

SUPPLEMENTAL DRILLING DATA

Discovery Operating, Inc.
Flintstone Federal Well #1

1. Surface Formation: Quaternary

2. Estimated Tops of Geological Markers:

Rustler (1780')	Bone Spring (9000')
Salt (1980')	Strawn (10,900')
Yates (3980')	Atoka (13,000')
Queen (4800')	Morrow (13,700')
Brushy Canyon (5600')	

3. Anticipated Possible Water and Hydrocarbon Bearing Zones:

Fresh Water - above 300'	Bone Spring - Hydrocarbon
Yates - Hydrocarbon	Strawn - Hydrocarbon
Morrow - Hydrocarbon	Atoka - Hydrocarbon

4. Proposed Casing and Cementing:

<u>Casing Size</u>	<u>Setting Depth</u>		<u>Weight</u>	<u>Grade</u>	<u>Joint</u>
	<u>From</u>	<u>To</u>			
13 ³ / ₈ "	0	500	48#	H-40	ST&C
9 ⁵ / ₈ "	0	5,000	36# & 40#	J-55, N-80	ST&C, LT&C
7"	0	12,900	23# & 26#	S-95	LT&C
5"	12,500	14,500	18#	S-95	Hydril

13³/₈" casing will be cemented with sufficient cement to circulate.

9⁵/₈" casing will be cemented with sufficient cement to bring the top to 1900'.

7" casing will be cemented with sufficient cement to bring the top to 10,000'.

5" casing will be cemented with sufficient cement to circulate the liner.

5. Pressure Control Equipment:

Blowout preventer equipment will consist of a Shaffer LWS hydraulic double 11" x 5000 psi. A Shaffer 11" x 5000 psi Choke manifold 4" x 5000 psi flanged connections. Koomey 8-station accumulator closing unit with remote control.

A sketch of the BOP stack is attached.

6. Circulating Medium:

Surface to 500 feet: Fresh water mud

500' to 5000': Salt water mud

5000' to 12,900': Fresh water mud

12,900' to Total Depth: Fresh water mud, weight mud with Barite is needed.

7. Auxiliary Equipment:

Drill string safety valves will be maintained on the rig floor in the open position while drilling operations are in progress.

8. Testing, Coring and Logging Programs:

Drill Stem tests will be made if sample data and drilling rate are sufficient to indicate a test is warranted.

It is planned that electric logs will include a sonic, neutron, density & resistivity.

No coring is planned.

9. Abnormal Pressures, Temperatures, or Hydrogen Sulfide Gas:

Abnormal pressures are expected between 12,900' to 14,500', no H₂S is expected.

10. Anticipated Starting Date:

It is anticipated that drilling operations will commence about January 15, 1998, subject to rig availability, with drilling and completion operations lasting about 60 days.