

WPX ENERGY ROCKY MOUNTAIN LLC-EBUS
PO BOX 3102
TULSA, OK 74104-3102

RWF 434-21

Stage 1 – Upper Williams Fork
Garfield County, Colorado

Sales Order: 9406390

Post Job Report

For: MIKE SNOW

Date: Monday, April 02, 2012

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HALLIBURTON

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1.0 WELL INFORMATION**1.1 Customer Information**

Customer	WPX ENERGY ROCKY MOUNTAIN LLC-EBUS
Sales Order	9406390
Well Name	RWF
Interval	Stage 1 – Upper Williams Fork
Well Number	434-21
Job Date	02-Apr-2012
County	Garfield
State	Colorado
UWI/API	05045104690000
Lease Name	RWF
Country	United States of America
H2S Present	Unknown
Customer Representative	MIKE SNOW
Halliburton Representative	HOLLE

1.2 Pipe Information

Equipment	Top MD ft	Bottom MD ft	OD in	ID in	Grade	Weight lb/ft
Surface Pipe	0.0	30.0	5.000	4.000		
Casing	0.0	5281.0	4.500	4.000	I-80	11.60

1.3 Perforation Intervals

Top MD ft	Bottom MD ft	Number of Shots	Perf Density spf	Perf Orientation °	Perf Diameter in	Perf Formation
5013.0	5261.0	28	0.1	0	0.350	Upper WF - Stage 1

2.0 PUMPING SCHEDULE

2.1 Designed Pumping Schedule

Stage Number	Description	Flow Path	Fluid System	Clean Volume gal	Slurry Volume gal	Prop Conc Start lb/gal	Prop Conc End lb/gal
1	Acid	In	7.5% Hydrochloric Acid	1000	1000	0.00	0.00
2	Pad	In	Waterfrac	10000	10000	0.00	0.00
3	Proppant Laden Fluid	In	Waterfrac	603464	617149	0.50	0.50
4	Proppant Laden Fluid	In	Waterfrac	9702	10142	1.00	1.00
5	Proppant Laden Fluid	In	Waterfrac	9702	10362	1.50	1.50
6	Proppant Laden Fluid	In	Waterfrac	9702	10363	1.50	1.50
7	Proppant Laden Fluid	In	Waterfrac	9702	10583	2.00	2.00
8	Proppant Laden Fluid	In	Waterfrac	4528	5042	2.50	2.50
9	Flush	In	Flush	3263	3263	0.00	0.00
10	Shut-In	In		0	0	0.00	0.00
Total				661063	677903		

2.2 Designed Pumping Schedule (continued)

Stage Number	Description	Prop Type	Prop Mass 100*lb	Rate Stage Start bpm	Rate Stage End bpm	Stage Time min
1	Acid			10.0	10.0	2.38
2	Pad			64.0	64.0	3.72
3	Proppant Laden Fluid	SAND - PREMIUM - 20/40, BULK, SK (100003678)	3017.32	64.0	64.0	229.59
4	Proppant Laden Fluid	SAND - PREMIUM - 20/40, BULK, SK (100003678)	97.02	64.0	64.0	3.77
5	Proppant Laden Fluid	SAND - PREMIUM - 20/40, BULK, SK (100003678)	145.53	64.0	64.0	3.85
6	Proppant Laden Fluid	SAND - PREMIUM - 16/30, BULK, SK (100003698)	145.53	64.0	64.0	3.86
7	Proppant Laden Fluid	SAND - PREMIUM - 16/30, BULK, SK (100003698)	194.04	64.0	64.0	3.94
8	Proppant Laden Fluid	SAND - PREMIUM - 16/30, BULK, SK (100003698)	113.20	64.0	64.0	1.88
9	Flush			64.0	64.0	1.21
10	Shut-In			0.0	0.0	0.00
Total			3712.64			254.20

3.0 ACTUAL STAGE SUMMARY

3.1 Stage Summary

Stage Number	Stage Time	Start Time	End Time	Time min	Pump Time min	Max Treat Pr psi	Max Slurry Rate bpm
1	02-Apr-12 07:58:05	07:55:43	02-Apr-12 07:58:05	2.40	1.52	2366	9.4
2	02-Apr-12 08:17:29	07:58:06	02-Apr-12 08:17:29	19.40	10.47	4424	62.6
3	02-Apr-12 12:11:04	08:17:30	02-Apr-12 12:11:04	233.57	233.48	5807	64.5
4	02-Apr-12 12:15:10	12:11:05	02-Apr-12 12:15:10	4.10	4.10	4404	60.2
5	02-Apr-12 12:18:56	12:15:11	02-Apr-12 12:18:56	3.77	3.77	4100	61.1
6	02-Apr-12 12:22:59	12:18:57	02-Apr-12 12:22:59	4.05	4.05	4332	60.5
7	02-Apr-12 12:27:09	12:23:00	02-Apr-12 12:27:09	4.17	4.17	4946	59.9
8	02-Apr-12 12:29:17	12:27:10	02-Apr-12 12:29:17	2.13	2.02	6345	59.4
9	02-Apr-12 12:31:32	12:29:18	02-Apr-12 12:31:32	2.25	2.12	5620	40.3
10	02-Apr-12 12:43:36	12:31:33	02-Apr-12 12:43:36	12.07	0.00	0	0.0

Stage Number	Stage Time	Max Wellhead Rate bpm	Max Prop Conc lb/gal	Max Slurry Prop Conc lb/gal	Avg Treating Pressure psi	Avg Clean Rate bpm	Avg Slurry Rate bpm
1	02-Apr-12 07:58:05	9.4	0.00	0.00	2335	10.0	9.2
2	02-Apr-12 08:17:29	62.6	9.73	100.64	3094	25.2	25.4
3	02-Apr-12 12:11:04	64.5	2.88	2.88	4124	61.7	63.0
4	02-Apr-12 12:15:10	60.2	0.95	0.95	4054	56.5	58.7
5	02-Apr-12 12:18:56	61.1	1.51	1.51	4032	57.2	60.3
6	02-Apr-12 12:22:59	60.5	1.49	1.49	4153	57.0	60.1
7	02-Apr-12 12:27:09	59.9	1.90	1.90	4693	55.6	59.5
8	02-Apr-12 12:29:17	59.4	2.14	2.14	4656	48.1	51.6
9	02-Apr-12 12:31:32	40.3	0.29	0.00	5285	36.0	36.0
10	02-Apr-12 12:43:36	0.0	0.00	0.00	0	0.0	0.0

Stage Number	Stage Time	Avg Wellhead Rate bpm	Avg Slurry Prop Conc lb/gal	Avg Hydraulic Horsepower hp	Clean Volume gal	Slurry Volume gal	Wellhead Volume gal
1	02-Apr-12 07:58:05	9.2	0.00	527	1001	620	586
2	02-Apr-12 08:17:29	25.4	22.72	1929	11161	11197	11197
3	02-Apr-12 12:11:04	63.0	0.46	6364	605392	617771	617771
4	02-Apr-12 12:15:10	58.7	0.87	5834	9739	10117	10117
5	02-Apr-12 12:18:56	60.3	1.21	5956	9045	9541	9541
6	02-Apr-12 12:22:59	60.1	1.36	6115	9707	10224	10224
7	02-Apr-12 12:27:09	59.5	1.77	6837	9727	10406	10406
8	02-Apr-12 12:29:17	51.6	1.66	5889	4084	4372	4372
9	02-Apr-12 12:31:32	36.0	0.00	4668	3205	3205	3205
10	02-Apr-12 12:43:36	0.0	0.00	0	0	0	0
Total					663062	677453	677419

Stage Number	Stage Time	Prop Mass 100*lb
1	02-Apr-12 07:58:05	0.00
2	02-Apr-12 08:17:29	2.59
3	02-Apr-12 12:11:04	2781.89
4	02-Apr-12 12:15:10	84.89
5	02-Apr-12 12:18:56	109.17
6	02-Apr-12 12:22:59	130.69
7	02-Apr-12 12:27:09	170.55
8	02-Apr-12 12:29:17	69.79
9	02-Apr-12 12:31:32	0.00
10	02-Apr-12 12:43:36	0.00
Total		3349.59

4.0 PERFORMANCE HIGHLIGHTS

4.1 Job Summary

Start Time	02-Apr-12 07:46:57	
End Time	02-Apr-12 12:43:36	

Engineering Notes		
Engineer on Location	Kevin Christofanelli	
Initial Rate(Breakdown)	21.0	bpm
Initial Pressure(Breakdown)	4411	psi
Max Rate	64.5	bpm
Max Pressure	6345	psi
Max Pressure (SLF)	6345	psi
Average Rate	63.4	bpm
Average Treating Pressure	4135	psi
Average Missile Pressure	4135	psi
Beginning Annulus Pressure	0	psi
Max Annulus Pressure	0	psi
ISIP	2045	psi
Initial Frac Grad.	0.836	psi/ft
ISDP	3386	psi
Final Frac Grad.	1.097	psi/ft
Tubular Type	4.5" 11.6 #	
20/40 Unimin Delivered	3149	sk
20/40 Unimin Pumped	3148	sk
16/30 White Delivered	1372	sk
16/30 White Pumped	463	sk
Proppant in Formation	3611	sk
Maximum Proppant Concentration	2.5	lbs/gal
Initial Perfs Open	25/28	
Perf Diameter	0.35	in
Acid+Pad Volume	290	bbl
SLF Volume	15421	bbl
Flush Volume	76	bbl
Job Notes:		
Job pumped to completion. Had issues with FR at the end of the 0.5 lb 20/40 stage, cut sand until issues were resolved. Pumped 112 sacks less than design because of this.		

4.2 Job Event Log

Stage Number	Event Number	Time	Description	Comment	Slurry Rate bpm	Treating Pressure psi	N2 Pressure psi	Job Clean Vol gal	Job Slurry Vol gal
	1	02-Apr-12 07:46:57	Start Job	Starting Job					
1		07:55:42	Stage 1	Acid	0.0	3299	-0	8	0
		07:55:43	Start Averaging	Start Avg Trt 1	0.0	3151	-0	16	0
2		07:58:06	Stage 2	Pad	9.4	2340	-0	1001	620
	2	07:59:49	Break Formation	Break Formation	20.8	4405	-0	2139	1745
3		08:17:30	Stage 3	Proppant Laden Fluid	45.0	3156	-0	12162	11817
4		12:11:05	Stage 4	Proppant Laden Fluid	51.9	4412	-1	617555	629588
5		12:15:11	Stage 5	Proppant Laden Fluid	59.9	4037	-1	627294	639705
6		12:18:57	Stage 6	Proppant Laden Fluid	60.5	4092	-1	636339	649246
7		12:23:00	Stage 7	Proppant Laden Fluid	59.9	4265	-1	646046	659471
8		12:27:10	Stage 8	Proppant Laden Fluid	59.3	4890	-1	655773	669877
	3	12:28:46	Other	Pumps kicked out, think it was a bad cable	57.3	5601	-1	659486	673830
9		12:29:18	Stage 9	Flush	37.6	4884	-1	659857	674248
10		12:31:33	Stage 10	Shut-In	0.0	2611	-1	663062	677453
		12:43:36	End Averaging	End Avg Trt 1	0.0	314	-1	663062	677453
	4	12:43:38	End Job	Ending Job	0.0	251	-1	663062	677453

5.0 ATTACHMENTS

5.1 Stage 1.doc

5.2 Step Down Analysis Input

ISIP: 2045 psi
 Fluid Density: 8.82 lb/gal
 Entry Hole Size: 0.350 in
 Number of Perforations: 28
 Fluid type: Newtonian
 Discharge Coefficient: 0.80

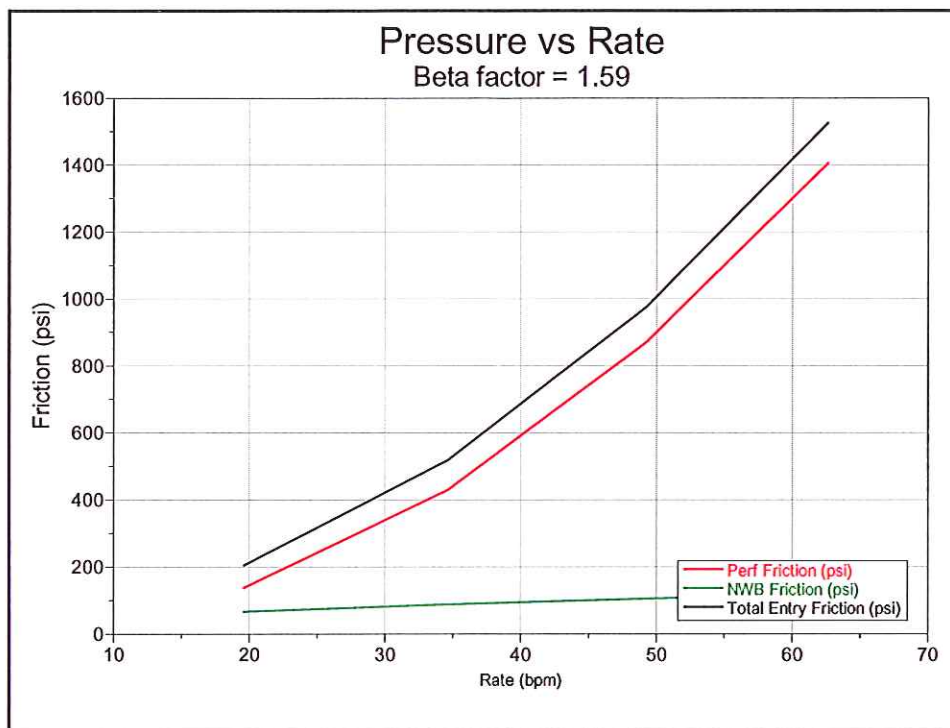
5.3 Step Down Analysis Results

Effective Perfs: 24.62
 Beta Factor: 1.59
 Pipe Friction: 832 psi
 Entry Friction: 1525 psi
 K_{Entry} : 2.00
 Perf Friction: 1406 psi
 K_{Perf} : 0.36
 NWB Friction: 119 psi
 K_{NWB} : 15.08

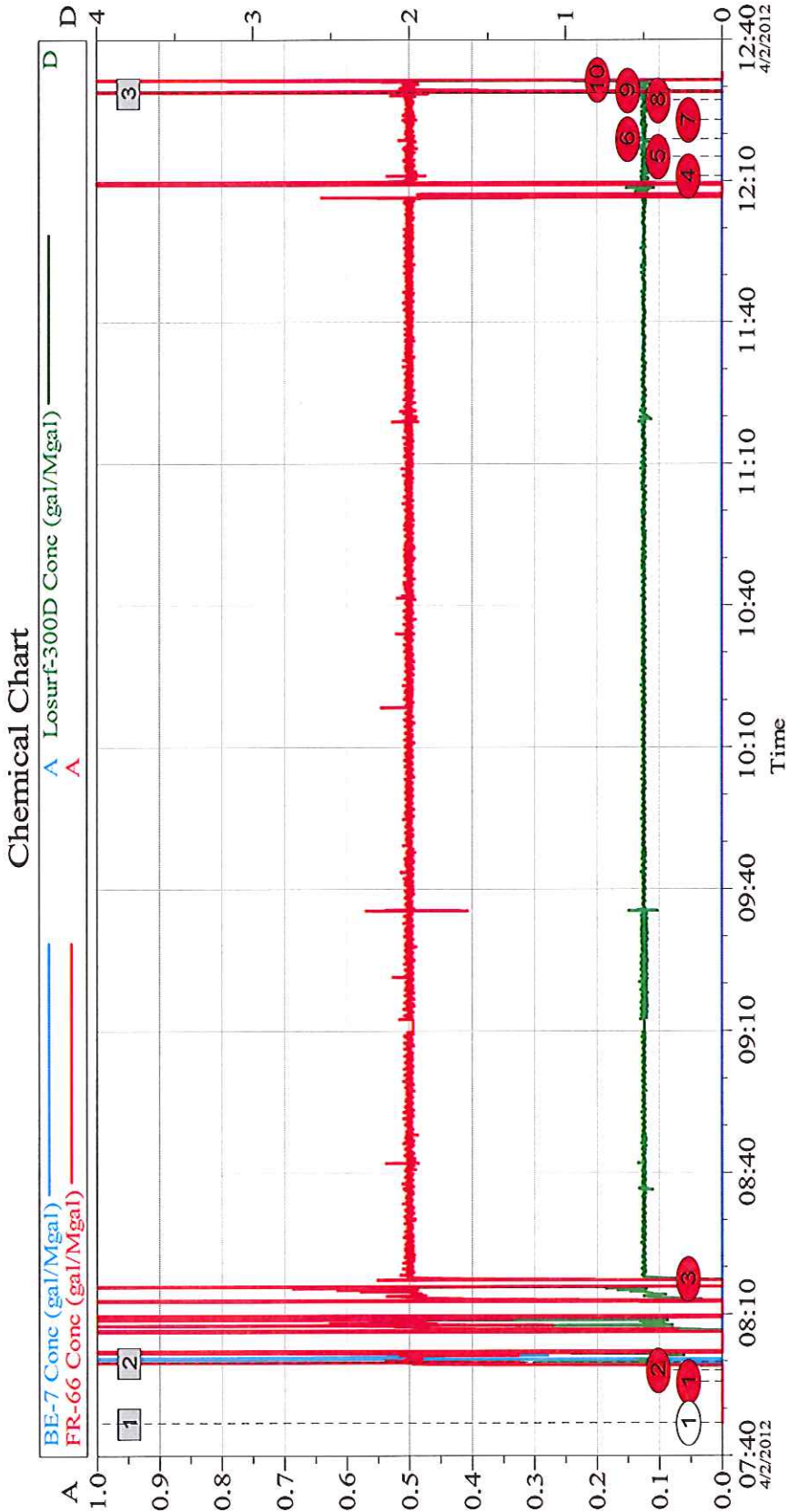
5.4 Step Down Analysis Data

Step Time	Step Pressure psi	Step Rate bpm	Pipe Friction psi	Entry Friction psi	Perf Friction psi	NWB Friction psi
02-Apr-2012 08:14:44	4423	62.58	832	1525	1406	119
08:15:02	3576	49.24	566	976	871	106
08:15:22	2870	34.62	320	519	430	89
08:15:41	2415	19.61	128	205	138	67

5.5

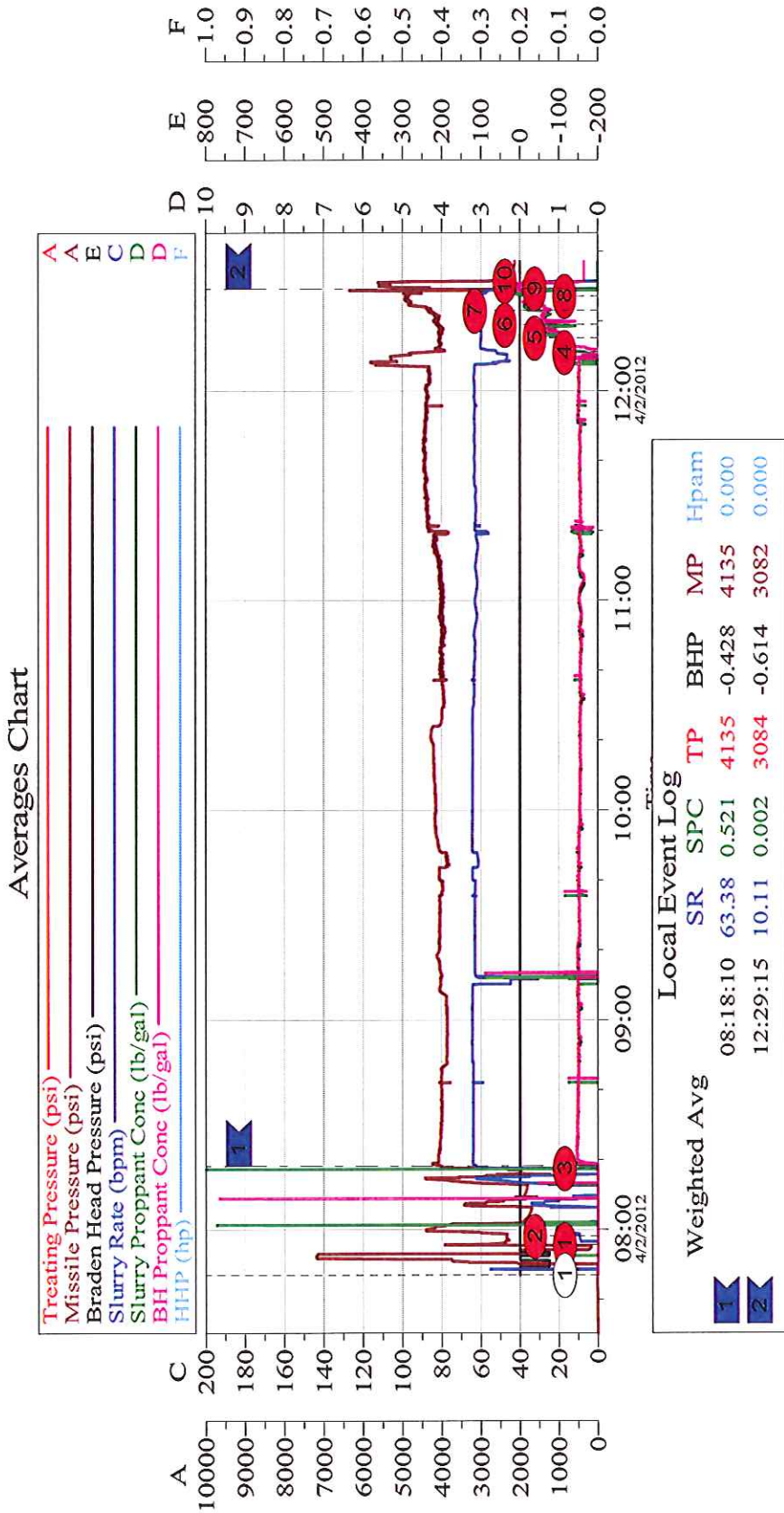


5.7 Chemical Chart



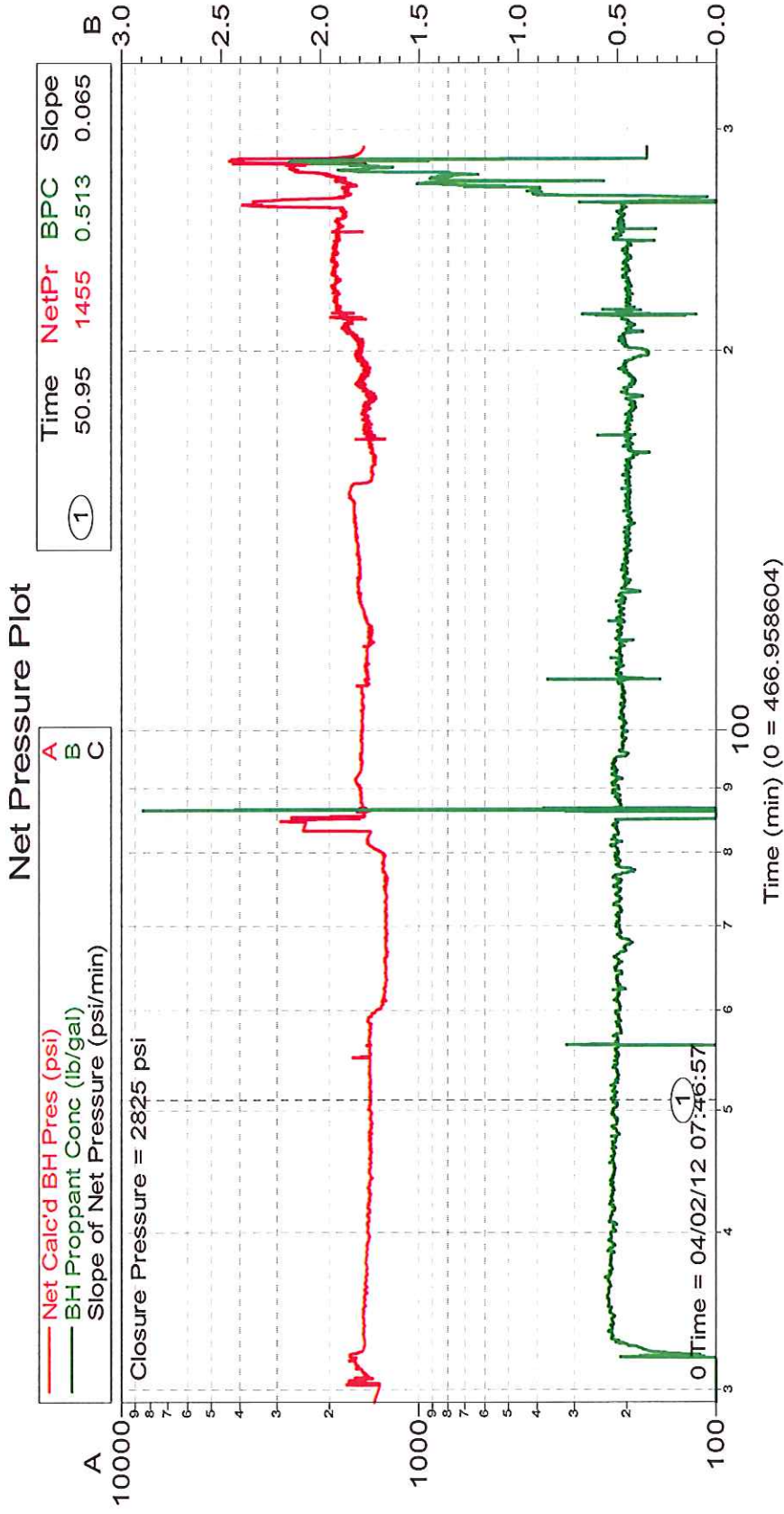
Customer:	WPX ENERGY ROCKY MOUNTAIN LLC-EBUS	Job Date:	02-Apr-2012	Sales Order #:	9406390
Well Description:	RWF 434-21	UWI:	05045104690000		

5.8 Averages Chart



Customer:	WPX ENERGY ROCKY MOUNTAIN LLC-EBUS	Job Date:	02-Apr-2012	Sales Order #:	9406390
Well Description:	RWF 434-21	UWI:	05045104690000		

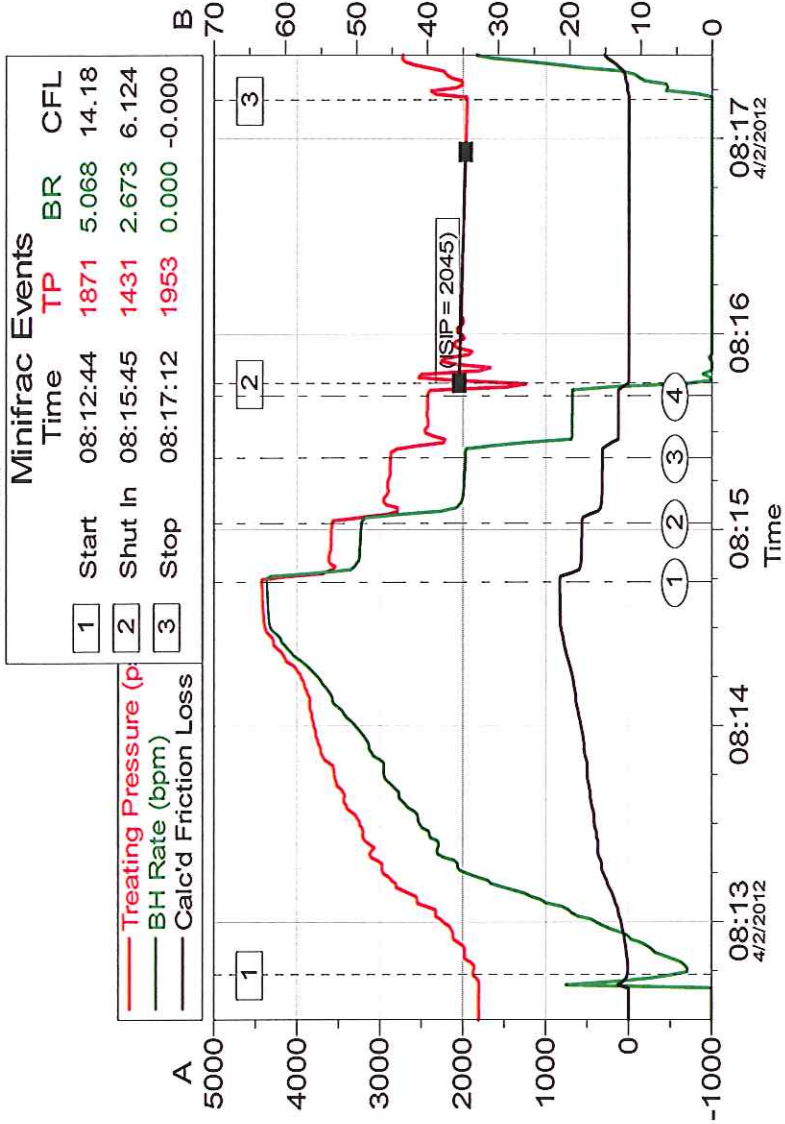
5.9 Net Pressure Plot



Customer: WPX ENERGY ROCKY MOUNTAIN LLC-EBUS	Job Date: 02-Apr-2012	Sales Order #: 9406390
Well Description: RWF 434-21	UWI: 05045104690000	

5.10 PDAT - Job Data

Halliburton Pumping Diagnostic Analysis Toolkit
Job Data



Minifrac Events				
	Time	TP	BR	CFL
1	08:12:44	1871	5.068	14.18
2	08:15:45	1431	2.673	6.124
3	08:17:12	1953	0.000	-0.000

Step Down Rate Events				
	Time	TP	BR	CFL
①	08:14:44	4423	62.58	831.7
②	08:15:02	3577	49.25	565.8
③	08:15:22	2870	34.63	320.3
④	08:15:41	2423	19.62	127.9

Customer:	WPX ENERGY ROCKY MOUNTAIN LLC-EBUS	Job Date:	02-Apr-2012	Sales Order #:	9406390
Well Description:	RWF 434-21	LWI:	05045104690000		