Form 3160-4
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
MAY 19 2014
Bureau of Land Management

MAY 22 2014

FORM APPROVED
OMB NO. 1004-0137
Expires: October 31, 2014

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.: I-89-IND-58

1a. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Dry ☑ Other
b. Type of Completion: ☐ New Well ☑ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.,
Other: SWD (tbg change)

6. If Indian, Allottee or Tribe Name: Navajo Nation

7. Unit or CA Agreement Name and No.: N/A

2. Name of Operator: Vision Energy Group LLC

8. Lease Name and Well No.: USG Section 18 #43

3. Address: c/o Praxair Attn: Tom Harrison, 39 Old Ridgebury Road, Danbury CT 06810

3a. Phone No. *(include area code)*: 203 837-2243

9. API Well No.: 30-045-26420

4. Location of Well *(Report location clearly and in accordance with Federal requirements)**

At surface: 1500 FNL & 1760 FWL 18-29N-16W

At top prod. interval reported below: same

At total depth: same

10. Field and Pool or Exploratory: SWD; Entrada

11. Sec., T., R., M., on Block and Survey or Area: 18-29N-16W NMPM

12. County or Parish: San Juan

13. State: NM

14. Date Spudded: 07/18/1985

15. Date T.D. Reached: 08/18/1985

16. Date Completed: 03/15/2014 ☐ D & A ☑ Ready to Prod.

17. Elevations (DF, RKB, RT, GL)*: 5176' GR

18. Total Depth: MD 7283' TVD same

19. Plug Back T.D.: MD 7271' TVD same

20. Depth Bridge Plug Set: MD TVD cmt rtr @ 2642, CIBP @ 6745

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
1985: FDC-CNL; DIL-GR-SP-CAL; Dipmeter 2014: Gamma Ray CCL

22. Was well cored? ☑ No ☐ Yes (Submit analysis)
Was DST run? ☑ No ☐ Yes (Submit report)
Directional Survey? ☑ No ☐ Yes (Submit copy)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.5	13.375 H-40	48	GL	313		Class B	472 cu ft	GL (CIR)	N/A
12.25	9.625 K-55	36	GL	2260		Pz 65:35 & Cl A	1665 cu ft	GL (CIR)	N/A
8.75	7 K-55	23 & 26	GL	7282	5019	Class B	236 cu ft	300' (TS)	N/A

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
3.5	2075	2067						

25. Producing Intervals / 26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) Entrada (inject, not produce)	2128	2192	2140-2180	0.42" 6 spf	240	open
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, etc.

Depth Interval	Amount and Type of Material
Entrada 2140-2180	30 bbl location water + 72 bbl 15% HCl + 42 bbl KCl water

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status

ACCEPTED FOR RECORD
MAY 20 2014
FARMINGTON FIELD OFFICE
BY:

*(See instructions and spaces for additional data on page 2)

NMOCD AV

19

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production ⇨	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate ⇨	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production ⇨	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate ⇨	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status

29. Disposition of Gas *(Solid, used for fuel, vented, etc.)*

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
Entrada	2128	2192	sandstone & SWD zone		

32. Additional remarks (include plugging procedure):

33. Indicate which items have been attached by placing a check in the appropriate boxes:

☑ Electrical/Mechanical Logs (1 full set req'd.) ☐ Geologic Report ☐ DST Report ☐ Directional Survey

☐ Sundry Notice for plugging and cement verification ☐ Core Analysis ☑ Other: Bak. acid, Weather. tbg, NNEPA MIT, GR/CCL, step results, rates

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name *(please print)* Brian Wood Title Consultant

Signature Date 05/15/2014

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 3)

CEMENT JOB REPORT

BAKER HUGHES

CUSTOMER	DATE	F.R. #	SERV. SUPV.
PRAXAIR INC	13-MAR-14	10011052302	Joseph Lyda
LEASE & WELL NAME	**LOCATION**		**COUNTY-PARISH-BLOCK**
USG SECTION 18 #43 - API 30045264200000	18F-29N-16W		San Juan New Mexico
DISTRICT	**DRILLING CONTRACTOR RIG #**		**TYPE OF JOB**
Farmington	DRAKE 24		Misc Pump - Acid Spot

SIZE & TYPE OF PLUGS	LIST-CSG-HARDWARE	MECHANICAL BARRIERS	MD	TVD	HANGER TYPES	MD	TVD
NA	NA	Packer	2067	2067	NA		

MATERIALS FURNISHED BY BJ	LAB REPORT NO.	PHYSICAL SLURRY PROPERTIES: SACKS OF CEMENT	SLURRY WGT PPG	SLURRY YLD FT	WATER GPS	PUMP TIME HR:MIN	Bbl SLURRY	Bbl MIX WATER
Location water			8.43				30	
15% HCL			8.97				72	
KCL WATER			8.43				42	

Available Mix Water 0 Bbl. Available Displ. Fluid 80 Bbl. TOTAL 144

HOLE SIZE	% EXCESS	DEPTH	TBG-CSG-D.P. ID	OD	WGT.	TYPE	MD	TVD	GRADE	COLLAR DEPTHS SHOE	FLOAT	STAGE
			6.276	7	26	CSG	2642	2642	N-80			
			2.44	3.5	16.81	TBG	2075	2075	J-55			

LAST CASING ID	OD	WGT	TYPE	MD	TVD	PKR-CMT RET-BR PL-LINER BRAND & TYPE	DEPTH	PERF. DEPTH TOP	BTM	TOP CONN SIZE	THREAD	WELL FLUID TYPE	WGT.
						PACKER	2075			3.5	1502	KCL WATER	8.43

DISPL. VOLUME VOLUME	UOM	DISPL. FLUID TYPE	WGT.	CAL. PSI BUMP PLUG	CAL. MAX PSI TO REV.	OP. MAX SQ. PSI	MAX TBG PSI RATED	Operator	MAX CSG PSI RATED	Operator	MIX WATER
42	BBLS	KCL WATER	8.43	0	0	3500	6980	5584	6340	5072	WATER TRUCK

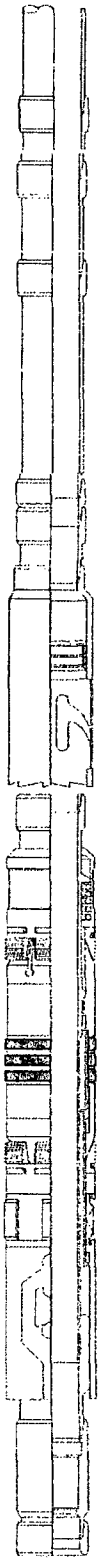
EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC. PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL TIME HR:MIN.	PRESSURE - PSI PIPE	ANNULUS	RATE BPM	Bbl. FLUID PUMPED	FLUID TYPE	EXPLANATION
						SAFETY MEETING: BJ CREW [X] CO. REP. [X]
						TEST LINES 4500 PSI
						CIRCULATING WELL - RIG [ ] BJ [ ]
09:00						ARRIVE AT LOCATION
10:30						PRE RIG SPOT MEETING
13:30						PRE JOB SAFETY MEETING
13:55	4500	0	0	0	KCL	PRESSURE TEST LINES
13:59	550	0	5.7	30	KCL	O/W START 30 BBL INJECTION RATE
14:03	700	0	5.5	72	ACID	START 72 BBL ACID
14:05	655	0	5.5	5	ACID	START BIO BALLS 5 BBL IN
14:19	730	0	6	42	KCL	START 42 BBL FLUSH
14:26	400	0	0	0	KCL	SHUT DOWN ISIP 400 PSI
14:31	416	0	0	0	KCL	5 MIN WELL CHECK 416 PSI
14:36	362	0	0	0	KCL	10 MIN WELL CHECK 362 PSI
14:38	350	0	0	0	KCL	SHUT IN WELL 350 PSI

BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	BBL.CMT RETURNS/ REVERSED	TOTAL BBL. PUMPED	PSI LEFT ON CSG	SPOT TOP OUT CEMENT	SERVICE SUPERVISOR SIGNATURE:
Y [N]	0	Y [N]	0	144	355	Y [N]	Joseph Lyda

should be 43

A	COMPANY Prexair		CASING		TBG-	Duo Lined	
B	WELL NAME:USG Section18 #42 SWDW		SIZE:	7	SIZE:	3.5	
C	FIELD:		WEIGHT:	23	WEIGHT:	9.3	
	COUNTY:San Juan		GRADE:	J55	GRADE:	j55	
	STATE New mexico		THREAD:	LT&C	THREAD:		
D	DATE:3-12-14		DEPTH:		DEPTH:	2077,10	



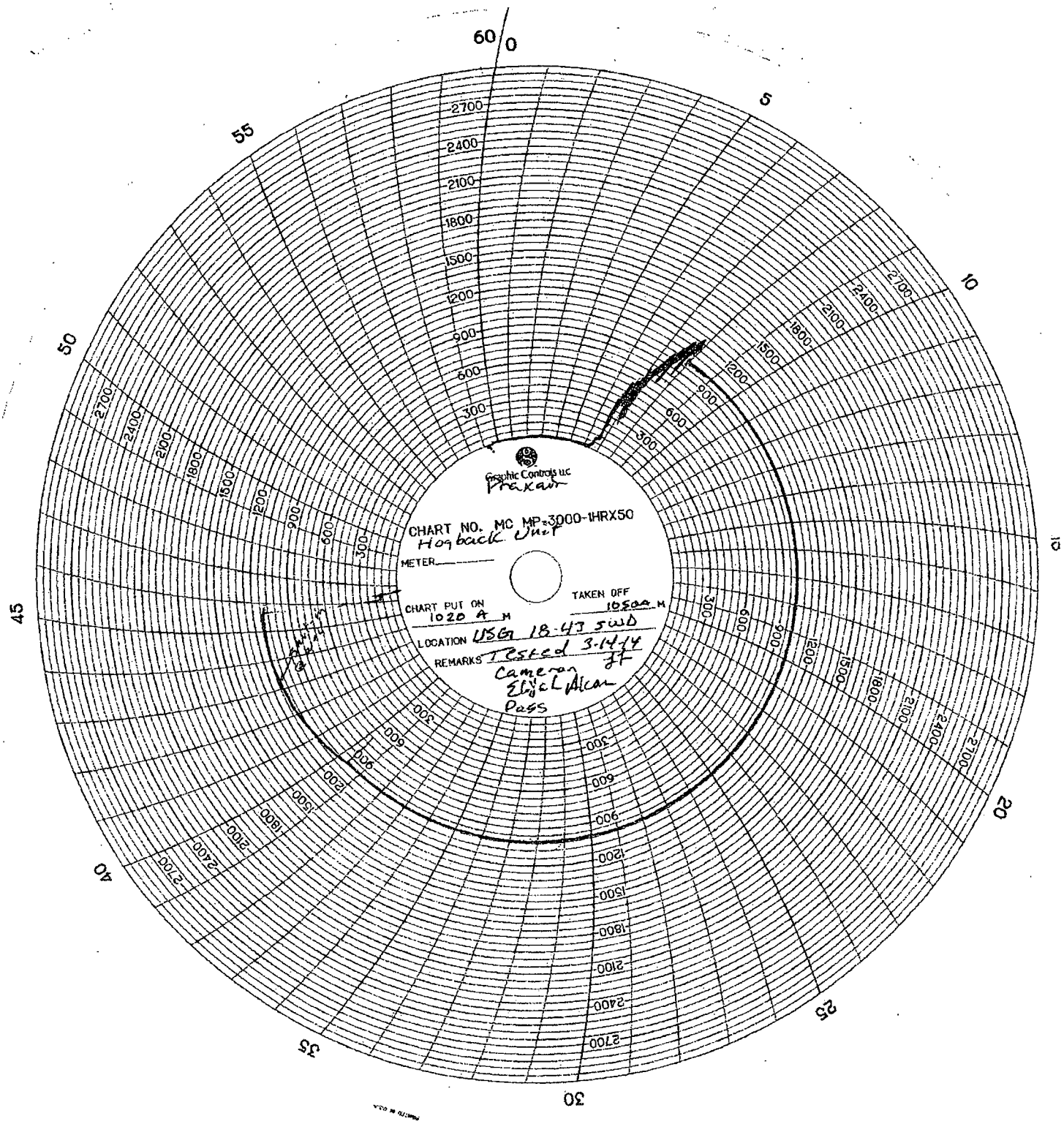
	ITEM	DESCRIPTION	LENGTH FEET	DEPTH: FEET	MAX.O.D. INCHES	MIN. I.D. INCHES
E						
	(A)	KB	13.00	13.00		
	(B)	Tubing Hanger	0.59	13.59		
F						
	(C)	PVC LINed nipple 3.5X3.5	0.30	13.89	3.70	2.69
	(D)	3.5 Tubing pvc lined 63 Joints	2049.12	2063.01	4.56	2.69
	(E)	3.5 Pupjoint PVC lined	2.13	2065.14	4.56	2.69
G						
	(F)	3.5 copling Xover X2.875 pin	0.71	2065.85	3.67	2.24
	(G)	2.875 X 2.375 Xover	0.50	2066.35	3.67	1.95
H						
	(H)	7"X 23/8"T-2 On/off tool w/ 1.81. F nipple	1.73	2068.08	4.51	1.81
	(I)	7" X27/8" Arrow Set 1X Plastic coated PKR RH set Rhrlease	7.48	2075.56	6.00	2.10
	(J)	27/8" 1.78 "R" profile nipple w/ 1.720 nogo	1.10	2076,66	3.08	1.72
	(K)	23/8" Wire line re entry guide	0.44	2077,10	3.08	3.08
I						

1.81F Nipple @2068.08
1.78 R nipple @ 2076

Set tubing with 9kk on Hanger 8 k on Paker

Middle element @2071

PREPARED FOR:		OFFICE:	
Dan Dalton			
PREPARED BY:	OFFICE:	PHONE: (505) 326-5141	
Ronnie Herrera	FARMINGTON, NM		
J	WEATHERFORD COMPLETION SYSTEMS		
K	(505) 326-5141	FAX (505) 326-4141	
Weatherford	514 EAST ANIMAS FARMINGTON N.M 87401		



Navajo Nation Environmental Protection Agency
Underground Injection Control Program
PO Box 1999
Shiprock, New Mexico 87420

ANNULAR PRESSURE TEST
(Mechanical Integrity Test)

Operator VISION Energy Group **Date of Test** 3/14/14

Well Name 15-43 **EPA Permit No.** _____

Location NE SW NE Sec. 15 T29N R16W **Tribal Lease No.** I-22-IND-52

State and County San Juan County New Mexico

Continuous Recorder? YES ☒ NO ☐ **Pressure Gauge?** YES ☒ NO ☐

Bradenhead Opened? YES ☐ NO ☐ **Fluid Flow?** YES ☐ NO ☐

TIME	ANNULUS PRESSURE, psi		TUBING PRESSURE, psi
10:00	1000	1000	280
10:05	1000	1000	280
10:10	1000	1000	280
10:15	1000	1000	280
10:20	1000	1000	280
10:25	1000	1000	280
10:30	1000	1000	280

MAX. INJECTION PRESSURE: 1000 **PSI**

MAX. ALLOWABLE PRESSURE CHANGE: 50 **PSI (TEST PRESSURE X 0.05)**

REMARKS: **Passed? Failed? If failed, cease injection until well passes MIT (40CFR§144.21(c)(6)).**

Start Pressure 1000 psi
10 minutes 1000 psi
15 minutes 1000 psi
20 minutes 1000 psi
25 minutes 1000 psi
30 minutes 1000 psi
MIT passed

_____ 3/14/14
COMPANY REPRESENTATIVE: (Print and Sign) **DATE**

_____ 3/14/14
INSPECTOR: (Print and Sign) **DATE**

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTICE OF INSPECTION

Address (EPA Regional Office)	Inspection Contractor	Firm To Be Inspected
Region 9 Environmental Inspection Agency 75 Hawthorne Street (WTR-9) San Francisco, CA 94105	Underground Injection Control PO Box 1999 Shiprock, NM 87420-1999	

Date	Notice of inspection is hereby given according to Section 1445(b) of the Safe Drinking Water Act (42 U.S.C. §300 f et seg.).
Hour	

Reason For Inspection

For the purpose of inspecting records, files, papers, processes, controls and facilities, and obtaining samples to determine whether the person subject to an applicable underground injection control program has acted or is acting in compliance with the Safe Drinking Water Act and any applicable permit or rule.

Section 1445(b) of the SDWA (42 U.S.C. §300 j-4 (b) is quoted on the reverse of this form.

Receipt of this Notice of Inspection is hereby acknowledged.

Firm Representative	Date	Inspector

USEPA - Region IX (White) *NEPA-GPCP (Yellow)* *Operator (Pink)*

Step Rate Injection Test Results

Hogback 18-43
Water Disposal Well
Vision Energy
April 30, 2014

Overview

- Test follows recompletion work
  - Reperforate
  - Acidize
- Planned 10 step, 15 min intervals, stepping up 0.5 bpm starting at 0.5 bpm.
- Enough water on hand to add 2 steps if needed.

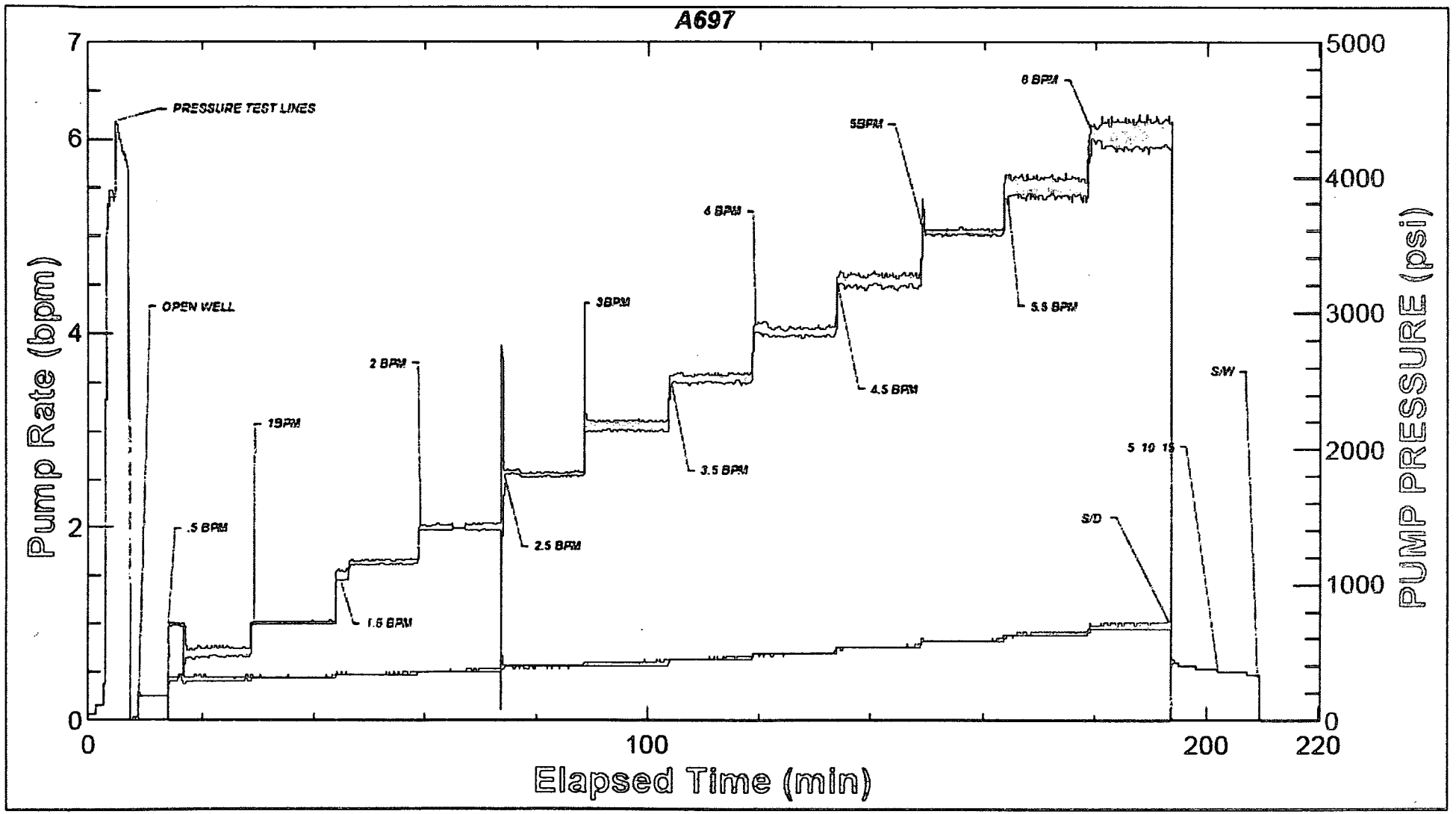
Job Execution

- Job went well operationally. Data was collected on the surface as well as down hole.
- During test BHP vs Rate data was plotted and reviewed. During the 9 steps break over didn't seem readily apparent so it was decided to add two steps.

Summary of Test Data w/ Comments

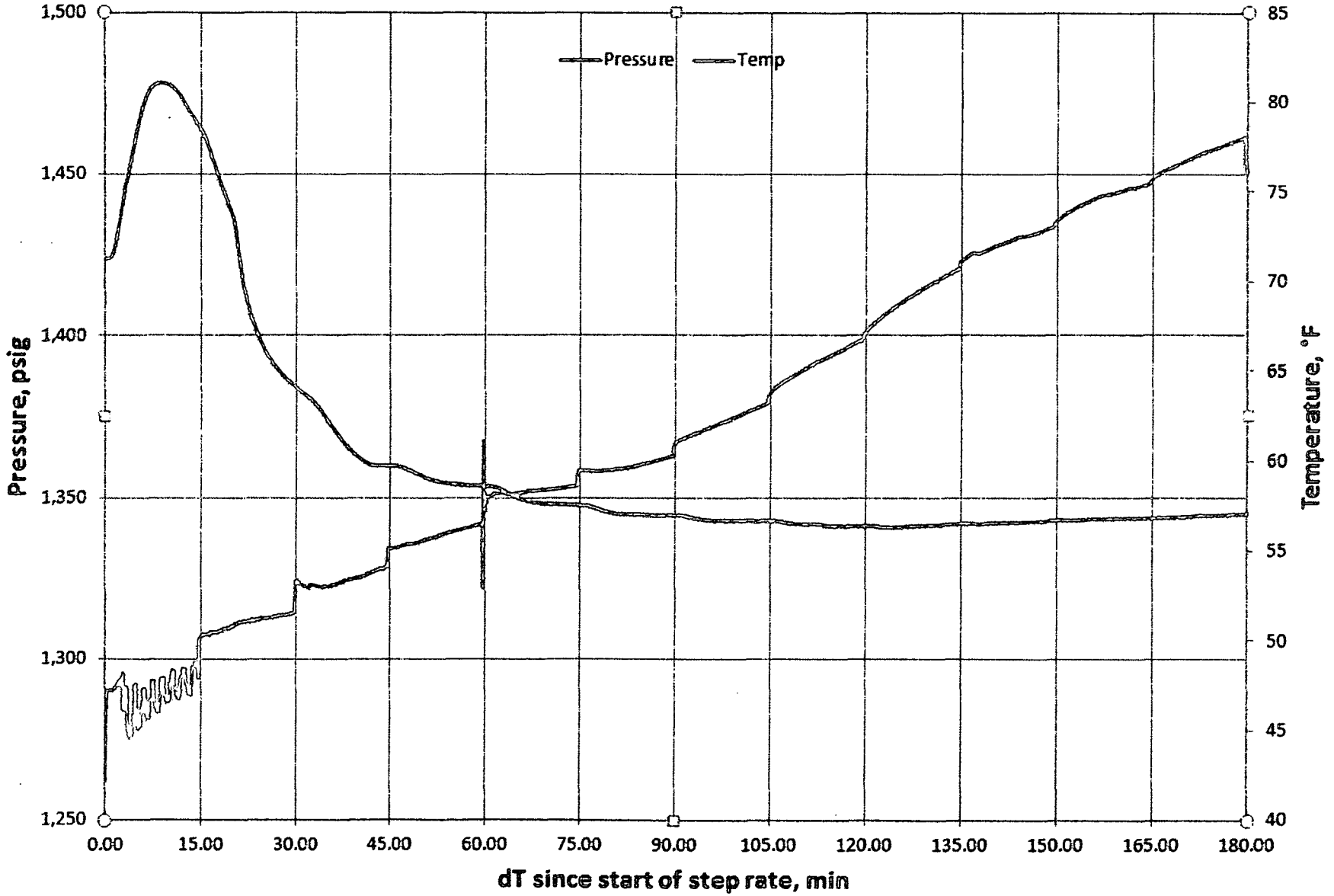
Period Start Time	Step	Rate *bpm*	Step Time *min*	WHP *psig*	BHP *psig*	Step Vol *bbl*	Cum Vol *bbl*	Step Vol *gal*	Cum Vol *gal*	Comments
7:58		0.0		179	1156.5					
8:00	1	0.8	15	314	1297.7	11.3	11.3	475	475	Pump crew struggled to get low rate, choked thru valve, 1st downstream of pressure measurement, then upstream. Switched valves sometime during this step. Surface pressure may be affected.
8:15	2	1.0	15	314	1314.4	15.0	26.3	630	1,105	Still some choking thru valve, but this time upsteam of pumps
8:30	3	1.6	15	336	1328.4	23.8	50.2	1,001	2,106	Descrepancy between micro motion rate & turbine volume count. Chose to go by micro motion rate.
8:45	4	2.0	15	381	1341.9	30.0	80.1	1,259	3,366	
9:00	5	2.5	15	404	1353.4	37.9	118.0	1,591	4,957	
9:15	6	3.1	15	426	1362.5	45.8	163.8	1,923	6,880	
9:30	7	3.5	15	471	1378.8	52.7	216.5	2,212	9,092	
9:45	8	4.0	15	493	1398.5	60.1	276.6	2,526	11,618	
10:00	9	4.5	15	538	1420.3	67.9	344.5	2,850	14,468	Plot of BHP vs rate still looked inconclusive, decided to add two more steps. Approved by Leroy.
10:15	10	5.0	15	583	1433.6	75.2	419.7	3,159	17,628	
10:30	11	5.5	15	628	1446.8	82.3	502.0	3,456	21,083	
10:45	12	6.0	15	695	1461.5	90.5	592.4	3,799	24,883	
ISIP				426	1455.0					BHP ISIP implies 7 psi perf friction, Wellhead ISIP implies additional 262 psi of tubing and surface pipe friction at final 6 bpm rate.
10:50			5	381	1403.2					5 minute shut in value
10:55			5	359	1369.6					10 minute shut in value
11:00			5	336	1344.9					15 minute shut in value

Surface Data Plot



Downhole Data Plot (mid perf)

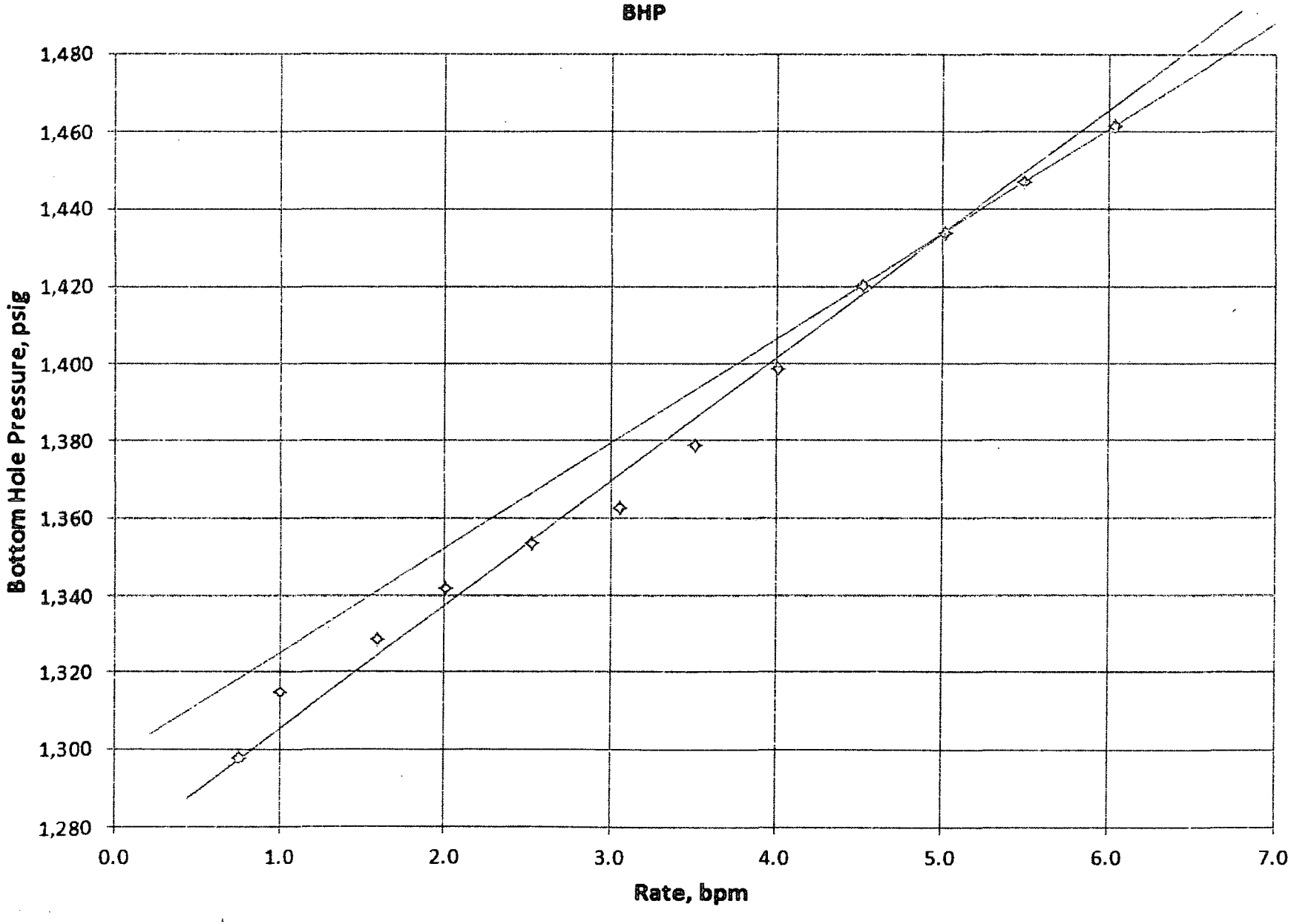
Hogback 18-43 step rate test downhole data



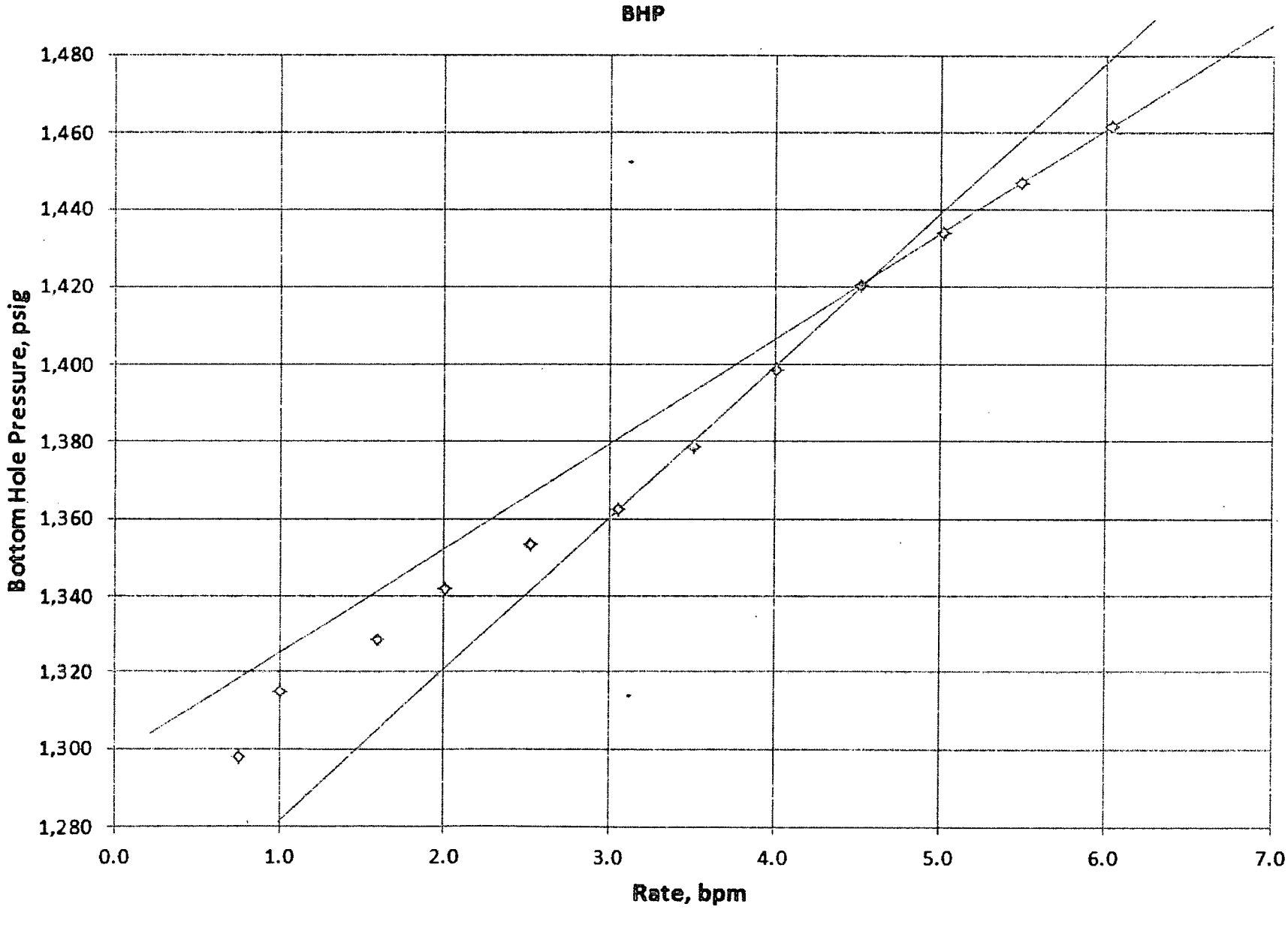
Results

- Resulting Bottom Hole Pressure vs Rate plot does not show obvious and undisputable break over point.
- Two possible scenarios are presented as Case 1 and Case 2.
  - In Case 1 points from rates 1- 8 are used to determine the pre-breakover slope.
  - In Case 2 only points from rates 6-9 are used to determine the pre-breakover slope. These points form a better linear trend.
  - In both cases the post-breakover slope is the same.

Case 1 Plot

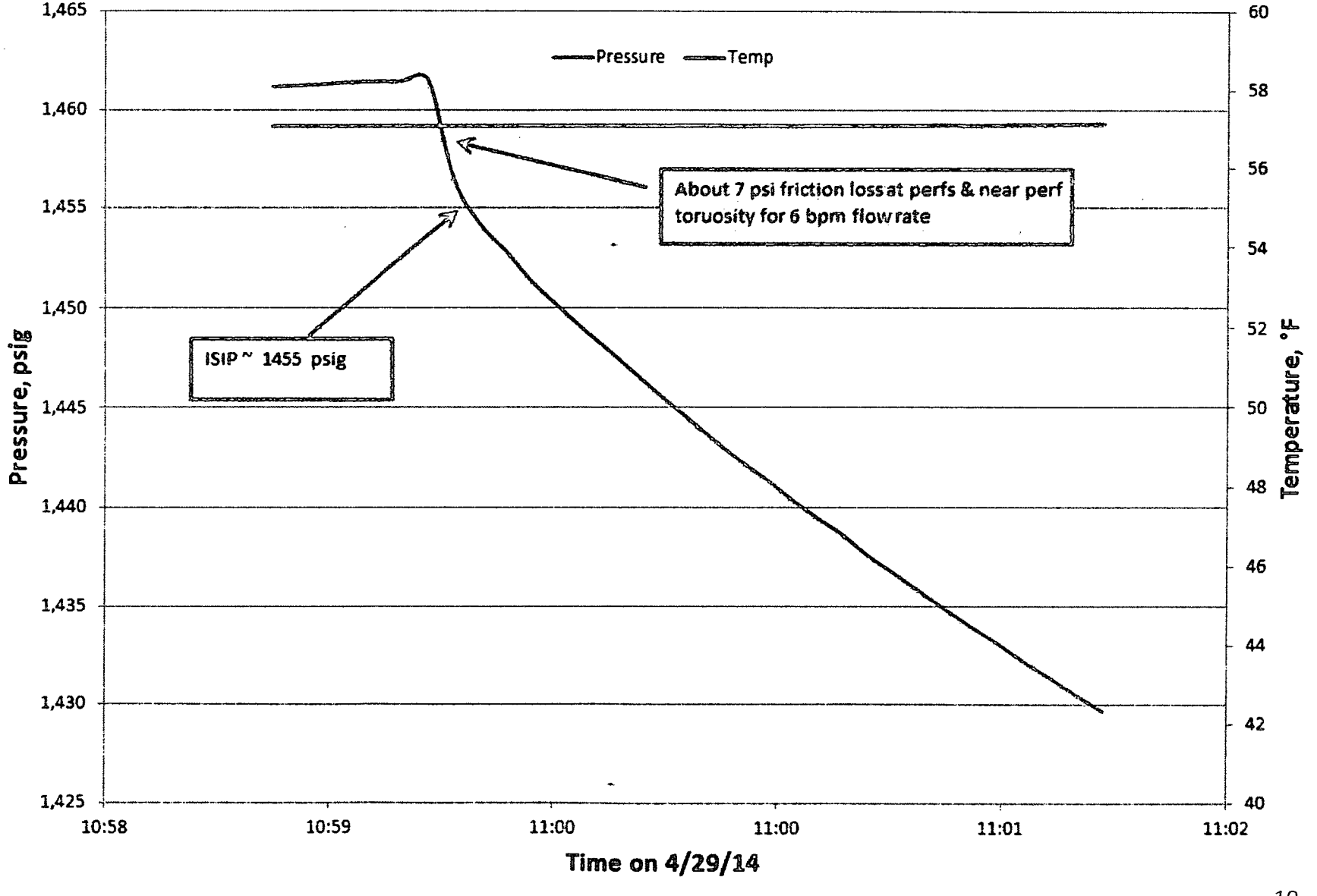

BHP
Bottom Hole Pressure, psig
1,480
1,460
1,440
1,420
1,400
1,380
1,360
1,340
1,320
1,300
1,280
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
Rate, bpm

Case 2 Plot


BHP
Bottom Hole Pressure, psig
1,480
1,460
1,440
1,420
1,400
1,380
1,360
1,340
1,320
1,300
1,280
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
Rate, bpm

Bottom Hole ISIP Plot

Hogback 18-43 post step rate test bottom hole ISIP



Conclusions

- Case 1 implies fracture initiation at about the following conditions:
  - 1435 psi bottom hole (mid perf) pressure
  - 5 bpm rate
  - about 580 psi surface pressure
- Case 2 implies fracture initiation at about the following conditions:
  - 1425 psi bottom hole (mid perf) pressure
  - 4.6 bpm rate
  - about 540 psi surface pressure
- Our inclination is to go with the more conservative results which is Case 2
- On another note the bottom hole ISIP indicates only 7 psi frictional pressure drop attributed to perforation and tortuosity. This seems to confirm that recompletion work was successful.

PROGRAM RATES

Recorder#: 6864
Date and Time Programmed: 04/23/2014 16:57:49
Company name: Vision Energy Well Location: Edmonton Ticket#:
Surface Location: Test Description:

ModBus: On Power: External Baud Rate: 9600 Modbus Address: 5 Delay: 3 ms

Sample Rate HH:MM:SS	Duration DDD:HH:MM:SS	# of Samples
00:00:05	000:00:01:05	13
00:00:05	058:13:09:20	1011712

OVERRUN RATE

00:00:30	000:00:00:00

Programmed Duration 058:13:10:25

Total Duration Including Overrun 058:13:10:25
Number of samples used on recorder: 0

Programmed Atmospheric Station Pressure 13.4885 psi 93.0000 kPa
Display Option: Always On
Pressure Display Option: psig
Temperature Display Option: Fahrenheit
Local Access Password Option: Off Network Password: Off
Gopher: On Name = SRO - 5456 Calibration Date: 2012/06/08
Gopher External RTD: On Name = SRO - 5456