

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 #	400115-D
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Requested Operator Guidance:

Well Name & Number	Lease	Raindance	Well No.	FC 23 - 289HNX
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Well API Number	05-123-51584
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Job Date	7/14/21	Time on	18:00	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	70	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	361.2 BBLs H2O
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i) Displacement Fluid Vol	155.0 BBLs H2O
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j) Method of Placement	
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k) Set Depth	2,048 feet (ft)
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l) Stage tool depth	n/a
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m) Float Collar Depth	2,004 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: 13.89, 55.17, 96.48, 220.37, 339.35, 463.57, 588.06, 709.22, 833.06, 957.05, 1074.6, 1196.74, 1320.94, 1445.2, 1568.48, 1687.89, 1812.1, 1936.07, 1977.54, 2032.03
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Charts - (pressure, density, pump rate)

Landed Plug @	1660 psi	Final Lift Pressure @	550 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	20:42	24 hr time
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b) Floats held	Y / N	7/14/21
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c) Full Returns	Y / N	Lost Circulation	Y / N
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d) Cement to surface	Y / N	46.0 BBLs to surface
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e) If no returns, top off	n/a BBLs
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f) Top off detail	-
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Surface Cement Job Report - Cementer's Well Service, Inc.

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DATE: DATE: 7/14/21



Great Western Operating Company, LLC

Lease: Raindance
Well: FC 23 - 289HNX
API# 05-123-51584

Date & Time On 7/14/21 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	7/14/21	15:00						Great Western Call out w/ 3 hr notice
	2 Leave Yard	7/14/21	17:15						Cementers leaves yard to travel to location
On Location: Pre-job	3 Arrive On Location	7/14/21	18:00						Arrive on location
	4 Spot Trucks	7/14/21	18:05						Spot trucks on location
	5 Rig Up	7/14/21	18:07						Rig up water & Cementer's Bulk Truck, prep pump and mixing operation
	6 Safety Meeting	7/14/21	18:12						Pre-job safety meeting with IKON12 rig crew, GWO company man & Cementer's crew
	7 Rig Up	7/14/21	18:17						Rig up cement head w/plug
	8 Fill Lines	7/14/21	18:19	8.34	2.00				Fill lines with up to 5 bbls of fresh water
Initial Job Start	9 Pressure Test	7/14/21	0:00	8.34	-			-	Pressure test pumps and lines
	10 Pump Spacer	7/14/21	18:46	8.34	4.00	20	20	-	Pump dye fresh water @ 20 BBLs
Cementing	11 Pump Cement	7/14/21	18:51	13.90	4.00	263.82	283.82	45	Pump Cement @ 920 SKS
									Type I/II cement with 1.5% CaCl2 & 3.0% Bentonite @ 1.61 cuft/sk & 13.9 PPG 263.82 BBLs slurry
Displacement	12 Drop Plug	7/14/21	20:01			n/a			Shut down cementing operation & release top plug
	13 Initial Displacement	7/14/21	20:03	8.34	2.00	4.00	287.82	-	Send plug with 4.0 BBLs H2O @ 2.0 BPM
	14 Plug Drop Verification	7/14/21	20:07			n/a			Visual verification plug released from head
	15 Displacement	7/14/21	20:09	8.34	5.00	94.99	378.80	80-450	Continued Displacement with total fresh water @ 155.0 BBLs H2O
	16 Spacer To Surface	7/14/21	20:32	8.34	5.00	98.99	382.80	385	Identified Spacer, looking for Cement / green water
	17 Cement To Surface	7/14/21	20:35	8.34	5.00	108.99	392.80	390	Identify Cement to surface w/ 46 BBLs back
	18 Drop Rate	7/14/21	20:40	8.34	2.50	144.99	428.80	400	Drop rate to 2.5 BPM for last 10 BBLs of Displacement to land plug
Casing Test	19 Land Plug	7/14/21	20:42	8.34	2.50	154.99	438.80	1,660	Land Plug @ 1,660 PSI
									with final lift pressure @ 550 PSI
								1,660	Start 30 min casing test w/ pressure @ 1,660 PSI
								1,672	10 min into casing test, pressure @ 1,672 PSI
								1,686	20 min into casing test, pressure @ 1,686 PSI
Post Job & Testing	20 Check Floats	7/14/21	21:13	n/a	0	0	0	1,695	30 min into casing test, pressure @ 1,695 PSI
	21 End Job	7/14/21	21:15						BBLs back (.25-1BBL expected)
	22 Safety Meeting	7/14/21	21:17						Bleed off pressure, job complete
	27 Rig Down	7/14/21	21:20						Pre-rig down safety meeting, wash up equipment
									Rig down Cementer's Equipment, leave location

Cementer's Well Service, Inc.

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Great Western Operating Company, LLC

Surface Cement Job Graph

COMPANY DETAILS

Date	7/14/21	API #	05-123-51584	Well No.	FC 23 - 289HNX
County	Weld	State	CO	Lease	Raindance

Client Great Western Operating Company, LLC

Contact / email

JOB DETAILS

TIME ON	18:00	24 hr	Depth	2,048	ft.	Pressure Test @	1,660	psi
START TIME	18:34	7/14/21	Bottom of Surface	2,048	ft.	10 min	1,672	psi
END TIME	21:30	7/14/21	Plug Landed @	2,005	ft.	20 min	1,686	psi
			Plug Landed @	20:42	24 hr	30 min	1,695	psi

SUMMARY GRAPH

