

Cementing Treatment



Start Date	3/4/2018	Well	Wagner # 3
End Date	3/4/2018	County	Rush
Client	H2OIL OPCO, LLC	State/Province	KS
Client Field Rep	Joe Gordy	API	15-165-22156
Service Supervisor	Aldo Espinoza	Formation	
Field Ticket No.		Rig	Duke # 8
District	Liberal, KS	Type of Job	Surface

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)	Grade	Thread
Casing	8.92	9.63	36.00	1,120.00	1,117.00			LTC
Open Hole	12.25			1,117.00	1,117.00	100.00		

Shoe Length (ft): 47

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Bottom Plug Provided By		Tool Depth (ft)	1,073.00
Bottom Plug Size		Max Tubing Pressure - Rated (psi)	
Top Plug Used?	Yes	Max Tubing Pressure - Operated (psi)	
Top Plug Provided By	BJ	Max Casing Pressure - Rated (psi)	4,460.00

Cementing Treatment



Top Plug Size	8.625	Max Casing Pressure - Operated (psi)	2,000.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity	15.00	Job Pumped Through	Manifold
Centralizers Type	Bow	Top Connection Thread	ltc
Landing Collar Depth (ft)	1,073	Top Connection Size	8.625

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	Solids Present at End of Circulation	No
Circulation Prior to Job	Yes	10 sec SGS	
Circulation Time (min)	1.00	10 min SGS	
Circulation Rate (bpm)	5.00	30 min SGS	
Circulation Volume (bbls)	100.00	Flare Prior to/during the Cement Job	No
Lost Circulation Prior to Cement Job	No	Gas Present	No
Mud Density In (ppg)	9.00	Gas Units	
Mud Density Out (ppg)	9.00		
PV Mud In			
PV Mud Out			
YP Mud In			
YP Mud Out			

TEMPERATURE

Cementing Treatment



Ambient Temperature (°F)	50.00	Slurry Cement Temperature (°F)	60.00
Mix Water Temperature (°F)	55.00	Flow Line Temperature (°F)	64.00

BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Planned Top of Fluid (Ft)	Length (Ft)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Spacer / Pre Flush / Flush	Fresh Water	8.3400			0.00				10.0000
Lead Slurry	Lead Cement	12.1000	2.5347	14.76	0.00	725.00	180	455.0000	80.9000
Tail Slurry	Tail Cement	15.2000	1.2692	5.74	725.00	375.00	200	254.0000	45.1000
Displacement Final	Displacement	8.3400			82.90			0.0000	81.8000

Fluid Type	Fluid Name	Component	Concentration	UOM
Lead Slurry	Lead Cement	CEMENT, ASTM TYPE I	100.0000	PCT
Lead Slurry	Lead Cement	EXTENDER, BENTONITE	4.0000	BWOB
Lead Slurry	Lead Cement	CEMENT EXTENDER, SODIUM METASILICATE, A-2	2.0000	BWOB
Lead Slurry	Lead Cement	SALT, SODIUM CHLORIDE, A-5	2.0000	BWOW
Lead Slurry	Lead Cement	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	BWOB
Lead Slurry	Lead Cement	CEMENT EXTENDER,	2.0000	BWOB

Cementing Treatment



		GYPSUM, A-10	
Lead Slurry	Lead Cement	IntegraSeal CELLO	0.5000 LBS/SK
Tail Slurry	Tail Cement	CEMENT, ASTM TYPE I	100.0000 PCT
Tail Slurry	Tail Cement	IntegraSeal CELLO	0.5000 LBS/SK
Tail Slurry	Tail Cement	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A- 7P, PELLETS	2.0000 BWOB

TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)	Annulus Pressure (psi)	Comments
	Fresh Water	0.00	10.00			
	Lead Cement	0.00	80.90			
	Tail Cement	6.00	45.10			
	Displacement	0.00	81.80			

	Min	Max	Avg
Pressure (psi)	0.00	0.00	0.00
Rate (bpm)	6.00	6.00	6.00

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By BJ Amount of Cement Returned/Reversed 60.00

Cementing Treatment



Calculated Displacement Volume (bbls)	83.00	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	82.00	Amount of Spacer to Surface	
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amount Bled Back After Job	1.00
Bump Plug Pressure (psi)	950.00	Total Volume Pumped (bbls)	220.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	Yes
Cement returns During Job	Full	Lost Circulation During Cement Job	No

CEMENT PLUG

Bottom of Cement Plug?	No	Wiper Balls Used?	No
Wiper Ball Quantity		Plug Catcher	No
Number of Plugs			

SQUEEZE

Injection Rate (bpm)	Fluid Density (ppg)
Injection Pressure (psi)	ISIP (psi)
Type of Squeeze	FSIP (psi)
Operators Max SQ Pressure (psi)	

COMMENTS

Cementing Treatment



Treatment Report

Job Summary

pressure test lines 2000 psi
180 / sk 81 bbl lead cement at 12.1 #/g
200 sk / 45.2 bbl tail cement at 15.2 #/g
release pre-loaded plug
displace 83 bbl h2o
bump plug 500 over
check floats, holding, done

Customer Name H2 OIL OPCO, LLC
 Well Name WAGNER UNIT #3
 Job Type Surface

District Liberal
 Supervisor ALDO ESPINOZA
 Engineer EDGAR



Seq No.	Start Date/Time	Category	Event	Equipment	Event ID	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	3/4/18 05:00 HRS	Mobilization	Arrive on Location	Cement Pump Truck						ON LOCATION
2	700AM	Operational	Rig Up							RIG UP
3	900AM		PIPE ON BOTTOM							PIPE ON BOTTOM
4	940AM		SAFETY MEETING							SAFETY MEETING
5	948AM		RIG HEAD							RIG UP HEAD
	956AM		PRESSURE TEST			8.34	1	2	2000	PRESSURE TEST LINES
/	1000AM		LEAD			12.1	5	81	100	180 SK / 81 BBL LEAD CEMENT AT 12.1 #/g
8	1030AM		TAIL			15.2	4	45	170	200 SK / 45.2 BBL TAIL CEMENT AT 15.2 #/g
9	1043AM								0	RELEASE PRE-LOADED PLUG
10	1045AM		DISPLACING			8.34			50	START DISPLACEMENT
11	1056AM						5	20	80	20 BBL GONE
12	1103AM						5	20	150	40 BBL GONE
13	1106AM						5	20	300	60 BBL GONE
14	1110AM		SLOW DOWN				3	10	330	70 BBL SLOW DOWN TO LAND PLUG
15	1115AM		BUMP PLUG				3	12	350-950	82 BBL BUMP PLUG
16	1117AM								0	CHECK FLOATS
17										FLOATS HOLDING
18										60 BBL OF CEMENT BACK TO SURFACE
19										LEAVE A 5.5 SWEDGE FOR NEXT JOB ON LOCATION
20	1130AM									RIG DOWN
21	1250AM									LEAVE LOCATION
22										THANKS
23										
24										

H2 OIL
WAGNER # 3 - -

