AP - 35

STAGE 1 & 2 WORKPLANS

DATE:

7/8/2002

Navajo Refining Company
Hobbs South GSA 8 in. Gathering Line

Investigation/Remediation Work Plan
Hobbs, Lea County, New Mexico

July 8, 2002

Prepared for:

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I. Purpose

The purpose of this work plan is to propose a plan for the investigation and cleanup of contamination that has been discovered along the Hobbs South GSA Unit 8-inch pipeline in the SE/4, SW/4, Section 15, T19S, R38E in Lea County, New Mexico. The location is approximately three miles south of the City of Hobbs and approximately ¾ mile west of NM Highway 18 (Figure 1, Vicinity Map). Following implementation of this plan, a follow-up investigation/remediation work plan may be submitted to address possible effects on groundwater. Implementation of the plan(s) will allow closure in a manner that will protect the population, environment and groundwater of the area surrounding the subject location.

II. Background

On March 27, 2002, petroleum contamination of soil was discovered at the above location, which had resulted from the discharge of an unknown quantity of crude oil. Initial response at the time of the leak included excavation of the surface and subsurface material most impacted. The excavated soil has been stockpiled on site on visqueen.

The site is located within a crude oil terminal operated by Equilon pipeline (Figure 2). The leak location is situated on relatively level ground.

III. Contaminate and Size of Leak

Initial excavation involved exposing a 20-foot segment of the pipeline. A leak was discovered in the pipeline, which apparently is at least partially responsible for the contamination. The 20 foot section of pipeline was removed and replaced with new pipe. Subsequently, the trench dug to remove the pipeline was extended to delineate the linear extent of the leak andwas deepened at the site of the leak. At present, the excavated area encompassed a volume of 112 ft. by 5 ft. by 3 ft deep. At the site of the leak, the dug hole is approximately 25 ft by 14 ft. by 14 ft. deep (Figure 3). Navajo Refining Company has received notification from the Oil Conservation Division that crude oil contaminated soil does not have to be subjected to the Toxic Leaching Characteristic Procedure (TCLP) for toxicity. No evidence of other contaminants was observed.

IV. Vertical and Horizontal Extent of Contamination

The excavation as described above has not determined the vertical and horizontal extent of the contamination. No soil samples have yet been collected, however the area in the vicinity of the leak has very obvious dark staining and this soil will be excavated.

V. Groundwater

Depth to groundwater as determined by NM State Engineer Records is approximately 52 ft. in this area (water level measurement in 1996). No water wells are known to have been affected by the leak. No groundwater monitoring wells have been installed at the site. There is an Equilon water well serving the terminal office; its location is approximately 550 ft. southwest of the leak location. The well would be considered off-gradient given general groundwater flow direction in the area. Also there are domestic water wells

located about 750 ft. to the east and east-southeast. These wells may be considered off-gradient or partially downgradient. Actual groundwater flow direction will be established during execution of the action plan proposed below.

VI. Soil Remediation Action Levels

Based on visual observations, highly contaminated soils are present at the site. Using currently available information, the soil exposed in the excavation would be characterized by NMOCD guidelines (**"Guidelines for Remediation of Leaks, Spills and Releases"** *New Mexico Oil Conservation Division* - August 13, 1993) as Highly Contaminated/Saturated Soils and should be remediated in situ or excavated to the maximum extent possible. The guidelines include minimum cleanup criteria based on risk-based ranking criteria. Application of the NMOCD's ranking criteria for contaminated soils at this site is presented below.

The field data indicates that the interval between the leak and the water table is less than 50 ft. Therefore, 20 points would be assigned to the site as a result of this criterion. Also, based on State Engineer records, private domestic water wells are located within approximately 750 ft. but not within 200 ft. of the site. Therefore, no additional points would be assigned for this category. Further, there are no surface water bodies within 1,000 ft. of the site (0 points). The results were compared to the contaminate levels specified in the guidelines:

Depth to Ground Water:	20 points
Distance to Well Head or Water Source:	0 points
Distance to Surface Water/Waterways:	0 points
Total Score:	20 points

Applying the ranking criteria specified in the NMOCD Guidelines to this site results in soil cleanup levels of 10 mg/Kg benzene, 50 mg/Kg total BTEX and 100 ppm TPH.

Additional site characterization will be performed as part of the proposed remediation/closure plan presented below. All samples will be collected with adherence to the SOPs found in **Environmental Protection Agency, 1984, Characterization of Hazardous Waste Site - A Methods Manual: Vol. II.** These samples will be representative of the contamination levels and will be analyzed for BTEX using EPA method SW-846 8021-B, and for Total Petroleum Hydrocarbons (TPH) content using either EPA method 418.1 or 8015 (modified).

VII. Action Plan

Delineation of Contamination

An air rotary or hollow-stem auger rig will be used to delineate the horizontal and vertical extent of the soil contamination. Samples for lithologic and chemical characterization will be collected. Also, at least three temporary monitor wells will be installed to determine groundwater gradient and any impact of the leak on groundwater. Buried

utilities and pipelines will be located through the One-Call system prior to drilling.

Additional Excavation

Following the delineation, additional excavation will be conducted at the leak site. Material will be excavated both horizontally and vertically to remove contaminated soils. Excavation may be somewhat difficult depending on the depth of contamination. Further complicating the effort is the presence in the immediate area of an Equilon pipeline, pipeline manifolds, buried electrical conduit and a control shed. The Navajo pipeline has not been reinstalled. All buried utilities and pipelines will be located through the New Mexico One Call service prior to further excavation.

The excavated material will be segregated on site with contaminated soils transported to CRI for disposal. Further, if soils are found to be excessively moist or saturated, they will be placed on plastic and mixed with drier contaminated material prior to transport. On-site field-testing will be conducted to ensure the removal of said soils to below the NMOCD requirements for TPH levels to the extent possible. The bottom and sides of the hole will be sampled at the final excavation depths. These samples will be tested for TPH with a third party laboratory for confirmation of the contamination levels present.

Excavation Closure

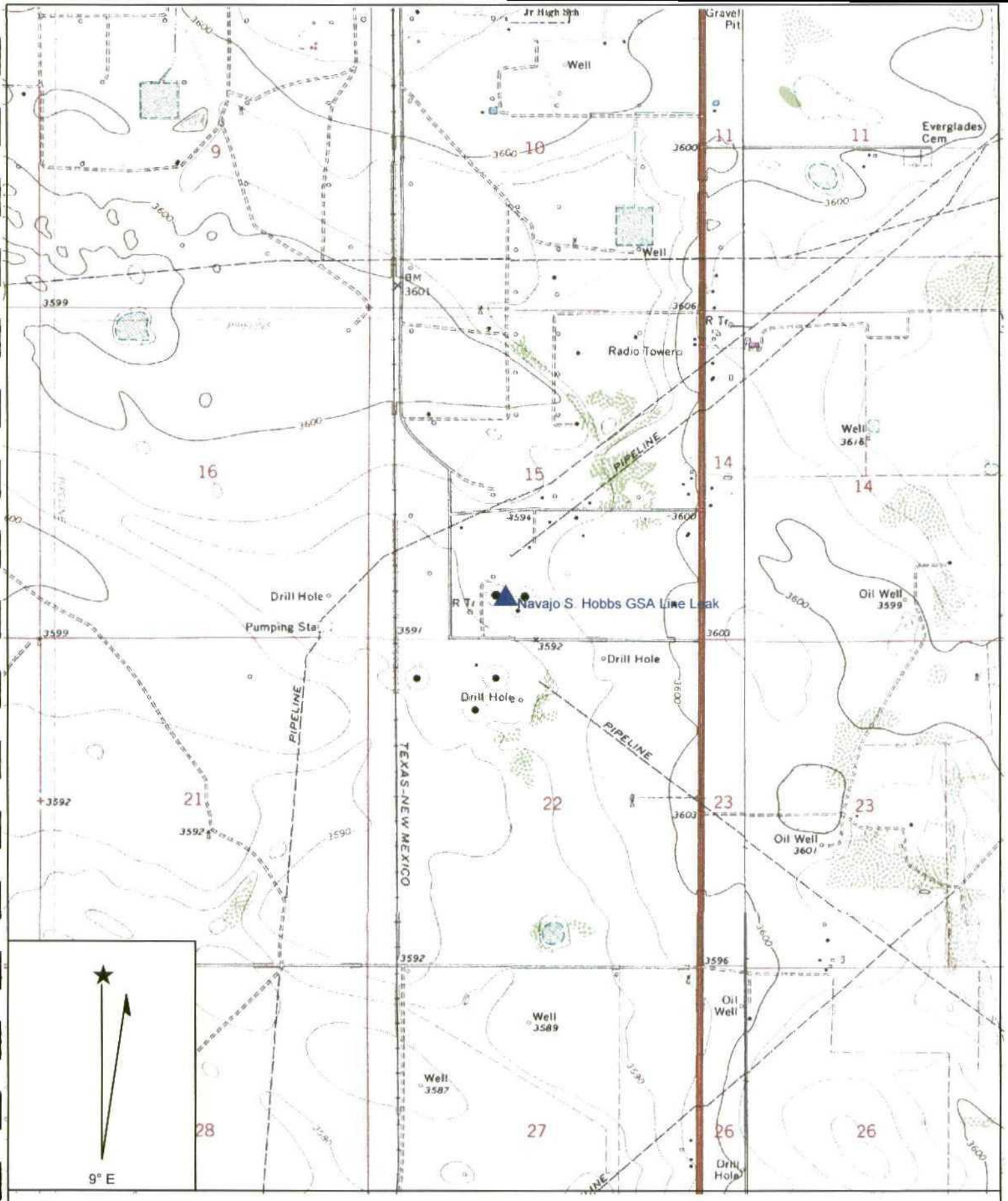
Once the results of the test samples for the final excavation are received and confirmation of the excavated area soils' results is obtained, the excavation will be backfilled with the clean material segregated on site and with clean soil imported for fill. A closure report for the soils investigation and evacuation will be prepared and filed with the NMOCD.

Follow-up Groundwater Investigation

Following removal of the contaminated soil and evaluation of the actual horizontal and vertical extent of the contamination, the need for additional groundwater investigation will be evaluated. That could include location of additional monitor wells and preparation of a clean-up/remediation plan for groundwater. At the very least, an additional round of groundwater elevation measurements and sampling (for BTEX and other WQCC constituents) will be conducted before making a decision on action to be taken.

VIII. Work Plan Figures

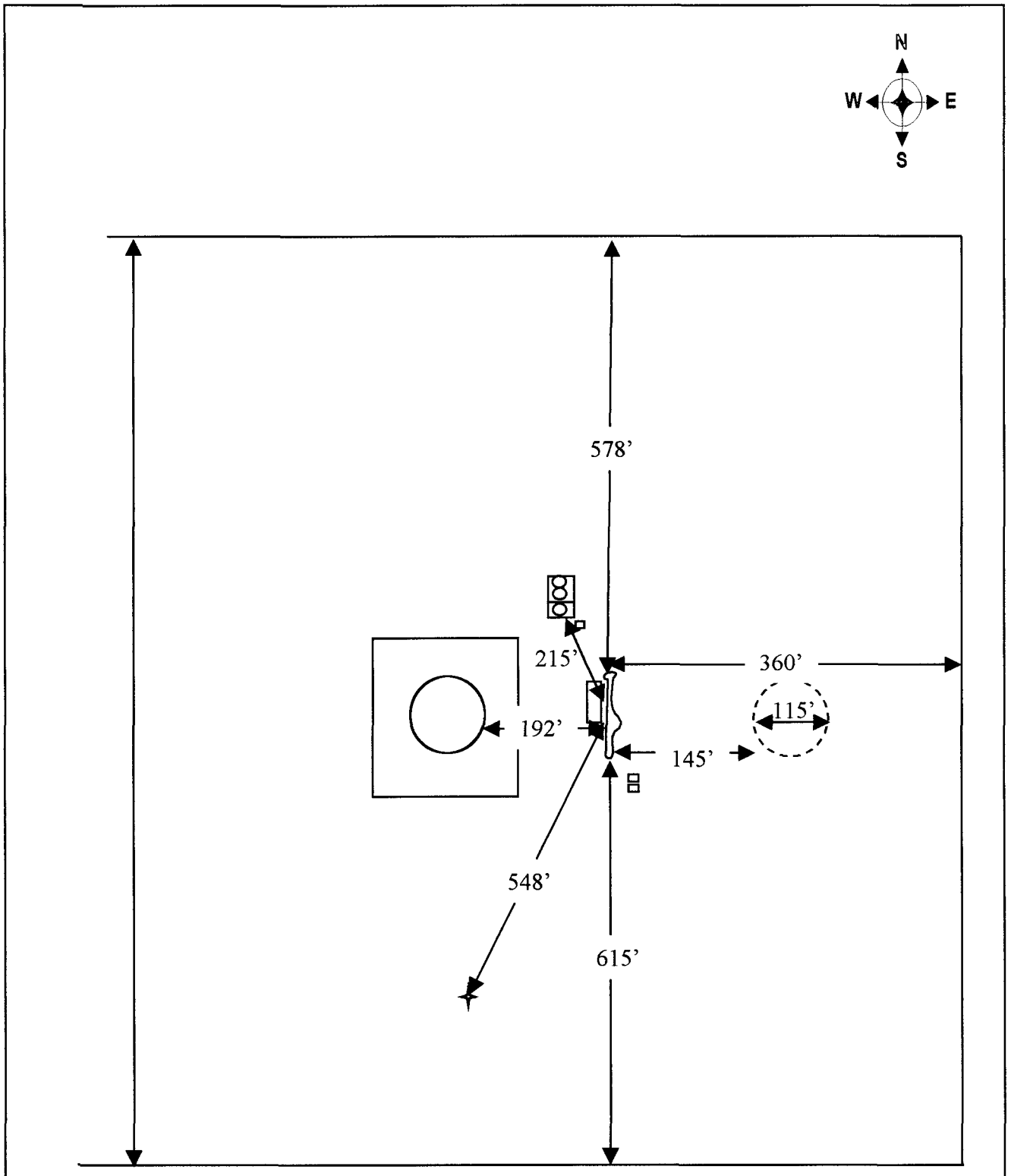
Figure 1. Vicinity Map



Name: HOBBS WEST
Date: 6/6/2002
Scale: 1 inch equals 2000 feet

Location: 032° 39' 16.8" N 103° 08' 15.2" W
Caption: Figure 1. Vicinity Map
Navajo S. Hobbs GSA Line Leak
SESW Sec. 15, T19S, R38E

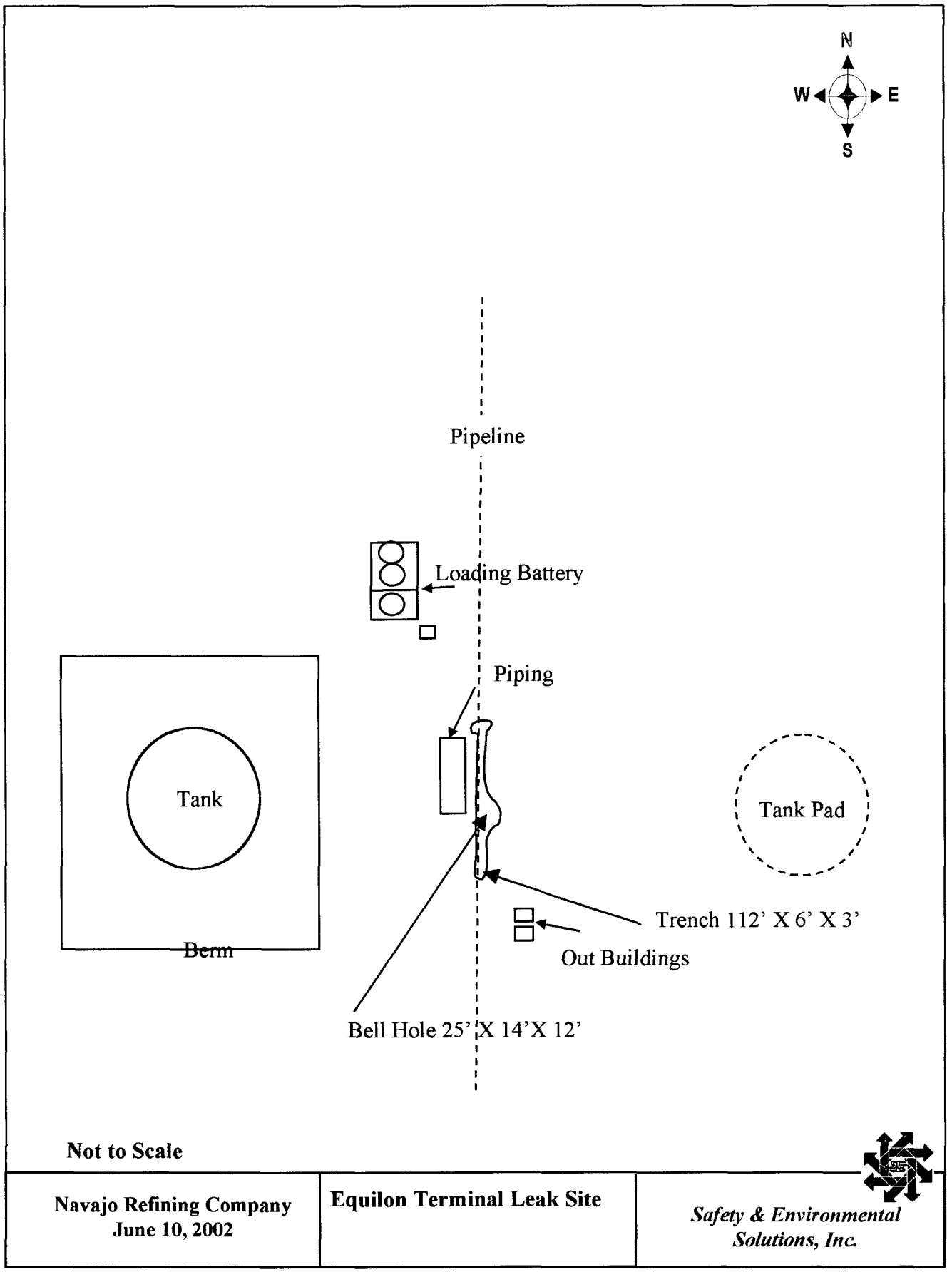
Figure 2. Site Plan



Not to Scale

Navajo Refining Company **June 10, 2002**	**Equilon Terminal Leak Site**	***Safety & Environmental Solutions, Inc.***

Figure 3. Leak Area Detail



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