

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 #	400129-D
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Requested Operator Guidance:

Well Name & Number	Lease	Kortum LD	Well No.	09 - 379HN
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Well API Number	05-001-10479			
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Job Date	9/22/21	Time on	20:00	24 hr time
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Job Type	New Well Surface			
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Cementing Company	Cementer's Well Service, Inc	Contact	Nate Kvamme - 303-324-4296	
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Ambient conditions	clear / rain / snow / other	55	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	936	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	268.3	BBLs slurry		
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h) Additives used	1.50%	CaCl2	3.00%	Bentonite
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Total Water Used	364.8	BBLs H2O		
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i) Displacement Fluid Vol	155.5	BBLs H2O		
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j) Method of Placement				
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k) Set Depth	2,054	feet (ft)		
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l) Stage tool depth	n/a			
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m) Float Collar Depth	2,010	feet (ft)		
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n) Designed Top of Cement	n/a to surface			
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o) Centralizer depths	19 Centralizers: 39.72, 81.07, 201.62, 325.74, 449.76, 566.58, 690.67, 814.77, 938.84, 1062.92, 1186.64, 1310.64, 1434.72, 1558.86, 1682.98, 1807.07, 1931.16, 1972.51, 2037.74			
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feet (ft)

Charts - (pressure, density, pump rate)

Landed Plug @	1660	psi	Final Lift Pressure @	400	psi
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Cement Density (as weighed during job) @	13.9	PPG
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Job notes

a) Plug down	<input checked="" type="radio"/> Y / <input type="radio"/> N	Time	23:24	24 hr time
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b) Floats held	<input checked="" type="radio"/> Y / <input type="radio"/> N	9/22/21		
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c) Full Returns	<input checked="" type="radio"/> Y / <input type="radio"/> N	Lost Circulation	<input checked="" type="radio"/> Y / <input type="radio"/> N
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d) Cement to surface	<input checked="" type="radio"/> Y / <input type="radio"/> N	8.0	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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Cementer's Well Service, Inc.

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Great Western Operating Company, LLC

Surface Cement Job Graph

COMPANY DETAILS

Date	9/22/21	API #	05-001-10479	Well No.	09 - 379HN
County	Weld	State	CO	Lease	Kortum LD

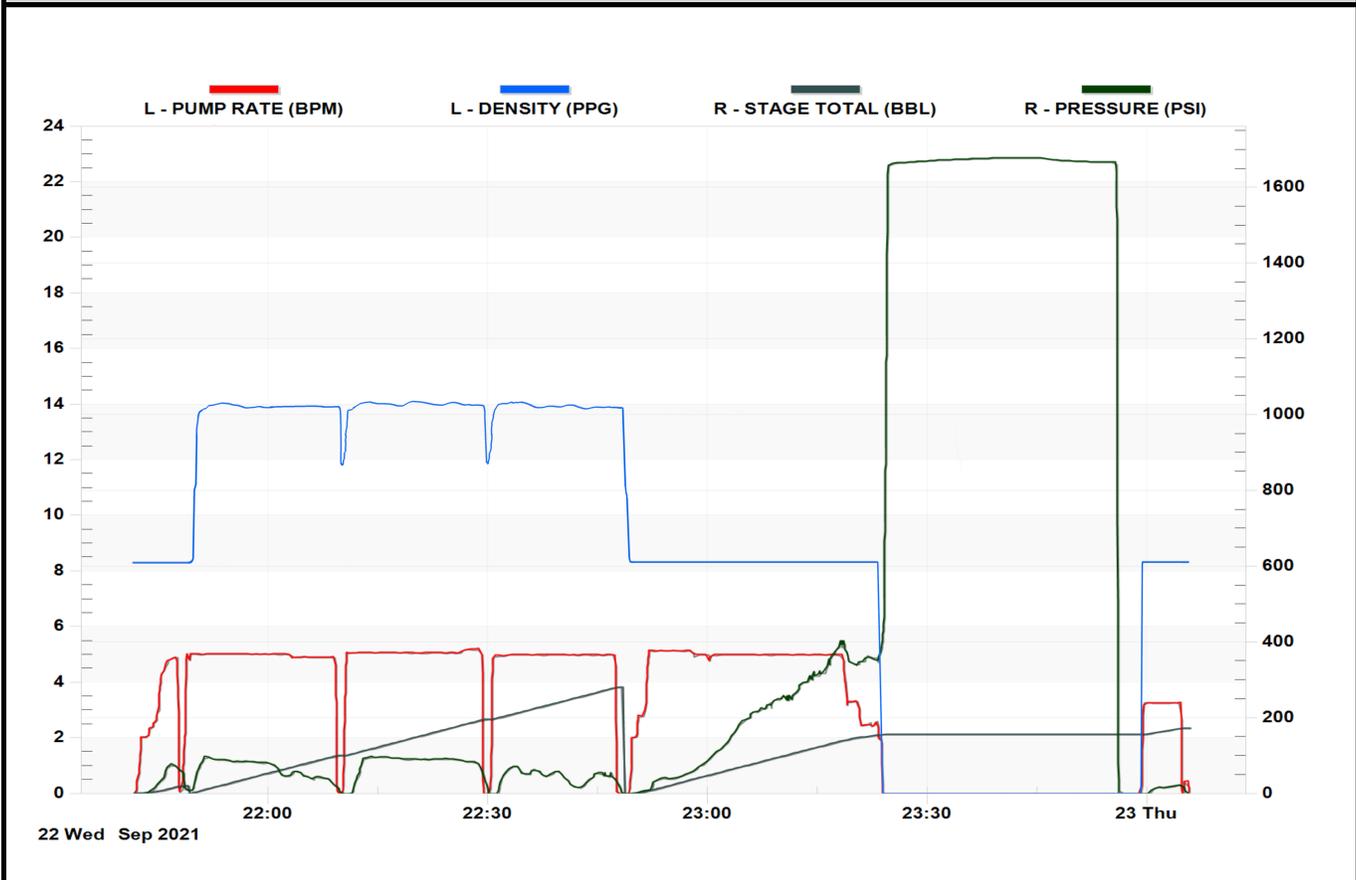
Client Great Western Operating Company, LLC

Contact / email

JOB DETAILS

TIME ON	20:00	24 hr	Depth	2,054	ft.	Pressure Test @	1,660	psi
START TIME	21:41	9/22/21	Bottom of Surface	2,054	ft.	10 min	1,675	psi
END TIME	0:06	9/23/21	Plug Landed @	2,011	ft.	20 min	1,675	psi
			Plug Landed @	23:24	24 hr	30 min	1,668	psi

SUMMARY GRAPH



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

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DATE: DATE: 9/22/21



Great Western Operating Company, LLC

Lease: Kortum LD

Well: 09 - 379HN

API# 05-001-10479

Date & Time On 9/22/21 20:00

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	9/22/21	16:00						Great Western Call out w/ 4 hr notice
	2 Leave Yard	9/22/21	19:15						Cementer's leaves yard to travel to location
On Location: Pre-job	3 Arrive On Location	9/22/21	20:00						Arrive on location
	4 Spot Trucks	9/22/21	20:05						Spot trucks on location
	5 Rig Up	9/22/21	20:07						Rig up water & Cementer's Bulk Truck, prep pump and mixing operation
	6 Safety Meeting	9/22/21	20:12						Pre-job safety meeting with IKON12 rig crew, GWO company man & Cementer's crew
	7 Rig Up	9/22/21	20:17						Rig up cement head w/plug
	8 Fill Lines	9/22/21	20:19	8.34	2.00				Fill lines with up to 5 bbls of fresh water
Initial Job Start	9 Pressure Test	9/22/21	0:00	8.34	-			-	Pressure test pumps and lines
	10 Pump Spacer	9/22/21	21:41	8.34	4.00	20	20	-	Pump dye fresh water @ 20 BBLs
Cementing	11 Pump Cement	9/22/21	21:46	13.90	4.00	268.34	288.34	45	Pump Cement @ 936 SKS
									Type I/II cement with 1.5% CaCl ₂ & 3.0% Bentonite @ 1.61 cuft/sk & 13.9 PPG
Displacement	12 Drop Plug	9/22/21	22:48			n/a			Shut down cementing operation & release top plug
	13 Initial Displacement	9/22/21	22:50	8.34	2.00	4.00	292.34	-	Send plug with 4.0 BBLs H ₂ O @ 2.0 BPM
	14 Plug Drop Verification	9/22/21	22:54			n/a			Visual verification plug released from head
	15 Displacement	9/22/21	22:56	8.34	5.00	133.45	421.79	80-450	Continued Displacement with total fresh water @ 155.45 BBLs H ₂ O
	16 Spacer To Surface	9/22/21	23:14	8.34	5.00	137.45	425.79	385	Identified Spacer, looking for Cement / green water
	17 Cement To Surface	9/22/21	23:17	8.34	5.00	147.45	435.79	390	Identify Cement to surface w/ 8 BBLs back
	18 Drop Rate	9/22/21	23:22	8.34	2.50	145.45	433.79	400	Drop rate to 2.5 BPM for last 10 BBLs of Displacement to land plug
Casing Test	21 Casing Test	9/22/21	23:34	n/a	0	0	0	1,675	Land Plug @ 1,660 PSI
									with final lift pressure @ 400 PSI
Casing Test	22 Casing Test	9/22/21	23:44	n/a	0	0	0	1,675	Start 30 min casing test w/ pressure @ 1,660 PSI
									10 min into casing test, pressure @ 1,675 PSI
									20 min into casing test, pressure @ 1,675 PSI
Casing Test	23 Casing Test	9/22/21	23:54	n/a	0	0	0	1,668	30 min into casing test, pressure @ 1,668 PSI
Post Job & Testing	24 Check Floats	9/22/21	23:55	n/a	0	0	0	1	BBLs back (.25-1BBL expected)
	25 End Job	9/22/21	23:57						Bleed off pressure, job complete
	26 Safety Meeting	9/22/21	23:59						Pre-rig down safety meeting, wash up equipment
	27 Rig Down	9/23/21	0:02						Rig down Cementer's Equipment, leave location