



5.5" Production

Cement Post Job Report

Prepared For: Mr. Mike Schweizer
Prepared Date: 9/22/2017
Job Date: 9/21/2017

PDC Energy, Inc.

Snowmass 4N

Weld County, CO

Prepared By: Paul Novotny
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Job Summary

Ticket Number	Ticket Date
TN# FL2335	9/21/2017

COUNTY	COMPANY	API Number
Weld	PDC Energy, Inc.	05 - 123 - 48889
WELL NAME	RIG	JOB TYPE
Snowmass 4N	Ensign 152	Production
SURFACE WELL LOCATION	O-TEX Field Supervisor	CUSTOMER REP
Sec 5 - 5 N - 64 W	Cheal, Sam	Vaughn Staples

EMPLOYEES		
Payne, James	Lindsay, Kevin	
Melgarejo, Eduardo		
Collin, Justin		

WELL PROFILE			
Max Treating Pressure (psi):	5000	Bottom Hole Static Temperature (°F):	210
Bottom Hole Circulating Temperature (°F):		Well Type:	Oil

Open Hole

1	Size (in)	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
	8 1/2	1667	15107	1667	6729

Casing/Tubing/Drill Pipe

Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Surface	9 5/8	36	J-55	0	1667	0	1667
Production	5 1/2	20	P-110	0	15104	0	6729

CEMENT DATA

Stage 1:
Type: **SingleSlurry**

From Depth (ft): To Depth (ft):

Volume (sacks): Volume (bbls):

Cement & Additives:	Density (ppg)	Yield (ft³/sk)	Water Req.
100% 35:65:0(POZ:G:GEL)+0.4% ASM-3+0.3% CFR+0.6% C-17+25% Silica Flour	13.5	1.80	8.77

SUMMARY

Preflushes:	30 bbls of SAPP	Calculated Displacement (bbl):	334.6
	10 bbls of Dye	Actual Displacement (bbl):	336
	50 bbls of Weighted Spacer		
Total Preflush/Spacer Volume (bbl):	90	Plug Bump (Y/N):	Yes
Total Slurry Volume (bbl):	713.2	Lost Returns (Y/N):	No (if Y, when)
Total Fluid Pumped	1139.2	Bump Pressure (psi):	2680
Returns to Surface:	Cement 5 bbls		

Job Notes (fluids pumped / procedures / tools / etc.): **Cement production casing** - Pumped 30bbls of pre-flush (SAPP), 10bbls of red dye, Mixed 50bbls of Weighted Spacer with batch mixer 45min before pressure test. [Weighted spacer (41.2bbls fresh water, 9,942lbs barite, 421lbs C-65, 50gal plexaid 803)], Mixed / pumped 713.2bbls Single Slurry Cement @13.5ppg, Displaced with treated fresh water to bump, Pressured up well to open WSS, Displaced another 5bbls. Job pumped through O-Tex 5 1/2" cement head. Returns pumped through rig choke line to minimize cement channeling. TVD @ **6,729ft** / WSS @ **15,074ft** / Shoe @ **15,104ft** / TD @ **15,107ft**. Job performed as per promgam / customer request.

Thank You For Using

O - TEX Pumping

Customer Representative Signature: _____



CEMENTING JOB LOG

Project Number FL2335	Job Date 9/21/2017
State CO	County Weld
Customer Representative Vaughn Staples	Phone 435-901-9247
API Number 05 - 123 - 48889	

Brighton, Colorado 303-857-7948		Customer PDC Energy, Inc.	
Lease Name Snowmass 4N	Well No.	O-Tex Field Supervisor Cheal, Sam	
Job Type Production		Man Hours 55	

**USE THIS FORM TO NOTE ANY ISSUES ENCOUNTERED WITH THE PERFORMANCE OF THIS JOB.
THIS MAY INCLUDE TIME AT THE SHOP, ON THE ROAD OR DELAYS WITH DRILLING CONTRACTOR.**

DATE	TIME	VOLUME	RATE	PRESS		JOB PROCEDURES
				CSG	Tbg.	
9/21/2017	10:00					Leave Yard
	11:00					Arrive on location
	11:05					Tailgate meeting (talk about spotting trucks) / sign in
	11:10					Set spill containment / Spot SCM pump units & batch mix unit
	11:15					Rig in / Test cement mix water
	14:15					Mix weighted spacer with batch mixer
	15:00					Safety meeting with O-Tex crew / rig crew / third party crew
	16:23	1 bbl	1.40		650	Fill line
	16:25				5000	Pressure test iron
	16:30	10 bbl	5.00		650	Pump pre-flush (fresh water)
	16:33	30 bbl	5.00		720	Pump pre-flush (300lbs SAPP)
	16:37	10 bbl	5.00		670	Pump fresh water spacer (Red Dye)
	16:40	50 bbl	7.00		740	Pump weighted spacer into SCM unit, then down hole
	16:48	713.2 bbl	7.00		980	Mix / pump Single Slurry cement
	18:10				0	Shutdown / wash pump unit / clear line
	18:22				0	Drop plug
	18:23	336 bbl	8.00		2000	Displace with treated fresh water
	19:09		5.00		1860	Slow pump rate to bump plug
	19:14		5.00		2680	Bump plug
	19:15				2587	Hold pressure for 5 min.
	19:19	1 bbl	1.50		4045	Pressure up well to open WSS
	19:20	5 bbl	4.00		1875	Displace with treated fresh water
	19:22				-9	Check float (2bbbls back)
	19:30					Rig out
	20:50					AAR / discuss leaving location
	21:00					Leave location

JOB CALCULATIONS

Cement coverage 0 - 15,104ft

TVD @ 6,729ft / WSS @ 15,074ft / Shoe @ 15,104ft / TD @ 15,107ft

5bbbls cement back to surface

Total fresh water needed for job 910bbbls

CASING DATA

Surface casing 9 5/8" 36# 0 - 1,667ft. (ann. 0.0479)

Production casing 5 1/2" 20# 0 - 15,104ft (cap. 0.0222)

ANNULAR DATA

OH 8 1/2" 1,667 - 15,107ft. (ann. 0.0408)

15% excess for Single Slurry cement (only in open hole)

PLEASE NOTE ANY CONTRACTOR ISSUES OR COMMENTS BELOW