

HALLIBURTON

ANTERO RESOURCES

**DIXON FED B14
MAMM CREEK
Garfield County , Colorado**

Cement Surface Casing
12-Jul-2011

Job Site Documents

The Road to Excellence Starts with Safety

Sold To #: 337854	Ship To #: 2865146	Quote #:	Sales Order #: 8313843
Customer: ANTERO RESOURCES		Customer Rep: Oaks, Bowdie	
Well Name: DIXON FED		Well #: B14	API/UWI #: 05-045-20427
Field: MAMM CREEK	City (SAP): SILT	County/Parish: Garfield	State: Colorado
Lat: N 39.524 deg. OR N 39 deg. 31 min. 26.843 secs.		Long: W 107.66 deg. OR W -108 deg. 20 min. 24.727 secs.	
Contractor: Craigs Roustabout Service, Inc.		Rig/Platform Name/Num: Craigs #2	
Job Purpose: Cement Surface Casing			
Well Type: Development Well		Job Type: Cement Surface Casing	
Sales Person: METLI, MARSHALL		Srvc Supervisor: KUKUS, CRAIG	MBU ID Emp #: 369124

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
BURKE, BRENDAN Patrick	3	487782	KUKUS, CRAIG A	3	369124	SMITH, DUSTIN Michael	3	418015
WYCKOFF, RYAN Scott	3	476117						

Equipment

HES Unit #	Distance-1 way						
10025118	120 mile	10567589C	120 mile	10741259	120 mile	10829469	120 mile
10995027	120 mile						

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
7/12/11	3	1.5						

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	12 - Jul - 2011	20:00	MST
Job depth MD	1006. ft	Job Depth TVD	1006. ft	Job Started	12 - Jul - 2011	21:13
Water Depth		Wk Ht Above Floor	4. ft	Job Completed	12 - Jul - 2011	22:11
Perforation Depth (MD)	<i>From</i>	<i>To</i>	Departed Loc	12 - Jul - 2011	23:30	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbf/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Sales/Rental/3rd Party (HES)											

Description	Qty	Qty uom	Depth	Supplier
ADC (AUTO DENSITY CTRL) SYS, /JOB,ZI	1	JOB		
R/A DENSOMETER W/CHART RECORDER,/JOB,ZI	1	JOB		
PORT. DATA ACQUIS. W/OPTICEM RT W/HES	1	EA		

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug	8 5/8	1	HES
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	Water Spacer		20.00	bbl	8.33	.0	.0	4	
2	VersaCem Lead Cement	VERSACEM (TM) SYSTEM (452010)	160.0	sacks	12.3	2.38	13.77	6	13.77
	13.77 Gal	FRESH WATER							
3	SwiftCem Tail Cement	SWIFTCEM (TM) SYSTEM (452990)	205.0	sacks	14.2	1.43	6.85	6	6.85
	6.85 Gal	FRESH WATER							
4	Displacement		59.00	bbl	8.33	.0	.0	6	
Calculated Values		Pressures			Volumes				
Displacement	58.5	Shut In: Instant		Lost Returns	0	Cement Slurry	120	Pad	
Top Of Cement	SURFACE	5 Min		Cement Returns	24	Actual Displacement	59	Treatment	
Frac Gradient		15 Min		Spacers	20	Load and Breakdown		Total Job	219
Rates									
Circulating	NONE	Mixing	6	Displacement	6	Avg. Job	6		
Cement Left In Pipe	Amount	41.8 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

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Well Name: DIXON FED		Well #: B14	API/UWI #: 05-045-20427
Field: MAMM CREEK	City (SAP): SILT	County/Parish: Garfield	State: Colorado
Legal Description:			
Lat: N 39.524 deg. OR N 39 deg. 31 min. 26.843 secs.		Long: W 107.66 deg. OR W -108 deg. 20 min. 24.727 secs.	
Contractor: Craigs Roustabout Service, Inc.		Rig/Platform Name/Num: Craigs #2	
Job Purpose: Cement Surface Casing			Ticket Amount:
Well Type: Development Well		Job Type: Cement Surface Casing	
Sales Person: METLI, MARSHALL		Srvc Supervisor: KUKUS, CRAIG	MBU ID Emp #: 369124

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Depart Yard Safety Meeting	07/12/2011 16:00							SAFETY MEETING INVOLVING THE ENTIRE CMT CREW
Call Out	07/12/2011 16:30							
Arrive At Loc	07/12/2011 20:00							RIG WAS RUNNING CSG
Assessment Of Location Safety Meeting	07/12/2011 20:10							ASSESSMENT OF LOCATION INVOLVING THE ENTIRE CMT CREW
Circulate Well	07/12/2011 20:15							NONE
Pre-Rig Up Safety Meeting	07/12/2011 20:25							SAFETY MEETING INVOLVING THE ENTIRE CMT CREW
Rig-Up Equipment	07/12/2011 20:30							RIG UP TO WELL OFF LINE
Pre-Job Safety Meeting	07/12/2011 21:00							SAFETY MEETING INVOLVING EVERYONE ON LOCATION
Start Job	07/12/2011 21:13							TD 1006 FT TP 1003.29 FT SJ 41.80 FT OH 12 1/4 IN MUD WT 8.3# PIPE 8 5/8 IN 32# J-55
Other	07/12/2011 21:13		2	2			7.0	FILL LINES
Pressure Test	07/12/2011 21:16		0.5			2500.0		PRESSURE TEST GOOD
Pump Spacer 1	07/12/2011 21:19		4	20			50.0	FRESH WATER SPACER
Activity Description	Date/Time	Cht	Rate bbl/min	Volume bbl		Pressure psig		Comments

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Sales Order # : 8313843

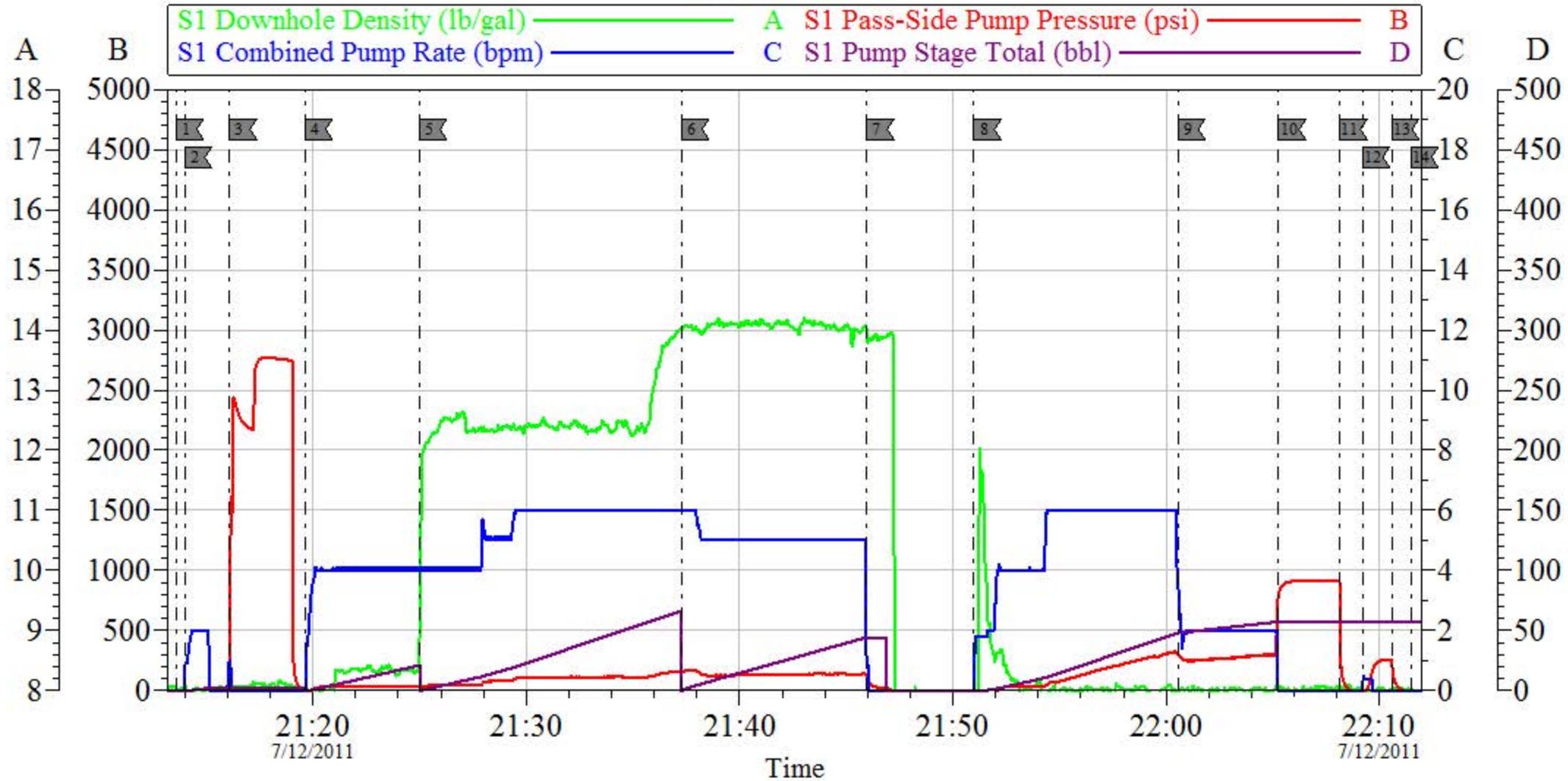
SUMMIT Version: 7.2.27

Monday, July 18, 2011 01:18:00

		#		Stage	Total	Tubing	Casing	
Pump Lead Cement	07/12/2011 21:25		6	67.8			160.0	PUMP 160 SKS LEAD CEMENT AT 12.3 PPG 2.38 Y 13.75 GAL/SK
Pump Tail Cement	07/12/2011 21:37		6	52			144.0	PUMP 205 SKS TAIL CEMENT AT 14.2 PPG 1.43 Y 6.85 GAL/SK
Shutdown	07/12/2011 21:45							READY SWEG FOR PLUG DROP
Drop Top Plug	07/12/2011 21:45							PLUG LEFT THE PLUG CONTAINER
Pump Displacement	07/12/2011 21:51		6	58.5			336.0	PUMP FRESH WATER DISPLACEMENT
Slow Rate	07/12/2011 22:00		2	48			172.0	SLOW RATE LAST 10 BBLs
Bump Plug	07/12/2011 22:05		2	59			920.0	PLUG LANDED AT 315 PSI
Check Floats	07/12/2011 22:08							FLOATS HELD / GOT 1/2 BBL BACK TO TANKS
Pressure Up Tubing	07/12/2011 22:09		0.5				268.0	PRESSURE CSG BACK UP SHUT DOWN AND SHUT IN 2 IN
Shutdown	07/12/2011 22:10							SHUT DOWN / CSG SHUT IN
End Job	07/12/2011 22:11							GOT RETURNS AT 16 BBLs INTO DISPLACEMENT AND CEMENT BACK TO SURFACE AT 44 BBLs DISPLACEMENT GONE / TOTAL 24 BBLs CEMENT BACK
Pre-Rig Down Safety Meeting	07/12/2011 22:15							SAFETY MEETING INVOLVING THE ENTIRE CMT CREW
Rig-Down Equipment	07/12/2011 22:20							
Safety Meeting - Departing Location	07/12/2011 23:15							SAFETY MEETING INVOLVING THE ENTIRE CMT CREW
Comment	07/12/2011 23:30							THANK YOU FOR USING HALLIBURTON, CRAIG KUKUS AND CREW

EVENT #	EVENT	VOLUME	SACKS	WEIGHT	YIELD	GAL/ SK
1	Start Job		MAX 2024			
	FILL LINES	2				
6	Test Lines	2500.0				
9	H2O Spacer	20.0		8.3		
13	LEAD CEMENT	67.8	160	12.3	2.38	13.77
15	TAIL CEMENT	52.2	205	14.2	1.43	6.85
	SHUTDOWN					
	DROP TOP PLUG					
25	H2O DISPLACE	58.5		8.3		
	SLOW RATE	48.0	2BBL	slow	2BBL	
	LAND PLUG	262.0	PLUS	500	OVER	
	CHECK FLOATS					
	END JOB		Do Not Overdisplace			
DISPLACEMENT	TOTAL PIPE	SHOE JOINT LENGTH	FLOAT COLLAR	BBL/FT	H2O REQ.	
58.50	1003.29	41.80	961.49	0.0609	200	
PSI TO LIFT	480	*****Use Mud Scales on Each Tier*****				
Total Displacement	58.50					
CALCULATED PSI LAND		262	TOTAL FLUID PUMPED		219	
Collapse	2530	Burst	3930		SO#	8313843

ANTERO SURFACE

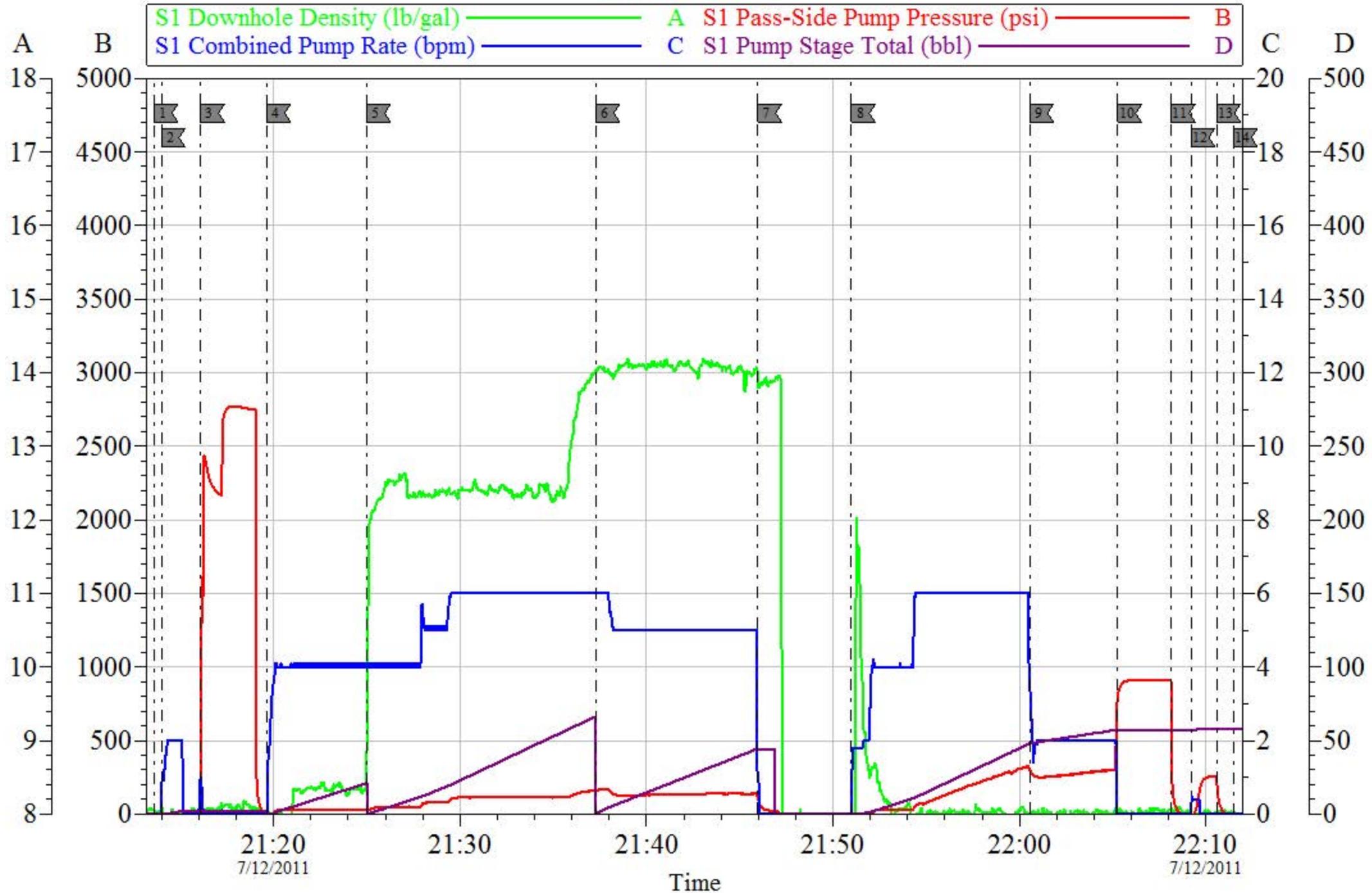


Local Event Log

1	START JOB	21:13:36	2	PRIME LINES	21:13:59	3	PRESSURE TEST	21:16:05
4	PUMP SPACER	21:19:38	5	PUMP LEAD CEMENT	21:25:00	6	PUMP TAIL CEMENT	21:37:18
7	SHUT DOWN/DROP PLUG	21:45:58	8	PUMP H2O DISPLACEMENT	21:51:00	9	SLOW RATE	22:00:33
10	BUMP PLUG	22:05:17	11	CHECK FLOATS	22:08:09	12	PRESSURE UP CSG	22:09:12
13	SHUT DOWN/SHUT IN	22:10:35	14	END JOB	22:11:30			

Customer:	ANTERO	Job Date:	12-Jul-2011	Sales Order #:	8313843
Well Description:	DIXON FED B14	Job Type:	SURFACE	ADC Used:	YES
Company Rep:	BOWDIE OAKS	Cement Supervisor:	CRAIG KUKUS	Elite #/Operator:	ELITE 3 BRENDAN BURKE

ANTERO SURFACE



Customer: ANTERO	Job Date: 12-Jul-2011	Sales Order #: 8313843
Well Description: DIXON FED B14	Job Type: SURFACE	ADC Used: YES
Company Rep: BOWDIE OAKS	Cement Supervisor: CRAIG KUKUS	Elite #/Operator: ELITE 3 BRENDAN BURKE

HALLIBURTON

Water Analysis Report

Company: ANTERO

Date: 7/12/2011

Submitted by: CRAIGKUKUS

Date Rec.: 7/12/2011

Attention: _____

S.O.# 8313843

Lease DIXON FED

Job Type: SURFACE

Well # B14

Specific Gravity	<i>MAX</i>	
pH	<i>8</i>	<i>7</i>
Potassium (K)	<i>5000</i>	<i>250</i> Mg / L
Calcium (Ca)	<i>500</i>	<i>0</i> Mg / L
Iron (FE2)	<i>300</i>	<i>0</i> Mg / L
Chlorides (Cl)	<i>3000</i>	<i>0</i> Mg / L
Sulfates (SO ₄)	<i>1500</i>	<i>below200</i> Mg / L
Chlorine (Cl ₂)		<i>120</i> Mg / L
Temp	<i>40-80</i>	<i>65</i> Deg
Total Dissolved Solids		<i>240</i> Mg / L

Respectfully: CRAIGKUKUS

Title: CEMENTING SUPERVISOR

Location: GRANDJUNCTION CO

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage whether due to act or omission resulting from such report or i

Sales Order #: 8313843	Line Item: 10	Survey Conducted Date: 7/12/2011
Customer: ANTERO RESOURCES		Job Type (BOM): CMT SURFACE CASING BOM
Customer Representative: BOWDIE OAKS		API / UWI: (leave blank if unknown) 05-045-20427
Well Name: DIXON FED		Well Number: B14
Well Type: Development Well	Well Country: United States of America	
H2S Present:	Well State: Colorado	Well County: Garfield

Dear Customer,

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.

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	7/12/2011
Survey Interviewer	The survey interviewer is the person who initiated the survey.	CRAIG KUKUS (HX19742)
Customer Participation	Did the customer participate in this survey? (Y/N)	Yes
Customer Representative	Enter the Customer representative name	BOWDIE OAKS
HSE	Was our HSE performance satisfactory? Circle Y or N	Yes
Equipment	Were you satisfied with our Equipment? Circle Y or N	Yes
Personnel	Were you satisfied with our people? Circle Y or N	Yes
Customer Comment	Customer's Comment	
Job DVA	Did we provide job DVA above our normal service today? Circle Y or N	No
Time	Please enter hours in decimal format to nearest quarter hour.	
Other	Enter short text for other efficiencies gained.	
Customer Initials	Customer's Initials	
Please provide details	Please describe how the job efficiencies were gained.	

CUSTOMER SIGNATURE

Sales Order #: 8313843	Line Item: 10	Survey Conducted Date: 7/12/2011
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Customer Representative: BOWDIE OAKS		API / UWI: (leave blank if unknown) 05-045-20427
Well Name: DIXON FED		Well Number: B14
Well Type: Development Well	Well Country: United States of America	
H2S Present:	Well State: Colorado	Well County: Garfield

KEY PERFORMANCE INDICATORS

General	
Survey Conducted Date	7/12/2011
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	Vertical
What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	
Total Operating Time (hours)	2
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)	1
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

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Well Name: DIXON FED		Well Number: B14
Well Type: Development Well	Well Country: United States of America	
H2S Present:	Well State: Colorado	Well County: Garfield

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