
OXY GRAND JUNCTION EBUSINESS

**Cascade Creek 697-16-05
GRAND VALLEY
Garfield County , Colorado**

**Squeeze Perfs
10-Nov-2011**

Job Site Documents

The Road to Excellence Starts with Safety

Sold To #: 344034	Ship To #: 2698452	Quote #:	Sales Order #: 9052002
Customer: OXY GRAND JUNCTION EBUSINESS		Customer Rep: McKinney, Ken	
Well Name: Cascade Creek		Well #: 697-16-05	API/UWI #: 05045160170000
Field: GRAND VALLEY	City (SAP): PARACHUTE	County/Parish: Garfield	State: Colorado
Legal Description: Section 9 Township 6S Range 97W			
Lat: N 39.531 deg. OR N 39 deg. 31 min. 51.956 secs.		Long: W 108.223 deg. OR W -109 deg. 46 min. 35.731 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: ARNOLD, EDWARD	MBU ID Emp #: 439784

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
ARNOLD, EDWARD John	6.5	439784	FINK, JOHN David	6.5	476032	MILLER, KEVIN Paul	6.5	443040
MILLER II, MATTHEW Reginald	6.5	425164	WOLFE, JON P	6.5	485217			

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10248065	120 mile	11360871	120 mile	11542767	120 mile	11583915	120 mile
11583933	120 mile						

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
11.10.11	6.5	6.5						

TOTAL Total is the sum of each column separately

Job

Job Times

Formation Name	Top	Bottom	Called Out	Date	Time	Time Zone
Formation Depth (MD)			On Location	10 - Nov - 2011	07:00	MST
Form Type	BHST		Job Started	10 - Nov - 2011	10:11	MST
Job depth MD	43910. ft	Job Depth TVD 4391. ft	Job Completed	10 - Nov - 2011	12:41	MST
Water Depth		Wk Ht Above Floor 3. ft	Departed Loc	10 - Nov - 2011	15:39	MST
Perforation Depth (MD)	<i>From</i> 7,139.00 ft	<i>To</i> 7,140.00 ft				

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
Perforation Interval								7139.	7140.	.	.
4 1/2" Production Casing	Unknown		4.5	4.	11.6		N-80	.	7350.		
2 3/8" Tubing	Unknown		2.375	1.995	4.7		L-80	.	7350.		

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											
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					bbl	8.33	.0	.0	4.5	
2	Squeeze Cement	SQUEEZECEM (TM) SYSTEM (452971)				sacks	15.8	1.52	6.2	1	6.2
	6.2 Gal	FRESH WATER									
3	Fresh Water					bbl	8.33			1	
4	Displacement					bbl	.	.0	.0	1	
Calculated Values			Pressures			Volumes					
Displacement	13.5	Shut In: Instant				Lost Returns		Cement Slurry		11	Pad
Top Of Cement		5 Min				Cement Returns	5	Actual Displacement		13.5	Treatment
Frac Gradient		15 Min				Spacers	41.5	Load and Breakdown			Total Job 66
Rates											
Circulating		Mixing		1	Displacement		1	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						

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Legal Description: Section 9 Township 6S Range 97W			
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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: ARNOLD, EDWARD	MBU ID Emp #: 439784

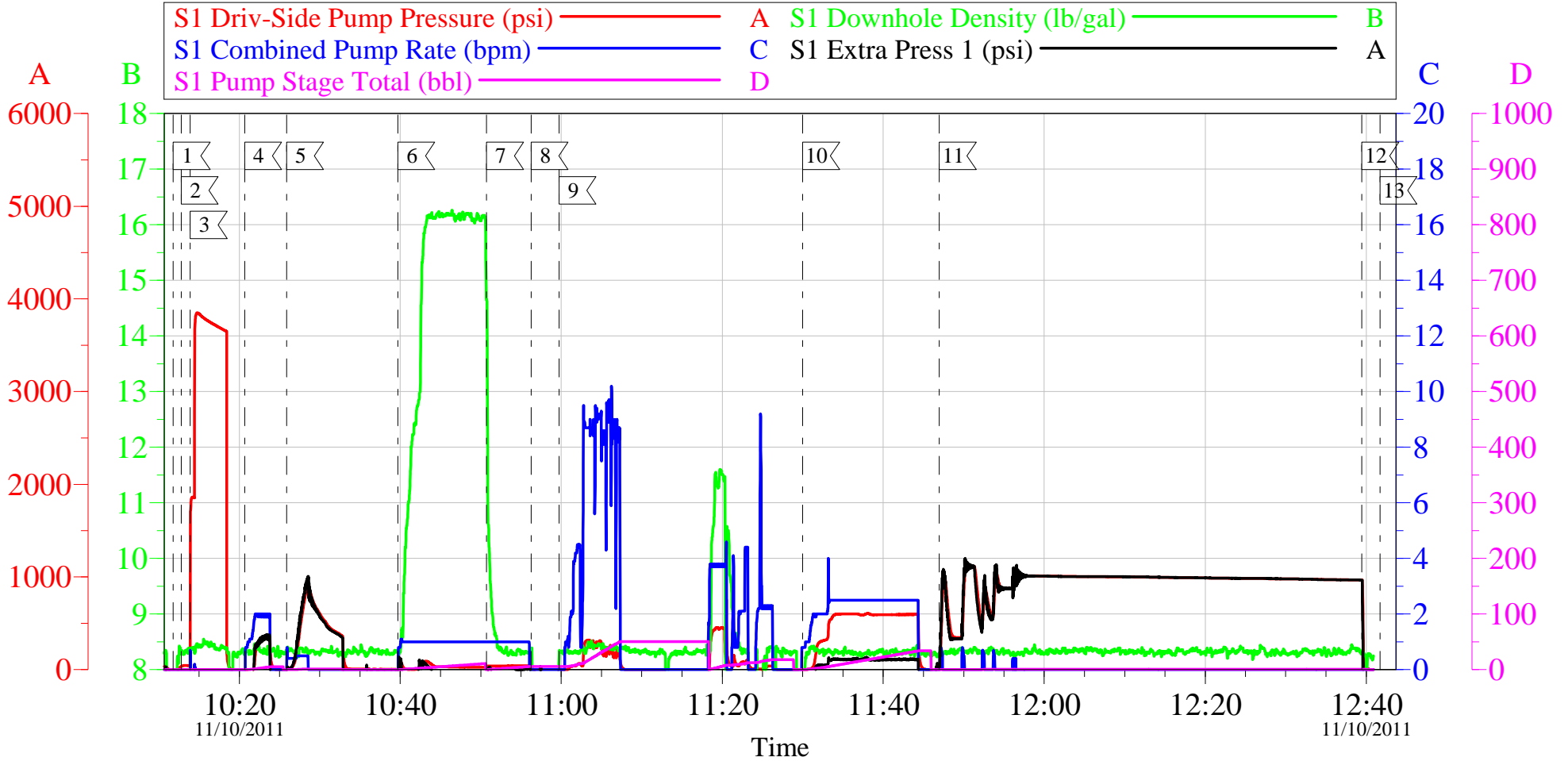
Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	11/10/2011 01:00							
Pre-Convoy Safety Meeting	11/10/2011 02:45							Including entire cement crew.
Crew Leave Yard	11/10/2011 03:00							
Arrive At Loc	11/10/2011 07:00							
Assessment Of Location Safety Meeting	11/10/2011 07:05							Water; PH7 ; KCL450 ; So4<200 ; Fe 0; Calcium 50; Chlorides 0; Temp 34; TDS 230.
Pre-Rig Up Safety Meeting	11/10/2011 07:30							Including entire cement crew.
Rig-Up Equipment	11/10/2011 07:45							1 Elite # 1; 400 bulk truck; 1 hard line to manifold; 1 hard line to floor; 1 hard line to back side; 1 hard line to pit; 1 line to upright; 1 line to rig tank.
Rig-Up Completed	11/10/2011 09:50							An external transducer was installed on the wellhead so pressure could be monitored at the shut in wellhead. This enabled us to wash up the pump while waiting on cement.
Pre-Job Safety Meeting	11/10/2011 10:00							Including everyone on location.
Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	

Start Job	11/10/2011 10:11							Tubing 4391 2.875" 4.7#; 7350 Casing 4.5" 11.6#; Leak at 4383 ; Well fluid 8.35 ppg; Used squeeze manifold, did not use rotary sub, 4th DOT charge for Service Leader pickup. Used 80 lbs of sugar in frac tank, no derrick charge.
Pump Water	11/10/2011 10:12		0	2			40.0	Fill lines with fresh water.
Test Lines	11/10/2011 10:13						3850.0	Good pressure test, no leaks. pressure tested front and backside at the same time.
Other	11/10/2011 10:20		4.5	5			349.0	Opened backside, Filled the Well With Water. Got returns from backside to frac tank at 4.5 bbls away. Then shut in backside for injection test.
Injection Test	11/10/2011 10:25		0.5	1			707.0	1 BBL fresh water injection test., saw 1000psi @ .5 bbl/min. Shut down to mix up tub, opened backside in order to spot plug.
Pump Cement	11/10/2011 10:39		1	11			24.0	50 sks Cement, 15.8 ppg, 1.52 cf3, 6.2 gal/sk. Customer only wanted to use the eleven BBls of cement pumped. So 2.5 BBL of cement was pumped to the pit after the job.
Pump Displacement	11/10/2011 10:50		1	13.5			45.0	Fresh water displacement. Shut down half a bbl early of calculated, opened release and well was on a suck for approx 3 seconds. Chart does not reflect 13.5 bbls displaced due to cmt turning the corner and sucking displacement faster than we were pumping.
Activity Description	Date/Time	Cht	Rate bbl/ min	Volume bbl			Pressure psig	Comments

		#		Stage	Total	Tubing	Casing	
Shutdown	11/10/2011 10:56							Rigged pulled stands at rate of one stand per minute up to 3400' to get to 200' above plug prior to reversing out.
Reverse Circ Well	11/10/2011 11:29		2.5	34			594.0	Reversed out 34 BBL's, 5 BBL of cement back. Then shut in the backside to squeeze on the plug.
Pressure Up Well	11/10/2011 11:46			0.7			1000.0	Pressured up the well a total of 5 times in order to get it to lock up and hold at 1000psi. Used a total of .7 bbls to pressure up.
Other	11/10/2011 12:39							Cement squeezed off at 1000psi. It was held for 40 mins and then the Customer Rep released crew. Pressure released. The rig tripped out of the hole and locked in 1000 psi for the night.
End Job	11/10/2011 12:41							
Pre-Rig Down Safety Meeting	11/10/2011 13:00							Including entire cement crew.
Rig-Down Equipment	11/10/2011 13:30							
Rig-Down Completed	11/10/2011 14:30							
Pre-Convoy Safety Meeting	11/10/2011 15:00							Including entire cement crew.
Crew Leave Location	11/10/2011 15:30							Crew leave location for Service Center or another location.
Other	11/10/2011 15:30							Thank You for using Halliburton. Ed Arnold and Crew.

OXY CC 697-16-05

Squeeze

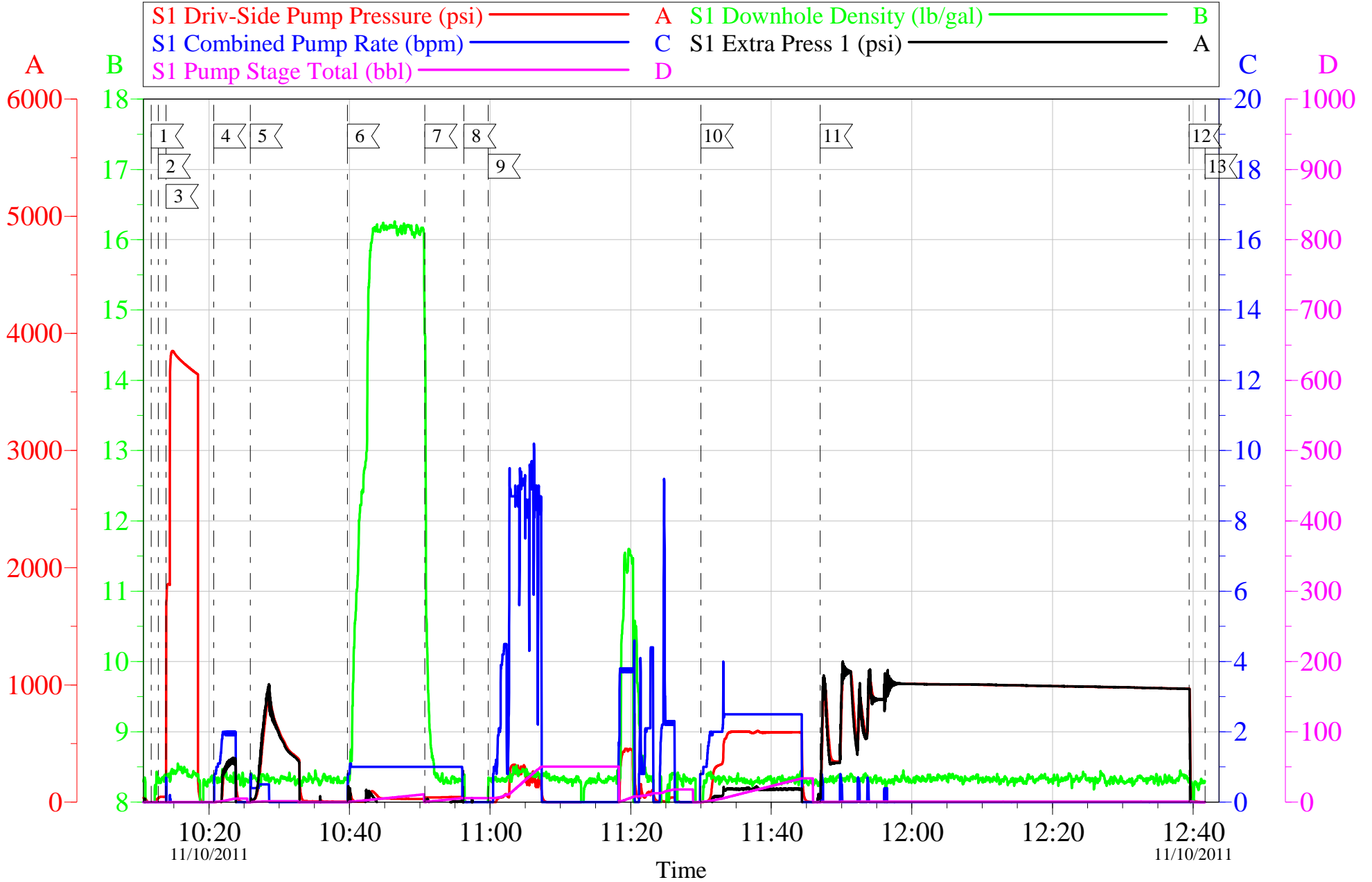


Local Event Log								
1	Start Job	10:11:48	2	Fill Lines	10:12:48	3	Test Lines	10:13:54
4	Fill Well	10:20:40	5	Injection Rate	10:25:53	6	Pump Cement	10:39:43
7	Pump Displacement	10:50:44	8	Check Plug	10:56:16	9	Clean Truck	10:59:44
10	Reverse Out	11:29:59	11	Start Squeeze	11:46:58	12	Cement Squeezed off	12:39:27
13	End Job	12:41:42						

Customer:	Job Date:	10-Nov-2011	Sales Order #:	9052002
Well Description:	Job Type:		ADC Used:	
Company Rep:	Cement Supervisor:		Elite #1:	

OXY CC 697-16-05

Squeeze



Customer:	Job Date: 10-Nov-2011	Sales Order #: 9052002
Well Description:	Job Type:	ADC Used:
Company Rep:	Cement Supervisor:	Elite #1:

HALLIBURTON

Water Analysis Report

Company:	<u>Oxy</u>	Date:	<u>11/10/2011</u>
Submitted by:	<u>ED ARNOLD</u>	Date Rec.:	<u>11/10/2011</u>
Attention:	<u>J.TROUT</u>	S.O.#	<u>9052002</u>
Lease	<u>CC</u>	Job Type:	<u>Squeeze</u>
Well #	<u>697-16-05</u>		

Specific Gravity	<i>MAX</i>	1
pH	<i>8</i>	7
Potassium (K)	<i>5000</i>	450 Mg / L
Calcium (Ca)	<i>500</i>	120 Mg / L
Iron (FE2)	<i>300</i>	0 Mg / L
Chlorides (Cl)	<i>3000</i>	0 Mg / L
Sulfates (SO ₄)	<i>1500</i>	<200 Mg / L
Chlorine (Cl ₂)		0 Mg / L
Temp	<i>40-80</i>	34 Deg
Total Dissolved Solids		240 Mg / L

Respectfully: ED ARNOLD

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 its use

Sales Order #: 9052002	Line Item: 10	Survey Conducted Date: 11/10/2011
Customer: OXY GRAND JUNCTION EBUSINESS		Job Type (BOM): CMT SQUEEZE PERFORATIONS BOM
Customer Representative:		API / UWI: (leave blank if unknown) 05045160170000
Well Name: Cascade Creek		Well Number: 697-16-05
Well Type: Development Well	Well Country: United States of America	
H2S Present: No	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	11/10/2011
Survey Interviewer	The survey interviewer is the person who initiated the survey.	EDWARD ARNOLD (HX46731)
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 #: 9052002	Line Item: 10	Survey Conducted Date: 11/10/2011
Customer: OXY GRAND JUNCTION EBUSINESS		Job Type (BOM): CMT SQUEEZE PERFORATIONS BOM
Customer Representative:		API / UWI: (leave blank if unknown) 05045160170000
Well Name: Cascade Creek		Well Number: 697-16-05
Well Type: Development Well	Well Country: United States of America	
H2S Present: No	Well State: Colorado	Well County: Garfield

KEY PERFORMANCE INDICATORS

General	
Survey Conducted Date	11/10/2011
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)	6.5
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)	3.5
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	Workover
Type Of Rig (classification) Job Was Performed On	
Number Of JSAs Performed	5
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)	No

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Customer Representative:		API / UWI: (leave blank if unknown) 05045160170000
Well Name: Cascade Creek		Well Number: 697-16-05
Well Type: Development Well	Well Country: United States of America	
H2S Present: No	Well State: Colorado	Well County: 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 Abandon, LCM plug or Planned 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 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	99
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