

3/30/2015 DATE IN	SUSPENSE	ENGINEER <i>PLG</i>	3/30/2015 LOGGED IN	<i>IPI</i> TYPE	<i>PMAM1508959736</i> APP NO.
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

- [1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]
- [A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD
- Check One Only for [B] or [C]
- [B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☒ OLM
- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☒ IPI ☐ EOR ☐ PPR
- [D] Other: Specify _____

- IPI
- Chevron USA Inc
4323

2015 MAR 30 P. 2:29
 RECEIVED OOD

- [2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply
- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B] ☐ Offset Operators, Leaseholders or Surface Owner
- [C] ☐ Application is One Which Requires Published Legal Notice
- [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached
- [3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

Well
- Central UAC 44m
Unit # 456
30-025-38638
- Central UAC 44m
Unit # 457
30-025-38639
Pool
- UAC 44m, GNA 104m
San Andres
62480

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Cindy Herrera-Murillo
 Print or Type Name

Cindy Herrera-Murillo
 Signature

Permitting Specialist
 Title

03/27/2015
 Date

Cherreramurillo@chevron.com
 e-mail Address



Cindy Herrera-Murillo
Regulatory Specialist
Midcontinent BU

**Chevron North America
Exploration and Production
Company**

1616 W. Bender Room 134
Hobbs FMT, Hobbs, NM 88240
Tel 575-263-0431
Fax 575-263-0445
cherreramurillo@chevron.com

March 27, 2015

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Water Injection Pressure Increase Request
Injection Order WFX-835
Central Vacuum Unit #456
API# 30-025-38638
UL F Sec 36 T17S R34E
1360' FNL 1980' FWL
Lea County

Central Vacuum Unit #457
API# 30-025-38639
UL G Sec 36 T17S R34E
1593' FNL 1912' FEL
Lea County

Attn: Engineering Department:

Chevron USA Inc has performed step rate tests on the Central Vacuum Unit #456 and Central Vacuum Unit #457. These wells are located in Lea County, New Mexico, Section 36, T-17S, R-34E, API#'s 30-025-38638 and API# 30-025-38639. We would like to request our maximum injection pressure limit be raised based on the data included in this letter.

Please find attached the results of the step rate tests for each well.

Any questions should be directed to Adedeji Adebare, Reservoir Engineer for Chevron at 432-687-7343.

Thank you in advance for consideration in this matter.

Sincerely,

A handwritten signature in black ink that reads "Cindy Herrera-Murillo".

Cindy Herrera-Murillo
Chevron Mid-Continent
NM Regulatory Specialist

Enclosures

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. 30-025-38638 & 30-025-38639
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name CENTRAL VACUUM UNIT
8. Well Number #456 & #457
9. OGRID Number 4323
10. Pool name or Wildcat VACUUM;GRAYBURG-SAN ANDRES

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 INJ	
2. Name of Operator CHEVRON USA INC	
3. Address of Operator 1616 W. BENDER BLVD HOBBS, NM 88240	
4. Well Location	G 1593' feet from the NORTH line and 1912' feet from the EAST line
Unit Letter	F : 1360' feet from the NORTH line and 1980' feet from the WEST line
Section	36 Township 17S Range 34E NMPM County LE
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 4003' GL	

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: <input type="checkbox"/>		OTHER: STEP RATE TEST <input checked="" type="checkbox"/>	

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.

CHEVRON USA INC REQUESTS AN INCREASE IN PRESSURE TO EXISTING WFX-835 FOR CENTRAL VACUUM UNIT #456 AND CENTRAL VACUUM UNIT #457. PLEASE FIND THE STEP RATE TESTS FOR EACH WELL LISTED ABOVE.

Spud Date:

Rig Release Date:

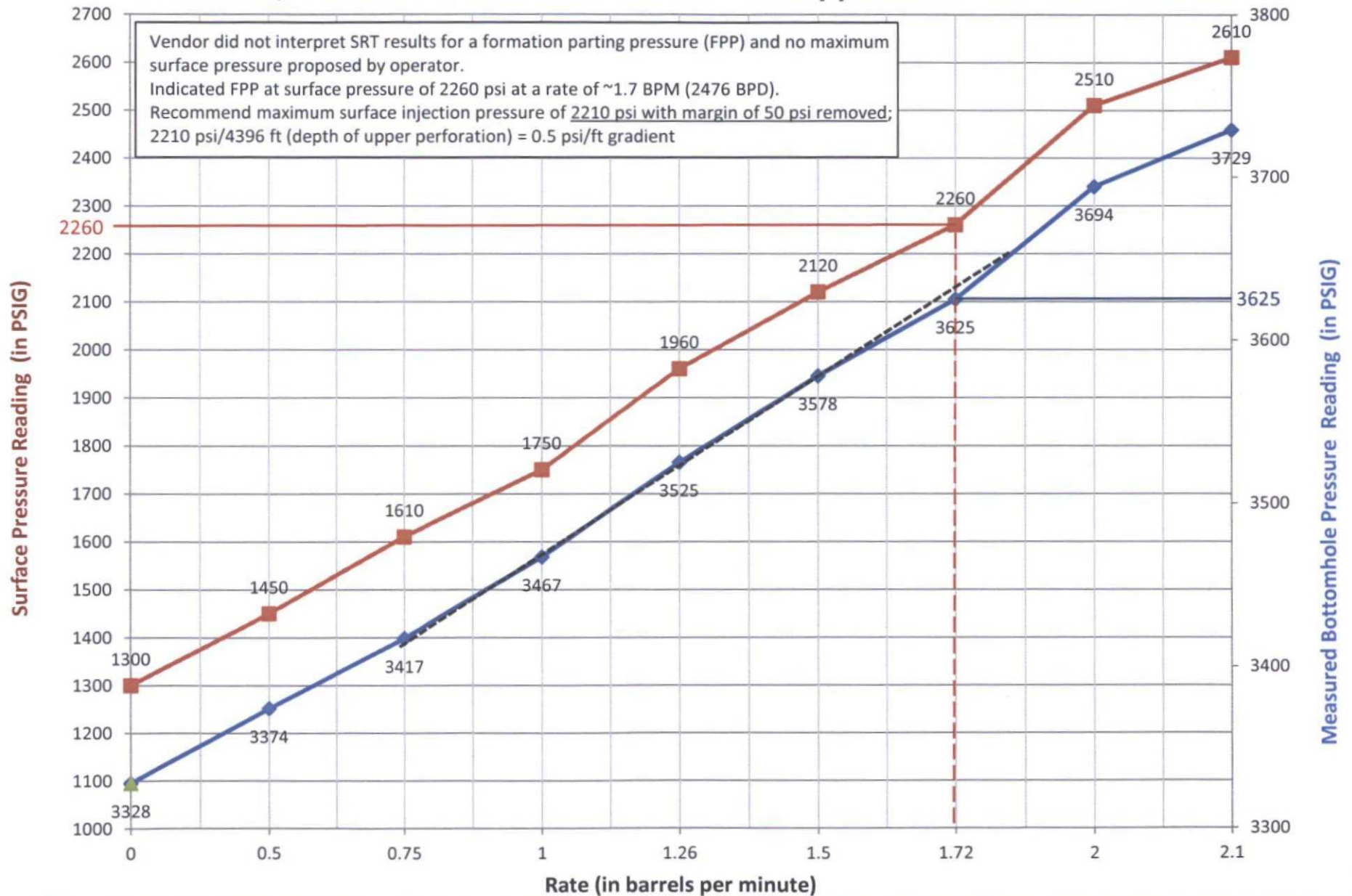
I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Cindy Herrera-Murillo TITLE PERMITTING SPECIALIST DATE 03/27/2015

Type or print name CINDY HERRERA-MURILLO E-mail address: Cherreramurillo@chevron.com PHONE: 575-263-0431
For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____
Conditions of Approval (if any): _____

WFX-835 / Central Vacuum Unit No. 457 - IPI Application - SRT 2015 Results

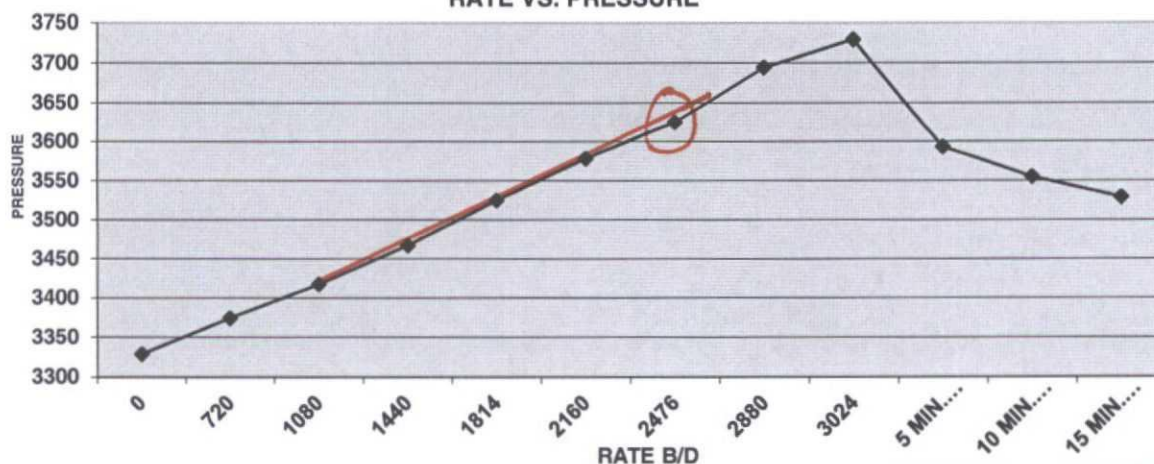


Archer

STEP RATE TEST

RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
0	3/17/2015	10:30 AM	3328	1300	
720	3/17/2015	10:45 AM	3374	1450	
1080	3/17/2015	11:00 AM	3417	1610	
1440	3/17/2015	11:15 AM	3467	1750	
1814	3/17/2015	11:30 AM	3525	1960	
2160	3/17/2015	11:45 AM	3578	2120	
2476	3/17/2015	12:00 PM	3625	2260	←
2880	3/17/2015	12:15 PM	3694	2510	
3024	3/17/2015	12:30 PM	3729	2610	
5 MIN. FALLOFF	3/17/2015	12:35 PM	3593	1700	
10 MIN. FALLOFF	3/17/2015	12:40 PM	3555	1660	
15 MIN. FALLOFF	3/17/2015	12:45 PM	3529	1625	
Company: CHEVRON USA			Recorded By: T. STANCZAK		
Well: CVU # 457			Witnessed By:		
Field: VACUUM			Truck Number: 104		
County: LEA			District: LEVELLAND		
State: NM			Tool Number:		
Injector: WATER			Test Type: STEP RATE TESTS		
Tubing Size: 2.375"					
Seat Nipple Depth: N/A					
Perforations: 4396'-4778'					
Plug Back Depth: N/A					

RATE VS. PRESSURE



CHEVRON USA

CENTRAL VACUUM UNIT # 457

March 17, 2015

JOB INFORMATION SHEET

Company Information	
Company Name:	CHEVRON USA
Address:	1500 LOUISIANA ST. HOUSTON, TX 77002
Well Information	
Well Name:	CENTRAL VACUUM UNIT # 457
Field – Pool:	VACUUM
Status:	INJECTION
Test Information	
Type of Test:	STEP RATE TEST
Gauge Depth:	4380'
Production Interval:	4396'-4778'
Production Through:	TUBING
Tubing Pressure:	2610 psi
Casing Pressure:	0 psi
Status:	INJECTION
Temperature @ Run Depth	88.74 degF
Surface Temperature:	73.51 degF
Comments	
NO FRAC WAS ACHIEVED.	

ARCHER WIRELINE

CHEVRON USA

WELL INFORMATION SHEET

Well:	CENTRAL VACUUM UNIT # 457	Unique Well Identifier:	30-025-38639
Well License:			
Company:	CHEVRON USA		
Field:	VACUUM		

Location:	County:	LEA
Formation:	State:	NM
Purpose:	Country:	USA

Total Depth:	4380'	ID Borehole:	N/A
Packer Depth:	4344'	ID Production Casing:	5"
Depth of whipstock:	N/A	OD Production Tubing:	2.375"
Depth at which casing is landed:	5026'	ID Production Tubing:	2"
Depth at which tubing is landed:	4344'	ID Drill Pipe:	N/A

ARCHER WIRELINE

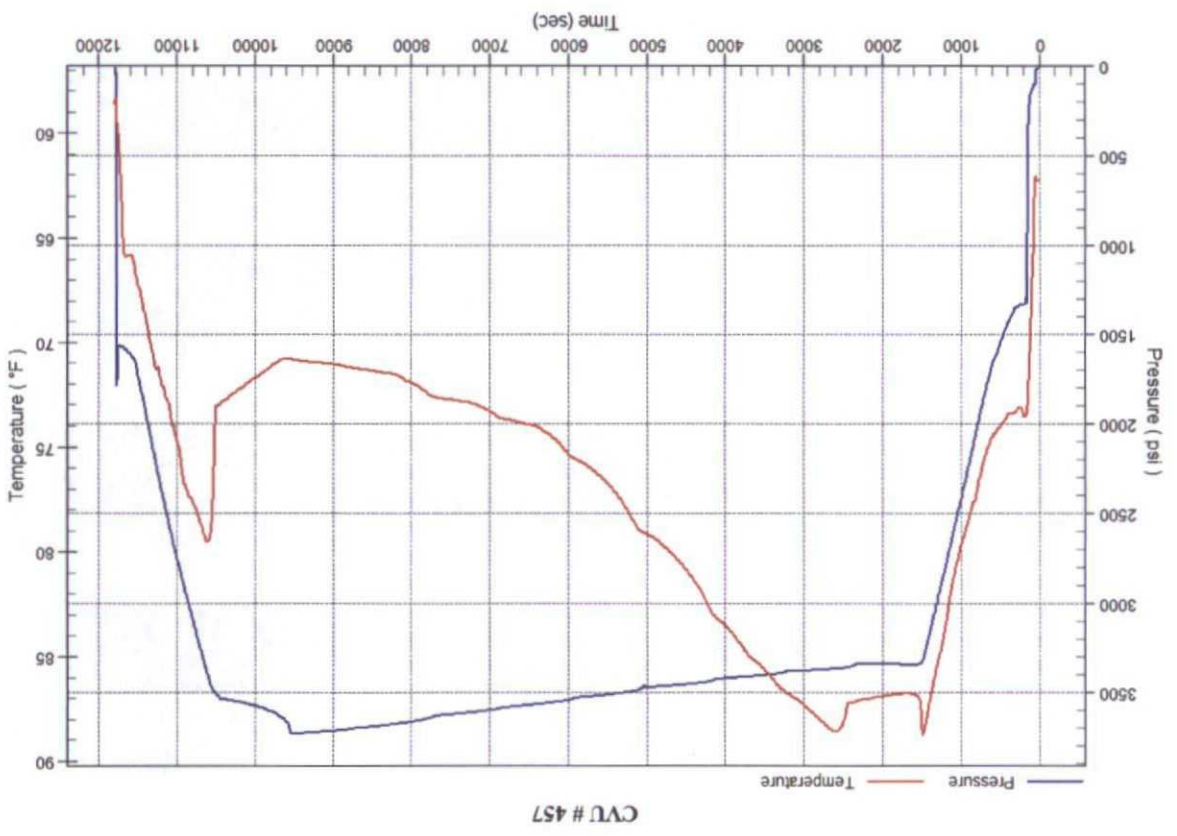
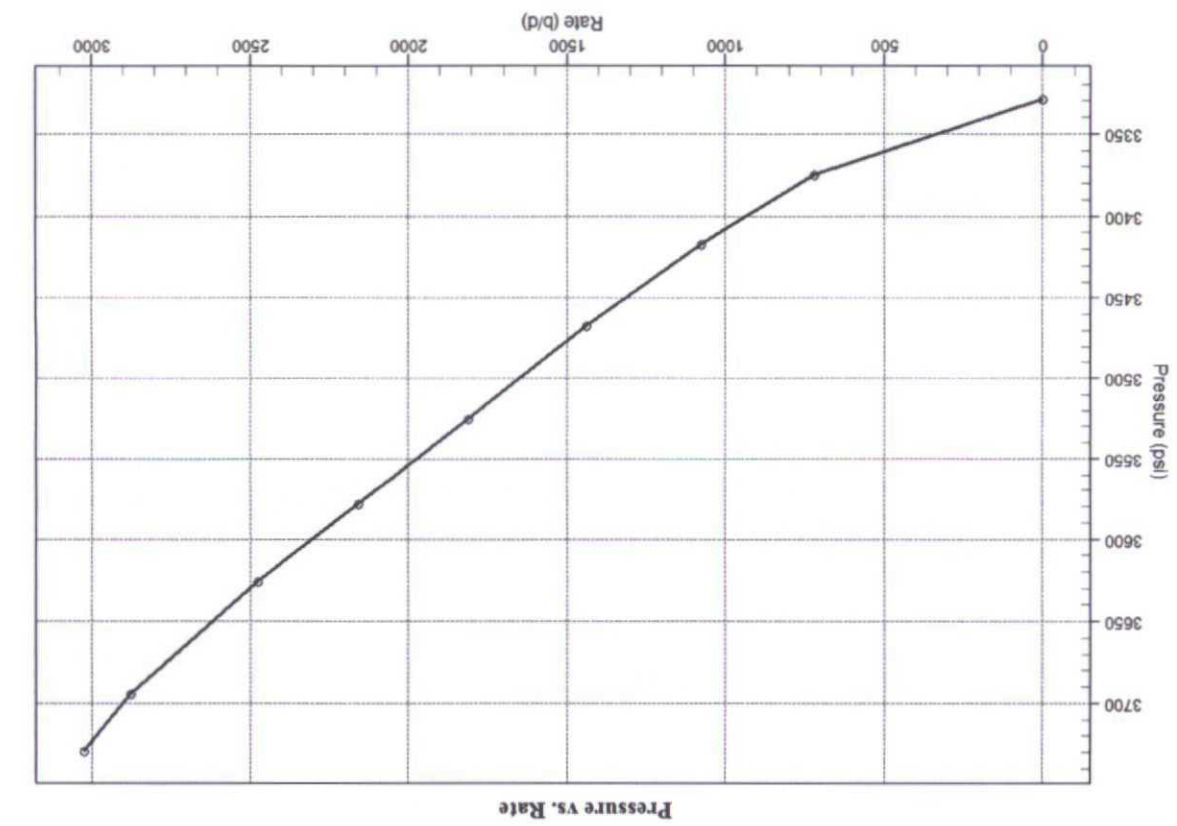
Gradient Data Report

CHEVRON USA
CENTRAL VACUUM UNIT # 457

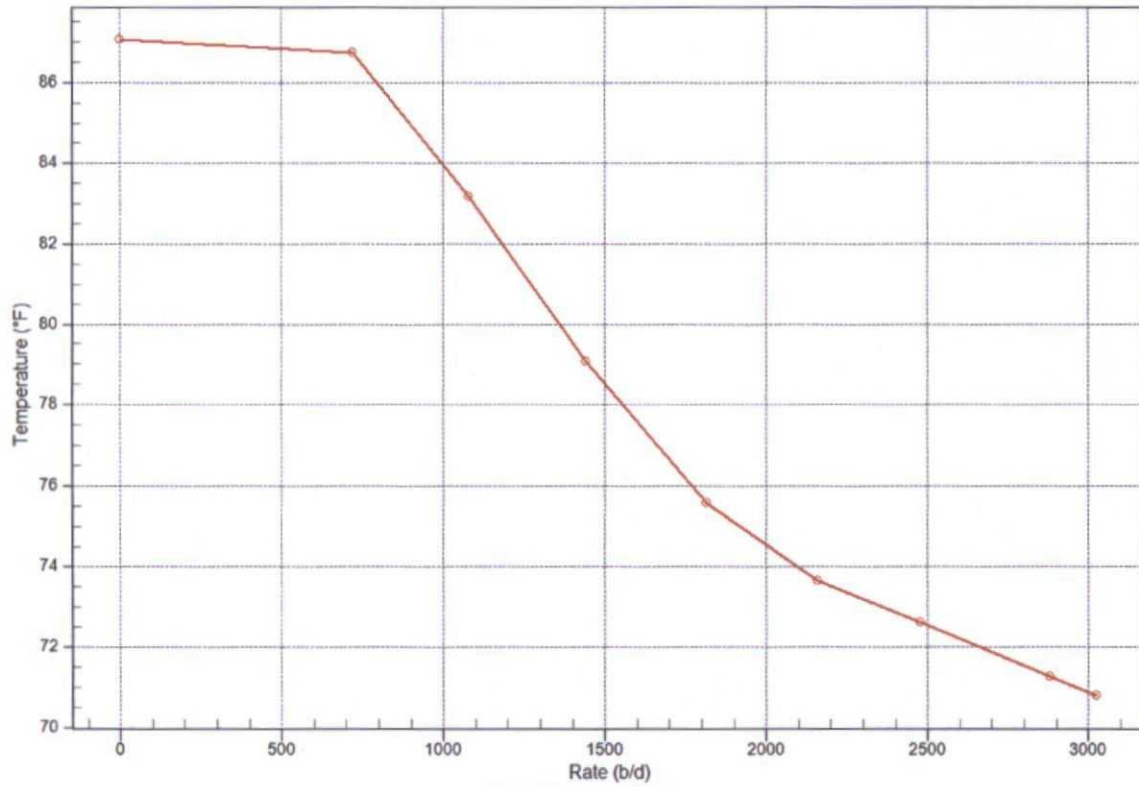
Gradient Data Table

Rate b/d	Pressure psi	Temperature degF	Gradient psi/rate
0.00	3328.93	87.06	0.0000
720.00	3374.42	86.74	0.0632
1080.00	3417.30	83.19	0.1191
1440.00	3467.27	79.06	0.1388
1814.00	3525.55	75.58	0.1558
2160.00	3578.31	73.65	0.1525
2476.00	3625.74	72.62	0.1501
2880.00	3694.50	71.25	0.1702
3024.00	3729.16	70.79	0.2407

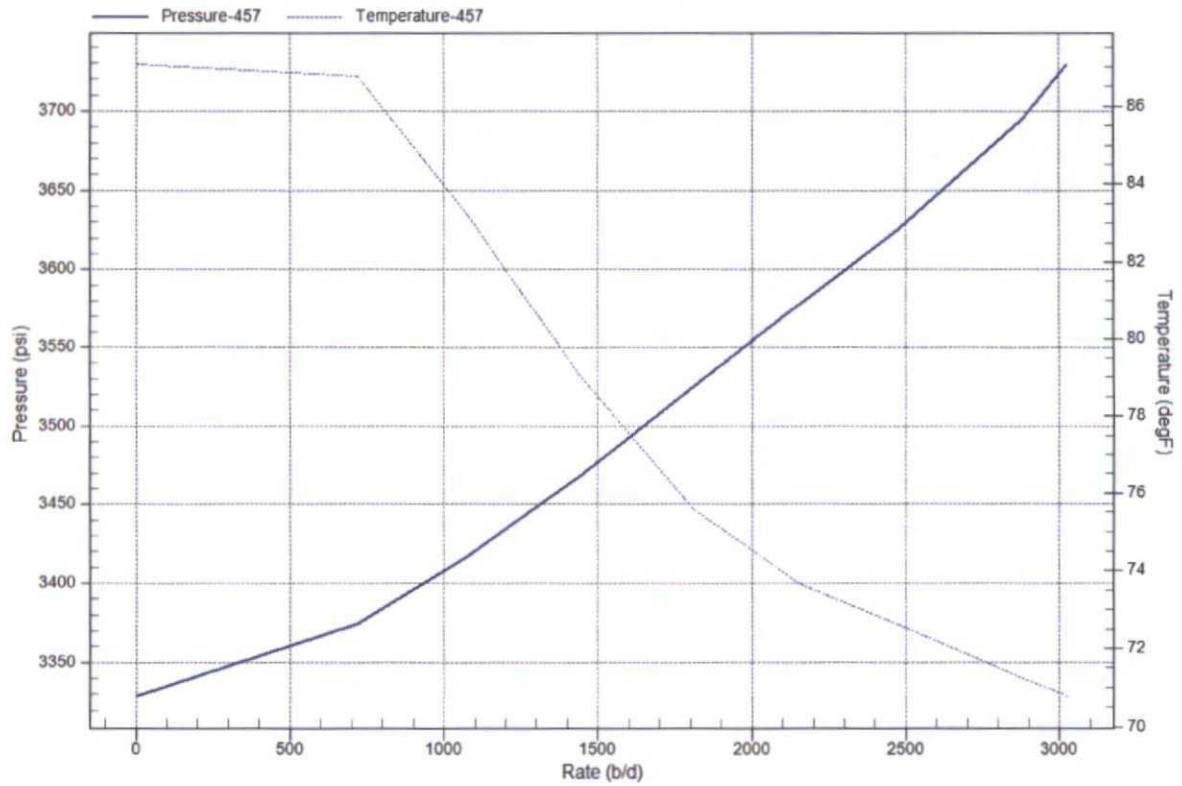
ARCHER WIRELINE



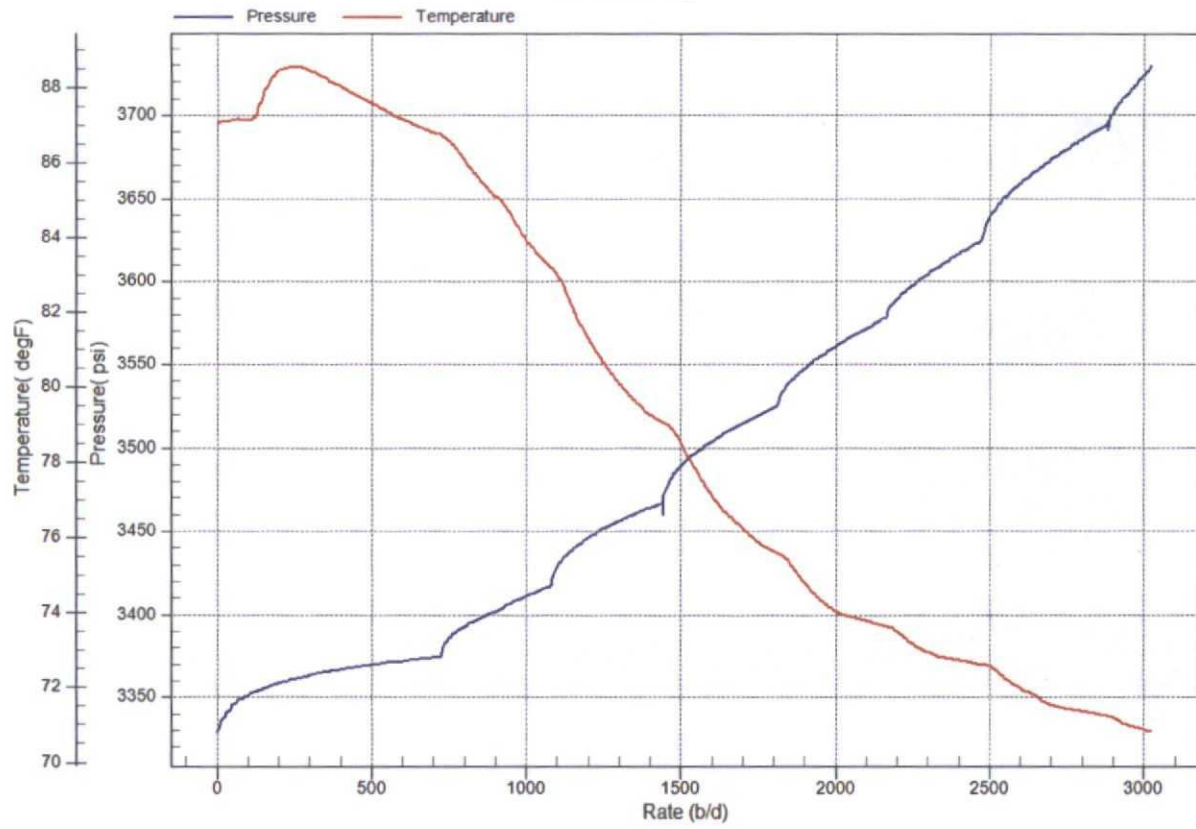
Temperature vs. Rate



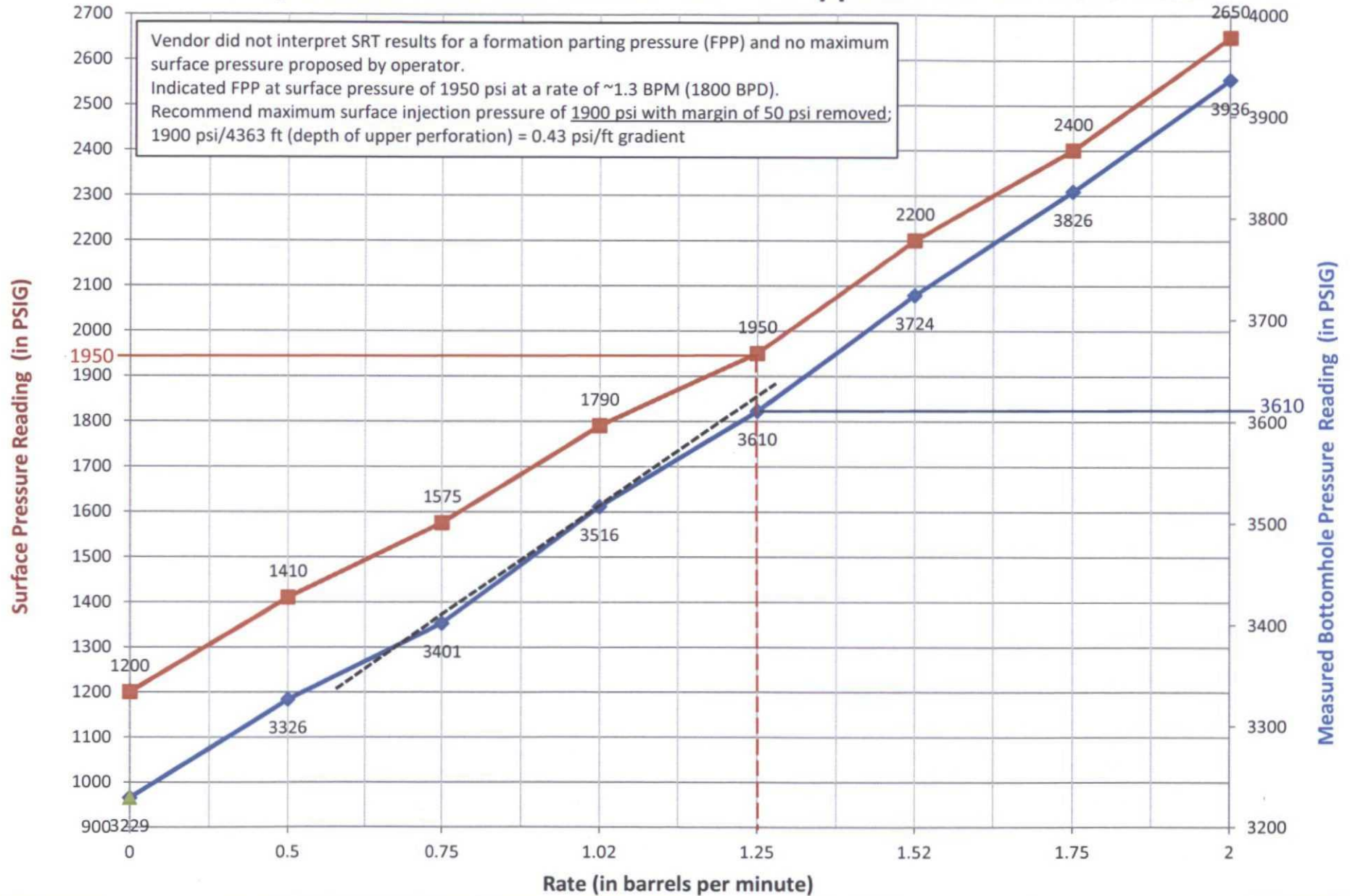
Pres/Temp vs Rate



Pressure Log



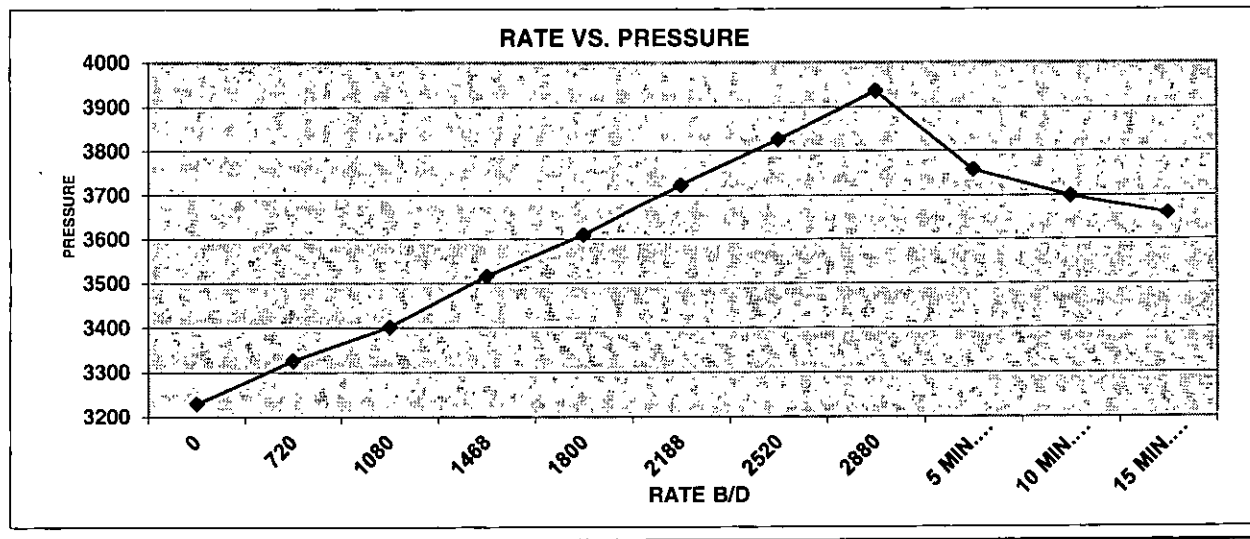
WFX-835 / Central Vacuum Unit No. 456 - IPI Application - SRT 2015 Results



Archer

STEP RATE TEST

RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
0	3/17/2015	2:35 PM	3229	1200	
720	3/17/2015	2:50 PM	3326	1410	
1080	3/17/2015	3:05 PM	3401	1575	
1468	3/17/2015	3:20 PM	3516	1790	
1800	3/17/2015	3:35 PM	3610	1950	
2188	3/17/2015	3:50 PM	3724	2200	
2520	3/17/2015	4:05 PM	3826	2400	
2880	3/17/2015	4:20 PM	3936	2650	
5 MIN. FALLOFF	3/17/2015	4:25 PM	3757	1850	
10 MIN. FALLOFF	3/17/2015	4:30 PM	3699	1775	
15 MIN. FALLOFF	3/17/2015	4:35 PM	3660	1750	
Company: CHEVRON USA			Recorded By: T. STANCZAK		
Well: CVU # 456			Witnessed By:		
Field: VACUUM			Truck Number: 104		
County: LEA			District: LEVELLAND		
State: NM			Tool Number:		
Injector: WATER			Test Type: STEP RATE TESTS		
Tubing Size: 2.375"					
Seat Nipple Depth: N/A					
Perforations: 4363'-4782'					
Plug Back Depth: N/A					



CHEVRON USA

CENTRAL VACUUM UNIT # 456

March 17, 2015

JOB INFORMATION SHEET

Company Information	
Company Name:	CHEVRON USA
Address:	1500 LOUISIANA ST. HOUSTON, TX 77002
Well Information	
Well Name:	CENTRAL VACUUM UNIT # 456
Field – Pool:	VACUUM
Status:	INJECTION
Test Information	
Type of Test:	STEP RATE TEST
Gauge Depth:	4350'
Production Interval:	4363'-4782'
Production Through:	TUBING
Tubing Pressure:	2650 psi
Casing Pressure:	0 psi
Status:	INJECTION
Temperature @ Run Depth	94.02 degF
Surface Temperature:	61.05 degF
Comments	
NO FRAC WAS ACHIEVED	

ARCHER WIRELINE

CHEVRON USA

WELL INFORMATION SHEET

Well:	CENTRAL VACUUM UNIT # 456	Unique Well Identifier:	30-025-38638
Well License:			
Company:	CHEVRON USA		
Field:	VACUUM		

Location:	County:	LEA
Formation:	State:	NM
Purpose:	Country:	USA

Total Depth:	4350'	ID Borehole:	N/A
Packer Depth:	4292'	ID Production Casing:	5"
Depth of whipstock:	N/A	OD Production Tubing:	2.375"
Depth at which casing is landed:	5010'	ID Production Tubing:	2"
Depth at which tubing is landed:	4292'	ID Drill Pipe:	N/A

ARCHER WIRELINE

Gradient Data Report

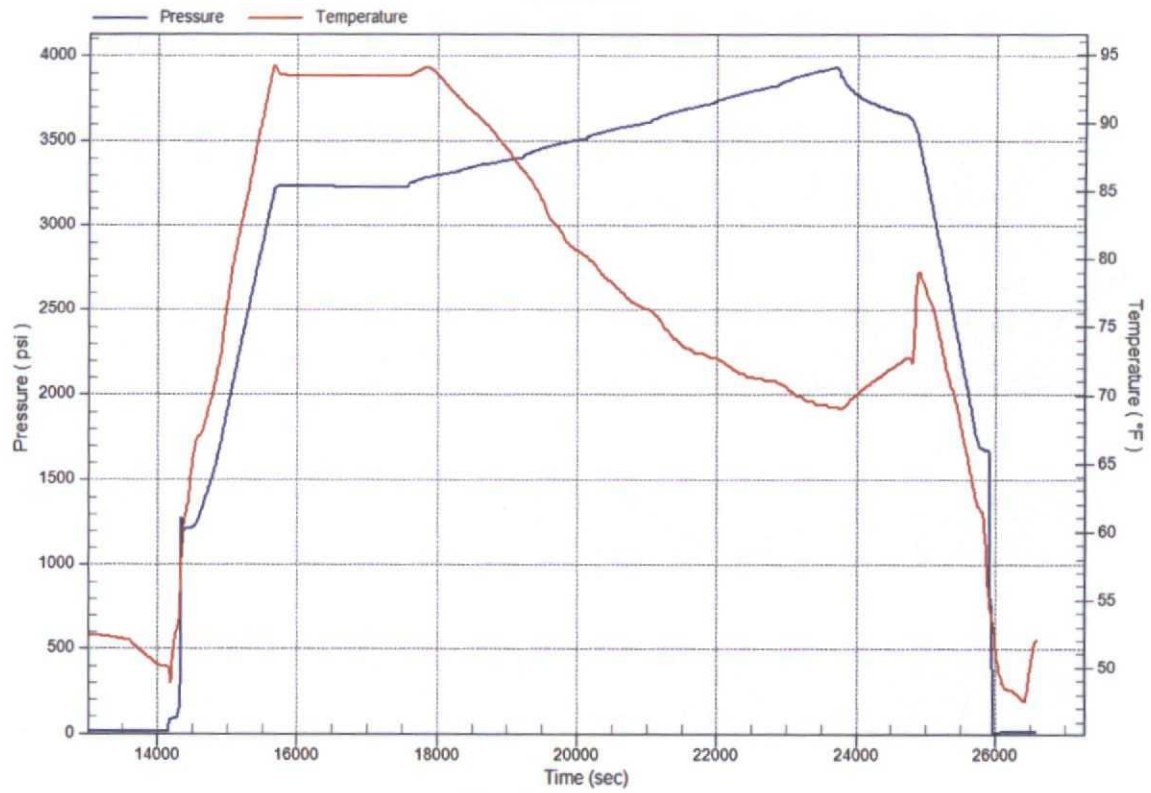
CHEVRON USA
CENTRAL VACUUM UNIT # 456

Gradient Data Table

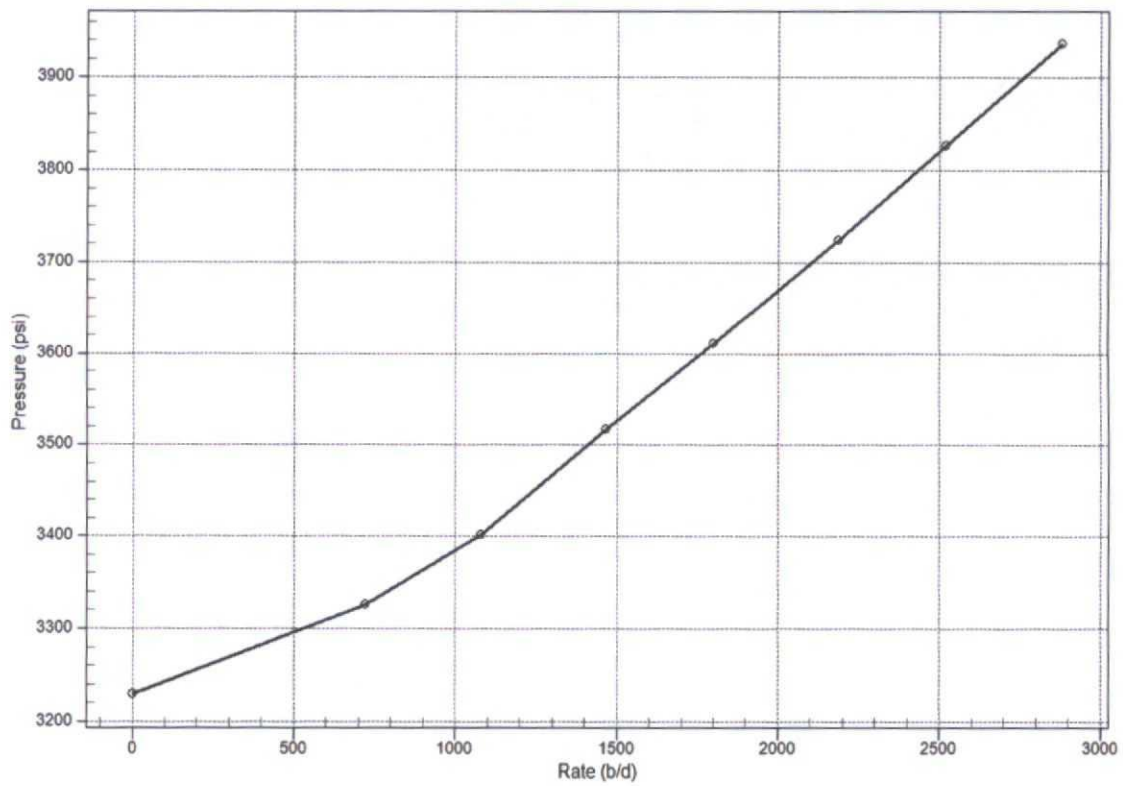
Rate b/d	Pressure psi	Temperature degF	Gradient psi/rate
0.00	3229.32	93.44	0.0000
720.00	3326.24	91.69	0.1346
1080.00	3401.16	86.69	0.2081
1468.00	3516.90	80.19	0.2983
1800.00	3610.94	76.26	0.2833
2188.00	3724.70	72.68	0.2932
2520.00	3826.58	70.94	0.3069
2880.00	3936.44	69.11	0.3052

ARCHER WIRELINE

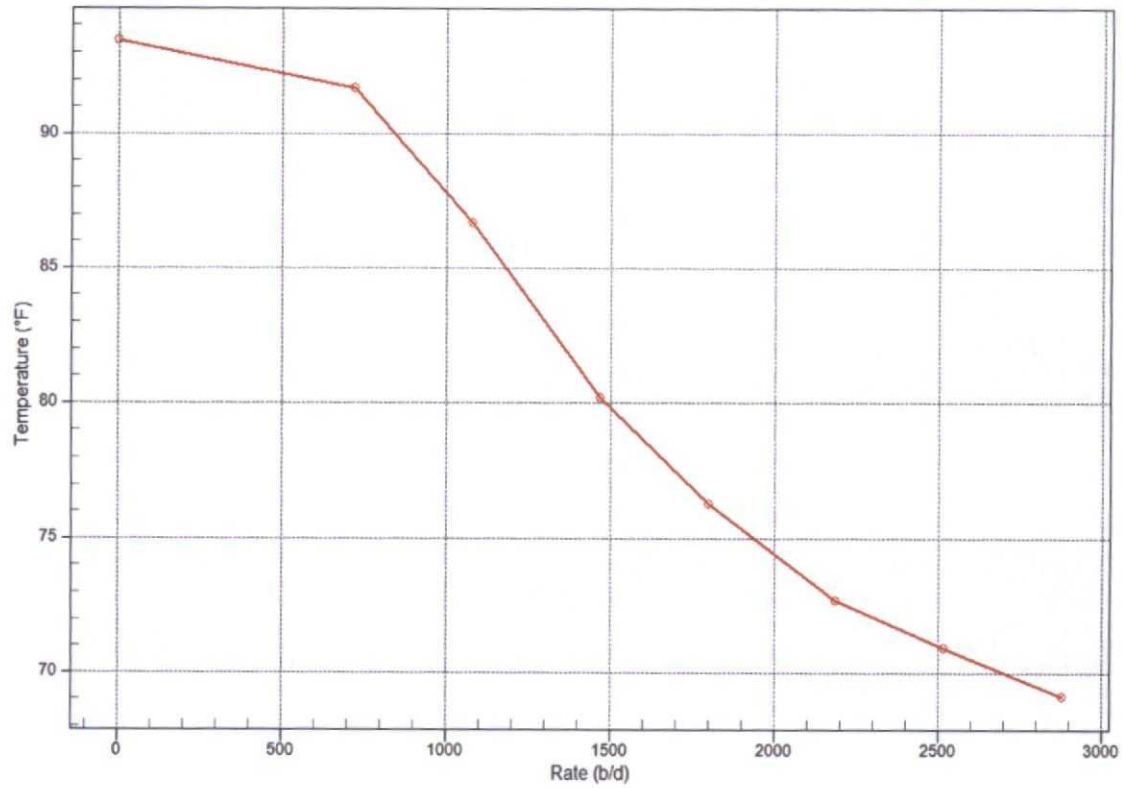
CVU # 456



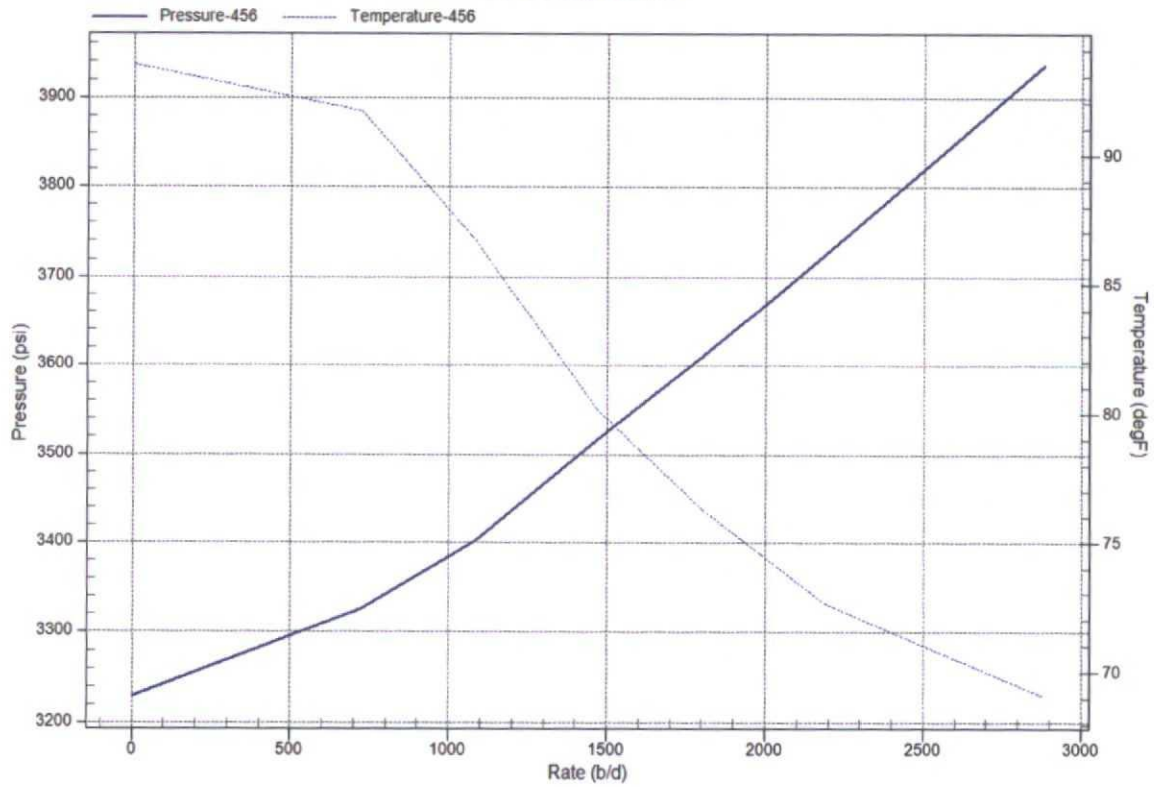
Pressure vs. Rate



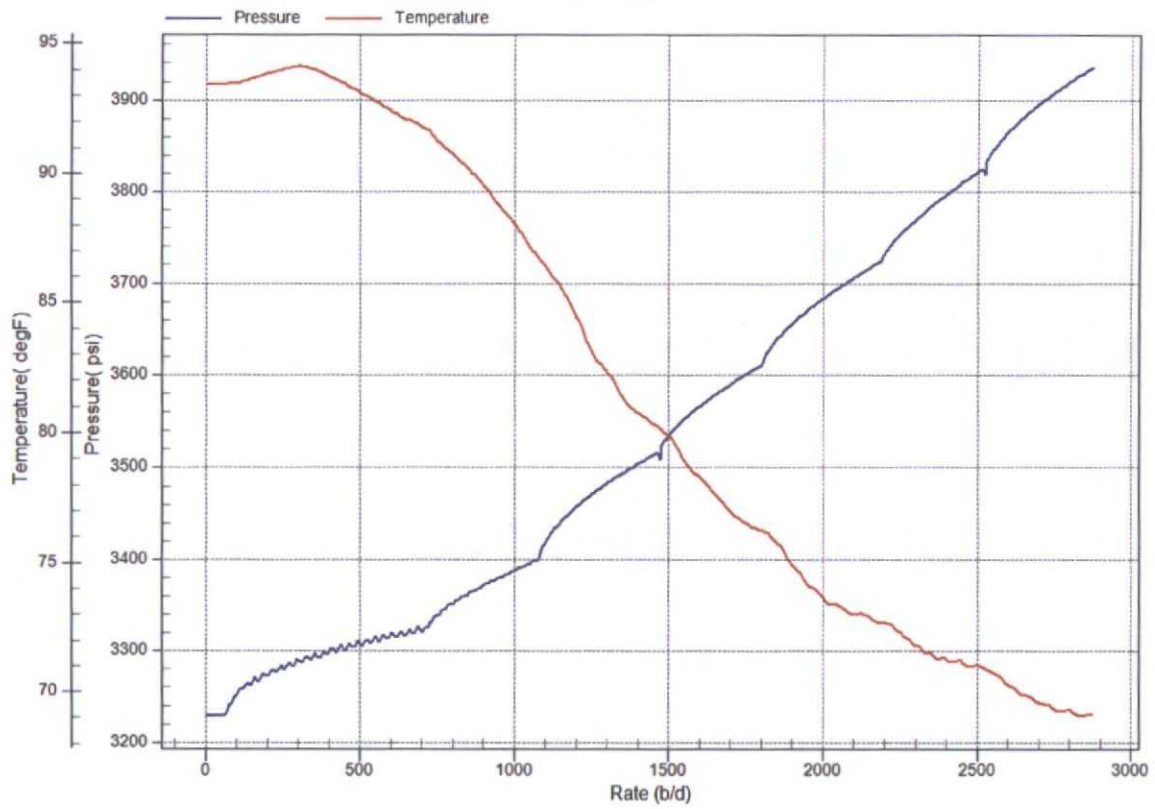
Temperature vs. Rate



Pres/Temp vs Rate



Pressure Log



Goetze, Phillip, EMNRD

From: Adebare, Adedeji Adebola <Deji.Adebare@chevron.com>
Sent: Tuesday, May 05, 2015 12:28 PM
To: Goetze, Phillip, EMNRD
Subject: RE: IPI Application for Central Vacuum Wells
Attachments: cvu456.xls; CVU456.pdf; CVU457.pdf; cvu457.xls

Phillip,

As per our discussion this morning, attached are requested data on surface pressures for the SRTs, see attached spreadsheet.

Thanks

Adedeji A. Adebare
Reservoir Engineer
Mid-Continent Business Unit, CNAEP
Office 432-687-7343
Cell 661-717-6931
Fax 432-687-7871
Deji.Adebare@chevron.com

Adedeji Adebare

From: Adebare, Adedeji Adebola
Sent: Monday, April 20, 2015 4:07 PM
To: 'Phillip.Goetze@state.nm.us'
Subject: RE: IPI Application for Central Vacuum Wells

Phillip,

Please see below for requested information. Let me know if you have any question.

You inquired about the status of this application. I have conducted a cursory review of the application and the associated step-rate tests. There are some shortages with the information provided:

1. The SRTs only provide bottom hole pressure measurements, but no corresponding surface readings were included. As a result, I will be required either to derive calculated surface pressures or use a non-D'Arcy inject rate plot of the supplied data to assess the "no frac was observed" statement provided by the vendor. Also, the orders are issued based on a maximum surface injection pressure. This is critical since both wells have been in violation (what is categorized as a Level I violation under the SWDA) for exceeding their maximum surface pressure. The bottom hole pressures being suggested for approval are close to the formation parting pressures for other wells within the Central Vacuum Unit. This may be addressed by either providing this data, or your application will have to wait until I have time to do calculations..... The parting formation pressure for other wells within CVU is about 3800 psi bottom hole and 2100 psi surface, see attachment for recent SRTs for CVU 107 and CVU 108
2. No shut-in time was provided – when was the well suspended from operation prior to initiating the ?.....CVU 456 was shut in 2/16/2015 and CVU 457 was shut in on 3/15/2015, both tests were done on 3/17/2015

3. Density of fluid used for the SRT (fresh water, produced water?).....Produced water was utilized, density is 1.08 gram/cm³
4. Current well diagram – are the respective ones in the OCD well files current?.....Also see attachments for current WBD

Adedeji A. Adebare

Reservoir Engineer

Mid-Continent Business Unit, CNAEP

Office 432-687-7343

Cell 661-717-6931

Fax 432-687-7871

Deji.Adebare@chevron.com

From: Herrera-Murillo, Cindy O

Sent: Monday, April 20, 2015 7:12 AM

To: Adebare, Adedeji Adebola

Subject: FW: IPI Application for Central Vacuum Wells

Good Morning, Please see email below from NMOCD regarding the application for CVU#456 & CVU #457. Can you provide the information Phillip is requesting or can you give him a call to discuss. Please call if you have any questions. Thanks,



Cindy Herrera-Murillo

Permitting Specialist SE New Mexico

1616 W. Bender Blvd

Hobbs, NM 88240

575-263-0400 ext 30431

Cherreramurillo@chevron.com

From: Goetze, Phillip, EMNRD [<mailto:Phillip.Goetze@state.nm.us>]

Sent: Friday, April 17, 2015 12:21 PM

To: Herrera-Murillo, Cindy O

Cc: Jones, William V, EMNRD; McMillan, Michael, EMNRD; Sonnamaker, William, EMNRD; Dickey, Sylvia, EMNRD

Subject: IPI Application for Central Vacuum Wells

RE: Application pMAM1508959736; IPI for Central Vacuum Unit No. 456 (30-025-38638) and Central Vacuum Unit No. 457 (30-025-38639)

Cindy:

You inquired about the status of this application. I have conducted a cursory review of the application and the associated step-rate tests. There are some shortages with the information provided:

1. The SRTs only provide bottom hole pressure measurements, but no corresponding surface readings were included. As a result, I will be required either to derive calculated surface pressures or use a non-D'Arcy inject rate plot of the supplied data to assess the "no frac was observed" statement provided by the vendor. Also, the

orders are issued based on a maximum surface injection pressure. This is critical since both wells have been in violation (what is categorized as a Level I violation under the SWDA) for exceeding their maximum surface pressure. The bottom hole pressures being suggested for approval are close to the formation parting pressures for other wells within the Central Vacuum Unit. This may be addressed by either providing this data, or your application will have to wait until I have time to do calculations.

2. No shut-in time was provided – when was the well suspended from operation prior to initiating the ?
3. Density of fluid used for the SRT (fresh water, produced water?)
4. Current well diagram – are the respective ones in the OCD well files current?

Please see what can be done about providing this information. Call/e-mail with any questions. PRG

Phillip R. Goetze, P.G.

Engineering and Geological Services Bureau, Oil Conservation Division

1220 South St. Francis Drive, Santa Fe, NM 87505

O: 505.476.3466 F: 505.476.3462

phillip.goetze@state.nm.us