

7 POINT DRILLING PLAN

Horseshoe Gallup Unit - Well # 282

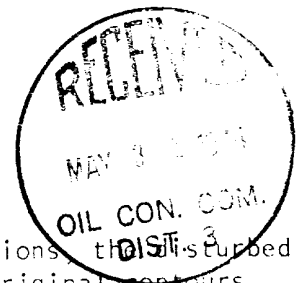
1. Surface Casing: 7-5/8" OD, 26.4#, K-55, LT&C, SH, 120'
2. Casing Head: 7-5/8" x 10", Ser. 600 (2000# WP, 4000# T) Oct C-22, or equivalent, w/2-2" LP Outlet, 41-2000# WP valve
3. Intermediate Casing: None
4. Blowout Preventors: Type - Ram Type  
Series - Ser. 600 (2000# WP, 4000# T) or greater  
No. of Rams - Two; one blind ram and one pipe ram for 4-1/2" OD drill pipe. No other size drill pipe is anticipated to be used.  
Manufacturer - Cameron or Shaffer, hydraulic operated  
Fill, kill and choke line will be 2000# WP, or greater, connected below rams on BOP  
Blowout Equipment will be pressure tested to 800 psi before drilling out of casing and operational check will be made daily
5. Auxilliary Equipment: Kelly cock  
Drilling Head - Shaffer Type 50, or equivalent  
Sub with full opening valve on floor for use when Kelly not in hole
6. Anticipated Bottom Hole or Maximum Expected Pressure: 800#
7. Drilling Fluid: Surface - Water & gel w/lime to maintain clean hole for running casing  
Below Surface - Water w/necessary gel and chemicals to maintain drillable hole. 9.0<sup>±</sup> ppg, viscosity as required, 10<sup>±</sup> water loss, LCM if required

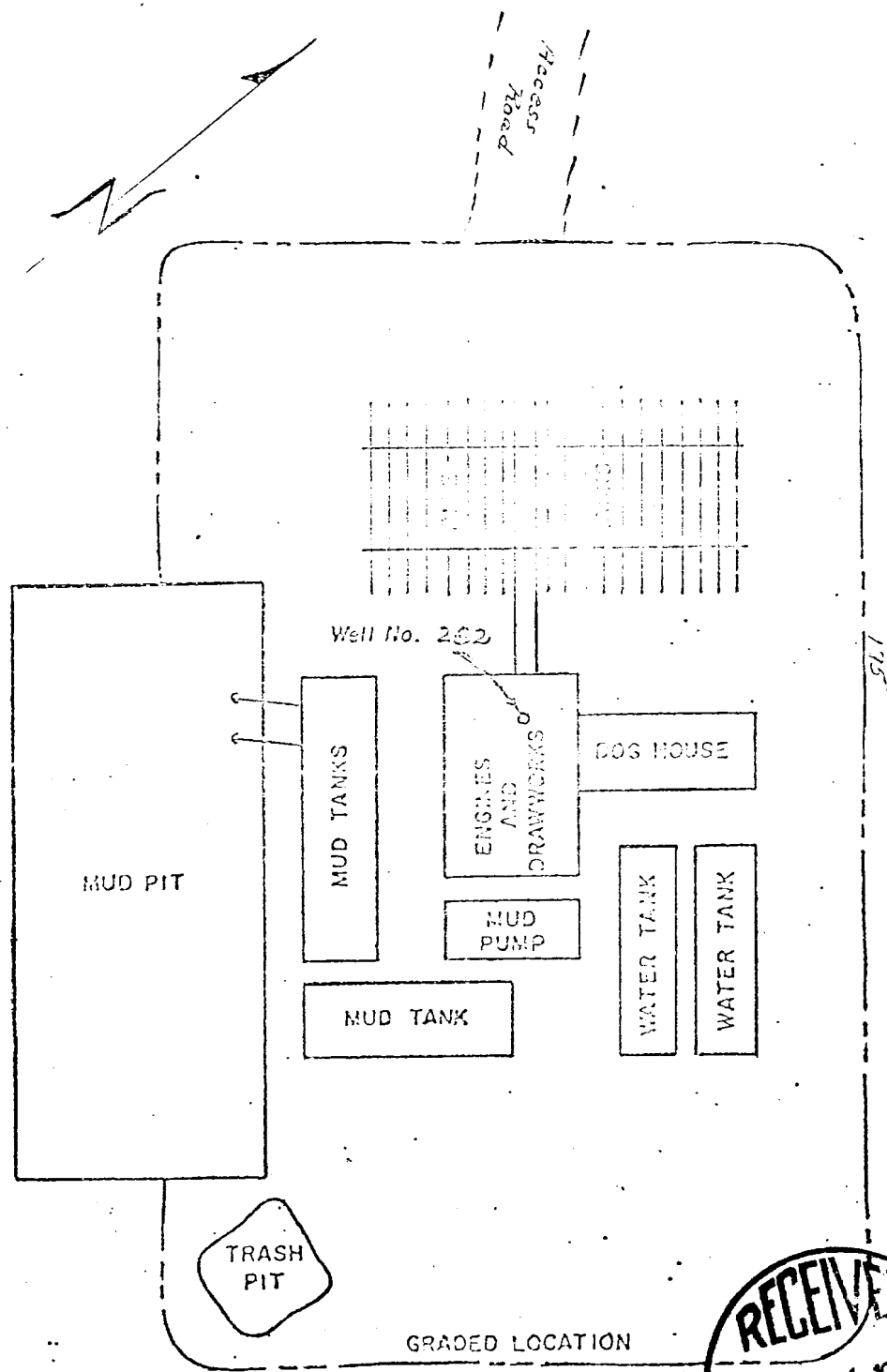


12 POINT - DEVELOPMENT PLAN FOR SURFACE USE

Horseshoe Gallup Unit - Well #282

1. Existing Roads: Attached are the Chimney Rock (1934), Heifer Point (1963) and Waterflow (1963) topographic maps, and a Unit Area "Road Detail" map.
2. Planned Access Roads: The main access road extends northeastward from a "turn-off" from Highway 550, approximately 3 miles east from Shiprock, New Mexico. This road is marked in "red" on the attached Chimney Rock topographic map to the south line of Section 31-31N-16W. From this point, please refer to the attached "Road Detail" map for a complete list of roads to be constructed. Roads to be constructed are highlighted in "yellow" on the "Road Detail" map.
3. Existing Wells: All known wells are shown on both the "Road Detail" and "Line Detail" maps.
4. Lateral Roads to Well Locations: Lateral roads from existing lease roads to proposed locations are shown on the "Road Detail" map, highlighted in "yellow".
5. Location of Tank Batteries and Flow Lines: The attached "Line Detail" map shows the location of existing tank batteries, flow lines and injection lines. Proposed location and flow lines are marked in "yellow".
6. Location and Type of Water Supply: Water supply for drilling will be from Water Supply Well #2-W (Green on "Line Detail" map). Water for cementing operations will be from ditch at turnoff of access road from Highway 550 (Green on topography map).
7. Methods for Handling Waste Disposal: Cuttings to be disposed of in reserve pit, a burn pit to be used for disposal of trash, garbage, etc., and covered on cleanup of location.
8. Location of Camps: None.
9. Location of Airstrips: None.
10. Rig Layout: Per the attached drawing. Also see No. 12.
11. Restoration of Surface: Upon completion of drilling operations, the disturbed surface area will be restored as near as practical to its original contours. If sufficient top soil is encountered, it will be stockpiled for restoration of surface. Restoration will be to the satisfaction of the United States Geological Survey.
12. This location slopes from ENE to WSW. There will be a small cut on the east side of location. The surface is generally on a rocky ledge with very little top soil. Vegetation is native "bunch" grass and some sage brush. There are no trees. The surrounding area is comparable and any disturbance to wildlife will be only temporary. With the restoration of surface, surface damage will be minimal.

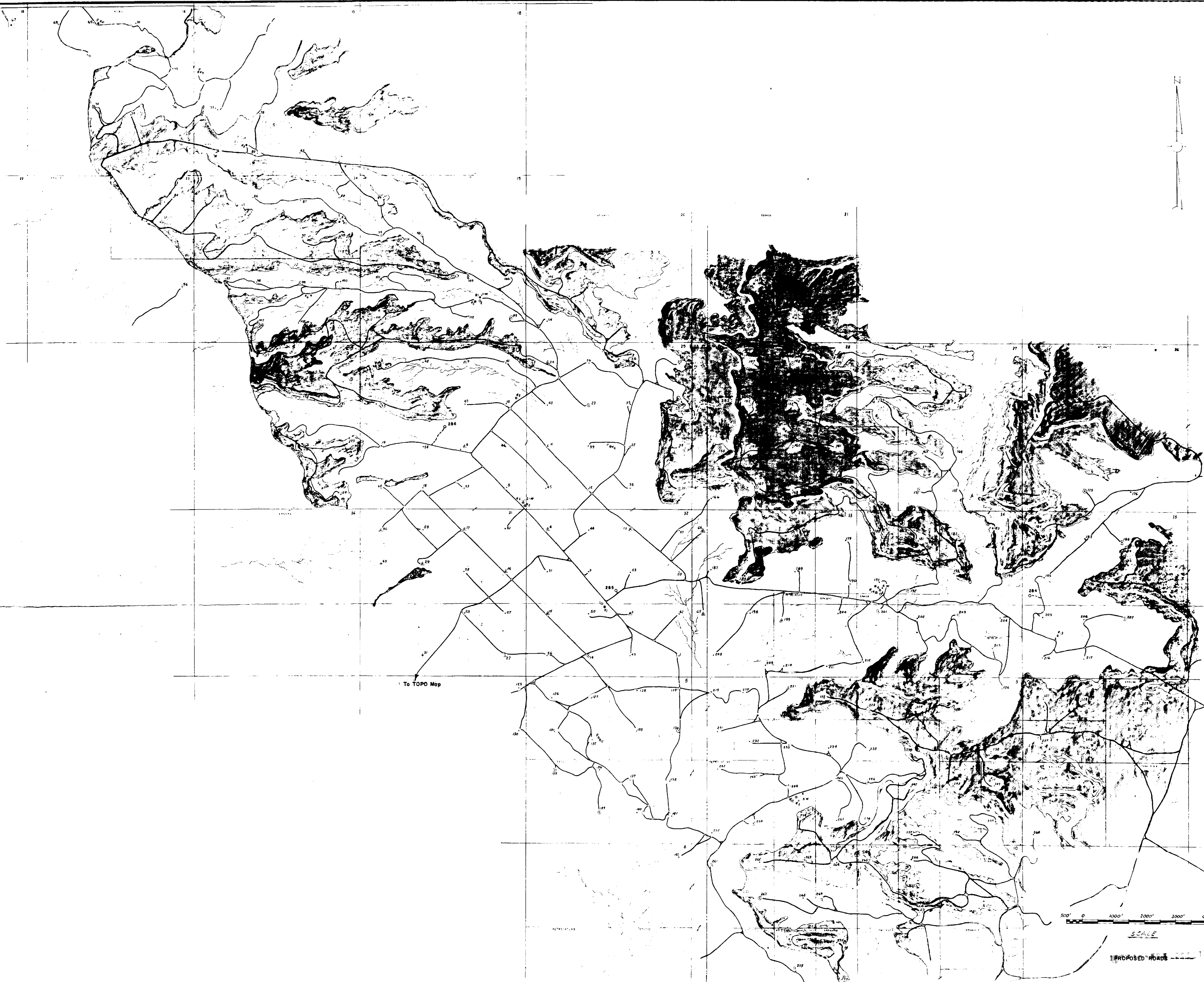




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 OIL CON. COM.  
 DIST. 3







ROAD DETAIL

DATE	REVISION	APPROD
BLUE PRINT RECORD		
FOR	DATE	
REV		
ESTIMATES		
PROPOSALS		
CONSTRUCTION		
OFFICE		
OPER. DEPT.		
Atlantic Richfield Company ENGINEERING AND CONSTRUCTION DEPT.		
ATLANTIC BUILDING		DALLAS, TEXAS
HORSESHOE GALLUP POOL SAN JUAN COUNTY, NEW MEXICO		
DRAWN	DATE	APPROVED
	7-2-65	
TRACED		SUPERVISOR - DESIGN GROUP
CHECKED		
SCALE		S.W. DIV. MANAGER

500' 0 1000' 2000' 3000' 4000' 5000'  
SCALE

PROPOSED ROADS