

DATE IN 8/22/12	SUSPENSE	ENGINEER WUJ	LOGGED IN 8/22	TYPE IPI	APP NO. PWVJ12235538
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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 \_\_\_\_\_

- [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.**

- [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.

James B Campanella

Print or Type Name

Signature

Member/Manager

Title

8/15/2012

Date

jbc@judahoil.com  
e-mail Address

08RID  
245872

**RED LAKE SWD, LLC**

RECEIVED OGD

2012 AUG -6 P 12:51

**August 3, 2012**

**To: Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505**

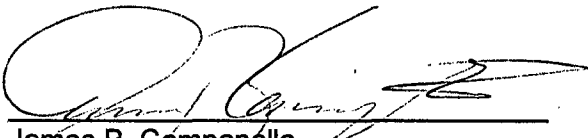
**Attn: William V. Jones  
Examiner**

**Reference: Step-Rate-Test on Red Lake SWD No. 1 (G-22-T17S-R28E)  
API # 30-015-22893, Date July 19, 2012**

Dear Sir,

Please find the certified report on the subject Step-Rate-Test report and prepared by Van S. Welch II, PE State of Texas # 66291. As presented in this report, the subject well did not fracture up to a surface pressure of 2050 psi and 4196 psi bottom-hole pressure. Based on these results, Judah Oil, LLC as operator of this well respectfully requests the limiting surface pressure be increased from 1322 psi to 1950 psi.

Respectfully,

  
James B. Campanella  
Judah Oil, LLC

# **JUDAH OIL**

**Review of Step-Rate Test Dated July 19, 2012**

**Red Lake SWD Well No. 1**

**API # 30-015-22893**

**G-22-T17S-R28E**

**Date : August 2012**

**DISCLAIMER - THIS REVIEW IS BASED ON THE INFORMATION COLLECTED ON LOCATION BY VAN WELCH, PE, OF VSW2 E&P, LLC (VSW2), DURING A STEP-RATE-TEST ON THE RED LAKE SWD WELL NO. 1. THE INFORMATION COLLECTED WAS FROM RISING STAR SERVICES (SURFACE RATES AND PRESSURES) AND PRO WELL TESTING & WIRELINE, INC (BHP DATA). ALL DATA WAS ACCEPTED AS TRUE AND VALID. VSW2 DOES NOT GUARANTEE THE RESULTS OF ANY ACTIONS TAKEN BASED ON THIS REVIEW NOR DOES VSW2 ACCEPT ANY RESPONSIBILITY FOR ANY DECISIONS OR ACTIONS TAKEN BY JUDAH OIL, ANY PARTNERS TO JUDAH OIL, ANY ASSOCIATES OF JUDAH OIL AND/OR OTHER THIRD PARTIES OR AGENCIES (PRIVATE OR GOVERNMENTAL) WITH WHOM JUDAH OIL MAY SHARE THIS REVIEW.**

**Prepared by:**

**Van S. Welch II, PE # 66291 State of Texas**

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## Technical Review

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### Preface

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This is a review prepared by **VSW2 E&P, LLC.** (VSW2) of Duncan, Oklahoma. Mr. Van Welch, **Professional Engineer (No. 66291 State of Texas)** has performed the "Technical Review" of the Step-Rate-Test (SRT) conducted on the Red Lake SWD Well No. 1, Eddy Co. New Mexico on July 19, 2012. Mr. Welch was physically present to collect all necessary data and assure that the Step-Rate-Test was properly performed in accordance with industry standards. The SRT program and pressure data collection met industry standards.

**Disclaimer** – VSW2 does not accept any responsibility for any decisions or actions taken by Judah Oil (its Partners, any associates of Judah Oil, third-parties or governmental agencies) relative to this "Technical Review". Due to the many uncertainties relative to individual wells and reservoirs, VSW2 cannot make any guarantees as to the best practices for future reservoir performance on the Red Lake SWD Well No. 1 as presented in this document.

### Summary Result

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As discussed in the review, the surface and bottom-hole pressure (BHP) data establish that the well has not fractured up to a surface pressure of 2050 psi or 4196 psi bottom-hole.

### Discussion

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Mr., Welch collected surface and BHP data from a SRT conducted on July 19, 2012. Mr. Randy Dade with the OCD in Artesia NM was contacted as to when the SRT was to be conducted but the OCD was not able to physically witness the test. The surface data set on the SRT are included as **Appendix I** which is a copy of Rising Star Services surface pressure and rates. **Appendix II** is a copy of Pro Well Testing & Wireline, Inc BHP report which is only presented in graphic form. VSW2 included in this report an extraction of the critical starting and ending BHP for each rate increase from Pro Well's extended file which includes pressure readings every 6 seconds. If the OCD desire this extended pressure file, please advice.

The procedures used in the SRT were as follows:

1. Run Bottom-Hole Gauge to 7987 ft GL; 8000 ft KB (Perfs 6610-8828 ft KB)
2. Start Rate 2 BPM constant for 30 Minutes and Record Pressures
3. Increase Rate to 4 BPM for 30 Minutes and Record Pressures
4. Increase Rate to 6 BPM for 30 Minutes and Record Pressures
5. Increase Rate to 8 BPM for 30 Minutes and Record Pressures
6. Increase Rate to 9 BPM for 30 Minutes and Record Pressures
7. SI Record Surface ISIP, 2, and 5 Minute SIP's

Figure 1 illustrates the wellbore at the time of the SRT.

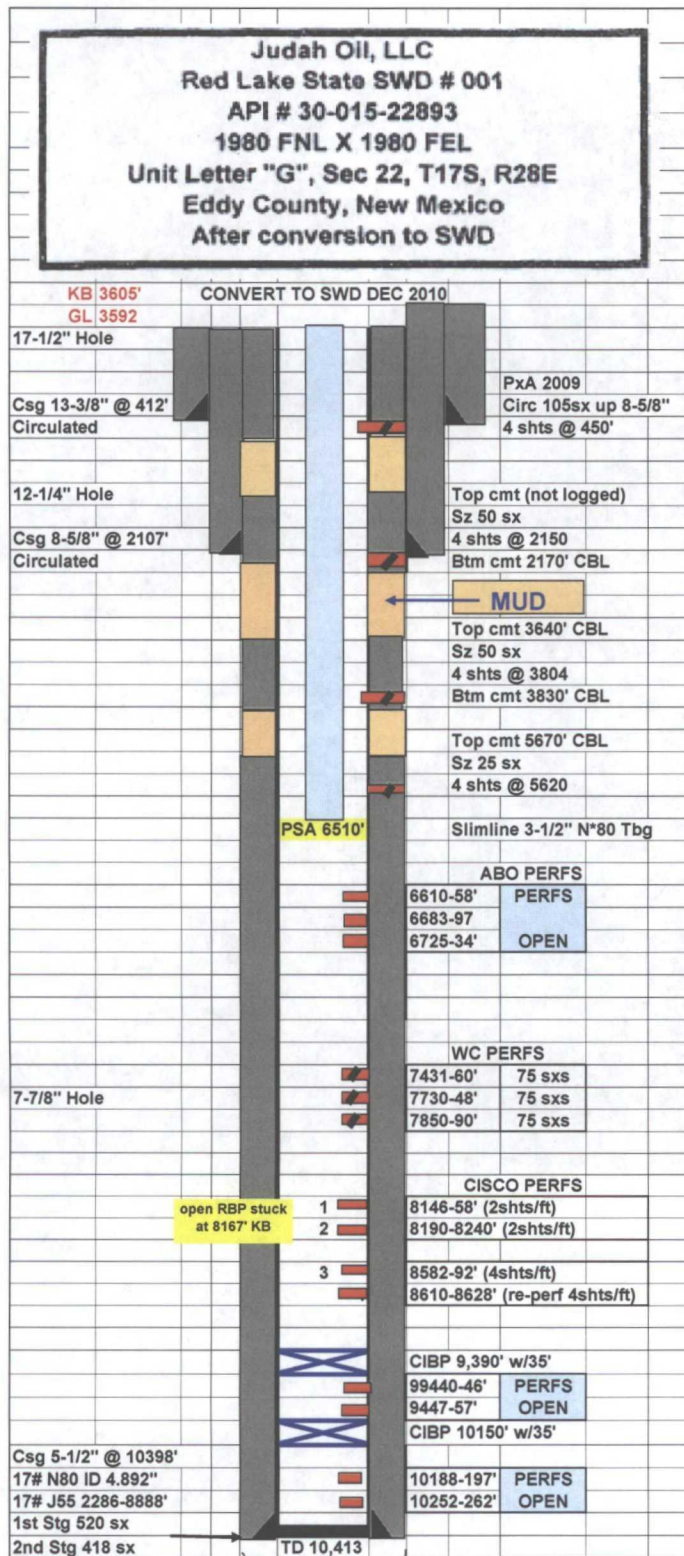


Figure 1 Wellbore Diagram



This review included graphing the data collected by Mr. Welch in a standard SRT format of plotting the surface and BHP at the end of each 30 minute (approx) injection period as a function of injection rate. Data used for these plots are shown in **Table 1**.

Table 1: SRT Pressure Data

RED LAKE SWD #1			
End Time	Rate BPM	Surface PSI	BHP PSI
13:01	0	160	4086
13:30	2	600	4098
14:07	4	900	4121
14:38	6	1260	4145
15:08	8	1740	4176
15:38	9	2050	4196

The surface and bottom-hole graphs of this data are shown in **Figure 2**, surface pressure, and **Figure 3**, bottom-hole pressure.

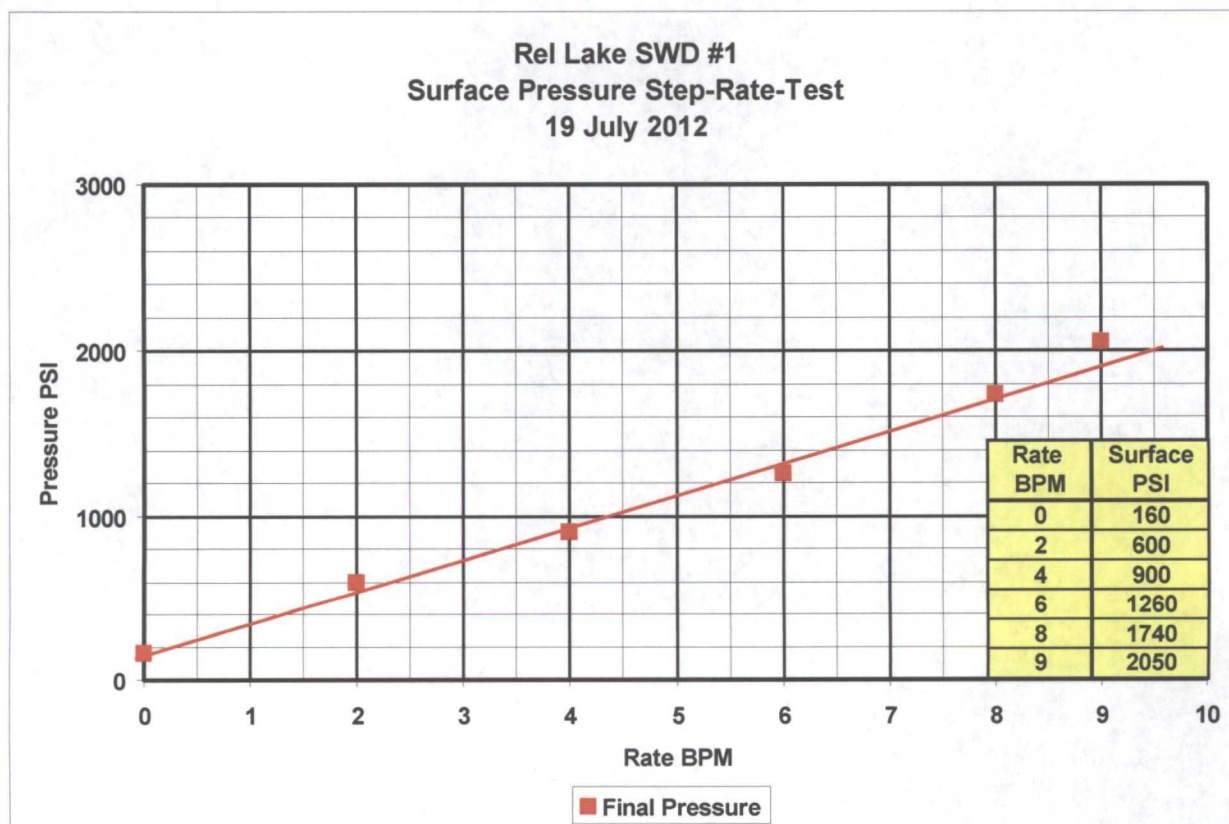


Figure 2: Surface Pressure SRT

Mr. Welch received the complete BHP data file from Pro Well which had pressures on 6 second readings. The report attached from Pro Well only has graphical data. Mr. Welch extracted the starting and end pressures for each step rate and included it in Appendix II.

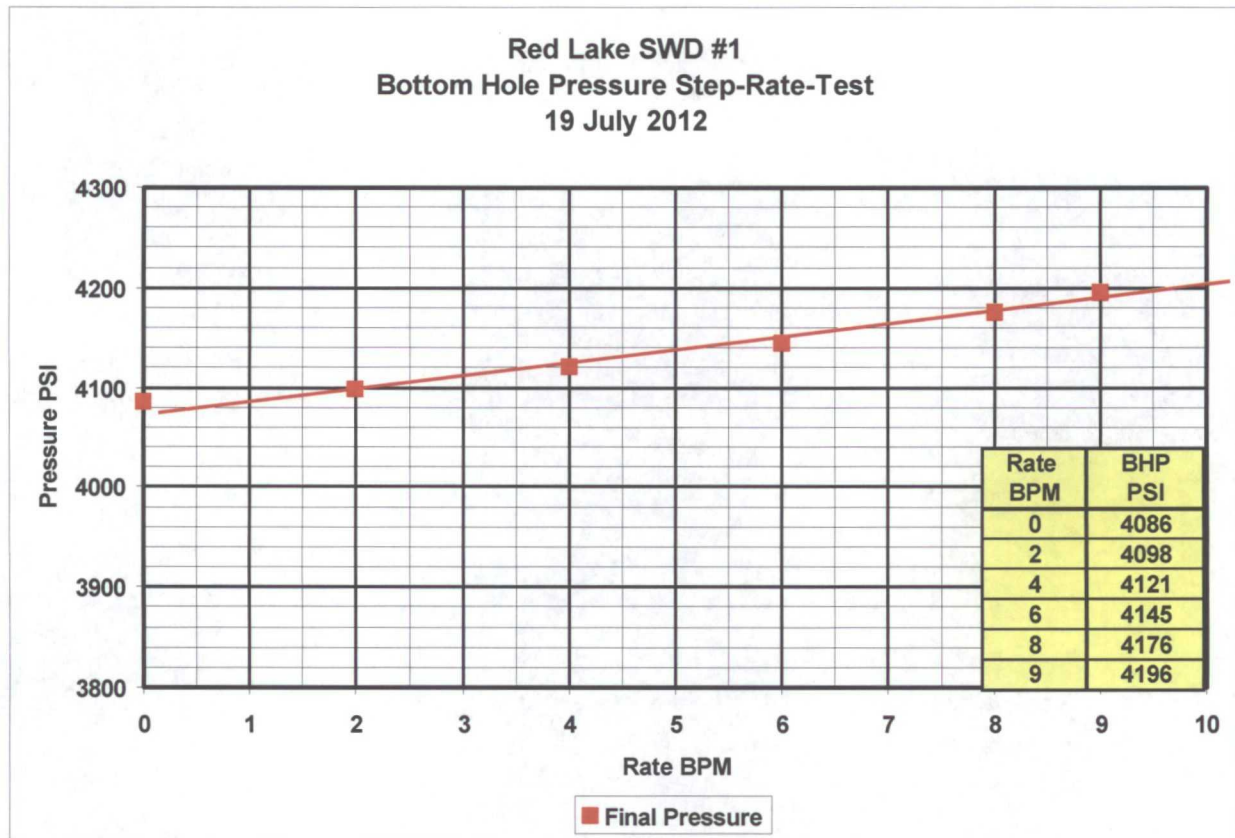


Figure 3: Bottom-Hole Pressure SRT

Both pressure graphs are representative of a typical SRT illustrating a continued increased pressure with each rate increase. Neither graph illustrates the characteristic break associated with fracturing the reservoir in which the pressure increase is significantly reduced with each incremental increase in rate.

**Van S. Welch II, PE**  
V&C Properties, LLC.  
President  
Professional Engineer State of Texas (PE No. 66291)

**Seal**



## Appendix :1 Rising Star Surface Rate and Pressure Report



Date: 19-Jul-12 Time: 11:30 AM  
 Truck Called: 19-Jul-12 11:30 AM  
 Arrived at location: 19-Jul-12 12:00 PM  
 Start Job: 19-Jul-12 13:00  
 Finish Job: 19-Jul-12 16:00  
 Leave Location: 19-Jul-12 1700

### Job Log

<b>RISING STAR SERVICES LP.</b>		<b>Customer Name:</b> JUDAH		<b>Ticket Number:</b> H2012-2269	
P.O. BOX 61193		<b>Lease Name:</b> RED LAKE ST SWD		<b>Supervisor:</b> KELLY CROW	
MIDLAND, TEXAS 79711		<b>Well #:</b> 1		<b>County:</b> EDDY	
OFFICE # 432-617-0114		<b>Type of Job:</b> STEP-RATE		<b>CUSTOMER REPRESENTATIVE:</b> BLAISE CAMPANELLA	
FAX #432-339-0140		<b>Date:</b> 7/19/2012			
<b>Tubing Size:</b> 3.5	<b>Casing size:</b> 5.5	<b>Tbg Capacity:</b> 2257.67			
<b>Tubing weight:</b> 9.4	<b>Casing weight:</b> 15.5	<b>Top Perf:</b> 97.63			
<b>Tubing bbl/inf:</b> .3468	<b>Casing bbl/inf:</b> .9763	<b>Bottom Perf:</b> 2067.80			
<b>Packer depth:</b> 6510	<b>Annulus:</b> .5211	<b>Flush Top Perf:</b> 2355.30			
<b>End of Tbg:</b> 6510	<b>Total Depth:</b> 11904	<b>Flush Bottom Perf:</b> 4325.47			
<b>Top Perf:</b> 6610	<b>Open Hole:</b> NA	<b>Annular Capacity:</b> 3392.36			
<b>Bottom Perf:</b> 8628	<b>Liner Size:</b> NA	<b>Maximum:</b> 2000 Psi			
<b>Holes in Csg:</b> BUNCH	<b>Top of Liner:</b> NA				

Max psi: 2050 Min psi: 160 Avg psi: 1680 Max rate: 9 Avg rate: 6 I S I P 800

Load to recover 871 580 5 min 960 10 min 990 15 min

### Acid Systems

<b>Acid System:</b> NA	<b>Gallons:</b> NA
<b>Diverter:</b> NA	<b>Balls:</b> NA
<b>Coarse Rock Salt:</b> NA	

	Injection Rate:			Job Pressures		Job Log Remarks:
Time	Rate:	Bbls in		Tbg psi.	Csg psi	
11:30AM						CALLOUT FOR JOB
11:31AM						PRE CONVOY SAFETY MEETING
5:00 AM						DEPART THE JAMOCA
12:00PM						ARRIVE ON LOCATION
12:05PM						PRE-RIG UP MEETING
12:10PM						RIG UP
13:00						PRE JOB SAFETY MEETING
12:59				6000	OPEN	TEST LINES
13:01				160	OPEN	INITIAL OPENING
13:03				260	OPEN	START WATER
13:14	2	25		440	OPEN	RATE AND PSI CHECK
13:30	2	60		600	OPEN	RATE AND PSI CHECK
13:31	4	60		800	OPEN	RATE AND PSI CHECK
13:40	4	67		800	OPEN	RATE AND PSI CHECK
14:07	4	180		900	OPEN	RATE AND PSI CHECK
14:08	6	181		1230	OPEN	RATE AND PSI CHECK
14:38	6	360		1260	OPEN	RATE AND PSI CHECK
14:40	8	365		1720	OPEN	RATE AND PSI CHECK
15:08	8	600		1740	OPEN	RATE AND PSI CHECK
15:09	9	607		2010	OPEN	RATE AND PSI CHECK
15:38	9	870		2050	OPEN	RATE AND PSI CHECK

SERVICE REPRESENTATIVE: Signature Please

KELLY CROW

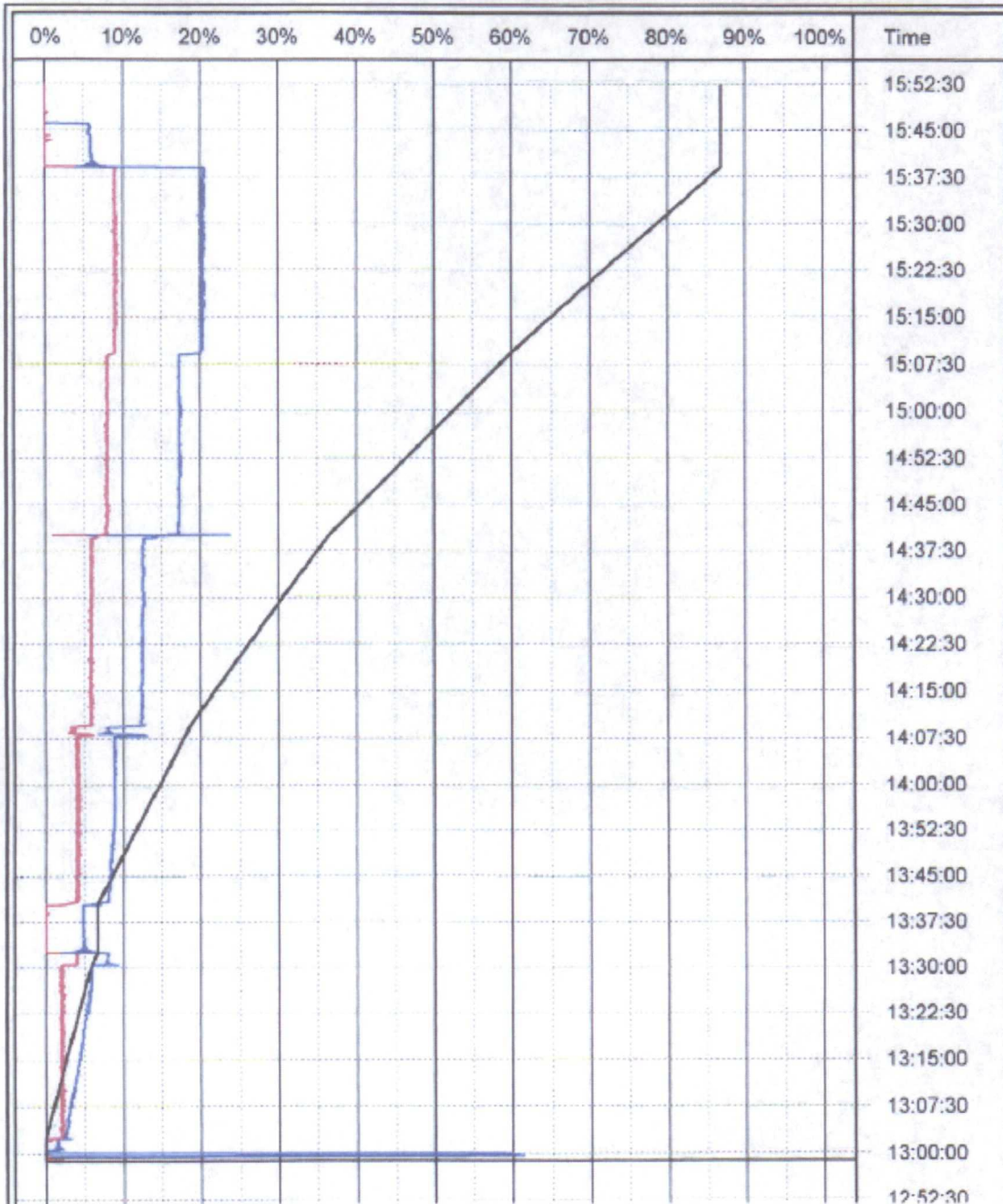
CUSTOMER REPRESENTATIVE: Signature Please

X VS W J





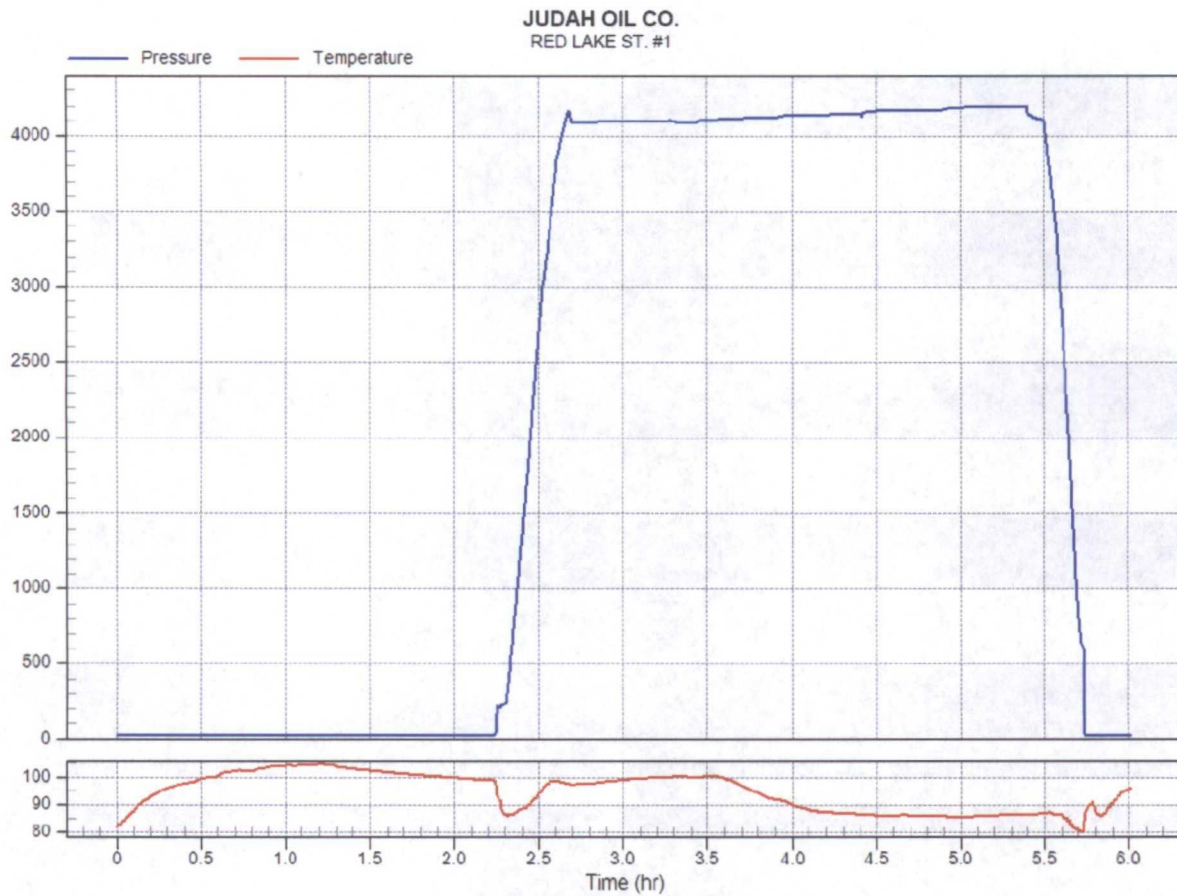
File Name	CURRENT.CSV	Memo.	Jul.19.12
	0.00	PSI 1 ( DOWN HOLE )	10000.00
			PSI
	0.00	RATE 1	100.00
			BPM
	0.00	RATE A + B	100.00
			BPM
	0.00	TOTAL BRLS	1000.00
			BRLS



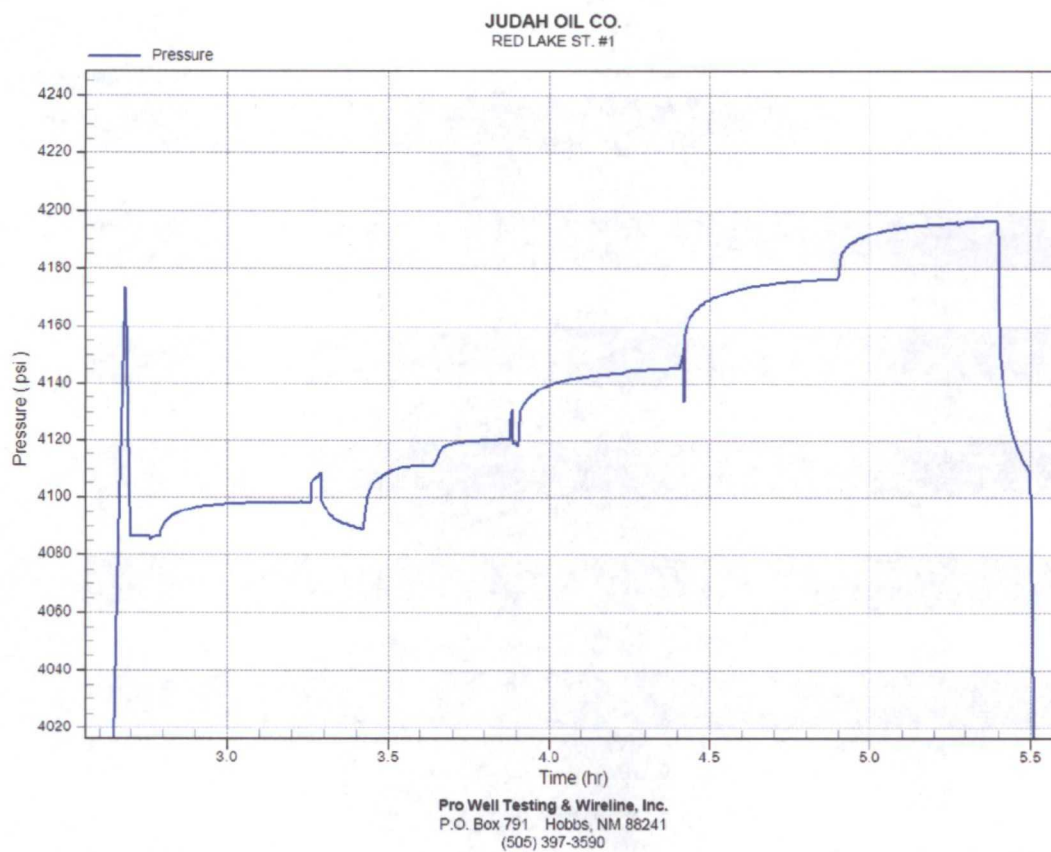
2207 Fairway Dr, Duncan OK, 73533 Cell 281.635.1718 Fax 509.562.9684

**Appendix :2 Pro Well Testing Bottom-Hole Pressure Report****BUILDUP JOB INFORMATION SHEET**

Company Information		
Company Name:	JUDAH OIL CO.	
Address:		
Well Information		
Well Name:	RED LAKE ST. #1	
Location:		
Field - Pool:		
Status:	SHUT IN	
Test Information		
Type of Test:	STEP RATE	
Gauge Depth:	7987 ft	
Production Interval:	6610 ft to 8828 ft	
Production Through:	3.5" IDC	
Tubing Pressure:		
Casing Pressure:		
Shut In Time		
Status:	SHUT IN	
Temperature @ Run Depth	104.59 degF	
Surface Temperature:	79.75 degF	
Gauge Information		
	Top Recorder	Bottom Recorder
Serial Number:	76171	76181
Calibration Date:	8/23/11	1/4/06
Pressure Range:	6001 psi	5998 psi
Comments		



Pro Well Testing & Wireline, Inc.  
P.O. Box 791 Hobbs, NM 88241  
(505) 397-3590





**RED LAKE SWD #1 SRT JULY 19, 2012**  
**STARTING AND END-POINT BHP DATA**  
**DATA FROM PRO WELL TESTING & WIRELINE**  
 (Complete 6 sec reading data file available on request)

Line No.	Date M/d/yyyy	Time h:mm:ss	Time hr	Rate BPM	Pressure psi	Temp degF
1674	7/19/2012	12:59:12	2.785	0	4086.4	97.6
1675	7/19/2012	12:59:18	2.787	0	4086.4	97.6
1676	7/19/2012	12:59:24	2.789	0	4086.4	97.6
1677	7/19/2012	12:59:30	2.790	0	4086.4	97.6
1678	7/19/2012	12:59:36	2.792	0	4086.8	97.6
1679	7/19/2012	12:59:42	2.794	start 2	4088.5	97.6
1680	7/19/2012	12:59:48	2.795	2	4089.1	97.6
1681	7/19/2012	12:59:54	2.797	2	4089.6	97.6
1682	7/19/2012	1:00:00	2.799	2	4090.1	97.6
1683	7/19/2012	1:00:06	2.800	2	4090.4	97.6
1955	7/19/2012	1:27:18	3.254	2	4098.3	99.9
1956	7/19/2012	1:27:24	3.255	2	4098.3	99.9
1957	7/19/2012	1:27:30	3.257	2	4098.3	99.9
1958	7/19/2012	1:27:36	3.259	2	4098.3	99.9
1959	7/19/2012	1:27:42	3.260	end 2	4098.6	100.0
1960	7/19/2012	1:27:48	3.262	start 4	4103.9	100.0
1961	7/19/2012	1:27:54	3.264	4	4105.1	100.0
1962	7/19/2012	1:28:00	3.265	4	4105.4	100.0
1963	7/19/2012	1:28:06	3.267	4	4105.8	100.0
1964	7/19/2012	1:28:12	3.269	4	4106.1	100.0
2328	7/19/2012	2:04:36	3.875	4	4120.5	92.2
2329	7/19/2012	2:04:42	3.877	4	4120.5	92.2
2330	7/19/2012	2:04:48	3.879	4	4120.6	92.2
2331	7/19/2012	2:04:54	3.880	4	4120.6	92.1
2332	7/19/2012	2:05:00	3.882	end 4	4120.9	92.1
2333	7/19/2012	2:05:06	3.884	start 6	4127.8	92.1
2334	7/19/2012	2:05:12	3.885	6	4130.4	92.1
2335	7/19/2012	2:05:18	3.887	6	4130.3	92.0
2336	7/19/2012	2:05:24	3.889	6	4130.9	92.0
2337	7/19/2012	2:05:30	3.890	6	4120.3	91.9
2645	7/19/2012	2:36:18	4.404	6	4145.2	86.5
2646	7/19/2012	2:36:24	4.405	6	4145.2	86.5
2647	7/19/2012	2:36:30	4.407	6	4145.3	86.5
2648	7/19/2012	2:36:36	4.409	6	4145.1	86.5
2649	7/19/2012	2:36:42	4.410	end 6	4145.6	86.5
2650	7/19/2012	2:36:48	4.412	start 8	4148.1	86.5
2651	7/19/2012	2:36:54	4.414	8	4148.6	86.5
2652	7/19/2012	2:37:00	4.415	8	4148.9	86.5
2653	7/19/2012	2:37:06	4.417	8	4150.3	86.5
2654	7/19/2012	2:37:12	4.419	8	4152.8	86.5
2940	7/19/2012	3:05:48	4.895	8	4176.3	85.7
2941	7/19/2012	3:05:54	4.897	8	4176.4	85.7
2942	7/19/2012	3:06:00	4.899	8	4176.3	85.7
2943	7/19/2012	3:06:06	4.900	8	4176.3	85.7
2944	7/19/2012	3:06:12	4.902	end 8	4176.4	85.7
2945	7/19/2012	3:06:18	4.904	start 9	4178.3	85.7
2946	7/19/2012	3:06:24	4.905	9	4180.1	85.7
2947	7/19/2012	3:06:30	4.907	9	4182.3	85.7
2948	7/19/2012	3:06:36	4.909	9	4183.8	85.7
2949	7/19/2012	3:06:42	4.910	9	4184.5	85.7
3240	7/19/2012	3:35:48	5.395	9	4196.4	86.4
3241	7/19/2012	3:35:54	5.397	9	4196.5	86.4
3242	7/19/2012	3:36:00	5.399	9	4196.5	86.4
3243	7/19/2012	3:36:06	5.400	9	4196.5	86.4
3244	7/19/2012	3:36:12	5.402	end 9	4196.5	86.4
3245	7/19/2012	3:36:18	5.404	SI 0	4186.1	86.4
3246	7/19/2012	3:36:24	5.405	0	4160.4	86.4
3247	7/19/2012	3:36:30	5.407	0	4151.6	86.4
3248	7/19/2012	3:36:36	5.409	0	4148.8	86.4
3249	7/19/2012	3:36:42	5.410	0	4146.8	86.4

5.1718 Fax 509.562.9684