



Occidental Petroleum Corporation

SBJ 13-5HZ

Surface Casing

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SBJ 13-5HZ – Surface Casing

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1. Project Background

On October 04, 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



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RATE	EVENT	VOLUME (BBLs)	SACKS	WEIGHT	YIELD	GAL/ SK
	START JOB		1200		<u>Max Psi</u>	
	DROP BOTTOM PLUG					
2 BPM	FILL LINES	5.0		8.33 PPG		
	PRESSURE TEST	2500 PSI		8.33 PPG		
5 BPM	FRESH WATER	5.0		8.33 PPG		
5 BPM	DYE WATER	10.0		8.33 PPG		
5 BPM	FRESH WATER	10.0		8.33 PPG		
6 BPM	CMT - MAG S 14.1	179.4	786.9	14.1 PPG	1.28	5.89
	SHUTDOWN		WASH PUMPS AND LINES			
	DROP TOP PLUG					
6 BPM	DISPLACEMENT	138.5				
	LAND PLUG	BUMP PLUG 500 PSI OVER				
		SHOE JOINT LENGTH		BBLs TO SURFACE		H2O REQ
TP	1869'	42'		8.4 BBLs CEMENT		300 BBLs
TD	1879'	<u>USE MUD SCALES ON EVERY TIER.</u>				
Total Displacement						
PRESSURE TO LAND		547 PSI				
Collapse	3090 PSI	Burst	5750 PSI		JOB #	109091



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4. Job Sequence / Procedure 1 of 2

		US Treatment Report			
Customer: OCCIDENTAL PETROLEUM CORP. Rep: David Cornett Supervisor: VITALIJS NEVERDASOVS Job Type: US Primary Casing-Surface		Rig: SBJ 13-5HZ Well: SBJ 13-5HZ UWI: SBJ 13-5HZ Surface: T4N R68W S13		Job #: JOB00109081 Job Date: Oct 04 @ 00:00 Time Requested: Oct 04 @ 01:00 Time Arrived: Oct 03 @ 01:00 Time Released: Oct 04 @ 06:00	
786.9 sk MAG S 14.1 + 1.00% MCA-1 + 0.10% MCDF-P					
Yield: 1.28 ft ³ /sk = 179.39bbls Mix Water: 5.89 gal/sk = 4634.84gal					
BHCT (F)	81	BHST (F)	81	Collapse Csg Pressure (psi)	3090
Float Depth (ft)	1827'	Funnel Vis (sec/qt)	TBD	Hole Size (in)	13.5
Max Csg Pressure (psi)	5750	Max Pressure (psi)	1200	Mud Density (lb/gal)	8.4
Mud Type	WATER PSI BASED	Plug Size (in)	9 5/8	Plug Type	Rig Supplie d
TMD (ft)	1879'	TVD (ft)	1797		
Treatment Info: Sacks Used: 0 Sacks Not Used: 0					
Preflush: 10bbls Fresh Water & 10bbls MAG Mark & 10bbls Fresh Water				Circulation Time: 0.5	
Displace:				Slurry Temp: 65	Bulk Sample: Yes
				Water Temp: 60	Water Sample: Yes
				Bulk Temp: 62	Slurry Sample: Yes
				Air Temp: 50	Air Pressure
Slurry Returns: 9		Plug Bumped: Yes	Pump Out Lines: Yes	Float Held: Yes	
Cement Class:			Humidity:	Precipitation: 63	



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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
23:25	0.00					Arrive on Location - ARRIVED ON LOCATION. CUSTOMER REQUESTED CREW @ 01:00. RIG IS GETTING READY TO RUN CASING.
02:00	0.00					Safety Meeting - PRE JOB SAFETY MEETING WITH ALL PERSONEL
02:30	0.00					Drop Plug - DROP BOTTOM PLUG
02:53	2,540.00		5		2.0	Start Pressure Test - LOAD LINE AND PRESSURE TEST
02:59	90.00		5		5.0	Pump Preflush - FRESH WATER AHEAD
03:27	140.00		10		5.0	Pump Preflush - DYE SPACER
03:29	118.00		10		5.0	Pump Preflush - FRESH WATER
03:37	250.00		179.4		6.0	Pump Slurry - BATCH/ WEIGHT/ PUMP 786.9 SKS / 179.4 BBLs OF MAG S 14.1.
04:19	0.00					Stop Pumping - SHUTDOWN. FINISHED PUMPING CEMENT
04:23	0.00					Drop Plug - DROP TOP PLUG.
04:26	760.00		120		6.5	Displace - FRESH WATER DISPLACEMENT.
04:49	650.00		18.5		2.0	Slow Rate Pumping - SLOW RATE.
04:55	1,210.00			138.5		Bump Plug - BUMP PLUG WITH 500 PSI OVER FINAL CIRCULATING PRESSURE.
04:58	0.00					Check Floats - FLOATS HELD. 1 BBL BACK
05:10	0.00					Wash Up Truck
05:30	0.00					Rig Out



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5. Job Graph

