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NAME Jennifer Clarke

DATE 8-19-93

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COMMENTS Hopefully this will help
clean up the tank location

Thanks

FROM Joan

FAX # 916-652-9624

I INTRODUCTION

This report presents the results of a geophysical investigation performed by J R Associates for Uribe & Associates. J R Associates performed the investigation at the Imperial Shipping site at the Port of Oakland in Oakland, California. The investigation's purpose was to look for geophysical indications of buried tanks at the site. James Rezowalli, Principal Geophysicist, and Tom Barry, Technician, of J R Associates performed the field investigation on February 8, 1993.

A. Site Conditions

We investigated part of an asphalt driveway in the rear of a shipping building off Middle Harbor Road in Oakland, California (Drawing 1). The area was bounded on the north by the shipping building and bounded on the other three sides by an open asphalt driveway. There was a pump island with two pumps in the center of the area. There were four vent pipes along the rear of the building. Uribe & Associates had information indicating there were at least three tanks and possibly a fourth tank buried near the pump island. Harbor personnel on site provided a plan showing two of the three buried tanks. The purpose of the geophysical investigation was to map the three buried tanks and determine if a fourth tank was buried near the pump island.

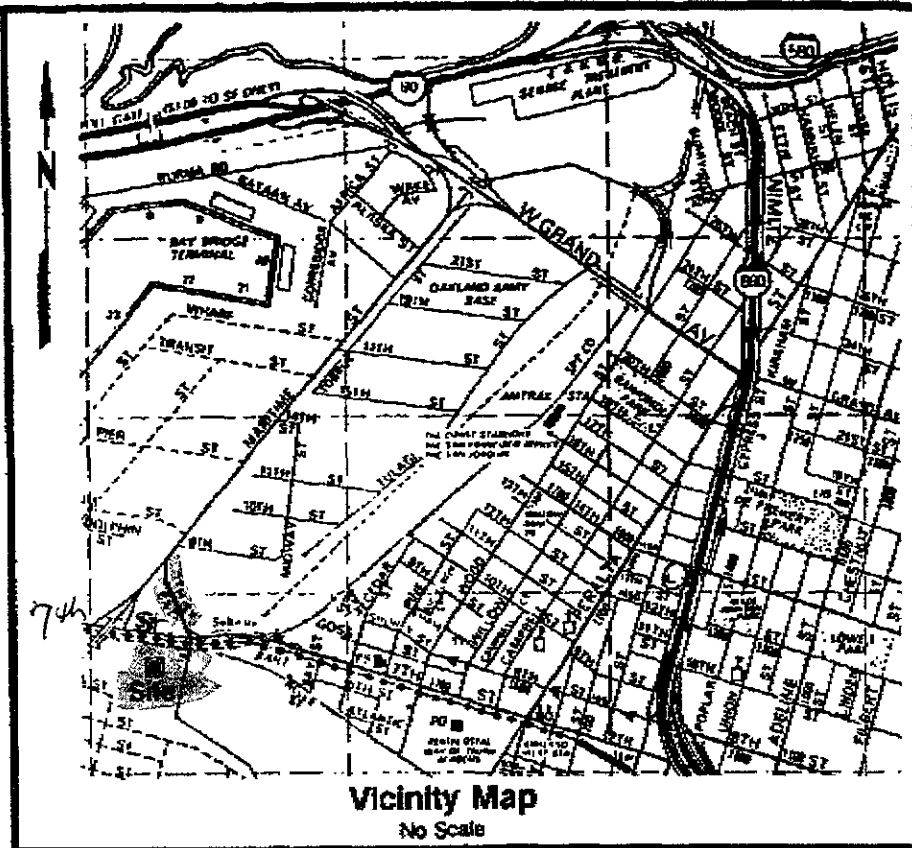
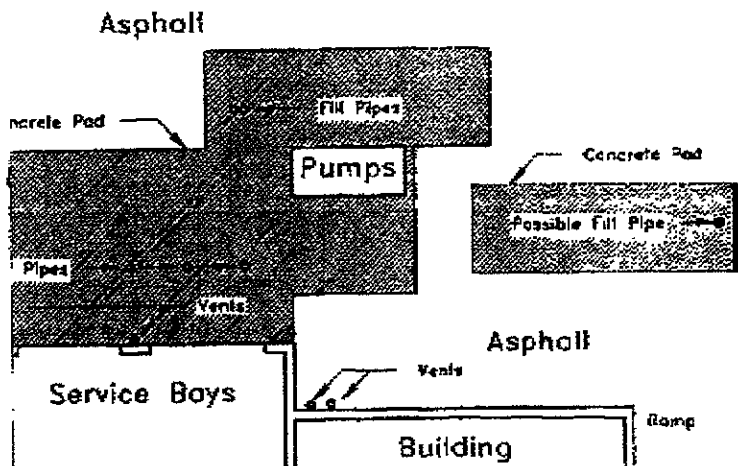
III RESULTS

A. Tank Locations

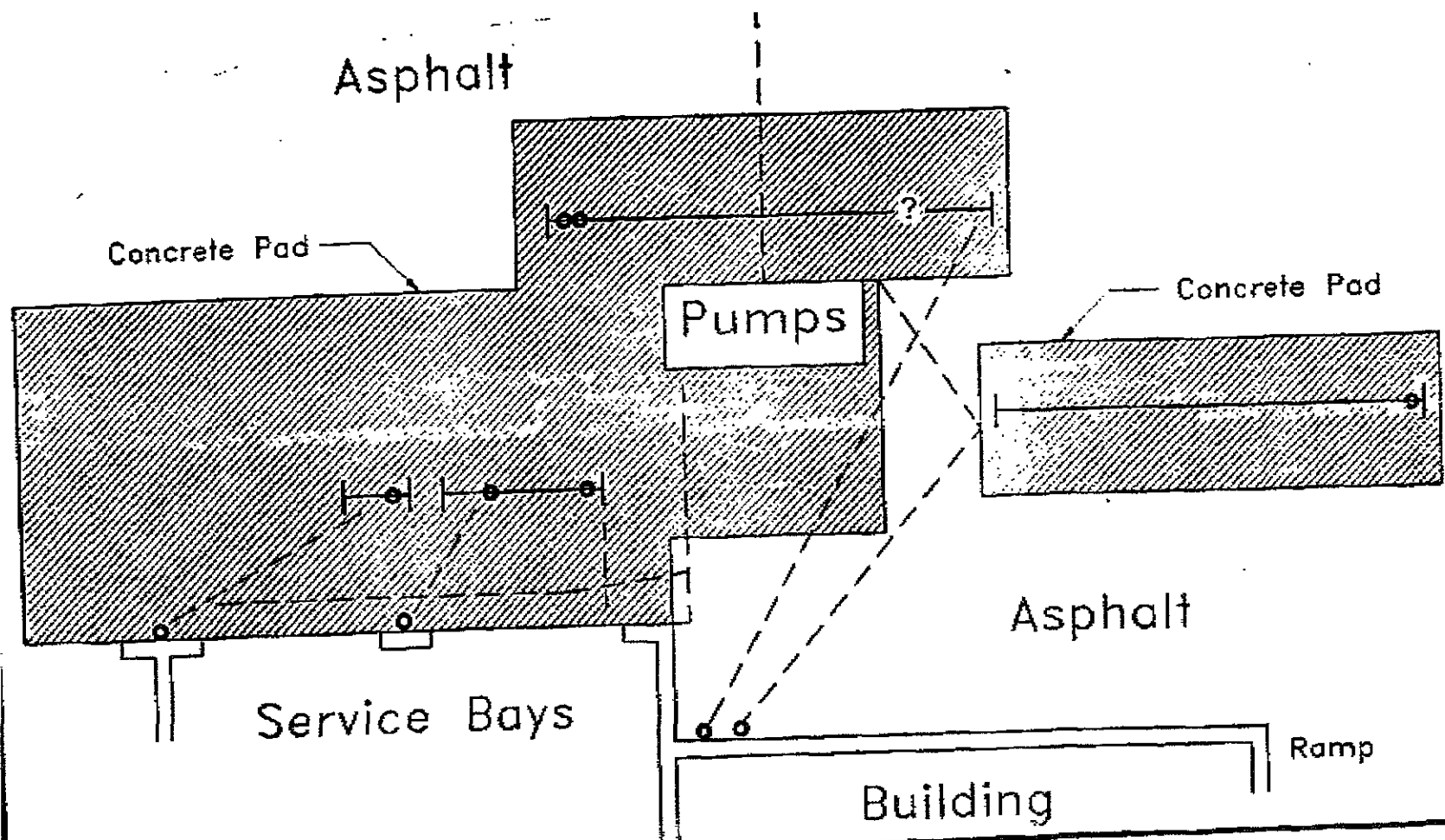
Drawing 2 is a radar profile collected at the site. The profile shows a tank buried approximately three feet below the ground surface. The profile shows the concrete pad above the tank and the wire reinforcing in the pad. The radar data indicated at least four tanks were buried near the pump island (Drawing 3). ~~Two tanks were buried east of the pump island and near the entrance to the service bays in the back of the shipping building.~~ These two tanks corresponded to the two tanks shown in the plan provided by the harbor personnel. ~~The third tank was found beneath the concrete pad south of the pump island.~~ We had some difficulty imaging the third tank with the radar. It appears to be one long tank. ~~However, the third tank may be two tanks lying end to end or a shorter tank with a pipe lying above it.~~ The fourth tank was found beneath the concrete pad west of the pump island. There appeared to be a fill spout at the west end of this tank. The fill spout was covered by a patch of new asphalt. All four tanks appeared to be buried approximately three feet below the ground surface. The axes of the four tanks were painted on the ground. The diameter of the tanks could not be determined from the radar data.

B. Limitations


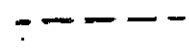

The radar's usefulness is limited by its depth of penetration. The depth of penetration can vary from a few inches to several feet. If a clear reflection is created by a buried object, the reflection can be used to help determine the size and depth of the object. If we see no reflections in an area, the results might be inconclusive. There could be no reflections



Site Map- Port of Oakland Uribe & Associates Oakland, California		
SCALE: 1" = 20' DATE: 2-15-1993	Job Number: 069102-93	DRAWN BY J.J.R. REVISED
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EXPLANATION:

-  Approximate Tank Location
-  Approximate Pipe Location
-  Fill Pipe or Vent

Tank Locations- Port of Oakland Uribe & Associates Oakland, California		
SCALE: 1" = 10' DATE: 2-15-1993	Job Number: 069102-93	DRAWN BY J.J.R. REVISED
J R ASSOCIATES Engineering Geophysics 1886 Emory Street, San Jose, CA 95126 (408) 293-7390		
Note: Utility locations are only approximate and some buried utilities may not be mapped.		DRAWING NUMBER 3