



# Occidental Petroleum Corporation

## SBJ 13-1HZ

### Surface Casing

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Author: Yithanlily Silvester

Yithanlily.Silvester@magnumcement.com



## SBJ 13-1HZ – Surface Casing

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## Table of Contents

Disclaimer.....	2
1. Project Background.....	4
2. Cement Blend Data .....	5
3. Pump Schedule .....	6
4. Job Sequence / Procedure 1 of 2 .....	7
Job Sequence / Procedure 2 of 2 .....	8



## SBJ 13-1HZ – Surface Casing

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### ***1. Project Background***

On September 30, 2021, Magnum utilized PCMP-Q technology on the surface casing cementing job with a total of 352 bbl mixed and pumped, and maximum combined displacement rate of 6 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 <sup>3</sup> /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



SBJ 13-1HZ – Surface Casing

3. Pump Schedule

						
OXY - SBJ 22-13-HZ - SURFACE						
RATE	EVENT	VOLUME (BBLs)	SACKS	WEIGHT	YIELD	GAL/ SK
	START JOB		<b>750</b>		<u><b>Max Psi</b></u>	
	DROP BOTTOM PLUG					
<b>2 BPM</b>	FILL LINES	5.0		8.33 PPG		
	PRESSURE TEST	2000 PSI		8.33 PPG		
<b>5 BPM</b>	FRESH WATER	5.0		8.33 PPG		
<b>5 BPM</b>	DYE WATER	10.0		8.33 PPG		
<b>5 BPM</b>	FRESH WATER	10.0		8.33 PPG		
<b>6 BPM</b>	CMT - MAG S 14.1	187.5	822.5	14.1 PPG	1.28	5.89
	SHUTDOWN	<b>WASH PUMPS AND LINES</b>				
	DROP TOP PLUG					
<b>6 BPM</b>	DISPLACEMENT	139.7				
	LAND PLUG	<b>BUMP PLUG 500 PSI OVER</b>				
		SHOE JOINT LENGTH		BBLs TO SURFACE		H2O REQ
<b>TP</b>	1878'	36'	16.5 BBLs CEMENT		300 BBLs	
<b>TD</b>	1893'	<u><b>USE MUD SCALES ON EVERY TIER.</b></u>				
Total Displacement						
<b>PRESSURE TO LAND</b>		552 PSI				
<b>Collapse</b>	<b>3090 PSI</b>	<b>Burst</b>	<b>5750 PSI</b>		<b>JOB #</b>	<b>108776</b>



## SBJ 13-1HZ – Surface Casing

### 4. Job Sequence / Procedure 1 of 2

 <b>Magnum</b> <small>Cementing Services</small>		<b>US Treatment Report</b>			
<b>Customer:</b> OCCIDENTAL PETROLEUM CORP.		<b>Job #:</b> JOB00108776			
<b>Rep:</b> David Cornett	<b>Rig:</b> lkon 12	<b>Job Date:</b> Sep 30 @ 00:00			
<b>Supervisor:</b> VITALIJS NEVERDASOV	<b>Well:</b> SBJ 22-13HZ PAD	<b>Time Requested:</b> Sep 30 @ 15:00			
<b>Job Type:</b> US Primary Casing-Surface	<b>UWI:</b> SBJ 13-1HZ	<b>Time Arrived:</b> Sep 30 @ 15:00			
	<b>Surface:</b> T4N R68W S13	<b>Time Released:</b> Sep 30 @ 20:00			
822.5 sk MAG S 14.1 + 1.00% MCA-1 + 0.10% MCDF-P					
Yield: 1.28 ft <sup>3</sup> /sk = 187.5bbls		Mix Water: 5.89 gal/sk = 4844.52gal			
BHCT (F)	81	BHST (F)	81	Surface Casing Casing Size (in)	9.625
Surface Casing Weight (lb/ft)	36	Collapse Csg Pressure (psi)	3090 PSI	Float Depth (ft)	1842'
Hole Size (in)	13.5	Max Csg Pressure (psi)	5750 PSI	Max Pressure (psi)	1200 PSI
Mud Density (lb/gal)	8.4 PPG	Mud Type	WATE R	Plug Size (in)	9 5/8
Plug Type	Rig Supplied		BASED	TVD (ft)	1797
Unknown UDF	Surface Casing	TMD (ft)	1893'		
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:	65	Water Sample:	Yes
		Bulk Temp:	55	Slurry Sample:	Yes
		Air Temp:	60	Air Pressure	
Slurry Returns: 16.5		Plug Bumped:	Yes	Pump Out Lines:	Yes
Cement Class:		Type III		Humidity:	
				Float Held:	Yes
				Precipitation:	



## SBJ 13-1HZ – Surface Casing

### 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
13:40	0.00					Arrive on Location - ARRIVED ON LOCATION. CUSTOMER REQUESTED CREW @ 15:00. RIG IS GETTING READY TO RUN CASING.
17:10	0.00					Safety Meeting - PRE JOB SAFETY MEETING WITH ALL PERSONEL
17:30	0.00					Drop Plug - DROP BOTTOM PLUG
17:37	2,015.00		5		2.0	Start Pressure Test - LOAD LINE AND PRESSURE TEST
17:40	137.00		5		5.0	Pump Preflush - FRESH WATER AHEAD
17:41	143.00		10		5.0	Pump Preflush - DYE SPACER
17:43	140.00		10		5.0	Pump Preflush - FRESH WATER
17:46	102.00		187.5		6.0	Pump Slurry - BATCH/ WEIGHT/ PUMP 822.5 SKS / 187.5 BBLs OF MAG S 14.1.
18:33	0.00					Stop Pumping - SHUTDOWN. FINISHED PUMPING CEMENT
18:37	0.00					Drop Plug - DROP TOP PLUG.
18:43	620.00		120		6.0	Displace - FRESH WATER DISPLACEMENT.
19:04	610.00		19.7		2.0	Slow Rate Pumping - SLOW RATE.
19:12	1,108.00			139.7		Bump Plug - BUMP PLUG WITH 500 PSI OVER FINAL CIRCULATING PRESSURE.
19:15	0.00					Check Floats - FLOATS HELD. 1 BBL BACK
19:25	0.00					Wash Up Truck
19:35	0.00					Rig Out



# SBJ 13-1HZ – Surface Casing

## 5. Job Graph

