



02577975



Page 1

State of Colorado

Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 601, Denver, Colorado 80203 Phone: (303)894-2100 Fax: (303)894-2109

SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form). Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)



RECEIVED

JUN 06 2012

COGCC/Rifle Office

1. OGCC Operator Number: 100185	4. Contact Name: Bonnie Lamond	Complete the Attachment Checklist
2. Name of Operator: Encana Oil & Gas (USA) Inc.	Phone: 720.876.5155	
3. Address: 370 17th Street Suite 1700	Fax: 720.876.6177	OP OGCC
City: Denver State: CO Zip 80202		
5. API Number: 05-045-20385	OGCC Facility ID Number: 421390	Survey Plat
6. Well/Facility Name: Twin Creek	7. Well/Facility Number: 12-5A2 (F12E)	Directional Survey
8. Location (Qtr/Ctr, Sec, Twp, Rng, Meridian): SENW Sec 12, T7S, R92W	6 P.M.	Surface Egmt Diagram
9. County: Garfield	10. Field Name: Mamm Creek	Technical Info Page
11. Federal, Indian or State Lease Number: COC55972E		Other

General Notice

<input type="checkbox"/> CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)	
Change of Surface Footage from Exterior Section Lines:	<input type="checkbox"/> FNU/FIL <input type="checkbox"/> FEL/PWL
Change of Surface Footage to Exterior Section Lines:	<input type="checkbox"/>
Change of Bottomhole Footage from Exterior Section Lines:	<input type="checkbox"/>
Change of Bottomhole Footage to Exterior Section Lines:	<input type="checkbox"/>
Bottomhole location Qtr/Ctr, Sec, Twp, Rng, Mer	
Latitude	Distance to nearest property line
Longitude	Distance to nearest bldg, public rd, utility or RR
Ground Elevation	Distance to nearest lease line
	Is location in a High Density Area (rule 603b)? Yes/No
	Distance to nearest well same formation
	Surface owner consultation date:
GPS DATA:	
Date of Measurement	PDOP Reading
	Instrument Operator's Name
<input type="checkbox"/> CHANGE SPACING UNIT	<input type="checkbox"/> Remove from surface bond
Formation	Formation Code
Spacing order number	Unit Acreage
	Unit configuration
<input type="checkbox"/> CHANGE OF OPERATOR (prior to drilling):	<input type="checkbox"/> CHANGE WELL NAME
Effective Date:	From:
Plugging Bond: <input type="checkbox"/> Blanket <input type="checkbox"/> Individual	To:
	Effective Date:
<input type="checkbox"/> ABANDONED LOCATION:	<input type="checkbox"/> NOTICE OF CONTINUED SHUT IN STATUS
Was location ever built? <input type="checkbox"/> Yes <input type="checkbox"/> No	Date well shut in or temporarily abandoned:
Is site ready for inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No	Has Production Equipment been removed from site? <input type="checkbox"/> Yes <input type="checkbox"/> No
Date Ready for inspection:	MIT required if shut in longer than two years. Date of last MIT
<input type="checkbox"/> SPUD DATE:	<input type="checkbox"/> REQUEST FOR CONFIDENTIAL STATUS (if note from date casing set)
<input type="checkbox"/> SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK	*submit cbl and cement job summaries
Method used	Cementing tool setting/depth
	Cement volume
	Cement top
	Cement bottom
	Date
<input type="checkbox"/> RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.	
Final reclamation will commence on approximately	<input type="checkbox"/> Final reclamation is completed and site is ready for inspection.

Technical Engineering/Environmental Notice

<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Report of Work Done
Approximate Start Date: As soon as approved	Date Work Completed:
Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)	
<input type="checkbox"/> Intent to Recomplete (submit form 2)	<input type="checkbox"/> Request to Vent or Flare
<input type="checkbox"/> Change Drilling Plans	<input type="checkbox"/> Repair Well
<input type="checkbox"/> Gross Interval Changed?	<input type="checkbox"/> Rule 502 variance requested
<input type="checkbox"/> Casing/Cementing Program Change	<input checked="" type="checkbox"/> Other: Request to Complete Mamm Creek Well
	<input type="checkbox"/> E&P Waste Disposal
	<input type="checkbox"/> Beneficial Reuse of E&P Waste
	<input type="checkbox"/> Status Update/Change of Remediation Plans for Spills and Releases

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: Bonnie Lamond Date: 6/6/12 Email: bonnie.lamond@encana.com

Print Name: Bonnie Lamond Title: Permitting Technician

COGCC Approved: Kai J. Kij Title: PE I Date: JUN 08 2012

CONDITIONS OF APPROVAL, IF ANY



TECHNICAL INFORMATION PAGE



1. OGCC Operator Number:	100185	API Number:	05- 045-20385
2. Name of Operator:	Encana Oil & Gas (USA) Inc.	OGCC Facility ID #	421390
3. Well/Facility Name:	Twin Creek	Well/Facility Number:	12-5A2 (F12E)
4. Location (QtrQtr, Sec, Twp, Rng, Meridian):	SENW Sec 12, T7S, R92W		6 P.M.

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. DESCRIBE PROPOSED OR COMPLETED OPERATIONS

The above referenced well has been successfully cemented according to the approved plan and summary of bradenhead monitoring completed.

FM TOPS Molina: 142'
FM TOPS Atwell Gulch: 590'
Mudlog TOG based on 2500 units: See attachment

Encana Oil & Gas (USA) Inc. requests approval to commence completions.

Attachments:

Cement Tickets
Wellbore Diagram with FIT
Bradenhead Pressure Report
CBL
Cement Proposals

Engineer Contact Information:

Ryan MiGilvery
Completion Engineer
370 17th. Street, Suite 1700
Denver, CO 80202
720-876-3681

or

Craig Miley
Completion Engineer
370 17th. Street, Suite 1700
Denver, CO 80202
720-876-5396

Well:	Twin Creek 12-5A2
Pad:	F12E
API No:	05-045-20385-00
Permit No:	400067561

Bradenhead Pressure Report Following Primary Cement Job

Date Cemented:	2.20.12
Plug Bumped:	Yes

Annular Fluid Level After Job (Static or Falling?):	Static	
If falling, barrels of mud added until stabilized:	n/a	barrels

WOC Time:	12 hrs
Bond Log Run:	2.21.12

Casing Slips Set:	yes
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Bradenhead Pressures

6 hrs:	0	psig
12 hrs:	0	psig
24 hrs:	0	psig
48 hrs:	0	psig
72 hrs:	0	psig

Comments

S.C. TOC - Surface
P.C. TOC - 2180'

Twin Creek 12-5A2 (F12E)

Permit Estimated Formation Tops (MD / TVD)	Casing & Hole size	Actual Conditions (MD / TVD)
16" Conductor @ 40' Cement to surface with 5 yds redi-mix		16" Conductor @ 40' Cement to surface with 5 yds redi-mix
WasatchSurface / Surface		WasatchSurface/ Surface
12-1/4" Surface Hole		12-1/4" Surface Hole
Surface Casing1135 / 1100 9-5/8" 36# J/K55 Cement to surface with: Tail: 547 sx, 15.8, Class G, 1.17 ft³/sk Total: 547 sx (volume includes 80% excess)		Surface Casing# 1149 / 1107 9-5/8" Cemented to surface with 547 sx, 15.8 ppg Class G, 1.16 ft³/sk
7-7/8" Production Hole		7-7/8" Production Hole
Mesa Verde2539 / 2377		Mesa Verde2501 / 2329
Williams Fork3204 / 2982		Williams Fork3110 / 2888
TOC requirement 500ft above TOG		Prod TOC from CBL2170 / 2025
Top of Gas3873 / 3612		Top of Gas3946 / 3689
Coal Ridge5579 / 5317		Coal Ridgeno pick/ no pick
Rollins6304 / 6042		Rollinsno pick/ no pick
Permit TD6604 / 6342		Actual TD5765 / 5506
Production casing6604 / 6342 4-1/2" 11.6# 80 grade Cement with: Lead: 83 sx, 12 TXI, 1.79 ft³/sk Tail: 566 sx, 13 TXI, 1.43 ft³/sk Total: 648 sx (volume includes 30% excess)		Production casing5748 / 5489 4-1/2" Cemented with Tail 1641 sx, 14.0 ppg TXI, 1.21 ft³/sk

Well Name	Well Number	ELEV_KB (TVDSS)	MOLINA (MD)	ATWELL GULCH (MD)	MSVRD (MD)	WLLMS_FRK (MD)	TOP_GAS_CONTINUOUS (MD)	COAL_RIDGE (MD)	TOP_GAS_2500 UNITS
Twin Creek	12-5A1	6167	107	546	2405	3004	3956	5425	N/A
Twin Creek	12-3D1	6167	169	632	2749	3448	4265	5847	5523' MD
Twin Creek	12-5D1	6167	88	514	2355	2948	3756	5334	N/A
Twin Creek	12-6D1	6167	100	527	2309	2889	3791	5298	N/A
Twin Creek	12-6C1	6167	62	464	2262	2802	3661	5185	N/A
Twin Creek	12-4D1	6167	177	635	2754	3505	4208	5823	*See note below (4133' MD)
Twin Creek	12-3D2	6167	149	601	2630	3302	4087	5692	**See note below (3984' MD)
Twin Creek	12-4A1	6167	219	684	3194	3867	4602	6044	N/A
Twin Creek	12-6A1	6167	118	557	2557	3180	3964	5536	3866' MD (2484' TVDSS)
Twin Creek	12-5A2	6167	142	590	2501	3097	3934	5561	*See note below (3940' MD)

Well Name	Well Number	TOP_GAS_2500 UNITS
Twin Creek	12-5A1	N/A
Twin Creek	12-3D1	5523' MD
Twin Creek	12-5D1	N/A
Twin Creek	12-6D1	N/A
Twin Creek	12-6C1	N/A
Twin Creek	12-4D1	*See note below (4133' MD)
Twin Creek	12-3D2	**See note below (3984' MD)
Twin Creek	12-4A1	N/A
Twin Creek	12-6A1	3866' MD (2484' TVDSS)
Twin Creek	12-5A2	*See note below (3940' MD)

Numbers are measured depth (MD) unless otherwise marked

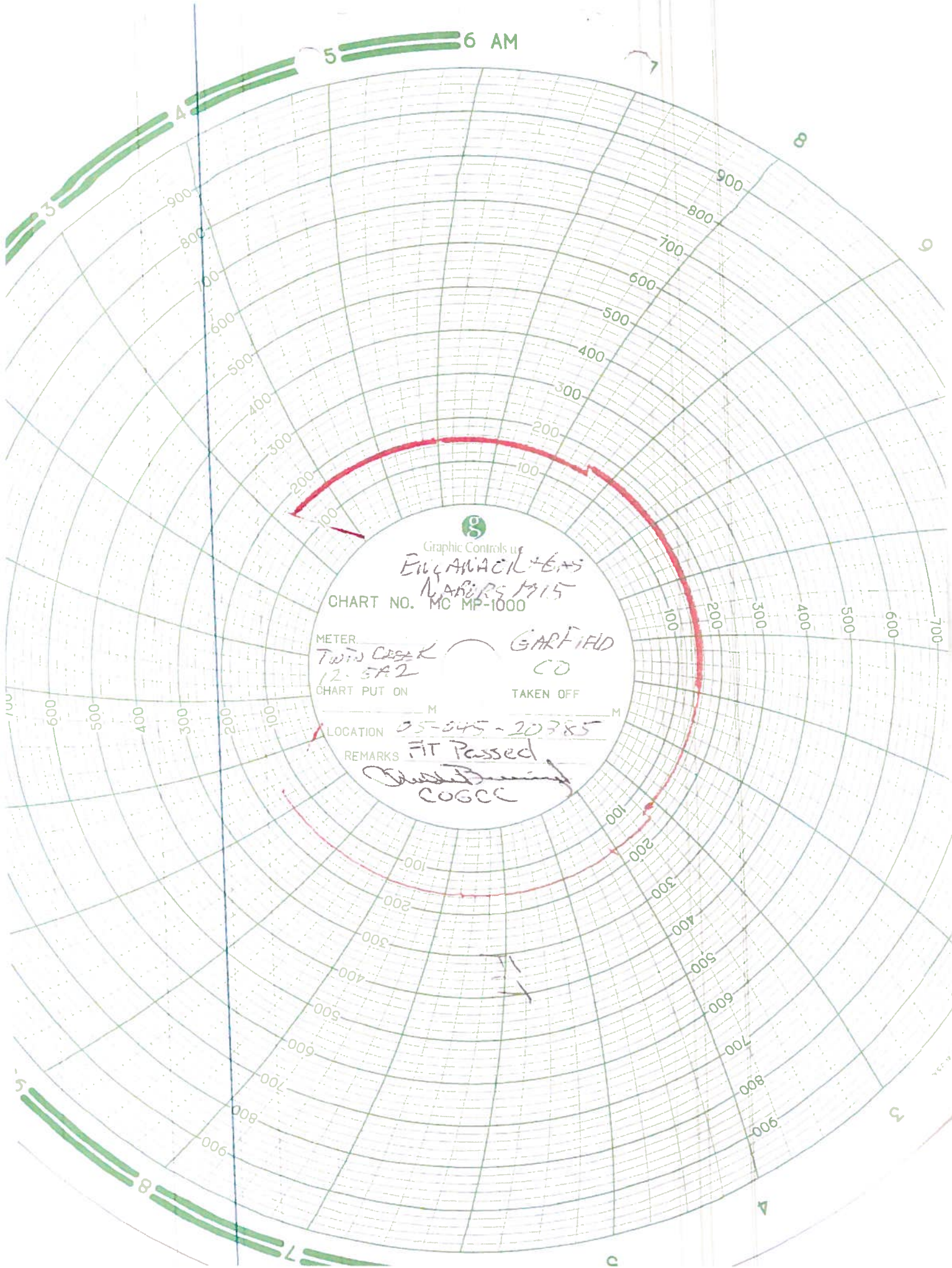
TOP_GAS_2500_UNITS- top marking shallowest occurrence of 2500 units of total gas from total gas curve collected during drilling of well.

N/A- Notation used when no point within well had >2500 units of total gas.

* Total gas curve data poor quality or data collection issue for well. As neighbouring 7 wells with quality data had "TOP_GAS_2500_UNITS" top deeper than 2484' TVDSS this TVDSS was used for these 2 wells to calculate corresponding MD. This MD in each well is a safe estimate where ECA is highly confident TOP_GAS_2500_UNITS would fall below; especially given fact that many wells on this pad did not reach 2500 units at any point in drilling.

** Total gas curve had spikes at 2497', 2747', and 5395' that are believed to be false readings. First, all other depths on this gas curve had a range of 0 to 1300 total gas units. Regarding false spikes at 2497' and 2747', none of the 7 wells on this pad with quality total gas data had total gas readings above 2500 units at this stratigraphic interval or above. In fact, no readings above 2500 units are found in these 7 wells in the 1200' below this stratigraphic horizon.

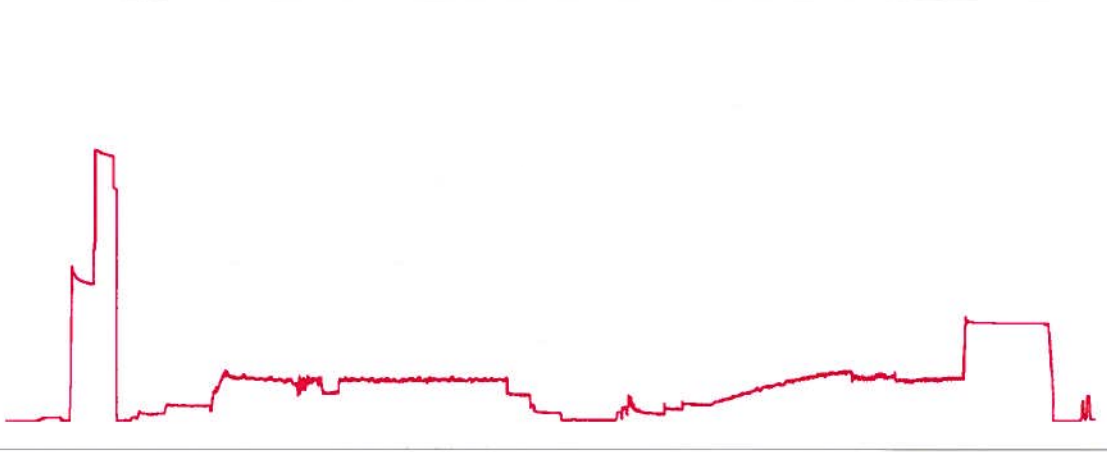
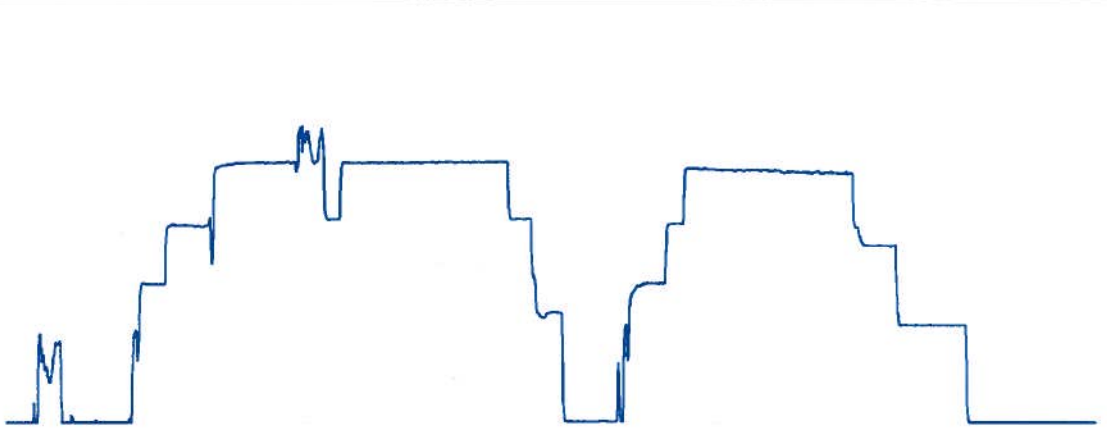

Analysis by: Matthew Boyce, Geologist, South Piceance Team, Encana Oil and Gas (USA) Inc., 370 17th Street, Suite 170C



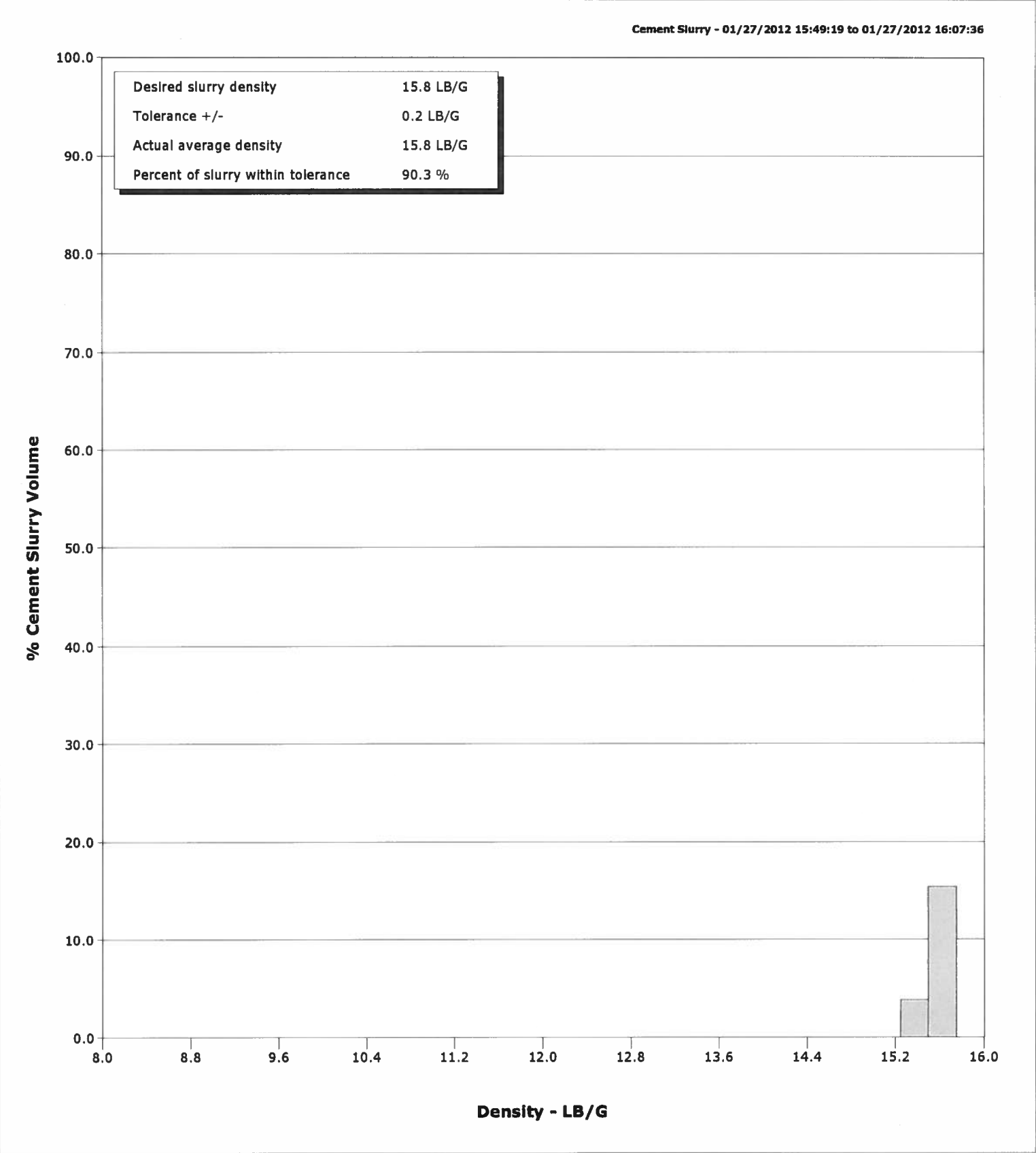
6 AM

Graphic Controls Inc.
EUGENACIL-ERS
NABERS 1915
CHART NO. MC MP-1000
METER: TWIN CASK 12-5A2 GARFIELD CO
CHART PUT ON TAKEN OFF
LOCATION 05-045-20785
REMARKS FIT Passed
D. B. B. B.
COGCC

Well	Twin Creek 12-5D2			Client	EnCana
Field	Mamm Creek			SIR No.	C0BA-00075
Engineer	Ryan Bowditch			Job Type	9 5/8" Surface Casing
Country	United States			Job Date	01-27-2012

Time	Pressure	Rate	Density	Messages
01/27/2012 15:37:08				
15:37:08				Start Job
15:42:00				Held Safety Meeting
15:47:00				Rig Up Per Standard
15:52:00				Verified Flow Rates
15:57:00				2 bbls Water Ahead
16:02:00				Pressure Test Lines
16:07:00				500 psi Pressure Test
16:12:00				Pressure Test = Good
16:17:00				Pressure Test Lines
16:22:00				3000 psi Pressure Test
16:27:00				Pressure Test = Good
16:36:13				Start Pumping Water
16:36:13				20 bbls Water
16:36:13				Good Returns
16:36:13				End Water
16:36:13				Reset Total, Vol = 21.32 bbl
16:36:13				Took Dry Sample (007914)
16:36:13				Start Cement Slurry
16:36:13				Start Mixing Tail Slurry
16:36:13				113 bbls Tail Slurry
16:36:13				Tail @ 15.8 ppq
16:36:13				Took Dry Sample (008005)
16:36:13				Took Wet Sample
16:36:13				Mud Scale = 15.9 ppq
16:36:13				Good Returns
16:36:13				End Tail Slurry
16:36:13				End Cement Slurry
16:36:13				Reset Total, Vol = 115.43 bbl
16:36:13				Drop Top Plug
16:36:13				Start Displacement
16:36:13				Table Tail Disappeared
16:36:13				85 bbls Displacement
16:36:13				Good Returns
16:36:13				Good Cement to Surface
16:36:13				35 bbls Cement to Surface
16:36:13				Final Circulating Pressure = 500 psi
16:36:13				Bump Plug to 1200 psi
16:36:13				Bump Top Plug
16:36:13				End Displacement
16:36:13				Floets Held
16:36:13				1/2 bbl Bled Back
hh:mm:ss				
01/27/2012 16:36:13				

Well	Twin Creek 12-5D2	Client	EnCana
Field	Mamm Creek	SIR No.	C0BA-00075
Engineer	Ryan Bowditch	Job Type	9 5/8" Surface Casing
Country	United States	Job Date	01-27-2012



Schlumberger

Cementing Service Report

					Customer EnCana			Job Number COBA-00075										
Well Twin Creek 12-5D2				Location (legal)			Schlumberger Location Grand Junction, CO			Job Start Jan/27/2012								
Field Mamm Creek			Formation Name/Type Shale			Deviation 10 deg		Bit Size 12.3 in		Well MD 1152.0 ft		Well TVD 1152.0 ft						
County Garfield			State/Province Colorado			BHP psi		BHST 100 degF		BHCT 81 degF		Pore Press. Gradient lb/gal						
Well Master			API/UWI															
Rig Name Nabors M15		Drilled For Gas		Service Via Land		Casing/Liner												
						Depth, ft		Size, in		Weight, lb/ft		Grade		Thread				
Offshore Zone		Well Class New		Well Type Development		40.0		16.0		65.0								
						1152.0		9.6		36.0		K55		8RD				
Drilling Fluid Type			Max. Density lb/gal		Plastic Viscosity cP		Tubing/Drill Pipe											
							T/D		Depth, ft		Size, in		Weight, lb/ft		Grade		Thread	
Service Line Cementing			Job Type 9 5/8" Surface Casing															
Max. Allowed Tub. Press 3000 psi			Max. Allowed Ann. Press 1500 psi		WH Connection Single Cement head		Perforations/Open Hole											
							Top, ft		Bottom, ft		shot/ft		No. of Shots		Total Interval ft			
Service Instructions Cement 9 5/8" Surface Casing with: 20 bbls Water 113 bbls 15.8 ppg Cement (547 sks @ 1.16 cft/sk) 85 bbls Water Displacement							ft		ft						Diameter in			
							ft		ft									
							ft		ft									
			Treat Down Casing		Displacement 85.4 bbl		Packer Type		Packer Depth ft									
			Tubing Vol. bbl		Casing Vol. 89.1 bbl		Annular Vol. 67.0 bbl		Openhole Vol. 160.0 bbl									
Casing/Tubing Secured <input checked="" type="checkbox"/>			1 Hole Vol. Circulated prior to Cement <input checked="" type="checkbox"/>			Casing Tools				Squeeze Job								
Lift Pressure 500 psi						Shoe Type Float				Squeeze Type								
Pipe Rotated <input type="checkbox"/>			Pipe Reciprocated <input type="checkbox"/>			Shoe Depth 1152.0 ft				Tool Type								
No. Centralizers			Top Plugs 1		Bottom Plugs		Stage Tool Type				Tool Depth ft							
Cement Head Type Single						Stage Tool Depth ft				Tail Pipe Size in								
Job Scheduled For Jan/27/2012			Arrived on Location Jan/27/2012		Leave Location Jan/27/2012		Collar Type Float				Tail Pipe Depth ft							
							Collar Depth 1105.0 ft				Sqz. Total Vol. bbl							
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Solid Fraction NULL	Message											
01/27/2012	15:37:08	-9	0.0	8.41	0.0	0	Started Acquisition											
01/27/2012	15:37:09	-9	0.0	8.41	0.0	0	Start Job											
01/27/2012	15:37:10	-9	0.0	8.41	0.0	0	Held Safety Meeting											
01/27/2012	15:37:11	-8	0.0	8.41	0.0	0	2 bbls Water Ahead											
01/27/2012	15:38:48	-7	0.0	8.37	0.0	0												
01/27/2012	15:40:28	7	0.0	8.36	2.1	0												
01/27/2012	15:41:30	1743	0.0	8.39	2.1	0	Pressure Test Lines											
01/27/2012	15:42:08	3406	0.0	8.39	2.1	0												
01/27/2012	15:42:15	3389	0.0	8.39	2.1	0	Pressure Test Lines											
01/27/2012	15:43:48	7	0.1	8.39	2.1	0												
01/27/2012	15:45:27	84	3.5	8.39	6.6	0	Start Pumping Water											
01/27/2012	15:45:28	84	3.5	8.39	6.7	0												
01/27/2012	15:45:29	84	3.5	8.39	6.8	0	20 bbls Water											
01/27/2012	15:47:08	191	5.0	8.39	14.5	0												
01/27/2012	15:48:28	381	6.4	13.19	21.1	54	End Water											
01/27/2012	15:48:29	381	6.4	13.36	21.2	55	Reset Total, Vol = 21.32 bbl											
01/27/2012	15:48:32	350	6.5	13.73	21.5	55	Took Dry Sample (007914)											
01/27/2012	15:48:48	491	6.5	15.46	23.3	54												
01/27/2012	15:49:19	566	6.5	15.76	26.6	50	Start Cement Slurry											
01/27/2012	15:49:21	558	6.5	15.75	26.8	51	113 bbls Tail Slurry											
01/27/2012	15:50:28	538	6.6	15.93	34.2	50												

Well			Field		Job Start		Customer		Job Number
Twin Creek 12-5D2			Mamm Creek		Jan/27/2012		EnCana		COBA-00075
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BSL	Solid Fraction NULL	Message		
01/27/2012	15:53:48	506	6.6	15.77	56.5	54			
01/27/2012	15:55:24	511	6.5	15.87	66.0	53	Took Dry Sample (008005)		
01/27/2012	15:55:28	512	6.6	15.87	66.4	52			
01/27/2012	15:56:12	524	6.6	15.92	71.2	50	Took Wet Sample		
01/27/2012	15:56:13	501	6.6	15.92	71.3	50	Mud Scale = 15.9 ppg		
01/27/2012	15:57:08	509	6.6	15.85	77.3	48			
01/27/2012	15:57:39	503	6.6	15.87	80.7	47	Good Returns		
01/27/2012	15:58:48	516	6.6	15.95	88.3	49			
01/27/2012	16:00:28	525	6.6	15.92	99.3	48			
01/27/2012	16:02:08	506	6.6	15.88	110.3	48			
01/27/2012	16:03:48	506	6.6	15.88	121.2	48			
01/27/2012	16:05:28	320	5.2	15.63	130.7	47			
01/27/2012	16:06:14	103	2.7	15.51	133.6	33	End Tail Slurry		
01/27/2012	16:07:08	99	2.8	15.56	136.1	61			
01/27/2012	16:07:36	3	0.0	15.59	136.8	0	End Cement Slurry		
01/27/2012	16:07:38	5	0.0	15.59	136.8	0	Reset Total, Vol = 115.43 bbl		
01/27/2012	16:07:39	5	0.0	15.59	136.8	0	Drop Top Plug		
01/27/2012	16:07:40	5	0.0	15.59	136.8	0	Start Displacement		
01/27/2012	16:08:48	3	0.0	15.58	136.8	0			
01/27/2012	16:10:28	102	0.3	15.56	137.0	60			
01/27/2012	16:12:08	95	3.5	8.94	141.5	22			
01/27/2012	16:13:48	144	5.0	8.54	148.6	16			
01/27/2012	16:15:06	196	6.4	8.42	156.7	3	Tattle Tail Disappeared		
01/27/2012	16:15:07	196	6.4	8.42	156.8	4	Good Returns		
01/27/2012	16:15:28	202	6.4	8.41	159.1	10			
01/27/2012	16:17:08	353	6.4	8.36	169.8	12			
01/27/2012	16:18:48	437	6.4	8.38	180.4	3			
01/27/2012	16:20:28	514	6.3	8.39	191.0	0			
01/27/2012	16:21:53	573	6.3	8.37	200.0	0	Good Cement to Surface		
01/27/2012	16:22:08	602	6.3	8.39	201.5	0			
01/27/2012	16:23:48	527	4.5	8.39	211.0	0			
01/27/2012	16:25:28	524	4.0	8.39	218.5	0			
01/27/2012	16:27:08	518	2.5	8.39	222.7	0			
01/27/2012	16:28:48	531	2.5	8.39	226.8	0			
01/27/2012	16:29:18	1283	0.6	8.39	228.0	0	Final Circulating Pressure = 500 psi		
01/27/2012	16:29:19	1240	0.3	8.39	228.0	0	Bump Plug to 1200 psi		
01/27/2012	16:29:37	1243	0.0	8.39	228.0	0	Bump Top Plug		
01/27/2012	16:29:38	1242	0.0	8.39	228.0	0	End Displacement		
01/27/2012	16:30:28	1235	0.0	8.39	228.0	0			
01/27/2012	16:32:08	1230	0.0	8.39	228.0	0			
01/27/2012	16:33:48	973	0.0	8.39	228.0	0			
01/27/2012	16:34:27	-8	0.0	8.39	228.0	0	Floats Held		
01/27/2012	16:34:28	-8	0.0	8.39	228.0	0	1/2 bbl Bled Back		

Well	Field	Job Start	Customer	Job Number
Twin Creek 12-5D2	Mamm Creek	Jan/27/2012	EnCana	COBA-00075

Post Job Summary

Average Pump Rates, bbl/ min					Volume of Fluid Injected, bbl			
Slurry 4.8	N2	Mud	Maximum Rate 7.5		Total Slurry 113.0	Mud 0.0	Spacer 20.0	N2
Treating Pressure Summary, psi					Breakdown Fluid			
Maximum 3424	Final 10	Average 518	Bump Plug to 1200	Breakdown	Type	Volume bbl		Density lb/gal
Avg. N2 Percent %		Designed Slurry Volume 113.0 bbl		Displacement 85.0 bbl	Mix Water Temp 65 degF	Cement Circulated to Surface? <input checked="" type="checkbox"/>	Volume 35.0 bbl	
						Washed Thru Perfs <input type="checkbox"/>	To ft	
Customer or Authorized Representative Robert Tate			Schlumberger Supervisor Ryan Bowditch			Circulation Lost <input type="checkbox"/>	Job Completed <input checked="" type="checkbox"/>	
						-	-	

REGULATORY DRILLING SUMMARY



Well : Twin Creek 12-5A2 (F12E)		API # : 05045203850000	Operations Date : 01/28/2012
Surface Location : SENW Sec 12 T7S - R92W 6th PM		Area : Mamm Creek	Report # : 2
Spud Date :	Days From Spud : 2		Depth At 06:00 : 1170
Morning Operations : Rig Released To the Twin Creek 12-5A1 @18:00 PM			Estimated Total Depth : 5467
		Remarks :	
Time To	Description	1569 Days without a Lost Time incident	
6:30 AM	Service Rig	12 Days without a Medical Aid or Restricted Work incident	
8:30 AM	Directional Drill 12 1/4" Hole F/ 860' T/ 1170' MD / 1132' TVD = 310' in 2 hrs @ 155 ft/hr	118 Days without a Recordable Spill	
9:00 AM	Pre- Job Safety Meeting - Tripping DP	378 Days without a Reportable Quantity Spill	
11:00 AM	TOOH To run Casing	xxxx gals fuel used past 24hrs	
11:30 AM	Held Third Party Safety Meeting - Running Csg	11410 gals fuel on Location,	
12:00 PM	Rig up Frank's casing tools	Rotating Hours on HWDP =102.5 Hrs	
2:30 PM	Run 25 joints 9.625 36# J-55 LT&C shoe @ 1147' float collra @ 1101',run 13 centralizer F/ 1103' TO 73'.	Total Fluid Losses Last 24 hrs =0 bbls seepage	
3:30 PM	C&C ,rig down Franks tools,& Pre Job Safety with Schlumberger cement crew.	4 Mud Loggers on Location	
5:00 AM	Rig up cement tools,primary cementing pump 20bbls water spacer,114 bbls tail 15.8 ppg ,547 yield 1.16.required 5.11 water per sks,displace with 85 bbls water,Bump plug with 510 psi pressure up @ 1260psi,750psi over hold for 5 minutes plug heldr,35 bbl cement to surface.R/D cementer.	1 Mud Engineer on Location - Mike Lindell	
6:00 PM	Blow down mud lines,rig down Gonzo,pull landing joint. Rig release @ 18:00.	Raz Parras On Location as Night Supervisor	
		Pre Spud Notification for the Twin Creek 12-5A1 made 1-27-12	
		Post Spud & Surf Csg / Cement Notification for 12-5A2 Made 1-27-12	
		Hazard ID no	

Well : Twin Creek 12-5A2 (F12E)		API # : 05045203850000	Operations Date : 01/27/2012
Surface Location : SENW Sec 12 T7S - R92W 6th PM		Area : Mamm Creek	Report # : 1
Spud Date :	Days From Spud : 1		Depth At 06:00 : 860
Morning Operations : Drilling surface @ 860'			Estimated Total Depth : 5467
		Remarks :	
Time To	Description	1568 Days without a Lost Time incident	
4:30 PM	Walk Rig onto well - Rig up Dredge Pump	11 Days without a Medical Aid or Restricted Work incident	
8:00 PM	Drill 12 1/4" Hole w/ Reamer Assembly F/ 62' T/ 197'= 3.5 hrs,38.6 ft/hr.	117 Days without a Recordable Spill	
8:30 PM	TOOH stand back reamer assembly	377 Days without a Reportable Quantity Spill	
9:00 PM	Service top drive,top drive inspection,inspect service loop,grease block,black jack,& oil top drive,check brakes,hoist lines,parameters.	1462 gals fuel used past 24hrs	
9:30 PM	Pre-Job safety Meeting - Picking Up Directional Tools	11410 gals fuel on Location,	
10:00 PM	TIH w/ Directional tools	Rotating Hours on HWDP =100 Hrs	
6:00 AM	Directional Drill 12 1/4" Hole F/ 197' T/860'	Total Fluid Losses Last 24 hrs =0 bbls seepage	
		4 Mud Loggers on Location	
		1 Mud Engineer on Location - Mike Lindell	
		Raz Parras On Location as Night Supervisor	
		Pre Spud Notification for the Twin Creek 12-5A2 made 1-26-12	
		Post Spud & Surf Csg / Cement Notification for 12-5A2 Made 1-27-12	
		Hazard ID no	

Well : Twin Creek 12-5A2 (F12E)		API # : 05045203850000	Operations Date : 12/21/2009
Surface Location : SENW Sec 12 T7S - R92W 6th PM		Area : Mamm Creek	Report # : 0
Spud Date :	Days From Spud : -766		Depth At 06:00 :
Morning Operations :			Estimated Total Depth : 5467
		Remarks :	
Time To	Description		

REGULATORY DRILLING SUMMARY



Well : Twin Creek 12-5A2 (F12E)		API # : 05045203850000	Operations Date : 02/16/2012
Surface Location : SENW Sec 12 T7S - R92W 6th PM		Area : Mamm Creek	Report # : 3
Spud Date : Days From Spud : 21		Depth At 06:00 :	
Morning Operations :		Estimated Total Depth : 5467	
		Remarks :	
Time To	Description	1587 Days without a Lost Time incident	
7:00 AM	Set BOP On Wellhead & 4 Bolt Stack	30 Days without a Medical Aid or Restricted Work incident	
7:30 AM	Pre- Job Safety meeting w/ Crew & Loggers	25 Days without a Recordable Spill	
10:30 AM	Rig Up Schlumberger & Run CBL F/ Surface T/ 1102' WL Depth - Rig Down Loggers	396 Days without a Reportable Quantity Spill	
12:00 PM	Nipple Up BOPE - Rotating head - Install Flowline - Flowline Stand - Fill up Line & Cables - And Turn buckles	2703 gals fuel used past 24hrs	
8:30 PM	Test BOPE as Follows: Test Annular To 250/2500psi 5/10 Min - Test Blind Rams, Pipe Rams, HCR Valve, Choke Manifold, Inside & Outside Chokeline Manual Valves, Kill Linre Line, Inside & Outside Kill line Valves, Dart Valve, IBOP & All Floor Valves & Saver Sub to 250/5000psi for 5/10 Min - Test Two Manual & one Super Choke to 250/1500psi 5 /10 Mln - Test Casing To 1500psi for 30 MIN - ALL OK - Rig Down Testers	7660 gals fuel on Location,	
9:30 PM	Install Wear Bushing	Rotating Hours on HWDP = 144.5 Hrs	
10:00 PM	Service Top Drive, Inspect Brakes, Draw Works, Hoisting Lines - Check Coms	Total Fluid Losses Last 24 hrs =0 bbls seepage	
10:30 PM	Pick Up BHA - Check Flowlines hydraulic lines For Leaks - OK	0 Mud Loggers on Location	
11:00 PM	Pre-Job Safety Meeting - Tripping DP	1 Mud Engineer on Location - Mike Lindell	
12:30 AM	TIH Make Up Directional tools - Scribe Motor - make Up Bit #3 8 3/4" FX 55M	Bradenhead Pressure 12-5D1 50psi, 125A1 6,12hrs 0psi	
1:30 AM	TIh w/ 10 Stds HWDP + 1 Std DP - Tag Cement @ 1059'		
3:30 AM	Wash & Ream - Drill out Cement & Float Equip + 27' New Hole to 1197'		
6:00 AM	Rig Up Rebel Testers & Run FIT Test at 1197' MD / 1157' TVD w/ 10.6ppg MW to 13.0ppg MW Equilant - Surface Press = 145psi - Lost 14psi in 15 min - Maximum allowable Press Drop = 15psi - FIT Witnessed By Chuck Browning w/ COGCC		

REGULATORY DRILLING SUMMARY



Well : Twin Creek 12-5A2 (F12E)		API # : 05045203850000	Operations Date : 02/17/2012
Surface Location : SENW Sec 12 T7S - R92W 6th PM		Area : Mamm Creek	Report # : 4
Spud Date : Days From Spud : 22		Depth At 06:00 : 3498	
Morning Operations : Directional Drilling		Estimated Total Depth : 5467	
		Remarks :	
Time To	Description	1589 Days without a Lost Time incident 32 Days without a Medical Aid or Restricted Work inci 27 Days without a Recordable Spill 398 Days without a Reportable Quantity Spill 2054 gals fuel used past 24hrs 11826 gals fuel on Location, Rotating Hours on HWDP =123 Hrs Total Fluid Losses Last 24 hrs =0 bbls seepage 1 Mud Engineer on Location - Mike Lindell Pre Spud Notification for the Twin Creek 12-5A2 made 1-26-12 Post Spud & Surf Csg / Cement Notification for 12-5A2 Made 1-27-12 Bradenhead Pressures on the 12-5D1 & 12-5A1 = 0 ps Hazard ID 0	
6:30 AM	Service Rig		
6:30 PM	Directional Drill 8 3/4" Hole F/ 1197' T/ 2451' = 1254' in 12 hrs @ 104.5 ft/hr		
	SPR @ 1404' W/ 10.1ppg MW		
	#1 20/110, 30/170, 40/234 psi		
	#2 20/109, 30/180, 40/253psi		
	SPR @ 1970' W/ 10.7ppg MW		
	#1 20/144, 30/196, 40/283 psi		
	#2 20/133, 30/197, 40/265 psi		
	SPR @ 2451' W/ 11.1ppg MW		
	#1 20/150, 30/215, 40/335 psi		
	#2 20/150, 30/2320, 40/330 psi		
	BOP Drill @ 14:30 PM - Well Secured in 48 Seconds		
7:00 PM	Service Rig		
6:00 AM	Directional Drill 8 3/4" Hole F/ 2451' T/ 3498' = 1047' in 11 hrs @ 95.2 ft/hr		
	SPR @ 2926' W/ 11.4ppg MW		
	#1 20/170, 30/250, 40/345 psi		
	#2 20/170, 30/230, 40/340 psi		
	BOP Drill @ 18:25 PM - Well secured in 37 Seconds		

REGULATORY DRILLING SUMMARY



Well : Twin Creek 12-5A2 (F12E)		API # : 05045203850000	Operations Date : 02/18/2012
Surface Location : SENW Sec 12 T7S - R92W 6th PM		Area : Mamm Creek	Report # : 5
Spud Date : Days From Spud : 23		Depth At 06:00 : 4638	
Morning Operations : Directional Drill 8 3/4" Hole To TD @ 5750' +/-		Estimated Total Depth : 5467	
		Remarks :	
Time To	Description	1590 Days without a Lost Time incident	
6:30 AM	Service Rig	33 Days without a Medical Aid or Restricted Work incident	
8:00 PM	Directional Drill 8 3/4" Hole F/ 3498' T/ 4069' = 571' in 13.5 hrs @ 42.3 ft/hr - NOTE: Having to Slide 60' of every 100' F/ 3498' T/ 3828' this Slaughtered our ROP	28 Days without a Recordable Spill	
	SPR @ 3688' W/ 11.9ppg MW #1 20/195, 30/277, 40/383 psi #2 20/186, 30/273, 40/382 psi	399 Days without a Reportable Quantity Spill	
	SPR @ 4069' W/12.3ppg MW #1 20/230, 30/290, 40/400 psi #2 20/225, 30/300, 40/400 psi	2300 gals fuel used past 24hrs	
		9526 gals fuel on Location,	
		Rotating Hours on HWDP =146 Hrs	
		Total Fluid Losses Last 24 hrs =0 bbls seepage	
		1 Mud Engineer on Location - Mike Lindell	
		Pre Spud Notification for the Twin Creek 12-5A2 made 1-26-12	
		Post Spud & Surf Csg / Cement Notification for 12-5A2 Made 1-27-12	
		Bradenhead Pressures on the 12-5D1 = 0 & 12-5A1 = 0 psi @ 04:00Am. 2/17/12, 100psi @ 9:00 AM 2/17/12 then 0psi @ 04:00AM 2/18/2012	
		Hazard ID 0	
8:30 PM	Service Rig		
6:00 AM	Directional Drill 8 3/4" Hole F/ 4069' T/ 4638' = 569' in 9.5 hrs @ 59.9 ft/hr		
	SPR @ 4448' W/ 12.4ppg MW #1 20/277, 30/348, 40/457 psi #2 20/263, 30/345, 40/455 psi		

REGULATORY DRILLING SUMMARY



Well : Twin Creek 12-5A2 (F12E)		API # : 05045203850000	Operations Date : 02/19/2012
Surface Location : SENW Sec 12 T7S - R92W 6th PM		Area : Mamm Creek	Report # : 6
Spud Date : Days From Spud : 24		Depth At 06:00 : 5682	
Morning Operations : Circ & Condition Mud - Rebuild Volume		Estimated Total Depth : 5467	
		Remarks :	
Time To	Description	1591 Days without a Lost Time incident	
6:30 AM	Service Rig	34 Days without a Medical Aid or Restricted Work incident	
8:00 AM	Directional Drill 8 3/4" Hole F/ 4638' T/ 4746' = 108' in 1.5 hrs @ 72 ft/hr - Lost Returns At 4746'	29 Days without a Recordable Spill	
	SPR @ 4732' W/12.5ppg MW	400 Days without a Reportable Quantity Spill	
	#1 20/252, 30/317, 40/425 psi	2275 gals fuel used past 24hrs	
	#2 20/240, 30/310, 40/425 psi	7251 gals fuel on Location,	
		Rotating Hours on HWDP =166.5 Hrs	
		Total Fluid Losses Last 24 hrs =318 bbls seepage	
		1 Mud Engineer on Location - Mike Lindell	
		Pre Spud Notification for the Twin Creek 12-5A2 made 1-26-12	
		Post Spud & Surf Csg / Cement Notification for 12-5A2 Made 1-27-12	
9:30 AM	Circ & Cond Mud - Build LCM Pill & Start Treating Active system with 5 ppb LCM -Regained partial Returns - Pumped 20bbl LCM Sweep Regained full Returns - Total Lost was 68bbls While Building LCM Pill & circ @ Slow Pump Rate 40 SPM - Lost 28 bbls More while pumping LCM Sweep @ SPR 40SPM	Bradenhead Pressures on the 12-5D1 = 0 & 12-5A1 = (Checked 6 Times in last 24 hrs) All = 0 psi	
	Total Lost = 96bbls	Hazard ID 1	
		Will Send Lost Fluid Notification to State Today	
10:30 PM	Directional Drill 8 3/4" Hole F/ 4746' T/ 5207' = 461' in 13 hrs @ 35.5 ft/hr		
	SPR @ 5112' W/ 12.4ppg MW		
	#1 20/250, 30/335, 40/460 psi		
	#2 20/240, 30/340, 40/465 psi		
11:00 PM	Service Rig		
4:00 AM	Directional Drill 8 3/4" Hole F/ 5207' T/ 5602' = 395' in 5 hrs @ 79 ft/hr		
	SPR @ 5587' W/ 12.4ppg MW		
	#1 20/260, 30/345, 40/470 psi		
	#2 20/265, 30/360, 40/475 psi		
4:30 AM	Circ & Cond Mud - Lost Returns At 5602' - Pump 5 bbl LCM Sweeps & Continue Treating system w/ 15 ppg LCM - Regained Circulation		
5:30 AM	Directional Drill 8 3/4" Hole F/ 5602' T/ 5682' = 80' in 1 hr @ 80 ft/hr In the Coal Ridge - Lost Returns @ 5682'		
6:00 AM	Circ & Cond Mud & Hole - Treating Lost Circ - Rebuild Volume		
	Note: Total Losses Last 12 Hrs = 222bbls + 96 bbls From Previous 12 Hrs = 318 bbls Mud Lost to Formation in the Last 24 Hrs		

REGULATORY DRILLING SUMMARY



Well : Twin Creek 12-5A2 (F12E)		API # : 05045203850000	Operations Date : 02/20/2012
Surface Location : SENW Sec 12 T7S - R92W 6th PM		Area : Mamm Creek	Report # : 7
Spud Date : Days From Spud : 25		Depth At 06:00 : 5765	
Morning Operations : Running 4 1/2" 11.6# S80 BTC Prod. Casing		Estimated Total Depth : 5467	
		Remarks :	
Time To	Description	1592 Days without a Lost Time incident	
6:30 AM	Service Rig	35 Days without a Medical Aid or Restricted Work incident	
9:00 AM	Directional Drill 8 3/4" Hole F/ 5682' T/ 5765' = 83' in 1.25 hrs @ 66.4 ft/hr (TD @ 08:47 AM 02/19/2012) Lost 10 bbls Mud While Drilling for 1.25 hrs	30 Days without a Recordable Spill	
	SPR @ 5682' W/ 12.5ppg MW	401 Days without a Reportable Quantity Spill	
	#1 20/227, 30/318, 40/455 psi	1828 gals fuel used past 24hrs	
	#2 20/209, 30/313, 40/456 psi	8692 gals fuel on Location,	
	Note: TD with 12.4+ppg MW - Trip Margin = 12.6+ ppg MW	Rotating Hours on HWDP =166.5 Hrs	
		Total Fluid Losses Last 24 hrs =10 bbls seepage - Total	
		Losses on the 12-5A2 = 328bbls	
		1 Mud Engineer on Location - Mike Lindell	
		Prod. Csg & Cement Notification for the Twin Creek	
		12-5A2 made 2-19-12	
		BOP & FIT Notification for 12-4D1 Made 2-20-12	
		Bradenhead Pressures on the 12-5D1 = 0 & 12-5A1 = (
		Checked 6 Times in last 24 hrs) All = 0 psi	
		Hazard ID 1	
		Lost Fluid Notification to State on the 12-5A2 sent	
		2/19/2012	
5:30 PM	Clrc & Cond.- Pump 20 bbl LCM Sweep to clean hole & treat Seepage - Raise MW to = Trip Margin 12.6+ @ SPR 40 SPM - After 4 hrs and not having 12.6+ MW all around we increased Pump Rate by 10 SPM at a time and treated system with mediun/fine grained LCM to Stop seepage while increasing MW		
10:30 PM	TOOH 2 Stds - Do Flow Check - OK - TOOH 3 Stds Flow Check OK - TOOH - Flow check every 10 Stds - Keep Hole full Continuosly		
11:00 PM	Pull Rotatinghead		
11:30 PM	TOOH - 10 Stds HWDP		
12:00 AM	HTPSM W/ Cathedral - Laying Down Directional tools		
1:00 AM	TOOH - Laying Down Directional Tools - Calculated Displacement = 38.2 bbls - Actual Displacement = 35.15 bbls		
1:30 AM	Pull Wear Bushing - Function Test BOP's - Annular, Blind rams & Pipe Rams		
3:00 AM	Waiting on Frank's - Running Late Due to BAd Road Conditions		
3:30 AM	Held Third Party Safety Meeting w/ Frank's		
4:00 AM	MIRU Frank's Casing Tools		
6:00 AM	Ran 20 of 129 jts of 4 1/2" 11.6# S80 BTC Prod. Csg		

REGULATORY DRILLING SUMMARY

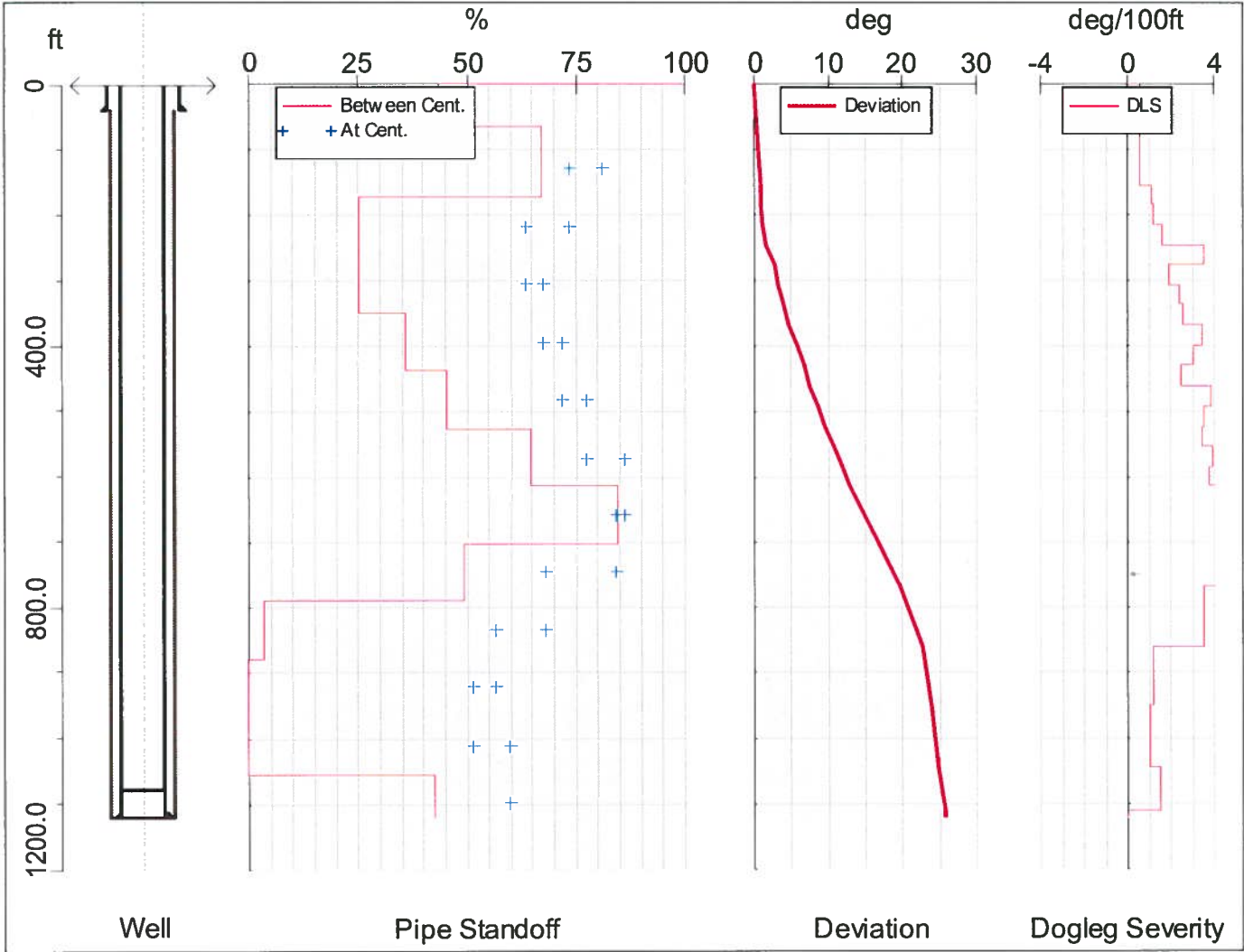


Well : Twin Creek 12-5A2 (F12E)		API # : 05045203850000	Operations Date : 02/22/2012
Surface Location : SENW Sec 12 T7S - R92W 6th PM		Area : Mamm Creek	Report # : 9
Spud Date :	Days From Spud : 27		Depth At 06:00 : 5765
Morning Operations :			Estimated Total Depth : 5467
		Remarks :	
Time To	Description	1594 Days without a Lost Time incident 37 Days without a Medical Aid or Restricted Work incident 32 Days without a Recordable Spill 403 Days without a Reportable Quantity Spill xxxx gals fuel used past 24hrs 13678 gals fuel on Location, Rotating Hours on HWDP =166.5 Hrs Total Fluid Losses Last 24 hrs =0 bbls seepage - Total Losses on the 12-5A2 = 328bbls 1 Mud Engineer on Location - Mike Lindell BOP & FIT Notification for 12-4D1 Made 2-20-12 Bradenhead Pressures on the 12-5D1 = 0, 12-5A1 = 0 psi, 12-5A2 = 0 (Checked Every 4 hrs) since 6PM 2/20/12 Hazard ID 1	
8:00 AM	Run CBL / Temp Log - Tagged Up at 5670' W.L. Depth		
8:30 AM	Rig Down Loggers & Release Rig at 8:30 AM 2/21/2012		

Well : Twin Creek 12-5A2 (F12E)		API # : 05045203850000	Operations Date : 02/21/2012
Surface Location : SENW Sec 12 T7S - R92W 6th PM		Area : Mamm Creek	Report # : 8
Spud Date :	Days From Spud : 26		Depth At 06:00 : 5765
Morning Operations : CBL Logs			Estimated Total Depth : 5467
		Remarks :	
Time To	Description	1593 Days without a Lost Time incident 36 Days without a Medical Aid or Restricted Work incident 31 Days without a Recordable Spill 402 Days without a Reportable Quantity Spill 2014 gals fuel used past 24hrs 13678 gals fuel on Location, Rotating Hours on HWDP =166.5 Hrs Total Fluid Losses Last 24 hrs =0 bbls seepage - Total Losses on the 12-5A2 = 328bbls 1 Mud Engineer on Location - Mike Lindell BOP & FIT Notification for 12-4D1 Made 2-20-12 Bradenhead Pressures on the 12-5D1 = 0, 12-5A1 = 0 psi, 12-5A2 = 0 (Checked Every 4 hrs) since 6PM 2/20/12 Hazard ID 1	
1:00 PM	Runnuning 4 1/2" 11.6# S80 BTC Csg To 5748' MD - 5488' TVD Float Collar set at 5701' MD - 5441' TVD - Ran 146 Centralizers F/ 5724' T/ 379'		
3:00 PM	Circ & Cond Hole For Cement		
5:30 PM	HTPSM W/ Schlumberger - MIRU Cement Equipment - and Cement as Follows: Test Lines To 500/3000psi - Pumped 50bbls 13.2ppg mud Push + 353.5bbls (1641sx) (1986 cu/ft) of Conventional "G" @ 14.00ppg, 1.21 Yld, 5.480gl/sk Mix + Displaced w/ 88bbls H2O - Final Circ Press = 1740psi @ 2bbl/min - Bumped Plug w/ 2370psi - Held 10 min - Full Returns - No Cement to Surface - Float Held - CIP @ 5:12 PM 2/20/2012 - Calculated Top of Cement at 670'		
6:00 PM	Rig Down Schlumberger		
5:00 AM	WOC - To Run CBL / Temp Log - Nipple Down BOPE - HTPSM W/ Schlumberger Wireline - MIRU Logging Tools		
6:00 AM	Run CBL / Temp Log -Tagged Up At 5670' WireLine Depth		

Twin Creek 12-5A2

Type	Quantity	Centralizers per Joint	Spacing (ft)	From (ft)	To (ft)	Stop Rings
12 1/4 " BOW	12	1/2	88	Surface	TD	0



Casing Cementing



Company: ENCANA USA - PARACHUTE FIELD OFC (EDI)
Well Name: Twin Creek 12-5A2
Field: Mamm Creek
County: Garfield
State: CO

Date: 2/19/2012
Well Location: F12E
API Number: 05045203850000
Proposal Number: 2
Contact:
Made By: Matt Hudson
Service from District: Grand Junction, CO
District Phone: 303-486-3245
Objective: Top of Cement: 670ft.
Surface Casing Shoe: 1170ft.
Mesa Verde: 2538ft. (2377)
Top of Gas: 3871ft. (3612)
8 3/4" Bit Depth: TD.
TD: 5727ft. (5467)

Disclaimer Notice

This information is presented in good faith, with no warranty of quality, and Schlumberger assumes no liability for advice or recommendations made concerning the use of any product or service. The results given are estimates based on calculations produced by a computer model including various assumptions of the well, reservoir and treatment. The results depend on input data provided by the customer and estimates of unknown data and can no more accurate than the model, the assumptions and such input data. The information presented is Schlumberger's best estimate of the results that may be achieved and should be used for comparison purposes rather than absolute values. The quality of input data, and hence results, may be improved through the use of certain tests and procedures which Schlumberger can assist in selecting. Freedom from infringement of patents of Schlumberger or others is not to be inferred nor are any such rights granted unless expressly agreed to in writing.





EXECUTIVE SUMMARY

Enclosed are our recommendations for Schlumberger intervention on the referenced well. The proposal includes well data, design data, materials and resources requirements and cost estimates. The purpose of our services is to perform a Casing Cementing treatment.

Schlumberger has established a safety policy to which all Schlumberger personnel must adhere. A pre-job safety meeting will be held with customer representatives and other on location personnel to familiarize everyone with existing hazards and safety procedures. We would appreciate close cooperation between the customer representative and the Schlumberger representative to ensure a safe operation.

The estimated total cost of our services is **\$ 91,990.46**. All costs are estimates only. Actual costs will be determined by time, material and equipment used during treatment. Taxes are not included. All work will be subject to Schlumberger then-current General Terms and Conditions or to the terms and conditions of a Master Service Agreement if one is in force between Schlumberger and Customer. This quote is valid for a period of thirty (30) days from the date submitted.

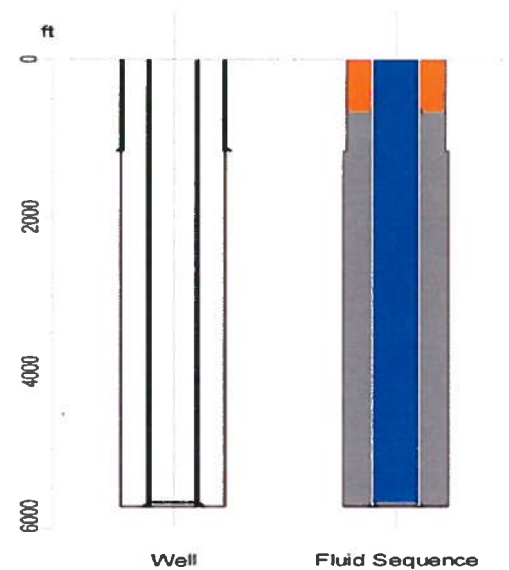
Thank you for considering Schlumberger.
Please do not hesitate to contact me with any questions or concerns.

Sincerely,

Matt Hudson
303-862-1701
mhudson2@slb.com



WELL DATA



IMPORTANT:
The well data shown on this page is based on information available when this treatment program was prepared. This data must be confirmed on location with the wellsite supervisor prior to the treatment. Any changes in the well data need to be reviewed for their impact on the treatment design.

Fluid Placement			
Fluid Name	Volume bbl	Density lb/gal	Top of Fluid ft
MUDPUSH II	50.0	13.20	0.0
14.0# EasyBLOK	353.5	14.00	670.0
Water	88.4	8.32	0.0

Total Liquid Volume : 491.9 bbl

Well Data	
Job Type :	Casing Cementing
Total Depth (Measured) :	5727.0 ft
True Vertical Depth (TVD) :	5467.6 ft
BHST (Tubular Bottom Static Temperature) :	160 degF
BHCT (Tubular Bottom Circulating Temperature) :	115 degF

Open Hole		
Mean Diameter without Excess	Bottom Depth	Annular Excess
8.750 in	5727.0 ft	30.0 %

Previous Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
9 5/8 in	36.0 lb/ft	K-55	LTC	0.43 ft3/ft	1170.0 ft

Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
4 1/2 in	11.6 lb/ft	N-80	BTC	0.09 ft3/ft	5727.0 ft

Annular Capacity (without Excess) : Casing Bottom / Open Hole : 0.31 ft3/ft
Annular Capacity (without Excess) : Previous Casing Bottom / Casing : 0.32 ft3/ft



FLUID SYSTEMS

MUDPUSH II			
System	MUDPUSH II		
Density	13.20 lb/gal		
Total Volume	50.0 bbl		
Additives	Code	Description	Concentration
	D031	Weighting Agent	6302.6 lb/mgal

14.0# EasyBLOK (1641 sacks, 75 lb per sack of Blend)			
System	Conventional		
Density	14.00 lb/gal		
Yield	1.21 ft3/sk		
Mixed Water	5.480 gal/sk		
Mixed Fluid	5.480 gal/sk		
Total Volume	353.5 bbl		
Additives	Code	Description	Concentration
	D049	Cement	75.00 lb/sk WBWOB
	D154	Extender	6.0 % BWOB
	D400	Gas Control Agent	0.6 % BWOB
	D202	Dispersant	0.2 % BWOB
	D153	Anti-Settling Agent	0.1 % BWOB
	D013	Retarder	0.5 % BWOB
	D046	Anti Foam	0.5 % BWOB
	D029	Lost Circulation Control Agent	0.25 lb/sk WBWOB

Water			
System	Water		
Density	8.32 lb/gal		
Total Volume	88.4 bbl		
Additives	Code	Description	Concentration

Some of the chemicals specified in this program may have toxic properties. All personnel should be familiar with the inherent dangers and appropriate safeguards to prevent accidental injury. Use of the chemicals may be governed by certain laws and regulations and should only be used in accordance with such. Please refer to the MSDS sheets for the recommended safety precautions and required minimum personal protective equipment.



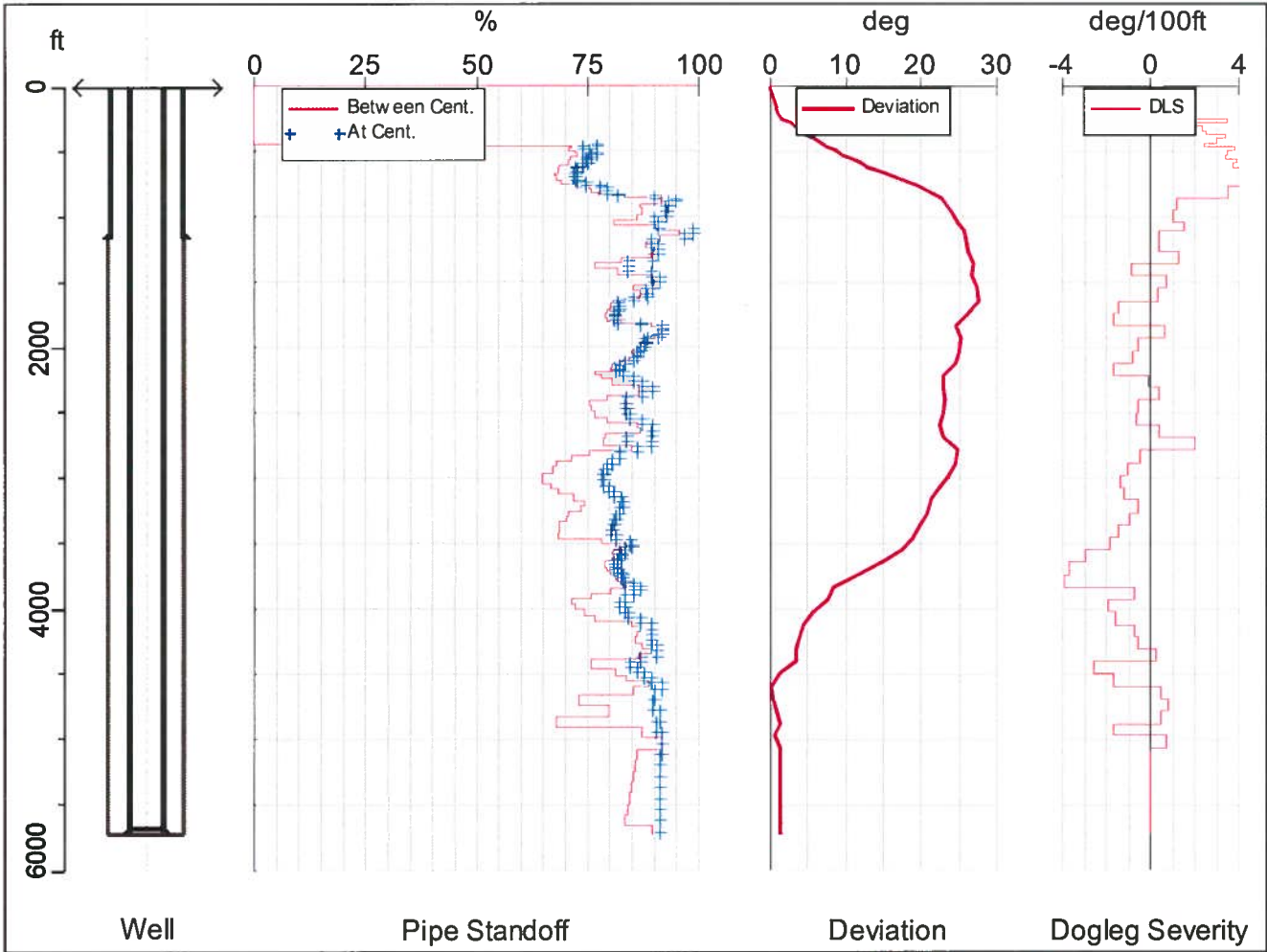
PROCEDURES

1. MI (Move in) Schlumberger equipment.
2. Conduct Rig-up, Prime-up and pressure test safety meeting.
3. RU (Rig up) Schlumberger equipment and pressure test to customer master valve.
4. Conduct pre-job safety meeting.
5. Perform treatment per design pumping schedule and instructions of client representative.
6. ADD 50lbs SUGAR TO FIRST 50bbls DISPLACEMENT
7. Add L064 EVENLY to displacement (1gal/10bbls).
8. Conduct post job rig down meeting.
9. Purge all High Pressure and Low Pressure treating lines with air PRIOR TO RIG-DOWN.
10. Rig down Schlumberger equipment.
11. Conduct convoy meeting and move out Schlumberger equipment.



CENTRALIZERS

Type	Quantity	Centralizers per Joint	Spacing (ft)	From (ft)	To (ft)	Stop Rings
8 3/4" BOW	22	2/1	21	435	897	11
8 3/4" BOW	17	1/1	42	897	1611	0
8 3/4" BOW	28	2/1	21	1611	2199	14
8 3/4" BOW	31	1/1	42	2199	3501	0
8 3/4" BOW	16	2/1	21	3501	3837	8
8 3/4" BOW	19	1/1	42	3837	4635	0
8 3/4" BOW	13	1/2	84	4635	TD	0





PRICE ESTIMATE

Equipment and Services						
Code	Standard Description	Quantity	Unit List Price	Total List Price \$	Discount Rate	Discounted Price \$
48019000	Bulk Unit, Cement Add Hr	8 HR	107.50	860.00	45.2 %	471.28
48021000	Silo, Cement	2 EA	570.00	1,140.00	45.2 %	624.72
48601000	Cement Plug Container	1 JOB	520.00	520.00	45.2 %	284.96
49100000	Cement Blending Charge	2231 CF	2.27	5,064.37	45.2 %	2,775.27
49102000	Transportation, Cement Ton-mile	5498 MI	2.02	11,105.96	45.2 %	6,086.07
56702044	Plug, Cementing Top Plastic 4.5 in	1 EA	151.00	151.00	45.2 %	82.75
58498000	Taxes	1 JOB	2,811.81	2,811.81	0 %	2,811.81
59200002	Transportation, Mileage Heavy Vehicles	450 MI	5.52	2,484.00	45.2 %	1,361.23
59200005	Transportation, Mileage Light Vehicles	150 MI	3.24	486.00	45.2 %	266.33
59697004	CemCAT Monitoring System	1 JOB	880.00	880.00	45.2 %	482.24
102871060	Pump, Casing Cement 5501-6000 ft	1 EA	3,500.00	3,500.00	45.2 %	1,919.00
107264001	Regulatory Conformance Charge	8 EA	341.00	2,728.00	0 %	2,728.00

Subtotals: \$ 31,731.14 \$ 19,892.66

Materials						
Code	Standard Description	Quantity	Unit List Price	Total List Price \$	Discount Rate	Discounted Price \$
B838	B838 CemNETplus conversion charge	50 BBL	148.50	7,425.00	45.2 %	4,068.90
D013	Retarder	615 LB	2.61	1,605.15	45.2 %	879.62
D029	Cellophane Flakes	410 LB	3.97	1,627.70	45.2 %	891.98
D031	Barite	133 CW	38.61	5,135.13	45.2 %	2,814.05
D046	Antifoam Agent, All Purpose	615 LB	4.75	2,921.25	45.2 %	1,600.85
D049	Cement, TXI LITEWEIGHT	1641 CF	21.95	36,019.95	45.2 %	19,738.93
D153	Antisettling Agent	123 LB	7.69	945.87	45.2 %	518.34
D154	Extender, LT	7381 LB	1.40	10,333.40	45.2 %	5,662.70
D202	Low-Temperature Solid Dispersant D202	246 LB	19.15	4,710.90	45.2 %	2,581.57
D400	EasyBLOK D400	738 LB	47.00	34,686.00	45.2 %	19,007.93
D970	MUDPUSH II Fresh Water Based Spacer	50 BBL	116.00	5,800.00	45.2 %	3,178.40
D974	CemNET Conversion	354 BBL	57.50	20,355.00	45.2 %	11,154.54

Subtotals: \$ 131,565.35 \$ 72,097.81

Total Discount:	\$	71,306.03
Job Price Estimate*:	\$	91,990.46