

Submit 1 Copy To Appropriate District Office

District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico

Energy, Minerals and Natural Resources

Form C-103

Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-025-42207
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
6. State Oil & Gas Lease No. NM 0149956
7. Lease Name or Unit Agreement Name N/A
8. Well Number D2
9. OGRID Number 025575
10. Pool name or Wildcat DEVONIAN EXPL.

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other: Acid Gas Injection	
2. Name of Operator DCP MIDSTREAM LP	
3. Address of Operator 370 17 TH STREET, SUITE 2500, DENVER, CO 80202	
4. Well Location Unit Letter <u>L</u> : 1893 feet from the <u>South</u> line and <u>950</u> feet from the <u>West</u> line Section <u>19</u> Township <u>19S</u> Range <u>32E</u> NMPM County <u>LEA</u>	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3548 ft. Ground Level	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

PROVIDE S.R.T. RESULTS
TO SANTA FE OCD FOR
APPROVAL

☐
☐
☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☒

OTHER: ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

On December 29, 2016 a step rate test (SRT) was successfully completed at the DCP Zia AGI D #2 well. The BLM Carlsbad Hotline and Mr. Paul Swartz (BLM) were notified, and elected not to observe. The NMOCD Hobbs District Office was also notified and elected to not observe. The injection zone between 13,622 and 14,750 feet was tested. The BLM-provided SRT data forms (Attachment 1) have been provided for synchronized surface and formation pressure measurements recorded by Halliburton and Schlumberger. The bottom-hole pressure and surface pressures are overlain on a single graph included in Attachment 2.

The timing of the surface and bottom hole pressure sensors were synchronized, and all of the bottom hole data were recorded continuously at 5 minute intervals within each step. The injection rate for each step was increased instantaneously and held constant for 30 minutes at each step, as shown in the surface injection rates recorded by Halliburton and Geolex (Attachment 1). The synchronicity of the surface and downhole data were confirmed with the observation of the immediate rate and pressure drop at the surface and at the formation when a needle valve in the lubricator caused a 2.5 minute shutdown shortly after the initiation of step 8 (Attachment 4).

The surface pressure was 86 psig prior to pumping step 1 at 0.25 barrels per minute (bpm) using 8.35 lb/gal fresh water. Maximum surface pressures of 662 psig and 927 psig, respectively were observed in the 7th and 8th steps (4.0 and 5.0 bpm) bracketing the maximum permitted injection rate of 4.4 bpm. The temperature survey demonstrates the majority of fluids were in the upper portions (13,622 - 13,880 feet) of the injection zone. Three additional steps, of greater injection rate, were conducted following the maximum permitted injection rate of 4.3 bpm. These additional steps were used to help evaluate reservoir injection potential. The maximum surface pressures reached during the last two steps (steps 9 and 10) were 1,253 psig at 6.0 bpm and 1,613 psig at 7.0 bpm.

The SRT did not reach a break-over point, and the formation parting pressure was not reached during the test; even at the highest pumping rate above the maximum permitted injection rate. This is shown by the observed surface or formation pressures, and has a linear fit coefficient in excess of 0.98 (Attachment 3). The NMOCD-approved MAOP for treated acid

gas is 5,028 psig at the rate of 15 MMSCFD, which at bottom-hole P/T conditions is approximately 4.4 BPM of liquid treated acid gas (TAG). The anticipated pressure required to inject this volume is estimated to be between 1,400 and 1,800 psig. A preliminary warm-back analysis shows permeable zones between approximately 13,622 – 13,880 feet, 14,200 – 14,400 feet, and 14,530 - 14,630 feet (Attachment 5).

This SRT fulfills the requirement of the BLM Conditions of Approval for DCP Zia AGI D #2 dated September 7, 2016 and NMOCC Order R-14207, and demonstrates the Zia AGI D #2 well can be safely operated at pressures well below the approved MAOP. DCP is not requesting an MAOP increase at this time for this well. NMOCC required continuous surface and bottom-hole pressure monitoring will assure fracture pressure is never exceeded for this well.

Spud Date:

November 2, 2016

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE



TITLE CONSULTANT TO DCP MIDSTREM LP

DATE 01/11/2017

Type or print name

JARED R. SMITH

E-mail address:

JSMITH@GEOLEX.COM

PHONE:

505-842-8000

For State Use Only

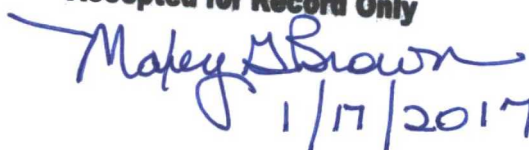
APPROVED BY:

TITLE

DATE

Conditions of Approval (if any):

Accepted for Record Only



1/17/2017

Attachment 1

STEP RATE TEST DATA for BLM

Operator: DCP Midstream (Halliburton Surface Press) Well: Zia AGI D#2 open hole injection interval

API#: 30-025-42207

Lease: NM0149956

Date collected: 12/29/2016

Sfc Loc: T-19-S, R-32-E, Sec 19 1893FSL 950FWL

Tbg OD 3.5" Tbg Wt. 9.2 Grade L-80

Packer set at: **10000** (ft) Inj Pipe I.D.: **2.992** (in)
 Top Injection Depth: **13622** X 0.20psig/ft = Expected Surface Fracture psig: **2724.4**
 With Mud Wt Scale: **8.35** lbs/gal Beginning Formation psig: **6474** at Depth: **14662**
 Injection fluid lbs/gal: **8.35** Hydrostatic Pressure of fluid at top depth of injection: **5909**
 Beginning Wellhead psig: **86** Target Maximum Rate - bpd(barrels per day): **7200**

1. Take a charted record of shut in psig for no less than 48 hours. If the shut in psig is above the expected fracture pressure, **the wellhead pressure will need to be bled off before beginning the Step Rate Test.**
 2. Perform a minimum of seven steps, recording rate to ± 0.1 bpm and surface pressures to ± 10 psig in five minute intervals. The first two step rate pressures must be below 0.2psig/ft x depth at top of injection.

4. The last two five minute surface pressure readings of each (minimum 30 minute) step are to be within 15psig of each other. If not, hold that step injection rate past the 30 minute step until two consecutive pressure readings are within 15psig. Record the average of those two readings as the Data Point for that Step #.

Step 1						
0.25 bpm pmp'd for Step 1						
Target Test Rate (5% of maximum bpd/1440 = 0.2500 bpm (barrels per minute) for Step 1						
Time:	5 min	10 min	15 min	20 min	25 min	30 min
Surface (psig):	86.00	86.00	85.00	86.00	85.00	86.00
Formation (psig):	6481.50	6482.60	6483.40	6483.90	6484.20	6484.60
gpm:	10.50	10.50	10.50	10.50	10.50	10.50
Time:	35 min	40 min	45 min	50 min	25 min	60 min
Surface (psig):						
Formation (psig):						
gpm:						
						Graph Data for Point #1
						Sfc psig: 85.67
						F psig: 6483.37
						gpm: 10.50

Step 1 has a target bpd rate of: 360

Step 2						
0.50 bpm pmp'd for Step 2						
Target Test Rate (10% of maximum bpd/1440 = 0.5000 bpm for Step 2						
Time:	5 min	10 min	15 min	20 min	25 min	30 min
Surface (psig):	97.00	99.00	100.00	101.00	100.00	100.00
Formation (psig):	6492.70	6495.70	6497.40	6498.50	6499.30	6499.80
gpm:	21.00	21.00	21.00	21.00	21.00	21.00
Time:	35 min	40 min	45 min	50 min	25 min	60 min
Surface (psig):						
Formation (psig):						
gpm:						
						Graph Data for Point #2
						Sfc psig: 99.50
						F psig: 6497.23
						gpm: 21.00

Step 2 has a target bpd rate of: 720

Step 3						
1.00 bpm pmp'd for Step 3						
Target Test Rate (20% of maximum bpd/1440 = 1.0000 bpm for Step 3						
Time:	5 min	10 min	15 min	20 min	25 min	30 min
Surface (psig):	134.00	138.00	142.00	141.00	142.00	152.00
Formation (psig):	6517.10	6524.30	6528.10	6530.70	6532.50	6534.20
gpm:	42.00	42.00	42.00	42.00	42.00	42.00
Time:	35 min	40 min	45 min	50 min	25 min	60 min
Surface (psig):						
Formation (psig):						
gpm:						
						Graph Data for Point #3
						Sfc psig: 141.50
						F psig: 6527.82
						gpm: 42.00

Step 3 has a target bpd rate of: 1440

STEP RATE TEST DATA for BLM

Operator: DCP Midstream (Halliburton Surface Press) Well: Zia AGI D#2 open hole injection interval
 API#: 30-025-42207 Lease: NM0149956
 Date collected: 12/29/2016 Sfc Loc: T-19-S, R-32-E, Sec 19 1893FSL 950FWL

Step 4						
1.50 bpm pmp'd for Step 4						
Target Test Rate (30% of maximum bpd/1440 = 1.5000 bpm for Step 4)						
Time:	5 min	10 min	15 min	20 min	25 min	30 min
Surface (psig):	190.00	195.00	197.00	199.00	203.00	211.00
Formation (psig):	6554.40	6561.90	6566.50	6569.70	6572.10	6574.50
Rate gal/min:	63.00	63.00	63.00	63.00	63.00	63.00
Graph Data for Point #4						
Time:	35 min	40 min	45 min	50 min	25 min	60 min
Surface (psig):						
Formation (psig):						
gpm:						
						Sfc psig: 199.17
						F psig: 6566.52
						gpm: 63.00

Step 4 has a target bpd rate of: 2160

Step 5						
2.00 bpm pmp'd for Step 5						
Target Test Rate (40% of maximum bpd/1440 = 2.0000 bpm for Step 5)						
Time:	5 min	10 min	15 min	20 min	25 min	30 min
Surface (psig):	267.00	270.00	272.00	275.00	275.00	279.00
Formation (psig):	6595.40	6603.50	6608.50	6612.10	6614.90	6617.00
gpm:	84.00	84.00	84.00	84.00	84.00	84.00
Graph Data for Point #5						
Time:	35 min	40 min	45 min	50 min	25 min	60 min
Surface (psig):						
Formation (psig):						
gpm:						
						Sfc psig: 273.00
						F psig: 6608.57
						gpm: 84.00

Step 5 has a target bpd rate of: 2880

Step 6						
3.00 bpm pmp'd for Step 6						
Target Test Rate (60% of maximum bpd/1440 = 3.0000 bpm for Step 6)						
Time:	5 min	10 min	15 min	20 min	25 min	30 min
Surface (psig):	412.00	428.00	449.00	442.00	453.00	452.00
Formation (psig):	6660.70	6678.10	6688.20	6695.20	6700.50	6704.50
Rate gal/min:	126.00	126.00	126.00	126.00	126.00	126.00
Graph Data for Point #6						
Time:	35 min	40 min	45 min	50 min	25 min	60 min
Surface (psig):						
Formation (psig):						
gpm:						
						Sfc psig: 439.33
						F psig: 6687.87
						gpm: 126.00

Step 6 has a target bpd rate of: 4320

Step 7						
4.00 bpm pmp'd for Step 7						
Target Test Rate (80% of maximum bpd/1440 = 4.0000 bpm for Step 7)						
Time:	5 min	10 min	15 min	20 min	25 min	30 min
Surface (psig):	614.00	629.00	644.00	655.00	658.00	662.00
Formation (psig):	6747.60	6766.40	6778.10	6786.30	6792.70	6798.10
gpm:	168.00	168.00	168.00	168.00	168.00	168.00
Graph Data for Point #7						
Time:	35 min	40 min	45 min	50 min	25 min	60 min
Surface (psig):						
Formation (psig):						
gpm:						
						Sfc psig: 643.67
						F psig: 6778.20
						gpm: 168.00

Step 7 has a target bpd rate of: 5760

STEP RATE TEST DATA for BLM

Operator: DCP Midstream (Halliburton Surface Press) Well: Zia AGI D#2 open hole injection interval
 API#: 30-025-42207 Lease: NM0149956
 Date collected: 12/29/2016 Sfc Loc: T-19-S, R-32-E, Sec 19 1893FSL 950FWL

Step 8						
5.00 bpm pmp'd for Step 8						
Target Test Rate (100% of maximum bpd/1440 = 5.0000 bpm for Step 8)						
Time:	5 min	10 min	15 min	20 min	25 min	30 min
Surface (psig):	795.00	860.00	891.00	912.00	923.00	927.00
Formation (psig):	6746.40	6827.30	6858.30	6877.00	6890.10	6900.40
Rate gal/min:	210.00	210.00	210.00	210.00	210.00	210.00
Time:	35 min	40 min	45 min	50 min	25 min	60 min
Surface (psig):						
Formation (psig):						
gpm:						

**Graph Data
for
Point #8**

Sfc psig: 884.67
 F psig: 6849.92
 gpm: 210.00

Step 8 has a target bpd rate of: 7200

Step 9						
6.00 bpm pmp'd for Step 9						
Target Test Rate (120% of maximum bpd/1440 = 6.0000 bpm for Step 9)						
Time:	5 min	10 min	15 min	2.00	25 min	30 min
Surface (psig):	1196.00	1218.00	1229.00	1229.00	1251.00	1253.00
Formation (psig):	6951.90	6978.60	6996.80	7010.70	7022.00	7031.50
gpm:	252.00	252.00	252.00	252.00	252.00	252.00
Time:	35 min	40 min	45 min	50 min	25 min	60 min
Surface (psig):						
Formation (psig):						
gpm:						

**Graph Data
for
Point #9**

Sfc psig: 1229.33
 F psig: 6998.58
 gpm: 252.00

Step 9 has a target bpd rate of: 8640

Step 10						
Target gpm = 294.00						
7.00 bpm pmp'd for Step 10						
Target Test Rate (140% of maximum bpd/1440 = 7.0000 bpm for Step 10)						
Time:	5 min	10 min	15 min	20 min	25 min	30 min
Surface (psig):	1526.00	1547.00	1544.00	1531.00	1587.00	1613.00
Formation (psig):	7079.90	7107.90	7127.20	7141.90	7154.00	7163.90
Rate gal/min:	294.00	294.00	294.00	294.00	294.00	294.00
Time:	35 min	40 min	45 min	50 min	25 min	60 min
Surface (psig):						
Formation (psig):						
gpm:						

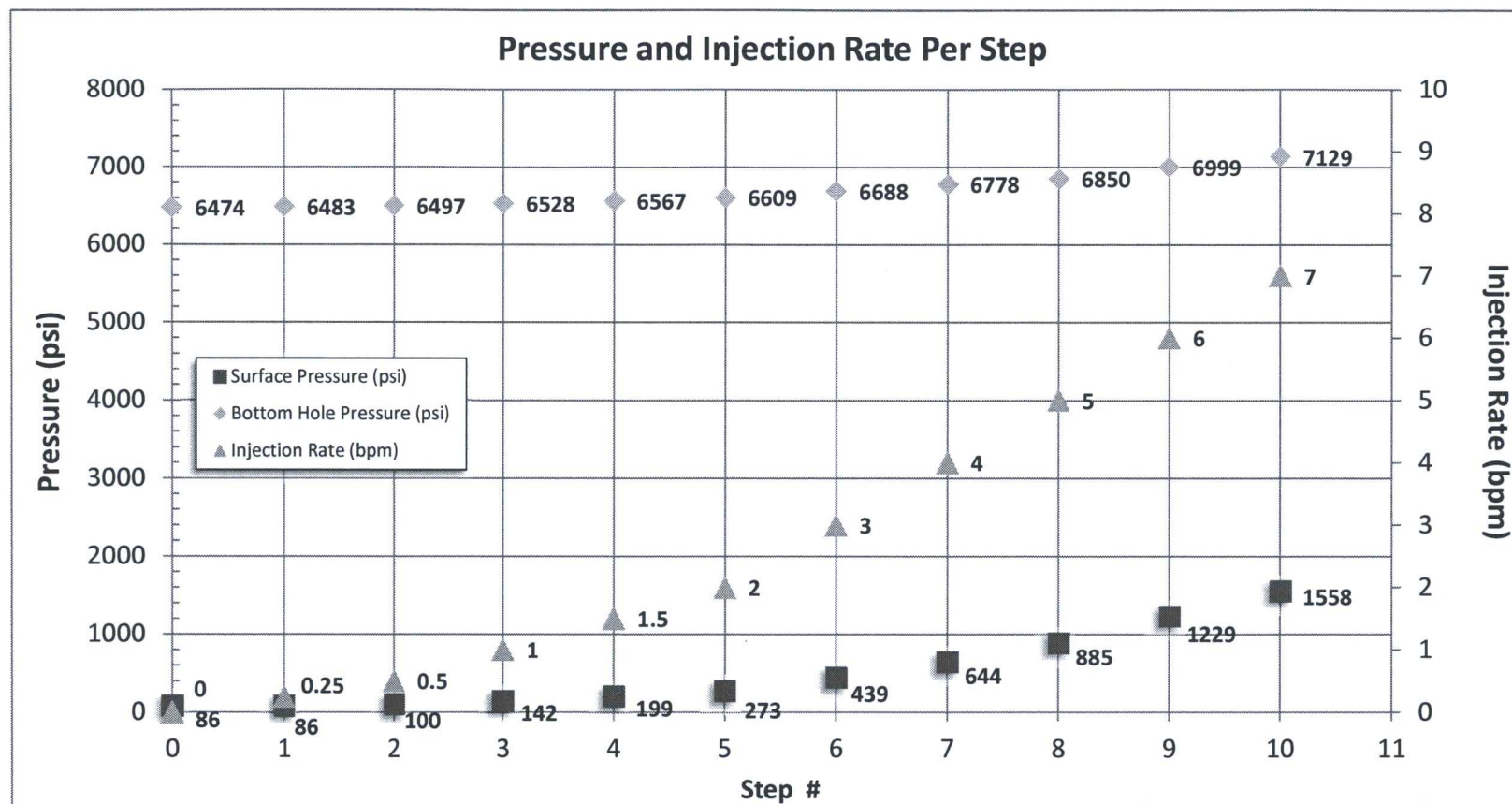
**Graph Data
for
Point #10**

Sfc psig: 1558.00
 F psig: 7129.13
 gpm: 294.00

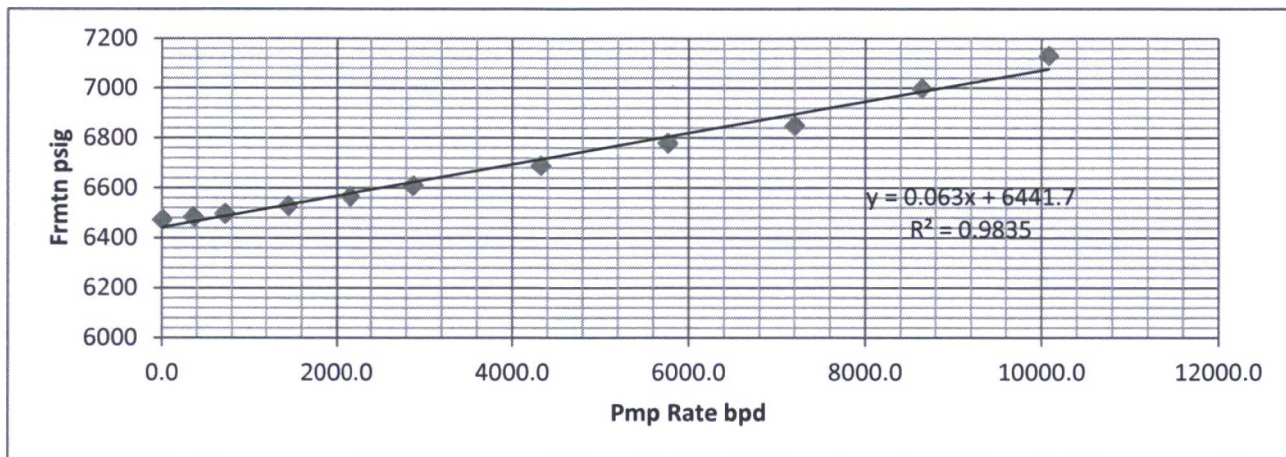
Step 10 has a target bpd rate of: 10080

Instant Shut In Pressure: 1608
 5 minute Shut In Pressure: 449
 7 minute Shut In Pressure: 394
 19 minute Shut In Pressure: 229

Attachment 2



Attachment 3

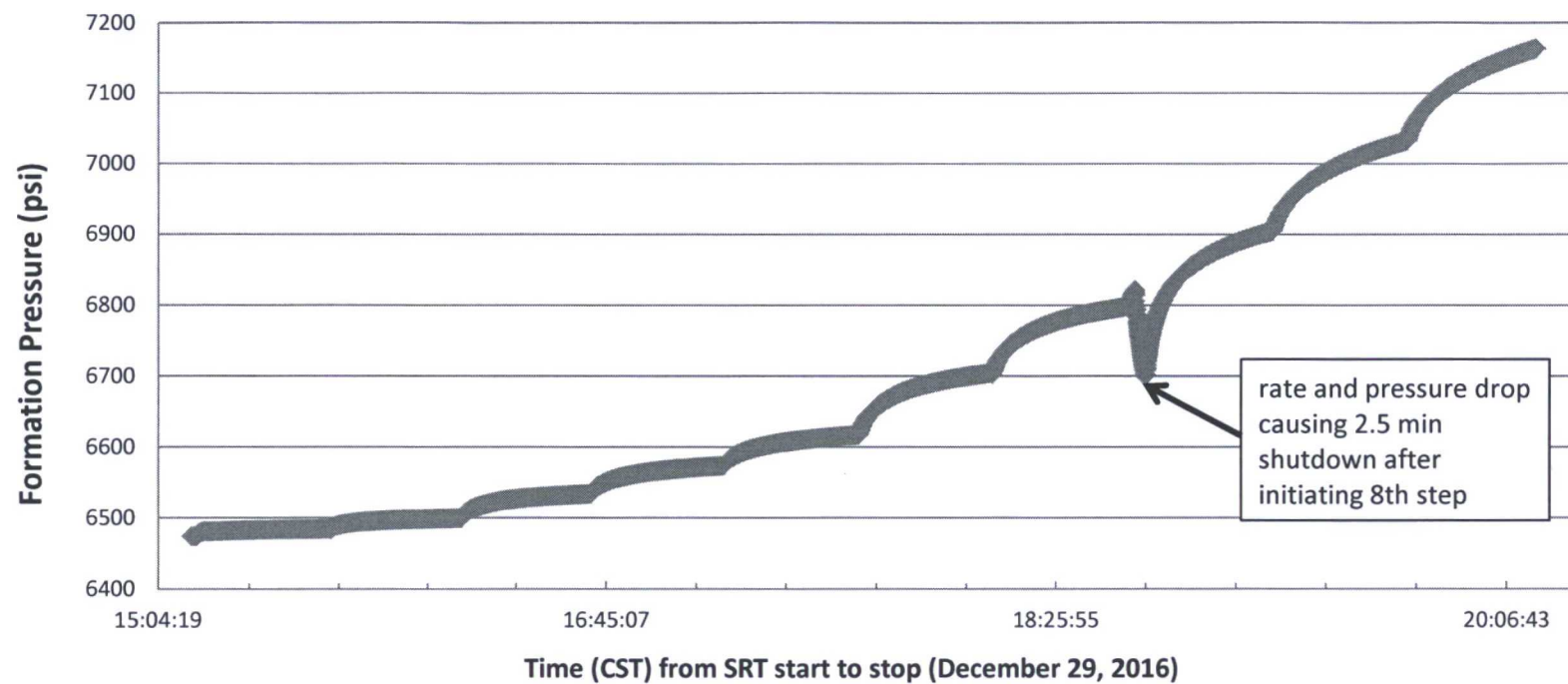


Attachment 4 Formation Pressure vs. Injection Rate Demonstrating Formation Parting Pressure Exceeds Maximum Observed Pressure of 7,164psig at the 7BPM Injection Rate

Note: No break in slope and regression coefficient of entire population exceeds 0.98

Attachment 4

Formation Pressure over Time



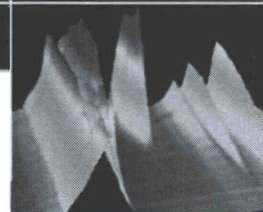
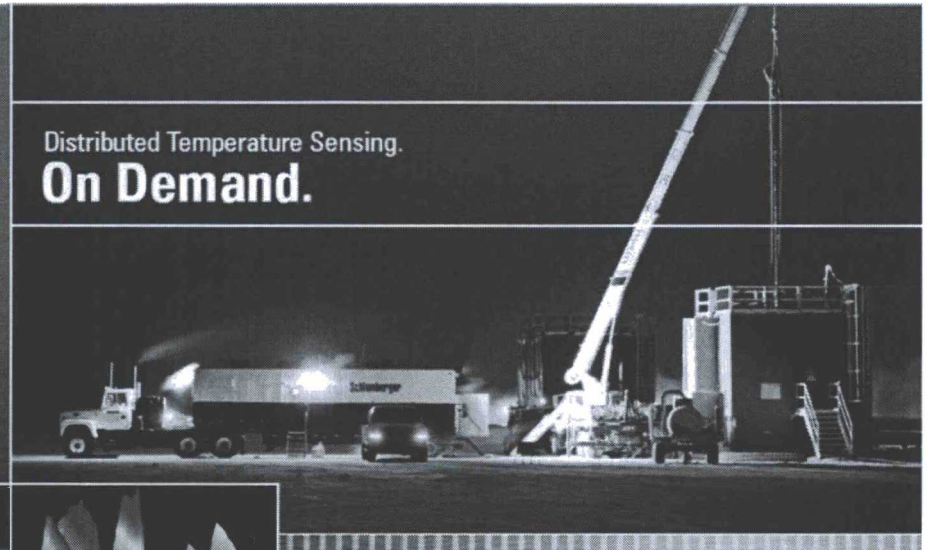
Attachment 5

Slickline Services



Concho
Well: ZIA AGI D#2 SRT

Distributed Temperature Sensing.
On Demand.

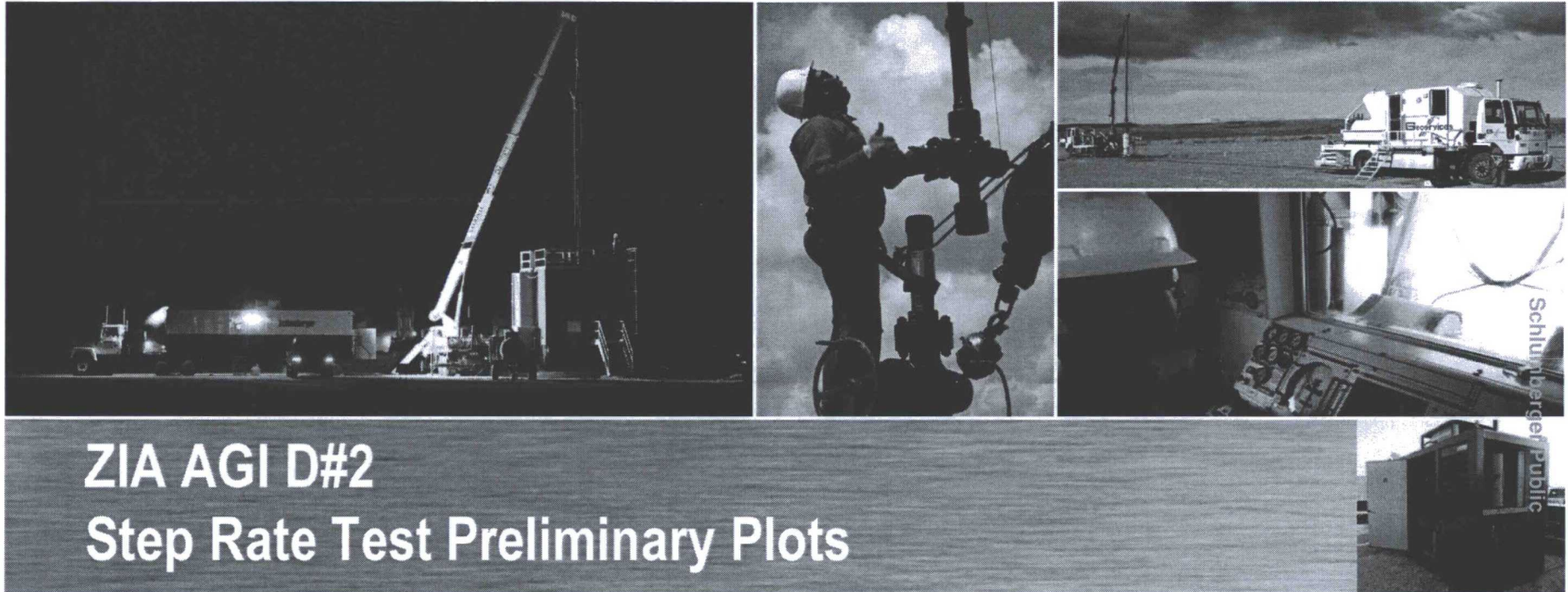


OPTICall
Thermal Profile and
Investigation Service

Yosmar Gonzalez
Reservoir Engineer

Schlumberger

Slickline Services



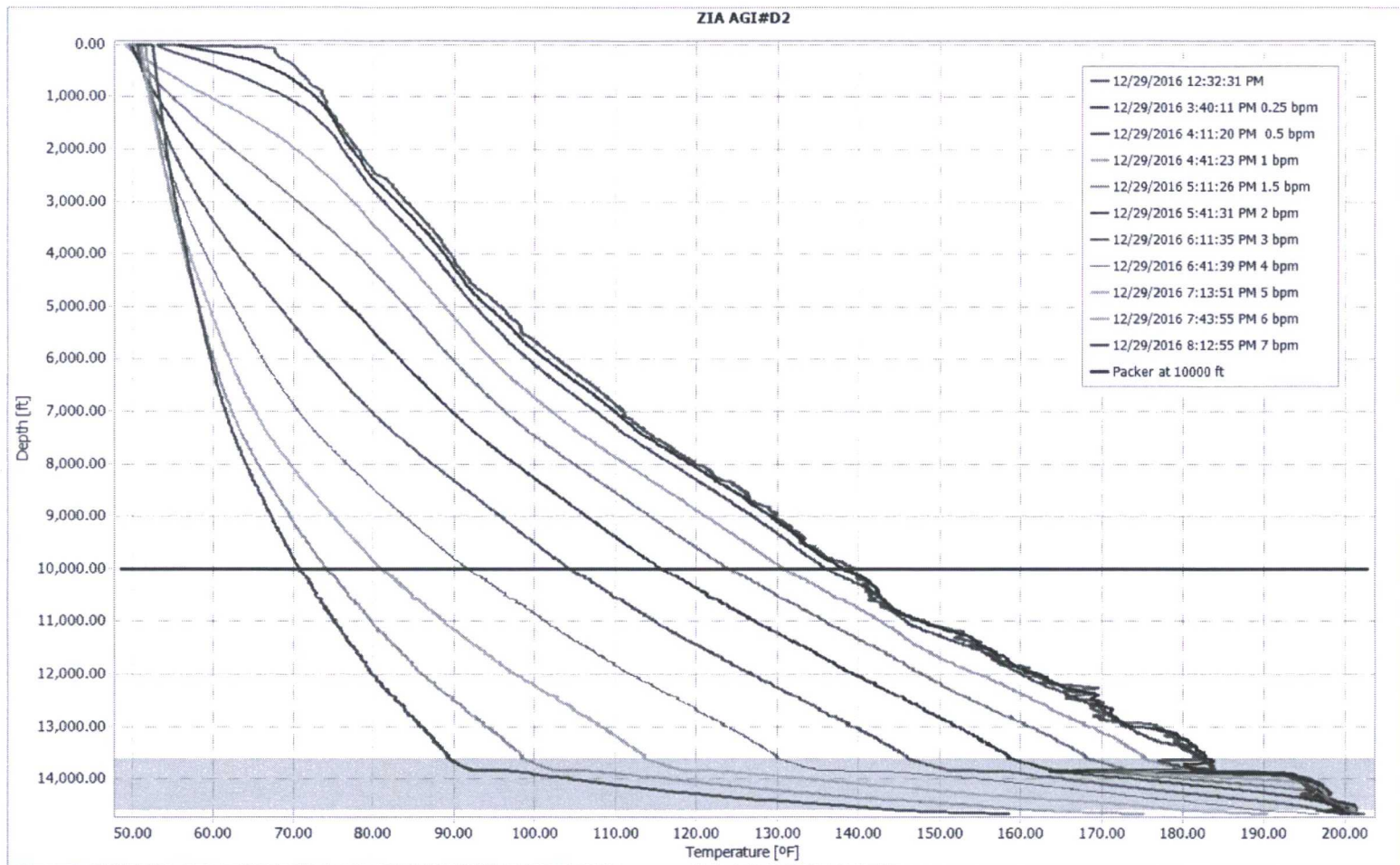
ZIA AGI D#2 Step Rate Test Preliminary Plots

All interpretations are opinions based on inferences from fiber optic or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretation, and shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretations made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule

Schlumberger

SRT- DTS Profiles

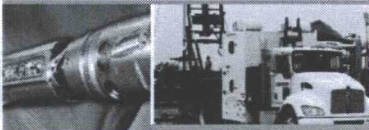
DTS Cable at 14,665 ft.



Schlumberger Public



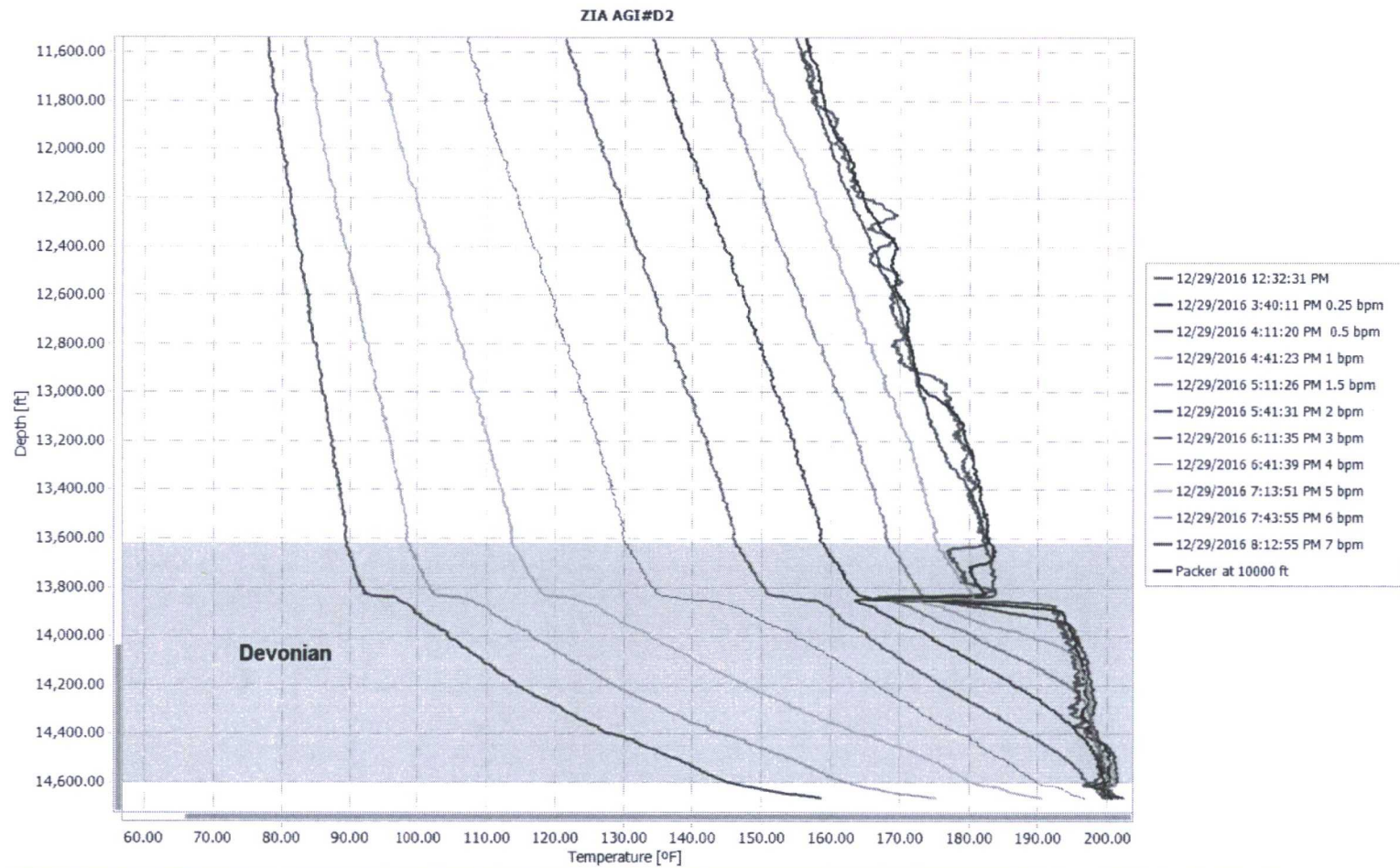
Slickline Services



Schlumberger

SRT- DTS Profiles

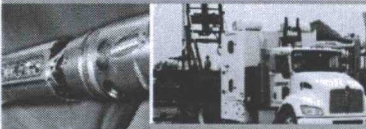
DTS Cable at 14,665 ft.



Schlumberger Public



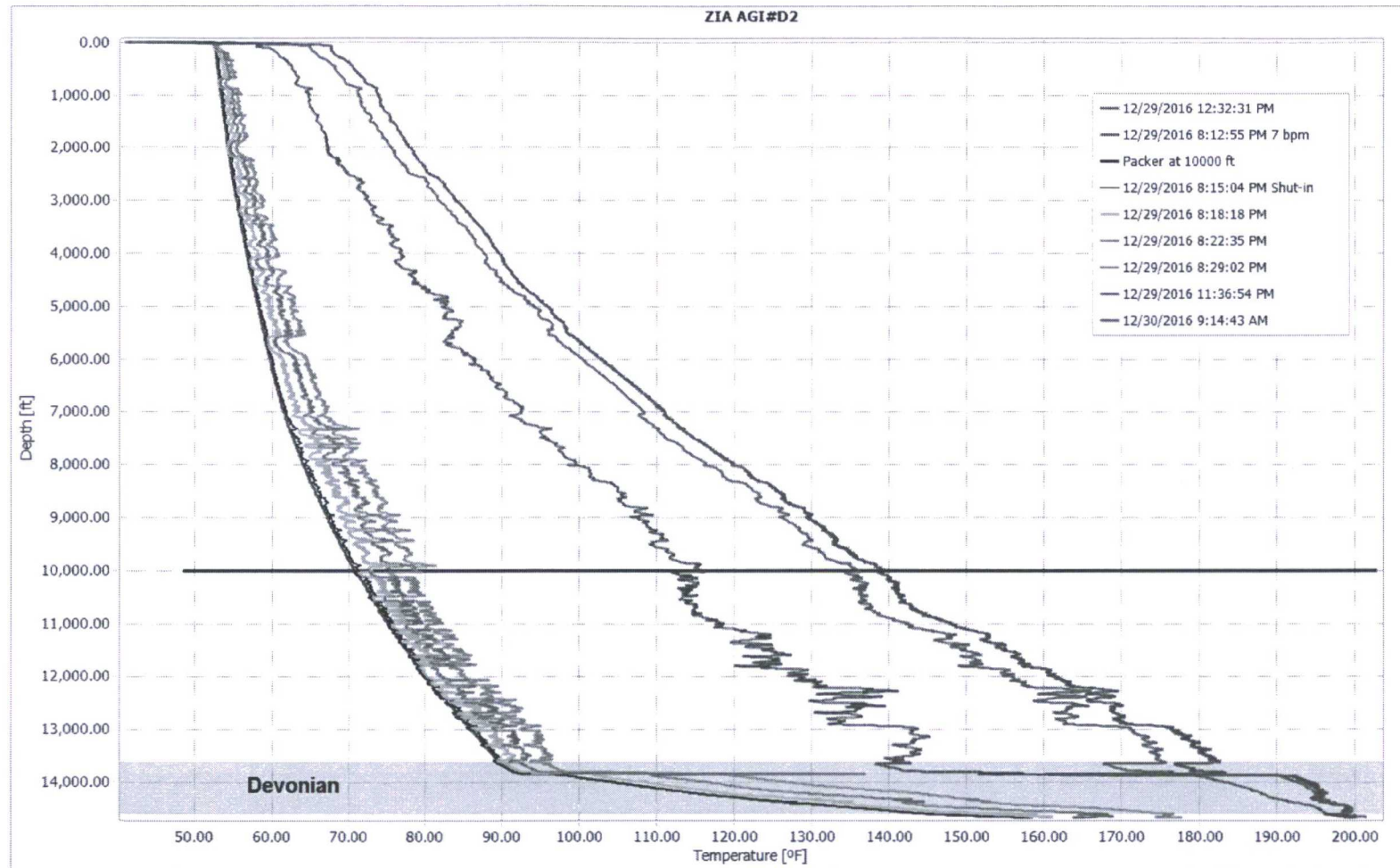
Slickline Services



Schlumberger

Post SRT- DTS profiles

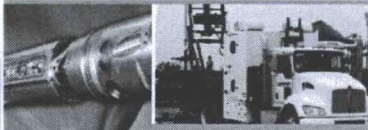
DTS Cable at 14,665 ft.



Schlumberger Public



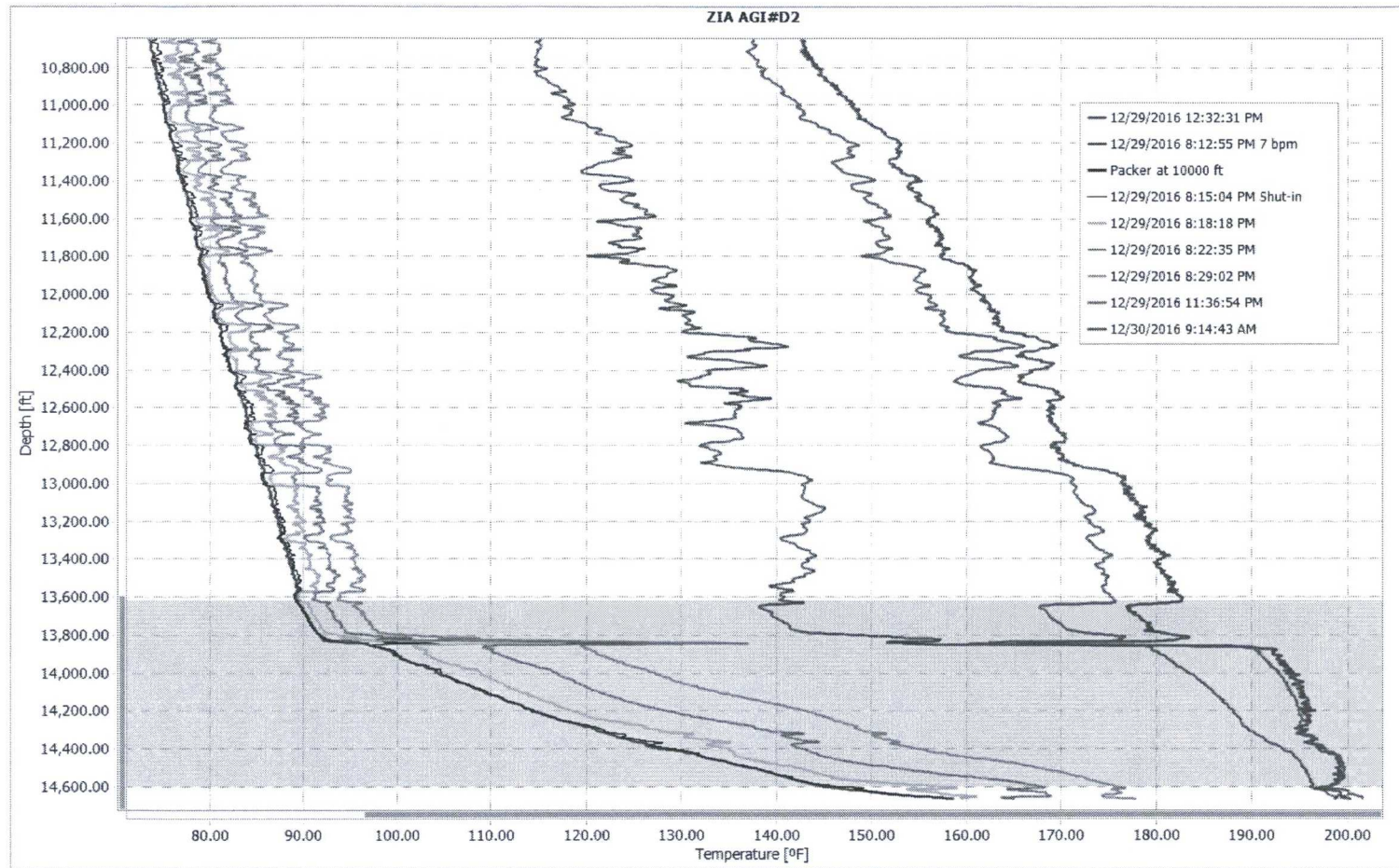
Slickline Services



Schlumberger

Post SRT- DTS profiles

DTS Cable at 14,665 ft.



Schlumberger Public



Slickline Services



Schlumberger