Operations Plan
San Juan 28-6 Unit #22A

I. Location: 860'S, 1790'E, Section 8, T-27-N, R-6-W, Rio Arriba County, NM

Field: So.Blanco PC & Blanco MV Elevation: 6480'GR

II. Geology:

A. Formation Tops:

Surface	San Jose	Lewis	3235'
Ojo Alamo	2395'	Mesa Verde	4700'
Kirtland	2550'	Menefee	4920'
Fruitland	2915'	Point Lookout	5355'
Pic.Cliffs	3130'	Total Depth	5805'

B. Logging Program: I-ES and GR-Density at 3435'
GR-Ind. and GR-Density at Total Depth.

C. Coring Program: none

D. Natural Gauges: 4690', 4910', 5345' and at Total Depth. Also gauge any noticeable increase in gas. Record all gauges in daily drilling report and on morning report.

III. Drilling:

A. Mud Program: mud from surface to 3435'. Gas from intermediate casing to Total Depth.

IV. Materials:

A. Casing Program:

Hole Size	Depth	Casing Size	Wt.&Grade
13 3/4"	200'	9 5/8"	36.0# H-40
8 3/4"	3435'	7"	20.0# K-55
6 1/4"	3285-5805'	4 1/2"	10.5# K-55

B. Float Equipment: 9 5/8" surface casing - cement guide shoe.

7" intermediate casing - cement guide shoe and self-fill insert float valve, 5 stabilizers every other joint above shoe. Run float two joints above shoe.

4 1/2" liner - 4 1/2" liner hanger with neoprene packoff. Geyser shoe and plug latch-in collar assembly.

C. Tubing: 5805' of 2 3/8", 4.7#, J-55 8rd EUE tubing with a common pump seating nipple one joint above bottom. Tubing will be open ended.
3130' of 1 1/4", 2.33#, J-55 IJ tubing with a common pump seating nipple above a perforated joint plugged on bottom. Isolate producing formations with a packer.

D. Wellhead Equipment: 10" 900 x 9 5/8" casing head, 10" x 7" casing hanger, 10" 2000 x 6" 2000 dual tubing head.

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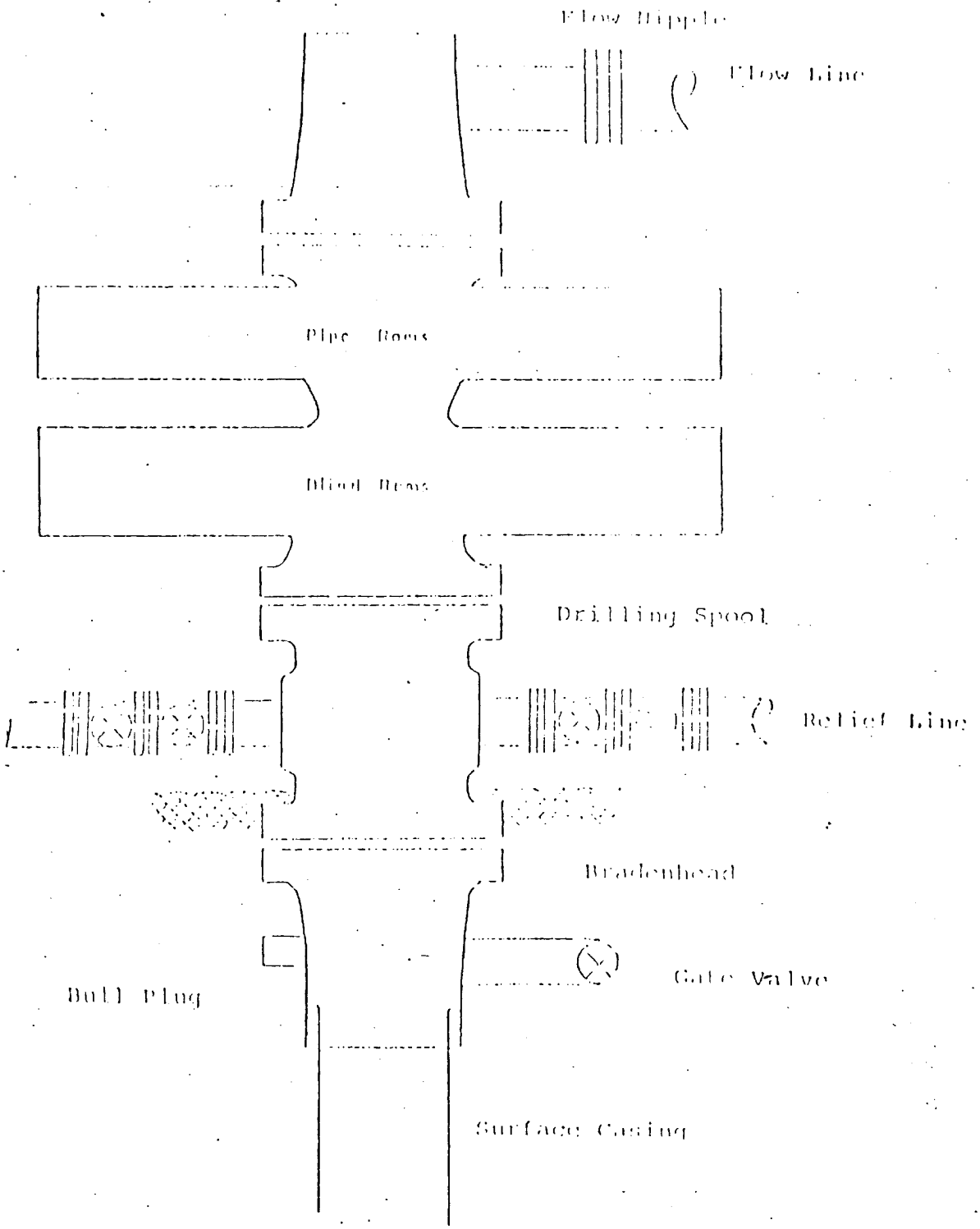
V. Cementing:

9 5/8" surface casing - use 190 sks. of Class "B" cement with 1/4# gel-flake per sack and 3% calcium chloride (224 cu.ft. of slurry, 100% excess to circulate to surface). WOC 12 hours. Test casing to 600#/30 minutes.

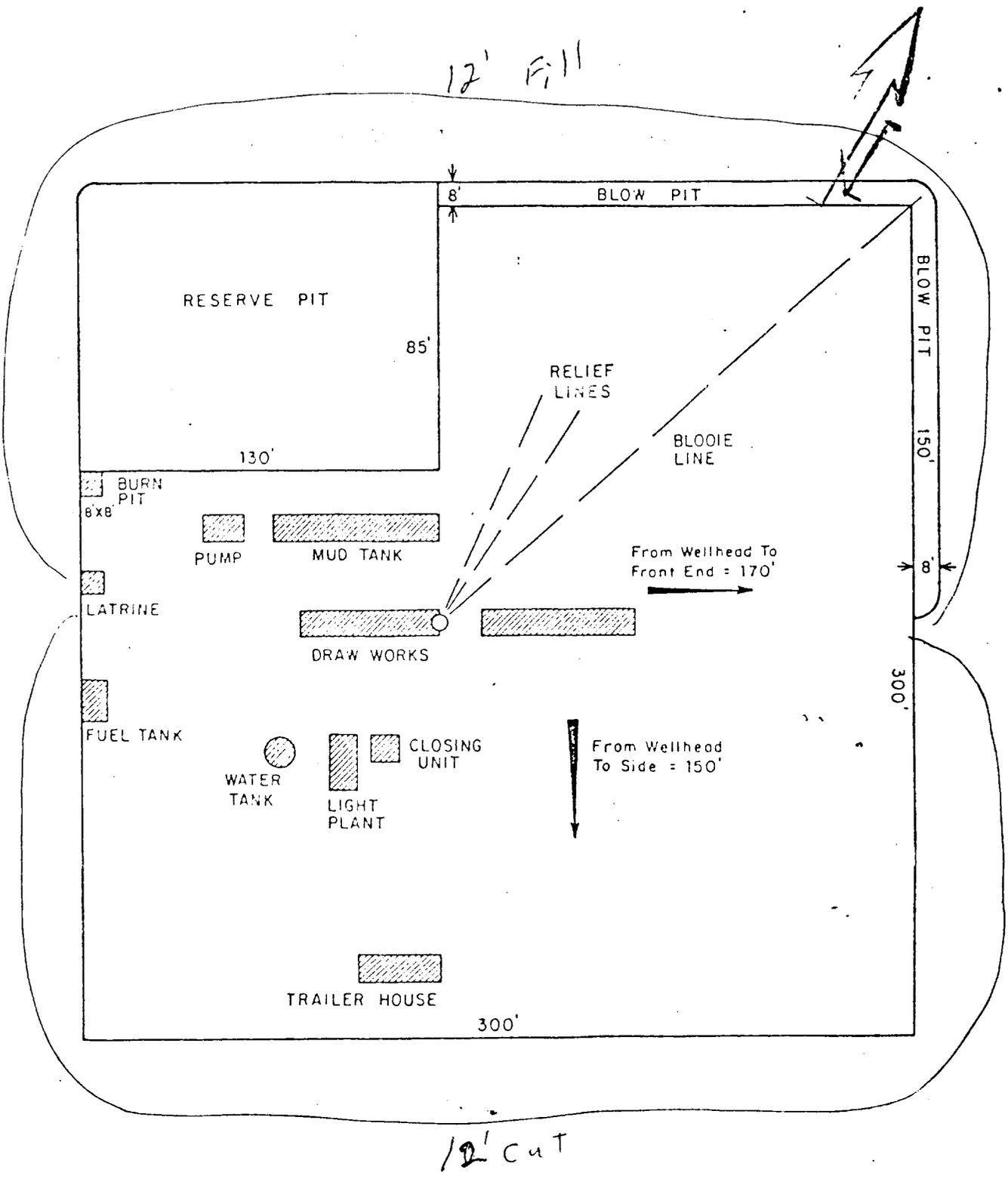
7" intermediate casing - use 75 sks. of 65/35 Class "B" Poz with 6% gel and 2% calcium chloride (8.3 gallons of water per sack) followed by 100 sks. of Class "B" with 2% calcium chloride (240 cu.ft. of slurry, 50% excess to cover Ojo Alamo). Run temperature survey at 8 hours. WOC 12 hours. Test casing to 1200#/30 minutes.

4 1/2" liner - precede cement with 20 barrels of gel water (2 sks. gel) Cement with 320 sks. of 50/50 Class "B" Poz with 2% gel, 0.6% Halad-9, 6.25# gilsonite plus 1/4# Flocele per sack (440 cu.ft. of slurry, 70% excess to circulate liner). WOC 18 hours.

Typical B.O.P. Installation
for Mesa Verde Well



Series 900 Double Gate BOP, rated
at 3000 psi Working Pressure
When gas drilling operations begin a Shaffer type 50
or equivalent rotating head is installed on top of the
flow nipple and the flow line is converted into a blowie line



PRT.	SEP.	DATE	TO	W.O.

PRINT RECORD

ENG. REC.		DATE
DRAWN	J L H	8-16-78
CHECKED		
CHECKED		
PROJ. APP		
DESIGN		

El Paso Natural Gas Company

TYPICAL LOCATION PLAT FOR MESAVERDE OR DAKOTA DRILL SITE

SCALE: 1" = 50'

DWG. NO

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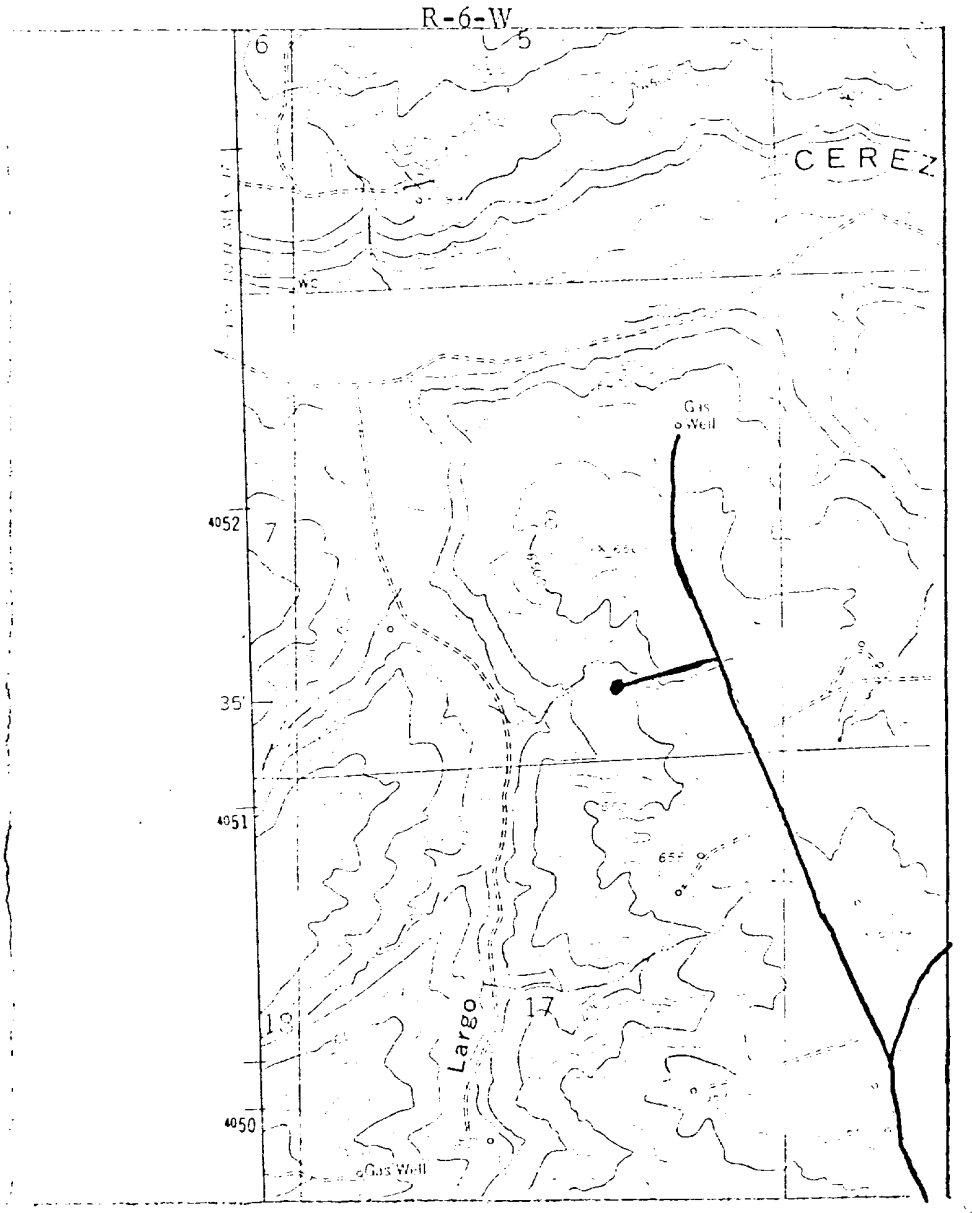
SanJuan 28-6 Unit ~~#217~~ 22A
SE 8-27-6



MAP #1
LEGEND OF RIGHT-OF-WAYS

EXISTING ROADS
EXISTING PIPELINES
EXISTING ROAD & PIPELINE
PROPOSED ROADS
PROPOSED PIPELINES
PROPOSED ROAD & PIPELINE

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San Juan 28-6 Unit ~~#217~~ 22A
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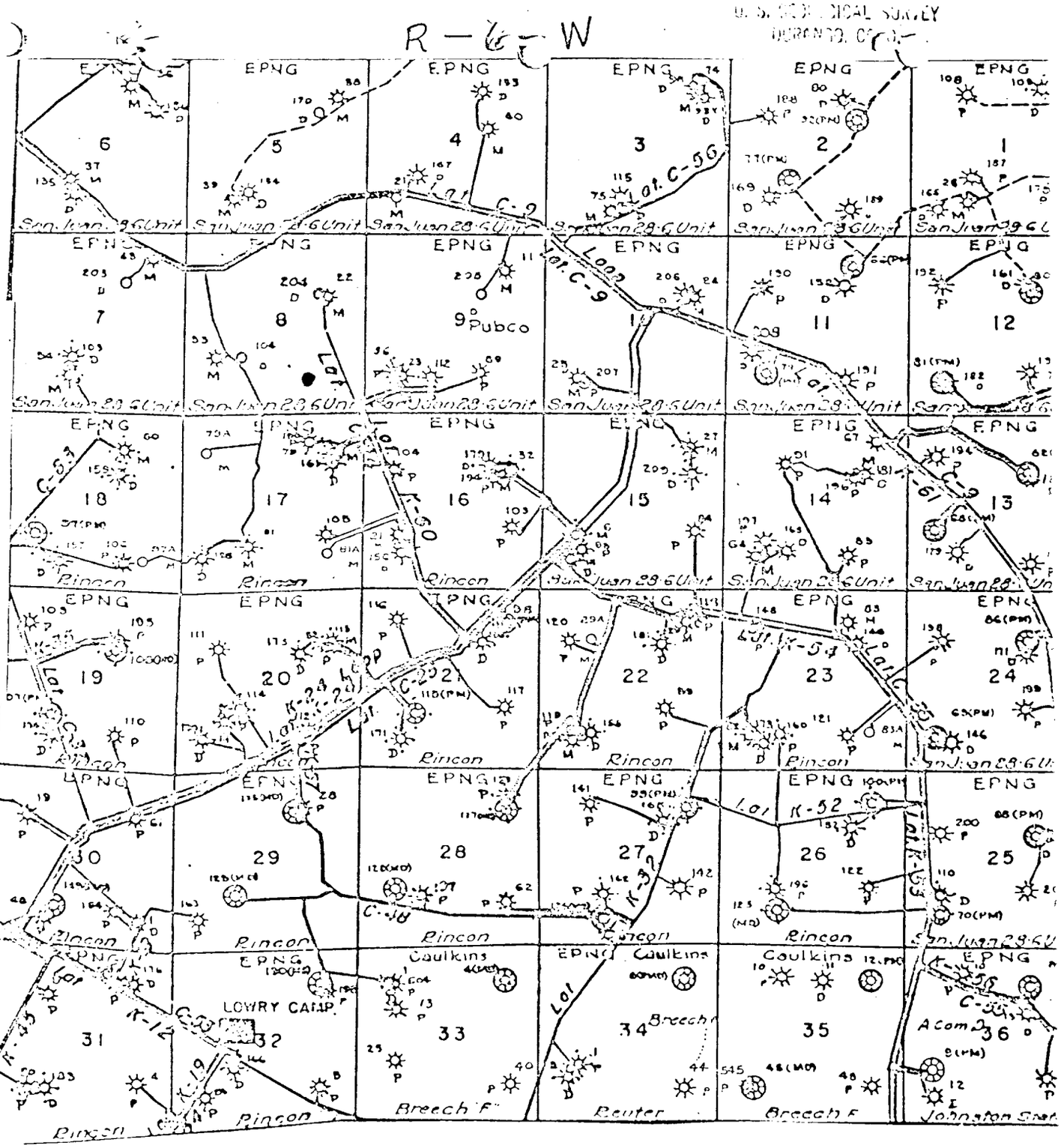
DURANGO, COLO.



Map #2
Proposed Location ●