

PROPOSED WELL PLANNING OUTLINE

WELL NAME **HARDY STATE 36 NO. 1**
 LOCATION **T-20S, R-37E, Sec. 36, Lea County, NM**

TVD IN 1000'	MD	FORMATION TOPS & TYPE	DRILLING PROBLEMS	TYPE OF FORMATION EVALUATION	HOLE SIZE	CASING SIZE DEPTH	FRAC GRAD	FORMATION PRESSURE GRADIENT	MUD WT TYPE	DAYS
0					17-1/2	13-3/8", 54.5#, K-55 ST&C @ 500'			Spud	
1		RUSTLER 1295' TOP SALT 1390'	WASHOUTS IN SALT SECTION	2 MAN MUD LOG @ 2650'	12-1/4			< 8.3	10.0 ppg Brine	
2		BOTTOM SALT 25 10' YATES 27 10'	LOST CIRCULATION TO 5000' SEEPAGE TO SEVERE							
3		SEVEN RIVERS 2980'	ACTIVE WATERFLOOD ZONE							
4		QUEEN 3520' GRAYBURG 3785' SAN ANDRES 4045'	POSSIBLE DEVIATION TO TD			9-5/8", 36#, K-55 LT&C (DRIPT FOR 8-3/4" BIT) @ 3900'				
5		GLORIETA 5185'	PARTIAL LOSSES POSSIBLE	DST DEVONIAN	8-3/4				Fresh Water	
6		ELINEBRY MCR 5796'						< 8.4		
7		TUBB MCR 6310'								
8		ABO 6990'								
9		STRAWN 7670'		DST McKEE DST ELLENBURGER	5-1/2, 17# K-55 & L-80 @ 10,500'				Mud Up @ 8200' FW - Gal 8.7 - 8.9 ppg 15 cc	
10		DEVONIAN 8225'	POSSIBLE SEVERE LOSSES FROM DEVONIAN TO TD							
11		SIMPSON 9640' McKEE SAND 9940'	WASHOUTS IN McKEE SAND					Possibly 8.7 - 8.8		
12		ELLENBURGER LIME 10 100' GRANITE WASH 10400' TD @ 10,500'								
13				GR-CAL-LDT-CNL GR-DLL-MSPL GR-SON (LS)-DIEL 1500' OF IMAGING LOG						
14										
15										
16										

DATE _____

APPROVED _____
 ENGINEER

DIVISION ENGINEERING MANAGER


 DIVISION DRILLING SUPERINTENDENT

DIVISION EXPLORATION MANAGER