

Cement Verification Report - Cementer's Well Service, Inc.

P.O. BOX 336220 • GREELEY, CO 80633 • (970) 353-7299 • FAX (970) 353-7712



COGCC Operator Guidance

RULE #308.A.B(2)A.ii

CLIENT: Great Western Operating	Cementer's FIELD TICKET #	400114-D
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Requested Operator Guidance:

Well Name & Number	Lease	Raindance	Well No.	FC 23 - 289HN
Well API Number	05-123-51585			
Job Date	7/13/21	Time on	18:00	24 hr time
Job Type	New Well Surface			
Cementing Company	Cementer's Well Service, Inc	Contact	Nate Kvamme - 303-324-4296	
Ambient conditions	clear / rain / snow / other	85	temp deg F	
Slurry Description				
a) Purpose	Surface - 9 5/8" 40# CSG, 13 1/2" hole			
b) Cement Class	Type I / II			
c) Cement Yield	1.61	cuft / sk		
d) Cement Density	13.9	PPG		
e) Number of sks	920	sks (94# equiv)		
f) Mix Fluid Type				
Water / Cement	8.5	Gal / sk		
g) Slurry mixed	263.9	BBLs slurry		
h) Additives used	1.50% CaCl2	3.00% Bentonite		
Total Water Used	361.7	BBLs H2O		
i) Displacement Fluid Vol	155.5	BBLs H2O		
j) Method of Placement				
k) Set Depth	2,054	feet (ft)		
l) Stage tool depth	n/a			
m) Float Collar Depth	2,010	feet (ft)		
n) Designed Top of Cement	n/a	to surface	feet (ft)	
o) Centralizer depths	20 Centralizers at Following Depths:, 13.75, 53.35, 94.71, 218.73, 342.8, 463.21, 586.33, 710.42, 834.5, 958.93, 1082.43, 1202.13, 1324.52, 1445.07, 1568.89, 1693.27, 1817.3, 1941.98, 1983.54, 2038.03			
Charts - (pressure, density, pump rate)				
Landed Plug @	1660	psi	Final Lift Pressure @	575 psi
Cement Density (as weighed during job) @	13.9	PPG		
Job notes				
a) Plug down	Y / N	Time	21:25	24 hr time
b) Floats held	Y / N		7/13/21	
c) Full Returns	Y / N	Lost Circulation	Y / N	
d) Cement to surface	Y / N	37.0	BBLs to surface	
e) If no returns, top off	n/a	BBLs		
f) Top off detail	-			

Surface Cement Job Report - Cementer's Well Service, Inc.

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DATE: DATE: 7/13/21



Great Western Operating Company, LLC

Lease: Raindance
Well: FC 23 - 289HN
API# 05-123-51585

Date & Time On 7/13/21 18:00

Item	Event	Date	Time (24 hr)	Density (PPG)	Pump Rate (BPM)	Incremental (Line Item) Volume (BBLs)	Cumulative Volume (BBLs)	Pressure (PSI)	Comment
Pre-job	1 Call Out	7/13/21	15:00						Great Western Call out w/ 3 hr notice
	2 Leave Yard	7/13/21	17:15						Cementers leaves yard to travel to location
On Location: Pre-job	3 Arrive On Location	7/13/21	18:00						Arrive on location
	4 Spot Trucks	7/13/21	18:05						Spot trucks on location
	5 Rig Up	7/13/21	18:07						Rig up water & Cementer's Bulk Truck, prep pump and mixing operation
	6 Safety Meeting	7/13/21	18:12						Pre-job safety meeting with IKON12 rig crew, GWO company man & Cementer's crew
	7 Rig Up	7/13/21	18:17						Rig up cement head w/plug
	8 Fill Lines	7/13/21	18:19	8.34	2.00				Fill lines with up to 5 bbls of fresh water
Initial Job Start	9 Pressure Test	7/13/21	0:00	8.34	-			-	Pressure test pumps and lines
	10 Pump Spacer	7/13/21	19:30	8.34	4.00	20	20	-	Pump dye fresh water @ 20 BBLs
Cementing	11 Pump Cement	7/13/21	19:35	13.90	4.00	263.87	283.87	45	Pump Cement @ 920 SKS
									Type I/II cement with 1.5% CaCl2 & 3.0% Bentonite @ 1.61 cuft/sk & 13.9 PPG 263.87 BBLs slurry
Displacement	12 Drop Plug	7/13/21	20:45			n/a			Shut down cementing operation & release top plug
	13 Initial Displacement	7/13/21	20:47	8.34	2.00	4.00	287.87	-	Send plug with 4.0 BBLs H2O @ 2.0 BPM
	14 Plug Drop Verification	7/13/21	20:51			n/a			Visual verification plug released from head
	15 Displacement	7/13/21	20:53	8.34	5.00	104.45	388.32	80-450	Continued Displacement with total fresh water @ 155.5 BBLs H2O
	16 Spacer To Surface	7/13/21	21:15	8.34	5.00	108.45	392.32	385	Identified Spacer, looking for Cement / green water
	17 Cement To Surface	7/13/21	21:18	8.34	5.00	118.45	402.32	390	Identify Cement to surface w/ 37 BBLs back
	18 Drop Rate	7/13/21	21:23	8.34	2.50	145.45	429.32	400	Drop rate to 2.5 BPM for last 10 BBLs of Displacement to land plug
Casing Test	19 Land Plug	7/13/21	21:25	8.34	2.50	155.45	439.32	1,660	Land Plug @ 1,660 PSI
									with final lift pressure @ 575 PSI
								1,660	Start 30 min casing test w/ pressure @ 1,660 PSI
								1,672	10 min into casing test, pressure @ 1,672 PSI
								1,683	20 min into casing test, pressure @ 1,683 PSI
Post Job & Testing	20 Check Floats	7/13/21	21:25	n/a	0	0	0	1,698	30 min into casing test, pressure @ 1,698 PSI
	21 End Job	7/13/21	21:58						BBLs back (.25-1BBL expected)
	22 Safety Meeting	7/13/21	22:00						Bleed off pressure, job complete
	27 Rig Down	7/13/21	22:03						Pre-rig down safety meeting, wash up equipment
									Rig down Cementer's Equipment, leave location

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Great Western Operating Company, LLC

Surface Cement Job Graph

COMPANY DETAILS

Date	7/13/21	API #	05-123-51585	Well No.	FC 23 - 289HN
County	Weld	State	CO	Lease	Raindance

Client Great Western Operating Company, LLC

Contact / email

JOB DETAILS

TIME ON	18:00	24 hr	Depth	2,054	ft.	Pressure Test @	1,660	psi
START TIME	19:29	7/13/21	Bottom of Surface	2,054	ft.	10 min	1,672	psi
END TIME	22:07	7/13/21	Plug Landed @	2,011	ft.	20 min	1,683	psi
			Plug Landed @	21:25	24 hr	30 min	1,698	psi

SUMMARY GRAPH

