

SUPPLEMENTAL DRILLING DATA

UNION OIL COMPANY OF CALIFORNIA WELL NO.1 NORTH MADURO FEDERAL UNIT

1. SURFACE FORMATION: Quaternary.
2. ESTIMATED TOPS OF GEOLOGIC MARKERS:

Rustler	1300'	Strawn	12,070'
Base Salt	2850'	Atoka	12,430'
Yates	3030'	Morrow	12,910'
Bone Springs	7910'	Middle Morrow	13,100'
Wolfcamp	10,745'	Lower Morrow	13,420'
Cisco	11,770'		

3. ANTICIPATED POSSIBLE HYDROCARBON BEARING ZONES:

Morrow Gas

4. PROPOSED CASING AND CEMENTING PROGRAM:

CASING SIZE	SETTING DEPTH		WEIGHT	GRADE	JOINT
	FROM	TO			
13-3/8"	0	450'	48#	H-40	STC
9-5/8"	0	4200'	40#	K-55	LTC
"	4200'	5300'	40#	N-80	LTC
5-1/2"	0	3000'	17#	N-80	BUTT
"	3000'	10,400'	17#	N-80	LTC
"	10,400'	13,750'	17#	S-95	LTC

13-3/8" casing to be cemented with 500 sacks of Class "C" with 2% CaCl. Cement to circulate.

9-5/8" casing to be cemented in two stages with DV tool at about 1300 feet. 1st stage to be 1800 sacks of Howco Lite with 5# salt per sack followed by 200 sacks of Class "C". 2nd stage to be 400 sacks of Howco Lite "C" with 2% CaCl followed by 100 sacks of Class "C" with 2% CaCl.

5-1/2" casing to be cemented with 1300 sacks of Silica Lite followed by 500 sacks of Class "H".