

---

# **OXY GRAND JUNCTION EBUSINESS**

---

**CC 697-16-32  
GRAND VALLEY  
Garfield County , Colorado**

**Squeeze Perfs**  
**29-Nov-2011**

**Job Site Documents**

## The Road to Excellence Starts with Safety

Sold To #: 344034	Ship To #: 2601445	Quote #:	Sales Order #: 9084234
Customer: OXY GRAND JUNCTION EBUSINESS	Customer Rep: Decker, Mike		
Well Name: CC	Well #: 697-16-32	API/UWI #: 05-045-13180	
Field: GRAND VALLEY	City (SAP): PARACHUTE	County/Parish: Garfield	State: Colorado
Lat: N 39.527 deg. OR N 39 deg. 31 min. 37.164 secs.	Long: W 108.217 deg. OR W -109 deg. 47 min. 0.348 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: ERIC CARTER	MBU ID Emp #: 345598	

## Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
BANKS, BRENT A	14	371353	BROWN, TRAVIS A	6	396848	CARTER, ERIC Earl	14	345598
HONE, AARON D	14	381285	JENKINS, DEMON Lashaun	11	457892	SINGLETON, AUSTIN W	6	487406

## Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10783493	120 mile	10822007	120 mile	10951249	120 mile	11164589	120 mile
11360871	120 mile	11542767	120 mile	11710582	120 mile		

## Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
11/29/11	14	6						

**TOTAL** Total is the sum of each column separately

## Job

## Job Times

Formation Name	Formation Depth (MD)	Top	Bottom	Called Out	Date	Time	Time Zone
Form Type			BHST	On Location	29 - Nov - 2011	01:00	MST
Job depth MD	7256. ft		Job Depth TVD	Job Started	29 - Nov - 2011	05:00	MST
Water Depth			Wk Ht Above Floor	Job Completed	29 - Nov - 2011	11:18	MST
Perforation Depth (MD)	From 7,139.00 ft	To 7,140.00 ft	Departed Loc		29 - Nov - 2011	17:32	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.	.	.
BRIDGE PLUG	Unknown			.				7256.	7256.		
Retainer	Unknown							6850.	6850.		
2 3/8" Tubing	Unknown		2.375	1.995	4.6			.	6850.		

Sales/Rental/3<sup>rd</sup> 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													
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				30.00	bbl	8.33	.0	.0	.4			
2	SUPER FLUSH				5.00	bbl	10.	.0	.0	1			
3	FRESH WATER				5.00	bbl	8.33	.0	.0	1.2			
4	Squeeze Cement	SQUEEZECM (TM) SYSTEM (452971)			117.0	sacks	15.5	1.2	5.32	2	5.32		
5.32 Gal		FRESH WATER											
5	Displacement				27.75	bbl	.	.0	.0	2			
Calculated Values		Pressures			Volumes								
Displacement	26.5	Shut In: Instant			Lost Returns			Cement Slurry			25	Pad	
Top Of Cement		5 Min			Cement Returns			Actual Displacement			27.75	Treatment	
Frac Gradient		15 Min			Spacers			Load and Breakdown			Total Job		
Rates													
Circulating		Mixing			Displacement			Avg. Job					
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								

*The Road to Excellence Starts with Safety*

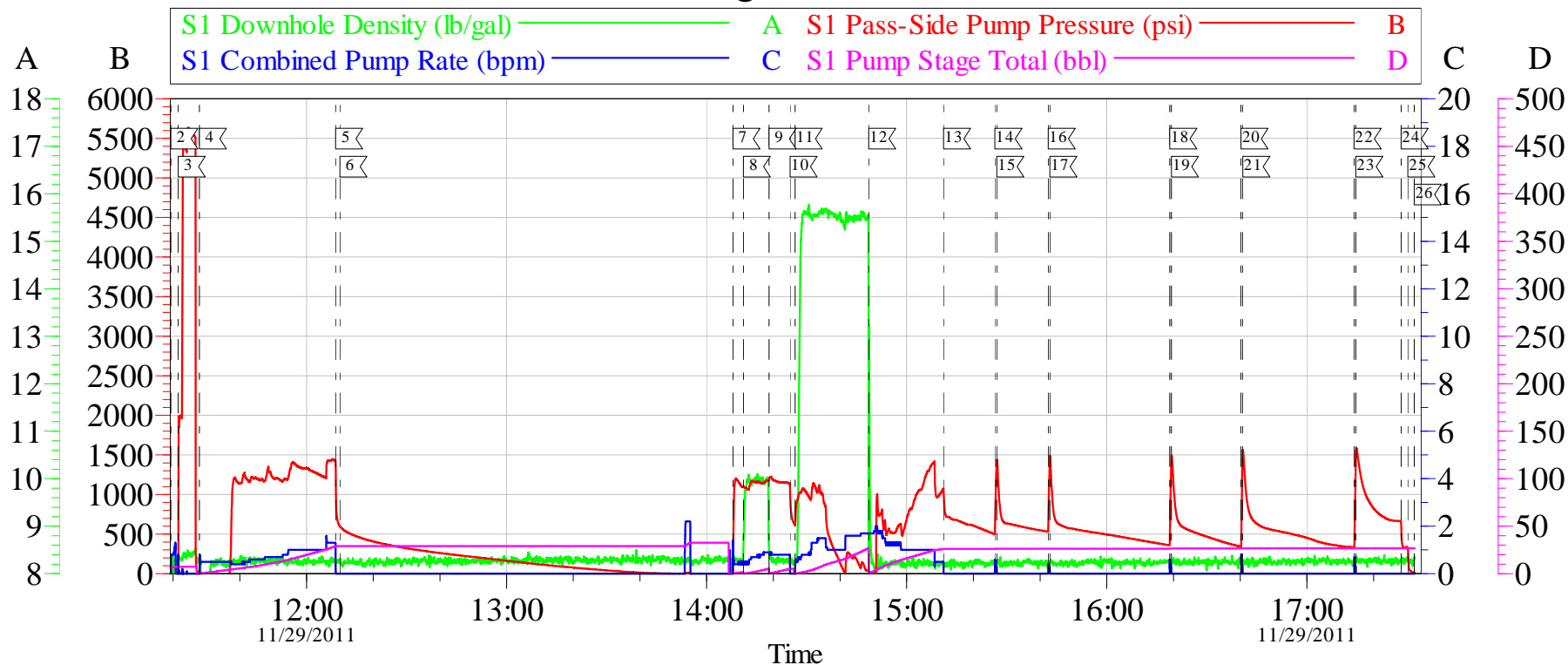
<b>Sold To #:</b> 344034	<b>Ship To #:</b> 2601445	<b>Quote #:</b>	<b>Sales Order #:</b> 9084234
<b>Customer:</b> OXY GRAND JUNCTION EBUSINESS		<b>Customer Rep:</b> Decker, Mike	
<b>Well Name:</b> CC	<b>Well #:</b> 697-16-32	<b>API/UWI #:</b> 05-045-13180	
<b>Field:</b> GRAND VALLEY	<b>City (SAP):</b> PARACHUTE	<b>County/Parish:</b> Garfield	<b>State:</b> Colorado
<b>Legal Description:</b>			
<b>Lat:</b> N 39.527 deg. OR N 39 deg. 31 min. 37.164 secs.		<b>Long:</b> W 108.217 deg. OR W -109 deg. 47 min. 0.348 secs.	
<b>Contractor:</b> Workover		<b>Rig/Platform Name/Num:</b> Workover	
<b>Job Purpose:</b> Squeeze Perfs			<b>Ticket Amount:</b>
<b>Well Type:</b> Development Well		<b>Job Type:</b> Squeeze Perfs	
<b>Sales Person:</b> HIMES, JEFFREY		<b>Srvc Supervisor:</b> ERIC CARTER	<b>MBU ID Emp #:</b> 345598

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	11/29/2011 01:00							
Depart Yard Safety Meeting	11/29/2011 02:50							ATTENDED BY ALL HES CREW
Crew Leave Yard	11/29/2011 03:00							
Arrive At Loc	11/29/2011 05:00							HES ARRIVED EARLY, RIG CREW NOT ON LOCATION
Assessment Of Location Safety Meeting	11/29/2011 06:50							ATTENDED BY ALL HES CREW
Other	11/29/2011 07:00							SPOT EQUIPMENT
Pre-Rig Up Safety Meeting	11/29/2011 07:10							ATTENDED BY ALL HES CREW
Rig-Up Equipment	11/29/2011 07:30							
Post-Job Safety Meeting (Pre Rig-Down)	11/29/2011 10:50							ATTENDED BY ALL HES CREW, RIG CREW AND COMPANY REP, RIG FILLED HOLE WITH 4 BBLS
Start Job	11/29/2011 11:18							TUBING 2.375", 4.7#, CASING 4.5", 11.6#, L- 80, BP 7256', RETAINER 6850', PERFS 7050'
Other	11/29/2011 11:19		0.5	2		.0		FILL LINES
Test Lines	11/29/2011 11:21							PRESSURED UP TO 5490 PSI, PRESSURE HELD
Injection Test	11/29/2011 11:27		1.3	30		1430. 0		FRESH WATER
Shutdown	11/29/2011 12:08							

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
ISIP	11/29/2011 12:10					600.0		
Wait on HES Materials to Arrive - Start Time	11/29/2011 12:10							WAITING FOR SUPER FLUSH TO ARRIVE ON LOCATION
Wait on HES Materials to Arrive - End Time	11/29/2011 13:50							SUPER FLUSH ARRIVED ON LOCATION
Pump Spacer 1	11/29/2011 14:11		0.4	3		1200.0		SUPER FLUSH
Pump Spacer 2	11/29/2011 14:18		1	5		1180.0		FRESH WATER
Pump Spacer 1	11/29/2011 14:18		1.2	5		1220.0		FRESH WATER
Pump Tail Cement	11/29/2011 14:26		2	25		1140.0		117 SKS MIXED AT 15.5 PPG, 1.2 YIELD, 5.32 GL/SK
Pump Displacement	11/29/2011 14:48		2	26.5		1420.0		FRESH WATER
Shutdown	11/29/2011 15:11					500.0		START HESITATION AT COMPANY REPS REQUEST, PRESSURE FELL TO 500 PSI
Resume Squeeze	11/29/2011 15:26		0.4	0.25		1480.0		
Shutdown	11/29/2011 15:27					532.0		PRESSURE FELL TO 532 PSI
Resume Squeeze	11/29/2011 15:42		0.4	0.25		1492.0		
Shutdown	11/29/2011 15:42					370.0		PRESSURE FELL TO 370 PSI
Resume Squeeze	11/29/2011 16:18		0.4	0.25		1490.0		
Shutdown	11/29/2011 16:19					340.0		PRESSURE FELL TO 340 PSI
Resume Squeeze	11/29/2011 16:40		0.4	0.25		1550.0		
Shutdown	11/29/2011 16:40					332.0		PRESSURE FELL TO 332 PSI
Resume Squeeze	11/29/2011 17:14		0.4	0.25		1581.0		
Shutdown	11/29/2011 17:14					667.0		PRESSURE STARTING TO HOLD

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Release Tubing Pressure	11/29/2011 17:28					331.0		RELEASED PRESSURE TO 331 PSI SO RIG COULD STING OUT AT COMPANY REPS REQUEST
Other	11/29/2011 17:30							RIG STING OUT
End Job	11/29/2011 17:32							TOTAL DISPLACEMENT 27.75 BBLS, AT COMPANY REPS REQUEST WELL WAS NOT REVERSE CIRCULATED
Post-Job Safety Meeting (Pre Rig-Down)	11/29/2011 17:35							ATTENDED BY ALL HES CREW
Rig-Down Equipment	11/29/2011 17:40							
Depart Location Safety Meeting	11/29/2011 18:50							ATTENDED BY ALL HES CREW
Crew Leave Location	11/29/2011 19:00							THANK YOU FOR USING HALLIBURTON CEMENT, ERIC CARTER AND CREW.

# OXY/CC 697-16-32 SQUEEZE



## Local Event Log

[2] FILL LINES	11:19:19	[3] TEST LINES	11:21:32	[4] INJECTION TEST	11:27:54
[5] SHUTDOWN	12:08:45	[6] ISIP	12:10:00	[7] PUMP WATER SPACER	14:07:53
[8] PUMP SUPER FLUSH	14:11:00	[9] PUMP WATER SPACER	14:18:42	[10] SHUTDOWN	14:25:02
[11] PUMP TAIL CEMENT	14:26:32	[12] PUMP H2O DISPLACEMENT	14:48:34	[13] SHUTDOWN	15:11:03
[14] RESUME SQUEEZE	15:26:26	[15] SHUTDOWN	15:27:01	[16] RESUME SQUEEZE	15:42:24
[17] SHUTDOWN	15:42:55	[18] RESUME SQUEEZE	16:18:53	[19] SHUTDOWN	16:19:23
[20] RESUME SQUEEZE	16:40:15	[21] SHUTDOWN	16:40:47	[22] RESUME SQUEEZE	17:14:08
[23] SHUTDOWN	17:14:41	[24] RELEASE PRESSURE	17:28:14	[25] RIG STING OUT	17:30:17
[26] END JOB	17:32:12				

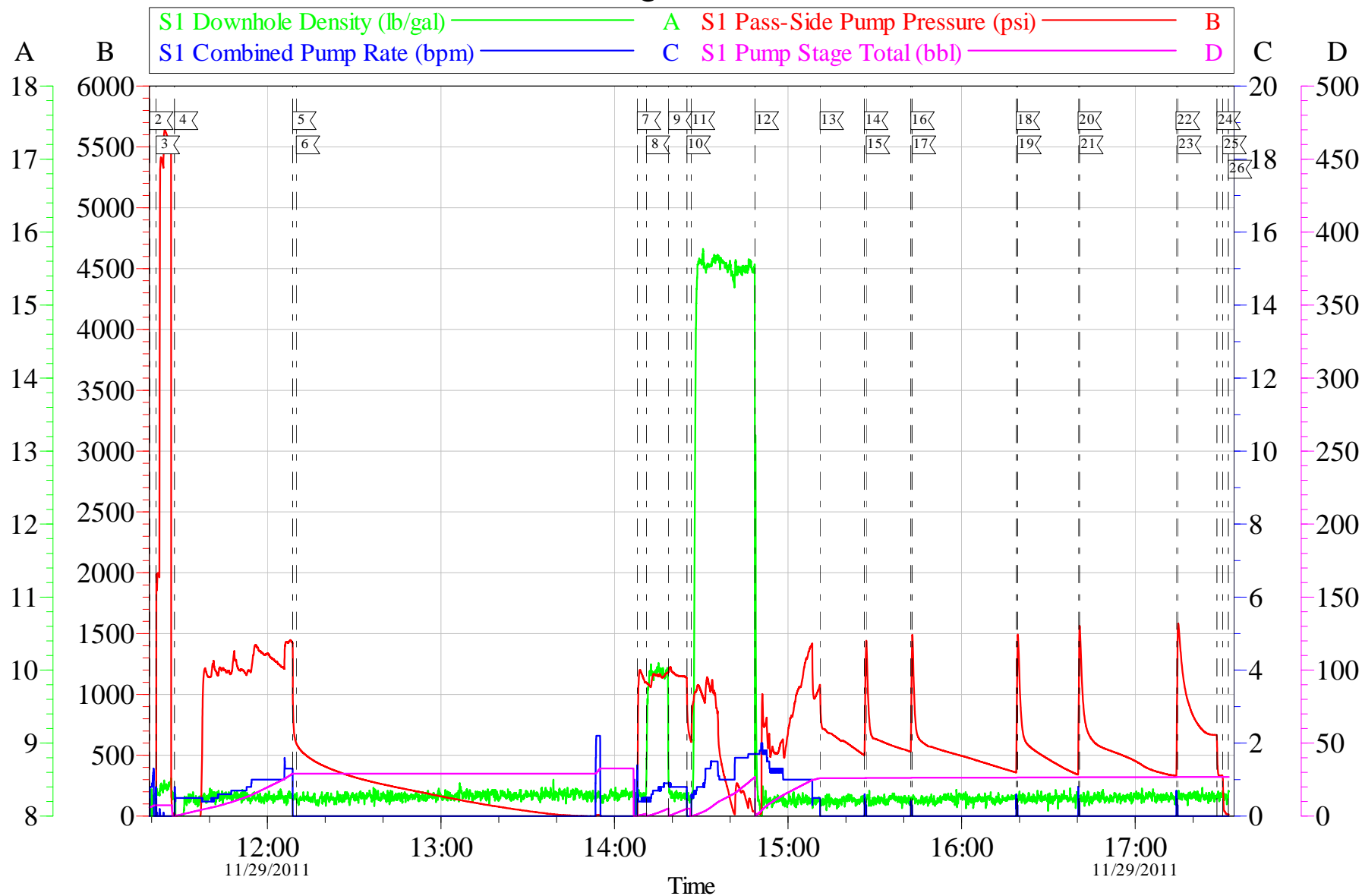
Customer: OXY GRAND JUNCTION EBUSINESS  
Well Description: CC 697-16-32  
Company Rep: MIKE DECKER

Job Date: 29-Nov-2011  
Job Type: SQUEEZE  
Cement Supervisor: ERIC CARTER

Sales Order #: 9084234  
ADC Used: YES  
Elite #/Operator: 1/BRENT BANKS

OptiCem v6.4.0  
29-Nov-11 17:34

# OXY/CC 697-16-32 SQUEEZE



Customer: OXY GRAND JUNCTION EBUSINESS  
Well Description: CC 697-16-32  
Company Rep: MIKE DECKER

Job Date: 29-Nov-2011  
Job Type: SQUEEZE  
Cement Supervisor: ERIC CARTER

Sales Order #: 9084234  
ADC Used: YES  
Elite #/Operator: 1/BRENT BANKS

OptiCem v6.4.0  
29-Nov-11 17:34



# HALLIBURTON

## Water Analysis Report

Company: OXY

Submitted by: ERIC CARTER

Attention: J.Trout

Lease WORKOVER

Well # CC 697 16 32

Date: 11/29/2011

Date Rec.: 11/29/2011

S.O.# 9084234

Job Type: SQUEEZE

Specific Gravity	<i>MAX</i>	<b>1</b>
pH	<i>8</i>	<b>8</b>
Potassium (K)	<i>5000</i>	<b>250</b> Mg / L
Hrdness	<i>500</i>	<b>250</b> Mg / L
Iron (FE2)	<i>300</i>	<b>0</b> Mg / L
Chlorides (Cl)	<i>3000</i>	<b>250</b> Mg / L
Sulfates (SO <sub>4</sub> )	<i>1500</i>	<b>&lt;200</b> Mg / L
Temp	<i>40-80</i>	<b>90</b> Deg
Total Dissolved Solids		<b>620</b> Mg / L

Respectfully: ERIC CARTER

Title: CEMENTING SUPERVISOR

Location: Grand Junction, 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 it

<b>Sales Order #:</b> 9084234	<b>Line Item:</b> 10	
<b>Customer:</b> OXY GRAND JUNCTION EBUSINESS		<b>Job Type (BOM):</b> CMT SQUEEZE PERFORATIONS BOM
<b>Customer Rep./Phone:</b>		<b>API / UWI: (leave blank if unknown)</b> 05-045-13180
<b>Well Name:</b> CC		<b>Well Number:</b> 697-16-32
<b>Well Type:</b> Development Well	<b>Well Country:</b> United States of America	
<b>H2S Present:</b> No	<b>Well State:</b> Colorado	<b>Well County:</b> Garfield

*KEY PERFORMANCE INDICATORS*

General	
<b>Survey Conducted Date</b>	11/28/2011
The date the survey was conducted	

Cementing KPI Survey	
<b>Type of Job</b>	0
Select the type of job. (Cementing or Non-Cementing)	
<b>Select the Maximum Deviation range for this Job</b>	Vertical
What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	
<b>Total Operating Time (hours)</b>	8
Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	
<b>HSE Incident, Accident, Injury</b>	No
HSE Incident, Accident, Injury. This should be recordable incidents only.	
<b>Was the job purpose achieved?</b>	Yes
Was the job delivered correctly as per customer agreed design?	
<b>Operating Hours (Pumping Hours)</b>	6
Total number of hours pumping fluid on this job. Enter in decimal format.	
<b>Customer Non-Productive Rig Time (hrs)</b>	2
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.	
<b>Reason For Non-Productive Rig Time</b>	WAITING ON SUPER FLUSH TO ARRIVE ON LOCATION
Reason For Non-productive Rig Time (Cementing PSL Responsibility)	
<b>Type of Rig Classification Job Was Performed</b>	Drilling Rig (Portable)
Type Of Rig (classification) Job Was Performed On	
<b>Number Of JSAs Performed</b>	5
Number Of Jsas Performed	

<b>Sales Order #:</b> 9084234	<b>Line Item:</b> 10	
<b>Customer:</b> OXY GRAND JUNCTION EBUSINESS		<b>Job Type (BOM):</b> CMT SQUEEZE PERFORATIONS BOM
<b>Customer Rep./Phone:</b>		<b>API / UWI: (leave blank if unknown)</b> 05-045-13180
<b>Well Name:</b> CC		<b>Well Number:</b> 697-16-32
<b>Well Type:</b> Development Well	<b>Well Country:</b> United States of America	
<b>H2S Present:</b> No	<b>Well State:</b> Colorado	<b>Well County:</b> Garfield

<b>Number of Unplanned Shutdowns</b> Unplanned shutdown is when injection stops for any period of time.	0
<b>Was this a Primary Cement Job (Yes / No)</b> Primary Cement Job= Casing job, Liner job, or Tie-back job.	No
<b>Was this a Plug or a Squeeze Job?</b> Please select the appropriate choice	No
<b>Was this a Primary or a Remedial Job?</b> Kick off plug, Plug to Abandon, LCM plug or Planned Liner Top Squeeze, Squeeze of existing perforations, Squeeze of casing leak	No
<b>Mixing Density of Job Stayed in Designed Density Range (0-100%)</b> Density Range defined as +/- .20 ppg. Calculation: Total BBLs cement mixed at designed density divided by total BBLs of cement multiplied by 100	95
<b>Was Automated Density Control Used?</b> Was Automated Density Control (ADC) Used ?	Yes
<b>Pump Rate (percent) of Job Stayed At Designed Pump Rate</b> 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
<b>Nbr of Remedial Sqz Jobs Rqd - Competition</b> Number Of Remedial Squeeze Jobs Required After Primary Job Performed By Competition	0
<b>Nbr of Remedial Plug Jobs Rqd - HES</b> Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES	0
<b>Nbr of Remedial Sqz Jobs Rqd - HES</b> Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES	0