HALLIBURTON

OXY GRAND JUNCTION EBUSINESS

CC 697-16-15A
GRAND VALLEY
Garfield County , Colorado

Squeeze Perfs

12-Nov-2011

Post Job Report

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 344034	**Ship To #:** 2578468	**Quote #:**	**Sales Order #:** 9058494
Customer: OXY GRAND JUNCTION EBUSINESS		**Customer Rep:** McKinney, Ken	
Well Name: CC	**Well #:** 697-16-15A		**API/UWI #:** 05-045-13990
Field: GRAND VALLEY	**City (SAP):** PARACHUTE	**County/Parish:** Garfield	**State:** Colorado
Lat: N 39.527 deg. OR N 39 deg. 31 min. 37.416 secs.		**Long:** W 108.217 deg. OR W -109 deg. 47 min. 0.384 secs.	
Contractor: WORKOVER	**Rig/Platform Name/Num:** WORKOVER		
Job Purpose: Squeeze Perfs			
Well Type: Development Well	**Job Type:** Squeeze Perfs		
Sales Person: HIMES, JEFFREY	**Srvc Supervisor:** TRIPLETT, MICHEAL	**MBU ID Emp #:** 447908	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
HARDRICK, RAYMOND Frank	12	391324	MILLER, KEVIN Paul	12	443040	STILLSON, ERIC W	12	393789
TRIPLETT, MICHEAL Anthony	12	447908						

Equipment

HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*	HES Unit #	*Distance-1 way*
10248065	120 mile	10567589C	120 mile	10951246	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
11/12/2011	12	4						
TOTAL		*Total is the sum of each column separately*						

Job

Formation Name					
Formation Depth (MD)	**Top**		**Bottom**		
Form Type		**BHST**			
Job depth MD	7100. ft	**Job Depth TVD**	7100. ft		
Water Depth		**Wk Ht Above Floor**	3. ft		
Perforation Depth (MD)	*From*	***7,139.00 ft***	**To**	7,140.00 ft	

Job Times

	Date	Time	Time Zone
Called Out	12 - Nov - 2011	04:00	MST
On Location	12 - Nov - 2011	08:30	MST
Job Started	12 - Nov - 2011	14:08	MST
Job Completed	12 - Nov - 2011	17:30	MST
Departed Loc	12 - Nov - 2011	19:00	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
Perforation Interval								7139.	7140.	.	.

Sales/Rental/3rd Party (HES)

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

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

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Cementing Job Summary

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Fresh Water		15.00	bbl	8.33	.0	.0	2.0	
2	Squeeze Cement	SQUEEZECEM (TM) SYSTEM (452971)	50.0	sacks	15.8	1.52	6.2	2.0	6.2
	6.2 Gal	FRESH WATER							
3	Displacement		27.50	bbl	.	.0	.0	2.0	

Calculated Values		Pressures		Volumes					
Displacement	27.5	Shut In: Instant		Lost Returns		*Cement Slurry*	13.6	Pad	
Top Of Cement		5 Min		Cement Returns		Actual Displacement		Treatment	
Frac Gradient		15 Min		Spacers		Load and Breakdown		Total Job	106

Rates							
Circulating	*1.5*	*Mixing*	2	*Displacement*	2	Avg. Job	2

Cement Left In Pipe	Amount	***0 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***

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Cementing Job Log

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Field: GRAND VALLEY	**City (SAP):** PARACHUTE	**County/Parish:** Garfield	**State:** Colorado
Legal Description:			
Lat: N 39.527 deg. OR N 39 deg. 31 min. 37.416 secs.		**Long:** W 108.217 deg. OR W -109 deg. 47 min. 0.384 secs.	
Contractor: WORKOVER	**Rig/Platform Name/Num:** WORKOVER		
Job Purpose: Squeeze Perfs			**Ticket Amount:**
Well Type: Development Well	**Job Type:** Squeeze Perfs		
Sales Person: HIMES, JEFFREY	**Srvc Supervisor:** TRIPLETT, MICHEAL		**MBU ID Emp #:** 447908

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	11/12/2011 04:00							
Depart Yard Safety Meeting	11/12/2011 06:00							
Crew Leave Yard	11/12/2011 06:10							
Arrive At Loc	11/12/2011 08:30							
Assessment Of Location Safety Meeting	11/12/2011 08:40							CHECK LOCATION AND FIND OUT WHERE EQUIPMENT NEEDS TO BE SPOTTED
Other	11/12/2011 11:30							SPOT EQUIPMENT, 1 RCM PUMP TRUCK, 1 660
Pre-Rig Up Safety Meeting	11/12/2011 11:45							GO OVER JSA AND HAVE CREW SIGN.
Rig-Up Equipment	11/12/2011 11:50							
Pre-Job Safety Meeting	11/12/2011 13:55							GO OVER JOB PROCEDURES AND SAFETY INFORMATION
Start Job	11/12/2011 14:08							CI BRIDGE PLUG @ 7300', PERFS @ 7260', RETAINER @ 7130', THERE ARE PERFS ABOVE RETAINER @ 7130' AND 7100'. CUSTOMER SIGNED CIRCULATION SQUEEZE FORM.
Activity Description	**Date/Time**	**Cht #**	**Rate bbl/ min**	**Volume bbl**		**Pressure psig**		**Comments**
				Stage	**Total**	**Tubing**	**Casing**	

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Cementing Job Log

Test Lines	11/12/2011 14:09							PRESSURE TEST PUMPS AND LINES STARTED AT 2830 PSI AND ENDED AT 2809 PSI LOST 21 PSI IN TWO MINUTES.
Shutdown	11/12/2011 14:23							TO RIG UP RIG PUMP TO FILL BACKSIDE
Injection Test	11/12/2011 14:39		1.5	15			780.0	WHILE STUNG IN FILLED TUBING WITH CEMENT PUMP, THEN FILLED THE BACKSIDE WITH THE RIG PUMP. THEN INJECTED 15 BBLS AT 1.5 BBL/MIN @ 780 PSI
ISIP	11/12/2011 14:50							SHUTDOWN TO GET ISIP. PRESSURE FELL REALY QUICK NO ISIP.
Other	11/12/2011 14:57							RIG PRESSURED UP BACKSIDE TO 1200 PSI AND PUMPED TO MAINTAIN PRESSURE THROUGHOUT JOB. BACKSIDE PSI WAS MONITORED WITH EXTERNAL PRESSURE TRANSDUCER.
Pump Cement	11/12/2011 15:06		2	13.6			31.0	50 SACKS MIXED @ 15.8 PPG, 1.52 YIELD, 6.2 GALS/SACK.
Pump Displacement	11/12/2011 15:18		2	27.5			930.0	FRESHWATER, WELL WAS TAKING DISPLACEMENT FASTER THAN BBL COUNTER REFLECTED.
Shutdown	11/12/2011 15:39							SHUT DOWN AT 960 PSI, PRESSURE FELL TO 0 PSI. HESITATED 30 MINUTES.
Start Squeeze	11/12/2011 16:09		0.4	0.2			1100.0	PUMPED UNTIL PRESSURE REACHED 1000 PSI, SHUTDOWN, PRESSURE HELD THERE FOR ABOUT 4 MINUTES ON A FLAT LINE.
Other	11/12/2011 16:17							STINGOUT OF RETAINER WITH 1000 PSI ON TUBING AND 1200 PSI ON BACKSIDE.

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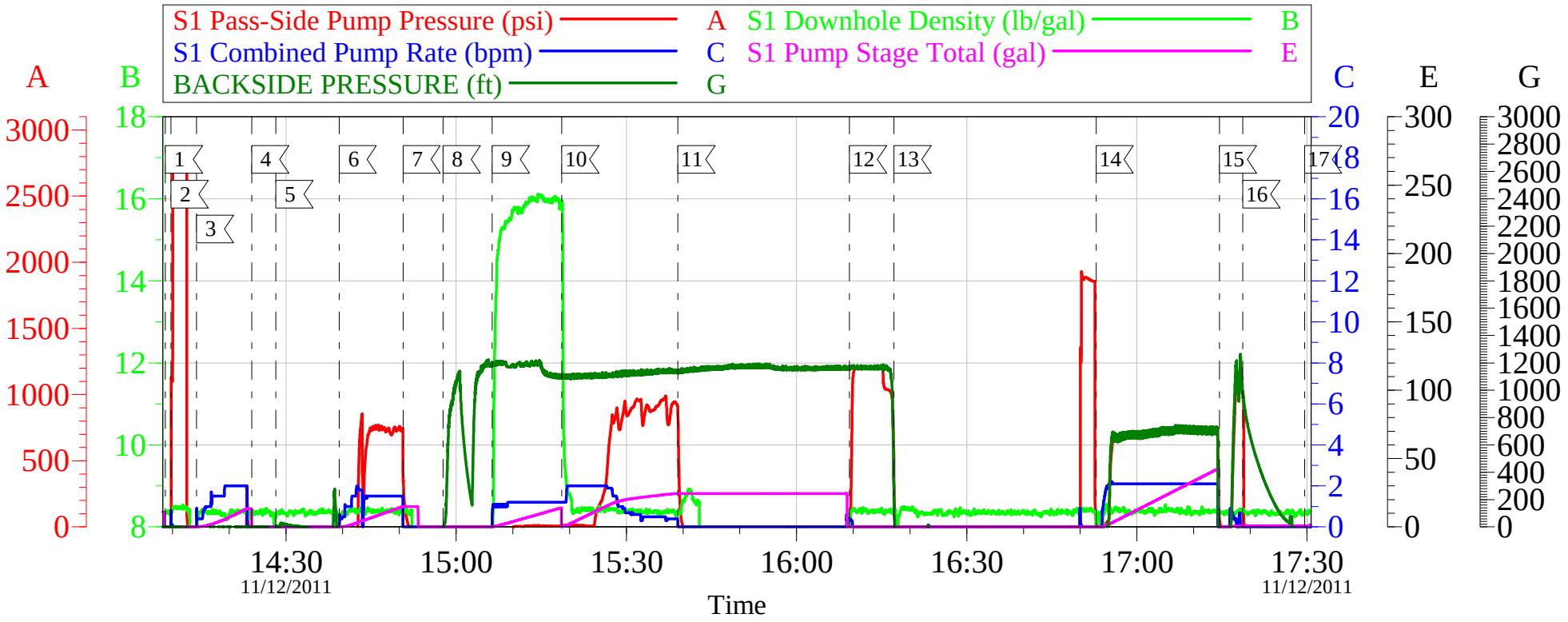
Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Reverse Circ Well	11/12/2011 16:52		2	43			750.0	1.5 TIMES TUBING CAPACITY FRESHWATER. NO CEMENT TO PIT.
Shutdown	11/12/2011 17:14							
Pressure Up Tubing	11/12/2011 17:18		0.4	1			1200.0	PUT PRESSURE ON TUBING, CHARTED WITH EXTERNAL TRANSDUCER. PRESSURE BLED OFF TO 0 PSI INDICATING THAT PERFS ABOVE RETAINER WERE STILL OPEN.
End Job	11/12/2011 17:29							NO CIRCULATION THROUGH PROD/SURFACE CSG ANNULUS THROUGHOUT JOB. PERFS DID NOT APPEAR TO COMMUNICATE. 3 ADD HOURS TO TICKET. USED 40 LBS OF SUGAR, USED SQUEEZE MANIFOLD, DID NOT USE ROTARY SUB, DOT CHARGE ADDED FOR SERVICE LEADER PICKUP. NO DERRICK CHARGE
Pre-Rig Down Safety Meeting	11/12/2011 17:30							
Rig-Down Equipment	11/12/2011 17:35							
Pre-Convoy Safety Meeting	11/12/2011 18:55							
Crew Leave Location	11/12/2011 19:00							THANKS FOR USING HALLIBURTON MIKE TRIPLETT AND CREW.

OXY - CASCADE CREEK/697-16-15A

SQUEEZE



Local Event Log

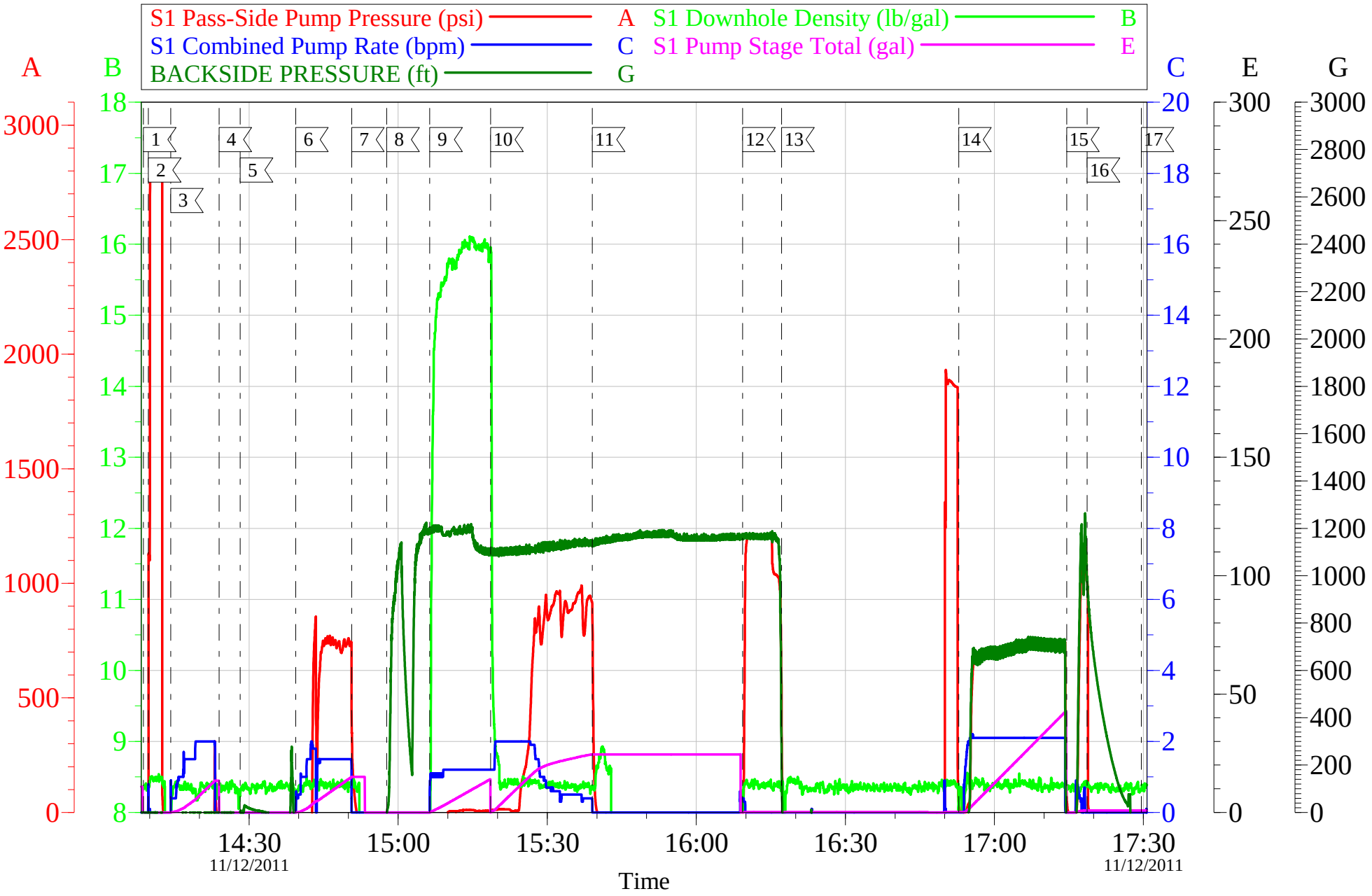
1	START JOB	14:08:43	2	PRESSURE TEST	14:09:44
3	FILL TUBING	14:14:13	4	SHUTDOWN	14:23:58
5	FILL BACKSIDE (RIG PUMP)	14:28:13	6	INJECTION TEST	14:39:23
7	SHUTDOWN ISIP	14:50:38	8	PRESSURE UP BACKSIDE (RIG PUMP)	14:57:42
9	PUMP CEMENT	15:06:22	10	PUMP DISLACEMENT	15:18:37
11	SHUTDOWN/ HESITATE	15:39:05	12	SQUEEZE	16:09:20
13	STING OUT/ PULL TUBING	16:17:11	14	REVERSE OUT	16:52:49
15	SHUTDOWN	17:14:33	16	PRESSURE UP TUBING	17:18:40
17	END JOB	17:29:33			

Customer:	Job Date: 12-Nov-2011	Sales Order #: 9058494
Well Description:	Job Type:	ADC Used:
Company Rep:	Cement Supervisor:	Elite #X:

OptiCem v6.4.9
12-Nov-11 17:59

OXY - CASCADE CREEK/697-16-15A

SQUEEZE



Customer:		Job Date:	12-Nov-2011	Sales Order #:	9058494
Well Description:		Job Type:		ADC Used:	
Company Rep:		Cement Supervisor:		Elite #X:	

OptiCem v6.4.9
12-Nov-11 17:59

HALLIBURTON

Water Analysis Report

Company:	OXY	Date:	11/12/2011
Submitted by:	MIKE TRIPLETT	Date Rec.:	11/12/2011
Attention:	LAB	S.O.#	9058494
Lease	CC	Job Type:	SQUEEZE
Well #	697-16-15A		

Specific Gravity	*MAX*	1	
pH	*8*	7	
Potassium (K)	*5000*	700	Mg / L
Calcium (Ca)	*500*	250	Mg / L
Iron (FE2)	*300*	0	Mg / L
Chlorides (Cl)	*3000*	250	Mg / L
Sulfates (SO_4)	*1500*	-200	Mg / L
Chlorine (Cl_2)		0	Mg / L
Temp	*40-80*	37	Deg
Total Dissolved Solids		240	Mg / L

Respectfully: MIKE TRIPLETT

Title: CEMENTING SUPERVISOR

Location: Grand Junction, CO

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CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
9058494	10	11/12/2011
Customer:		**Job Type (BOM):**
OXY GRAND JUNCTION EBUSINESS		CMT SQUEEZE PERFORATIONS BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
		05-045-13990
Well Name:		**Well Number:**
CC		697-16-15A
Well Type:	**Well Country:**	
Development Well	United States of America	
H2S Present:	**Well State:**	**Well County:**
	Colorado	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**	**11/12/2011**
Survey Interviewer	**The survey interviewer is the person who initiated the survey.**	**MICHEAL TRIPLETT (HB15721)**
Customer Participation	**Did the customer partipcipate 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

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CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
9058494	10	11/12/2011
Customer:		**Job Type (BOM):**
OXY GRAND JUNCTION EBUSINESS		CMT SQUEEZE PERFORATIONS BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
		05-045-13990
Well Name:		**Well Number:**
CC		697-16-15A
Well Type:	**Well Country:**	
Development Well	United States of America	
H2S Present:	**Well State:**	**Well County:**
	Colorado	Garfield

KEY PERFORMANCE INDICATORS

General	
Survey Conducted Date The date the survey was conducted	11/12/2011

Cementing KPI Survey	
Type of Job Select the type of job. (Cementing or Non-Cementing)	0
Select the Maximum Deviation range for this Job What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	Vertical
Total Operating Time (hours) Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	6
HSE Incident, Accident, Injury HSE Incident, Accident, Injury. This should be recordable incidents only.	No
Was the job purpose achieved? Was the job delivered correctly as per customer agreed design?	Yes
Operating Hours (Pumping Hours) Total number of hours pumping fluid on this job. Enter in decimal format.	4
Customer Non-Productive Rig Time (hrs) 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.	0
Type of Rig Classification Job Was Performed Type Of Rig (classification) Job Was Performed On	Drilling Rig (Portable)
Number Of JSAs Performed Number Of Jsas Performed	7
Number of Unplanned Shutdowns Unplanned shutdown is when injection stops for any period of time.	0
Was this a Primary Cement Job (Yes / No)	No

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CUSTOMER SURVEY

Sales Order #:	**Line Item:**	**Survey Conducted Date:**
9058494	10	11/12/2011
Customer:		**Job Type (BOM):**
OXY GRAND JUNCTION EBUSINESS		CMT SQUEEZE PERFORATIONS BOM
Customer Representative:		**API / UWI: (leave blank if unknown)**
		05-045-13990
Well Name:		**Well Number:**
CC		697-16-15A
Well Type:	**Well Country:**	
Development Well	United States of America	
H2S Present:	**Well State:**	**Well County:**
	Colorado	Garfield

Primary Cement Job= Casing job, Liner job, or Tie-back job.	
Was this a Plug or a Squeeze Job? Please select the appropriate choice	No
Was this a Primary or a Remedial Job? Kick off plug, Plug to Abadon, LCM plug or Planed Liner Top Squeeze, Squeeze of existing perforations, Squeeze of casing leak	No
Mixing Density of Job Stayed in Designed Density Range (0-100%) Density Range defined as +/- .20 ppg. Calculation: Total BBLs cment mixed at designed density divided by total BBLs of cement multiplied by 100	95
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	95
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