



CONTACT INFORMATION
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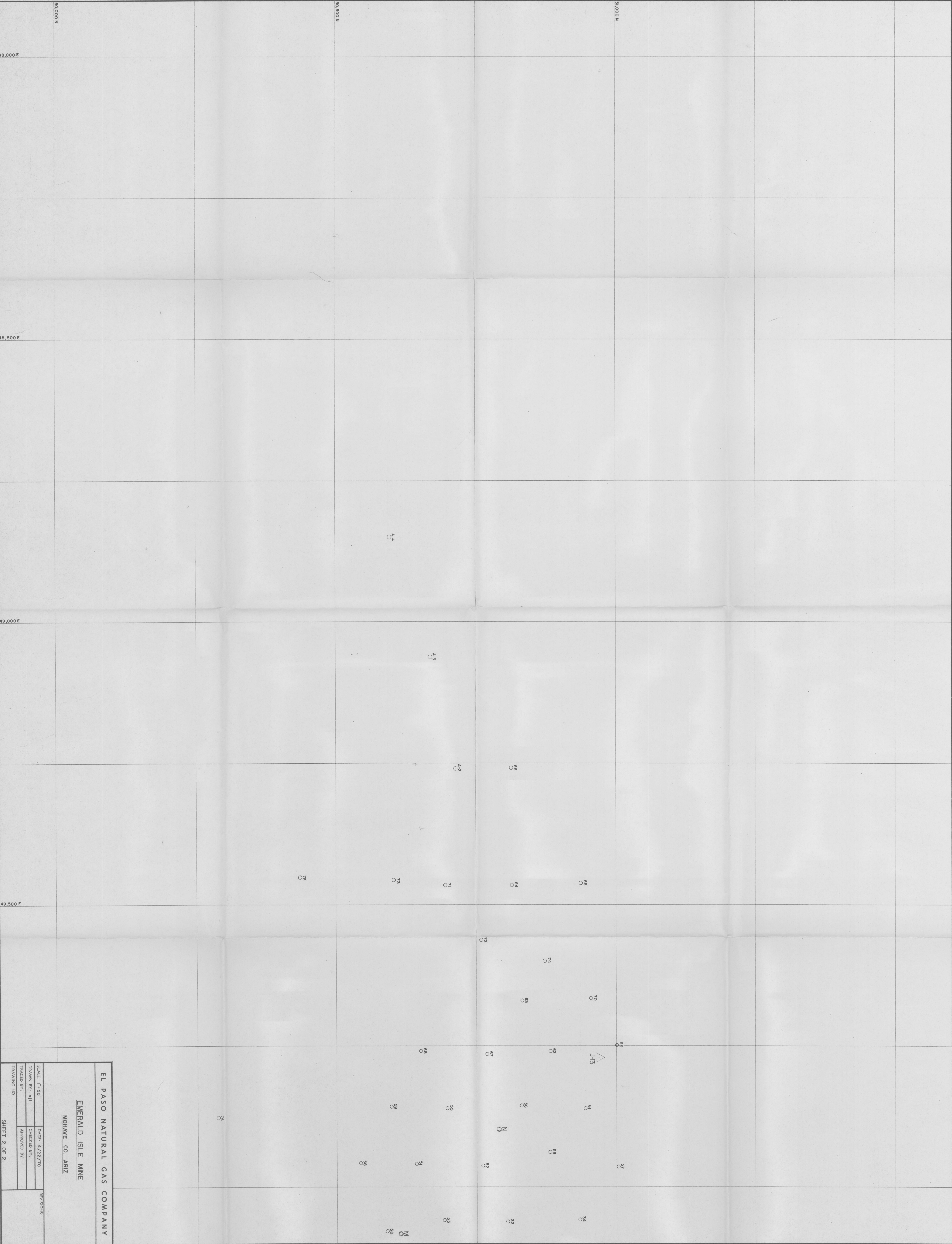
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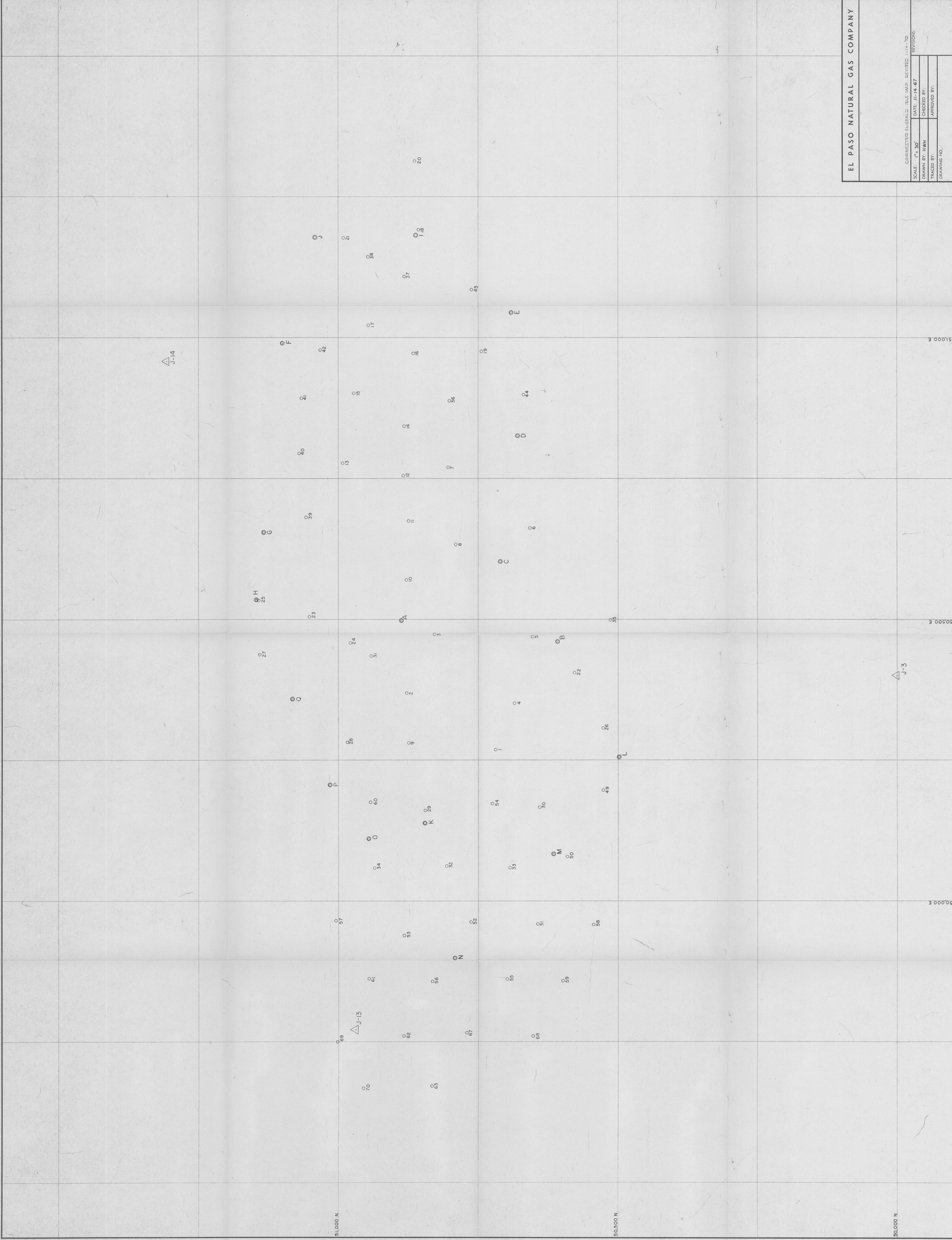
EL PASO NATURAL GAS COMPANY

EMERALD ISLE MINE

MOHAVE CO. ARIZ

SCALE: 1"=50'	DATE: 4/22/70	REVISIONS:
DRAWN BY: gji	CHECKED BY:	
TRACED BY:	APPROVED BY:	
DRAWING NO.		

SHEET 2 OF 2



EL PASO NATURAL GAS COMPANY			
CORRECTED EVERARD 1946 MAP, REVISED 1-14-70			
SCALE: 1" = 50'		DATE: 11-14-67	
DRAWN BY: HWH		CHECKED BY:	
TRACED BY:		APPROVED BY:	
DRAWING NO.			



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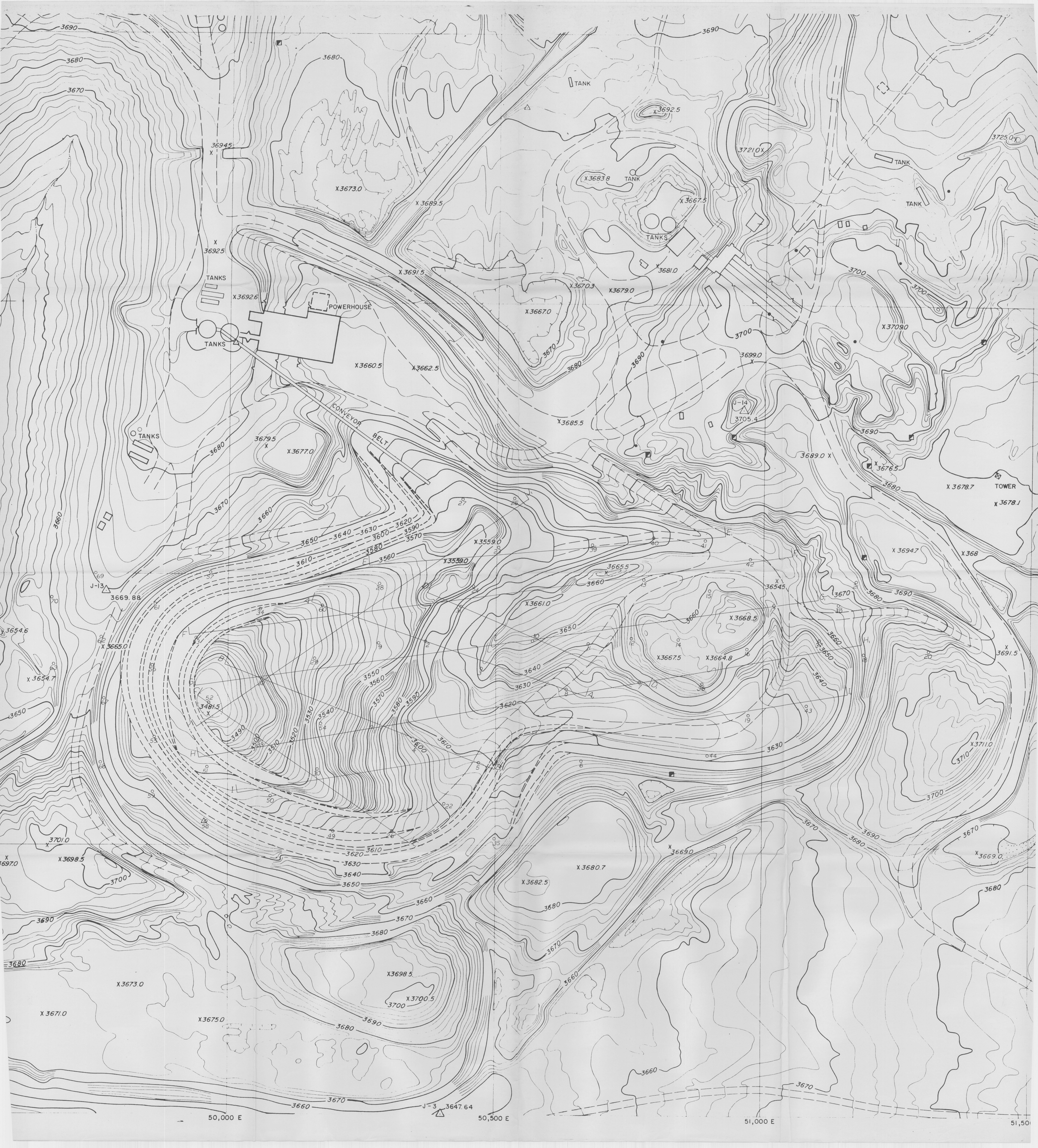
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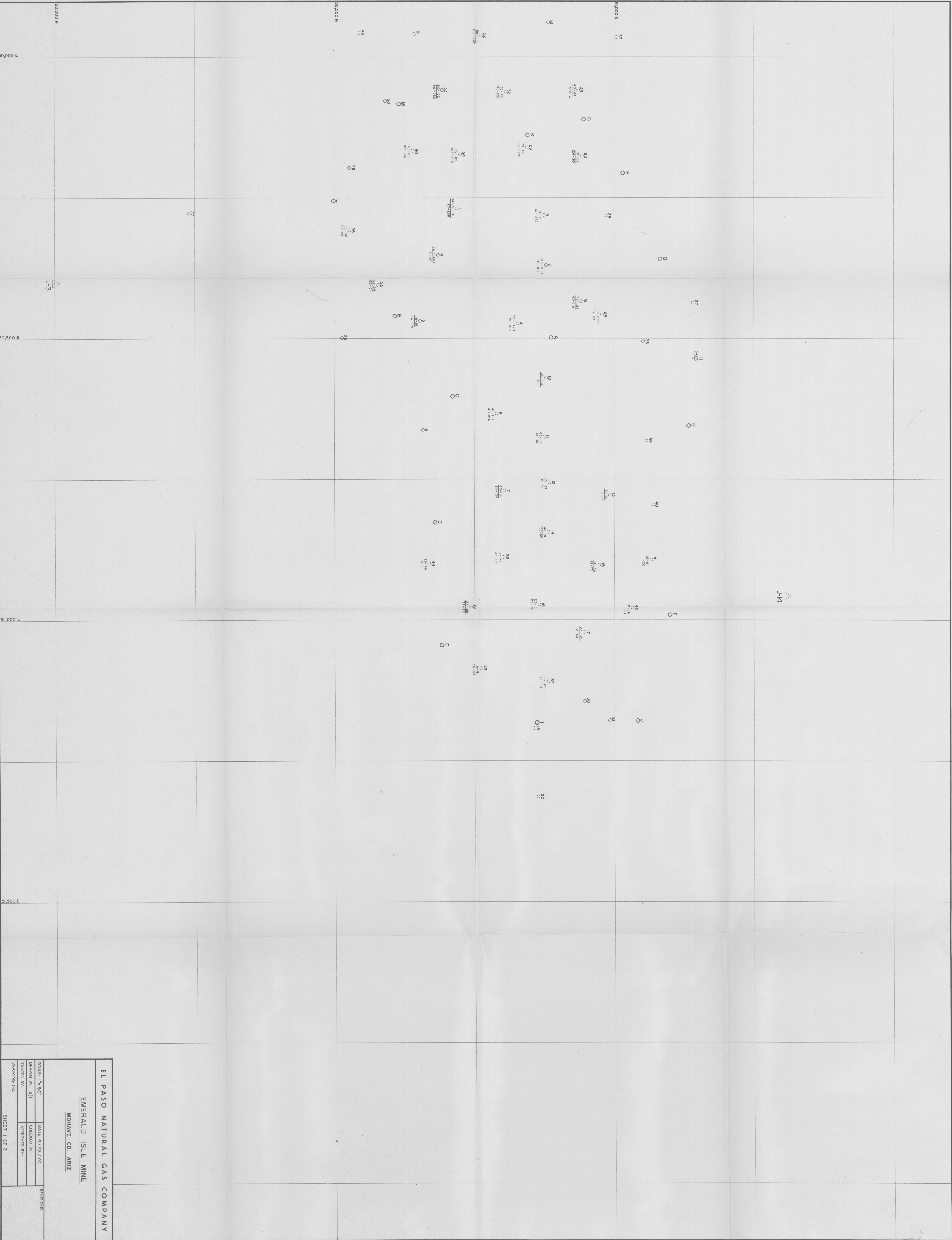
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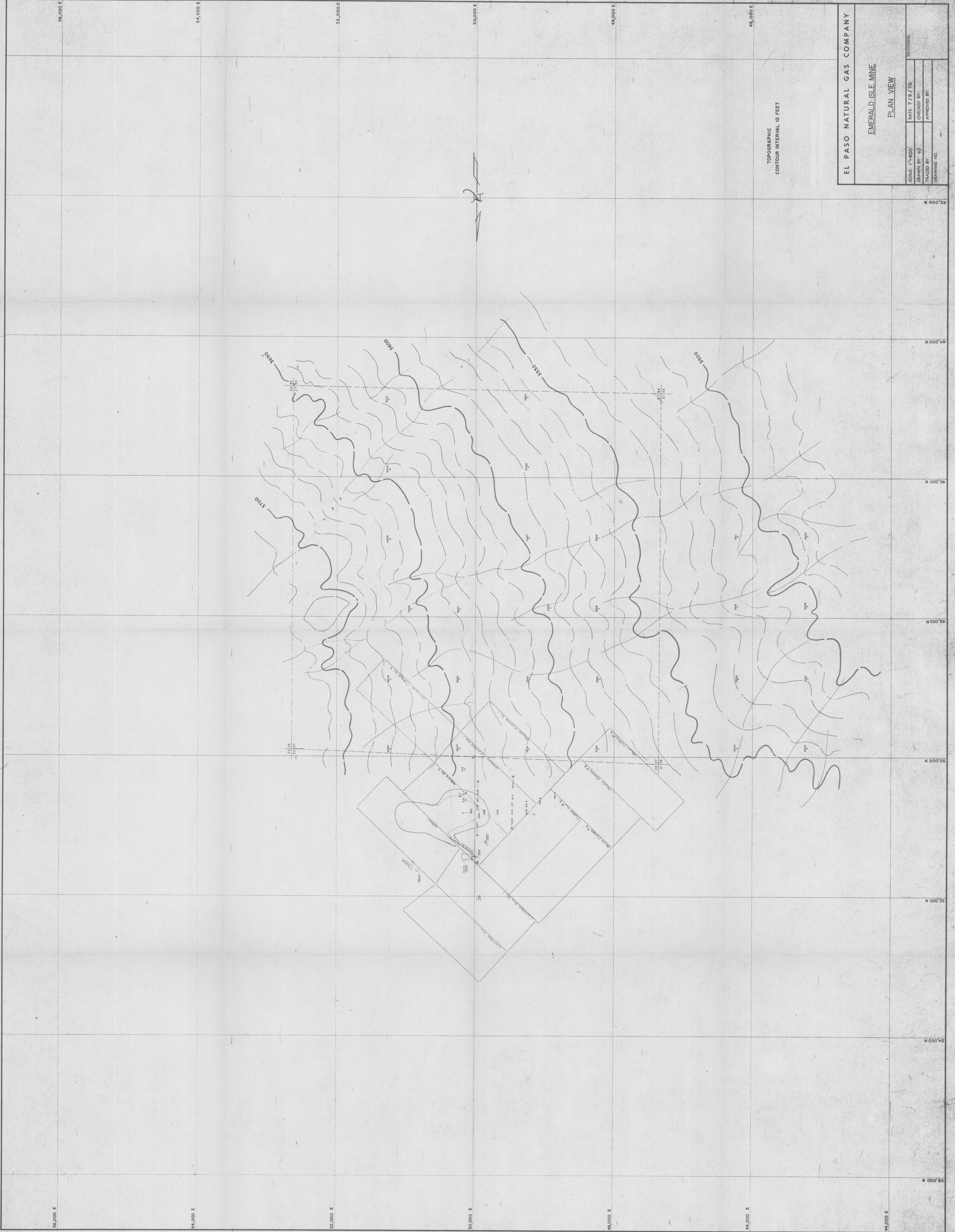
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TOPOGRAPHIC
CONTOUR INTERVAL 10 FEET

EL PASO NATURAL GAS COMPANY

EMERALD ISLE MINE

PLAN VIEW

REVISIONS			
SCALE: 1"=400'	DATE: 7/9/70	CHECKED BY:	APPROVED BY:
DRAWN BY: GJ			
TRACED BY:			
DRAWING NO.			



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TO: H. Lanier

FROM: C.K. Chase

SUBJECT: El Paso Natural Gas, Mining Division
Emerald Isle Mine - Near Kingman, Ariz.
Visit by C.K. Chase on August 11, 1971

The Emerald Isle operation is an oxide copper leach followed by LPF recovery of cement copper. Ore heads to the mill are 1% Cu with a 70% recovery of copper as cement. The mine as originally proven contained 1.5 million tons of 1% Cu ore largely as chrysocolla in conglomerate. Of this, about half has been processed to date, leaving a reserve of 0.75 million tons. The copper in the ore may have migrated from the nearby Duval deposit. Additional reserves exist to the west of the present mine but, since the conglomerate dips to the west, the stripping ratio will be less favorable.

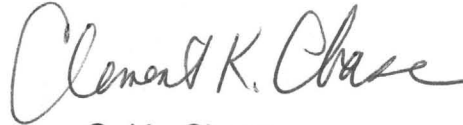
The mill capacity is 800 TPD of ore, rendering 11,200 tons of copper as cement per day. The grade of this precipitate is 75% Cu. 700,000 pounds of concentrate were stockpiled at the time of the visit, awaiting settlement of the copper strike.

Mining is with 2 front-end loaders in the pit. Two crushers are placed in the pit, and the ore is elevated to the mill bin by conveyor belt. Forty percent of the ore needs blasting; the remainder can be ripped with a track ripper. The mine employs ten men total and 40 more work in the mill, a total of 50 men.

The flotation reagent for the cement copper in the pulp is Cyanamid's Reagent #194 and it operates at pH 3.0 at 35-40% solids. Acid comes from Los Angeles and costs \$26 per ton delivered. Consumption is 5 lb. H_2SO_4 per lb. copper recovered. Scrap iron is bought from a Los Angeles Byproducts plant in Chandler, Arizona and costs \$53 per ton delivered. Consumption is 2.25 lb. iron per lb. copper precipitated.

Tailings berm construction is by means of three cyclones on a mobile frame using automobile wheels. The system is worthy of wider use.

The Emerald Isle mine and mill comprise a very interesting operation. It shows evidence of considerable metallurgical thought and is a good example of an efficient, well-run copper leaching plant.

A handwritten signature in dark ink, reading "Clement K. Chase". The signature is written in a cursive style with a large initial "C" and a long, sweeping underline.

C.K. Chase

CKC:td
Attachments



EMERALD ISLE MINE

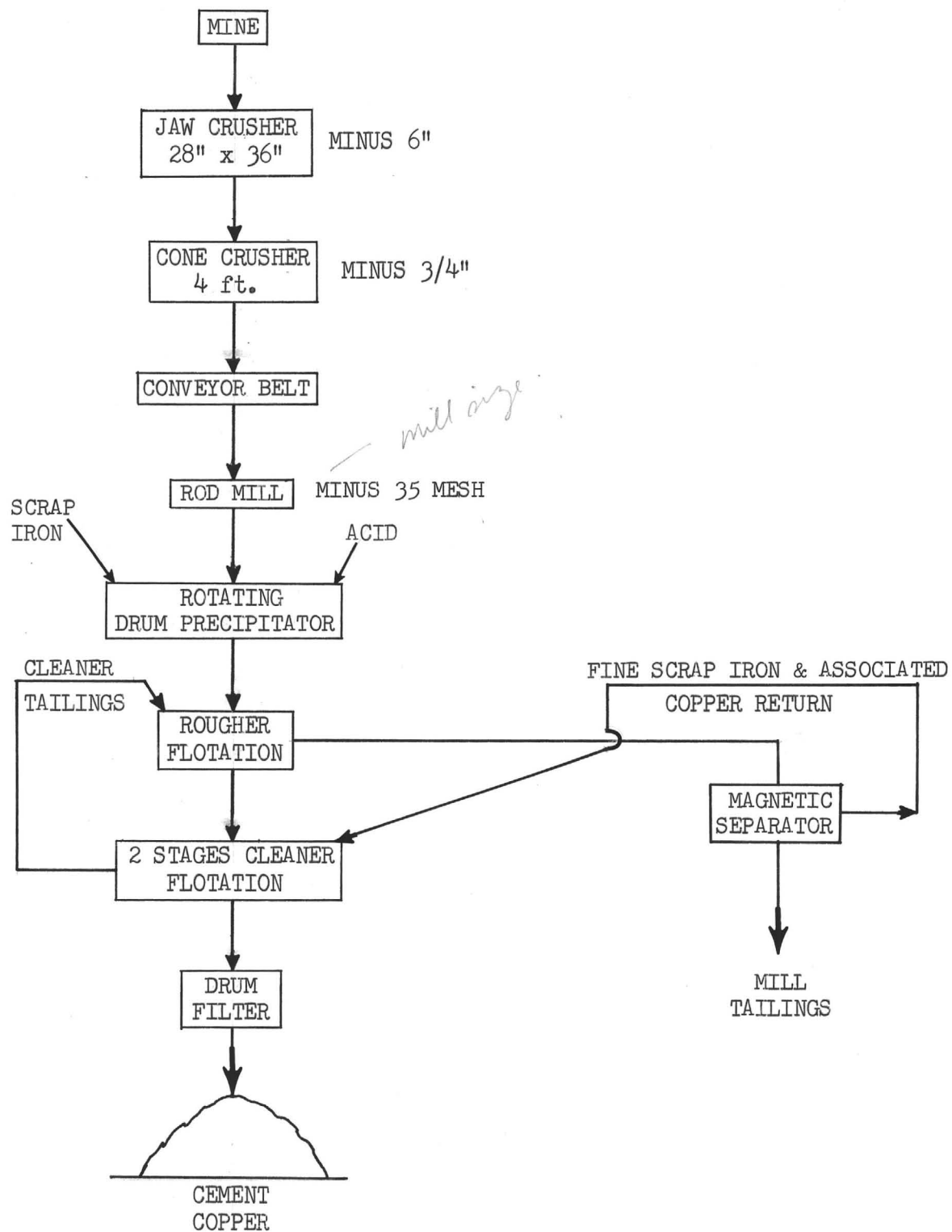


MINE WALL IN CONGLOMERATE



MILL AND TAILINGS WATER
RECLAMATION AREA

EMERALD ISLE FLOWSHEET



CONFIDENTIAL

EL PASO NATURAL GAS COMPANY

EMERALD ISLE PLANT

	June 1972		Year to Date	
	Produced Pounds	Returnable Pounds	Produced Pounds	Returnable Pounds
Direct Cost	\$130,392	.4727	\$ 848,028	.4491
Allocated Administrative & General	11,682	.0423	73,286	.0388
Smelting, Refining & Delivery	25,821	.0936	173,143	.0917
Sub-Total	\$167,895	.6086	\$1,094,457	.5796
Amortization	34,595	.1254	228,994	.1213
Total	\$202,490	.7340	\$1,323,451	.7009

*Based on Average Grade of 69%
 Delivered Grade 69.00
 Deduction 1.50
 Settlement Grade 67.50 = 98% Returnable Copper

7/24/72