

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	Cementor's FIELD TICKET #	400117-D
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Requested Operator Guidance:

Well Name & Number	Lease	Raindance	Well No.	FC 23 - 249HN
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Well API Number	05-123-51582
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Job Date	7/16/21	Time on	12:45	24 hr time
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Job Type	New Well Surface
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Cementing Company	Cementor's Well Service, Inc	Contact	Nate Kvamme - 303-324-4296
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Ambient conditions	clear / rain / snow / other	90	temp deg F
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Slurry Description	
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a) Purpose	Surface - 9 5/8" 40# CSG, 13 1/2" hole
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b) Cement Class	Type I / II
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c) Cement Yield	1.61	cuft / sk
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d) Cement Density	13.9	PPG
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e) Number of sks	920	sks (94# equiv)
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f) Mix Fluid Type	
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Water / Cement	8.5	Gal / sk
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g) Slurry mixed	263.8	BBLs slurry
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h) Additives used	1.50% CaCl2	3.00% Bentonite
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Total Water Used	360.4	BBLs H2O
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i) Displacement Fluid Vol	154.2	BBLs H2O
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j) Method of Placement	
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k) Set Depth	2,038	feet (ft)
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l) Stage tool depth	n/a
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m) Float Collar Depth	1,994	feet (ft)
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n) Designed Top of Cement	n/a	to surface	feet (ft)
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o) Centralizer depths	20 Centralizers at Following Depths: 13.27, 54.58, 95.83, 219.7, 343.56, 467.42, 578.17, 702.16, 825.26, 949.29, 1073.01, 1194.28, 1318.21, 1441.7, 1565.61, 1687.48, 1810.67, 1926.28, 1967.54, 2022.03		
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Charts - (pressure, density, pump rate)

Landed Plug @	1763	psi	Final Lift Pressure @	530	psi
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Cement Density (as weighed during job) @	13.9	PPG
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Job notes

a) Plug down	Y / N	Time	15:28	24 hr time
b) Floats held	Y / N		7/16/21	
c) Full Returns	Y / N	Lost Circulation	Y / N	
d) Cement to surface	Y / N	40.0	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: 7/16/21



Great Western Operating Company, LLC

Lease: Raindance
Well: FC 23 - 249HN
API# 05-123-51582

Date & Time On	7/16/21 12:45									
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	7/16/21	9:45						Great Western Call out w/ 3 hr notice	
	2 Leave Yard	7/16/21	12:00						Cementers leaves yard to travel to location	
On Location: Pre-job	3 Arrive On Location	7/16/21	12:45						Arrive on location	
	4 Spot Trucks	7/16/21	12:50						Spot trucks on location	
	5 Rig Up	7/16/21	12:52						Rig up water & Cementer's Bulk Truck, prep pump and mixing operation	
	6 Safety Meeting	7/16/21	12:57						Pre-job safety meeting with IKON12 rig crew, GWO company man & Cementer's crew	
	7 Rig Up	7/16/21	13:02						Rig up cement head w/plug	
	8 Fill Lines	7/16/21	13:04	8.34	2.00				Fill lines with up to 5 bbls of fresh water	
Initial Job Start	9 Pressure Test	7/16/21	0:00	8.34	-			-	Pressure test pumps and lines	
	10 Pump Spacer	7/16/21	13:25	8.34	4.00	20	20	-	Pump dye fresh water @	20 BBLs
Cementing	11 Pump Cement	7/16/21	13:30	13.90	4.00	263.77	283.77	45	Pump Cement @	920 SKS
									Type I/II cement with 1.5% CaCl2 & 3.0% Bentonite @ 1.61 cuft/sk & 13.9 PPG	263.77 BBLs slurry
Displacement	12 Drop Plug	7/16/21	14:45			n/a			Shut down cementing operation & release top plug	
	13 Initial Displacement	7/16/21	14:47	8.34	2.00	4.00	287.77	-	Send plug with 4.0 BBLs H2O @ 2.0 BPM	
	14 Plug Drop Verification	7/16/21	14:51			n/a			Visual verification plug released from head	
	15 Displacement	7/16/21	14:53	8.34	5.00	100.21	383.98	80-450	Continued Displacement with total fresh water @	154.2 BBLs H2O
	16 Spacer To Surface	7/16/21	15:18	8.34	5.00	104.21	387.98	385	Identified Spacer, looking for Cement / green water	
	17 Cement To Surface	7/16/21	15:21	8.34	5.00	114.21	397.98	390	Identify Cement to surface w/	40 BBLs back
	18 Drop Rate	7/16/21	15:26	8.34	2.50	144.21	427.98	400	Drop rate to 2.5 BPM for last 10 BBLs of Displacement to land plug	
Casing Test	19 Land Plug	7/16/21	15:28	8.34	2.50	154.21	437.98	1,763	Land Plug @	1,763 PSI
									with final lift pressure @	530 PSI
								1,763	Start 30 min casing test w/ pressure @	1,763 PSI
								1,775	10 min into casing test, pressure @	1,775 PSI
								1,795	20 min into casing test, pressure @	1,795 PSI
Post Job & Testing	20 Check Floats	7/16/21	15:28	n/a	0	0	0	1,808	30 min into casing test, pressure @	1,808 PSI
	21 End Job	7/16/21	16:01						BBLs back (.25-1BBL expected)	
	22 Safety Meeting	7/16/21	16:03						Bleed off pressure, job complete	
	27 Rig Down	7/16/21	16:06						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	7/16/21	API #	05-123-51582	Well No.	FC 23 - 249HN
County	Weld	State	CO	Lease	Raindance

Client Great Western Operating Company, LLC

Contact / email

JOB DETAILS

TIME ON	12:45	24 hr	Depth	2,038	ft.	Pressure Test @	1,763	psi
START TIME	13:19	7/16/21	Bottom of Surface	2,038	ft.	10 min	1,775	psi
END TIME	16:09	7/16/21	Plug Landed @	1,995	ft.	20 min	1,795	psi
			Plug Landed @	15:28	24 hr	30 min	1,808	psi

SUMMARY GRAPH

