

DATE IN 2/24/2016	SUSPENSE	ENGINEER PRG	LOGGED IN 2/24/2016	TYPE IPI	APP NO. PMAM/605554520
----------------------	----------	-----------------	------------------------	-------------	---------------------------

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-406-B

BASIC ENERGY SERVICES LP
246368

[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

Well
- Belco #2
30-015-25433
Pool
- SLD's Delaware
96100

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[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.

David H. Alvarado

SENM Fluid District Mgr. 02-22-16

Print or Type Name

Signature

Title

Date

david.alvarado@basicenergyservices.com

e-mail Address

Basic Energy Services L.P.

801 Cherry Street

Ft Worth, TX 76102

January 22, 2016

New Mexico Oil Conservation Division

Engineering Bureau

1220 South St. Frances Dr.

Santa Fe, New Mexico 87505

Attn: Terry G. Warnell EMNRD

Re: **Request for Increase in Maximum Allowable Surface Injection Pressure**

Belco St. # 2

2310 FNL 1980 FWL

Unit Letter "F", Section 20, T23S, R28E

Basic Energy Services L.P. respectfully requests approval to increase the Maximum allowable surface injection pressure on its Belco St. # 2 SWD well.

Attached please find the following:

- 1) Step-rate test analysis
- 2) Current water disposal permit SWD-1292, IPI-406-A
- 3) Log section covering the injection interval
- 4) Current Wellbore schematic
- 5) Form C-103 request for increase in allowable surface injection pressure

As shown with the attached analysis, it has been determined that the fracture extension pressure at surface is 1,230 PSI.

Applying a safety factor of 20 psi, Basic Energy Services L.P. respectfully request approval to increase the maximum allowable surface injection pressure to 1,210 PSI from the current maximum allowable pressure of 1,056 PSI.

Thank you,



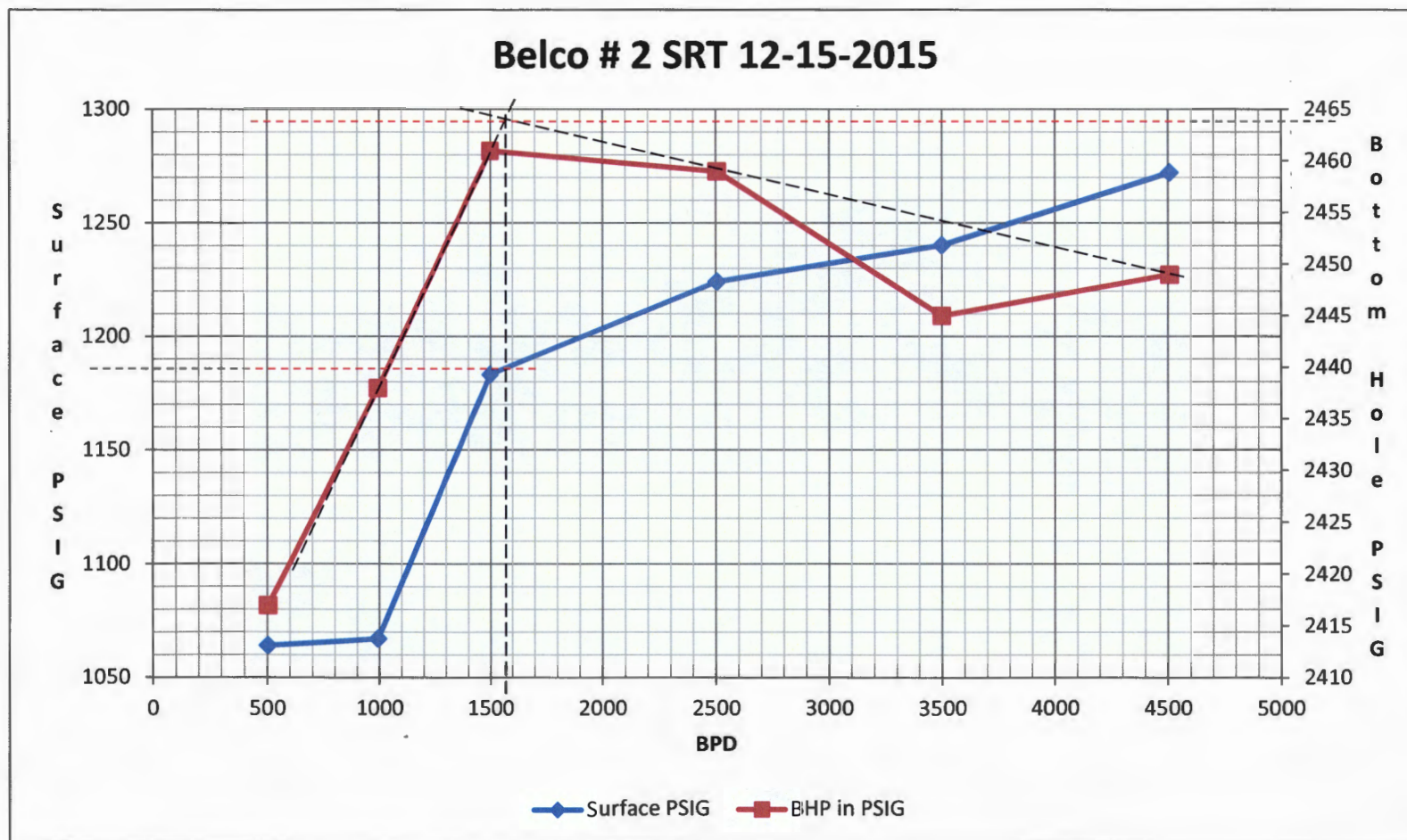
David H. Alvarado

Basic Energy Services L.P.

SENM District Fluids Manager

Rate BPD	Surface PSIG	BHP in PSIG
504	1064	2417
994	1067	2438
1498	1183	2461
2506	1224	2459
3499	1240	2445
4507	1272	2449

Tool set @ 3110'
 Perforations 2540'-3680'
 Surface PSIG @ 877# Temp Surface @ 48.5 deg F
 BTM. Hole PSIG @ 2416# BTM Hole Temp. @ 92 deg. F
 Formation Parting Pressure 1185 psi (.47 psi/ft)
 1185psi - 50 psi = 1135 psi (.45 psi/ft)





Belco State #2
December 15, 2015

JOB INFORMATION SHEET

Company Information		
Company Name:	Basic Energy Services	
Well Information		
Well Name:	Belco State #2	
Location:	Loving, NM	
Field – Pool:	Belco State	
Status:	Disposal	
Test Information		
Type of Test:	Step Rate Test	
Gauge Depth:	3870ft	
Production Interval:	2540-2620, 2696-2780, 2840-2900, 2970-3020, 3056-3070, 3135-3145, 3354-3364, 3380-3430, 3595-3680	
Tubing Pressure:	877 psi	
Status:	Disposal	
Temperature @ Run Depth	92.11 degF	
Surface Temperature:	48.5 degF	
Gauge Information		
	Top Recorder	Bottom Recorder
Serial Number:	79695	
Calibration Date:	10/1/15	
Pressure Range:	10000 psi	
Comments		

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Tony Delfin
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



Administrative Order IPI-406-A

January 27, 2016

Administrative Application Reference No. pTGW1123748737

Administrative Application Reference No. pWVJ1530032978

Administrative Application Reference No. pPRG1602733983

Mr. David Alvarado
SENM District Fluids Manager
Basic Energy Services, LP
801 Cherry Street
Ft. Worth, TX 76102

RE: Injection Pressure Increase; Correction of Order
UIC Class II Disposal Well
SWD; Delaware Pool (96100)

Dear Sir:

Reference is made to your request on behalf of Basic Energy Services, LP (OGRID 246368) received on January 7, 2016, to increase the maximum allowed surface tubing pressure (in pounds per square inch (psi)) on the following well(s):

Well No.	API Number	UL-S-T-R	Injection Authority	Existing Pressure Limit (psi)	Existing Tubing OD (in)
Belco No. 2	30-015-25433	F-20-23S-28E	Administrative Orders: SWD-1292 and IPI-406	1056	2 7/8

Division reviewed the recent step rate test (SRT) results dated December 15, 2015, and the previous SRT results dated August 11, 2011, submitted in the application which supported the approval of administrative order IPI-406. Analysis of the SRT results for order IPI-406 found that the vendor improperly plotted the results which Division used in approving the pressure increase. Therefore, Division is correcting the approved injection pressure for this well as to prevent any additional fracturing of the formation and, possibly, the confining strata.

Based on the results of the previously submitted step rate injection test(s), the following shall be the new maximum surface pressure limit(s) while equipped with **injection** tubing:

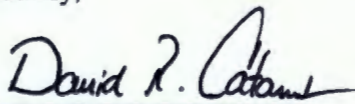
Well No.	Step Rate Test Date	New Pressure Limit (psi)	While Injecting	Injection Interval (ft)	Pressure Gradient (psi/ft)
Belco No. 2	8/11/2011	880	water	2540 to 3680	0.35

This approval is based on the provision that the tubing size, packer setting depth and completion interval for the well(s) does not change. Any future requested pressure increase will require resubmission of additional data and/or a new step-rate test. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in the well(s). This approval is subject to your being in compliance with all other Division rules, including but not limited to Division Rule 19.15.5.9 NMAC.

The previous pressure increase, approved in administrative order IPI-406 dated September 19, 2011, is hereby rescinded with the approval of this order.

The Division Director may rescind any injection permit if it becomes apparent that the injected fluid is not being confined to the permitted disposal interval or is endangering any fresh water aquifer.

Sincerely,



DAVID R. CATANACH
Director

DRC/prg

cc: Oil Conservation Division – Artesia District Office
State Land Office - Oil, Gas, and Minerals Division
Well File API 30-015-25433



New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John H. Bemis
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division



September 19, 2011

~~Administrative Order IP#406~~
Application No. pTGW1123748737

Basic Energy Services LP
500 W. Illinois, Suite 100
Midland, TX 70702

Attention: David Alvarado

RE: Injection Pressure Increase
Belco State Well No. 2, Unit Letter F
Section 20, T23 South, R28 East
Eddy County, New Mexico

Dear Mr. Alvarado:

Reference is made to your request on behalf of Basic Energy Services LP (OGRID 246368) received by the Division on August 25, 2011 to increase the surface injection pressure on the Belco State Well No. 2.

This well was approved by the Division for injection into the Delaware Mountain Group Formation from approximately 2,540 feet to 3,680 feet with SWD-1292 and given a maximum surface injection pressure of 508 psi.

It is our understanding that this well will not take a sufficient volume of water at this pressure limit and a higher pressure limit is needed. It is also understood that an increase will not result in the fracturing of the injection formation and confining strata.

Based on a step rate injection test for this well run by Cardinal Surveys on August 15, 2011 we feel it does support an increase to ~~1056~~ psi. Any future requested increase beyond 1056 psi will require resubmission of additional data and a new step-rate test.



You are hereby authorized to increase the surface injection pressure on the following well located in Eddy County, New Mexico:

Well Number	Delaware Mountain Group Perforations	Surface Injection Pressure
Belco State Well No. 2 API No. 30-015-25433, Unit F, Section 20, Township 23 South, Range 28 East	2540'-3680'	1056 PSI

This approval is based on a provision that the tubing size, packer setting depth and perforation depths do not change. You are prohibited from injecting at pressures that would induce fracturing.

The operator is responsible for ensuring injected waters do not migrate upward inside or outside of this casing and enter formations above the permitted injection interval.

This approval is subject to your being in compliance with all other Division rules, including but not limited to Division Rule 19.15.5.9 NMAC.

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected fluid is not being confined to the injection zone or is endangering any fresh water aquifers.

The injection authority granted herein shall terminate two years after the effective date of this order if the operator has not commenced injection operations into the subject wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

Sincerely,



Jami Bailey
Director

JB/tw

cc: Oil Conservation Division – Artesia

New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John H. Benia
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division



Administrative Order SWD-1292
July 5, 2011

**ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION**

Under the provisions of 19.15.26.8B NMAC, Basic Energy Services, LP seeks an administrative order to utilize its Belco Well No. 2 (API 30-015-25433) located 2310 feet from the North line and 1980 feet from the West line, Unit Letter F of Section 20, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, for produced water disposal purposes.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of 19.15.26.8B NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in 19.15.26.8 NMAC have been met and the operator is in compliance with 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, Basic Energy Services, LP, is hereby authorized to utilize its Belco Well No. 2 (API 30-015-25433) located 2310 feet from the North line and 1980 feet from the West line, Unit Letter F of Section 20, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, for disposal of oil field produced water (UIC Class II only) into the Delaware Mountain Group through perforations from 2540 feet to 3680 feet through lined tubing and a packer set within 100 feet of the permitted disposal interval.

Prior to commencing disposal, the well shall be plugged back with cast iron bridge plug and cement to within 200 feet below the lowermost permitted disposal interval.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the proposed disposal interval and is not permitted to escape to other formations or onto the



surface.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT testing procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC.

The wellhead injection pressure on the well shall be limited to no more than ~~500~~ psi. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate-Test.

The operator shall notify the supervisor of the Division's district office of the date and time of the installation of disposal equipment and of any MIT test so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's district office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's district office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

The injection authority granted under this order is not transferable except upon division approval. The division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

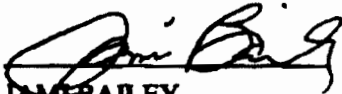
The division may revoke this injection permit after notice and hearing if the operator is in violation of 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate two years after the effective date of this order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written

request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.


JAMIE BAILEY
Director

JB/wvj

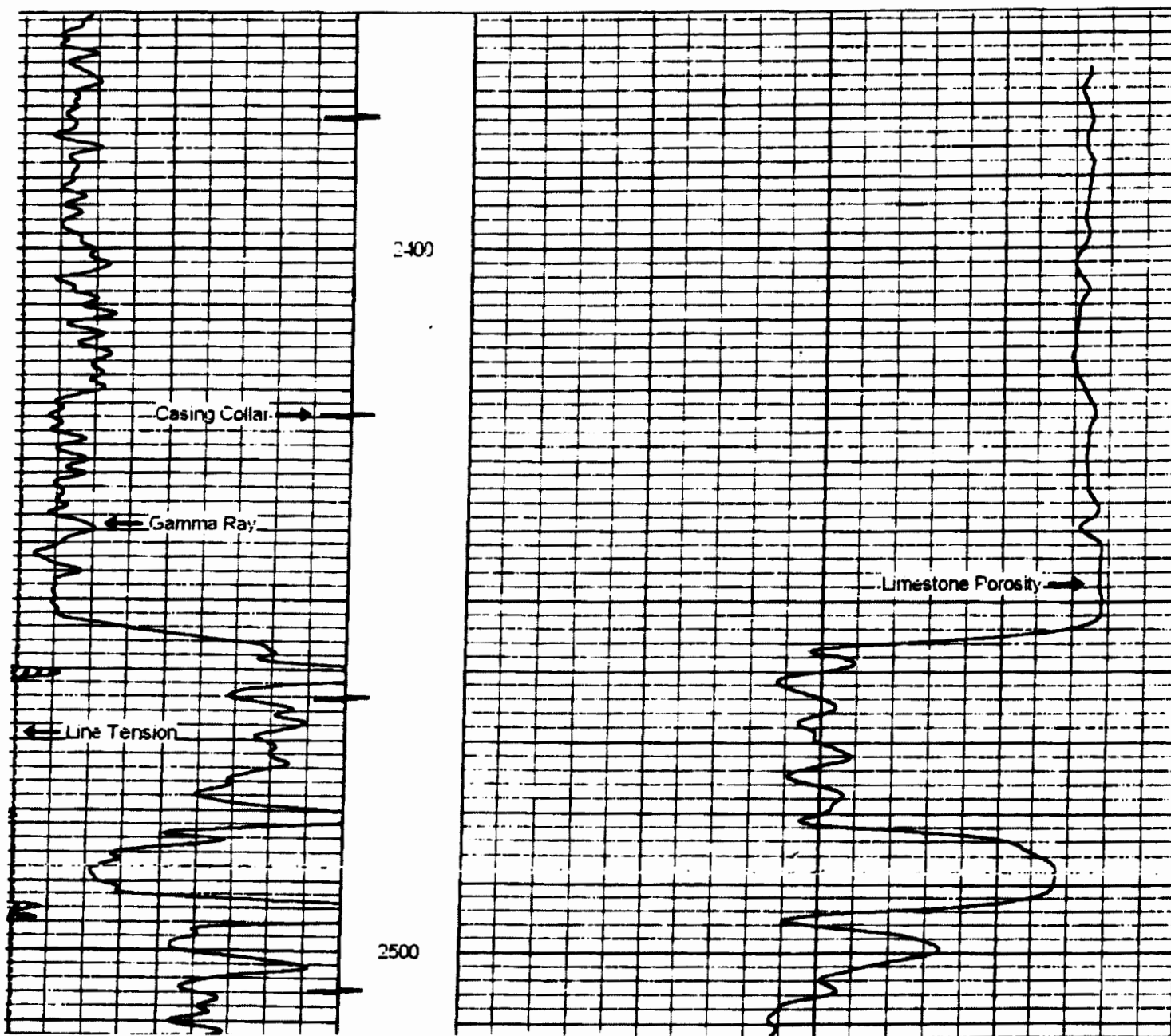
cc: Oil Conservation Division - Artesia

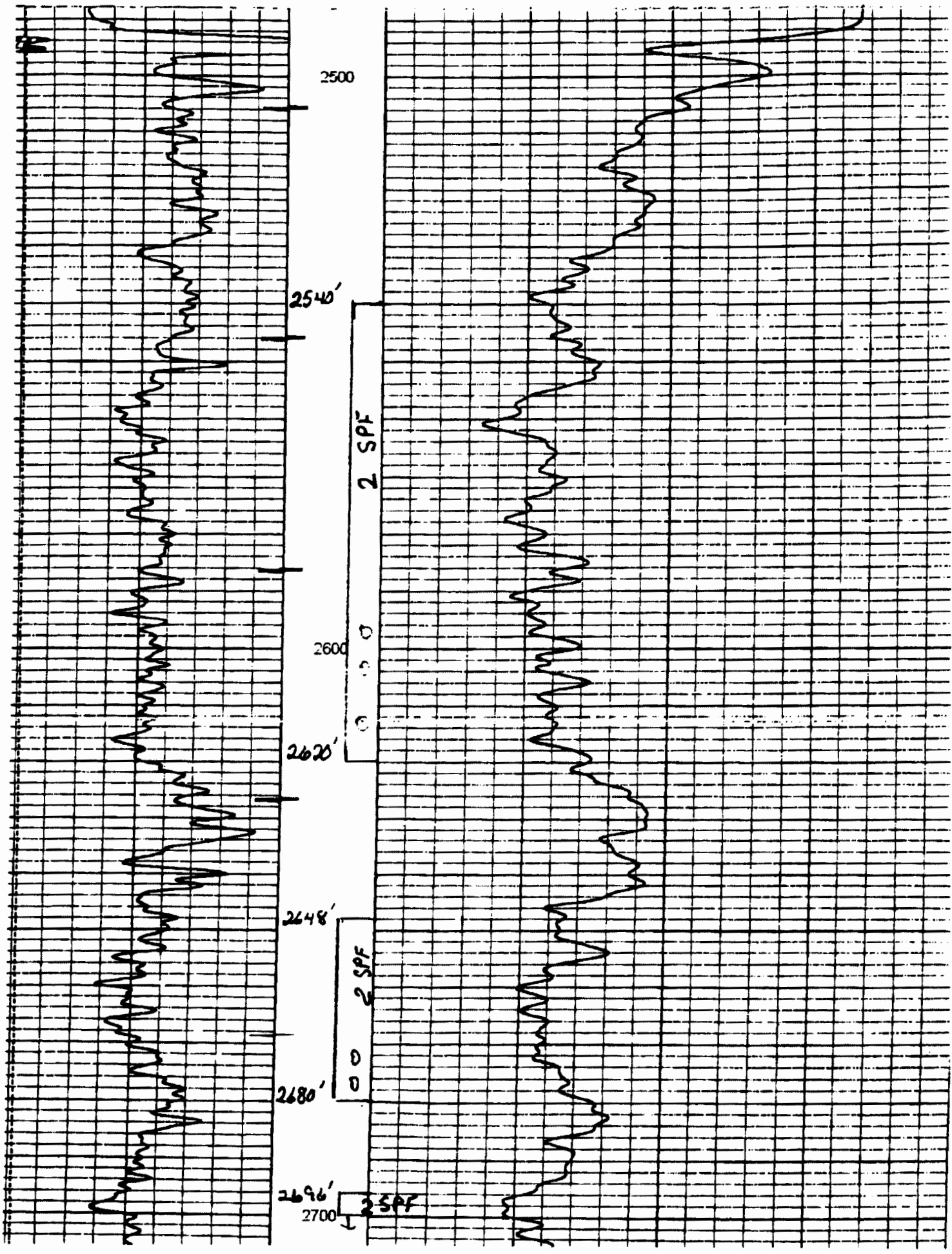


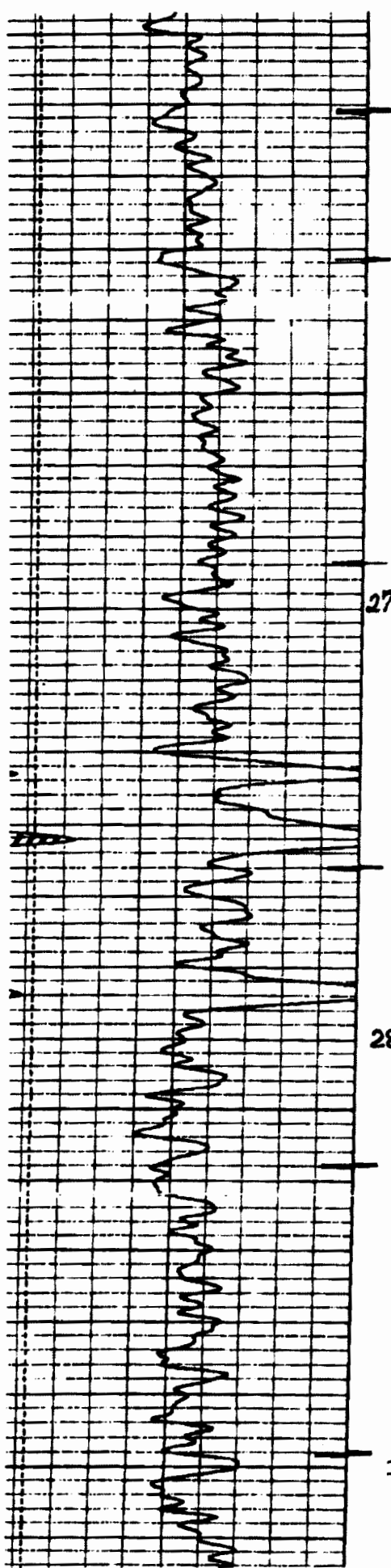
Main Pass

Database File: basic(07-20-11).db
 Dataset Pathname: belco/fed_2_swd/run1/pass4.101
 Presentation Format: cnt
 Dataset Creation: Wed Jul 20 11:03:39 2011
 Charted by: Depth in Feet scaled 1:240

Gamma Ray (GAPI)	100	0	CCL	5	30	Limestone Porosity (pu)	-10
BU Gamma Ray (GAPI)	200				70	Backup Limestone Porosity (pu)	30
Collar Locator	0						
Line Tension (lb)	4000						







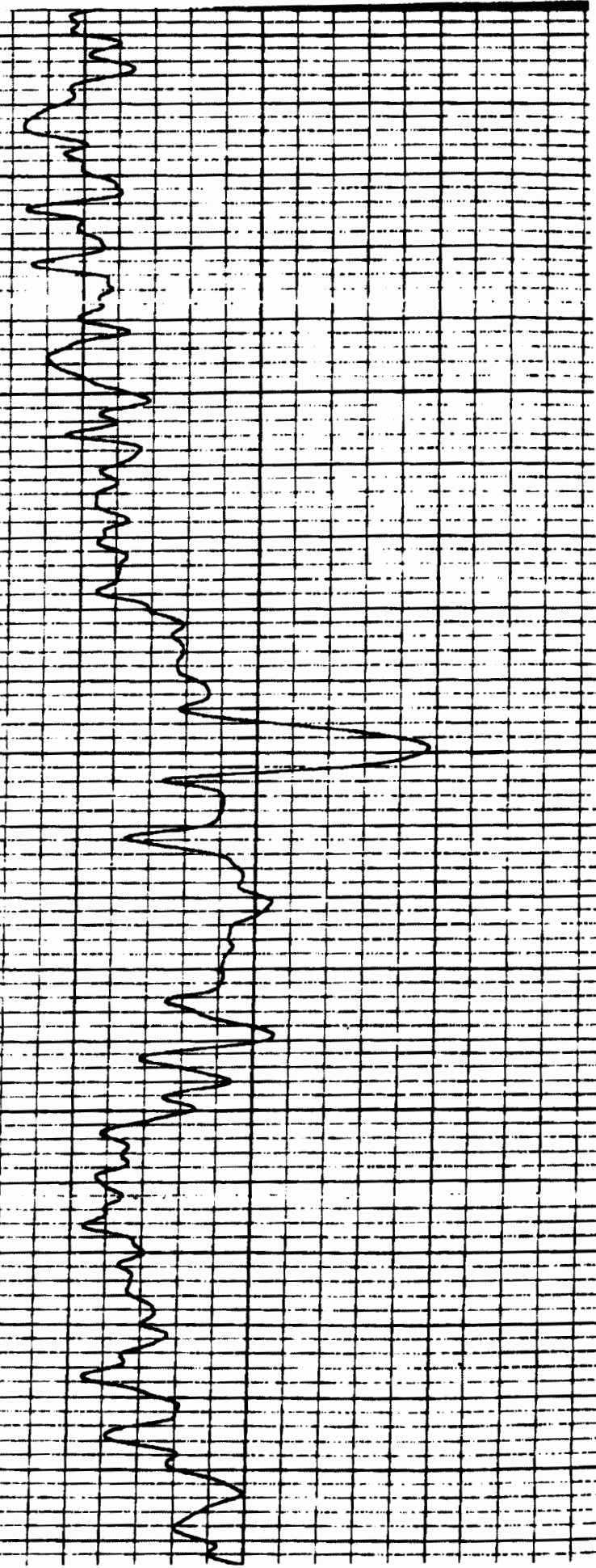
2700
2780
2800
2840
2900

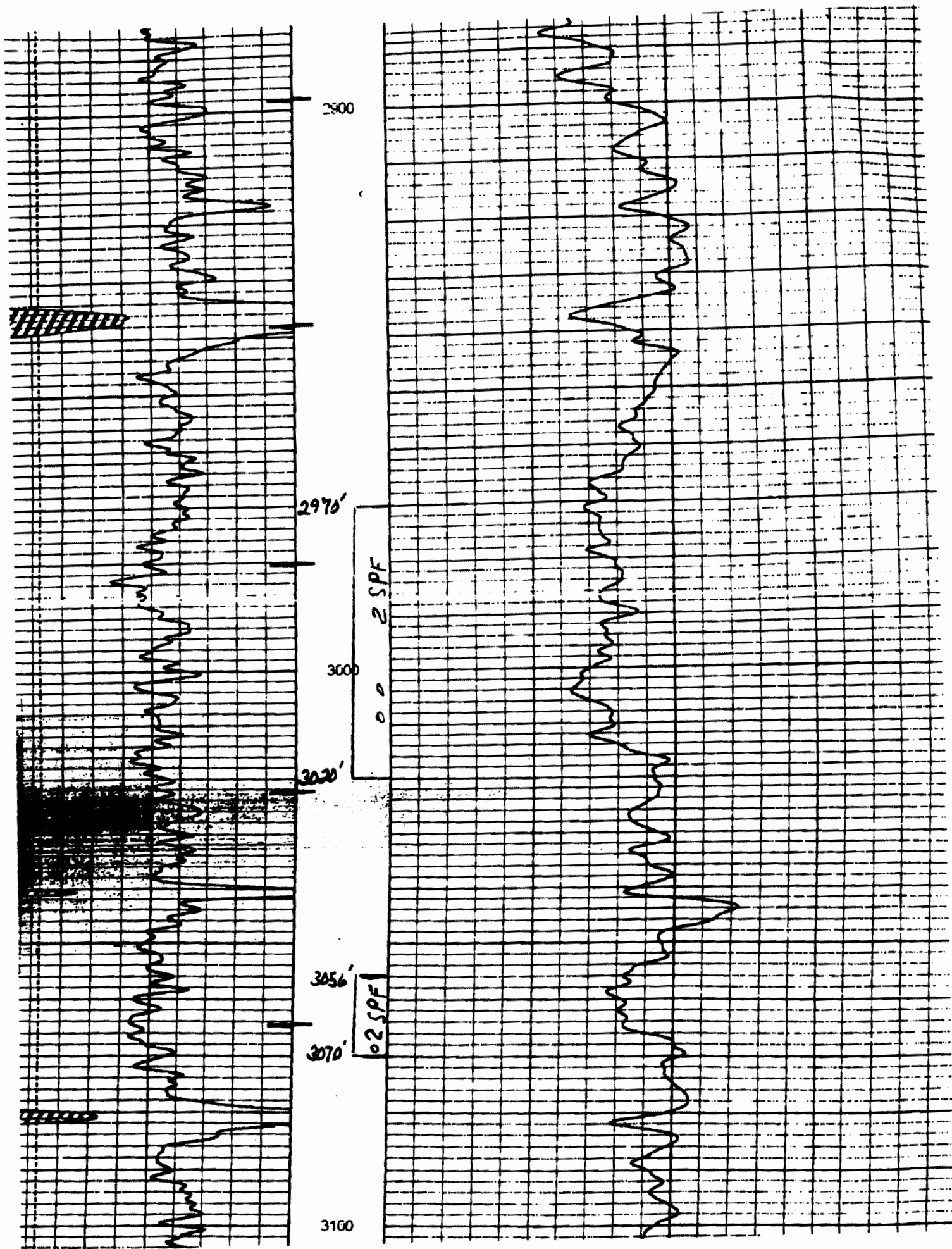
2SPF

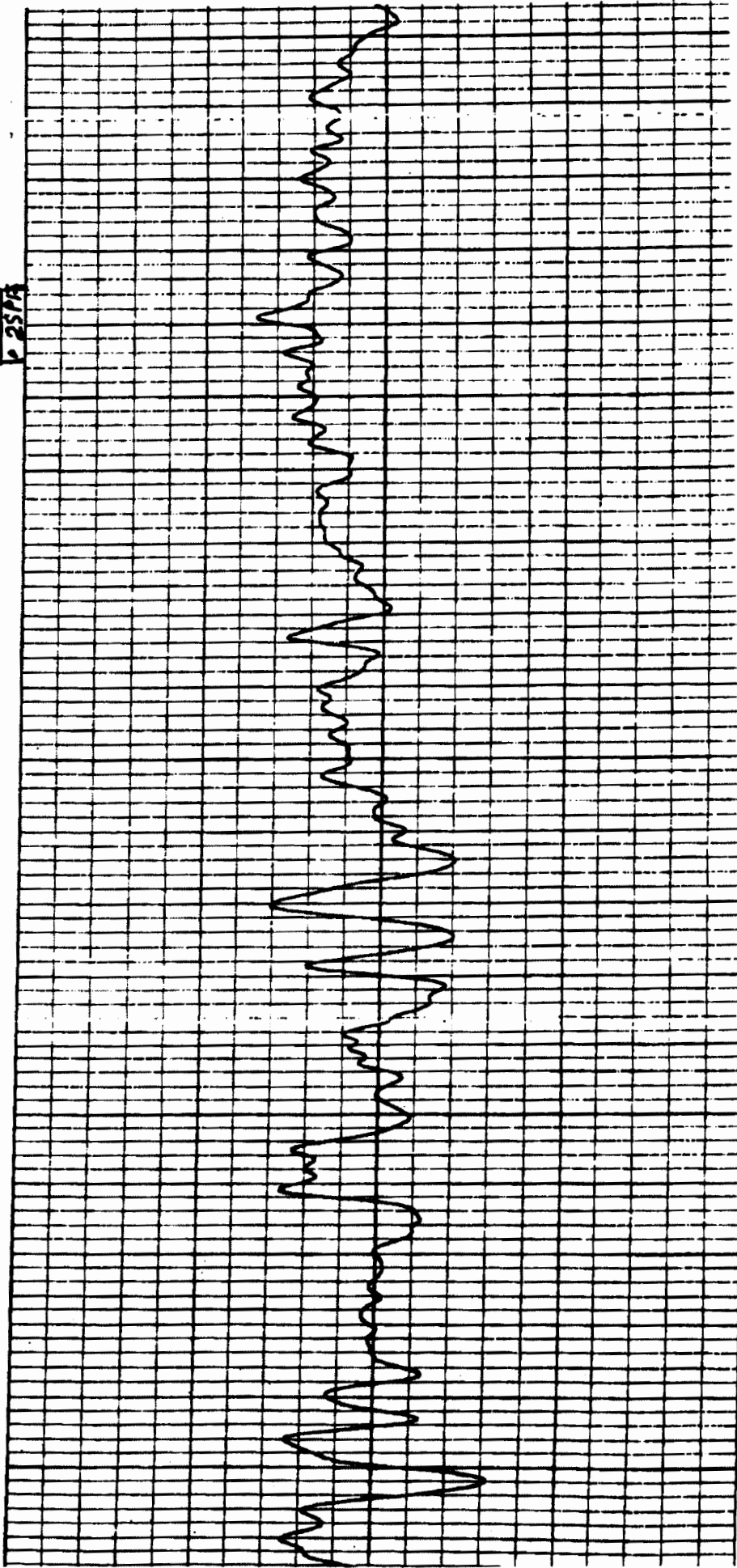
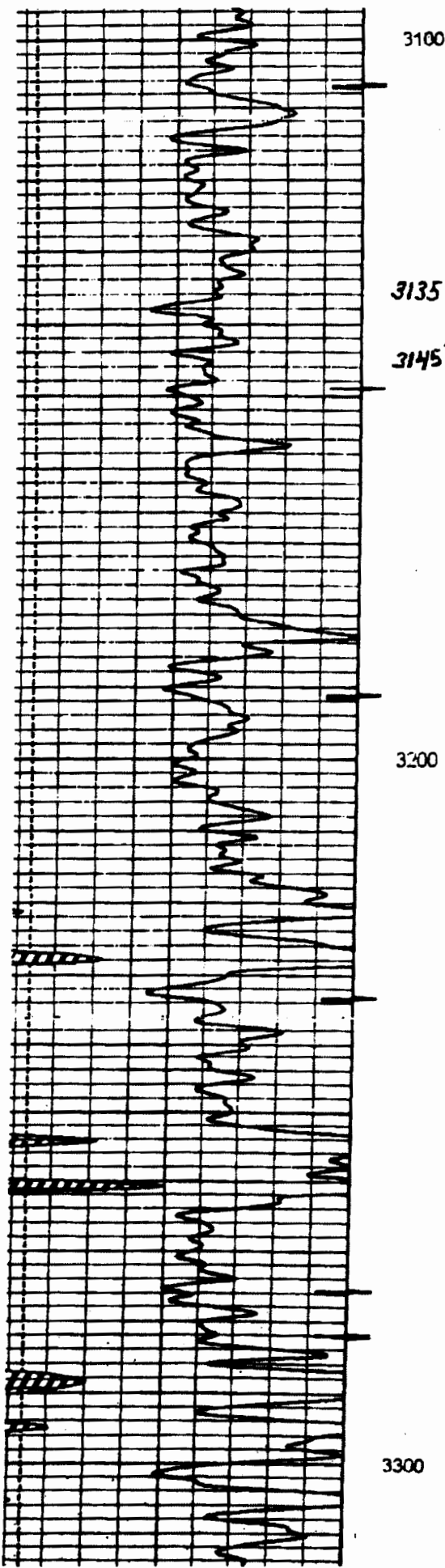
000

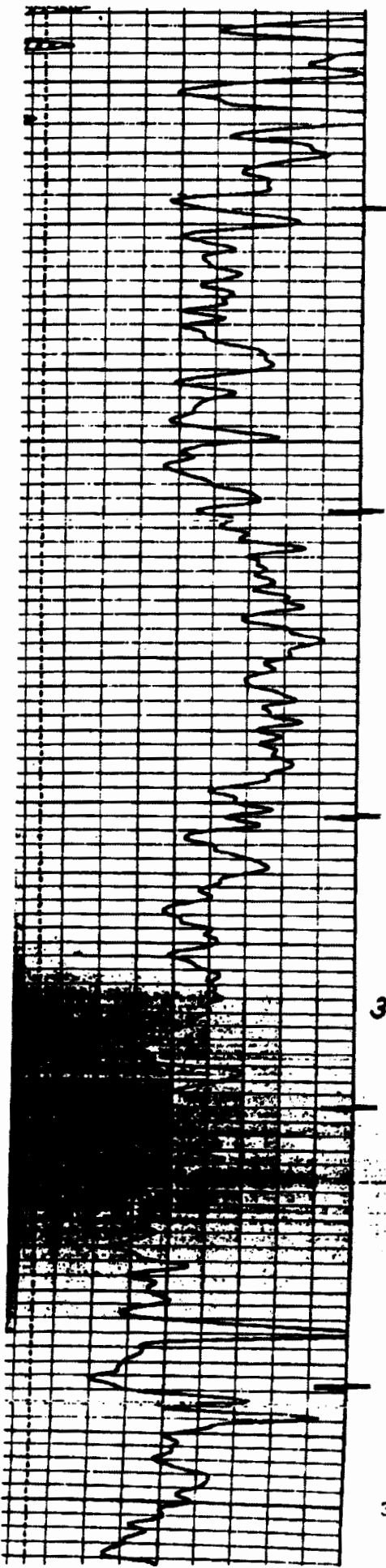
2SPF

000









3300

3354'

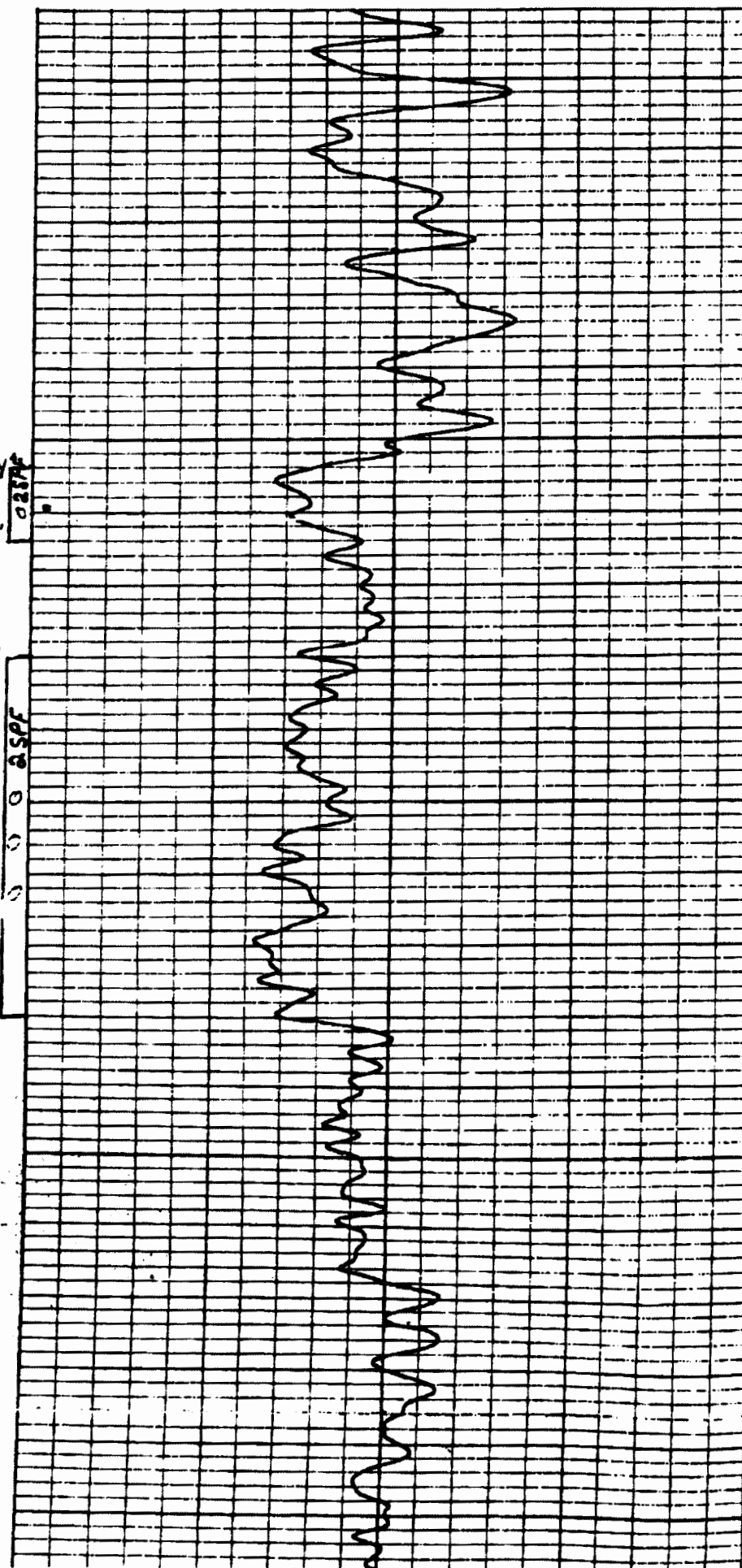
3364'

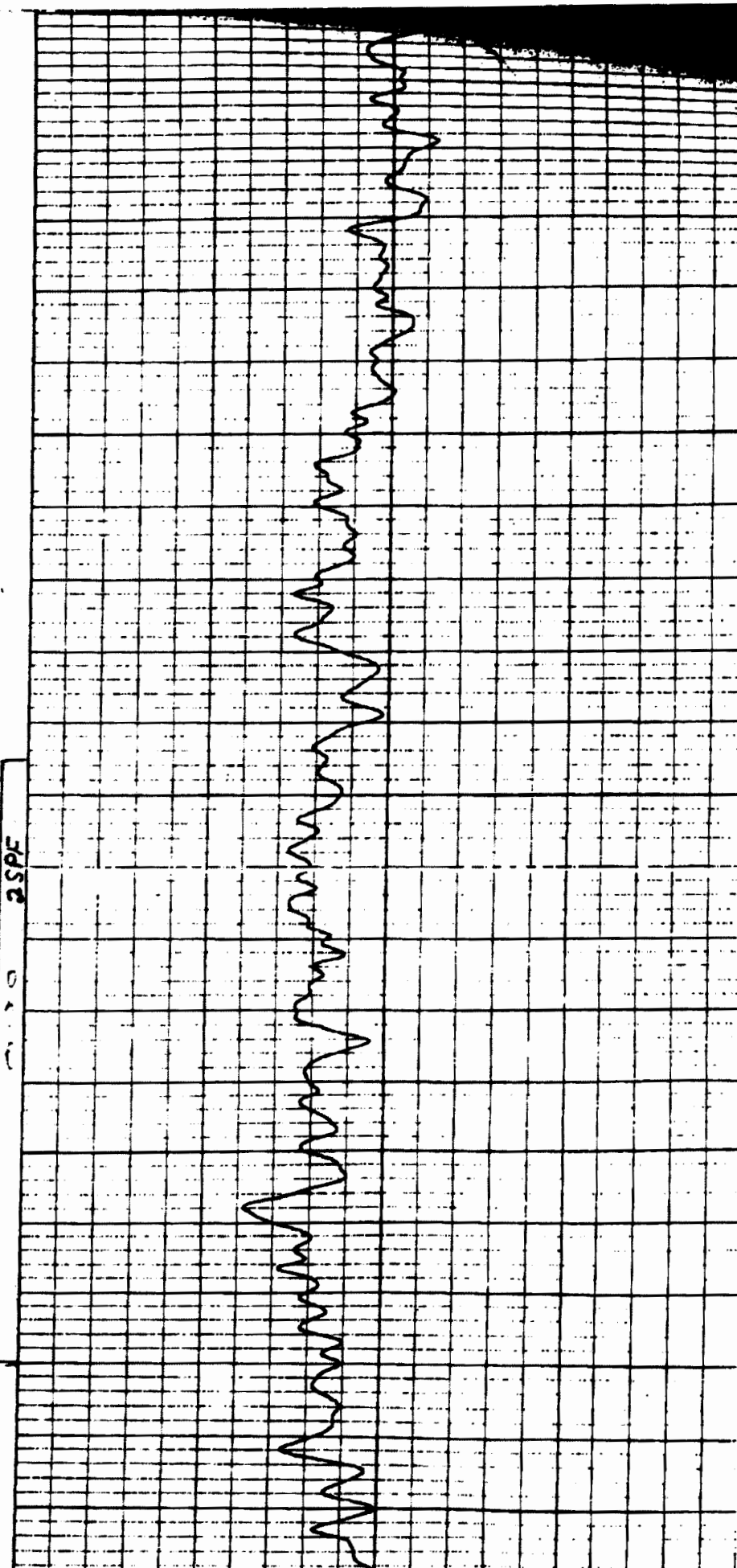
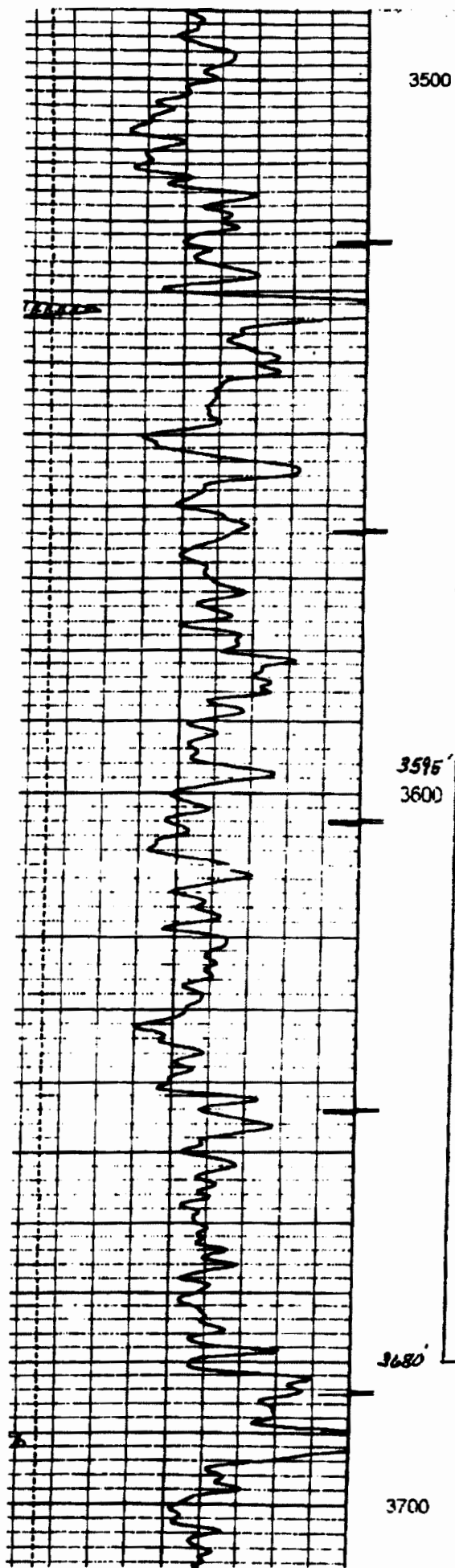
3380'

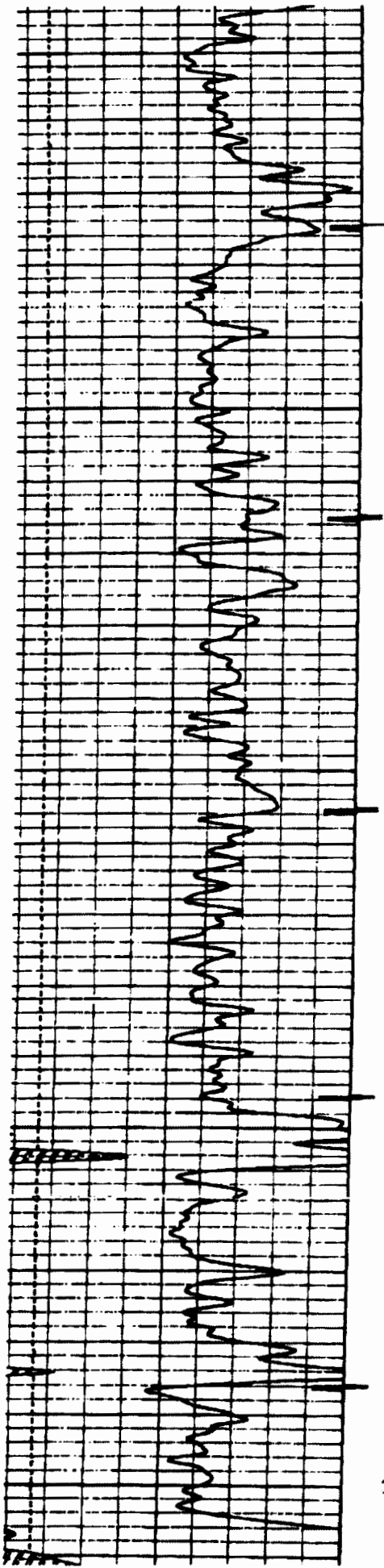
3400

3430'

3500



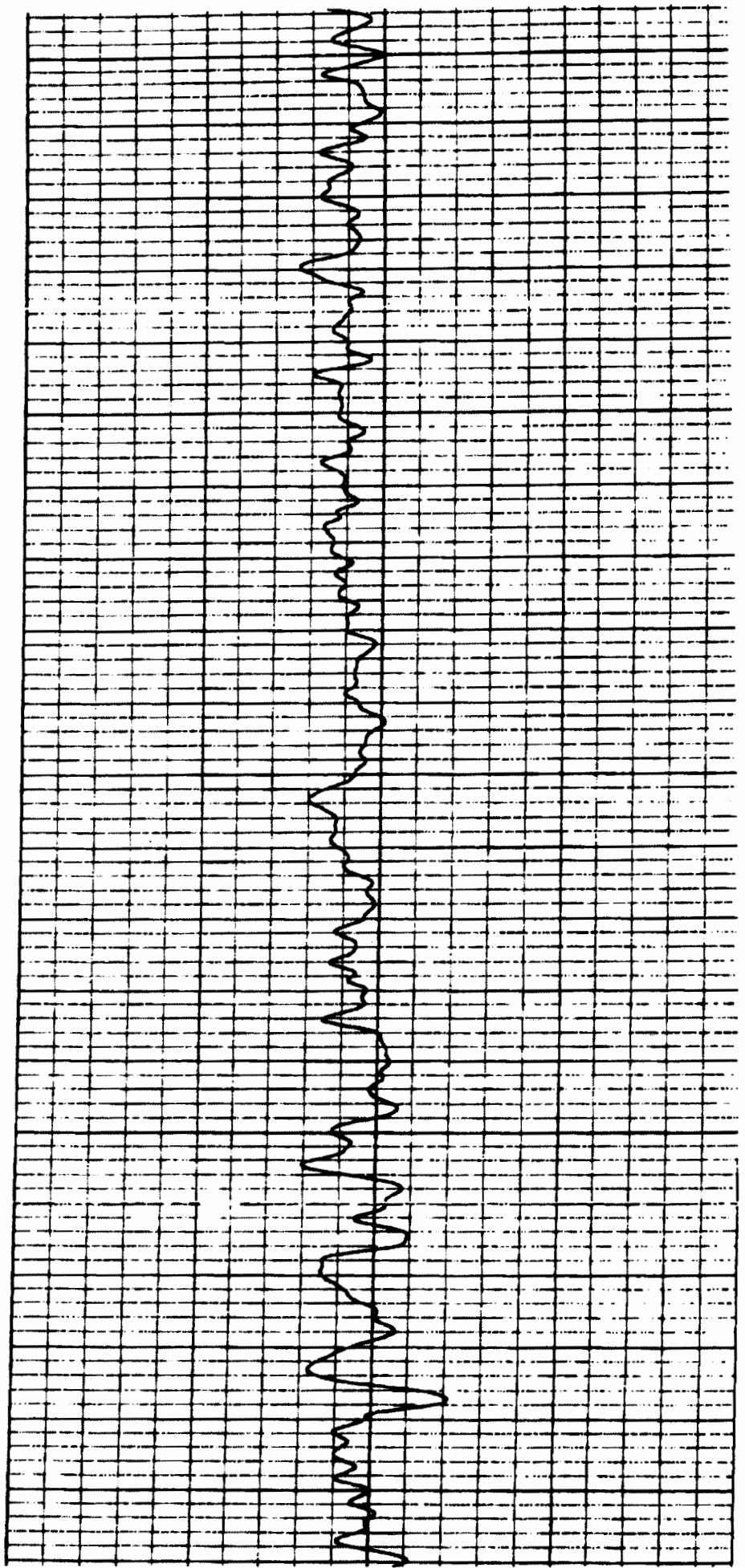




3700

3800

3900



Basic Energy Services L.P.
Belco # 2 SWD
Unit F, Sec 20, T23S, R28E Eddy County
API #: 30-015-25433

Current
5/20/2015

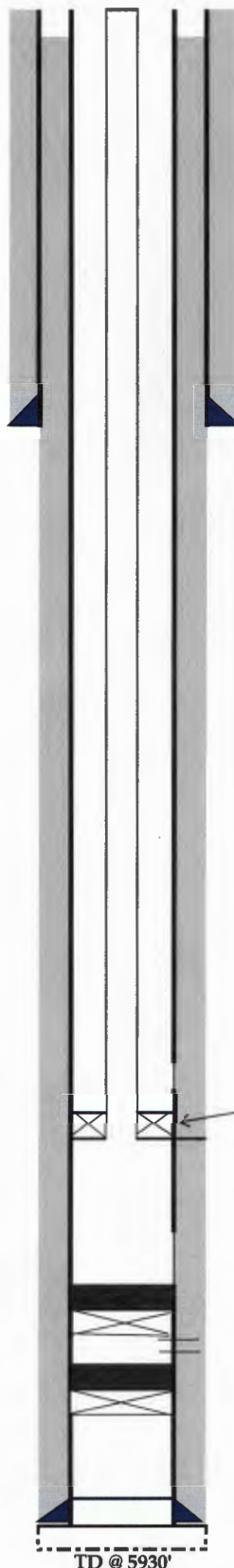
KB: GL

Surface Hole
Bit Size: 12 1/4"

Inter. Hole
Bit Size:

Cement Data:
Lead -
Tail -
Note -

Bit Size: 7-7/8"



Tree Connection: 2-7/8" 8rd

TOC N/A

Surface Casing: 8 5/8" 24ppf J-55 475'
200sks circulated

Setting Depth @ 475'

Interm. Casing:

Setting Depth:

2-7/8" J55 IPC set @ 2507.50'
Btm Packer Set at 2515.95'
5 1/2 13-20# X 2 7/8 ASI-X W/CARBIDES
NICKLE PLATED 5 1/2 X 2 7/8 ON/OFF TOOL
W/SS TOP SUB 2 1/4 "F" SS PROFILE 2 7/8 FRAME

Perfs. @ (2620'-2540'), (2680'-2648') (2780'-2696') (2900'-2840') (3020'-2970')
(3070'-3056') (3145'-3135') (3364'-3354') (3430'-3380') (3680'-3595')

TOP CMT @ 3870'

CIBP Set @ 3896'

perf @ 5846'-5865'

PBTD: 5865'

Production Csg: 5-1/2" 17# Casing
665 sks Circulated

Setting Depth @ 5930'

TD @ 5930'

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. 30-015-25433
5. Indicate Type of Lease STATE ☐ FEE ☒
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Belco State
8. Well Number # 2
9. OGRID Number 246368
10. Pool name or Wildcat Delaware Mountain Group
11. Elevation (Show whether DR, RKB, RT, GR, etc.)

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 ☐ Gas Well ☒ Other SWD	
2. Name of Operator Basic Energy Services L.P.	
3. Address of Operator 801 Cherry Street Ft Worth, TX 76102	
4. Well Location Unit Letter <u>F</u> : <u>2310</u> feet from the <u>North</u> line and <u>1980</u> feet from the <u>West</u> line Section <u>20</u> Township <u>23S</u> Range <u>28E</u> NMPM County <u>Eddy</u>	
11. Elevation (Show whether DR, RKB, RT, GR, etc.)	

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER: ☐		OTHER: Request increase in allowable surface injection PSIA ☒	

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.

Accompanying this form are the results of a step-rate injection test performed on 12/15/2015. The purpose of this test was to Support a request for an increase in the maximum allowable surface injection pressure.

Because of the miss plotted data and IPI – 406 being rescinded of September 19, 2011 with the new Administrative Order IPI – 406-A 880 PSIG this SRT will be applied to the new Order IPI – 406- A.

It has been determined that the fracture extension is 1,185 PSI. Applying a safety factor of 50 PSI, Basic Energy Services L.P. respectfully request approval to increase the maximum allowable surface injection pressure to 1,135 PSI.

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 David H. Alvarado TITLE SENM District Fluids Mgr. DATE 02/22/2016

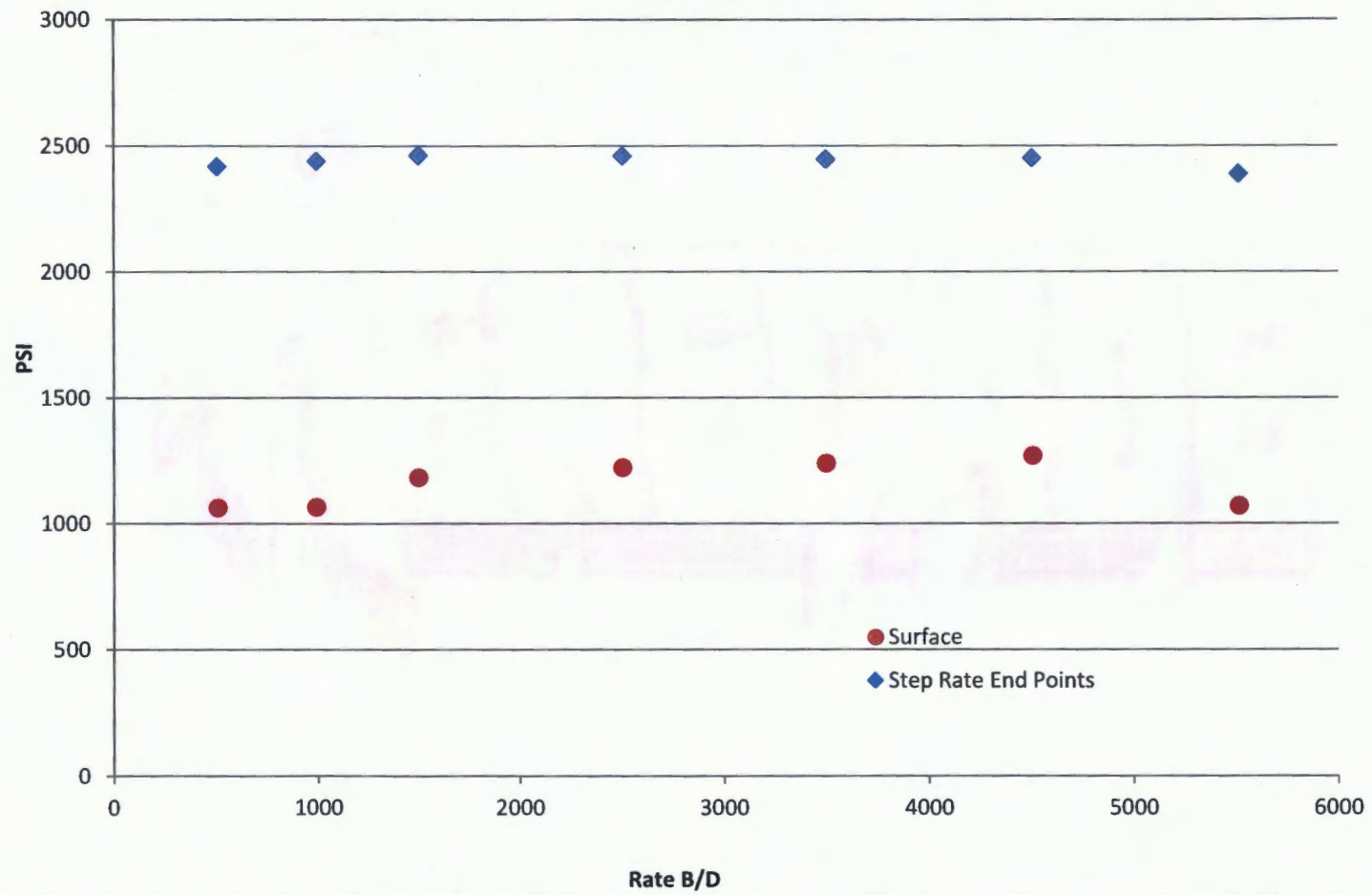
Type or print name David H. Alvarado E-mail address: david.alvarado@basicenergyservices.com PHONE: 575-746-2072
For State Use Only

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

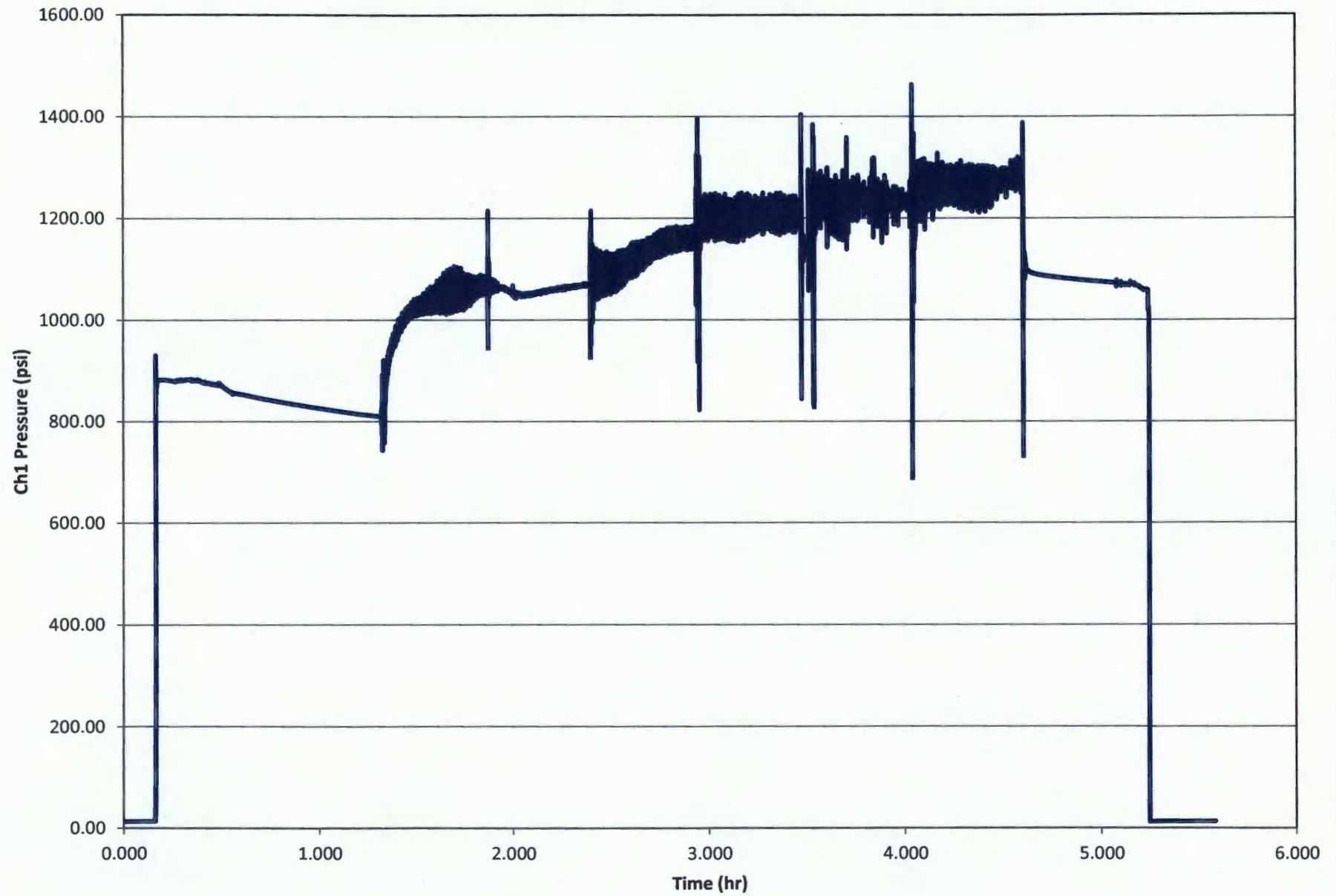
KENECAD**SERVICES****STEP RATE TEST**

	RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
Step 1	504	12/15/2015	9:59 AM	2416.46	1063.64	
Step 2	993.6	12/15/2015	5:32 AM	2438.31	1066.72	
Step 3	1497.6	12/15/2015	11:03 AM	2460.71	1183.22	
Step 4	2505.6	12/15/2015	11:37 AM	2458.8	1223.53	
Step 5	3499.2	12/15/2015	12:10 PM	2445.04	1240.05	
Step 6	4507.2	12/15/2015	12:43 PM	2449.11	1271.82	
Fall Off		12/15/2015	1:14 PM	2387.17	1071.03	
	Company:	Basic Energy Services			Recorded By:	M. Florea
	Well:	Belco State #2				
	Field:	Belco State			Truck Number:	95
	County:	Eddy			District:	Levelland
	State:	New Mexico				
					Test Type:	STEP RATE TESTS
	Tubing Size:	2 7/8"				
	Seat Nipple Depth:	N/A				
	Perforations:					
	Plug Back Depth	N/A				

Pressure vs Rate



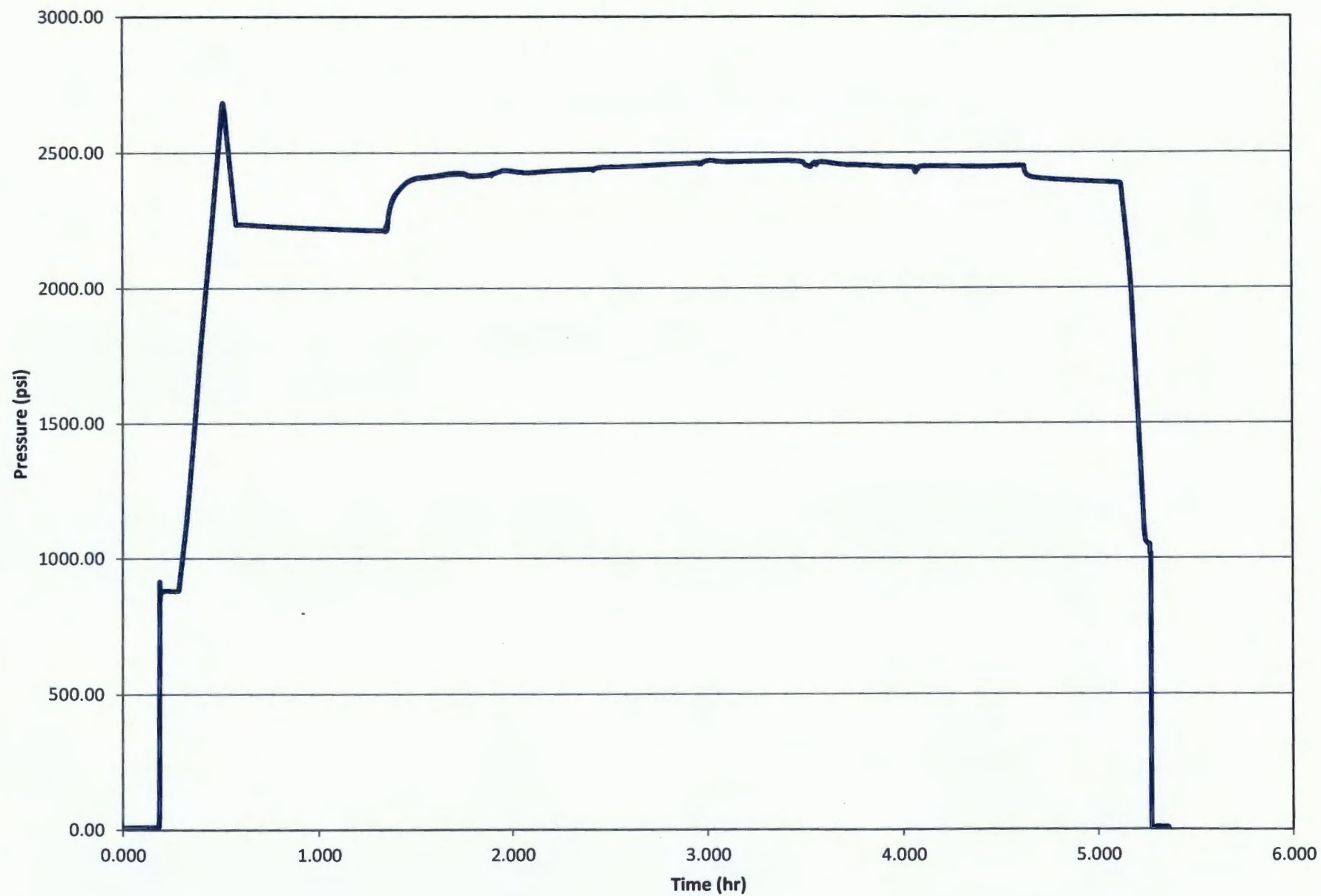
Ch1 Pressure Graph



CH1 Temperature Graph



Pressure Graph



Pressure and Temperature Report - Bottom

Belco State #2

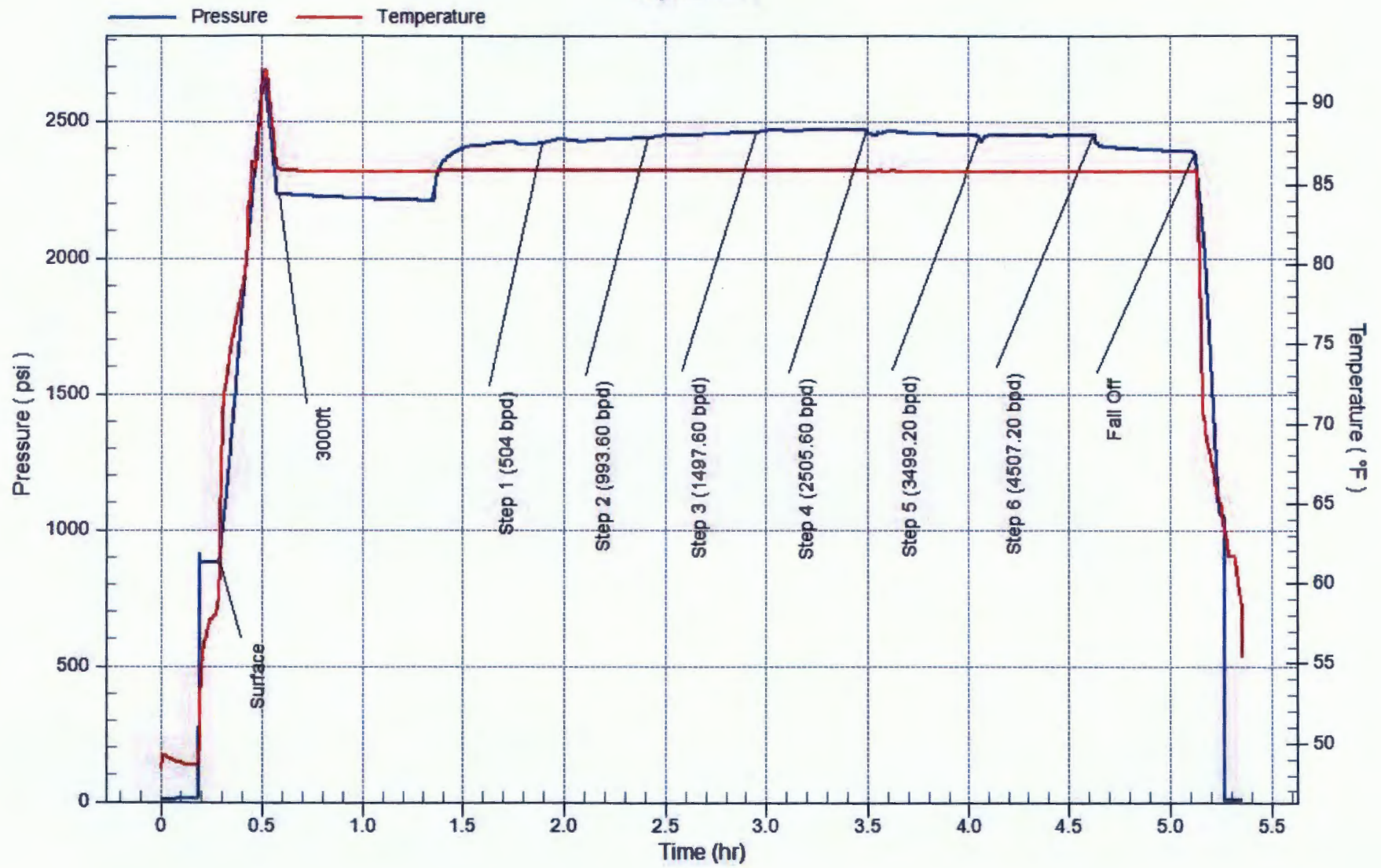
Rate bpd	Pressure psi	Temperature degF	Gradient psi/ft
Step 1 - 504.00	2416.46	85.79	0.0000
Step 2- 993.60	2438.31	85.79	0.0446
Step 3- 1497.60	2460.71	85.79	0.0444
Step 4- 2505.60	2458.80	85.78	-0.0019
Step 5- 3499.20	2445.04	85.77	-0.0138
Step 6- 4507.20	2449.11	85.76	0.0040
Fall Off	2384.17	85.75	-0.0644

Analysis Summary

Depth ft	Gradient psi/ft
0.00	
	-0.0064
5515.20	

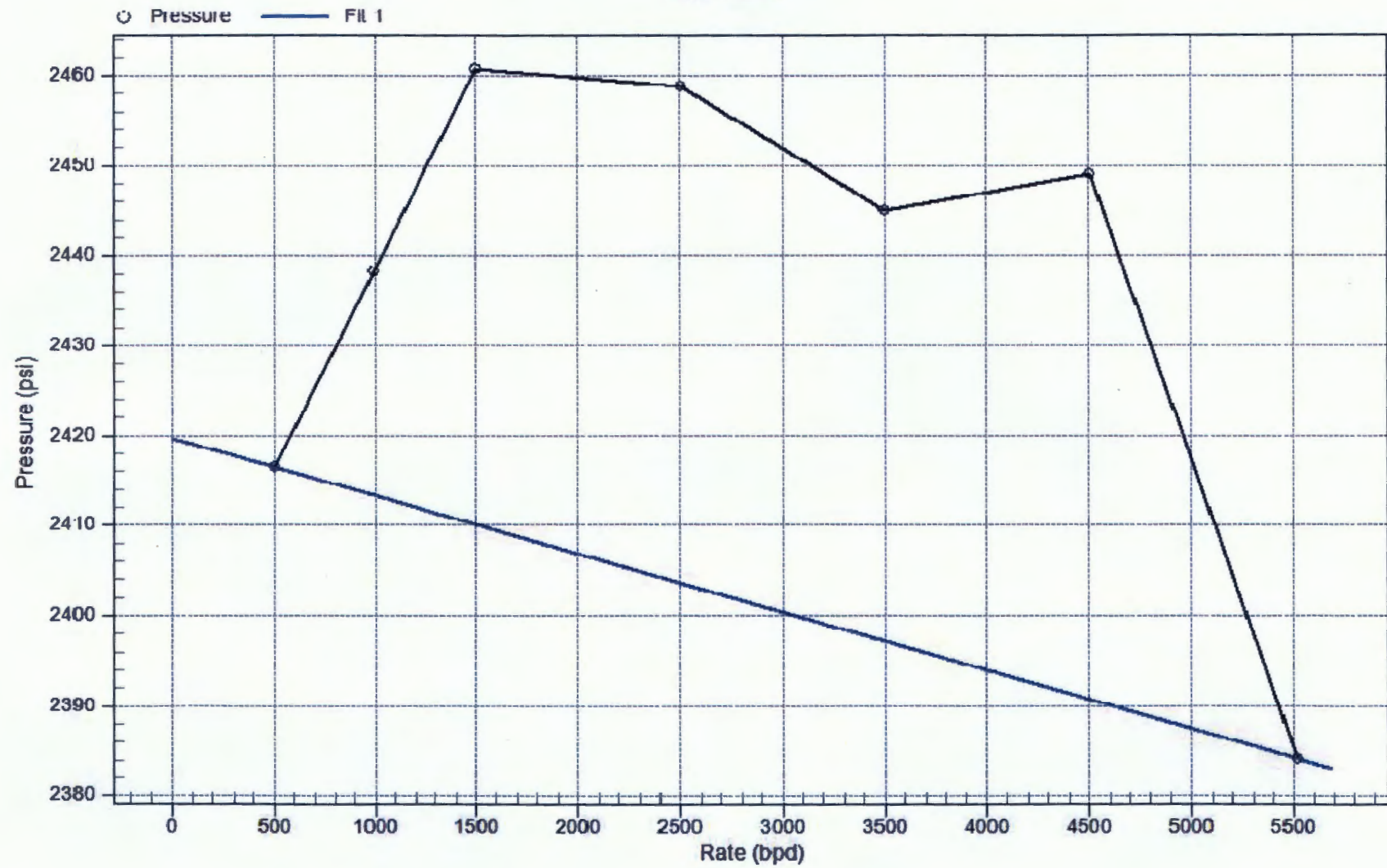
Belco State #2

Step Rate Test

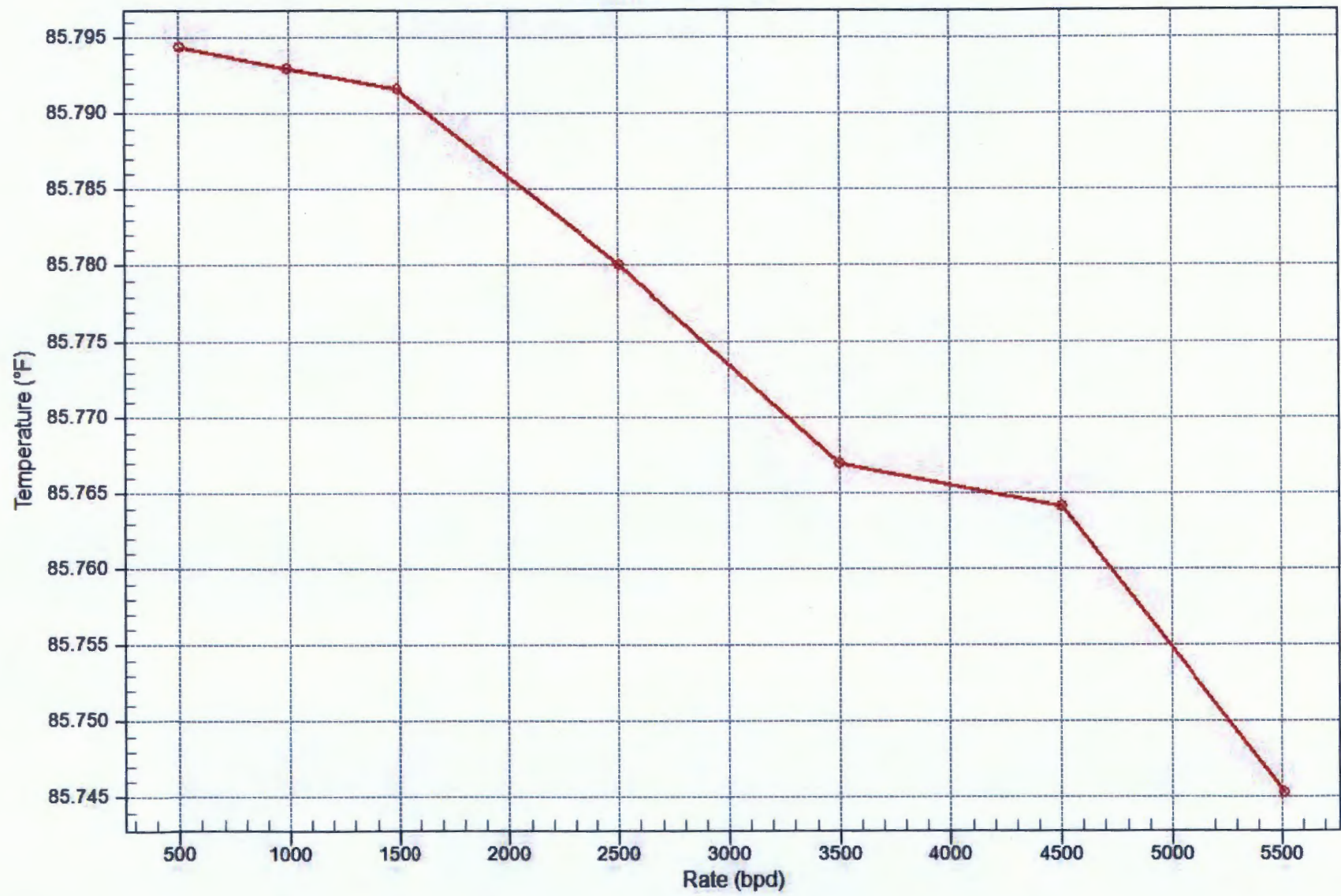


Pressure vs Rate

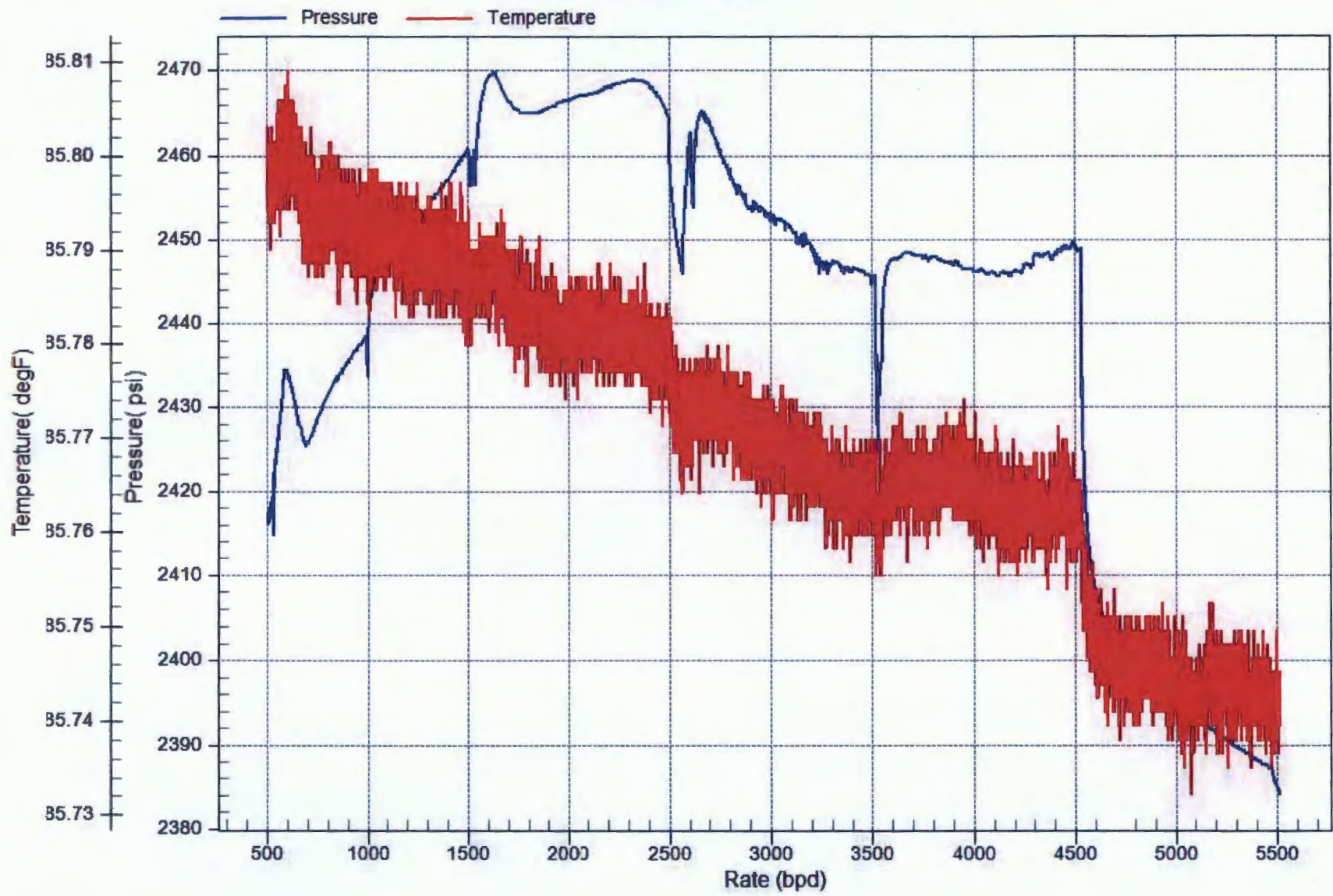
Belco State #2



Temperature vs. Rate



Pressure Log



Pressure and Temperature Report - Surface

Belco State #2 Surface

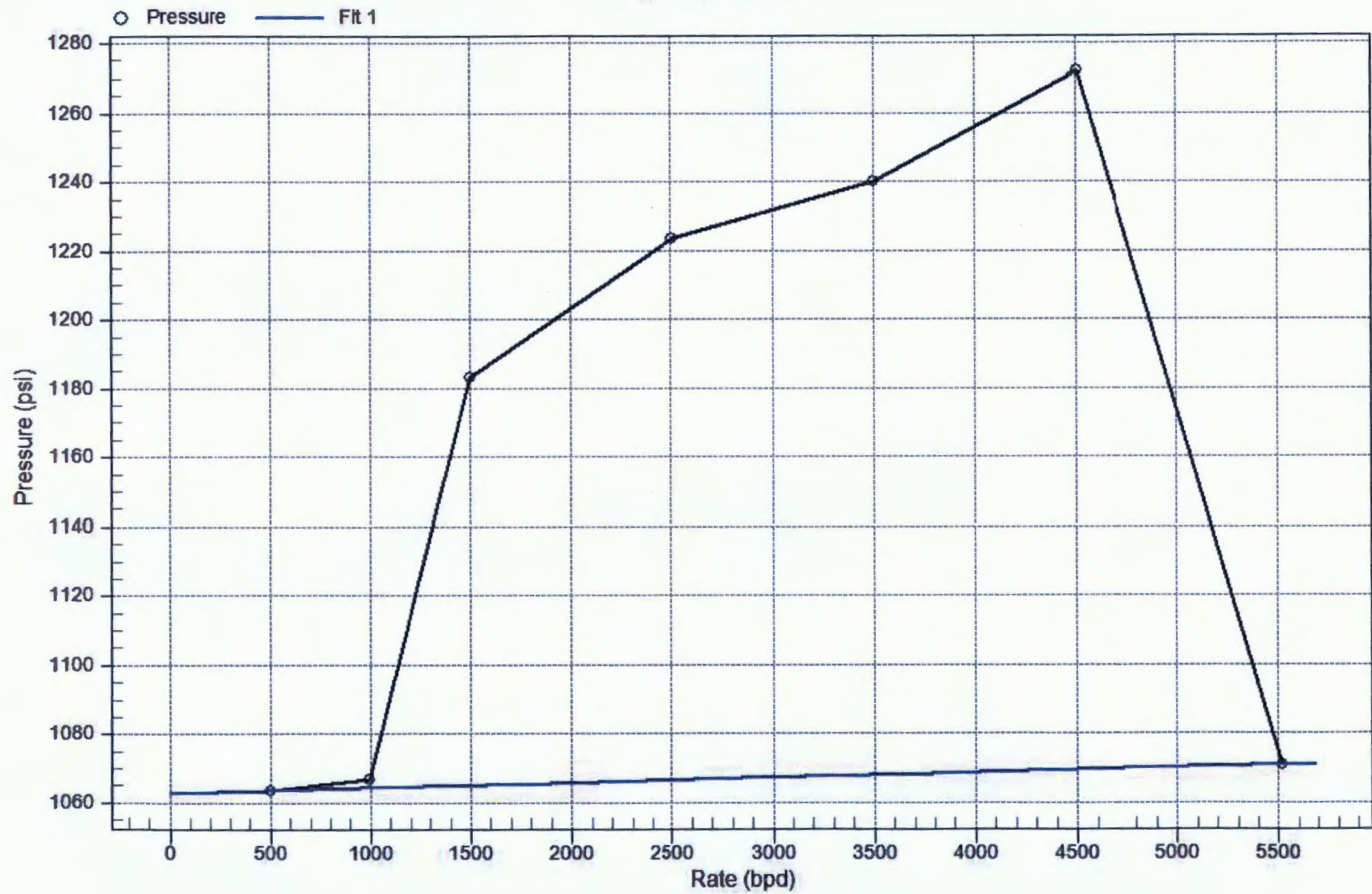
Rate bpd	Pressure psi	Temperature degF	Gradient psi/ft
Step 1- 504.00	1063.64	54.24	0.0000
Step 2- 993.60	1066.72	54.45	0.0063
Step 3- 1497.60	1183.22	54.12	0.2311
Step4- 2505.60	1223.53	53.65	0.0400
Step5- 3499.20	1240.05	53.52	0.0166
Step 6- 4507.20	1271.82	52.00	0.0315
Fall Off	1071.03	51.72	-0.1992

Analysis Summary

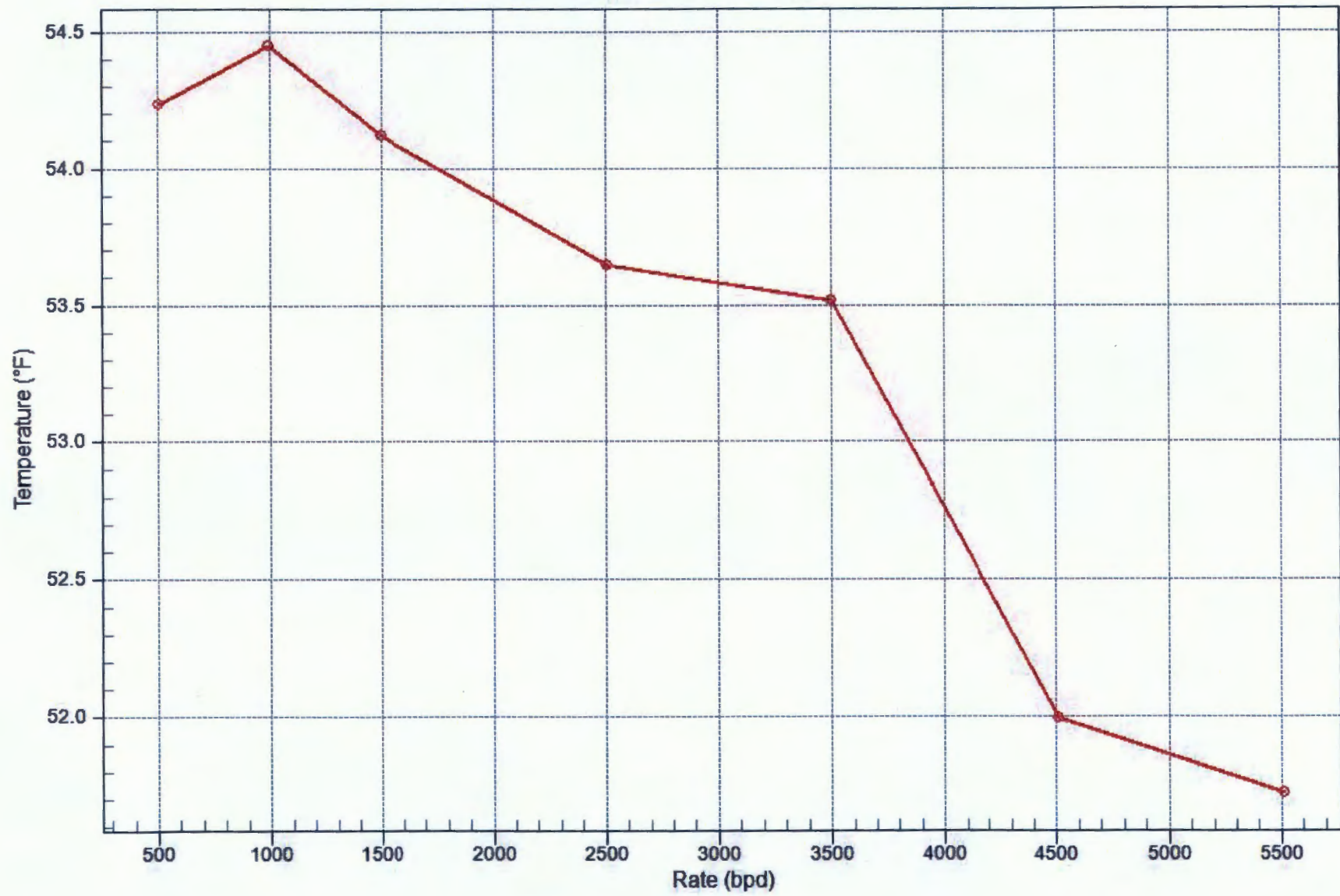
Depth ft	Gradient psi/ft
0.00	
	0.0015
5515.20	

Pressure vs. Rate

Belco State #2 Surface

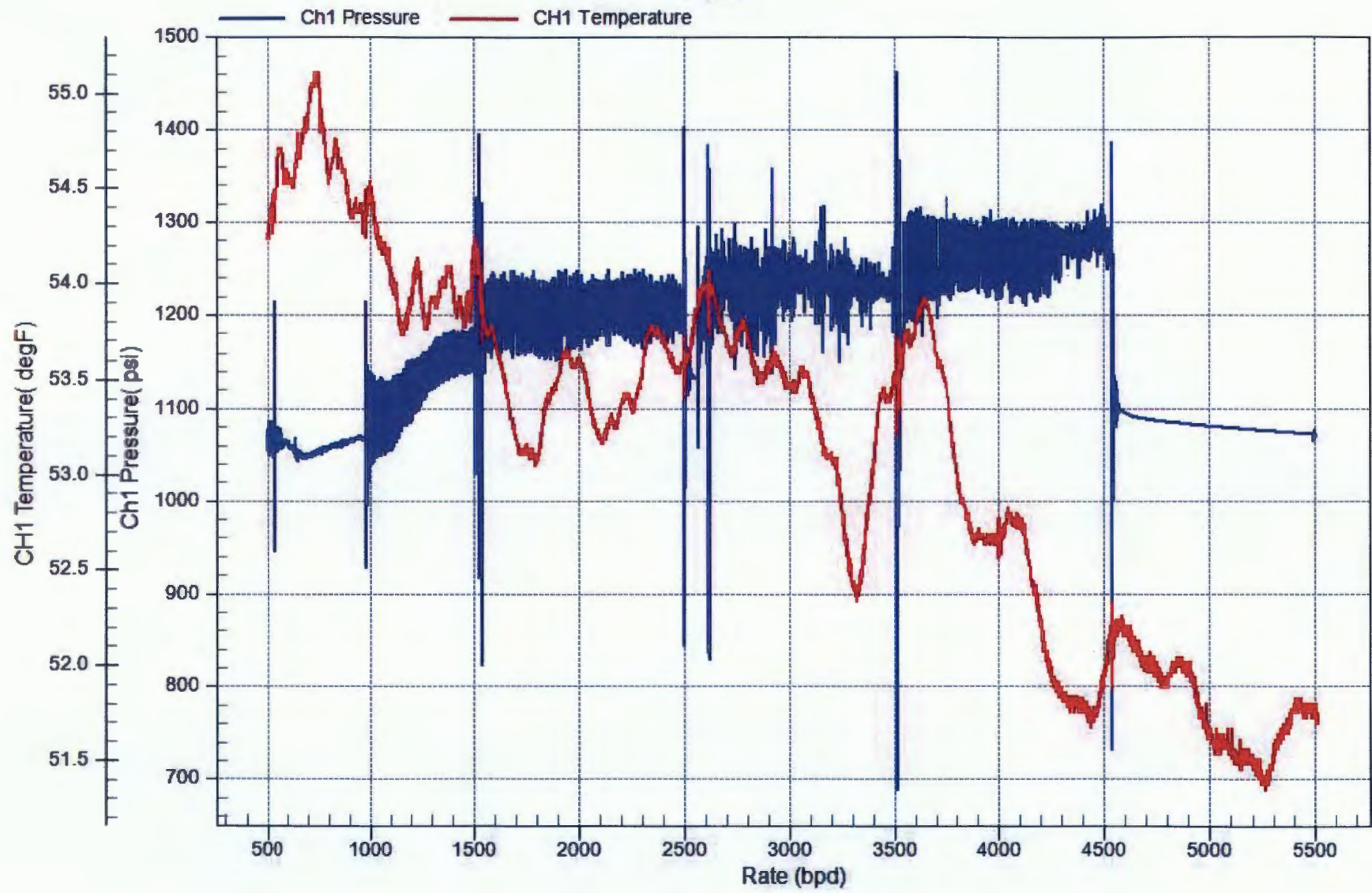


Temperature vs. Rate



Pressure Log

Surface



McMillan, Michael, EMNRD

From: Alvarado, David <David.Alvarado@basicenergyservices.com>
Sent: Monday, February 29, 2016 4:16 PM
To: McMillan, Michael, EMNRD
Cc: Goetze, Phillip, EMNRD; Inge, Richard, EMNRD; Jones, William V, EMNRD
Subject: RE: Belco Well No. 2 IPI.

Hello Michael,

I had the boys shut the Belco # 2 in at the end of Oct. showing 1250 PSIG. It had been running 1030 PSIG to 1050 PSIG before. It stayed shut in until the SRT on 11-15-15.

On 11-15-15 my notes show we were to start at around 7:30 am that's the time I arrived, they were almost ready to start. I would say 8:00am wire line started down hole. I was told that our gauge on the well was showing a 1000 PSI.

Once rigged up and we went to btm. to tag any fill (No fill was shown). The tool was placed at 3000' and sat idle for 49 min. 0 BPD and surface pressure with Renegade's gauge showed 811 PSIG with BHP 2211 PSIG. Our equipment gauge was overstating PSIG by 189#.

I will check with the men in the morning on current pressure or head over and check. Couldn't get any one to answer my call.

I get this information to you ASAP

Dave

From: McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]
Sent: Monday, February 29, 2016 4:11 PM
To: Alvarado, David <David.Alvarado@basicenergyservices.com>
Cc: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>; Inge, Richard, EMNRD <richard.inge@state.nm.us>; Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>
Subject: Belco Well No. 2 IPI.

David:

I am looking at the Belco Well No. 2 IPI. API 30-015-25433

I need the following

- I need the initial rate , Time, BHP, Surface PSI.
- Step rate 2 shows a time of 5:32AM, I assume it is 10:32 AM- is that correct?
- Is the current pressure of the well at 1056 psi?

Thank You

Michael A. McMillan

Engineering and Geological Services Bureau, Oil Conservation Division

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

O: 505.476.3448 F: 505.476.3462

Michael.mcmillan@state.nm.us

SWD WELLS TOWNSHIP 23 SOUTH RANGE 28 EAST EDDY COUNTY

[illegible]

McMillan, Michael, EMNRD

From: Alvarado, David <David.Alvarado@basicenergyservices.com>
Sent: Wednesday, March 02, 2016 11:51 AM
To: McMillan, Michael, EMNRD
Subject: RE: Belco Well No. 2 IPI.

Yes sir I am in Midland at a PBU meeting it will be in the morning Mike.
I also was told that the well current PSI at the Belco 2 is 1000 PSI respectively.

Sent via the Samsung GALAXY S® 5, an AT&T 4G LTE smartphone

----- Original message -----

From: "McMillan, Michael, EMNRD" <Michael.McMillan@state.nm.us>
Date: 3/2/2016 12:22 PM (GMT-06:00)
To: "Alvarado, David" <David.Alvarado@basicenergyservices.com>
Cc: "Jones, William V, EMNRD" <WilliamV.Jones@state.nm.us>, "Goetze, Phillip, EMNRD" <Phillip.Goetze@state.nm.us>, "Lowe, Leonard, EMNRD" <Leonard.Lowe@state.nm.us>
Subject: RE: Belco Well No. 2 IPI.

David:
Can you provide the raw data in a spreadsheet so we can further examine the data for the SRT?

Thank You

Michael A. McMillan

Engineering and Geological Services Bureau, Oil Conservation Division
1220 South St. Francis Dr., Santa Fe NM 87505
O: 505.476.3448 F. 505.476.3462
Michael.mcmillan@state.nm.us

From: Alvarado, David [mailto:David.Alvarado@basicenergyservices.com]
Sent: Monday, February 29, 2016 4:25 PM
To: McMillan, Michael, EMNRD
Subject: RE: Belco Well No. 2 IPI.

Michael the well was shut in oct.

Sent via the Samsung GALAXY S® 5, an AT&T 4G LTE smartphone

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Tony Delfin
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



Administrative Order IPI-406-A

January 27, 2016

Administrative Application Reference No. pTGW1123748737

Administrative Application Reference No. pWVJ1530032978

Administrative Application Reference No. pPRG1602733983

Mr. David Alvarado
SENM Distict Fluids Manager
Basic Energy Services, LP
801 Cherry Street
Ft. Worth, TX 76102

RE: Injection Pressure Increase; Correction of Order

UIC Class II Disposal Well
SWD; Delaware Pool (96100)

Dear Sir:

Reference is made to your request on behalf of Basic Energy Services, LP (OGRID 246368) received on January 7, 2016, to increase the maximum allowed surface tubing pressure (in pounds per square inch (psi)) on the following well(s):

Well No.	API Number	UL-S-T-R	Injection Authority	Existing Pressure Limit (psi)	Existing Tubing OD (in)
Belco No. 2	30-015-25433	F-20-23S-28E	Administrative Orders: SWD-1292 and IPI-406	1056	2 7/8

Division reviewed the recent step rate test (SRT) results dated December 15, 2015, and the previous SRT results dated August 11, 2011, submitted in the application which supported the approval of administrative order IPI-406. Analysis of the SRT results for order IPI-406 found that the vendor improperly plotted the results which Division used in approving the pressure increase. Therefore, Division is correcting the approved injection pressure for this well as to prevent any additional fracturing of the formation and, possibly, the confining strata.

Based on the results of the previously submitted step rate injection test(s), the following shall be the new maximum surface pressure limit(s) while equipped with **injection** tubing:

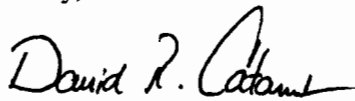
Well No.	Step Rate Test Date	New Pressure Limit (psi)	While Injecting	Injection Interval (ft)	Pressure Gradient (psi/ft)
Belco No. 2	8/11/2011	880	water	2540 to 3680	0.35

This approval is based on the provision that the tubing size, packer setting depth and completion interval for the well(s) does not change. Any future requested pressure increase will require resubmission of additional data and/or a new step-rate test. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in the well(s). This approval is subject to your being in compliance with all other Division rules, including but not limited to Division Rule 19.15.5.9 NMAC.

The previous pressure increase, approved in administrative order IPI-406 dated September 19, 2011, is hereby rescinded with the approval of this order.

The Division Director may rescind any injection permit if it becomes apparent that the injected fluid is not being confined to the permitted disposal interval or is endangering any fresh water aquifer.

Sincerely,



DAVID R. CATANACH
Director

DRC/prg

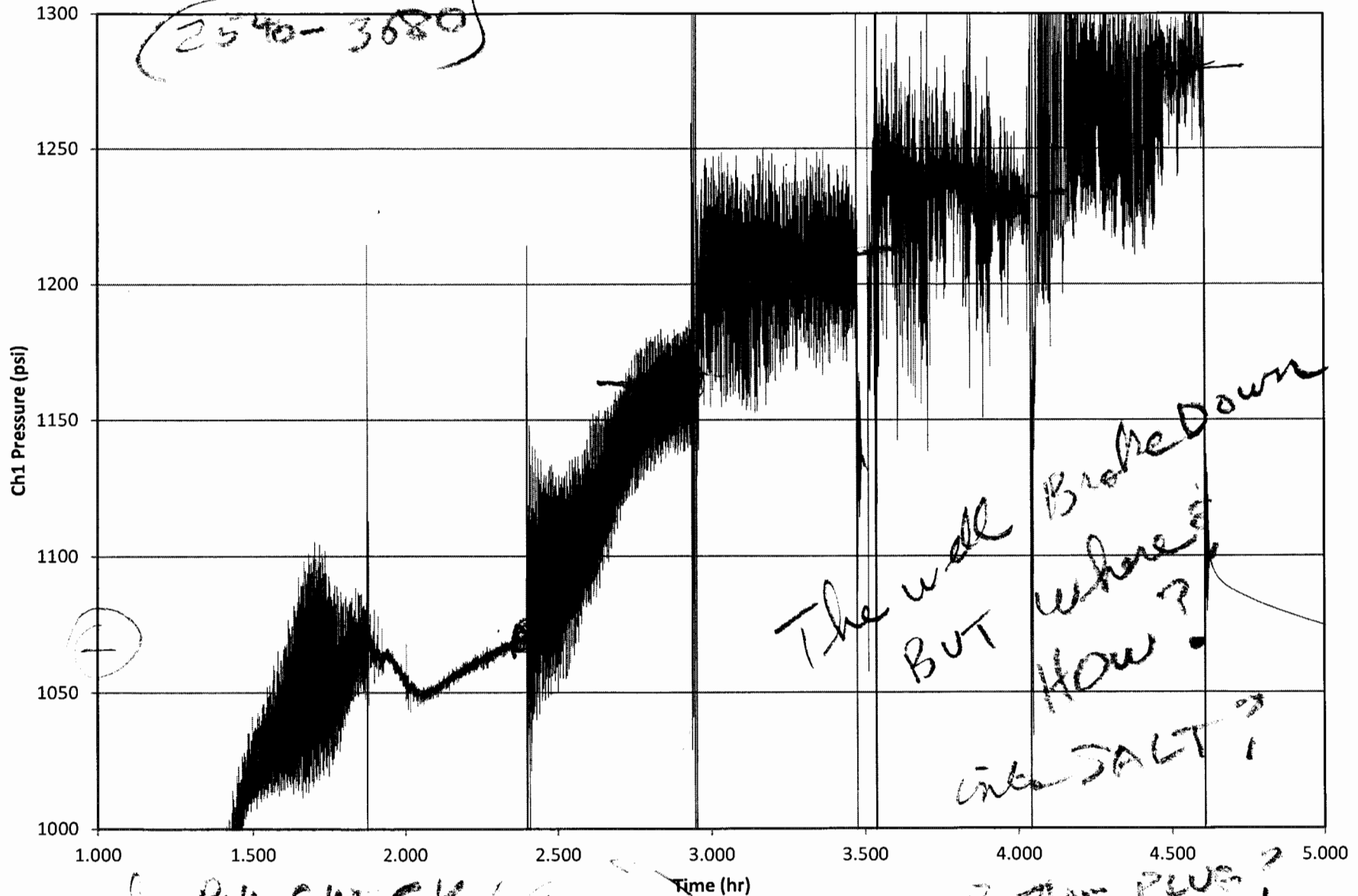
cc: Oil Conservation Division – Artesia District Office
State Land Office - Oil, Gas, and Minerals Division
Well File API 30-015-25433

015-25433
SWD-1292

2450
T of Bed?

F-20-235-28E

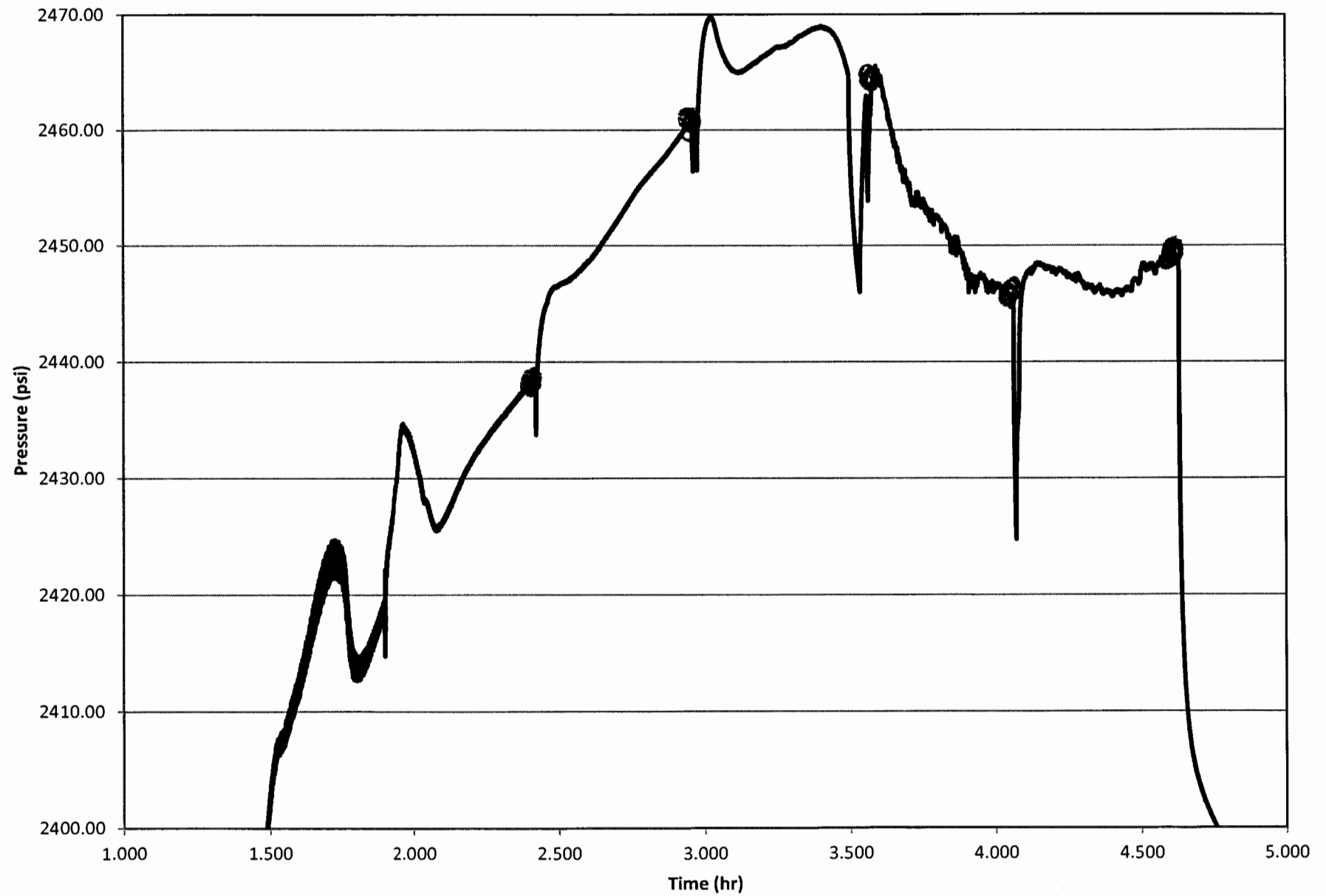
Belco State Well No. 2
Step Rate Test Chart

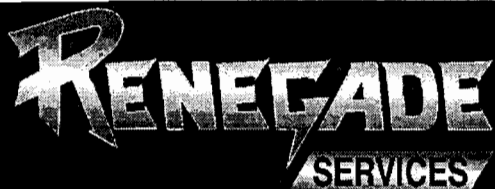


- need BH CHECK
- MIT

No
more
than
3680

Pressure Graph

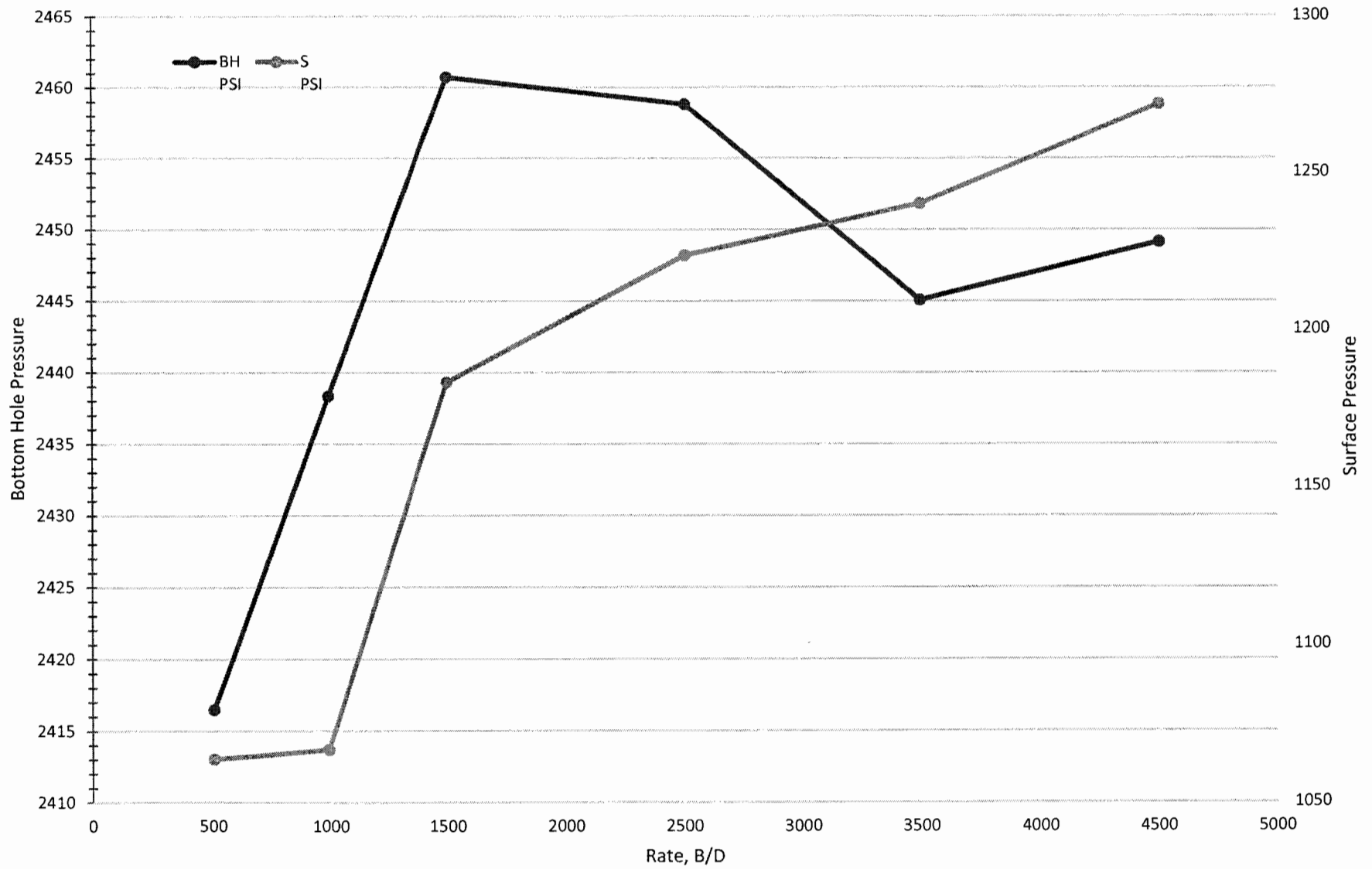




STEP RATE TEST

	RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
Step 1	504	12/15/2015	9:59 AM	2416.46	1063.64	
Step 2	993.6	12/15/2015	5:32 AM	2438.31	1066.72	
Step 3	1497.6	12/15/2015	11:03 AM	2460.71	1183.22	
Step 4	2505.6	12/15/2015	11:37 AM	2458.8	1223.53	
Step 5	3499.2	12/15/2015	12:10 PM	2445.04	1240.05	
Step 6	4507.2	12/15/2015	12:43 PM	2449.11	1271.82	
Fall Off		12/15/2015	1:14 PM	2387.17	1071.03	
	Company:	Basic Energy Services			Recorded By:	M. Flores
	Well:	Belco State #2				
	Field:	Belco State			Truck Number:	95
	County:	Eddy			District:	Levelland
	State:	New Mexico				
					Test Type:	STEP RATE TESTS
	Tubing Size:	2 7/8"				
	Seat Nipple Depth:	N/A				
	Perforations:					
	Plug Back Depth	N/A				

Belco Well No. 2



Side 1

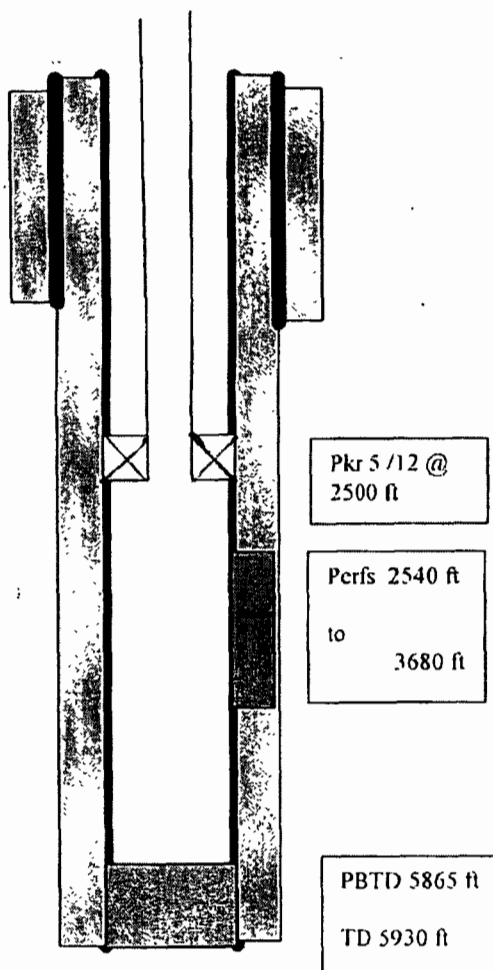
INJECTION WELL DATA SHEET

OPERATOR: BASiC Energy Services

WELL NAME & NUMBER: Belco ~~State~~ # 2 API # 3001525433

WELL LOCATION: 2310 FNL & 1980 FWL F 20 23S 28E
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 12 1/4"

Casing Size: 8 5/8 24# J-55

Cemented with: 200 sx.

or ft³

Top of Cement: Cir. to Surface 20sx to pit Method Determined: C-105 / C103

Intermediate Casing

Hole Size: N/A No intermediate

Casing Size:

Cemented with: sx.

or ft³

Top of Cement: Method Determined:

Production Casing

Hole Size: 7 7/8"

Casing Size: 5 1/2 17# J-55

Cemented with 665 poz / 780 pacesetter sx.

or ft³

Top of Cement: Cir. / CBL starts 400'

Method Determined: C-105 CBL

Total Depth: 5930 ft. PBTd 5865 ft.

Injection Interval

2540 feet To 3680 ft. Perforated 2SPF

(Perforated or Open Hole; indicate which)

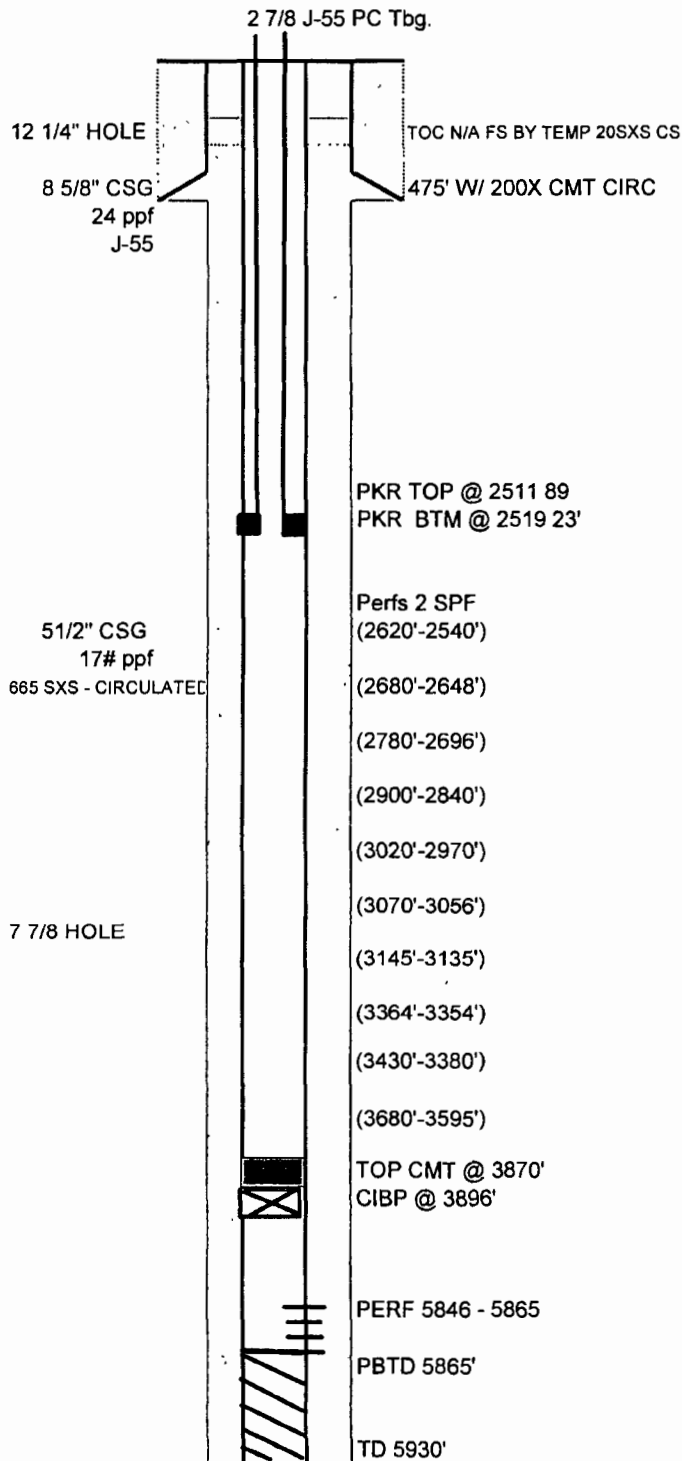
BASIC ENERGY SERVICES LP

BELCO ST. # 2

API # 3001525433

2310' FNL & 1980' FWL Unit F, Sec 20, T 23S, R 28E Eddy County

WELL BORE DIAGRAM



TOPS IN CONFORMANCE

T SALT	1570
B SALT	2239
RED BED	0-1000
ANHYDRITE	1000-1570
SALT	1570-2489
SAND & SHALE	2489-3930
T DELAWARE	2454

PKR TOP @ 2511 89
PKR BTM @ 2519 23'

Perfs 2 SPF
(2620'-2540')

(2680'-2648')

(2780'-2696')

(2900'-2840')

(3020'-2970')

(3070'-3056')

(3145'-3135')

(3364'-3354')

(3430'-3380')

(3680'-3595')

TOP CMT @ 3870'
CIBP @ 3896'

PERF 5846 - 5865

PBTD 5865'

TD 5930'

RECEIVED

JUL 29 2011

NMOCD ARTESIA

79 jts	2.875 - J 55	PC
Well Head	8 5/8	LR

DATE 7/25/2011

PACKER DATA:

SIZE

TYPE

5 1/2

13-20# X 2 7/8 AS1-X (NP)

(SS) 2.25 "F" Profile Nipple

2 7/8 T-2 on/off Tool SS Top, NP BTM

CBL starts @ 400 ft
to 5930 ft. PBTD @ 5865 ft.

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 August 1, 2011

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

WELL API NO. 3001525433
5. Indicate Type of Lease STATE ☐ FEE ☒
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Belco State
8. Well Number # 2 SWD
9. OGRID Number 246368
10. Pool name or Wildcat Delaware

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 ☐ Gas Well ☒ XX Other SWD
2. Name of Operator Basic Energy Services LP
3. Address of Operator P.O. Box 10460 Midland Texas 79702
4. Well Location Unit Letter F : 2310 feet from the North line and 1980 feet from the West line Section 20 Township 23 S Range 28 E NMPM County Eddy
11. Elevation (Show whether DR, RKB, RT, GR, etc.)

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

NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK ☐	REMEDIAL WORK ☒
TEMPORARILY ABANDON ☐	ALTERING CASING ☐
PULL OR ALTER CASING ☐	COMMENCE DRILLING OPNS. ☐
DOWNHOLE COMMINGLE ☐	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.

5/13/15 MI Frac tanks all fluids were handled thru closed loop started back flow 30 BPH @ 650 psi continue to flow back.
5/15/15 Hobbs Anchors completed time on One Call reset 4 anchors and tested.
5/15/15 RU SU over matting board make ready for BOP. Continued to flow back at 18BPH @ 550 psi SDFN
5/18/15 Order 110 bbls 10# Quality Brine psi at 300# ND well head NU BOP NU Vacuum to annulus released PKR.
Pumped 70 bbls 10# down tubing started extracting tubular 2 7/8 j-55 IPC POH W/PKR Ready Hydro-Testers TIH with tbg.
found split joint @ 1647.56 ft. from surface joint # 52 continue to test @ 3000 psi close BOP stab TIW shut in. SDFN
5/19/15 TOH with tubing make ready 4 3/4 bit and 5.5 drillable type scraper TIH with Tbg to 3871.59' TOH with tbg. TIH with
notched collar to 3870.09' rolled well bore with 110 bbls of 10# Quality Brine. Till clean. TOH with notched collar. Make ready
with 5 1/2 x 2 7/8 Arrow set ASI-X NP SS 2.25 F PN T-2 O/O tool SS top NP. RIH J - off O/O tool circulated PKR fluid 3%
PKR set @ 2507.50' Top of PKR. Btm. PKR @ 2515.95' pull 25 points over ND BOP Landed tbg set slips installed master
valve
NU pump truck loaded tubing with 13 bbls and psi to 2800# POP. Closed Master valve. NU pump truck to annulus psi to 500#
tested held good. Released all equipment. Ready for MIT
Basic Energy Services Respectfully asks for a date and time at NM OCD convenience for Scheduled date and time to MIT well.

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 David H. Alvarado TITLE SENM District Fluids Mgr. DATE 5/14/15

Type or print name David H. Alvarado E-mail address: david.alvarado@basicenergyservices.com PHONE: 575.746.2072
For State Use Only

APPROVED BY: Richard Inas TITLE Compliance Officer DATE 5/26/15
Conditions of Approval (if any):