59 Drill Collar Length 633 ft. I.D. 2 1/4 in.
Weight 8.95 Water Loss 8.4 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
Chlorides 600 P.P.M. Drill Pipe Length 4839 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number 4, 1SP Test Tool Length 33 ft. Tool Size 3 1/2-IF in.
Did Well Flow? NO Reversed Out NO Anchor Length 25 ft. Size 4 1/2-FH in.
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: STRONG 4 INCH BLOW, BUILDING, REACHING BOB 45 SEC. (4" BB)
2nd Open: WEAK 1/2 INCH BLOW, BUILDING, REACHING BOB 4 1/2 MIN. (2 1/2" BB)

Recovered 665 ft. of GAS IN PIPE
Recovered 285 ft. of WCM W/O SCUM, 4% OIL SCUM, 20% WATER, 76% MUD
Recovered 285 ft. of SMCW W/ O SCUM, 4% OIL SCUM, 83% WATER, 11% MUD
Recovered 2060 ft. of GW, 1% GAS, 99% WATER

Recovered <u>2630</u> ft. of <u>TOTAL FLUID</u>	<u>CHLORIDES: 29,000 ppm</u>	Price Job
Recovered _____ ft. of _____	<u>PH: 5.5</u>	Other Charges
Remarks: _____	<u>RW: .40 @ 46 deg.</u>	Insurance
<u>WILL DID FIRST 4 TESTS.</u>		
<u>TOOL SAMPLE: 97% WATER, 3% MUD</u>		Total

Time Set Packer(s) 10:04 PM A.M. P.M. Time Started Off Bottom 2:34 AM A.M. P.M. Maximum Temperature 146 deg.

Initial Hydrostatic Pressure..... (A) 2514 P.S.I.
Initial Flow Period..... Minutes 30 (B) 318 P.S.I. to (C) 856 P.S.I.
Initial Closed In Period..... Minutes 60 (D) 1315 P.S.I.
Final Flow Period..... Minutes 60 (E) 906 P.S.I. to (F) 1217 P.S.I.
Final Closed In Period..... Minutes 120 (G) 1333 P.S.I.
Final Hydrostatic Pressure..... (H) 2514 P.S.I.

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CEMENTING LOG

STAGE NO. _____

Date 12/10/16 District Battley Ticket No. 68251
 Company Bureau Rig Bureau 1
 Lease love Well No. 148R
 County Stanton State Ky
 Location _____ Field _____

CEMENT DATA:
 Spacer Type: _____
 Amt: _____ Skys Yield _____ ft³/sk Density _____ PPG

LEAD: Pump Time _____ hrs. Type _____
 Excess _____
 Amt. 570 Skys Yield 2.2 ft³/sk Density 12.07 PPG

TAIL: Pump Time _____ hrs. Type _____
 Excess _____
 Amt. 150 Skys Yield 1.33 ft³/sk Density 14.9 PPG

WATER: Lead 12.45 gals/sk Tail 6.2 gals/sk Total _____ Bbls.

Pump Trucks Used 566-281
 Bulk Equip. _____

CASING DATA: Conductor PTA Squeeze Misc
 Surface Intermediate Production Liner
 Size 2 7/8 Type _____ Weight _____ Collar _____

Casing Depths: Top 13 Bottom _____

Drill Pipe: Size _____ Weight _____ Collars _____
 Open Hole: Size 12 1/4 T.D. 1076' ft. P.B. to _____ ft.

Float Equip: Manufacturer _____
 Shoe: Type Guide Shoe Depth 1076
 Float: Type RFU Depth 1635
 Centralizers: Quantity 3 Plugs Top 1 Btm. _____

Stage Collars _____
 Special Equip. _____
 Disp. Fluid Type H₂O Amt. _____ Bbls. Weight _____ PPG
 Mud Type _____ Weight _____ PPG

CAPACITY FACTORS:
 Casing: Bbls/Lin. ft. 0.637 Lin. ft./Bbl. _____
 Open Holes: Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Drill Pipe: Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Annulus: Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Perforations: From _____ ft. to _____ ft. Amt. _____

COMPANY REPRESENTATIVE _____

CEMENTER AL

TIME AM/PM	PRESSURES PSI		FLUID PUMPED DATA			REMARKS
	DRILL PIPE CASING	ANNULUS	TOTAL FLUID	Pumped Per Time Period	RATE Bbls Min.	
						Preparation, 90% water, Setup
						Run Casing Circulation
			108.0	4.0		Mix 570 SK ALW 65/35 370 CC 141
			23.0	4.0		Mix 150 SK Com 370 CC
						Displace Plug w/ H ₂ O
						Job Complete

CEMENTING LOG

STAGE NO. _____

Date 1-12-17 District Oakley Ticket No. 68242
 Company Berkeley Rig Berkeley 1
 Lease Love Well No. 178R
 County Stanton State KS
 Location 14 JO 40 Johnson 85 25 7/8 WINDO Field _____

CASING DATA: Conductor PTA Squeeze Misc
 Surface Intermediate Production Liner
 Size _____ Type _____ Weight _____ Collar _____

Casing Depths: Top _____ Bottom _____

Drill Pipe: Size 4 1/2 Weight _____ Collars _____
 Open Hole: Size 7 7/8 T.D. 5760 ft. P.B. to 1710 ft.

CAPACITY FACTORS:

Casing: Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Open Holes: Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Drill Pipe: Bbls/Lin. ft. 0.1422 Lin. ft./Bbl. _____
 Annulus: Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Bbls/Lin. ft. _____ Lin. ft./Bbl. _____
 Perforations: From _____ ft. to _____ ft. Amt. _____

CEMENT DATA:

Spacer Type: _____
 Amt. _____ Sk's Yield _____ ft³/sk Density _____ PPG _____

LEAD: Pump Time _____ hrs. Type 2 3/4" 18 gal
4 PPD Excess _____

Amt. 160 Sk's Yield 1.4 ft³/sk Density 14.1 PPG

TAIL: Pump Time _____ hrs. Type _____
 Excess _____

Amt. _____ Sk's Yield _____ ft³/sk Density _____ PPG

WATER: Lead _____ gals/sk Tail _____ gals/sk Total _____ Bbls.

Pump Trucks Used 431

Bulk Equip. 891

Float Equip: Manufacturer _____

Shoe: Type _____ Depth _____

Float: Type _____ Depth _____

Centralizers: Quantity _____ Plugs Top _____ Btm. _____

Stage Collars _____

Special Equip. _____

Disp. Fluid Type _____ Amt. _____ Bbls. Weight _____ PPG

Mud Type _____ Weight _____ PPG

COMPANY REPRESENTATIVE _____

CEMENTER Andrew

TIME	PRESSURES PSI		FLUID PUMPED DATA			REMARKS
	AM/PM	DRILL PIPE CASING	ANNULUS	TOTAL FLUID	Pumped Per Time Period	
<u>5:00</u>				<u>5</u>		<u>Pump water</u>
				<u>8</u>		<u>mix cement</u>
				<u>5</u>		<u>Pump water</u>
				<u>16</u>		<u>Pump mud</u>
				<u>5</u>		<u>Pump water</u>
				<u>6.3</u>		<u>mix cement</u>
				<u>6.8</u>		<u>Pump water</u>
				<u>3</u>		<u>mix cement</u>
<u>6:00</u>				<u>3</u>		<u>mix cement</u>
				<u>5</u>		<u>mix cement</u>