OPERATOR

Company: TDI, INC

Address: 1310 BISON ROAD

HAYS, KANSAS 67601

Contact Geologist: TOM DENNING Contact Phone Nbr: 785-628-2593

Well Name: GR #2

> 15-051-26,504-00-00 N2 NW SW NW Sec 14-15s-19w API: Location: Pool: **INFIELD** Field: MARTINA NORTH

State: **KANSAS** Country: USA



1310 BISON ROAD HAYS, KANSAS 67601 (785) 628-2593

Scale 1:240 Imperial

Well Name: GR # 2

Surface Location: N2 NW SW NW Sec 14-15s-19w

Bottom Location:

API: 15-051-26,504-00-00

License Number: 4787

Spud Date: 4/19/2013 Time: 2:15 PM

ELLIS COUNTY Region:

Drilling Completed: 4/25/2013 Time: 8:28 PM

Surface Coordinates: 1565' FNL & 330' FWL

Bottom Hole Coordinates:

Ground Elevation: 2009.00ft K.B. Elevation: 2019.00ft

Logged Interval: 2900.00ft To: 3750.00ft

Total Depth: 3750.00ft

Formation: LANSING-KANSAS CITY

Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical

Longitude: Latitude:

N/S Co-ord: 1565' FNL E/W Co-ord: 330' FWL

LOGGED BY



SOLUTIONS CONSULTING, INC. Company:

Address: 108 W 35TH

HAYS, KS 67601

Phone Nbr: (785) 639-1337

Logged By: Geologist Name: HERB DEINES

CONTRACTOR

Contractor: SOUTHWIND DRILLING, INC.

Rig #:

Rig Type: MUDRUIARI

Spud Date: Time: 2:15 PM 4/19/2013 TD Date: 4/25/2013 Time: 8:28 PM Rig Release: 4/26/2013 Time: 9:00 PM

ELEVATIONS

Ground Elevation: K.B. Elevation: 2019.00ft 2009.00ft

K.B. to Ground: 10.00ft

NOTES

RECOMMENDATION TO RUN PRODUCTION CASING BASED ON POSITIVE RESULTS OF DST # 1 AND FAVORABLE STRUCTURE.

OPEN HOLE LOGGING BY PIONEER ENERGY SERVICES: DUAL INDUCTION LOG, DUAL COMPENSATED POROSITY LOG, MICRORESISTIVITY LOG.

OPEN HOLE DRILL STEM TESTING BY TRILOBITE TESTING INC: TWO (2) CONVENTIONAL TESTS AND ONE (1) STRADDLE TEST

FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY ACTIVITY

GR # 2 **GR#1**

1565' FNL & 330' FWL, NW/4 **NE SW SW NW** Sec. 14-15s-19w Sec 14-15s-19w 2009' GL 2019' KB Reference Well

| FORMATION | SAMPLE TOPS | LOG TOPS | LOG TOPS |
|------------------------|--------------------|-----------|-----------------|
| Anhydrite | 1220+ 799 | 1221+ 798 | + 806 |
| B-Anhydrite | 1255+ 764 | 1253+ 766 | + 768 |
| Topeka | 3000- 981 | 2998- 979 | - 970 |
| Heebner Shale | 3264-1245 | 3262-1243 | -1241 |
| Toronto | 3282-1263 | 3282-1278 | -1265 |
| LKC | 3307-1288 | 3306-1287 | -1288 |
| ВКС | 3547-1528 | 3552-1533 | -1530 |
| Marmaton | 3590-1571 | 3595-1576 | -1573 |
| Conglomerate SS | 3605-1586 | 3637-1618 | -1621 |
| Arbuckle | 3659-1640 | 3662-1643 | -1639 |
| RTD | 3750-1731 | | |
| LTD | | 3751-1732 | |

SUMMARY OF DAILY ACTIVITY

4-19-13 RU, spud 2:15 PM,

1229', set 8 5/8" surface pipe to 1227.3' w/ 375 sxs SMD, plug down 4-20-13

3:00 PM, WOC 12hrs, slope 2 degrees

1346,'drilling, 4-21-13

4-22-13 2400', drilling, displaced 2766' to 2797' 4-23-13 3060', drilling 3350', TIWB after DST # 1 3314' to 3350' "C" LKC, DST # 2 3348' TO 4-24-13 3384' "D" & "F", slope 1 degree @ 3350' 4-25-13 3464', CFS @3480', RTD @ 8:28PM, mini short trip, CCH 1 ½ hrs 3750' logs, straddle test # 3 3460' to 3475' "I" LKC, LDDP, run 4-26-13 production casing.

DST # 1 3314' TO 3350' "C" LKC CONVENTIONAQL TEST



DRILL STEM TEST REPORT

TDI, Inc.

14-15s-19w-Ellis

1310 Bison Road Hays, KS. 67601

GR #2

Job Ticket: 52228

Test Start: 2013.04.24 @ 04:39:14

ATTN: Herb Deines

Formation: C

Deviated: No Whipstock 0.00 ft (KB) Test Type: Conventional Bottom Hole (Initial)

Time Tool Opened: 07:17:59 Jason McLemore Tester:

Time Test Ended: 11:27:59

GENERAL INFORMATION:

Unit No:

Interval: 3314.00 ft (KB) To 3350.00 ft (KB) (TVD) 3350.00 ft (KB) (TVD) Total Depth:

Reference Bevations: 2023.00 ft (KB) 2013.00 ft (CF)

DST#: 1

Hole Diameter: 7.80 inchesHole Condition: Good

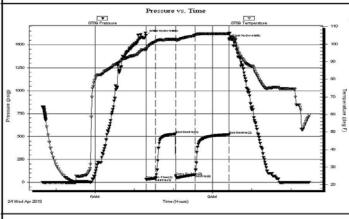
KB to GR/CF: 10.00 ft

Serial #: 8789 Inside

8000.00 psig 82.81 psig @ Press@RunDepth: 3317.00 ft (KB) Capacity: Last Calib.: Start Date: 2013.04.24 End Date: 2013.04.24 2013.04.24 Start Time: 04:39:16 End Time: 11:27:59 Time On Btm: 2013.04.24 @ 07:17:44 Time Off Btm: 2013.04.24 @ 09:25:14

TEST COMMENT: IFP-Srong, BOB in 2 Min. ISI-Blow back Built to 1'

FFP-Strong, BOB in 1 Min. FSI-Blow back Built to 4"



| | PRESSURE SUMMARY | | | | | | |
|---------------------|------------------|----------|---------|----------------------|--|--|--|
| - 1 | Time | Pressure | Temp | Annotation | | | |
| | (Min.) | (psig) | (deg F) | | | | |
| | 0 | 1604.42 | 97.17 | Initial Hydro-static | | | |
| | 1 | 33.04 | 96.47 | Open To Flow (1) | | | |
| | 15 | 43.21 | 101.47 | Shut-In(1) | | | |
| ä | 46 | 526.97 | 102.67 | End Shut-In(1) | | | |
| empe | 46 | 70.43 | 102.42 | Open To Flow (2) | | | |
| rature | 76 | 82.81 | 105.09 | Shut-In(2) | | | |
| Temperature (deg F) | 127 | 520.05 | 105.92 | End Shut-In(2) | | | |
| 9 | 128 | 1554.73 | 106.35 | Final Hydro-static | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| Longth (ft) Description 70.00 Free Oil 120.00 Muddy Frothy Oil-50%G-40%O-10%M | Volume (bb |
|---|------------|
| | |
| 120.00 Muddy Frothy Oil-50%G-40%O-10%M | 0.98 |
| | 1.68 |
| 0.00 2210' Gas In Pipe | 0.00 |

| Gas Rates | | | | | | |
|-----------|----------------|-----------------|------------------|--|--|--|
| | Choke (inches) | Pressure (psig) | Gas Rate (Mcf/d) | | | |
| | | | | | | |
| | | | | | | |

Trilobite Testing, Inc Ref. No: 52228 Printed: 2013.04.24 @ 13:31:35

DST # 2 3348' TO 3384' "D"_"F" LKC CONVENTIONAL TEST



DRILL STEM TEST REPORT

TDI, Inc. 14-15s-19w-Ellis

GR #2 1310 Bison Road

Job Ticket: 52229 DST#:2

ATTN: Herb Deines Test Start: 2013.04.24 @ 17:59:17

GENERAL INFORMATION:

Formation:

175.

Deviated: No Whipstock: 0.00 ft (KB) Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 19:25:02 Tester: Jason McLemore

Time Test Ended: 00:13:32 Unit No: 54

3348.00 ft (KB) To 3384.00 ft (KB) (TVD) Reference Bevations: Interval:

2023.00 ft (KB) 2013.00 ft (CF) Total Depth: 3384.00 ft (KB) (TVD)

Hole Diameter: 7.80 inchesHole Condition: Good KB to GR/CF: 10.00 ft

Serial #: 8789 Inside

Press@RunDepth: 31.78 psig @ 3351.00 ft (KB) Capacity: 8000.00 psig 2013.04.25 Start Date: 2013.04.24 End Date: Last Calib.: 2013.04.25

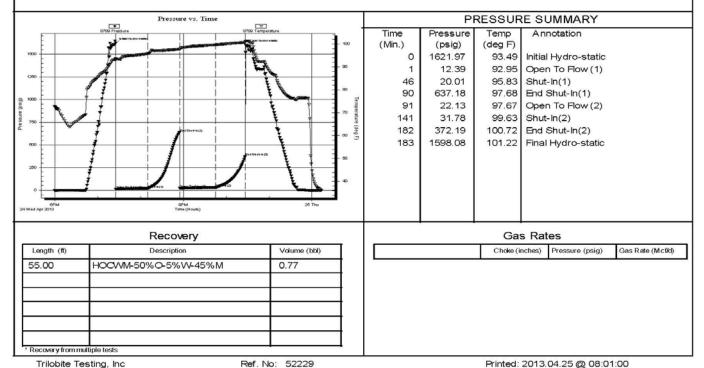
17:59:19 2013.04.24 @ 19:24:47 Start Time: End Time: 00:13:32 Time On Btm: Time Off Btm: 2013.04.24 @ 22:27:32

TEST COMMENT: IFP-Weak Blow, Built to 5"

ISI-Dead

FFP-Good Blow, Built to 8"

FSI-Dead



RILOBITE ESTING , INC. 1310 Bison Road Hays, KS. 67601

TDI, Inc.

ATTN: Herb Deines

14-15s-19w-Ellis

GR #2

Job Ticket: 52230 DST#: 3

Test Start: 2013.04.26 @ 05:53:13

GENERAL INFORMATION:

Formation: 1

Deviated: No Whipstock 0.00 ft (KB)

Time Tool Opened: 08:17:43

Time Test Ended: 13:34:58

3460.00 ft (KB) To 3475.00 ft (KB) (TVD) Interval:

Total Depth: 3751.00 ft (KB) (TVD)

7.80 inchesHole Condition: Good Hole Diameter:

Test Type: Conventional Straddle (Reset) Tester: Jason McLemore

Unit No:

2023.00 ft (KB) Reference Bevations:

2013.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8789 Inside

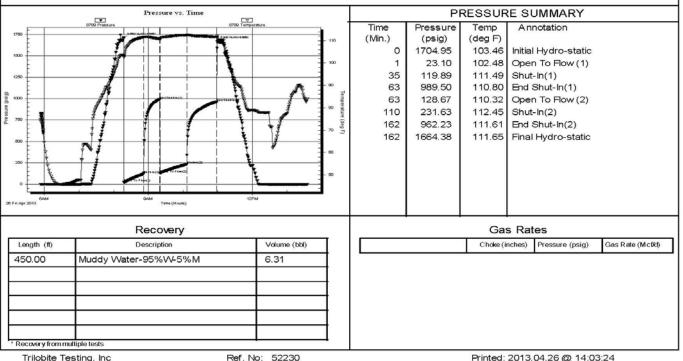
Press@RunDepth: 231.63 psig @ 3471.00 ft (KB) Capacity: 8000.00 psig

Start Date: End Date: 2013.04.26 2013.04.26 Last Calib .: 2013.04.26 Start Time: 05:53:15 End Time: 13:34:58 Time On Btm: 2013.04.26 @ 08:17:13 Time Off Btm: 2013.04.26 @ 10:59:13

TEST COMMENT: IFP-Good Blow, BOB in 25 Min.

ISI-Surface Blow back for 10 Min. FFP-Fair Blow, Built to 8-1/4"

FSI-Dead



Ref. No: 52230

Printed: 2013.04.26 @ 14:03:24



Clystgy Dolprim



Lmst fw<7 Lmst fw7> shale, grn

shale, gry Carbon Sh shale, red

ROCK TYPES

Ss. Dol Lime o. ⊕. o. 0 € O. Lscongl

CglSandy

ACCESSORIES

MINERAL Glauconite

P Pyrite

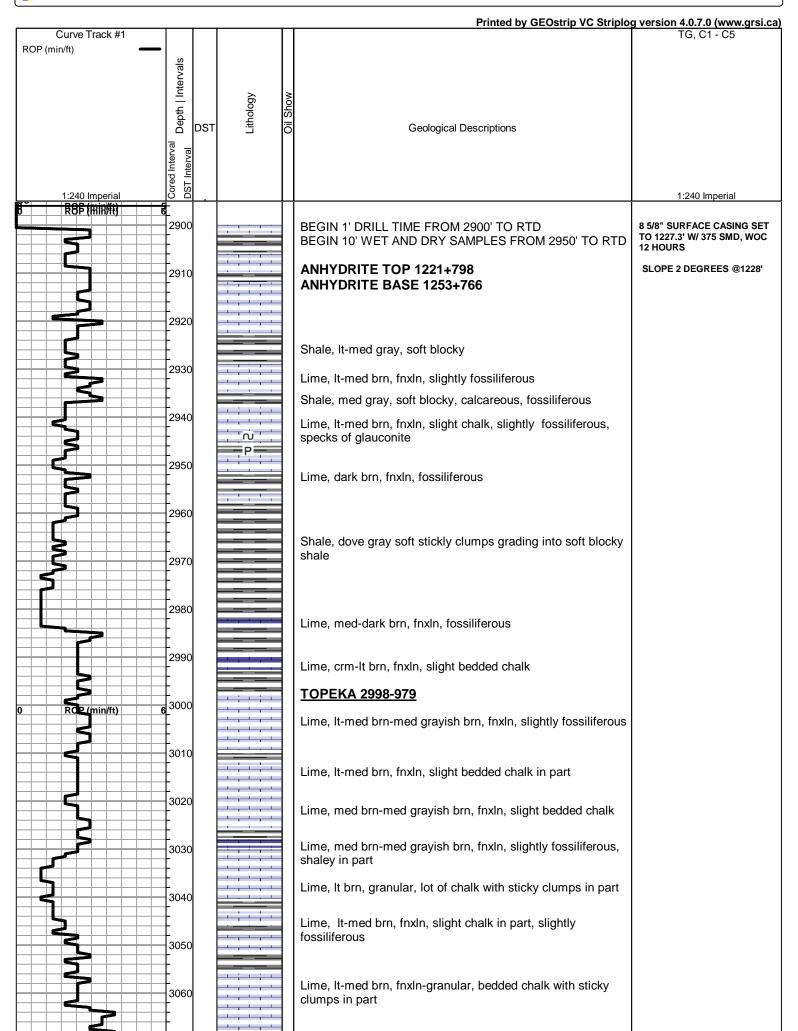
Sandv

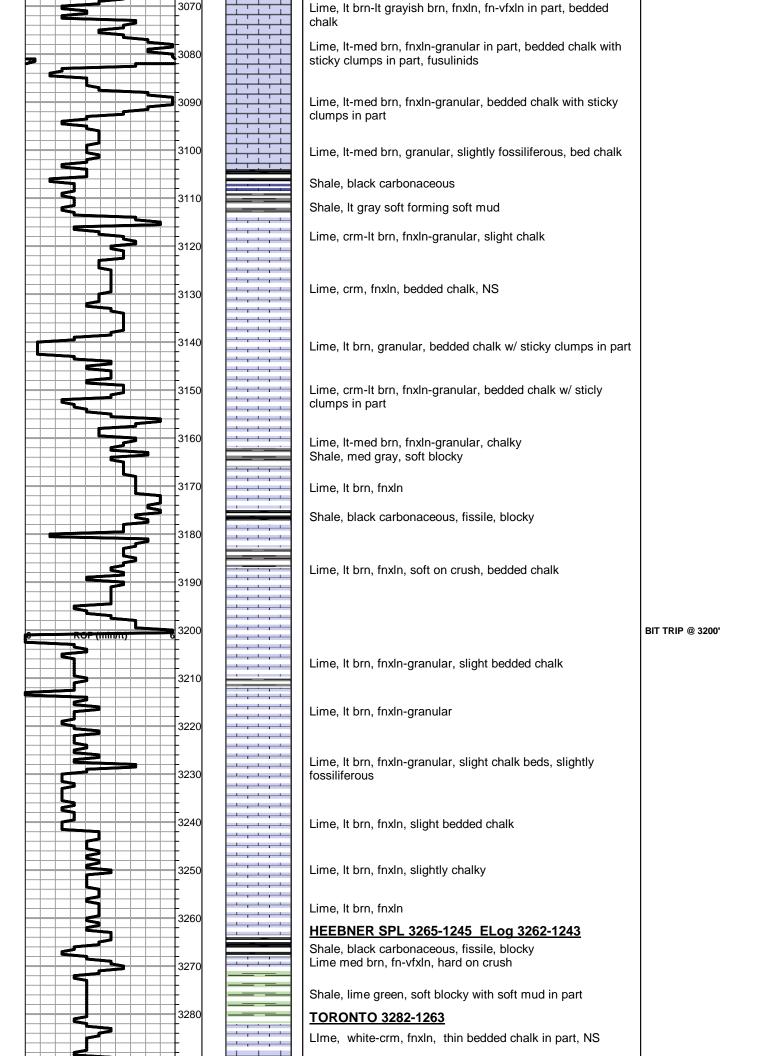
Varicolored chert

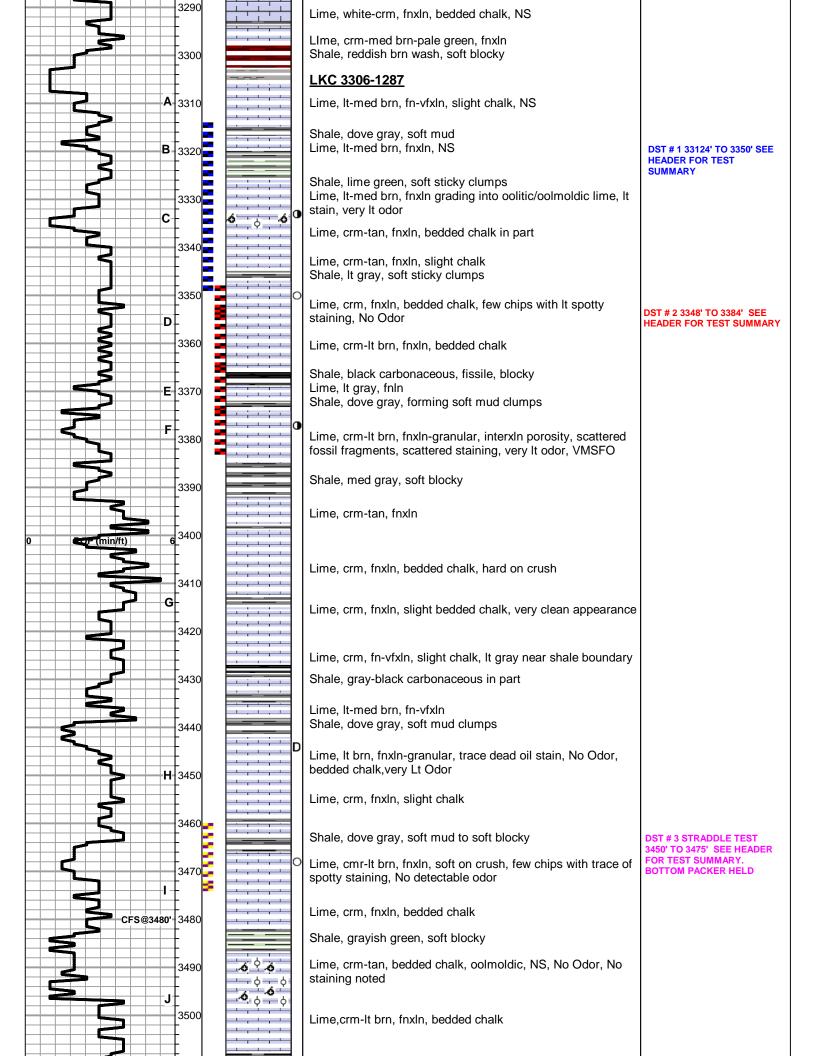
FOSSIL Oolite

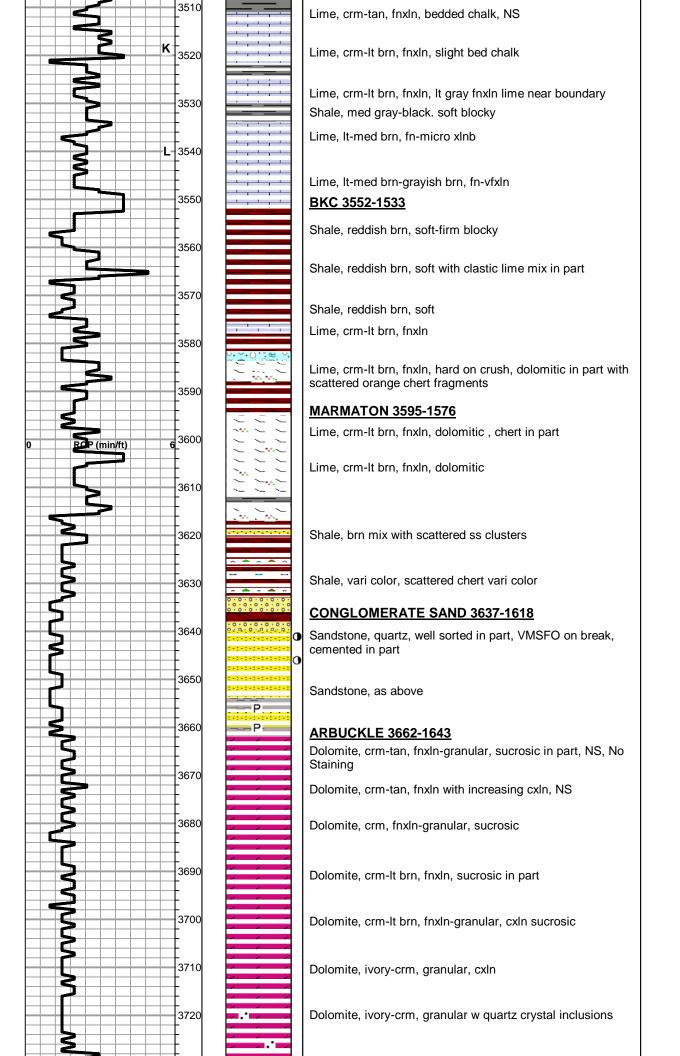
Oomoldic

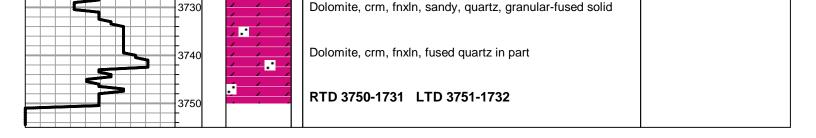
OTHER SYMBOLS











SWIFT Services, Inc.

JOB TYPE

Surface JOB LOG WELL NO. #2 PRESSURE (PSI) DESCRIPTION OF OPERATION AND MATERIALS T C TUBING CASING on Loc. Rig Cik. 0630 0645 TD 1229' 8% Csg. 1221' UY45 Start in hole with 8 % Casging 11:05 Baffle Plate Ceri. 4/ 43, 4/5 Csy. on Bottom Circulate 13:30 14:10 75 sk 14.5 #/ge/
Finish mixing Release 5-w Top plug
Displ.
400 Plug down Shot in C well keed
Cik 50 sk cmt. to Pit 140 76 Rack up reach Jas Complete 1520

SWIFT Services, Inc. DATE 4-26-13 PAGE NO. **JOB LOG** JOB TYPE Sty Long String TICKET NO. 24401 CUSTOMER TOJ LEASE 61 K WELL NO. PRESSURE (PSI) **DESCRIPTION OF OPERATION AND MATERIALS** TUBING CASING 1830 on lucation TO 3750 3709 Inset TP 3746 ST 37 Centralizes 1,3,5,7,8,10,12 Baskets 4,14 Start Casing 1915 Drop Ball Break circulation 2045 Phy AH 30 shs MH 15 sks 2145 Start Mulflush 2155 12 300 Start KCL Aush 20 37 Start Cement 2200 200 Ocop Play wish ort Pamp + Lines 2214 Start Displacement 2215 905 2230 2 232 wash up back up 2245 2315 Job Complexe Josh Boran Doug John