

DRILLING PROGNOSIS

WELL: Antelope Ridge Unit No. 6

LOCATION: 1980' FNL & 1980' FEL Section 3,
T-24-S, R-34-E, Lea County, New Mexico

OBJECTIVE: Atoka, Morrow

W.O. NO. _____

FIELD: Antelope Ridge (Atoka-Morrow)

EST. ELEVATION: 3485'

EVALUATION			GEOLOGY	WELL DEPTH	HOLE SIZE	CASING & CEMENT	MUD PROGRAM
DRLG. TIME & SAMPLES	ELEC. SURVEYS	MUD LOGGER	SIGNIFICANT FORMATIONS				
2' Drilling Time, 10' Samples TD-11,000'	CNL/FDC/GR, DIL/LL8/SP/GR PML/ML	IBHC-S/GR (GR to Surface) 11,900' - 5180'	40'±		20"	20" Conductor	
			400'±		20"	16" 65# H-40 ST&C Cement to Surface	
			Base Red Beds 955' (+2530')		13 3/4"		Saturated Brine
			Delaware Lime 5,145' (-1660')	5180'±		10 3/4" 45.5# & 40.5# S-80 ST&C & 40.5# K-55 ST&C. Cement to Surface (Possible 2-Stage)	Water
			Bone Spring 8,705' (-5220')		9 1/2"	Min. BOP Class. 3MR-10-SRRA	Fresh Water - Weighted With Brine as Required. Viscous Sweeps for Hole Cleaning
			Wolfcamp 11,205' (-7720')				
			Des Moines 11,875' (-8390')	11,900'±		7 5/8" 33.7# P-110 LT&C. Cement to 8000'±.	
			Atoka 12,095' (-8610')		6 1/2"	Min. BOP Class. 5MR-10-SRRA	Fresh Water - Weighted Mud "Low Solids" - Non- dispersed (KCl Drispac)
			Morrow 12,965' (-9480')				
			TD 13,665' (-10,180')			5 1/2" 20# S-95, 20# N-80 & 17# S-95 TS Circulate Cement	

DRILLING DATA
ANTELOPE RIDGE UNIT NO. 6
LEA COUNTY, NEW MEXICO

CASING AND CEMENT:

30" conductor set at 40'±. Cement with Redimix.

16" 65# H-40 ST&C surface casing set at 400'± to case off fresh water zones. Circulate cement to surface with 500± sacks.

10 3/4" 45.5# S-80 ST&C, 40.5# S-80 ST&C and 40.5# K-55 ST&C intermediate casing set at 5180'± or approximately 30' into Delaware Limestone. Circulate cement to surface with 2200± sacks. (Possible 2-stage)

7 5/8" 33.7# P-110 LT&C second intermediate/production casing set at 11,900'± or approximately 60' into Des Moines (Strawn). Cement to 8000'± with 850± sacks.

5 1/2" 20# S-95, 20# N-80 and 17# S-95 triple seal production liner from 11,600'± to TD (300'± overlap). Circulate cement on liner with 500± sacks.



SHELL OIL
COMPANY

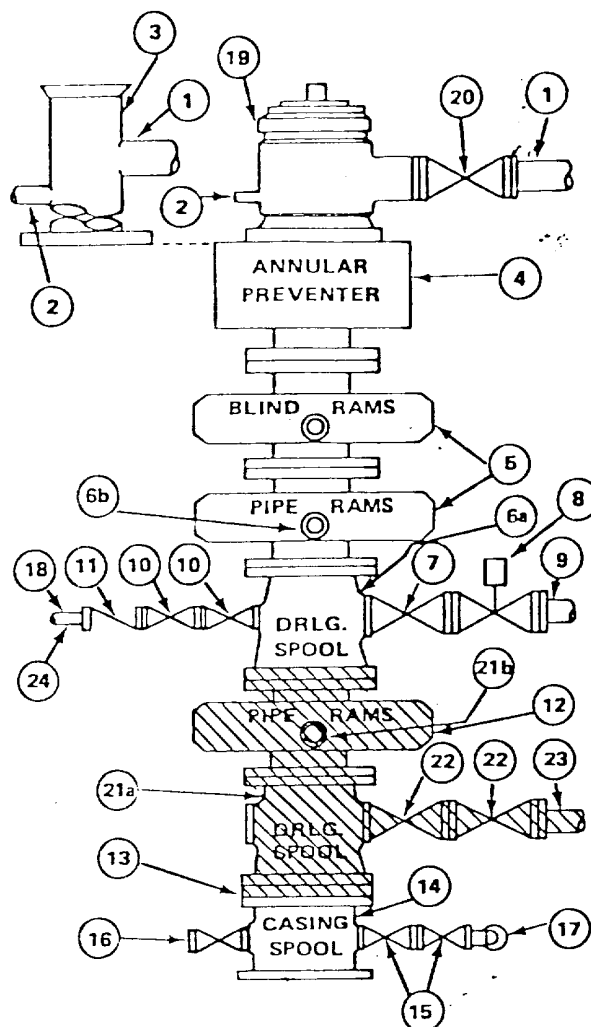
BOP CONFIGURATION
SHELL ANTELOPE RIDGE UNIT WELL NO. 6
LEA COUNTY, NEW MEXICO

SHELL MINIMUM BOP STACK REQUIREMENTS			
No.	Item	Min. I.D.	Min. Nominal
1	Flowline		
2	Fill up Line		2"
3	Drilling Nipple		
4	Annular Preventer		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" and 3" min. outlets		
	or		
6b	Use ram outlets as alternate to 6a		
7	Valve Gate ☒ Plug ☒	3-1/8"	
8	Gate Valve Power Operated	3-1/8"	
9	Line to choke manifold		3"
10	Valves Gate ☒ Plug ☒	2-1/16"	
11	Check Valve	2-1/16"	
12	Single hydraulically operated ram		
13	Wear flange or bushing		
14	Casing spool		
15	Valves Gate ☒ Plug ☒	1-13/16"	
16	Flanged control plug or valve	1-13/16"	
17	Compound pressure gauge		
18	Kill line to rig mud pump manifold		2"

NOTE: Additional specifications for Sour Service and Air-Gas Drilling are given in Shell Well Control Manual, Appendix 5.20 and Appendix 5.21.

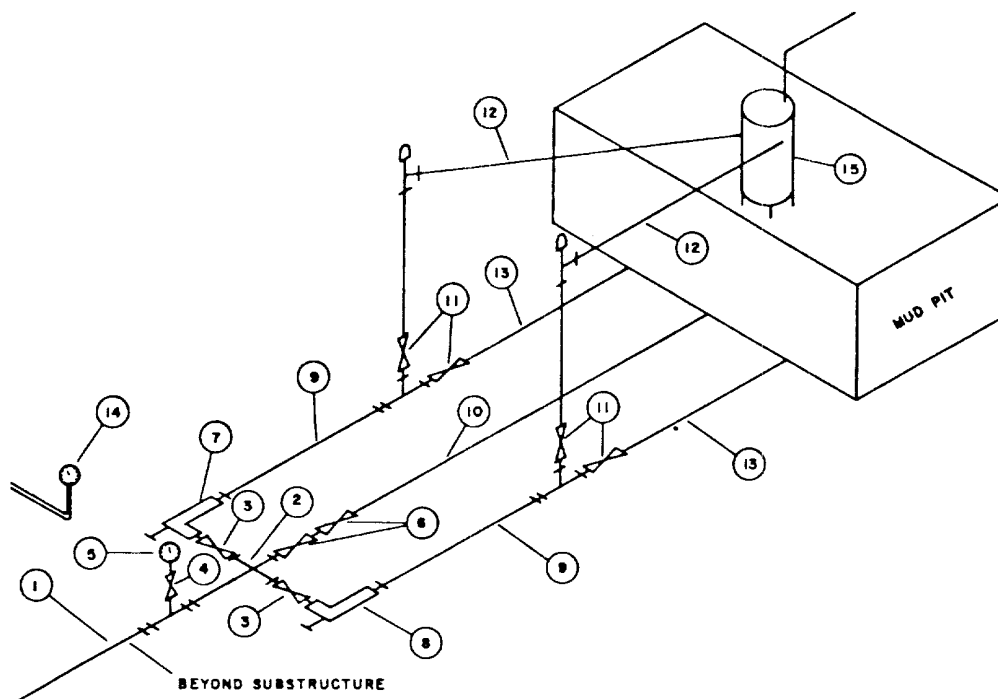
OPTIONAL			
19	Rotating Blowout Preventer*		
20	Power Operated gate valve	6"	
21a	Drilling spool with 3" outlet		
	or		
21b	3" outlet in ram preventer		
22	Valves Gate ☒ Plug ☒	3 1/8"	
23	Auxiliary choke line		3"
24	Roadside connection to kill line		2"
	Shear ram blocks for blind rams		

* 3,000 psi rating



DRAWING AND CHECK LIST NO. EP-1005-1
(ATTACHMENT 3 TO BID SHEET AND DRILLING ORDER)
MINIMUM BLOWOUT PREVENTER CHOKE MANIFOLD FOR DEEP-NORMAL PRESSURE WELLS
5000 psi API Class 5 M
SPECIFICATIONS FOR WELL NO. Antelope Ridge Unit No. 6 CASING SIZE 10 3/4", 7 5/8", 5 1/2"

GENERAL LAYOUT
CHOKE MANIFOLD, CHOKE DISCHARGE LINES & GAS SEPARATOR



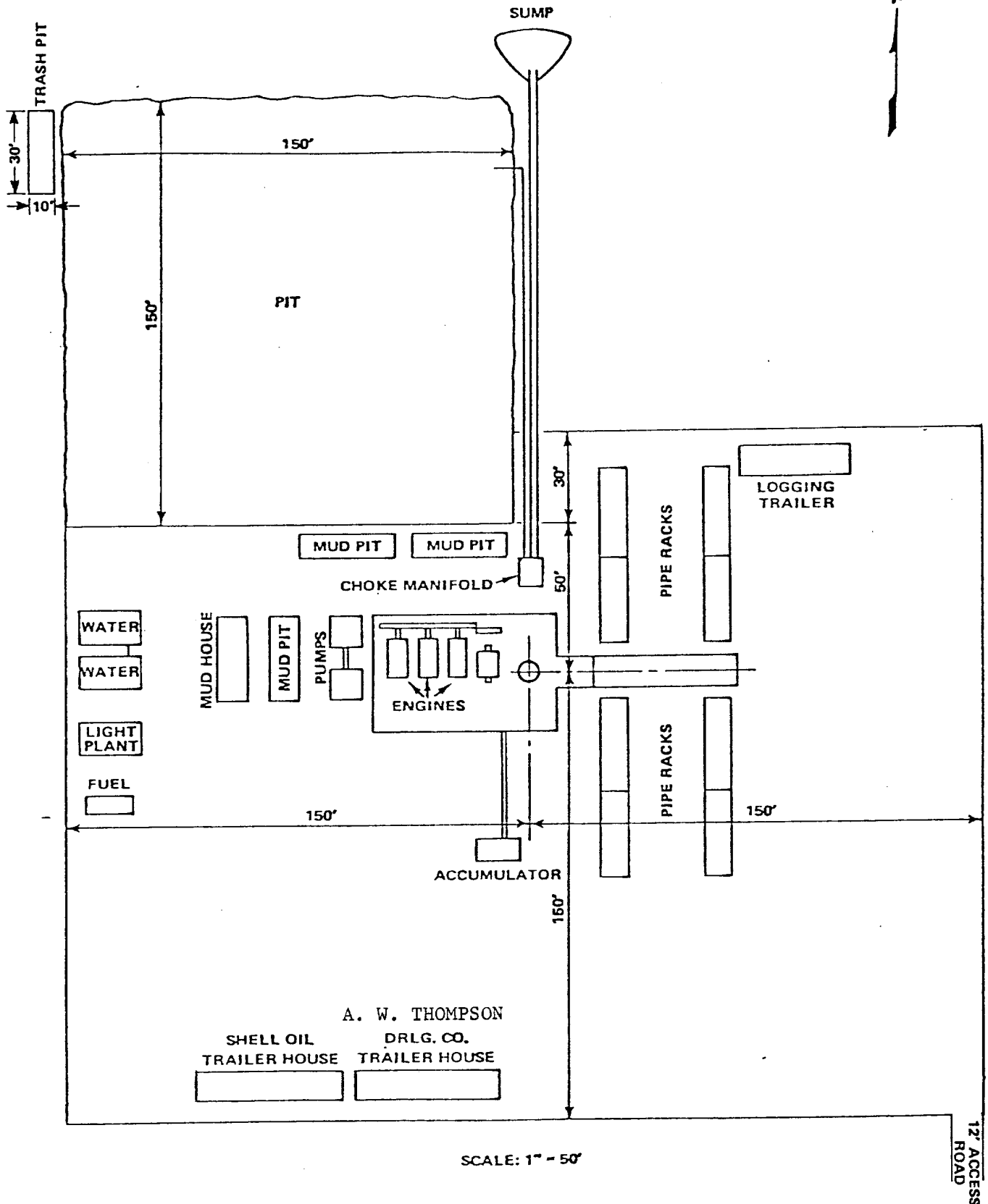
Contractor and Operator to furnish items checked (x)

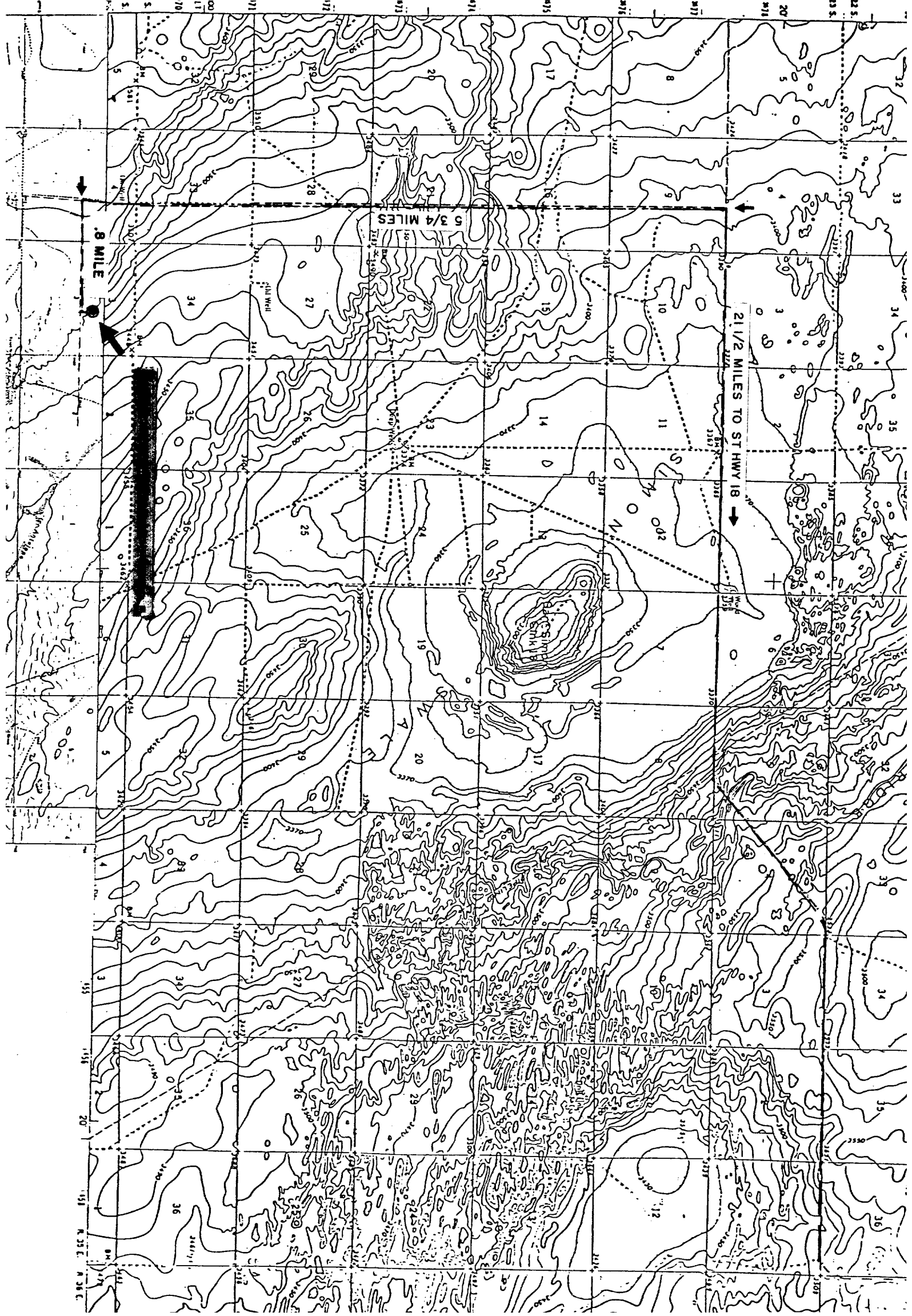
No.		Min. Size	Type	Press. Rating	Furnished by	
					Contr.	Oper.
1	Line from drilling spool	3"	For- ged	5000	X	
2	Cross <u>3" x 3"</u> <u>3" x 2"</u>	-	For- ged	5000	X	
3	Gate Valves	3"	*CIW F	5000	X	
4	Gate Valve	2"	*CIW F	5000		X
5	Pressure Gauge		CIW			
6	Gate Valves	3"	*CIW F	5000	X	
7	Adjustable Choke		*H-2	5000	X	
8	<u>Power Operated</u> Choke	-	* *CIW	5000		X

No.		Min. Size	Type	Press. Rating	Furnished by	
					Contr.	Oper.
9	Lines to Reserve Pit			3000		X
10	Line to Reserve Pit			3000		X
11	Gate Valves	3"	*CIW F	2000		X
12	Lines to Separator					X
13	Lines to Reserve Pit			2000		X
14	Remote reading standpipe pressure			5000	X	
15	Gas Separator				X	

*or equivalent

LOCATION PLAT FOR
SHELL ANTELOPE RIDGE UNIT WELL NO. 6
LEA COUNTY, NEW MEXICO





GEOLOGICAL SURVEY

