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## POST TREATMENT REPORT

Patara Oil & Gas LLC  
HC Fed #31-31-45-14  
Sec 31T45N,R14W  
San Miguel County Colorado  
Honaker Trail

Treatment Date April 2, 2011

Farmington, NM  
505-327-6222



BJ Services Company, U.S.A.

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April 2, 2011

Mr. John Warren  
Patara Oil & Gas LLC

Re:  
Treatment Summary  
HC Fed #31-31-45-14  
Honaker Trail :formation  
Dear Mr. Warren

This post-treatment summary contains information that was gathered through BJ Services' real-time data acquisition system. The stimulation treatment on the above referenced well was performed by our Farmington, NM District on April 2, 2011.

The information presented herein consists of the well data, proposed vs. actual treatment, treatment graphs, discussion, and treatment data.

If you have any questions or comments, please call me at 505-327-6222. We would like to thank you for the opportunity of providing your stimulation and cementing services.

Sincerely,

Ben Barela  
Technical Field Representative  
BJ Services Company



## General Data

Design Date:	March 22, 2011
Customer:	Partara Oil & Gas
Lease:	HC Fed
Well Name:	31-31-45-14
API Number (14 digit):	05-113-06205-0000
Target Zone:	Honaker Trail
Location:	Sec.31-45N-14W
County:	San Miguel
State:	Colorado
Service Date:	April 2, 2011
Customer Representative:	Rex Thomas
OCSG/Legal Description:	
BJ Representative:	N. Mitchell- B. Gord
Service District/Boat:	Farmington, NM
Service Type:	20# Linear Foam Frac
Job Number (10 digit):	1001783336

## Casing/Open Hole Data

<b>Section</b>	<b>Depth (ft)</b>	<b>Casing OD (in)</b>	<b>Casing ID (in)</b>	<b>Weight (lbm/ft)</b>	<b>TVD (ft)</b>
1	6891	5.500	4.892	17.00	6891

## Perforation Intervals

<b>Section</b>	<b>FromMD (ft)</b>	<b>ToMD (ft)</b>	<b>Shot Density (shots/ft)</b>	<b>Perf. Dia (in)</b>	<b>Net Length (ft)</b>
1	6840	6858	2.0	0.340	18
2	6900	6914	2.0	0.340	14
3	6934	6941	2.0	0.340	7

Total Net Perforation (ft):	39
Total Perforation Counts:	78

## Reservoir Data

Formation:	Honaker Trail	Porosity (%):	0
Formation type:	Sandstone	Fracture gradient (psi/ft):	0.700
Pay zone height (ft):	39	Bottom hole frac press (psi):	4824
MD to mid perf (ft):	6891	Bottom static temp (°F):	160
TVD to mid perf (ft):	6891	Net frac height (ft):	39
Reservoir pressure (psi):	0	Gross frac height (ft):	101
Permeability (md):	0.000		



## PLANNED AND ACTUAL TREATMENT PARAMETERS

<i><b>Parameters</b></i>	<i><b>Planned</b></i>	<i><b>Actual</b></i>	
Treating Conductor	5.500	5.500	in
Injection Rate	35.0	35.2	bpm
Average Surface Treating Pressure	3465	5165	psi
<b>FLUID VOLUME</b>			
Treating Fluid Volume	887.0	758.6	bbl
Flush Volume	47.7	79.2	bbl
<b>PROPPANT</b>			
Proppant_2.65	135000	135891	lbm
<b>ADDITIVES</b>			
GBW-5	9	15	Lbs
ENZYME G-I	20	25	Gals
GW-3LDF	197	182	Gals
BF-7L	110	112	Gals
HP-CRB	38	40	Lbs
Magnacide 575	2	3	Gals
INFLO 250W	40	38	Gals
XLW-32	38	38	Gals
FAW-4	197	185	Gals



## Treatment Data Summary

Type of Well:	New Gas	Depth TD/PB (ft):	6980
Previous Treatment:	None	Previous Production:	None
Hole Loaded with:	2% KCL	Treatment through:	Casing
Target Formation:	Honaker Trailer		

Type of Packer:	N/A	Packer Set at (ft):	0
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<b>Fluid Description</b> (by stage)	<b>Fluid Type</b>	<b>Pumped Volume (bbl)</b>
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1	Test	2% KCL Water	21.2
2	Breakdown	2% KCL Water	29.7
3	Pad	GW-27 20 PPT	83.6
4	1.00	GW-27 20 PPT	329.7
5	2.00	GW-27 20 PPT	268.8
6	3.00	GW-27 20 PPT	24.5
7	4.00	GW-27 20 PPT	22.4
8	Flush	GW-27 20 PPT	79.2

Total Fluid	859.0
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<b>Proppant Description</b> (by stage)	<b>Type</b>	<b>Mesh Size</b>	<b>Proppant Pumped (lbm)</b>
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4	1.00, Prop_2.65	Sand,White	20/40	47335
5	2.00, Prop_2.65	Sand,White	20/40	77269
6	3.00, Prop_2.65	Sand,White	20/40	10951
7	4.00, Prop_2.65	Sand,White	20/40	7542

Total Proppant	143096.3
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## Liquid Pumped and Capacities (bbl)

Tubing Capacity:	0.0	Pad Volume:	248.0
Casing Capacity:	162.3	Treating Fluid:	798.0
Annulus Capacity:	0.0	Flush:	158.0
Open Hole Capacity:	0.0	Over/Under Flush:	0.0
Fluid to Load:	120.0	Fluid to Recover:	1183.0

Foam Quality:	70Q	Foam Type:	Mitchell Downhole
Total N2 (Mscf):	2094.0	Total CO2:	0.0

<b>Treating Pressure (psi)</b>	<b>Injection Rate (bpm)</b>	<b>Shut in Pressure (psi)</b>
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Minimum:	4999	Treating Fluid:	35.2	ISDP:	5217
Maximum:	5317	Flush Fluid:	35.2	5 Min.:	4886
Average:	5165	Average:	35.2	10 Min:	4755
Operator Max:	7500			15 Min:	4647
				Final: 4647 in Min.:	15.000
				Flush Dens. ppg:	8.13

<b>Pump Description</b>	<b>Type</b>	<b>Count</b>	<b>Max. Pressure (psi)</b>
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Kodiak	2000 HHP	3	8500
N2 Pump	1500 HHP	4	10000



**BJ Services: JTrax Version 1.20**  
**Customer: Partara Oil & Gas**  
**Service type: 20# Linear Foam Frac**  
**Well: 31-31-45-14**

<b><i>Ball Sealer Description</i></b>	<b><i>Type</i></b>	<b><i>Count</i></b>	<b><i>in Stage</i></b>
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None

<b><i>Auxiliary Material</i></b>	<b><i>Quantity</i></b>	<b><i>Unit</i></b>
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None

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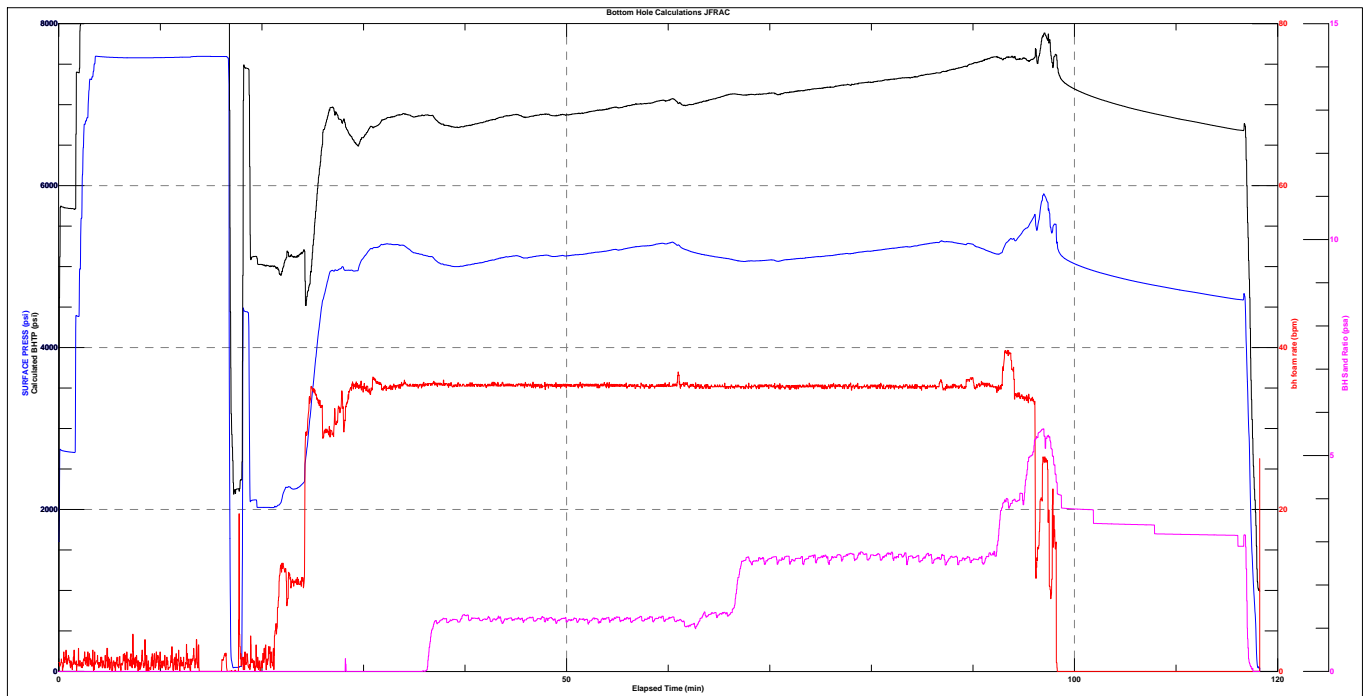
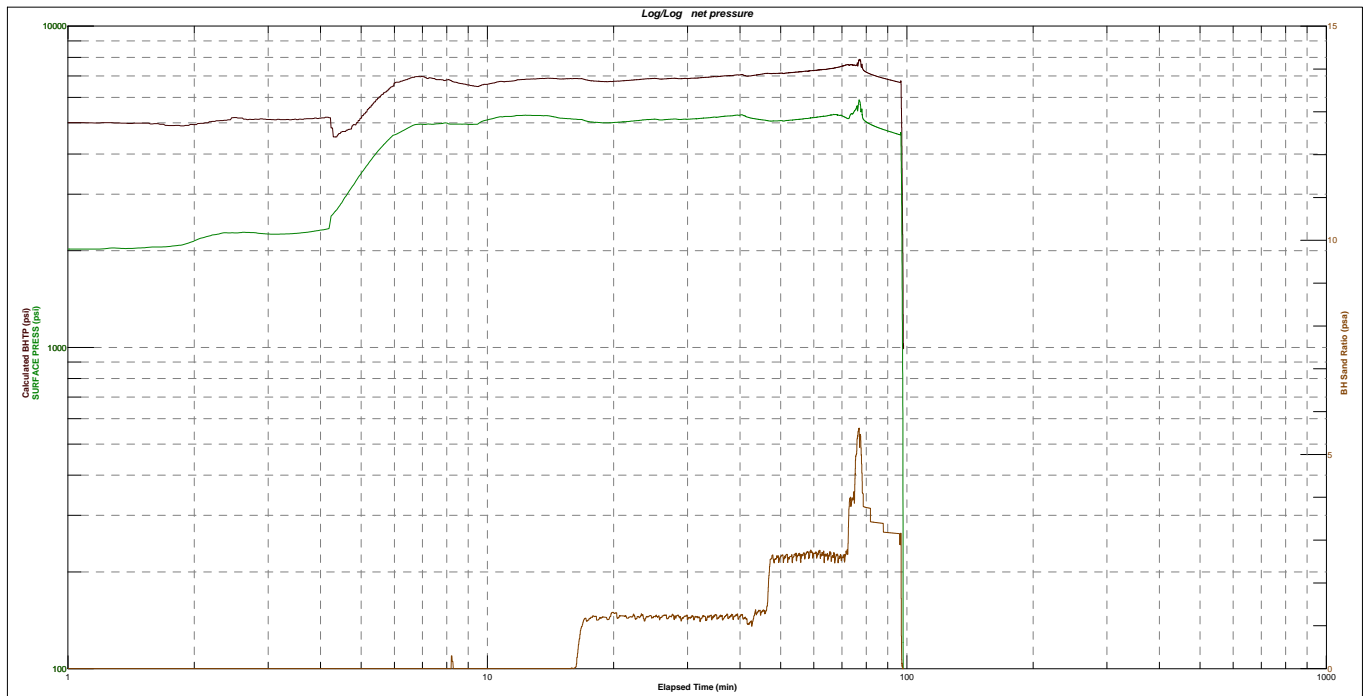
## STIMULATION PROCEDURE SUMMARY

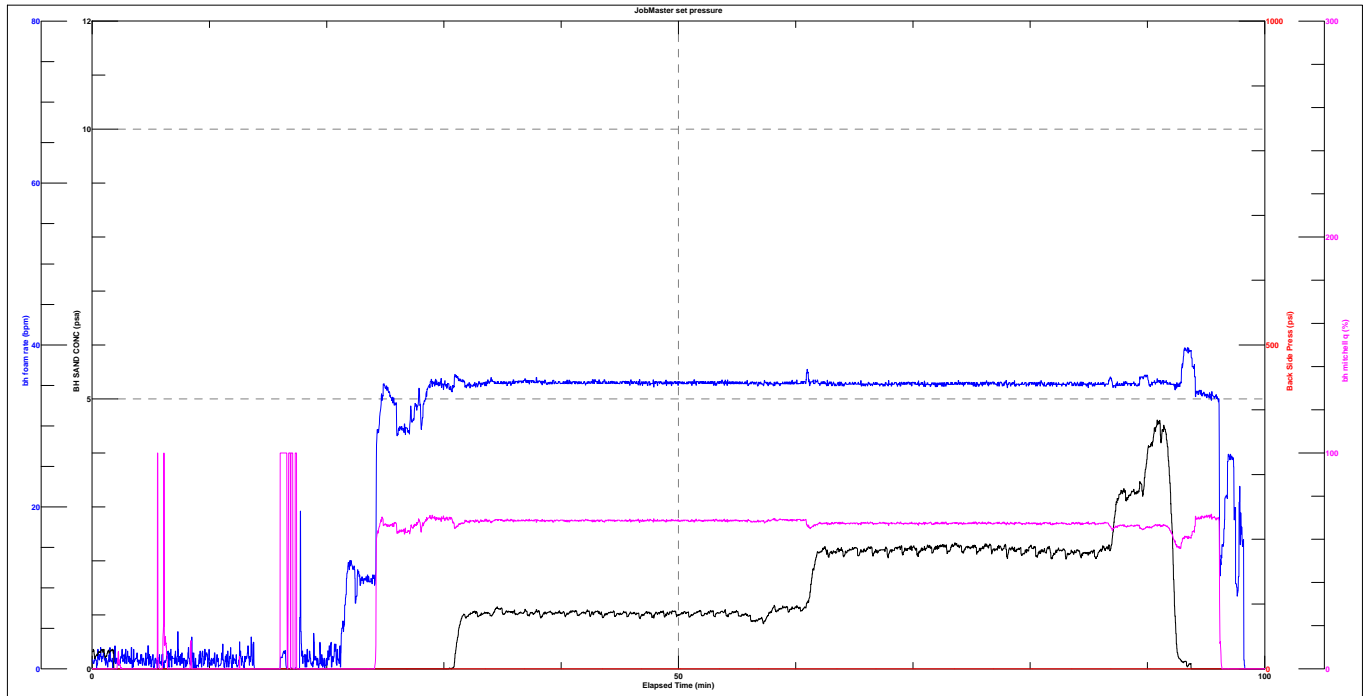
Job Start Time: "Apr 02, 2011, 09:05:30 AM"

Time	Treat STP psi	Press Annu psi	Slurry Stage bbl	Slurry Total bbl	Slurry Rate bpm	Total CO2 bbl	CO2 Rate bpm	Total N2 Mscf	N2 Rate scf/min	DH Rate bpm	DH Foam Pumped bbl	Comments
09:05:30	0		0.0	0.0	0.0			0.0	0	0.0	0.0	"Start Stage 1"
09:26:26	2024		2.4	2.4	1.3			0.0	0	1.3	2.4	"Start Stage 2"
09:29:29	2317		29.6	32.0	11.2			0.0	0	11.2	32.0	"Start Stage 3"
09:37:07	5257		81.8	115.6	12.5			215.5	29987	35.4	280.5	"Start Stage 4"
10:08:13	5169		380.6	496.2	13.6			1154.7	28277	35.2	1379.6	"Start Stage 5"
10:33:56	5290		352.0	848.2	14.9			1877.6	26581	35.2	2284.6	"Start Stage 6"
10:36:17	5227		36.2	884.4	15.8			1939.2	25634	35.4	2367.9	"Start Stage 7"
10:38:14	5166		30.5	914.9	15.3			1989.2	25571	34.9	2436.7	"Start Stage 8"
11:05:51	37		79.3	994.3	0.0			2093.7	0	0.0	2596.0	"End Job"











## Data Listing

Time	Clock Time min	SURFACE PR psi	DIRTY RATE bpm	DIRTY TOT bbl	SAND CONC psa	N2 STD Tur scf/min	bh foam ra bpm	BH Sand Ra psa	Calculated psi
09:05:32	0.034	1605	1.1	0.0	0.32	0	1.1	0.00	0
09:05:49	0.333	2727	1.1	0.3	0.24	0	1.1	0.00	5737
09:06:09	0.666	2718	1.5	0.7	0.32	0	1.5	0.00	5724
09:06:29	0.999	2711	1.8	1.2	0.36	0	1.8	0.00	5717
09:06:49	1.332	2706	0.2	1.5	0.32	0	0.2	0.00	5717
09:07:09	1.665	4208	0.9	2.0	0.33	0	0.9	0.00	5715
09:07:29	1.998	4391	0.7	2.3	0.00	0	0.7	0.00	7394
09:07:49	2.331	6134	0.8	2.6	0.00	23	0.9	0.00	8652
09:08:09	2.664	6800	1.1	3.0	0.00	0	1.1	0.00	9785
09:08:29	2.997	7182	1.5	3.5	0.00	0	1.5	0.00	10152
09:08:49	3.330	7345	2.4	3.9	0.00	0	2.4	0.00	10350
09:09:09	3.663	7599	1.1	4.3	0.00	0	1.1	0.00	10607
09:09:29	3.996	7595	1.1	4.7	0.00	0	1.1	0.00	10605
09:09:49	4.329	7591	1.2	5.1	0.00	0	1.2	0.00	10601
09:10:09	4.662	7588	1.3	5.4	0.00	0	1.3	0.00	10596
09:10:29	4.995	7586	1.5	5.9	0.00	0	1.5	0.00	10593
09:10:49	5.328	7584	0.9	6.2	0.00	0	0.9	0.00	10595
09:11:09	5.661	7582	0.9	6.4	0.00	51	0.9	0.00	10591
09:11:29	5.994	7581	1.8	6.8	0.00	54	1.8	0.00	10587
09:11:49	6.327	7580	1.1	7.1	0.00	165	1.2	0.00	10589
09:12:09	6.660	7579	1.1	7.5	0.00	0	1.1	0.00	10584
09:12:29	6.993	7579	1.3	7.9	0.00	0	1.3	0.00	10587
09:12:49	7.326	7578	3.2	8.5	0.00	0	3.2	0.00	10571
09:13:09	7.659	7578	2.0	8.9	0.00	0	2.0	0.00	10585
09:13:29	7.992	7578	0.2	9.2	0.00	0	0.2	0.00	10589
09:13:49	8.325	7578	0.7	9.6	0.00	0	0.7	0.00	10587
09:14:09	8.658	7579	2.0	10.0	0.00	0	2.0	0.00	10586
09:14:29	8.991	7579	0.4	10.2	0.00	0	0.4	0.00	10590
09:14:49	9.324	7580	0.2	10.5	0.00	0	0.2	0.00	10588
09:15:09	9.657	7581	1.1	10.9	0.00	0	1.1	0.00	10583
09:15:29	9.990	7581	1.8	11.4	0.00	0	1.8	0.00	10587
09:15:49	10.323	7582	1.3	11.7	0.00	0	1.3	0.00	10590
09:16:09	10.656	7583	1.8	12.1	0.00	0	1.8	0.00	10589
09:16:29	10.989	7583	0.7	12.3	0.00	0	0.7	0.00	10593
09:16:49	11.322	7584	0.7	12.7	0.00	0	0.7	0.00	10594
09:17:09	11.655	7585	0.2	13.1	0.00	0	0.2	0.00	10595
09:17:29	11.988	7586	1.3	13.4	0.00	0	1.3	0.00	10596
09:17:49	12.321	7586	0.4	13.8	0.00	0	0.4	0.00	10592
09:18:09	12.654	7587	2.2	14.2	0.00	0	2.2	0.00	10594
09:18:29	12.987	7590	0.5	14.5	0.00	0	0.5	0.00	10597
09:18:49	13.320	7595	2.0	15.0	0.00	0	2.0	0.00	10594
09:19:09	13.653	7596	0.9	15.6	0.00	0	0.9	0.00	10605
09:19:29	13.986	7597	0.0	15.8	0.00	0	0.0	0.00	10608
09:19:49	14.319	7597	0.0	15.8	0.00	0	0.0	0.00	10608
09:20:09	14.652	7596	0.0	15.8	0.00	0	0.0	0.00	10607
09:20:29	14.985	7596	0.0	15.8	0.00	0	0.0	0.00	10606
09:20:49	15.318	7596	0.0	15.8	0.00	0	0.0	0.00	10606
09:21:09	15.651	7595	0.0	15.8	0.00	0	0.0	0.00	10606
09:21:29	15.984	7595	0.0	15.8	0.00	0	0.0	0.00	10606
09:21:49	16.317	7594	0.0	15.8	0.00	2780	2.1	0.00	10602
09:22:09	16.650	7578	0.0	15.8	0.00	-18	-0.0	0.00	10597
09:22:28	16.983	166	0.0	15.8	0.00	105	0.1	0.00	3182
09:22:48	17.316	49	0.0	15.8	0.00	33	0.0	0.00	2243
09:23:08	17.649	50	0.0	15.8	0.00	0	0.0	0.00	2255
09:23:28	17.982	61	1.2	17.3	0.00	0	1.2	0.00	2366
09:23:48	18.315	4448	1.4	17.7	0.00	0	1.4	0.00	7461
09:24:08	18.648	4433	0.7	18.1	0.00	0	0.7	0.00	7445
09:24:28	18.981	2111	1.1	18.6	0.00	0	1.1	0.00	5109
09:24:48	19.314	2118	0.0	0.2	0.00	0	0.0	0.00	5125
09:25:08	19.647	2025	0.8	0.5	0.00	0	0.8	0.00	5026
09:25:28	19.980	2026	1.3	0.8	0.00	0	1.3	0.00	5025
09:25:48	20.313	2026	1.8	1.3	0.00	0	1.8	0.00	5016
09:26:08	20.646	2026	2.2	1.8	0.00	0	2.2	0.00	5012
09:26:28	20.979	2024	1.1	2.5	0.00	0	1.1	0.00	5007



**BJ Services: JTrax Version 1.20**  
**Customer: Partara Oil & Gas**  
**Service type: 20# Linear Foam Frac**  
**Well: 31-31-45-14**

09:26:48	21.312	2036	5.0	3.2	0.00	0	5.0	0.00	4999
09:27:08	21.645	2053	9.2	5.3	0.00	0	9.2	0.00	4963
09:27:28	21.978	2134	13.4	9.4	0.00	0	13.4	0.00	4941
09:27:48	22.311	2263	12.6	13.6	0.00	0	12.6	0.00	5083
09:28:08	22.644	2282	12.3	17.1	0.00	0	12.3	0.00	5133
09:28:28	22.977	2256	10.9	20.8	0.00	0	10.9	0.00	5125
09:28:48	23.310	2256	11.0	24.5	0.00	0	11.0	0.00	5118
09:29:08	23.643	2277	10.7	28.2	0.00	0	10.7	0.00	5134
09:29:28	23.976	2315	11.2	31.8	0.00	0	11.2	0.00	5174
09:29:48	24.309	2627	10.9	35.5	0.00	24102	29.4	0.00	4520
09:30:08	24.642	3014	10.2	38.9	0.00	29686	32.9	0.00	4751
09:30:28	24.975	3450	11.4	42.6	0.00	30513	34.7	0.00	5173
09:30:48	25.308	3872	11.6	46.5	0.00	29626	34.3	0.00	5683
09:31:08	25.641	4252	10.7	50.2	0.00	28911	32.8	0.00	6133
09:31:28	25.974	4582	10.3	53.8	0.00	24962	29.4	0.00	6522
09:31:48	26.307	4736	10.7	57.4	0.00	24866	29.8	0.00	6773
09:32:08	26.640	4909	11.4	60.9	0.00	24670	30.3	0.00	6939
09:32:28	26.973	4952	10.5	64.5	0.00	24483	29.2	0.00	6972
09:32:48	27.306	4955	10.5	68.1	0.00	26170	30.5	0.00	6900
09:33:08	27.639	4970	10.9	71.7	0.00	28331	32.6	0.00	6820
09:33:28	27.972	4997	10.5	75.2	0.00	28738	32.5	0.00	6789
09:33:48	28.305	4954	10.7	78.7	0.00	29058	33.0	0.00	6711
09:34:08	28.638	4954	10.5	82.2	0.00	31645	34.7	0.00	6634
09:34:28	28.971	4948	10.5	85.7	0.00	32422	35.3	0.00	6566
09:34:48	29.304	4949	11.2	89.3	0.00	32141	35.8	0.00	6507
09:35:08	29.637	5030	10.5	92.9	0.00	31996	35.0	0.00	6543
09:35:28	29.970	5104	10.1	96.4	0.00	31916	34.5	0.00	6590
09:35:48	30.303	5158	10.9	100.0	0.00	31786	35.2	0.00	6655
09:36:08	30.636	5214	10.3	103.5	0.00	31439	34.4	0.00	6718
09:36:28	30.969	5233	12.9	107.3	0.82	30582	36.3	0.00	6717
09:36:48	31.302	5237	12.5	111.6	2.31	30203	35.6	0.00	6737
09:37:08	31.635	5259	12.6	115.8	3.02	29999	35.6	0.00	6773
09:37:28	31.968	5273	12.0	119.8	3.04	29900	34.9	0.00	6816
09:37:48	32.301	5282	12.1	123.9	3.24	29927	35.0	0.00	6835
09:38:08	32.634	5278	12.5	127.9	3.31	29926	35.4	0.00	6840
09:38:28	32.967	5271	12.4	132.0	3.03	30053	35.4	0.00	6850
09:38:48	33.300	5273	12.2	136.0	3.18	30152	35.3	0.00	6870
09:39:07	33.633	5262	11.8	140.1	3.34	30254	35.0	0.00	6874
09:39:27	33.966	5261	12.4	144.1	3.07	30312	35.6	0.00	6889
09:39:47	34.299	5230	12.0	148.2	3.36	30340	35.3	0.00	6878
09:40:07	34.632	5199	12.3	152.3	3.57	30352	35.5	0.00	6865
09:40:27	34.965	5170	12.0	156.3	3.44	30277	35.2	0.00	6846
09:40:47	35.298	5161	12.3	160.3	3.38	30290	35.4	0.00	6858
09:41:07	35.631	5153	12.3	164.4	3.34	30295	35.4	0.00	6863
09:41:27	35.964	5140	12.3	168.4	3.35	30341	35.5	0.01	6864
09:41:47	36.297	5132	12.0	172.5	3.22	30421	35.3	0.11	6876
09:42:07	36.630	5124	12.1	176.6	3.29	30435	35.4	0.80	6865
09:42:27	36.963	5097	12.3	180.6	3.45	30512	35.6	1.13	6838
09:42:47	37.296	5058	12.0	184.7	3.19	30515	35.3	1.12	6798
09:43:07	37.629	5033	12.1	188.7	3.23	30449	35.4	1.18	6762
09:43:27	37.962	5022	12.3	192.8	3.36	30441	35.6	1.22	6748
09:43:47	38.295	5016	12.0	196.9	3.02	30416	35.3	1.13	6741
09:44:07	38.628	5006	12.5	200.9	3.29	30307	35.7	1.18	6731
09:44:27	38.961	4999	12.0	205.0	3.36	30216	35.2	1.20	6721
09:44:47	39.294	5000	12.5	209.0	3.15	30258	35.6	1.14	6717
09:45:07	39.627	5005	12.0	213.1	3.34	30354	35.3	1.22	6728
09:45:27	39.960	5012	12.0	217.1	3.34	30298	35.2	1.31	6734
09:45:47	40.293	5022	12.3	221.2	3.18	30294	35.4	1.30	6742
09:46:07	40.626	5028	12.3	225.2	3.22	30288	35.4	1.21	6750
09:46:27	40.959	5038	12.3	229.3	3.40	30293	35.4	1.23	6761
09:46:47	41.292	5043	12.3	233.4	3.40	30314	35.5	1.22	6769
09:47:07	41.625	5048	12.0	237.4	3.22	30317	35.2	1.18	6777
09:47:27	41.958	5061	12.3	241.5	3.27	30328	35.5	1.22	6787
09:47:47	42.291	5071	12.0	245.5	3.40	30337	35.3	1.28	6803
09:48:07	42.624	5079	12.0	249.5	3.34	30363	35.3	1.17	6811
09:48:27	42.957	5086	12.3	253.6	3.38	30349	35.5	1.20	6815
09:48:47	43.290	5097	12.1	257.7	3.26	30321	35.3	1.28	6836
09:49:07	43.623	5109	12.3	261.7	3.02	30340	35.5	1.16	6846
09:49:27	43.956	5118	12.0	265.8	3.27	30363	35.3	1.22	6859
09:49:47	44.289	5121	12.3	269.8	3.31	30366	35.5	1.23	6864



**BJ Services: JTrax Version 1.20**  
**Customer: Partara Oil & Gas**  
**Service type: 20# Linear Foam Frac**  
**Well: 31-31-45-14**

09:50:07	44.622	5127	12.0	273.9	3.11	30319	35.2	1.18	6869
09:50:27	44.955	5135	12.0	277.9	3.20	30351	35.3	1.22	6878
09:50:47	45.288	5130	12.3	281.9	3.29	30360	35.5	1.22	6871
09:51:07	45.621	5113	12.0	286.0	3.06	30364	35.3	1.23	6854
09:51:27	45.954	5107	12.5	290.0	3.24	30367	35.7	1.19	6840
09:51:47	46.287	5113	12.3	294.1	3.27	30340	35.5	1.24	6848
09:52:07	46.620	5120	12.3	298.1	3.27	30365	35.5	1.25	6861
09:52:27	46.953	5126	12.2	302.1	3.16	30284	35.4	1.17	6870
09:52:47	47.286	5132	12.3	306.2	3.36	30324	35.5	1.22	6871
09:53:07	47.619	5137	12.0	310.2	3.31	30342	35.3	1.27	6881
09:53:27	47.952	5142	12.0	314.2	3.11	30342	35.3	1.19	6885
09:53:47	48.285	5134	12.3	318.3	3.28	30318	35.5	1.23	6878
09:54:07	48.618	5124	12.0	322.4	3.36	30256	35.2	1.22	6863
09:54:27	48.951	5126	12.5	326.4	3.15	30313	35.7	1.11	6859
09:54:47	49.284	5132	12.1	330.4	3.37	30309	35.3	1.18	6871
09:55:07	49.617	5137	12.3	334.5	3.36	30301	35.4	1.22	6881
09:55:27	49.950	5131	11.9	338.5	3.17	30330	35.1	1.18	6872
09:55:46	50.283	5136	12.3	342.6	3.29	30302	35.4	1.20	6876
09:56:06	50.616	5141	12.0	346.6	3.29	30310	35.2	1.19	6886
09:56:26	50.949	5147	12.3	350.6	3.01	30315	35.5	1.22	6889
09:56:46	51.282	5150	12.0	354.7	3.20	30327	35.2	1.22	6894
09:57:06	51.615	5150	12.3	358.7	3.31	30328	35.5	1.22	6892
09:57:26	51.948	5159	12.3	362.8	3.18	30346	35.5	1.21	6902
09:57:46	52.281	5167	12.0	366.8	3.29	30339	35.3	1.17	6916
09:58:06	52.614	5172	12.0	370.9	3.31	30317	35.2	1.24	6920
09:58:26	52.947	5178	12.1	374.9	3.40	30351	35.4	1.22	6928
09:58:46	53.280	5181	12.0	378.9	3.31	30361	35.3	1.15	6937
09:59:06	53.613	5186	12.2	383.0	3.37	30357	35.4	1.22	6935
09:59:26	53.946	5191	12.3	387.0	3.45	30322	35.5	1.24	6949
09:59:46	54.279	5201	12.0	391.1	3.18	30315	35.2	1.14	6958
10:00:06	54.612	5211	12.2	395.1	3.37	30302	35.4	1.19	6964
10:00:26	54.945	5208	12.3	399.2	3.43	30320	35.5	1.26	6968
10:00:46	55.278	5207	12.2	403.2	3.09	30295	35.4	1.15	6962
10:01:06	55.611	5217	12.0	407.2	3.18	30300	35.2	1.20	6975
10:01:26	55.944	5225	11.8	411.3	3.15	30289	35.0	1.24	6987
10:01:46	56.277	5232	12.3	415.3	2.75	30302	35.4	1.24	6990
10:02:06	56.610	5241	12.3	419.4	2.79	30237	35.4	1.18	7002
10:02:26	56.943	5247	12.0	423.4	2.89	30261	35.2	1.23	7008
10:02:46	57.276	5250	11.9	427.4	2.68	30253	35.0	1.27	7013
10:03:06	57.609	5255	12.0	431.5	3.13	30230	35.2	1.18	7012
10:03:26	57.942	5258	12.0	435.5	3.36	30288	35.2	1.21	7015
10:03:46	58.275	5260	12.0	439.5	3.50	30293	35.2	1.26	7019
10:04:06	58.608	5269	12.0	443.5	3.59	30288	35.2	1.18	7030
10:04:26	58.941	5279	12.0	447.5	3.68	30301	35.2	1.22	7041
10:04:46	59.274	5287	12.0	451.6	3.69	30266	35.2	1.24	7053
10:05:06	59.607	5284	12.3	455.6	3.55	30286	35.4	1.16	7055
10:05:26	59.940	5285	12.3	459.7	3.62	30271	35.4	1.21	7049
10:05:46	60.273	5296	12.0	463.7	3.59	30301	35.2	1.25	7067
10:06:06	60.606	5290	12.3	467.7	3.52	30367	35.5	1.20	7065
10:06:26	60.939	5264	13.4	471.8	3.64	30301	36.5	1.18	7027
10:06:46	61.272	5235	13.6	476.3	4.19	28265	35.2	1.18	7005
10:07:06	61.605	5215	13.6	480.9	5.78	28305	35.2	1.05	6993
10:07:26	61.938	5201	13.6	485.5	6.57	28303	35.2	1.05	6997
10:07:46	62.271	5184	13.8	490.0	6.61	28278	35.4	1.09	7002
10:08:06	62.604	5172	13.6	494.6	6.62	28236	35.2	1.08	7011
10:08:26	62.937	5162	13.8	499.1	6.50	28252	35.4	1.09	7022
10:08:46	63.270	5151	13.6	503.7	6.61	28241	35.2	1.24	7032
10:09:06	63.603	5145	13.8	508.2	6.79	28219	35.3	1.38	7043
10:09:26	63.936	5138	13.6	512.7	6.75	28246	35.2	1.29	7051
10:09:46	64.269	5130	13.8	517.2	6.57	28215	35.4	1.35	7064
10:10:06	64.602	5121	13.8	521.7	6.71	28195	35.4	1.36	7071
10:10:26	64.935	5116	13.6	526.3	6.78	28198	35.1	1.31	7087
10:10:46	65.268	5109	13.6	530.8	6.82	28223	35.2	1.32	7101
10:11:06	65.601	5103	13.4	535.3	6.71	28225	35.0	1.36	7115
10:11:26	65.934	5098	13.4	539.8	6.71	28234	35.0	1.29	7123
10:11:46	66.267	5090	13.6	544.4	6.85	28209	35.2	1.36	7129
10:12:06	66.600	5079	13.6	548.9	6.33	28212	35.2	1.65	7133
10:12:25	66.933	5070	13.8	553.4	6.64	28204	35.4	2.18	7126
10:12:45	67.266	5065	13.6	557.9	6.75	28204	35.2	2.55	7120
10:13:05	67.599	5064	13.4	562.4	6.73	28185	35.0	2.58	7119



**BJ Services: JTrax Version 1.20**  
**Customer: Partara Oil & Gas**  
**Service type: 20# Linear Foam Frac**  
**Well: 31-31-45-14**

10:13:25	67.932	5070	14.0	567.0	6.30	28219	35.6	2.63	7123
10:13:45	68.265	5070	13.6	571.5	6.70	28200	35.2	2.47	7126
10:14:05	68.598	5070	13.6	576.0	6.82	28208	35.2	2.55	7124
10:14:25	68.931	5072	13.4	580.6	6.85	28204	34.9	2.63	7129
10:14:45	69.264	5074	13.6	585.1	6.66	28209	35.2	2.62	7131
10:15:05	69.597	5077	13.8	589.6	6.75	28230	35.4	2.51	7134
10:15:25	69.930	5081	13.6	594.2	6.80	28231	35.2	2.61	7145
10:15:45	70.263	5081	13.6	598.8	6.85	28205	35.2	2.64	7145
10:16:05	70.596	5071	13.6	603.3	6.61	28201	35.2	2.66	7134
10:16:25	70.929	5066	13.4	607.8	6.82	28157	34.9	2.58	7125
10:16:45	71.262	5077	13.8	612.4	6.96	28149	35.3	2.61	7136
10:17:05	71.595	5085	13.8	616.9	6.78	28128	35.3	2.66	7149
10:17:25	71.928	5088	13.4	621.4	6.85	28107	34.9	2.54	7157
10:17:45	72.261	5092	13.8	626.0	6.88	28118	35.3	2.58	7156
10:18:05	72.594	5097	13.8	630.5	6.96	28100	35.3	2.62	7164
10:18:25	72.927	5101	13.6	635.1	6.50	28186	35.1	2.62	7168
10:18:45	73.260	5102	13.8	639.6	6.85	28216	35.4	2.49	7171
10:19:05	73.593	5108	13.8	644.2	7.11	28203	35.4	2.60	7180
10:19:25	73.926	5112	13.8	648.7	6.85	28193	35.4	2.67	7182
10:19:45	74.259	5118	13.6	653.3	6.54	28186	35.2	2.69	7195
10:20:05	74.592	5122	13.8	657.8	6.85	28224	35.4	2.51	7197
10:20:25	74.925	5122	13.6	662.4	6.85	28242	35.2	2.63	7201
10:20:45	75.258	5127	13.7	666.9	6.97	28179	35.3	2.68	7203
10:21:05	75.591	5132	13.4	671.4	6.71	28160	34.9	2.63	7214
10:21:25	75.924	5135	13.4	675.9	6.92	28221	34.9	2.57	7220
10:21:45	76.257	5140	13.8	680.5	6.89	28206	35.4	2.63	7216
10:22:05	76.590	5146	13.6	685.0	7.11	28225	35.2	2.64	7229
10:22:25	76.923	5152	13.8	689.6	6.75	28222	35.4	2.70	7236
10:22:45	77.256	5157	13.6	694.1	6.92	28232	35.2	2.66	7240
10:23:05	77.589	5162	13.6	698.7	6.71	28224	35.2	2.71	7248
10:23:25	77.922	5158	13.8	703.2	6.96	28266	35.4	2.73	7242
10:23:45	78.255	5165	13.8	707.7	6.78	28169	35.3	2.72	7248
10:24:05	78.588	5173	13.8	712.3	6.75	28218	35.4	2.63	7258
10:24:25	78.921	5180	13.6	716.8	6.75	28197	35.1	2.71	7267
10:24:45	79.254	5184	13.6	721.3	6.38	28189	35.1	2.72	7270
10:25:05	79.587	5190	13.8	725.9	6.64	28195	35.4	2.59	7274
10:25:25	79.920	5189	13.8	730.4	6.82	28199	35.4	2.69	7274
10:25:45	80.253	5196	13.6	734.9	6.82	28182	35.1	2.68	7284
10:26:05	80.586	5201	13.8	739.5	6.27	28199	35.4	2.70	7288
10:26:25	80.919	5206	13.9	744.0	6.56	28233	35.5	2.58	7295
10:26:45	81.252	5213	13.4	748.6	6.75	28193	34.9	2.63	7299
10:27:05	81.585	5218	13.6	753.1	6.82	28229	35.2	2.72	7308
10:27:25	81.918	5223	13.5	757.6	6.33	28233	35.1	2.71	7317
10:27:45	82.251	5226	13.4	762.1	6.64	28170	34.9	2.63	7313
10:28:05	82.584	5233	13.6	766.6	6.71	28163	35.1	2.66	7322
10:28:25	82.917	5239	13.6	771.2	6.74	28183	35.1	2.71	7329
10:28:45	83.250	5243	13.6	775.7	6.40	28203	35.2	2.69	7330
10:29:04	83.583	5244	13.4	780.2	6.64	28259	35.0	2.55	7335
10:29:24	83.916	5245	13.4	784.8	6.64	28235	35.0	2.68	7336
10:29:44	84.249	5255	13.6	789.3	6.44	28228	35.2	2.64	7347
10:30:04	84.582	5259	13.6	793.8	6.50	28222	35.2	2.68	7347
10:30:24	84.915	5269	13.6	798.3	6.57	28267	35.2	2.56	7361
10:30:44	85.248	5278	13.6	802.8	6.68	28264	35.2	2.62	7368
10:31:04	85.581	5284	13.6	807.3	6.17	28216	35.2	2.73	7376
10:31:24	85.914	5289	13.6	811.9	6.68	28238	35.2	2.66	7381
10:31:44	86.247	5295	13.7	816.4	6.89	28198	35.3	2.60	7388
10:32:04	86.580	5297	13.6	820.9	6.92	28201	35.2	2.62	7392
10:32:24	86.913	5318	14.7	825.6	6.50	27682	35.8	2.66	7402
10:32:44	87.246	5306	14.6	830.5	8.38	26522	34.9	2.59	7408
10:33:04	87.579	5307	14.9	835.4	9.48	26562	35.2	2.57	7422
10:33:24	87.912	5303	14.9	840.3	9.77	26610	35.2	2.67	7436
10:33:44	88.245	5294	15.0	845.3	9.21	26610	35.4	2.66	7438
10:34:04	88.578	5287	14.7	850.2	9.54	26555	35.1	2.47	7456
10:34:24	88.911	5280	14.7	855.2	9.62	26585	35.0	2.57	7461
10:34:44	89.244	5272	14.8	860.1	9.73	26554	35.1	2.62	7472
10:35:04	89.577	5286	15.8	865.3	9.16	26503	36.0	2.64	7491
10:35:24	89.910	5278	16.0	870.5	10.96	26500	36.3	2.57	7507
10:35:44	90.243	5252	15.5	875.8	11.93	25261	34.9	2.60	7517
10:36:04	90.576	5238	15.8	881.1	12.92	25610	35.4	2.63	7529
10:36:24	90.909	5221	16.0	886.3	13.60	25660	35.6	2.52	7541



**BJ Services: JTrax Version 1.20**  
**Customer: Partara Oil & Gas**  
**Service type: 20# Linear Foam Frac**  
**Well: 31-31-45-14**

10:36:44	91.242	5204	15.8	891.6	12.89	25639	35.4	2.61	7560
10:37:04	91.575	5189	15.8	896.9	12.94	25639	35.4	2.72	7572
10:37:24	91.908	5172	15.8	902.1	9.53	25651	35.4	2.70	7586
10:37:44	92.241	5159	15.5	907.3	4.11	25611	35.1	2.67	7591
10:38:04	92.574	5154	15.3	912.4	0.68	25566	34.9	3.31	7580
10:38:24	92.907	5186	15.5	917.5	0.35	27874	36.9	3.81	7557
10:38:44	93.240	5287	15.5	922.7	0.35	31412	39.6	3.93	7580
10:39:04	93.573	5328	15.5	927.8	0.24	31110	39.3	3.78	7589
10:39:24	93.906	5338	13.6	932.8	0.00	31013	37.3	3.96	7589
10:39:44	94.239	5322	10.5	936.7	0.00	31073	34.3	3.94	7566
10:40:04	94.572	5377	10.5	940.1	0.00	31206	34.4	3.97	7567
10:40:24	94.905	5434	10.1	943.4	0.00	31191	33.9	3.96	7575
10:40:44	95.238	5475	9.9	946.8	0.00	31162	33.7	4.44	7566
10:41:04	95.571	5521	10.1	950.1	0.00	30963	33.8	4.96	7541
10:41:24	95.904	5594	10.1	953.4	0.00	30498	33.4	5.08	7564
10:41:44	96.237	5473	11.8	956.9	0.00	1862	13.2	5.43	7613
10:42:04	96.570	5639	18.2	961.8	0.00	0	18.2	5.54	7630
10:42:24	96.903	5879	26.5	969.1	0.00	0	26.5	5.61	7838
10:42:44	97.236	5831	26.1	977.8	0.00	0	26.1	5.40	7835
10:43:04	97.569	5632	10.5	984.8	0.00	0	10.5	5.43	7805
10:43:24	97.902	5496	17.0	989.1	0.00	0	17.0	4.98	7481
10:43:44	98.235	5310	1.1	994.2	0.00	0	1.1	4.38	7615
10:44:04	98.568	5160	0.0	994.3	0.00	0	0.0	4.09	7345
10:44:24	98.901	5113	0.0	994.3	0.00	0	0.0	3.78	7286
10:44:44	99.234	5084	0.0	994.3	0.00	0	0.0	3.77	7252
10:45:04	99.567	5061	0.0	994.3	0.00	0	0.0	3.77	7223
10:45:24	99.900	5041	0.0	994.3	0.00	0	0.0	3.76	7200
10:45:44	100.233	5023	0.0	994.3	0.00	0	0.0	3.76	7179
10:46:03	100.566	5006	0.0	994.3	0.00	0	0.0	3.76	7160
10:46:23	100.899	4990	0.0	994.3	0.00	0	0.0	3.75	7143
10:46:43	101.232	4976	0.0	994.3	0.00	0	0.0	3.75	7125
10:47:03	101.565	4961	0.0	994.3	0.00	0	0.0	3.75	7109
10:47:23	101.898	4948	0.0	994.3	0.00	0	0.0	3.43	7093
10:47:43	102.231	4935	0.0	994.3	0.00	0	0.0	3.43	7079
10:48:03	102.564	4923	0.0	994.3	0.00	0	0.0	3.42	7065
10:48:23	102.897	4912	0.0	994.3	0.00	0	0.0	3.42	7052
10:48:43	103.230	4901	0.0	994.3	0.00	0	0.0	3.42	7039
10:49:03	103.563	4889	0.0	994.3	0.00	0	0.0	3.42	7026
10:49:23	103.896	4879	0.0	994.3	0.00	0	0.0	3.41	7013
10:49:43	104.229	4868	0.0	994.3	0.00	0	0.0	3.41	7003
10:50:03	104.562	4858	0.0	994.3	0.00	0	0.0	3.41	6990
10:50:23	104.895	4848	0.0	994.3	0.00	0	0.0	3.41	6979
10:50:43	105.228	4838	0.0	994.3	0.00	0	0.0	3.41	6967
10:51:03	105.561	4828	0.0	994.3	0.00	0	0.0	3.40	6956
10:51:23	105.894	4819	0.0	994.3	0.00	0	0.0	3.40	6946
10:51:43	106.227	4810	0.0	994.3	0.00	0	0.0	3.40	6935
10:52:03	106.560	4802	0.0	994.3	0.00	0	0.0	3.40	6925
10:52:23	106.893	4793	0.0	994.3	0.00	0	0.0	3.40	6916
10:52:43	107.226	4785	0.0	994.3	0.00	0	0.0	3.39	6907
10:53:03	107.559	4777	0.0	994.3	0.00	0	0.0	3.39	6897
10:53:23	107.892	4769	0.0	994.3	0.00	0	0.0	3.19	6887
10:53:43	108.225	4761	0.0	994.3	0.00	0	0.0	3.18	6879
10:54:03	108.558	4753	0.0	994.3	0.00	0	0.0	3.18	6870
10:54:23	108.891	4746	0.0	994.3	0.00	0	0.0	3.18	6861
10:54:43	109.224	4738	0.0	994.3	0.00	0	0.0	3.18	6852
10:55:03	109.557	4730	0.0	994.3	0.00	0	0.0	3.18	6843
10:55:23	109.890	4722	0.0	994.3	0.00	0	0.0	3.18	6835
10:55:43	110.223	4714	0.0	994.3	0.00	0	0.0	3.18	6826
10:56:03	110.556	4707	0.0	994.3	0.00	0	0.0	3.17	6818
10:56:23	110.889	4701	0.0	994.3	0.00	0	0.0	3.17	6809
10:56:43	111.222	4694	0.0	994.3	0.00	0	0.0	3.17	6802
10:57:03	111.555	4688	0.0	994.3	0.00	0	0.0	3.17	6795
10:57:23	111.888	4681	0.0	994.3	0.00	0	0.0	3.17	6787
10:57:43	112.221	4674	0.0	994.3	0.00	0	0.0	3.17	6779
10:58:03	112.554	4666	0.0	994.3	0.00	0	0.0	3.17	6771
10:58:23	112.887	4659	0.0	994.3	0.00	0	0.0	3.16	6762
10:58:43	113.220	4652	0.0	994.3	0.00	0	0.0	3.16	6753
10:59:03	113.553	4645	0.0	994.3	0.00	0	0.0	3.16	6745
10:59:23	113.886	4638	0.0	994.3	0.00	0	0.0	3.16	6737
10:59:43	114.219	4631	0.0	994.3	0.00	0	0.0	3.16	6730



11:00:03	114.552	4625	0.0	994.3	0.00	0	0.0	3.16	6722
11:00:23	114.885	4617	0.0	994.3	0.00	0	0.0	3.16	6714
11:00:43	115.218	4611	0.0	994.3	0.00	0	0.0	3.15	6707
11:01:03	115.551	4604	0.0	994.3	0.00	0	0.0	3.15	6699
11:01:23	115.884	4598	0.0	994.3	0.00	0	0.0	3.15	6692
11:01:43	116.217	4593	0.0	994.3	0.00	0	0.0	2.90	6686
11:02:03	116.550	4589	0.0	994.3	0.00	0	0.0	2.90	6681
11:02:22	116.883	4196	0.0	994.3	0.00	0	0.0	2.88	6597
11:02:42	117.216	2763	0.0	994.3	0.00	0	0.0	0.21	4844
11:03:02	117.549	1244	0.0	994.3	0.00	0	0.0	0.07	2881
11:03:22	117.882	383	0.0	994.3	0.00	0	0.0	0.00	1801
11:03:42	118.215	35	0.0	994.3	0.00	0	0.0	0.00	996





**BJ Services: JTrax Version 1.20**  
**Customer: Partara Oil & Gas**  
**Service type: 20# Linear Foam Frac**  
**Well: 31-31-45-14**

### **DISCLAIMER NOTICE**

BJ Services personnel will use good faith at all times in interpreting information, making recommendations, (either written, or oral) as to the type or amount of products, equipment or services to be furnished, the manner of performance, or in predicting results to be obtained. The recommendation and projections given are estimates based on calculations produced by a computer model including various assumptions regarding the well, reservoir and treatment. Due to the uncertainty of variable well conditions and the necessity of relying on facts and supporting services provided by the Customer and its other contractors, BJ Services hereby disclaims the accuracy of any chart interpretation, research, analysis, job recommendation or other data furnished by BJ Services. Such data shall include the attached report, any similar information provided electronically and any data generated through real-time monitoring. NO WARRANTY IS GIVEN CONCERNING THE EFFECTIVENESS OF THE PRODUCTS OR EQUIPMENT USED, RECOMMENDATIONS GIVEN OR SERVICES RENDERED. NO WARRANTIES, EXPRESS OR IMPLIED ARE MADE AND ALL SUCH WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXCLUDED AND DISCLAIMED BY BJ SERVICES.

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## Engineering Chemical & Quality Control Checklist



Is the HHP dispatched enough for the job? Y

Are the N2 rates dispatched enough for the job? Y

Are the chemicals dispatched enough for the job? Y

Are the breakers correct for the well conditions? Y

Has the procedure been reviewed by the D.E.? Y

Has the water been tested prior to a X/L job? Y

Do you have the results of any breaker tests? Y

Has the sand been tested in the lab? Y

Do you have all the QC sheets for the customer? Y

Is a chemical truck required for on-the-fly? Y

Is the TMV required for the job?  
Operator & Unit # S Yazzie T166

Is the QC van required for the job?  
Operator & Unit # R Forland 5732

Who is the lead engineer on location? B Barela

Signed by: B Barela

Date: April 2, 2011

Time: 12:00 PM

**\*\*\* THIS FORM IS REQUIRED IN ALL FINAL WELL FILES\*\*\***

Customer

Patara Oil & Gas LLC Field receipt #

1001783336

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## Post Frac Chemical Record



<b>Company:</b>	Patara Oil & Gas LLC	<b>Well Name:</b>	HC Fed 31-31-45-14
<b>Date:</b>	04/01/11	<b>Formation:</b>	Honaker Trail
<b>Treaters:</b>	N Mitchell/B Gordon	FR#	1001783336
<b>Engineers:</b>	B Barela	Hydration unit #	E945
		Hydration opr.	H Joe
<b>Fluid Tech:</b>	R Forland	<b>Q.C. Van:</b>	5732
<b>Chem-add Opr:</b>	M Garcia	<b>Chem-add Unit:</b>	L308
<b>Blender Opr:</b>	J Antonio	<b>Blender Unit:</b>	B277

Chemical	Dilution	Proposal Req.	Begin. Strap	Ending Strap	Tot. Amt. Used
GBW-5		9	50	35	15
ENZYME G-I		20	25	0	25
GW-3LDF		197	797	615	182
BF-7L		110	592	480	112
HP CRB		38	150	110	40
Magnacide 575		2	8	5	3
INFLO 250W		40	167	129	38
XLW-32		38	210	172	38
FAW-4		197	876	691	185

\*\*Total amount of chemicals used include amount required to load the chem-add unit and transfer losses\*\*

**Job Comments:**

in lieu of form 1460



# PRODUCT VARIANCE CALCULATIONS

PAGE: 1 OF 1

DATE: 4/1/2011	CUSTOMER: Patara Oil & Gas LLC	FLUID TECH: R Forland
FIELD RECEIPT NO: 1001783336	LEASE NAME & WELL NO: HC Fed 31-31-45-14	CHEM-ADD OPERATOR: M Garcia

CHEMICALS											
1	2	3	4	5	6	7	8	9	10	11	12
PRODUCT	PROPOSED VOLUME	MEASURED VOLUMES			TOTAL USED	LOSSES	PUMPED DOWNHOLE	PLANNED VOLUME FOR FLUID PUMPED	FLOW METER MEASURED VOLUME	CALCULATED VARIANCE%	
		START	HOSES LOADED	END						PLANNED VS. DOWNHOLE	FLOW METER VS. DOWNHOLE
GBW-5	9	50	50	35	15	0	15	15	15.9	0.00%	-5.66%
ENZYME G-I	20	25	25	0	25	0	25	24.4	23.7	2.46%	5.49%
GW-3LDF	197	797	797	615	182	0	182	193.6	200.5	-5.99%	-9.23%
BF-7L	110	592	592	480	112	0	112	115.8	113.6	-3.28%	-1.41%
HP CRB	38	150	150	110	40	0	40	43	41.6	-6.98%	-3.85%
Magnacide 575	2	8	8	5	3	0	3	3	3	0.00%	0.00%
INFLO 250W	40	167	167	129	38	0	38	41.2	39	-7.77%	-2.56%
XLW-32	38	210	210	172	38	0	38	39.6	38	-4.04%	0.00%
FAW-4	197	876	876	691	185	0	185	196.9	187.6	-6.04%	-1.39%
0	0	0		0	0	0	0				
0	0	0		0	0	0	0				
0	0	0		0	0	0	0				

PROPPANT (lbs)							
13	14	15	16	17	18	19	20
PROPPANT TYPE	S.G.	PRE-JOB AMOUNT ON LOCATION	POST-JOB AMOUNT IN SAND KING (est.)	SPILLAGE (est.on the ground)	PUMPED DOWNHOLE	DENSIOMETER TOTAL	VARIANCE %
20/40 White Sand	2.65	135,500	0	0	135,500	135,891	0.29%

CLEAN VOLUME (bbls)						
21	22	23	24	25	26	27
BASE FLUID DESCRIPTION	BEGINNING VOLUME	AFTER LOADING	ENDING VOLUME	DOWNHOLE VOLUME	FLOW METER VOLUME	VARIANCE %
Water	1,500	1,490	328	1,162	1,181	1.64%

SLURRY VOLUME (bbls)				
28	29	30	40	41
CLEAN VOLUME	PROPPANT VOLUME	TOTAL SLURRY	FLOW METER SLURRY VOLUME	VARIANCE %
1,162	135,500	1,308.0	1,346.0	2.91%

Comments:



# Chemical Injection Testing Report

(Attachment to Treatment Report)

Page\_1\_\_of\_1\_\_

<b>DATE:</b>	April 1, 2011	<b>FIELD RECEIPT NO:</b>	1001783336
<b>CUSTOMER:</b>	Patara Oil & Gas LLC	<b>LEASE NAME &amp; WELL NO:</b>	HC Fed 31-31-45-14

Units Tested # L308, B277,L390 Operators: M Garcia, J Antonio, H Joe

Additive	GBW-5	ENZYME G-I	GW-3LDF	BF-7L	HP CRB	INFLO 250W	XLW-32	FAW-4		
Loading	2	0.5	5	3	1	1	1	5	5	5
Clean Rate	10	10	10	10	10	10	24	10	10	10
Add. Inj Rate	0.840	0.210	2.100	1.260	0.420	0.420	1.008	2.100	2.100	2.100
Expected time for (1 gal) = 1/rate (sec)	71	286	29	48	143	143	60	29	29	29
Actual time for (1 gal) (sec)										11
% Deviance	100%	100%	100%	100%	100%	100%	100%	100%	100%	62%

TESTS VERIFIED BY: R Forland

## Additive Schedule

Well Name HC Fed 31-31-45-14

Formation: Honaker Trail

[illegible][illegible][illegible][illegible]

# BJ SERVICES

## Additive Schedule

Operator: Patara Oil & Gas LLC  
Well Name HC Fed 31-31-45-14

Date: 4/1/11  
Formation: Honaker Trail

Schedule		Additive: <b>GBW-5</b>		Planned Additive Rates @ Given Rate							Volume
Sand Conc	Volume	Ratio	Volume	10.5	12	13.4	14.7	15.9	10.5	0	Gone
(ppg)	(gals)	(gpt)	(gals)	(BPM)	(BPM)	(BPM)	(BPM)	(BPM)	(BPM)	(BPM)	(gals)
0	7035	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	14112	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	11499	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	1092	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	894	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	2003	2.00	4.01	0.88	1.01	1.13	1.23	1.34	0.88	0.00	4.01
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.01
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.01
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.01
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.01
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.01
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.01
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.01
0	0										
0	0										

Schedule		Additive: <b>INFLO</b>		Planned Additive Rates @ Given Rate							Volume
Sand Conc	Volume	Ratio	Volume	10.5	12	13.4	14.7	15.9	10.5	0	Gone
(ppg)	(gals)	(gpt)	(gals)	(BPM)	(BPM)	(BPM)	(BPM)	(BPM)	(BPM)	(BPM)	(gals)
0	7035	1.00	7.04	0.44	0.50	0.56	0.62	0.67	0.44	0.00	7.04
1	14112	1.00	14.11	0.42	0.48	0.54	0.59	0.64	0.42	0.00	21.15
2	11499	1.00	11.50	0.40	0.46	0.52	0.57	0.61	0.40	0.00	32.65
3	1092	1.00	1.09	0.39	0.44	0.50	0.54	0.59	0.39	0.00	33.74
4	894	1.00	0.89	0.37	0.43	0.48	0.52	0.56	0.37	0.00	34.63
0	2003	1.00	2.00	0.44	0.50	0.56	0.62	0.67	0.44	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0										
0	0										

Schedule		Additive: <b>HP-CRB</b>		Planned Additive Rates @ Given Rate							Volume
Sand Conc	Volume	Ratio	Volume	10.5	12	13.4	14.7	15.9	10.5	0	Gone
(ppg)	(gals)	(gpt)	(gals)	(BPM)	(BPM)	(BPM)	(BPM)	(BPM)	(BPM)	(BPM)	(gals)
0	7035	1.00	7.04	0.44	0.50	0.56	0.62	0.67	0.44	0.00	7.04
1	14112	1.00	14.11	0.42	0.48	0.54	0.59	0.64	0.42	0.00	21.15
2	11499	1.00	11.50	0.40	0.46	0.52	0.57	0.61	0.40	0.00	32.65
3	1092	1.00	1.09	0.39	0.44	0.50	0.54	0.59	0.39	0.00	33.74
4	894	1.00	0.89	0.37	0.43	0.48	0.52	0.56	0.37	0.00	34.63
0	2003	1.00	2.00	0.44	0.50	0.56	0.62	0.67	0.44	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.64
0	0										
0	0										

Schedule		Additive:		Planned Additive Rates @ Given Rate							Volume
Sand Conc	Volume	Ratio	Volume	10.5	12	13.4	14.7	15.9	10.5	0	Gone
(ppg)	(gals)	(gpt)	(gals)	(BPM)	(BPM)	(BPM)	(BPM)	(BPM)	(BPM)	(BPM)	(gals)
0	7035	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	14112	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	11499	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	1092	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	894	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	2003	5.00	10.02	2.21	2.52	2.81	3.09	3.34	2.21	0.00	10.02
0	0	5.00	0.00	2.21	2.52	2.81	3.09	3.34	2.21	0.00	10.02
0	0	5.00	0.00	2.21	2.52	2.81	3.09	3.34	2.21	0.00	10.02
0	0	5.00	0.00	2.21	2.52	2.81	3.09	3.34	2.21	0.00	10.02
0	0	5.00	0.00	2.21	2.52	2.81	3.09	3.34	2.21	0.00	10.02
0	0	5.00	0.00	2.21	2.52	2.81	3.09	3.34	2.21	0.00	10.02
0	0	5.00	0.00	2.21	2.52	2.81	3.09	3.34	2.21	0.00	10.02
0	0										
0	0										

in lieu of form 1520

# BJ SERVICES

## Additive Schedule

Operator: Patara Oil & Gas LLC  
Well Name HC Fed 31-31-45-14

Date: 4/1/11  
Formation: Honaker Trail

Schedule		Additive: <b>GW-3LD</b>		Planned Additive Rates @ Given Rate							Volume Gone (gals)
Sand Conc (ppg)	Volume (gals)	Ratio (gpt)	Volume (gals)	10.5 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	
0	7035	5.00	35.18	2.21	2.10	2.10	2.10	2.10	2.10	2.10	35.18
1	14112	5.00	70.56	2.11	2.01	2.01	2.01	2.01	2.01	2.01	105.74
2	11499	5.00	57.50	2.02	1.92	1.92	1.92	1.92	1.92	1.92	163.23
3	1092	5.00	5.46	1.94	1.85	1.85	1.85	1.85	1.85	1.85	168.69
4	894	5.00	4.47	1.86	1.78	1.78	1.78	1.78	1.78	1.78	173.16
0	2003	5.00	10.02	2.21	2.10	2.10	2.10	2.10	2.10	2.10	183.18
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	183.18
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	183.18
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	183.18
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	183.18
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	183.18
0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	183.18
0	0										

Schedule		Additive:		Planned Additive Rates @ Given Rate							Volume Gone (gals)
Sand Conc (ppg)	Volume (gals)	Ratio (gpt)	Volume (gals)	10.5 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	
0	7035										
1	14112										
2	11499										
3	1092										
4	894										
0	2003										
0	0										
0	0										
0	0										
0	0										
0	0										
0	0										
0	0										
0	0										

Schedule		Additive:		Planned Additive Rates @ Given Rate							Volume Gone (gals)
Sand Conc (ppg)	Volume (gals)	Ratio (gpt)	Volume (gals)	10.5 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	
0	7035										
1	14112										
2	11499										
3	1092										
4	894										
0	2003										
0	0										
0	0										
0	0										
0	0										
0	0										
0	0										
0	0										
0	0										

Schedule		Additive:		Planned Additive Rates @ Given Rate							Volume Gone (gals)
Sand Conc (ppg)	Volume (gals)	Ratio (gpt)	Volume (gals)	10.5 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	10 (BPM)	
0	7035	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	14112										
2	11499										
3	1092										
4	894										
0	2003										
0	0										
0	0										
0	0										
0	0										
0	0										
0	0										
0	0										

in lieu of form1520





## BATCH MIXED FRAC FLUID BLENDING SCHEDULE

(Attachment to Treatment Report)

Page: 1 of 1

DATE:	4/1/2011	CUSTOMER:	Patara Oil & Gas LLC
FIELD RECEIPT NO:	1001783336	FLUID SOURCE:	
LEASE NAME & WELL NO:	HC Fed 31-31-45-14	NOTES:	

Note: Use additional copies of this report for more tanks or compartments.

Tank/Transport Identification		No. 164	No. 134	No. 274	No.	No.	No.	No.	Totals	
Initial/Final Gauge (bbls)		500 / 22	500 / 36	500 / 270			/	/	1500 / 328	
Total Used (bbls)		478	464	230					1172	
Product System Trade Name										
Product System Trade Name & Batch/Lot No. (taken directly from drum/bag label)		Amount To Be Mixed	Amount To Be Mixed	Amount To Be Mixed	Amount To Be Mixed	Amount To Be Mixed	Amount To Be Mixed	Amount To Be Mixed	Total To Be Mixed	Actual Mixed
Base Fluid (gal)		21,000	21,000	21,000					63,000	
1)	gpt / ppt									
2)	gpt / ppt									
3)	gpt / ppt									
4)	gpt / ppt									
5)	gpt / ppt									
6)	gpt / ppt									
7)	gpt / ppt									
8)	gpt / ppt									
9)	gpt / ppt									
10)	gpt / ppt									

Mixed By: \_\_\_\_\_

Prepared By: R Forland



# WATER BASED FRAC FLUID QUALITY CONTROL

(Attachment to Treatment Report)

Page 1 of 1

DATE:	4/1/2011	FIELD RECEIPT NO: 1001783336
CUSTOMER:	Patara Oil & Gas LLC	LEASE NAME & WELL NO: HC Fed 31-31-45-14

<b>Tanks</b>	Note: Use additional copies of this report for testing additional material lots or tanks.	This job will be:	Gelled on-the-fly	Batch Mixed
Tank/Transport No.	3			

<b>Water Quality</b>	Date filled:	Date water sampled:	Source of water:	City	Well	Pond	Other
Clarity, color, odor	CLR						
Sample Temperature, (F)	70						
Specific gravity	1.04						
Initial pH	7.9						
Iron (Fe++/Fe+++ ) ppm	0						
Reducing Agent (Yes or No)	no						
Bicarbonate, ppm	250						
Chloride, ppm	32490						
Sulfates, ppm	420						
Total Hardness, mg/L	1950						
Bacteria	\		Date Biocide Added:	Biocide added before H <sub>2</sub> O?		Yes	No
Aerobic: No. per ml/time	/	/	/	/	/	/	/
Anaerobic: No. per ml/time	/	/	/	/	/	/	/

<b>Base Gel Quality</b>	Field Pilot Test	Batch Mixed Gel Quality Test	Use additional copies of this form for each series of tests @ 24 hr. intervals & prior to pumping.				
Name of product system mixed	Lighting						
Gellant loading (lbs/1000 gal.)	20						
Fluid sampling location	cmg						
Sampling time	pm						
Sample Temperature, (F)	77						
pH	7.66						
Fann reading	13.42						
@ 300 rpm							
X-Link Vortex Closure, min:sec	7						
X-Link Crown, min:sec	13						
X-Link pH	9.64						
Sample location	van						

## Frac Fluid Quality (These measurements are made as the job is pumped)

Stage													
Viscosity (cp)													
pH													
XL time @ blender, sec.													
Sample Temperature													
Time fluid pumped													

This test data is considered to be a minimum standard. Additional testing or documentation may be required by the customer or for frac quality assurance. Data recorded electronically with Engineering approved monitoring devices may be substituted for applicable portions of this form. This testing data is considered to be the minimum needed for the well file.

# BREAKER TEST REPORT

(Attachment to Treatment Report)

Page: 1 of 1

[illegible]



# QUALITY CONTROL OF PROPPANT/GRAVEL/100 MESH SAND

(Attachment to Treatment Report)

Page 1 of 1

DATE:	4/1/2011	CUSTOMER:	Patara Oil & Gas LLC
FIELD RECEIPT NO:	1001783336	UNIT/COMPARTMENT:	
LEASE NAME & WELL NO:	HC Fed 31-31-45-14	DISTRICT PROPPANT SILO:	
VENDOR:			

Proppant placed in the district proppant silos shall be tested at a minimum interval of every 250,000 pounds.

Proppant	Gravel	100 mesh sand
If proppant, select type <input type="checkbox"/> Brady <input type="checkbox"/> Ottawa <input type="checkbox"/> Resin coated sand		If gravel, select type <input type="checkbox"/> Ottawa <input type="checkbox"/> Ceramic <input type="checkbox"/> Ceramic (coat)
<input type="checkbox"/> Ceramic proppant <input type="checkbox"/> Sintered bauxite <input checked="" type="checkbox"/> Other (specify) Ottawa		<input type="checkbox"/> Resin coated <input type="checkbox"/> Lite-Prop <input type="checkbox"/> Other (specify)
Note: Use additional copies of this form for additional trucks,sizes,or vendors		
Truck number	No.	No.
Trucking company	No.	No.
Weight slip available? Attach all.	Yes/	No.
Net weight delivered		
Nominal size from list below		
Total weight , each size	Size 20/40	Weight 135500 lb
Is total weight for each size appropriate for job requirements?	Yes	No
Visual quality of proppant	color right	Yes/No x
	low dust	Yes/No x
	appearance right	Yes/No x
	no contamination	Yes/No x
Report the manufacturer's COA	Insize >90%	Yes/No x
sieve analysis results.		
Report % provided by MFG		
If seive run @district or location	insize>85%	Yes/No
		Yes/No
Is the truck content acceptable?	Yes/No	

If not appropriate, correct problem before sieve analysis. If the manufacturer's sieve analysis does not meet specifications, perform sieve analysis.

Spot check manufacturer's sieve analysis at a minimum of every 250,000 lbs.

Sieve Analysis	Combine all samples		Sieve Analysis	Combine all samples	
20/40 White	17.25 grams of sample			grams of sample	
	Amount Retained	15.38		Amount Retained	
Sieve mesh	Gram	%	Sieve mesh	Gram	%
16	0	0.00			
20	0.09	0.52			
30	5.11	29.62			
35	6.35	36.81			
40	3.92	22.72			
50	1.58	9.16			
PAN	0.36	2.09			
Pan		0.00			
Total wt. Gram	17.4	100.93	Total wt. Gram		
Turbidity	pass	fail	Turbidity	pass	fail
pH	pass	fail	pH	pass	fail

Recognized proppant or gravel sizes: 6/12, 8/16, 12/20, 16/20, 16/30, 20/40, 30/50, 40/70, or 50/70 (40/60 for gravel)



Farmington, New Mexico District Laboratory  
3250 Southside River Road  
Farmington, New Mexico 87401  
Phone (505) 327-6222  
Fax (505) 327-5766

Prepared for

**Patara**

**HC Fed #31-31-45-14**

**31-45N-14W**

**San Miguel County, CO**

**Honaker Trail Formation**

**Treatment Fluid**

**Lighting 20**

**Atmospheric Viscometer Testing Results**

**Prepared for**

**Patara**

Laboratory Project No. Patara31-31-45-14  
Prepared By: Dave / Russ  
Farmington, New Mexico District Laboratory  
3250 Southside River Road  
Farmington, New Mexico 87401  
4/1/2011



Farmington, New Mexico  
District Laboratory

For  
Patara

HC Fed  
#31-31-45-14

San Miguel County

CO

Honaker Trail Formation

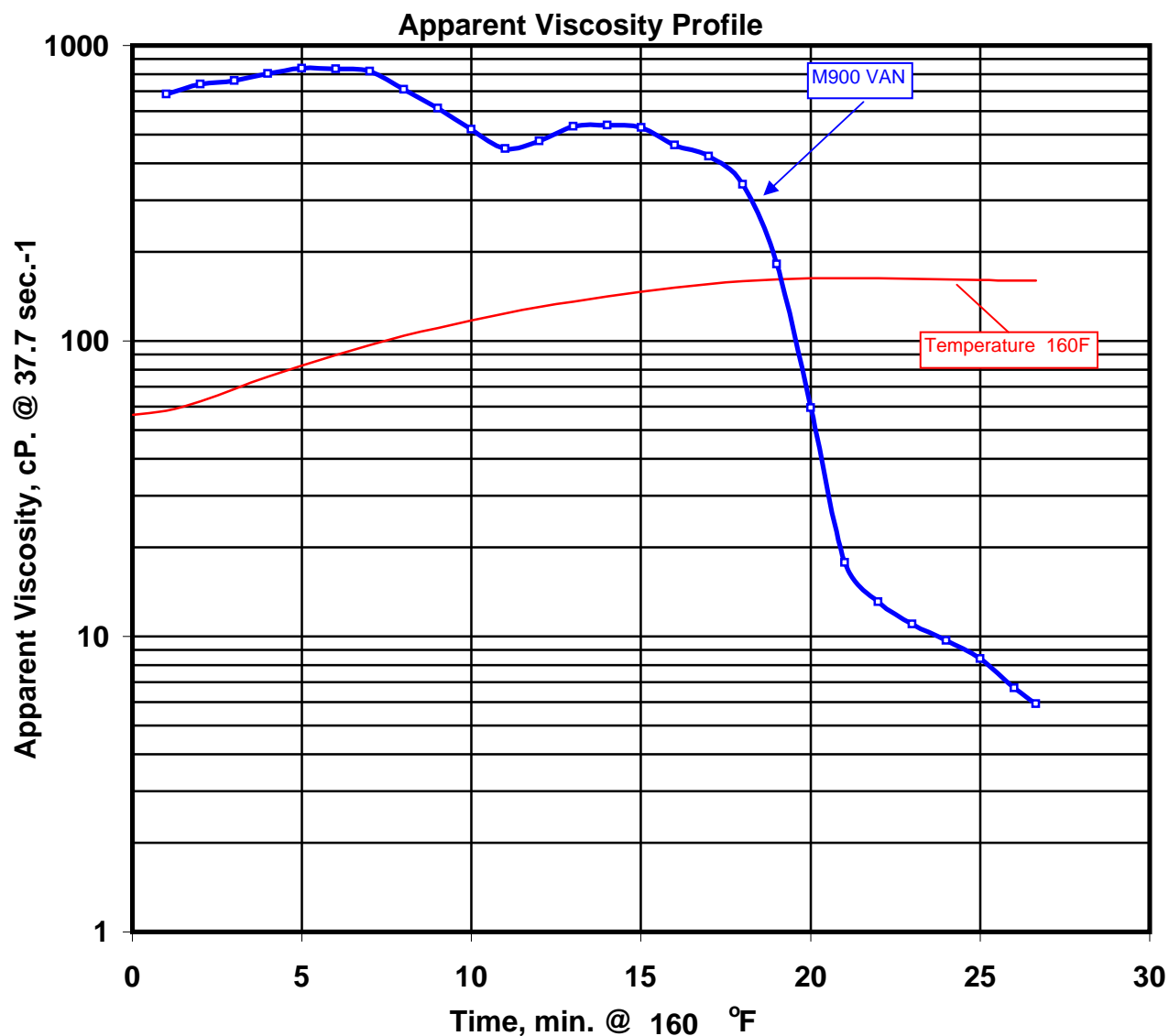
## Fluid System

Lighting 20  
Containing:

5 gpt GW-3LDF  
1 gpt XLW-32  
3 gpt BF-7L

5 gpt FAW-4  
1 gpt InFlo 250W  
2 ppt GBW-5  
1 ppt HighPerm CRB  
0.5 gpt Enzyme G-I

Fresh Water



Farmington, New Mexico District Laboratory  
Farmington, New Mexico 87401  
Date: 4/1/2011

Time "0" at Instrument Start  
File: Patara31-31-45-  
Dave / Russ



Farmington, New Mexico  
District Laboratory

For  
Patara  
HC Fed  
#31-31-45-14

San Miguel County  
CO

Honaker Trail Formation

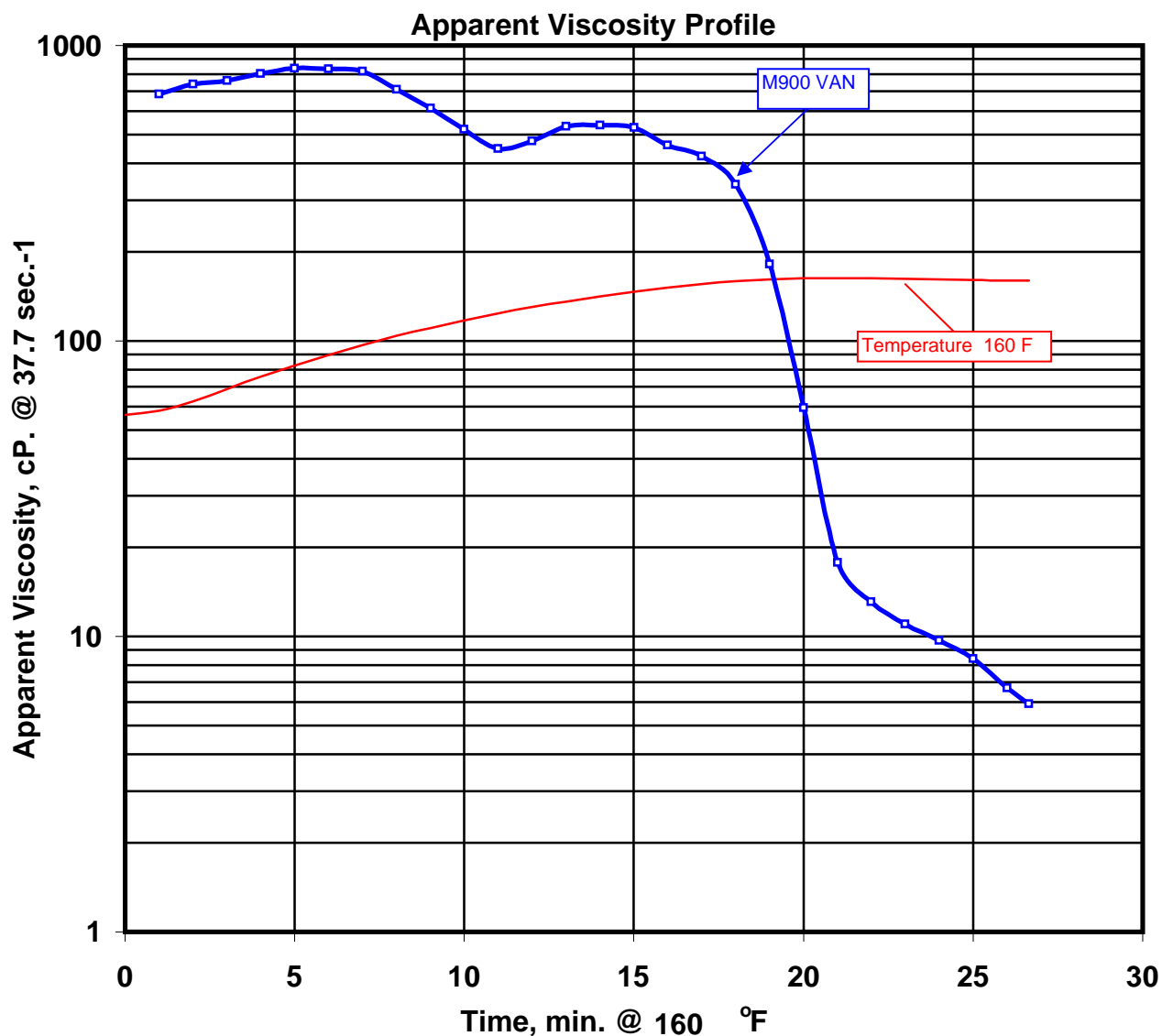
## Fluid System

Lighting 20  
Containing:

5 gpt GW-3LDF  
1 gpt XLW-32  
3 gpt BF-7L

5 gpt FAW-4  
1 gpt InFlo 250W  
2 ppt GBW-5  
1 ppt HighPerm CRB  
0.5 gpt Enzyme G-I

Fresh Water



Farmington, New Mexico District Laboratory  
Farmington, New Mexico 87401  
Date: 4/1/2011

Time "0" at Instrument Start  
File: Patara31-31-45-  
Dave / Russ

4/1/2011, 9:11 AM

Base Gel: 14.7 cP @ 64 F

pH 8.17

5 gpt GW-3LDF

3 gpt BF-7L

1 gpt Inflo 250W

5 gpt FAW-4

2 ppt GBW-5

1 ppt HighPerm CRB

0.5 gpt Enzyme G-I

1 gpt XLW-32

XL pH 10.34 / 9.77

XL Time 8 / 13

Min.	Temp.	S. S.	S. R.	Vis.	RPM		
0.01	56.2	0	0	0	100	0	0
1	58.1	134.4	100	683.8	100	0	0
2	62.5	145.1	100	740.3	100	0	0
3	68.7	149.7	100	759.9	100	0	0
4	75.6	155.5	100	802	100	0	0
5	82.5	162.7	100	835.6	100	0	0
6	89.8	162.6	100	832.3	100	0	0
7	97	160	100	817	100	0	0
8	104	138.3	100	710	100	0	0
9	110.7	120.4	100	613.1	100	0	0
10	117.6	101.8	100	521.4	100	0	0
11	124.2	88	100	447.1	100	0	0
12	130.2	92.1	100	475.2	100	0	0
13	135.9	101.7	100	532.7	100	0	0
14	141.7	103.1	100	538.1	100	0	0
15	147.1	105.6	100	526.7	100	0	0
16	151.8	88.1	100	459.6	100	0	0
17	155.5	81.4	100	422.3	100	0	0
18	159.1	65.9	100	338.1	100	0	0
19	161.5	34.7	100	182	100	0	0
20	162.7	11.4	100	59.5	100	0	0
21	163.4	3.4	100	17.8	100	0	0
22	163.1	2.6	100	13.1	100	0	0
23	162.4	2.1	100	11	100	0	0
24	161.8	1.9	100	9.7	100	0	0
25	161	1.6	100	8.4	100	0	0
26	160.4	1.3	100	6.7	100	0	0
26.65	160.1	1.1	100	5.9	100	0	0