



Occidental Petroleum Corporation

SBJ 13-4HZ

Surface Casing

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SBJ 13-4HZ – Surface Casing

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1. Project Background

On October 03, 2021, Magnum utilized PCMP-Q technology on the surface casing cementing job with a total of 343 bbl mixed and pumped, and maximum combined displacement rate of 6.5 bbl/min. The total time of operations was 2 hours.



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2. Cement Blend Data

This is the blend data of the Cement ordered for the job.

Blend Description	Cement Properties
Base Cement Blend : MAG S 14.1	
Mix Water (gal/sk)	5.89
Yield (ft ³ /sk)	1.28
Lab Results	
Density (ppg)	14.1
Working Time (hr:min)	2:13
Thickening Time (hr:min)	3:05
Compressive Strength (psi/12h)	698
Compressive Strength (psi/24h)	1070
Mix water Temperature (°F)	65
Slurry Temperature (°F)	65



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3. Pump Schedule

PUMP SCHEDULE							
RATE (BPM)	EVENT	VOLUME (BBL)	DENSITY (LB/GAL)	# OF SACKS	SACK WEIGHT (LB/SK)	YIELD (FT3/SK)	MIX WATER (GAL/SK)
	Start Job				Max PSI 1200		
	Drop Plug						
3	Fill Fresh Water	5.0	8.3				
	Test Lines 2500						
4	Fresh Water	5.0	8.3				
4	Mag Mark	10.0	8.3				
4	Fresh Water	10.0	8.3				
6	Mag S 14.1	179.4	14.1	786	87.00	1.28	5.89
	Shut Down						
	Drop Plug						
	Displacement	138.8	8.3				
	Land Plug						
	TOL						
	TOT Surface				Bump Plug 500psi Over		
	Spacer to Surface						
	Cement to Surface	8.6					
TOTAL	TOTAL PIPE	SHOE JOINT		FLOAT COLLAR		BBL/FT	H2O REQ.
138.80	1,871.00	42.00		1831.00		0.0758	300
SHOE JOINT CAP.	3.10	USE MUD SCALES TO VERIFY WEIGHT					
PRESSURE TO LAND (PSI)		550		TOTAL FLUID PUMPED (BBL)			348
Collapse (psi)	3,098	Burst (psi)		5750		JOB#	109010
Client	Occidental Petroleum	Well Name		SBJ 13-4HZ		Job Type	Surface
Water Temp (°F)	60	Water pH		6		Water Chlorie (mg/L)	>250
Total Hardness (mg/L):	300						



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4. Job Sequence / Procedure 1 of 2

US Treatment Report					
					
Customer: OCCIDENTAL PETROLEUM CORP. Rep: David Cornett Supervisor: WESLEY BELL Job Type: US Primary Casing-Surface		Rig: Ikon 12 Well: SBJ 13-4HZ UWI: SBJ 4HZ Surface: T4N R68W S13		Job #: JOB00109010 Job Date: 10-3-2021 Time Requested: 5:00 Time Arrived: 3:50 Time Released: 9:00	
786.9 sk MAG S 14.1 + 1.00% MCA-1 + 0.10% MCDF-P					
		Yield: 1.28 ft ³ /sk = 179.39bbbls	Mix Water: 5.89 gal/sk = 4634.84gal		
BHCT (F)	81	BHST (F)	81	Surface Casing Casing Size (in)	9.625
Surface Casing Grade	L-80	Surface Casing Weight (lb/ft)	40	Collapse Csg Pressure (psi)	3098
Float Depth (ft)	1831	Hole Size (in)	13.5	Max Csg Pressure (psi)	5750
Max Pressure (psi)	1200	Mud Density (lb/gal)	8.5	Mud Type	WBM
Plug Size (in)	9.625	Plug Type	Rig	Surface Casing (in)	9.625
Surface Casing Grade	L80		Supplied	Surface Casing WT (lb/ft)	40
TMD (ft)	1882	Surface Casing Length (ft)	1871		
		Unkown UDF	Surface Casing		
Treatment Info: Sacks Used: 787 Sacks Not Used: 0					
Preflush: 10bbbls Fresh Water & 10bbbls MAG Mark & 10bbbls Fresh Water					
				Circulation Time:	0.5
				Slurry Temp:	70
				Water Temp:	60
				Bulk Temp:	60
				Air Temp:	45
				Air Pressure:	30.1
				Slurry Returns:	20
				Plug Bumped:	Yes
				Pump Out Lines:	No
				Float Held:	Yes
				Cement Class:	Type III
				Humidity:	64
				Precipitation:	0
Displace: 138.8bbbls Fresh Water					



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Job Sequence / Procedure 2 of 2

Time	Pressure psi	Annular Pressure psi	Volume Per Stage bbls	Total Stage Volume bbls	Rate bbls/mi n	Treatment Detail
03:50	0.00					Arrive on Location - Arrive on location, Requested time was 05:00
04:00	0.00					Rig in Pump and bulk
05:45	0.00					Safety Meeting - Hold safety meeting with rig crew and pump crew
06:10	2,500.00			5	2	Start Pressure Test - Load 9.625" Bottom plug, Fill lines with fresh water and test
06:13	100.00			5	4	Pump Preflush - Pump 5bbls fresh water
06:16	100.00			10	4	Pump Preflush - Pump 10bbls Mag Mark
06:18	100.00			10	4	Pump Preflush - Pump 10bbls Fresh water, Bulk delivery issues, Shut down and remediate delivery issues.
07:05	250.00			179.4	5	Pump Slurry - Pump 179.4bbls, 786sks, Mag S 14.1 Y: 1.28 WR: 5.89.
07:46	0.00					Stop Pumping - Finish mixing cement
07:54	0.00					Drop Plug - Load 9.625" Top Plug, Begin displacemnt with fresh water
08:05	300.00			50	6.5	Displace - 50bbls away
08:13	650.00			50	6.5	Displace - 100bbls away
08:22	580.00			38.8	2	Bump Plug - 138.8bbls away, Land plug bump pressure to 1100
08:24	0.00					Check Floats - Floats held, 1bbl back
08:25	0.00					Wash Up Truck - Wash up truck to cellar
09:00	0.00					Job complete



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5. Job Graph

