## Well Name
- KGS Patterson # 5-25

## Well Id:
- Location: Sec 25 T22S R38W, Kearny County, Kansas
- License Number: 15-093-21979-00
- Region: Patterson
- Drilling Completed: March 07, 2020
- Surface Coordinates: 100' FSL & 860' FEL / SE SW SE SE

## Bottom Hole Coordinates:
- Ground Elevation (ft): 3317'
- K.B. Elevation (ft): 3329'
- Logged Interval (ft): 3600'
- Formation: Morrow, Viola, Arbuckle, Granite Wash
- To: Total Depth (ft):
- Type of Drilling Fluid: Natural Chemical

## OPERATOR
- Company: BEREXCO LLC
- Address: 2020 N. BRAMBLEWOOD
  WICHITA, KANSAS 67206
- CO. ENG: Mr. Dana Wreath

## GEOLOGIST
- Name: Edwin H. Grieves/Tim Hedrick
- Company: GRIEVES AND CO.
- Address: PO Box 3125
  Edmond, Oklahoma, 74083-3125
  Cell: 405-826-9027/Cell:580-754-0062

## CORE #1
- Contractor: DEVILBLISS CORING
- Core #: 1
- Formation: CHEROKEE
- Core Interval:
  - From: 4616
  - Cut: 60'
  - To: 4676
  - Recovered: 60'
- Bit type: SHORT C240 /SERIAL H463 IN AT 4615'
- Size: 7 7/8'
- Coring Time: 14:47

Printed by WellSight LogViewer from WellSight Systems 1-800-447-1534 www.WellSight.com
CORING SECTION 2

CORE #2 4676' TO 4736' - CUT 60', RECOVERED 60' CORE/ BIT 7 7/8' BIT, SHORT C240/SER.# H463-(CORE TIME 13 HR 40 MIN.)

CORE #3 4736' TO 4796' - CUT 60' - RECOVERED 60'/ BIT 7 7/8" ,SHORT CZ308, SER# F265 - (CORE TIME 6HRS 40 MIN.)

CORE #4 4880' TO 4997' CUT 17' - RECOVERED 17'/ BIT- 7 7/8" SHORT CZ 410, SER.#H422 IN @ 4880

CORE#5 4897 TO 4957' CUT 60' RECOVERED / BIT- 7 7/8" SHORT CZ 410, SER.#H422 IN @ 4897', OUT @ 4957'

CORE #6 5380' TO 5440', CUT 60', RECOVERED 60'/BIT- 7 7/8" SHORT CZ 410, SER.#H422 IN @ 5380', OUT @ 5440'

CORE #7 5640 TO 5670' CUT 30', CORE JAMMED, RECOVERED 28.5' CORE, BIT-7 7/8 SHORT 22410, SER.QO46 IN @ 5640'

CORE #8 5670-5719' CUT 49' CORE, JAMMED, RECOVERED 49'/BIT 7 7/8" SHORT 22410 SER. QO46 IN AT 5640' OUT @ 5719'

CORE#9 5780-5811' CUT 31' CORE, RECOVERED 27' CORE,BIT 7 7/8" SHORT 22410 SER. QO46 IN AT 5780, OUT AT 5811,

CORING SECTION 3

CORE#10 5811'-5826, CUT 15' RECOVERED 15' CORE,BIT 7 7/8" SHORT 22410 SER. QO46 IN AT 5811, OUT 5826'

CORE # 11 5850' ATTEMPT, LOST CIRC AND WOB DROPPED TO ZERO UPON ATTEMPT TO CORE/RECOVERED 6" OF CORE. DOLO& CHERT

LOST CIRCULATION RECORD

1ST RECORD OF LOST CIRC @ 5826' - LOST '1200' WITH 12#

LOST CIRC OF 80 BBLS ON ATTEMPT TO CORE AT 5850' ALSO SEEPING WITH 20# HULLS/ ABANDON CORE 11 AND WILL DRILL 60' TO 5910 AND ATTEMPT ANOTHER CORE
DRILL STEM TEST REPORT

General Information:
Formation: Latet Mississippian Res.
Deviated: No
Time Test Opened: 20:59:18
Time Test Ended: 01:35:45
Interval: 5378.90 ft (KS) to 5436.98 ft (KS) (TVD)
Total Depth: 5436.98 ft (KS) (TVD)
Hole Diameter: 7.60 inches
Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Unit No.: 78
Reference Elevations:
KS: 3328.00 ft
GP: 3317.00 ft

Serial #: S822
Inside Depth:
Press@Run Depth: 56.10 psig @ 6300.00 ft (KS)
Start Date: 2020-03-30
End Date: 2020-03-31
Start Time: 01:35:45
End Time: 01:35:45
Capacity: 5000.00 psig
Last Cells:
Time On Bits: 2020-03-30 @ 20:56:45
Time Off Bits: 2020-03-30 @ 22:37:45

Test Comment:
- 15. 6' 1/4" blow
- 30. St: No return
- 15. FF: 1/2" blow
- 30. FS: No return

Pressure Summary:

<table>
<thead>
<tr>
<th>Time (Min.)</th>
<th>Pressure (psig)</th>
<th>Temp. (deg F)</th>
<th>Annotation</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td>2630.18</td>
<td>113.02</td>
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<td>41.45</td>
<td>115.95</td>
<td>Open To Flow (2)</td>
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<td>82</td>
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<td>Shut In (2)</td>
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<td>87</td>
<td>137.13</td>
<td>117.13</td>
<td>End Shut In (2)</td>
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<tr>
<td>98</td>
<td>2955.04</td>
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<td>Final Hydrostatic</td>
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Recovery:

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<tr>
<th>Length (ft)</th>
<th>Description</th>
<th>Volume (bbl)</th>
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<tbody>
<tr>
<td>40.00</td>
<td>mud 100m</td>
<td>0.26</td>
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Gas Rates:

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<tr>
<th></th>
<th>Gross (ppm)</th>
<th>Pressure (psig)</th>
<th>Gas Rate (Mscf)</th>
</tr>
</thead>
</table>

*Recovery from multiple tests*
GENERAL INFORMATION:
Formation: Viola
Deviated: No
Wellpoint: - ft (KB)
Time Tool Opened: 13:30:30
Time Tool Closed: 18:22:15
Interval: 8440.60 ft (KB) to 8710.00 ft (KB) (TVD)
Total Depth: 8719.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches
Hole Condition: Good

Serial #: 8622
Press@Run Depth: 164.26 psig @ 8541.00 ft (KB)
Start Date: 2020.04.02
End Date: 2020.04.02
Start Time: 08:06:00
End Time: 18:20:16

Capacity: 8000.00 psig
Last Cell: 2020.04.02
Time On Bin: 2020.04.02 @ 13:30:15
Time Off Bin: 2020.04.02 @ 15:06:15

TEST COMMENT:
16- R: 10 1/2" blow.
30- R: No return.
18- RR: 8 1/2" blow.
30- R: No return.

PRESEßURE SUMMARY
Time (Min.) Pressure (psig) Temp (deg F) Annotation
0 2778.17 116.45 Initial Hydrostatic
2 51.63 116.97 Open To Flow (1)
17 115.45 127.06 Shut-In (1)
48 1470.85 127.16 End Shut-In (1)
46 104.04 128.82 Open To Flow (2)
51 164.26 129.78 Shut-In (2)
96 1474.51 128.68 End Shut-In (2)
101 2778.17 128.17 Final Hydrostatic

RECOVERY
Length (%): 500.00
Description: nw 3m blow
Volume (gal): 4.21

CONE RATES
Radius (inches): 
Pressure (psig): 
Gas Rate (Mscf/hr): 

* Recovery from multiple tests
Curve Track 1

<table>
<thead>
<tr>
<th>M.D.</th>
<th>Gamma (API)</th>
<th>ROP (min/ft)</th>
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<td>3650</td>
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<td>10</td>
</tr>
<tr>
<td>3600</td>
<td>150</td>
<td>10</td>
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Lithology

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<th>Gamma (API)</th>
<th>ROP (min/ft)</th>
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<td>10</td>
</tr>
<tr>
<td>3600</td>
<td>150</td>
<td>10</td>
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Geological Descriptions

JETS 3/15 IN AT 2025

START SAMPLES AT 3600'

BEREDCO RIG ONE

PUSHER: GAYLE THOMPSON

3600-3653' (FAST DRILLING) LS - INTERBEDDED - HVY TRS WHT TO CRM- CHLKY, GRYISH IP, SUB SUCRO TO SUB CHLKY DLL LT YEL FLUOR, NO CUT, ABDT PR TO FR MICRO PP POR

3600-3653' (SLOW DRILLING) LS - LT GY TO GY TAN, SUB CHLKY TO SUB SUCRO & PCKSTN, DLL LT YEL FLUOR IP, NO VIS POR

3655-3720' INTERBEDDED LS SIMILAR RO 3600-3653' W/ SLI TRS CHERT WHTISH GRY TO OPAQUE

3653-3655' SH- V/DK GRY TO BLK CARB

3600-3653' (FAST DRILLING) LS - INTERBEDDED - HVY TRS WHT TO CRM- CHLKY, GRYISH IP, SUB SUCRO TO SUB CHLKY DLL LT YEL FLUOR, NO CUT, ABDT PR TO FR MICRO PP POR

PUSHER: GAYLE THOMPSON

BEREDCO RIG ONE

START SAMPLES AT 3600'

3600-3653' (SLOW DRILLING) LS - LT GY TO GY TAN, SUB CHLKY TO SUB SUCRO & PCKSTN, DLL LT YEL FLUOR IP, NO VIS POR

3655-3720' INTERBEDDED LS SIMILAR RO 3600-3653' W/ SLI TRS CHERT WHTISH GRY TO OPAQUE
4349-4360' LS- LT GRY TO TN, SUCRO TO S-LITHO, TRS DILL YEL FLUOR, NO CUT, NO VIS POR

4360-4427 LS- LT TO MED GRY TO TN, CRYPTO-V/V/FN-XLN PACKSTN TO S-LITHE, TRS DILL YEL FLUOR. NO CUT, NO VIS POR

PAWNEE 4428'-1099'

4427'-4428' SH- V/DK GRY TO BLK CARB

4428'-4440' SH- MED TO V/DK GRY SLI TO V/CAL TO LS LT GRY TO TN CRYPTO-XLN PKCKSTN TRS OOLITIC, TRS DILL YEL FLUOR, NO CUT, NO VIS POR

4440-4451' LS- ABDT WHT TO CRM CHLK W/LT GRY OOLITES IP, ABORT TAN OOLITES, SUB SUCRO TO SUB CHLKT MTRX, DILL LT YEL FLUOR, NO CUT, HYV TRS PR FRG D TO EXCEL MICRO PP POR

4457-4475' LS-LT GRY SLI TO FLRY SHLY CRYPTO-XLN PKCKST, TR PHNTM OOLITES, DILL LT YEL FLUOR, NO CUT NO VIS POR

4475-4477 SH- V/DK GRY TO BLK CARB

4477-4485' LS- SIMILAR TO 4457-4475, W/TRS GRY CHERT

4585-4590 SH- V/DK GRY TO BLK CARB

CHEROKEE 4485'-1156'

4490-4526 LS-LT TO MED GRY, SLI TO EXTRMY SHLY GRDING TO CALC SHALES LT TO MED GRY, SUB SUCRO TO PKCKSTN, NO FLUOR TO TR DILL YEL FLUOR IP, NO CUT NO VIS SHOW

4525-4526' SH- V/DK GRY TO BLK CARB

4526'-4571' LS- TN GRY IP, CRYPTO-XLN TRS SUB LITHO, PKCKSTN, ABDT TO V/SHLY IP, INTERBEDDED SHALES & LIMES, NO CUT, NO VIS POR
4571-4578' SH- MED TO DK GRY TO BLK CARB

4578-4615' LS- TN GRYISH TAN, CRYPTO-V/FN-XLN TRS CHLK WHT, SUB SUCRO PKSTN, V/SHLY IPs, DLL YEL FLUOR IP, NO CUT, NO VIS POR

CFS SHORT TRIP/ CTCH/ TRIP OUT TO PICK UP CORE BARREL

START CORE#1 @ 4:30 AM 3/22/20, PLEASE NOTE SCALE CHANGE @ 4616' DRILL TIME 0-50 MINUTES

NOTE: NO SAMPLES IN TRAP BOX

4616-4676' INTERBEDDED LS & SHALES 1, (FASTER DRILLING) LS- GRYISHIP TN, CRYPTO-XLN V/FN-XLN PKSTN SUB LITHO, DLL YEL FLUOR, NO CUT, NO VIS POR

SH-V/ DK GRY TO BLK CARB

2. (SLOWER DRILLING) LS- LT TO MED GRY-SLI TO V/SHLY, CRYPTO-XLN SUB SUCRO NO FLUOR, NO CUT, NO VIS POR

COMPLETE CUTTING CORE #1 7:17 PM 3/22/20

RECOVERED 60' CORE

START CORE #2 @ 4676' AT 5:25 AM 3/23/20

4676-4734' (FAST DRILLING) LS- LT TO MED GRY, SLI TO EXTREMELY SHL, CRYPTO-XLN PKSTN, ABDT SH PARTINGS, NO FLUOR, NO CUT, NO VIS POR

4699-4701-SH- MED TO DK GRY TO BLK CARB

4676-4734' (SLOW DRILLING) SH- MED TO V/ DK GRY, SLI TO EXTREMELY CALC TO BLK CARB, SOME INTERVALS MARLED SHALES & LIMES

4734-4736' SH-V/ DK GRY TO BLK FILL TO CRUMBLY

RECOVERD 59' CORE AND DESSIMATED SH CRUMBLES FOR 1' ON CORE #2

COMPLETE CORE #2 @ 4736' AT 7:05 PM 3/23/2020

START CORE #3 @ 3:15 AM 3/24/2020 @4736'

4751-4758' QURTZ SDST (TAN DUE TO OIL STN) STRING OIL ODOR, V/V/FN TO V/FN, TRS FN, ANG TO S-ANG, SILT FILLED, PR TO FR SRT, GLDNY FLUOR, FLSH TO EXCEL STRM CUTS, FR TO EXCEL PP TO INTER-GRAN POR

14-17 U. BG

4768-4777-QURTZ SDST- GRYISH TAN TO LT TAN FROM OIL STN, GD OIL ODOR, V/V/FN TO V/FN, TRS FN, ANG TO S-ANG, FR TO GD SRT, DLL GLDNY FLUOR, FLSH TO EXCEL STRM CUT, FR TO EXCEL MICRO PP TO INTER-GRAN POR, BOTTOM HALF OF SS APPPEARS FLSHED

4777-4778 QURTZ SDST LT GRY TAN IP/V/FN TO FH GRN, ANG, POOR SRT, CLAY & SILT FILLED, ABDT PHYLLISKY, V/ SLOW STRM TO GD RING CUT, NO VIS POR

RECOVER 20' CORE & FINL DRY TO GD RING CUT, NO VIS POR

COMPLETE CORE #3 @ 4778' AT 4:20 PM 3/24/2020

4778-4796' SH-MED TO DK GRY, FISS, SPLITTERLY TG, C1-C5 11000 10 100

RECOVERED 14 U. B. S. GAS

RECOVER 14 U. S. BG

RECOVER 19 U. TOTAL

RECOVER 20 U. TOTAL

RECOVER 18 U. TOTAL

RECOVER 15 U. BG

RECOVER 15 U. BG

RECOVER 13 U. BG

RECOVER 11 U. BG

RECOVER 11-12 U. BG

RECOVER 12 U. BG

RECOVER 12 U. BG

RECOVER 14 U. BG
4776-4796 SH-MED TO DK GR, RSL, SPLINTERY
COMPLETE CORE #3 AT 9:55 AM 3/24/20 @ 4796'

4786-4806 SH-MED TO GRY-SFT MUSHY WHEN WET TO DK GRY SPLINTERY

4806-4818 LS-TN TO LT GRY-CRYPTO-V/FN-XLN,PKSTN, V/OOLITIC IP (TN GRY) TR FOSS, DLL YEL FLUOR IP, NO CUT NO VIS POR

4818-4835 SH-LT TO MED GRY, EARTHY TXTT, SLI TO V/ CALC W/ INTERBED LS IP

4835-4880 LS-TRS WHIT TO CRM CHLK & CRM TN, SUB SUCCRO S-ChLKY PKSTN, ABDT SLI TO V/PHNTM OOLITIC TO OOLITIC, W/ INTERBEDS LT TO MED GRY SH, DLL YEL FLUOR, NO CUT, NO VIS POR

STARTED CORE #4 @4880 AT 10:57 AM 3/25/2020

4880-4881 LS-LT LT GRY TR FOSS RE-XLN, CRYPTO-XLN DLL YEL FLUOR, NO CUT, NO VIS POR

4881-4882 SH-MED TO DK GY CALC

4884-4897 LS-LT GRY TAN, CRYPTO-XLN PHNTM OOLITIC IP, DLL YEL FLUOR NO CUT, NO VIS POR

4897-4901 LS-LT GRY TO GRYISH TN, CRYPTO-XLN V/OOLITIC MTRX, SUB SUCCRO IP, DLL YEL FLUOR, NO CUT, TRS V/PR MICRO PP POR

4901-4905 LS-LT GREEN TO GRYISH GREEN SFT

4905-4937 LS-LT GRY TO GRYISH HTN, CRYPTO-XLN V/OOLITIC MTRX, SUB SUCCRO IP, DLL YEL FLUOR, NO CUT, TRS V/PR MICRO PP POR

4937-4954 LS-TN GRISH IP, SUB SUCCRO, V/ TO EXTREMELY OOLITIC (SMLL TO TRS MED OOL), DLL YEL FLUOR, ABDT PR, RTR TRS GD TO EXCEL MICRO PP & SOME INTEROOLITIC POR, NO CUT, NO VIS SHOW, SCATT SH PARTINGS

4954-4957 LS-LT GRY-SUB SUCCRO PKSTN, PHNTM OOLITES, HVY TRS CARB & MED GRY SH PARTINGS, NO CUT, NO VIS POR

CORE #5 COMPLETE 9:09 AM 3/26/2020

4957-4996 LS-WHT TO CRM CHLK, SUB SUCCRO PKSTN, PHNTM OOLITIC TO OOLITIC IP, DLL YEL FLUOR, NO CUT, NO VIS POR, TRS CRM LT GRY OPAQUE CHERT

4996-5007 LS-WHT TO CRM CHLK & LT TN, SUB SUCCRO TO SUCCRO V/TO EXTREMELY OOLITIC (MED TO LRG COLITES) YEL TO GLDN YEL FLUOR, NO CUT, HVY TRS FR MICRO PP POR W/ TO LT GRY SH PARTINGS
START CORE #8 @ 5670' @ 10:30 PM 4/01/2020
5670-5671' INTERBED MARBLED GREEN SH, DOLO, BLU GRY CHERT W/ DISS PYR IP
5671-5717-1 (FAST DRILLING) DOLO LT TN MOTT CRYPTO-V/FN-XLN SUB SUCCRO ABDT RE-XLD FOSS & CHERT & DOLO, DLL GLDN YEL FLQ NO VIS POR IPTO ABDT SMLL VUG POR W/ WHT DOLO XLS & FRGS, FR PP MICRO PP & INTER-XLN POR W/ WHT GRY OPUPE CHERT
2/ (SLOW DRILLING) DOLO TN GRYISH TN, CRYPTO TO V/FN-XLN, PKSTN DLL GLDN YEL FLQ NO CUT CHERT NODULES BLU GR Y OPUPE
5717-5719' THIN SCATTERED SH, LT TO MED GRY TO GREENISH, Slt to FRLY DOLO IP, BLUE CHERT
CORE JAMMED @ 5719' @ 4:01 AM 4/02/2020
5719-5780' (FAST DRILLING) DOLO-TAN FN TO V/FN-XLN TO WHT CLEAR, MED TO COARSE DOLO XLS, V/SUCCRO TO EXTREMELY SUCCRO, DLL GLDN YEL FLUOR, NO CUT, HVY TRS FR GD TO EXCEL PP MICRO PP INTER-XLN POR, LT LT GRY OPUPE CHERT
REACHED CORE #9 POINT 5780' @ 2:29 AM 4/03/2020
START CORE #9 @ 5780' @ 4:11 PM 4/03/2020
5780-5811' (FASTER DRILLING) 1. DOLO- TN GRYISH IP CRYPTO-XLN TO SUB SUCCRO ABDT WHT CLR, MED TO COARSE DOLO XLS & FRGS, NO CUT, GLDN YEL FLUOR, TRS TO EXTREMELY VUG POR W/ DOLO XLS, TR PR MICRO PP POR, QUEST. PERM
5794- CHERT NODULES GR Y TO BLUISH GRY WHT
5790-5811' 2. (SLOW DRILLING) TN GRY IP, CRYPTO TO V/FN-XLN PKSTN, NO CUT, SLI TR PR MICRO PP POR, TR DOLO CHLK WHT
CORE #9 JAMMED @ 5811' @ 10:00 PM 4/03/2020
START DRILLING CORE #10 @ 5811' 6:25 AM 4/04/2020
5811-5826' SIMILAR TO 5780-5811' EXCEPT NO CHERT, NO DOLO CHLK
CORE #10 END @ 5826' @ 8:36 AM 4/04/2020 LOST CIRC.
5826-5850' DOLO-TAN SUB SUCCRO ABDT SUCCRO MED TO COARSE WHT DOLO XLS & FRGS W/TR PYR CLSTRS, SLI CALC IP, DLL GLDN YEL FLUOR, NO CUT, ABDT PR FR GD TO EXCEL PP MICRO PP & INTER-XLN POR, PROB GOOD VUG POR, TR WHT GRY OPUPE TRNSLCNT CHERT IP,
REACH CORE POINT #11 @ 5850' 9:45 AM 4/05/2020
CORE 11 LOST CIRC AFTER DRILLING ONE INCH, BUILDING VOLUME