

PDC ENERGY EBUS
120 GENESIS BLVD.
BRIDGEPORT, WV 26330

Kirby 29-11

Interval 1
Weld County, Colorado

Sales Order: 7855676

Post Job Report

For: JASON MILLER
Date: Thursday, December 23, 2010

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HALLIBURTON

Table of Contents

1.0	Well Information	3
1.1	Pipe Information	3
1.2	Perforation Intervals	3
2.0	Pumping Schedule	4
2.1	Designed Pumping Schedule	4
2.2	Designed Pumping Schedule (continued)	5
3.0	Actual Stage Summary	6
3.1	Stage Summary	6
4.0	Performance Highlights	10
4.1	Treatment Summary	10
4.2	Job Stage Log	11

1.0 WELL INFORMATION

1.1 Pipe Information

Equipment	Top MD ft	Bottom MD ft	OD in	ID in	Grade	Weight lb/ft
Tubing	0.0	6846.0	2.875	2.441	J-55	6.40
Casing	0.0	8500.0	4.500	4.000	I-80	10.50
Surface Pipe	0.0	0.0	5.000	4.000		

1.2 Perforation Intervals

Top MD ft	Bottom MD ft	Number of Shots	Perf Density spf	Perf Phasing °	Perf Orientation °	Perf Diameter in	Perf Formation
7018.0	7020.0	5	2.0		0	0.420	Niobrara A Perforation Interval
7096.0	7104.0	25	3.0		0	0.420	Niobrara B Perforation Interval

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	Load Well	In	clayfix 3 flush 1	2000	2003	0.00	0.00
2	Acid	In	FR-56 WATER - SBM (467131)	1000	1000	0.00	0.00
3	Pad	In	FR66 Water w/ FE1A	5000	5106	0.00	0.00
4	Pad	In	FR - 66 WATER	65000	65309	0.00	0.00
5	Pad	In	pHaserFrac w/ Clayfix 3 1 (24)	6000	6045	0.00	0.00
6	Proppant Laden Fluid	In	pHaserFrac w/ Clayfix 3 1 (24)	7000	7374	1.00	1.00
7	Proppant Laden Fluid	In	pHaserFrac w/ Clayfix 3 1 (24)	33000	36259	2.00	2.00
8	Proppant Laden Fluid	In	pHaserFrac w/ Clayfix 3 1 (24)	22000	25174	3.00	3.00
9	Proppant Laden Fluid	In	pHaserFrac w/ Clayfix 3 1 (24)	13000	14883	3.00	3.00
10	Proppant Laden Fluid	In	pHaserFrac w/ Clayfix 3 1 (24)	15000	17872	4.00	4.00
11	Proppant Laden Fluid	In	pHaserFrac w/ Clayfix 3 1 (24)	3000	3581	4.00	4.00
12	Flush	In	clayfix 3 flush 1	2000	2003	0.00	0.00
Total				174000	186608		

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	Load Well			10.0	10.0	4.77
2	Acid			10.0	10.0	2.38
3	Pad			25.0	25.0	4.86
4	Pad			25.0	25.0	62.20
5	Pad			25.0	25.0	5.76
6	Proppant Laden Fluid	SAND - PREMIUM - 20/40, BULK, SK (100003678)	70.00	25.0	25.0	7.02
7	Proppant Laden Fluid	SAND - PREMIUM - 20/40, BULK, SK (100003678)	660.00	25.0	25.0	34.53
8	Proppant Laden Fluid	SAND - PREMIUM - 20/40, BULK, SK (100003678)	660.00	25.0	25.0	23.98
9	Proppant Laden Fluid	SAND - PREMIUM - 20/40, BULK, SK (100003678)	390.00	25.0	25.0	14.17
10	Proppant Laden Fluid	SAND - PREMIUM - 20/40, BULK, SK (100003678)	600.00	25.0	25.0	17.02
11	Proppant Laden Fluid	SAND-CRC-20/40, BULK (101357947)	120.00	25.0	25.0	3.41
12	Flush			25.0	25.0	1.91
Total			2500.00			182.01

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	23-Dec-10 15:16:44	15:12:16	23-Dec-10 15:16:44	4.49	4.15	4913	6.0
2	23-Dec-10 15:21:21	15:16:45	23-Dec-10 15:21:21	4.62	4.55	4918	5.3
3	23-Dec-10 15:31:09	15:21:22	23-Dec-10 15:31:09	9.79	9.78	7338	17.1
4	23-Dec-10 16:31:07	15:31:10	23-Dec-10 16:31:07	59.98	59.97	7473	28.4
5	23-Dec-10 16:36:52	16:31:08	23-Dec-10 16:36:52	5.74	5.73	7520	28.5
6	23-Dec-10 16:44:31	16:36:53	23-Dec-10 16:44:31	7.66	7.65	6973	24.6
7	23-Dec-10 17:16:19	16:44:32	23-Dec-10 17:16:19	31.80	31.78	6721	27.6
8	23-Dec-10 17:37:50	17:16:20	23-Dec-10 17:37:50	21.50	21.50	6779	28.4
9	23-Dec-10 17:50:21	17:37:51	23-Dec-10 17:50:21	12.53	12.52	6809	28.4
10	23-Dec-10 18:05:18	17:50:22	23-Dec-10 18:05:18	14.94	14.93	6761	28.5
11	23-Dec-10 18:08:24	18:05:19	23-Dec-10 18:08:24	3.11	3.10	6839	28.4
12	23-Dec-10 18:12:22	18:08:25	23-Dec-10 18:12:22	3.96	1.58	7148	28.1

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	23-Dec-10 15:16:44	6.0	0.09	0.10	3325	2.5	2.5
2	23-Dec-10 15:21:21	5.3	0.04	0.04	4690	5.2	5.2
3	23-Dec-10 15:31:09	17.1	0.00	0.00	5968	12.2	12.2
4	23-Dec-10 16:31:07	28.4	0.00	0.00	6157	25.8	25.8
5	23-Dec-10 16:36:52	28.5	0.60	0.60	6940	25.1	25.2
6	23-Dec-10 16:44:31	24.6	1.42	1.42	6379	21.9	22.8
7	23-Dec-10 17:16:19	27.6	3.07	3.07	6625	24.7	27.0
8	23-Dec-10 17:37:50	28.4	3.19	3.19	6671	24.5	27.8
9	23-Dec-10 17:50:21	28.4	3.33	3.33	6755	24.8	28.1
10	23-Dec-10 18:05:18	28.5	4.26	4.26	6686	23.8	28.1
11	23-Dec-10 18:08:24	28.4	4.46	4.46	6726	23.7	28.1
12	23-Dec-10 18:12:22	28.1	2.44	2.44	6791	26.1	26.5

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	23-Dec-10 15:16:44	2.5	0.07	200	429	430	430
2	23-Dec-10 15:21:21	5.2	0.02	595	1005	1005	1005
3	23-Dec-10 15:31:09	12.2	0.00	1779	5002	5002	5002
4	23-Dec-10 16:31:07	25.8	0.00	3894	65019	65019	65019
5	23-Dec-10 16:36:52	25.2	0.35	4278	6064	6067	6067
6	23-Dec-10 16:44:31	22.8	0.95	3564	7027	7330	7330
7	23-Dec-10 17:16:19	27.0	2.01	4384	33052	36066	36066
8	23-Dec-10 17:37:50	27.8	2.98	4543	22109	25097	25097
9	23-Dec-10 17:50:21	28.1	3.01	4658	13032	14814	14814
10	23-Dec-10 18:05:18	28.1	3.97	4607	14955	17645	17645
11	23-Dec-10 18:08:24	28.1	4.07	4632	3095	3672	3672
12	23-Dec-10 18:12:22	26.5	0.60	4411	1739	1763	1763
Total					172528	183909	183909

Stage Number	Stage Time	Prop Mass 100*lb
1	23-Dec-10 15:16:44	0.02
2	23-Dec-10 15:21:21	0.01
3	23-Dec-10 15:31:09	0.00
4	23-Dec-10 16:31:07	0.00
5	23-Dec-10 16:36:52	0.78
6	23-Dec-10 16:44:31	66.90
7	23-Dec-10 17:16:19	664.48
8	23-Dec-10 17:37:50	658.93
9	23-Dec-10 17:50:21	392.85
10	23-Dec-10 18:05:18	593.13
11	23-Dec-10 18:08:24	125.79
12	23-Dec-10 18:12:22	5.23
Total		2508.13

4.0 PERFORMANCE HIGHLIGHTS

4.1 Treatment Summary

Start Time	23-Dec-10 14:20:44	
End Time	23-Dec-10 18:12:22	
Pump Time	177.25	min
Start Averaging Time	23-Dec-10 15:12:17	
End Averaging Time	23-Dec-10 18:12:22	
Max Treating Pressure	7520	psi
Max Slurry Rate	28.5	bpm
Max Wellhead Rate	28.5	bpm
Max Gel Rate	28.5	bpm
Max Acid Rate	5.2	bpm
Max Prop Conc	4.46	lb/gal
Max Slurry Prop Conc	4.46	lb/gal
Avg Treating Pressure	6326	psi
Avg Clean Rate	23.2	bpm
Avg Slurry Rate	24.7	bpm
Avg Wellhead Rate	24.7	bpm
Avg Gel Rate	23.1	bpm
Avg Prop Conc	2.63	lb/gal
Avg Slurry Prop Conc	2.64	lb/gal
Avg Hydraulic Horsepower	3827	hp
Clean Volume	172528	gal
Slurry Volume	183909	gal
Wellhead Volume	183909	gal
Gel Volume	172287	gal
Acid Volume	240	gal
Prop Mass	2508.13	100*lb
BH Max Treating Pressure	9726	psi
BH Avg Treating Pressure	6292	psi
BH Max Rate	28.6	bpm
BH Avg Rate	26.0	bpm
BH Max Proppant Concentration	4.39	lb/gal
BH Avg Proppant Concentration	1.46	lb/gal
Proppant in Wellbore	6.94	100*lb
Load to Recover	172528	gal

Disclaimer: The average and maximum values (except volumes and bottom hole values) are based on the start and end averaging times.

4.2 Job Stage Log

Time	Description	Comment
23-Dec-10 15:12:16	Stage 1	Load Well
15:16:45	Stage 2	Acid
15:21:22	Stage 3	Pad
15:31:10	Stage 4	Pad
16:31:08	Stage 5	Pad
16:36:53	Stage 6	Proppant Laden Fluid
16:44:32	Stage 7	Proppant Laden Fluid
17:16:20	Stage 8	Proppant Laden Fluid
17:37:51	Stage 9	Proppant Laden Fluid
17:50:22	Stage 10	Proppant Laden Fluid
18:05:19	Stage 11	Proppant Laden Fluid
18:08:25	Stage 12	Flush

Net Pressure Plot

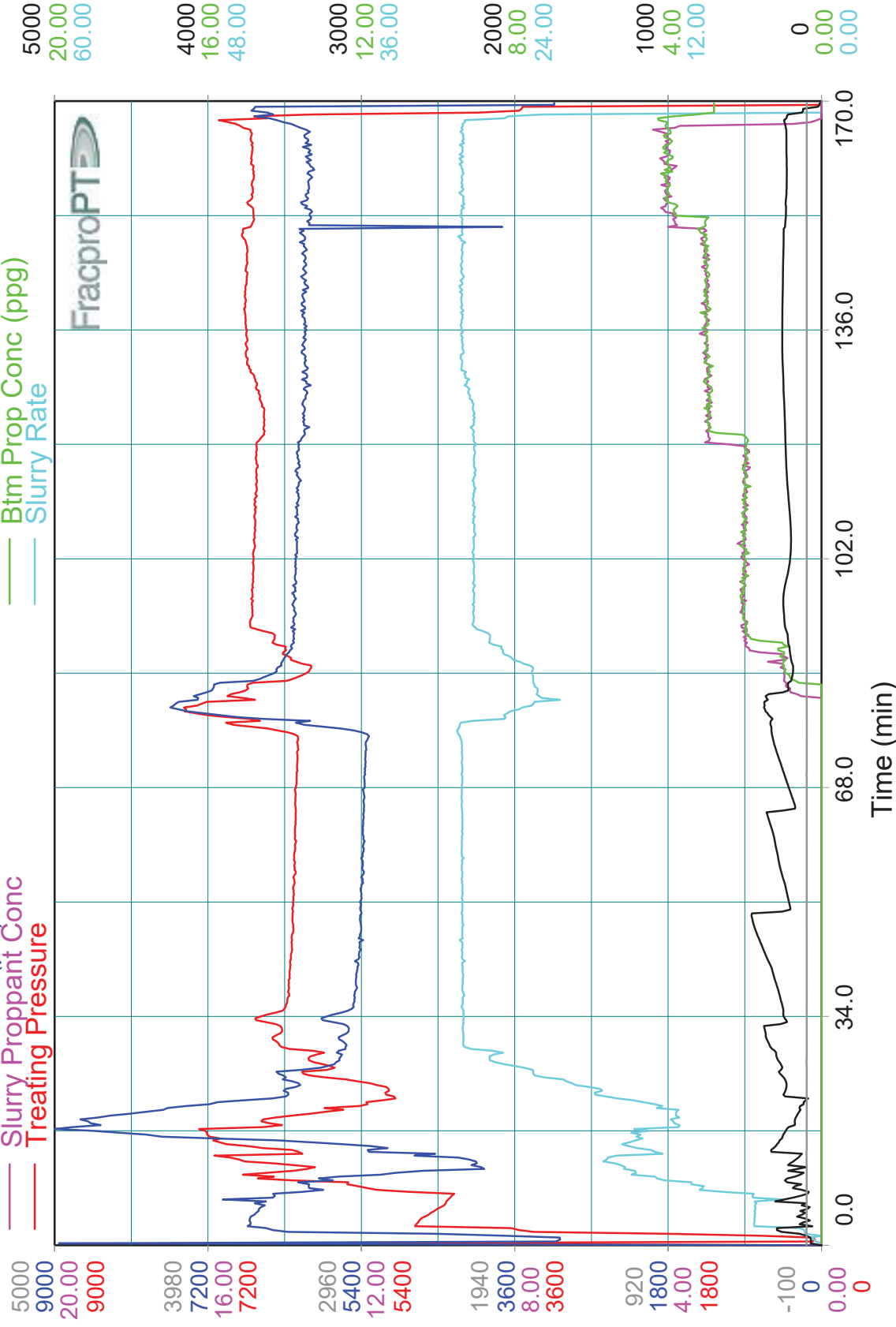


Treatment Plot

Kirby 29-11

- Surface Pressure
- Meas'd Btmh (psi)
- Slurry Proppant Conc
- Treating Pressure

- Backside Pressure
- Btm Prop Conc (ppg)
- Slurry Rate

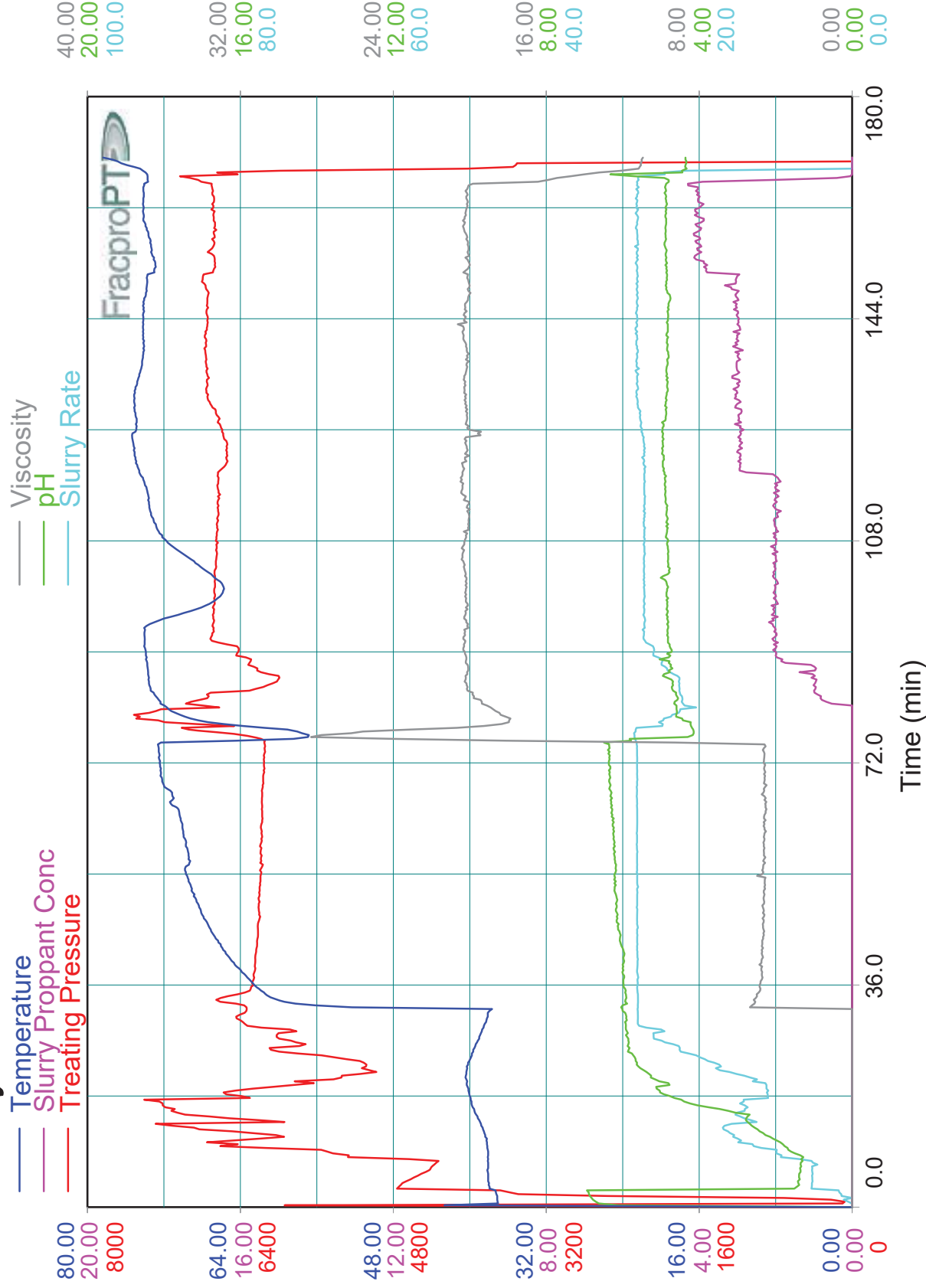


Niobrara

December 23, 2010

QC Plot

Kirby 29-11



Niobrara

December 23, 2010

[illegible]

HALLIBURTON				JOB LOG				7855676			
COUNTRY UNITED STATES				LOCATION BRIGHTON, COLORADO				BDA ROCKIES NWA		TICKET DATE 28-Dec-2010	
H.E.S. EMPLOYEE NAME ADRIAN GOMEZ				MBU ID #N/A		EMP NO. 352156		SUB PSL PRODUCTION ENHANCEMENT			
CUSTOMER REP. / PHONE JASON MILLER				COMPANY PDC				JOB PURPOSE CODE 15321			
WELL NAME Kirby		WELL NO. 29-11		API/UWI # 05-123-19860				COUNTY WELD		JOB CLASSIFICATION pHaserFrac	
WELL LOCATION JOHNSTOWN, CO				SEC / TWP / RNG SEC 29 / T4N / R67W				DEPARTMENT NO. 5005		FORMATION NIOBRARA	
Chart No.	Time	Rate (BPM)	Volume (BBL)(GAL)	Pmps		Press.(PSI)		Job Description / Remarks			
				T	C	Csg	Tbg				
SILVER	2:30AM								CALLED OUT		
	3:00 AM								YARD SAFETY MEETING		
	1:35 PM								ON LOCATION		
	1:45 PM								PRE - RIGUP SAFETY MEETING		
	2:21 PM								PRIME UP TRUCKS		
	2:33 PM								TEST LINES TO 8544 MAX PRESSURE AT 7500		
	2:31 PM								POP OFFS AT 7483		
	2:25 PM								BACKSIDE AT 1000		
	2:38 PM								PRE - JOB SAFETY MEETING		
	3:06 PM						87		START JOB		
									LOAD WELL		
	3:08 PM	4.8	10.0	2			4913		BREAK FORMATION		
	3:11 PM	5.4	10.23	2			4890		START ACID PAD		
	3:15 PM	5.2	34.14	2			4417		START ACTIVE PAD		
	3:31 PM	11.1	153	3			7074		START FR WATER PAD		
	4:25 PM	28.8	1701	4			6176		START PHASER PAD		
CREW	4:30 PM	22.1	1846	4		6972		START 1.00 PPG SAND STAGE			
	4:32 PM	22.6	1898	4		6587		1.00 PPG SAND ON FORMATION			
	4:38 PM	24.9	2013	4		6309		START 2.00 PPG SAND STAGE			
	4:40 PM	26.0	2062	4		6434		2.00 PPG SAND ON FORMATION			
	5:10 PM	27.3	2800	4		6586		START 3.00 PPG SAND STAGE			
	5:11 PM	27.1	2831	4		6532		3.00 PPG SAND ON FORMATION			
	5:31 PM	28.1	3326	4		6766		START 2. PPG 3.00 SAND STAGE			
	5:44 PM	28.1	3637	4		6766		START 4.00 SAND STAGE			
	5:46 PM	28.2	3688	4		6667		4.00 PPG SAND ON FORMATION			
	5:59 PM	28.4	3993	4		6692		START SBXL 4.00 SAND STAGE			
	6:02 PM	28.1	4066	4		6838		FLUSH			
W	6:04 PM					3597		JOB COMPLETED			
								AVERAGES :		SHUTIN PRESSURES :	
								PRESSURE	6514	INSTANT	3597
								RATE	27.4	5 MIN	N/A
								TEMP	68	10 MIN	N/A
								VIS.	20	15 MIN	N/A
								MAX :		TOTAL VOLUME	4107
								PRESSURE	7520	FLUSH VOLUME	42
							RATE	28.5			