
BLACK HILLS EXPLORATION & PROD-EBIZ

**DHS 3C-20 D17
BRONCO FLATS Mesa
County , Colorado**

Cement Production
16-June-2013

Post Job Summary

The Road to Excellence Starts with Safety

Sold To #: 306454	Ship To #: 2995328	Quote #:	Sales Order #: 900486655
Customer: BLACK HILLS EXPLORATION & PROD-EBIZ		Customer Rep:	
Well Name: DHS		Well #: 3C-20 D17	API/UWI #: 05077102040000
Field: BRONCO FLATS	City (SAP): DE BEQUE	County/Parish: Mesa	State: Colorado
Legal Description: Section 17 Township 9S Range 98W			
Contractor: H&P		Rig/Platform Name/Num: 319	
Job Purpose: Cement Production			
Well Type: Development Well		Job Type: Cement Production	
Sales Person: HIMES, JEFFREY		Srvc Supervisor: KEANE, JOHN	MBU ID Emp #: 486519

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
BANKS, BRENT A	0.0	371353	CHASTAIN, DERICK Allan	0.0	455848	CUNNINGHAM, TANNER Wade	0.0	445660
KEANE, JOHN Donovon	0.0	486519	MILLER, KEVIN Paul	0.0	443040	NYE, KEVEN R	0.0	460558

Equipment

HES Unit #	Distance-1 way						
10296152C	0 mile	10616651C	0 mile	10722398	0 mile	10784064	0 mile
10876398	0 mile	11006314	0 mile	11057896	0 mile	11139330	0 mile
11259881	0 mile	11808827	0 mile	11808829	0 mile		

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours

TOTAL Total is the sum of each column separately

Job

Job Times

Formation Name	Top	Bottom	Called Out	Date	Time	Time Zone
Form Type	BHST		On Location	16 - Jun - 2013	06:00	MST
Job depth MD	16148. ft	Job Depth TVD	Job Started	16 - Jun - 2013	10:26	MST
Water Depth		Wk Ht Above Floor	Job Completed	16 - May - 2013	14:15	GMT
Perforation Depth (MD)	<i>From</i>	<i>To</i>	Departed Loc	16 - Jun - 2013	16:30	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
6 3/4" Open Hole				6.75				8040.	16950.		
6 3/4" Open Hole				8.75				5450.	8040.		
4 1/2" Production String	Unknown		4.5	4.	11.6		N-80	4450.	16950.		
5 1/2" Production String	Unknown		5.5	4.892	17.		N-80	.	5450.		
7 5/8" Intermediate Casing	Unknown		7.625	6.969	26.4		N-80	.	5830.		
4" Drill Pipe	Unknown		4.	3.34	14.			.	5300.		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container			
Stage Tool										Centralizers			

Miscellaneous Materials

Gelling Agt		Conc		Surfactant		Conc		Acid Type		Qty		Conc	%
Treatment Fld		Conc		Inhibitor		Conc		Sand Type		Size		Qty	
Fluid Data													
Stage/Plug #: 1													
Fluid #	Stage Type	Fluid Name			Qty	Qty uom	Mixing Density lbm/gal	Yield ft ³ /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk		
1	TUNED SPACER III	TUNED SPACER III - SBM (483826)			40.00	bbl	11.5	.0	.0	.0			
2	Expandacem Lead Cement	EXPANDACEM (TM) SYSTEM (452979)			85.0	sacks	12.6	1.6	8.21		8.21		
8.21 Gal		FRESH WATER											
3	Expandacem Tail Cement	EXPANDACEM (TM) SYSTEM (452979)			1298	sacks	13.5	1.36	6.33		6.33		
6.33 Gal		FRESH WATER											
4	3% KCL Displacement				290.00	bbl	.	.0	.0	.0			
Calculated Values				Pressures				Volumes					
Displacement		Shut In: Instant		Lost Returns		Cement Slurry		Pad					
Top Of Cement		5 Min		Cement Returns		Actual Displacement		Treatment					
Frac Gradient		15 Min		Spacers		Load and Breakdown		Total Job					
Rates													
Circulating				Mixing				Displacement				Avg. Job	
Cement Left In Pipe		Amount	40 ft	Reason	Shoe Joint								
Frac Ring # 1 @	ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID						
The Information Stated Herein Is Correct					Customer Representative Signature								

The Road to Excellence Starts with Safety

Sold To #: 306454	Ship To #: 2995328	Quote #:	Sales Order #: 900486655
Customer: BLACK HILLS EXPLORATION & PROD-EBIZ		Customer Rep:	
Well Name: DHS	Well #: 3C-20 D17	API/UWI #: 05077102040000	
Field: BRONCO FLATS	City (SAP): DE BEQUE	County/Parish: Mesa	State: Colorado
Legal Description: Section 17 Township 9S Range 98W			
Lat: N 0 deg. OR N 0 deg. 0 min. 0 secs.		Long: E 0 deg. OR E 0 deg. 0 min. 0 secs.	
Contractor: H&P		Rig/Platform Name/Num: 319	
Job Purpose: Cement Production Liner			Ticket Amount:
Well Type: Development Well		Job Type: Cement Production Liner	
Sales Person: HIMES, JEFFREY		Srv Supervisor: KEANE, JOHN	MBU ID Emp #: 486519

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	06/16/2013 01:00							
Pre-Convoy Safety Meeting	06/16/2013 04:00							WITH HES
Arrive At Loc	06/16/2013 06:00							RIG ON BOTTOM WITH CASING, CIRCULATING UPON HES ARRIVAL, RIG HAD BEEN HAVING TROUBLE RUNNING CASING IN THE DAYS PRIOR
Assessment Of Location Safety Meeting	06/16/2013 06:20							WITH HES
Pre-Rig Up Safety Meeting	06/16/2013 06:50							WITH HES
Rig-Up Equipment	06/16/2013 07:00							RIGGED UP TWO PUMPS, USED ONE TO MIX CEMENT, AND THE OTHER TO DISPLACE TO MINIMIZE DOWNTIME SINCE THE STANDBY PUMP DID NOT NEED WASHED PRIOR TO DISPLACEMENT.
Pre-Job Safety Meeting	06/16/2013 10:15							WITH HES, BLACK HILLS, AND HP 319
Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	

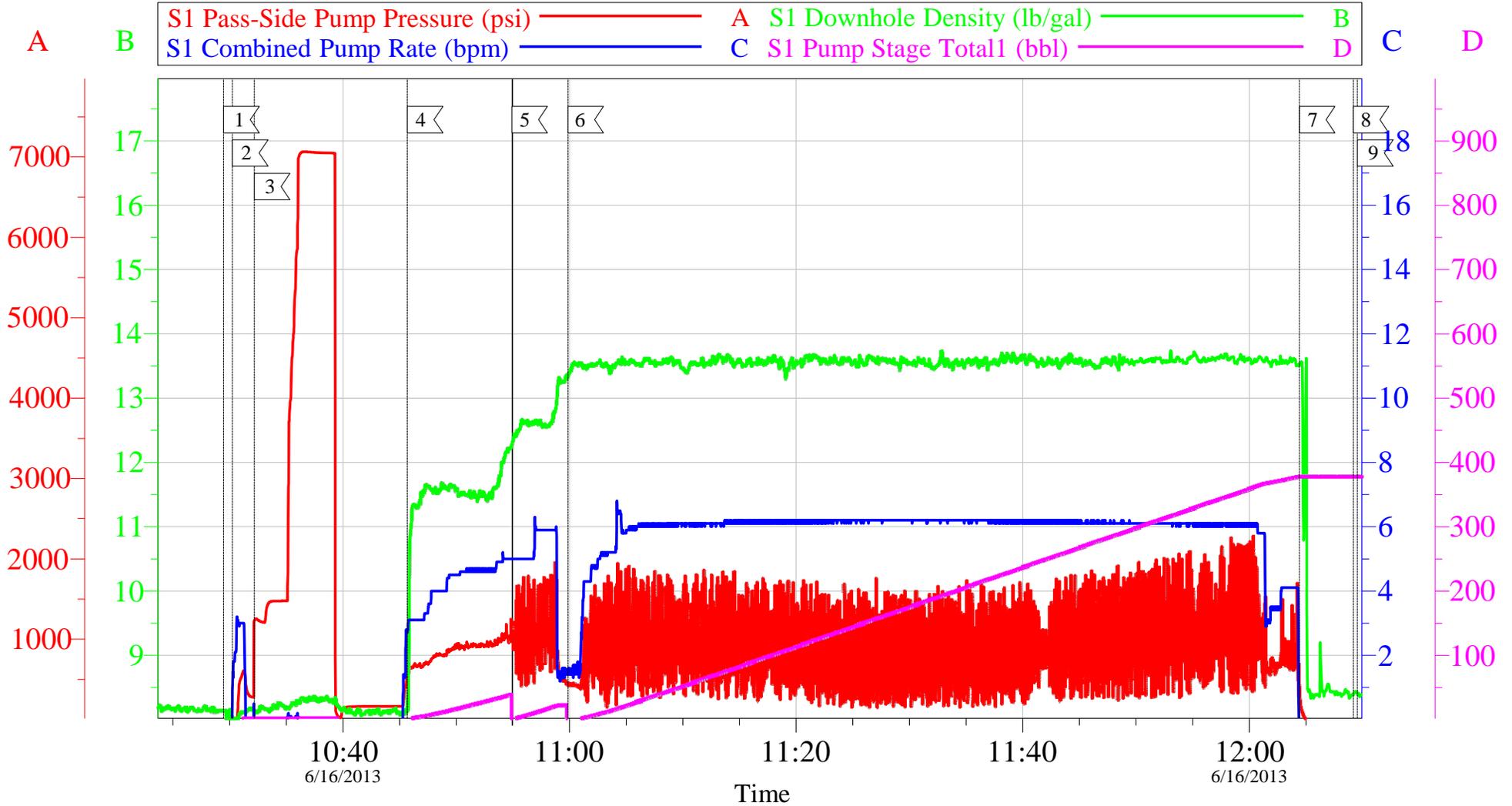
Start Job	06/16/2013 10:29							TP 16148 FT, SHOE 48 FT, HOLE 6.75 FROM 5818 FT TO 16148 FT, 7.625 INTERMEDIATE SET AT 5818 FT, MWT 10.9 LB/GAL, CSG 4.5 IN 11.6 LB/FT FROM 6037 FT TO 16148 FT, 5.5 IN 17.0 LB/FT FROM 5177 FT TO 6037 FT, 5.5 IN 20 LB/FT FROM SURFACE TO 5177 FT,
Pump Water	06/16/2013 10:30		2	2			620.0	FILL LINES
Test Lines	06/16/2013 10:32							LOW TEST AT 1487 PSI, HIGH TEST AT 7080 PSI, BOTH PUMPS TESTED AT ONCE
Pump Spacer	06/16/2013 10:45		4	40			955.0	TUNED SPACER III MIXED AT 11.5 LB/GAL, 40 BBL
Pump Lead Cement	06/16/2013 10:54		6	24.4			1006.0	MIXED AT 12.6 LB/GAL, 85 SKS, 1.6 FT3/SK, 8.21 GAL/SK, DENSITY VERIFIED WITH PRESSURIZED MUD SCALES
Pump Tail Cement	06/16/2013 10:59		6	314.4			1000.0	MIXED AT 13.5 LB/GAL, 1298 SKS, 1.36 FT3/SK, 6.33 GAL/SK, DENSITY VERIFIED WITH PRESSURIZED MUD SCALES
Shutdown	06/16/2013 12:04						900.0	
Clean Lines	06/16/2013 12:12							SWAPPED PUMPS DISPLACED WITH ELITE 9, WASHED UP ELITE 4 OFFLINE
Drop Plug	06/16/2013 12:13							PLUG HIT LAUNCH INDICATOR, BUT IT WAS NOT 100% CLEAR THAT PLUG LAUNCHED SO TOP CAP WAS REMOVED TO VERIFY THE PLUG WAS GONE.
Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	

Pump Displacement	06/16/2013 12:14		6	275			2650. 0	PRODUCED WATER WITH, CL-57, MAV-HIB 10, BOTH PROVIDED BY CUSTOMER. RIG HANDS WORE PROPER PPE AND MEASURE VOLUMES TO ADD TO EACH TANK.
Slow Rate	06/16/2013 13:01		1				1860. 0	SLOWED RATE AT 275 BBL AWAY ON DISPLACEMENT
Shutdown	06/16/2013 13:17		1	295				SHUTDOWN AT 295 BBL AWAY, 5 BBL OVER CALCULATED DISP AS PER CO. REP. STROKE COUNTER AND MEASURING TANKS DID NOT REFLECT THE SAME VOLUME. THE BBL COUNTER REFLECTED LESS THAN ACTUAL. DISP TANK VOLUMES VERIFIED BY SERVICE LEADER AND CO REP THROUGHOUT JOB.
Check Floats	06/16/2013 13:18						2100. 0	FLOATS HOLDING, PLUG DID NOT BUMP, NO SIGN OF DISK RUPTURE. 2 BBL BACK
Pump Displacement	06/16/2013 13:19		2	4			2600. 0	PUMPED 4 BBL OVER DISPLACEMENT AS PER CO REP.
Check Floats	06/16/2013 13:22						2600. 0	FLOATS HOLDING, STILL NO SIGN OF PLUG BUMPING NOT DISK RUPTURING. 2 BBL BACK
PUMP DISPLACEMENT	06/16/2013 13:42	2	6				3500 0	PUMPED 6 BBL OVER DISPLACEMENT AS PER CO MAN. GOT 3 BBL BACK
Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	

Check Floats	06/16/2013 13:59						4200 0	FLOATS HOLDING, NO SIGN OF PLUG BUMPING, NOR DISK RUPTURING.
PRESSURE TEST	06/16/2013 14:00						4000 0	PRESSURE HOLDING, TESTED TO VERIFY PRESSURE HOLDING IN ELITE 9
End Job	06/16/2013 14:15							GOOD CIRCULATION THROUGHOUT THE JOB, PIPE WAS STATIC THROUGHOUT THE JOB, . CUSTOMER RELEASED HES. AS PER CO REP, ONLY ONE BOTTOM PLUG WAS USED, AND NO KCL WAS USED- BOTH REMOVED FROM TICKET.
Post-Job Safety Meeting (Pre Rig-Down)	06/16/2013 14:30							WITH HES
Rig-Down Equipment	06/16/2013 14:45							
Pre-Convoy Safety Meeting	06/16/2013 16:00							WITH HES
Crew Leave Location	06/16/2013 16:30							
Comment	06/16/2013 16:31							THANKS FOR USING HALLIBURTON, JOHN KEANE AND CREW

BLACK HILLS - DHS-3C-20-D17

PRODUCTION



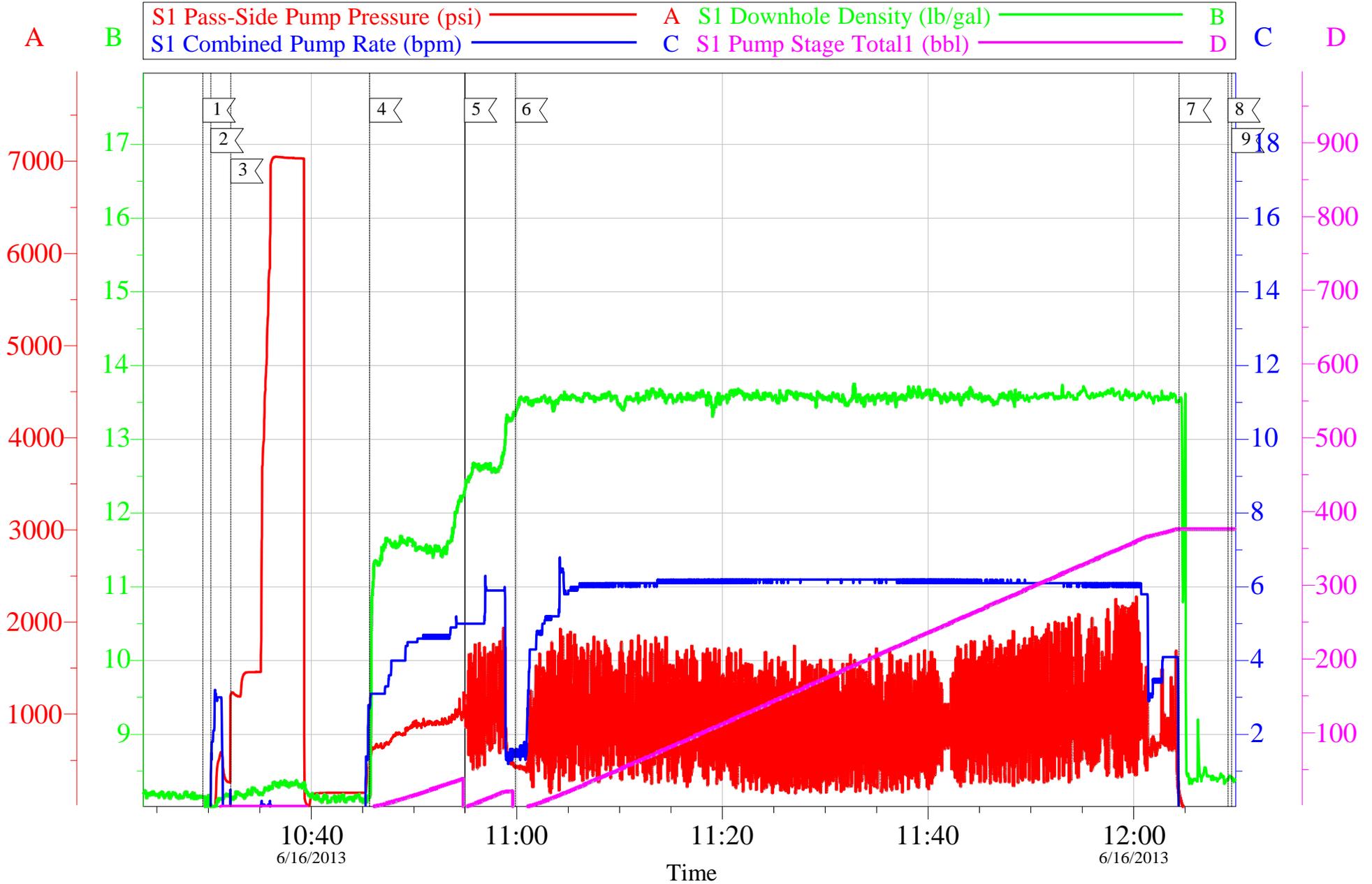
Local Event Log								
1	FILL LINES	10:29:28	2	START JOB	10:30:15	3	TEST LINES	10:32:11
4	PUMP TUNED SPACER III	10:45:41	5	PUMP LEAD CEMENT	10:54:55	6	PUMP TAIL CEMENT	10:59:51
7	SHUTDOWN	12:04:24	8	DROP BOTTOM PLUG	12:09:10	9	SWAP TO ELITE 9	12:09:33

Customer:	BLACK HILLS	Job Date:	16-Jun-2013	Sales Order #:	900486655
Well Description:	DHS-3C-20-D17	Job Type:	PRODUCTION	ADC Used:	YES
Company Rep:	KIT HATFIELD	Cement Supervisor:	JOHN KEANE	Elite #4:	BRENT BANKS

OptiCem v6.4.10
17-Jun-13 10:06

BLACK HILLS - DHS-3C-20-D17

PRODUCTION

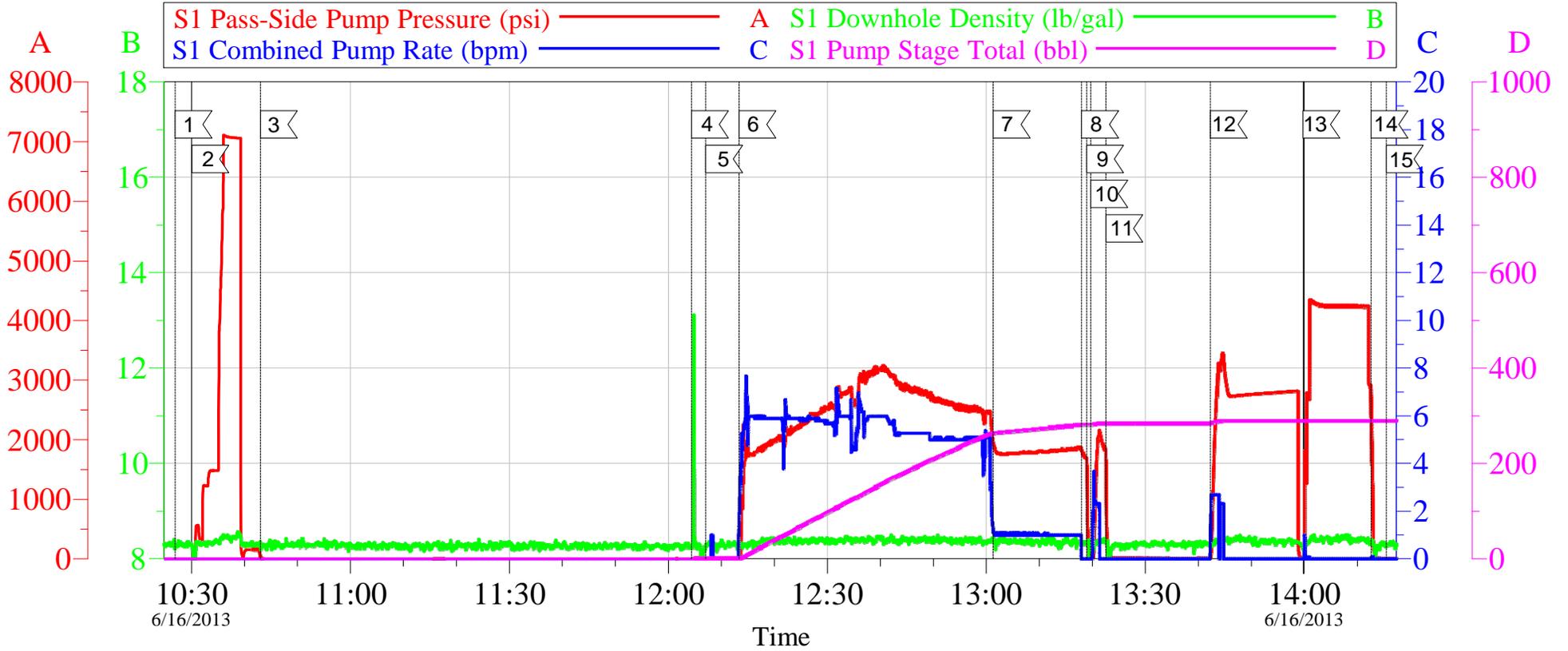


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Well Description:	DHS-3C-20-D17	Job Type:	PRODUCTION	ADC Used:	YES
Company Rep:	KIT HATFIELD	Cement Supervisor:	JOHN KEANE	Elite #4:	BRENT BANKS

OptiCem v6.4.10
17-Jun-13 10:06

Blackhills DHS 3C-20 D17 998

Production Displacement

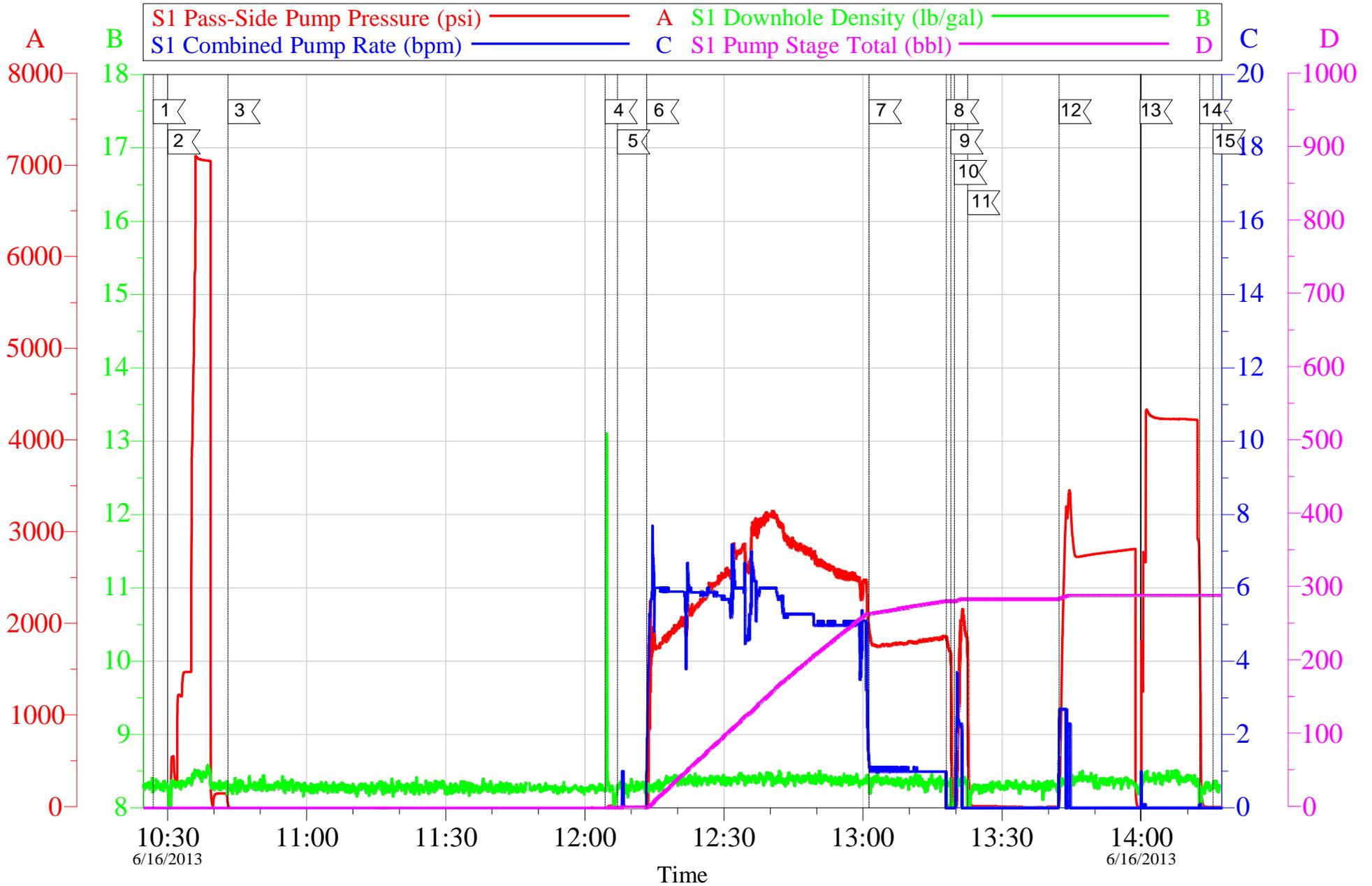


Local Event Log					
1	START JOB	10:26:55	2	PRESSURE TEST	10:30:06
3	SWAP TO ELITE 4 FOR MIXING	10:43:00	4	CLEAN LINES	12:04:22
5	DROP BOTTOM PLUG	12:07:02	6	PUMP DISPLACMENT	12:13:19
7	SLOW RATE	13:01:17	8	SHUT DOWN	13:17:58
9	CHECK FLOATS	13:18:55	10	PUMP DISPLACEMENT	13:19:40
11	CHECK FLOATS	13:22:33	12	PUMP DISPLACEMENT	13:42:14
13	CHK FLOATS / PSI TEST	13:59:43	14	RELEASE PRESSURE	14:12:35
15	END JOB	14:15:27			

Customer:	Blackhills	Job Date:	16-Jun-2013	Sales Order #:	900486655
Well Description:	DHS 3C-20 D17 998	Job Type:	Production	ADC Used:	yes
Company Rep:	Kit HatfiEld	Cement Supervisor:	John Keane	Elite #X:	9

Blackhills DHS 3C-20 D17 998

Production Displacement



Customer: Blackhills	Job Date: 16-Jun-2013	Sales Order #: 900486655
Well Description: DHS 3C-20 D17 998	Job Type: Production	ADC Used: yes
Company Rep: Kit HatfiEld	Cement Supervisor: John Keane	Elite #X: 9

Sales Order #: 900486655	Line Item: 10	Survey Conducted Date: 6/17/2013
Customer: BLACK HILLS EXPLORATION & PROD-EBIZ		Job Type (BOM): CMT PRODUCTION LINER BOM
Customer Representative:		API / UWI: (leave blank if unknown) 05077102040000
Well Name: DHS		Well Number: 3C-20 D17
Well Type: Development Well	Well Country: United States of America	
H2S Present:	Well State: Colorado	Well County: Mesa

Dear Customer,DD

DD

We hope that you were satisfied with the service quality of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and service of a standard unmatched in the service sector of the energy industry.DD

DD

Please take the time to let us know if our performance met with your satisfaction. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use of Halliburton.

CUSTOMER SATISFACTION SURVEY

CATEGORY	CUSTOMER SATISFACTION RESPONSE	
Survey Conducted Date	The date the survey was conducted	6/17/2013
Survey Interviewer	The survey interviewer is the person who initiated the survey.	JOHN KEANE (HB58526)
Customer Participation	Did the customer participate in this survey? (Y/N)	No
Customer Representative	Enter the Customer representative name	
HSE	Was our HSE performance satisfactory? Circle Y or N	
Equipment	Were you satisfied with our Equipment? Circle Y or N	
Personnel	Were you satisfied with our people? Circle Y or N	
Customer Comment	Customer's Comment	

CUSTOMER SIGNATURE

Sales Order #: 900486655	Line Item: 10	Survey Conducted Date: 6/17/2013
Customer: BLACK HILLS EXPLORATION & PROD-EBIZ		Job Type (BOM): CMT PRODUCTION LINER BOM
Customer Representative:		API / UWI: (leave blank if unknown) 05077102040000
Well Name: DHS		Well Number: 3C-20 D17
Well Type: Development Well	Well Country: United States of America	
H2S Present:	Well State: Colorado	Well County: Mesa

KEY PERFORMANCE INDICATORS

General	
Survey Conducted Date	6/17/2013
The date the survey was conducted	

Cementing KPI Survey	
Type of Job	0
Select the type of job. (Cementing or Non-Cementing)	
Select the Maximum Deviation range for this Job	Horizontal
What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	
Total Operating Time (hours)	10
Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	
HSE Incident, Accident, Injury	No
HSE Incident, Accident, Injury. This should be recordable incidents only.	
Was the job purpose achieved?	Yes
Was the job delivered correctly as per customer agreed design?	
Operating Hours (Pumping Hours)	4
Total number of hours pumping fluid on this job. Enter in decimal format.	
Customer Non-Productive Rig Time (hrs)	0
Lost time due to Halliburton in the start, execution, or completion of an ordered service or product, or delays in a follow-on service. Enter in decimal format. 0 if none.	
Type of Rig Classification Job Was Performed	Drilling Rig (Portable)
Type Of Rig (classification) Job Was Performed On	
Number Of JSAs Performed	6
Number Of Jsas Performed	
Number of Unplanned Shutdowns	0
Unplanned shutdown is when injection stops for any period of time.	
Was this a Primary Cement Job (Yes / No)	Yes

Sales Order #: 900486655	Line Item: 10	Survey Conducted Date: 6/17/2013
Customer: BLACK HILLS EXPLORATION & PROD-EBIZ		Job Type (BOM): CMT PRODUCTION LINER BOM
Customer Representative:		API / UWI: (leave blank if unknown) 05077102040000
Well Name: DHS		Well Number: 3C-20 D17
Well Type: Development Well	Well Country: United States of America	
H2S Present:	Well State: Colorado	Well County: Mesa

Primary Cement Job= Casing job, Liner job, or Tie-back job.	
Did We Run Wiper Plugs?	Bottom
Did We Run Top And Bottom Casing Wiper Plugs?	
Mixing Density of Job Stayed in Designed Density Range (0-100%)	98
Density Range defined as +/- .20 ppg. Calculation: Total BBLs cement mixed at designed density divided by total BBLs of cement multiplied by 100	
Was Automated Density Control Used?	Yes
Was Automated Density Control (ADC) Used ?	
Pump Rate (percent) of Job Stayed At Designed Pump Rate	95
Pump Rate range defined as +/- 1bbl/min. Calculation: Total BBLs of fluid pumped at the designed rate divided by Total BBLs of fluid pumped, multiplied by 100	
Nbr of Remedial Sqz Jobs Rqd - Competition	0
Number Of Remedial Squeeze Jobs Required After Primary Job Performed By Competition	
Nbr of Remedial Plug Jobs Rqd - HES	0
Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES	
Nbr of Remedial Sqz Jobs Rqd - HES	0
Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES	