12/1/03 DZC IPI LR pRC PLR0333647593

ChevronTexaco

November 25, 2003

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

RECEIVED

DEC 0 1 2003

OIL CONSERVATION DIVISION

Attn: Mr. David Catanach

RE: Injection Pressure Increase
North Vacuum Abo West Unit Well #5H
Unit Letter D, Section 22, Township 17-S, Range 34-E
Lea County, New Mexico

IPI 220

Dear Mr. Catanach,

ChevronTexaco is requesting permission to increase the surface injection pressure on North Vacuum Abo West Unit Well #5H (API No. 30-025-24112) from 3400 psig to 4100 psig. The surface location of this well is 660' from the North line and 660' from the West line of Section 22, Unit Letter D, Township 17-S, Range 34-E, Lea County, New Mexico. The well location is shown on the surface map attached.

This request is based on a step rate test conducted by Schlumberger on November 24, 2003. A graph of the pump rate vs. time and surface TBG pressure vs. time is attached. The next plot shows the surface TBG pressure vs. injection rate, and the frac pressure can be seen at 4182 psig.

If you would like to discuss the step rate plots or if I can provide you with the raw pump rate and pressure data recorded by Schlumberger, please contact me.

Sincerely,

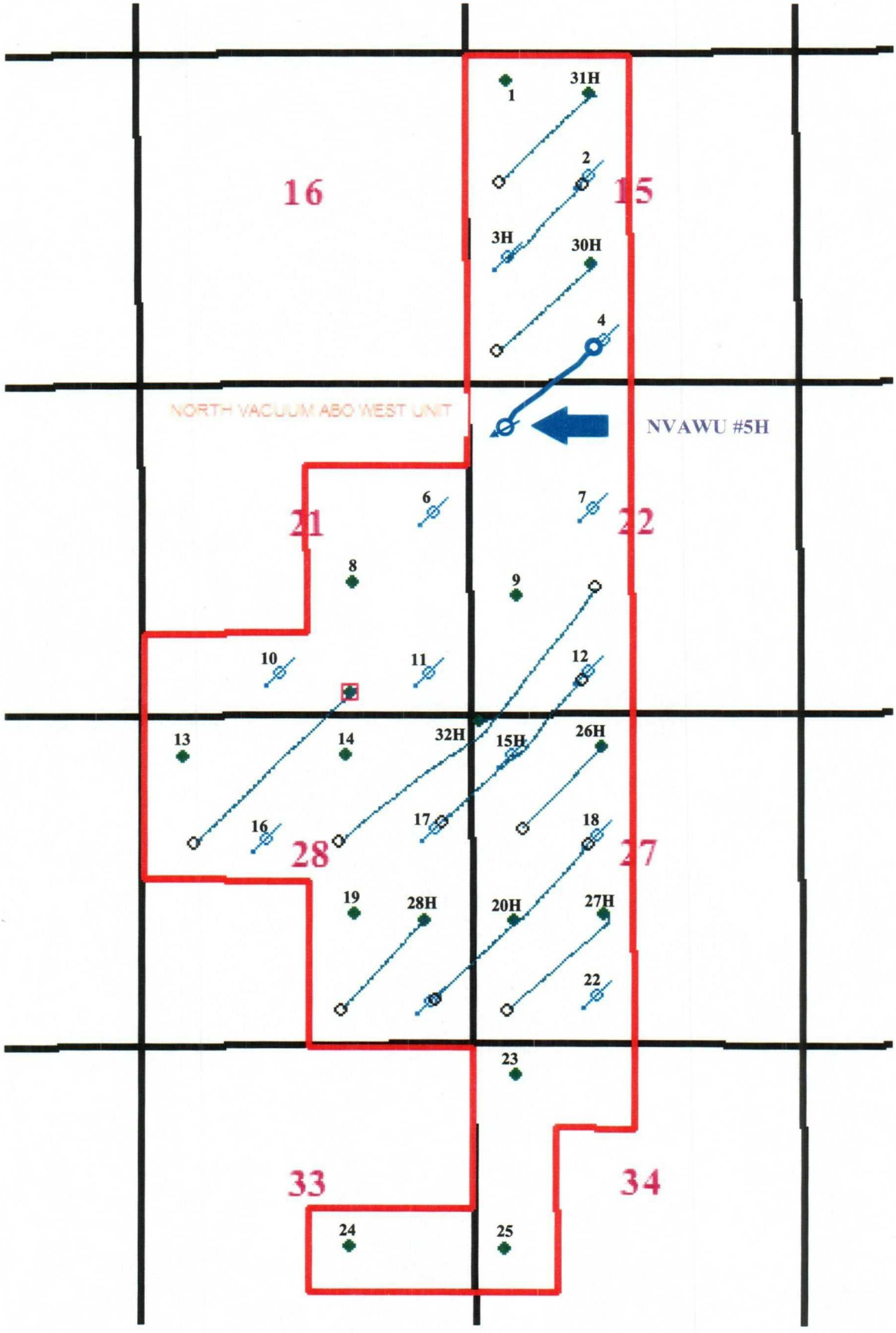
Garrett Luig

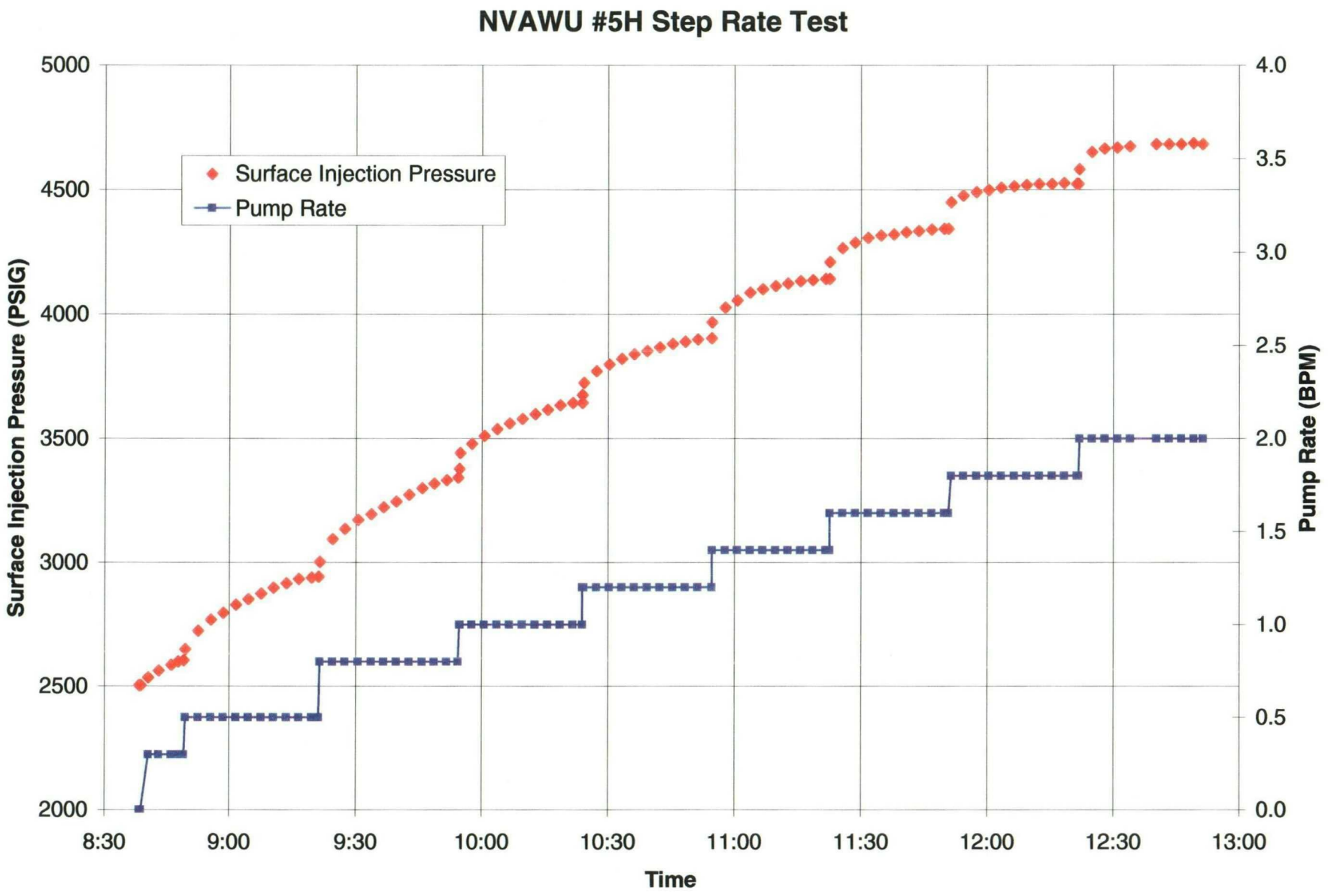
pmx-213

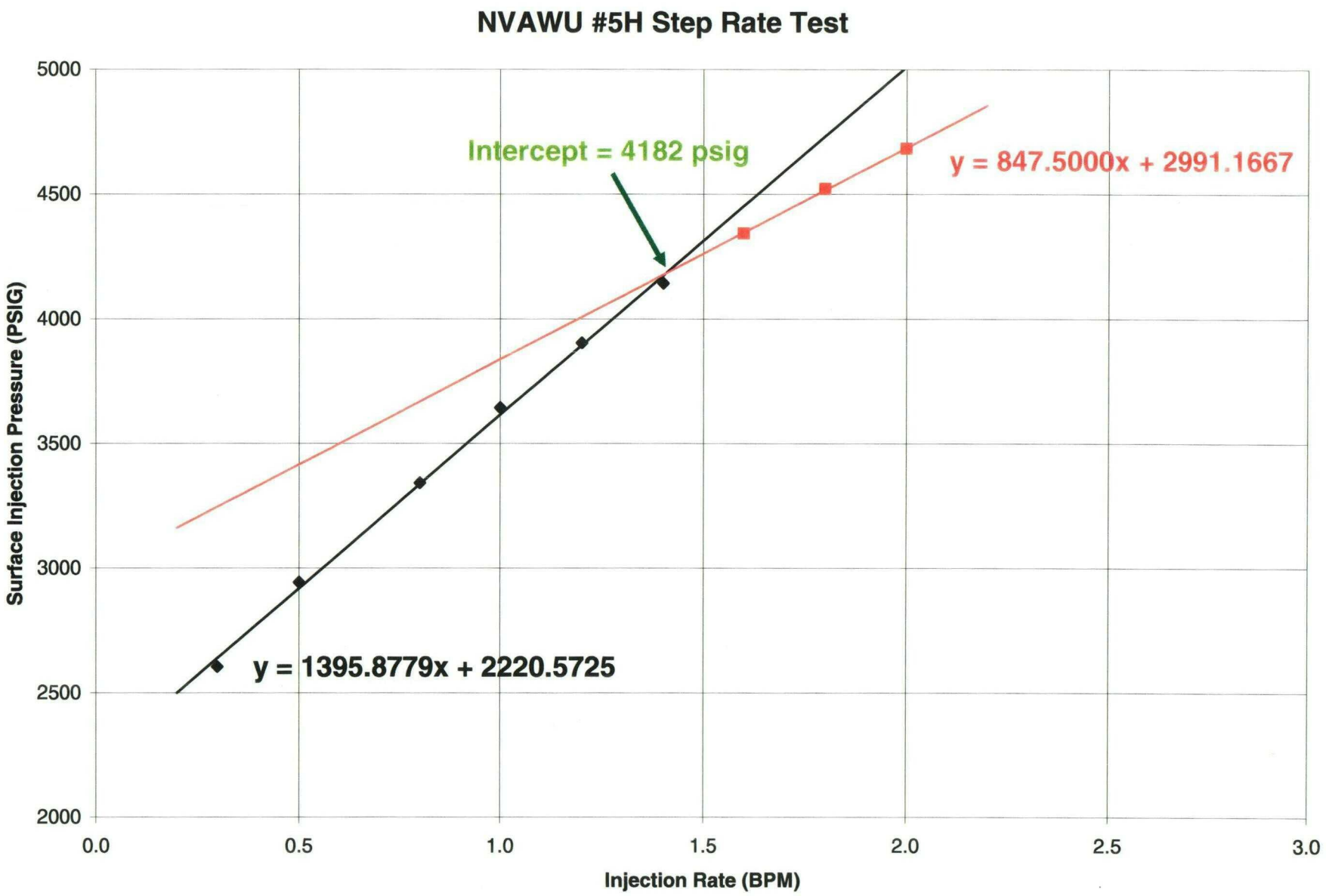
Garrett Luig
Petroleum Engineer
(Not Texas Board Licensed)

ChevronTexaco
Permian Business Unit
15 Smith Road
Midland, TX 79705
432-687-7298

North Vacuum Abo West Unit




NVAWU #5H Step Rate Test
Surface Injection Pressure
Pump Rate
Surface Injection Pressure (PSIG)
Pump Rate (BPM)
Time
5000
4500
4000
3500
3000
2500
2000
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
8:30
9:00
9:30
10:00
10:30
11:00
11:30
12:00
12:30
13:00


NVAWU #5H Step Rate Test
Intercept = 4182 psig
y = 847.5000x + 2991.1667
y = 1395.8779x + 2220.5725
Surface Injection Pressure (PSIG)
Injection Rate (BPM)
5000
4500
4000
3500
3000
2500
2000
0.0
0.5
1.0
1.5
2.0
2.5
3.0

Summarized Pump Schedule
NVAWU #5H
API No. 30-025-24112

Step No.	Time	Surface TBG Press	Injection Rate	Injection Rate	Cum Volume Injected
		(psig)	(bpm)	(bpd)	(bbls)
0	8:38:16	2504	0.0	0	0.0
	8:38:42	2504	0.0	0	0.0
1	8:40:28	2536	0.3	432	0.4
	8:43:00	2563	0.3	432	1.0
	8:46:00	2586	0.3	432	1.8
	8:47:40	2600	0.3	432	2.2
	8:49:00	2605	0.3	432	2.6
2	8:49:21	2650	0.5	720	2.7
	8:52:27	2724	0.5	720	4.2
	8:55:30	2769	0.5	720	5.8
	8:58:31	2797	0.5	720	7.3
	9:01:31	2829	0.5	720	8.7
	9:04:31	2852	0.5	720	10.2
	9:07:35	2875	0.5	720	11.8
	9:10:30	2898	0.5	720	13.2
	9:13:32	2916	0.5	720	14.7
	9:16:30	2934	0.5	720	16.2
	9:19:31	2939	0.5	720	17.6
	9:21:11	2943	0.5	720	18.5
3	9:21:28	3003	0.8	1152	18.6
	9:24:29	3094	0.8	1152	21.0
	9:27:23	3136	0.8	1152	23.2
	9:30:28	3172	0.8	1152	25.6
	9:33:34	3195	0.8	1152	28.0
	9:36:33	3223	0.8	1152	30.3
	9:39:32	3246	0.8	1152	32.7
	9:42:30	3273	0.8	1152	35.0
	9:45:35	3300	0.8	1152	37.3
	9:48:30	3319	0.8	1152	39.6
	9:51:28	3333	0.8	1152	41.9
	9:54:14	3342	0.8	1152	44.1
4	9:54:30	3378	1.0	1440	44.3
	9:54:39	3442	1.0	1440	44.4
	9:57:30	3479	1.0	1440	47.3
	10:00:28	3511	1.0	1440	50.3
	10:03:30	3538	1.0	1440	53.4
	10:06:30	3561	1.0	1440	56.4
	10:09:33	3580	1.0	1440	59.4
	10:12:35	3598	1.0	1440	62.4
	10:15:35	3616	1.0	1440	65.3
	10:18:36	3635	1.0	1440	68.3
	10:21:35	3644	1.0	1440	71.2
	10:23:51	3644	1.0	1440	73.4
5	10:23:53	3676	1.2	1728	73.4
	10:24:12	3726	1.2	1728	73.8
	10:27:12	3772	1.2	1728	77.4
	10:30:13	3799	1.2	1728	81.0
	10:33:13	3822	1.2	1728	84.6
	10:36:10	3841	1.2	1728	88.1
	10:39:13	3854	1.2	1728	91.7
	10:42:11	3868	1.2	1728	95.2
	10:45:13	3882	1.2	1728	98.8
	10:48:12	3891	1.2	1728	102.3
	10:51:13	3900	1.2	1728	105.9
	10:54:31	3905	1.2	1728	109.8

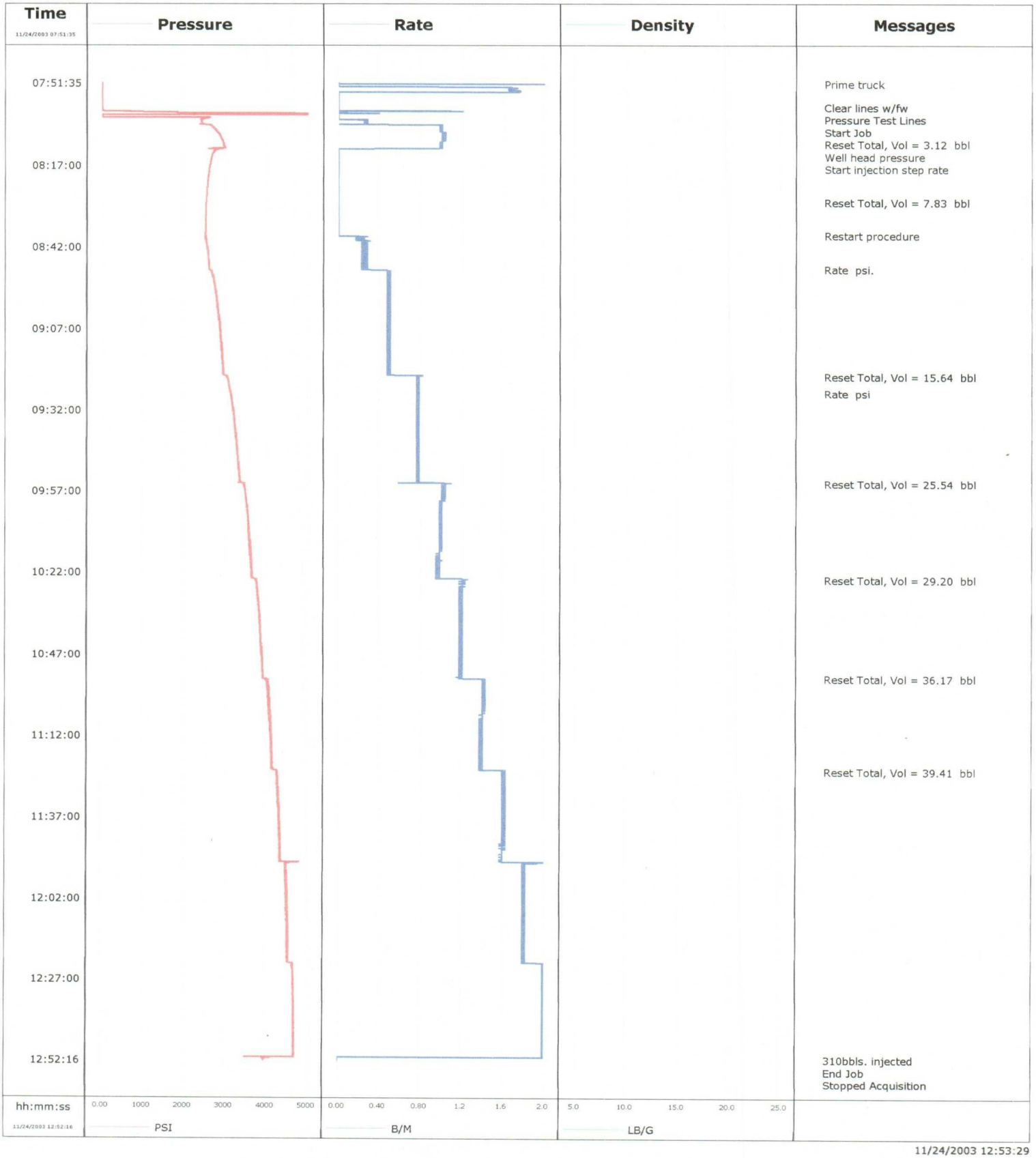
6	10:54:36	3969	1.4	2016	109.9
	10:57:42	4028	1.4	2016	114.2
	11:00:34	4056	1.4	2016	118.3
	11:03:36	4088	1.4	2016	122.5
	11:06:36	4102	1.4	2016	126.7
	11:09:38	4115	1.4	2016	130.9
	11:12:34	4124	1.4	2016	135.0
	11:15:35	4134	1.4	2016	139.2
	11:18:30	4138	1.4	2016	143.3
	11:21:35	4143	1.4	2016	147.6
	11:22:30	4143	1.4	2016	148.8
7	11:22:35	4211	1.6	2304	149.0
	11:25:34	4266	1.6	2304	153.7
	11:28:34	4289	1.6	2304	158.6
	11:31:37	4308	1.6	2304	163.4
	11:34:37	4317	1.6	2304	168.2
	11:37:40	4321	1.6	2304	173.1
	11:40:37	4330	1.6	2304	177.8
	11:43:35	4335	1.6	2304	182.6
	11:46:38	4341	1.6	2304	187.4
	11:49:39	4344	1.6	2304	192.2
	11:50:37	4344	1.6	2304	193.8
8	11:51:13	4450	1.8	2592	194.9
	11:54:10	4477	1.8	2592	200.3
	11:57:20	4491	1.8	2592	206.0
	12:00:16	4500	1.8	2592	211.3
	12:03:13	4509	1.8	2592	216.7
	12:06:19	4514	1.8	2592	222.3
	12:09:19	4519	1.8	2592	227.7
	12:12:20	4523	1.8	2592	233.2
	12:15:21	4523	1.8	2592	238.7
	12:18:18	4527	1.8	2592	244.0
	12:21:22	4523	1.8	2592	249.6
	12:21:44	4523	1.8	2592	250.3
9	12:21:57	4582	2.0	2880	250.7
	12:24:57	4651	2.0	2880	256.7
	12:27:56	4665	2.0	2880	262.7
	12:30:57	4669	2.0	2880	268.7
	12:33:56	4674	2.0	2880	274.7
	12:40:03	4683	2.0	2880	287.0
	12:43:03	4683	2.0	2880	293.0
	12:46:02	4683	2.0	2880	299.0
	12:49:05	4687	2.0	2880	305.2
	12:51:20	4683	2.0	2880	309.7

Schlumberger

Matrix Job Report

CemCAT v1.0

Well	NVAWU # 5	**Client**	ChevronTexaco - 5053
Field		**SIR No.**	2201744137
Engineer		**Job Type**	Step Rate Treatment
Country	United States	**Job Date**	11-24-2003



11/24/2003 12:53:29

Schlumberger Stimulation Service Report

Customer	Job Number
CHEVRONTEXACO - 5053	2201744137

Well	Location (legal)	Schlumberger Location	Job Start
NVAWU 5		Hobbs, NM	2003-Nov-24

Field	Formation Name/Type	Deviation	BitSize:	Well MD	Well TVD
	Abo	°	in	ft	ft

County	Lea	State/Province	NM	BHP	BHST	BHCT	Pore Pres Gradient
Well Maste	0630103905	API / UW		psi	°F	°F	psi/ft

Rig Name	Drilled For	Service Via
	Oil	Land

Offshore Zone	Well Class	Well Type
	Old	Workover

Primary Treating Fluid	Polymer Loading	Fluid Density
	lb/1000gal	lb/gal

Service Line	Job Type
Matrix	Drilling Damage Removal

Max. Allowed Tubing Pressure	Max. Allowed Ann. Pressure	WellHead Connection
5000 psi	500 psi	Swadge - 2 7/8"

Service Instructions

Perform Step Rate as per attached form
Need Combo

Job Scheduled For:	Arrived on Location:	Leave Location:
	2003-Nov-24 7:00	

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
	5.5	15.5		

Tubing/Drill Pipe

Depth,	Size, in	Weight, lb/ft	Grade	Thread
	2.875	6.5	J55	N/A

Perforations/Open Hole

Top, ft	Bottom, ft	spf	No. of Shots	Total Interval
				ft
				Diameter
				in

Treat Down	Displacement	Packer Type	Packer Depth
Tubing	bbl	-String Retrieva	ft

Tubing Vol.	CasingVol.	AnnularVol.	OpenHoleVol
bbl	bbl	bbl	bbl

Date	Time (24 hr clock)	Treating Pressure (psi)	Flow Rate (bbl/min)	Volume (bbl)	0	0	0	0	0	Message
2003-Nov-24	7:51	0	0.0	0.0	0	0	0	0	0	
2003-Nov-24	7:51									Prime truck
2003-Nov-24	7:51	0	0.0	0.0	0	0	0	0	0	
2003-Nov-24	7:56	5	0.0	3.0	0	0	0	0	0	
2003-Nov-24	7:58									Clear lines w/fw
2003-Nov-24	7:58	5	0.0	3.0	0	0	0	0	0	
2003-Nov-24	8:01									Pressure Test Lines
2003-Nov-24	8:01	6056	0.0	3.1	0	0	0	0	0	
2003-Nov-24	8:01	5997	0.0	3.1	0	0	0	0	0	
2003-Nov-24	8:01									Start Job
2003-Nov-24	8:01	23	0.0	3.1	0	0	0	0	0	
2003-Nov-24	8:01									Reset Total, Vol = 3.12 bbl
2003-Nov-24	8:01	23	0.0	3.1	0	0	0	0	0	
2003-Nov-24	8:02									Well head pressure
2003-Nov-24	8:02	2408	0.0	0.0	0	0	0	0	0	
2003-Nov-24	8:05									Start injection step rate
2003-Nov-24	8:05	2687	1.0	1.1	0	0	0	0	0	
2003-Nov-24	8:06	2792	1.0	2.6	0	0	0	0	0	
2003-Nov-24	8:11	2980	1.0	7.6	0	0	0	0	0	
2003-Nov-24	8:16	2623	0.0	7.8	0	0	0	0	0	
2003-Nov-24	8:21	2573	0.0	7.8	0	0	0	0	0	
2003-Nov-24	8:26	2541	0.0	7.8	0	0	0	0	0	
2003-Nov-24	8:28									Reset Total, Vol = 7.83 bbl
2003-Nov-24	8:28	2536	0.0	7.8	0	0	0	0	0	
2003-Nov-24	8:31	2522	0.0	0.0	0	0	0	0	0	
2003-Nov-24	8:36	2509	0.0	0.0	0	0	0	0	0	

Well		Field		Service Date	Customer			Job Number
NVAWU #5				2003-Nov-24	CHEVRONTEXACO - 5053			2201744137

Date	Time	Treating Pressure	Flow Rate	Volume	0	0	0	0	0	Message
	24 hr clock	psi	bbl/min	bbl	0	0	0	0	0	
2003-Nov-24	8:38	2504	0.0	0.0	0	0	0	0	0	
2003-Nov-24	8:38									Restart procedure
2003-Nov-24	8:41	2550	0.3	0.7	0	0	0	0	0	
2003-Nov-24	8:46	2591	0.3	2.0	0	0	0	0	0	
2003-Nov-24	8:48	2605	0.3	2.5	0	0	0	0	0	
2003-Nov-24	8:48									Rate & psi.
2003-Nov-24	8:51	2710	0.5	3.9	0	0	0	0	0	
2003-Nov-24	8:56	2769	0.5	6.3	0	0	0	0	0	
2003-Nov-24	9:01	2824	0.5	8.8	0	0	0	0	0	
2003-Nov-24	9:06	2852	0.5	11.3	0	0	0	0	0	
2003-Nov-24	9:11	2888	0.5	13.8	0	0	0	0	0	
2003-Nov-24	9:16	2934	0.5	16.3	0	0	0	0	0	
2003-Nov-24	9:21									Reset Total, Vol = 15.64 bbl
2003-Nov-24	9:21	3003	0.8	18.6	0	0	0	0	0	
2003-Nov-24	9:21	3040	0.8	18.8	0	0	0	0	0	
2003-Nov-24	9:26									Rate & psi
2003-Nov-24	9:26	3117	0.8	22.6	0	0	0	0	0	
2003-Nov-24	9:26	3127	0.8	22.7	0	0	0	0	0	
2003-Nov-24	9:31	3186	0.8	26.6	0	0	0	0	0	
2003-Nov-24	9:36	3232	0.8	30.5	0	0	0	0	0	
2003-Nov-24	9:41	3268	0.8	34.4	0	0	0	0	0	
2003-Nov-24	9:46	3305	0.8	38.3	0	0	0	0	0	
2003-Nov-24	9:51	3337	0.8	42.2	0	0	0	0	0	
2003-Nov-24	9:54									Reset Total, Vol = 25.54 bbl
2003-Nov-24	9:54	3387	0.9	44.2	0	0	0	0	0	
2003-Nov-24	9:56	3470	1.0	46.6	0	0	0	0	0	
2003-Nov-24	10:01	3520	1.0	51.7	0	0	0	0	0	
2003-Nov-24	10:06	3552	1.0	56.7	0	0	0	0	0	
2003-Nov-24	10:11	3575	1.0	61.7	0	0	0	0	0	
2003-Nov-24	10:16	3621	1.0	66.6	0	0	0	0	0	
2003-Nov-24	10:21	3644	1.0	71.5	0	0	0	0	0	
2003-Nov-24	10:23	3653	1.0	73.4	0	0	0	0	0	
2003-Nov-24	10:23									Reset Total, Vol = 29.20 bbl
2003-Nov-24	10:26	3754	1.2	77.1	0	0	0	0	0	
2003-Nov-24	10:31	3799	1.2	83.1	0	0	0	0	0	
2003-Nov-24	10:36	3845	1.2	89.0	0	0	0	0	0	
2003-Nov-24	10:41	3864	1.2	95.0	0	0	0	0	0	
2003-Nov-24	10:46	3882	1.2	100.9	0	0	0	0	0	
2003-Nov-24	10:52	3900	1.2	106.8	0	0	0	0	0	
2003-Nov-24	10:54	3909	1.2	109.5	0	0	0	0	0	
2003-Nov-24	10:54									Reset Total, Vol = 36.17 bbl
2003-Nov-24	10:57	4060	1.4	113.3	0	0	0	0	0	
2003-Nov-24	11:02	4079	1.4	120.3	0	0	0	0	0	
2003-Nov-24	11:07	4070	1.4	127.3	0	0	0	0	0	
2003-Nov-24	11:12	4102	1.4	134.3	0	0	0	0	0	
2003-Nov-24	11:17	4111	1.4	141.3	0	0	0	0	0	
2003-Nov-24	11:22	4134	1.4	148.2	0	0	0	0	0	
2003-Nov-24	11:22									Reset Total, Vol = 39.41 bbl
2003-Nov-24	11:22	4211	1.6	149.0	0	0	0	0	0	
2003-Nov-24	11:27	4280	1.6	156.1	0	0	0	0	0	

Well	Field	Service Date	Customer	Job Number
NVAWU #5		2003-Nov-24	CHEVRONTEXACO - 5053	2201744137

Date	Time (24 hr clock)	Treating Pressure (psi)	Flow Rate (bbl/min)	Volume (bbl)	0	0	0	0	0	Message
					0	0	0	0	0	
2003-Nov-24	11:32	4294	1.6	164.2	0	0	0	0	0	
2003-Nov-24	11:37	4321	1.6	172.1	0	0	0	0	0	
2003-Nov-24	11:42	4330	1.6	180.2	0	0	0	0	0	
2003-Nov-24	11:47	4326	1.6	188.2	0	0	0	0	0	
2003-Nov-24	11:52	4472	1.8	196.6	0	0	0	0	0	
2003-Nov-24	11:57	4495	1.8	205.7	0	0	0	0	0	
2003-Nov-24	12:02	4500	1.8	214.8	0	0	0	0	0	
2003-Nov-24	12:07	4500	1.8	223.8	0	0	0	0	0	
2003-Nov-24	12:12	4523	1.8	233.1	0	0	0	0	0	
2003-Nov-24	12:17	4518	1.8	242.1	0	0	0	0	0	
2003-Nov-24	12:22	4637	2.0	251.3	0	0	0	0	0	
2003-Nov-24	12:27	4660	2.0	261.3	0	0	0	0	0	
2003-Nov-24	12:32	4665	2.0	271.4	0	0	0	0	0	
2003-Nov-24	12:37	4669	2.0	281.4	0	0	0	0	0	
2003-Nov-24	12:42	4674	2.0	291.7	0	0	0	0	0	
2003-Nov-24	12:47	4678	2.0	301.9	0	0	0	0	0	
2003-Nov-24	12:51									310bbls. injected
2003-Nov-24	12:51	3918	0.0	309.8	0	0	0	0	0	
2003-Nov-24	12:51									End Job
2003-Nov-24	12:51	3937	0.0	309.8	0	0	0	0	0	

Post Job Summary

Average Injection Rates, bpm

Fluid	N2	CO2	Maximum Rate
1.13			2.26

Volume of Fluid Injected, bbl

Clean Fluid	Acid	Oil	CO2	N2 (scf)

Treating Pressure Summary, psi

Breakdown	Maximum	Final	Average	ISIP	15 Min. ISIP
	5987.32		3768.67		

Quantity of & placed, lb

Total Injected	Total Ordered/Designed

N2 Percent	CO2 Percent	Designed Fluid Volume	Displacement	Slurry Volume	Pad Volume	Percent Pad
%	%	gal	310 bbl	bbl	gal	%

Customer or Authorized Representative	Schlumberger Supervisor	Number of Stages	Fracture Gradient	
Garcia, George	Stratton, Robert	9	psi/ft	☑ Job Completed ☐ Screen Out