



N60028_001123
TREASURE ISLAND
SSIC NO. 5090.3.A

DEPARTMENT OF THE NAVY
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132-5190

5090
Ser 06CA.ED/0504
30 June 2000

From: Commander, Southwest Division, Naval Facilities Engineering Command

Subj: FIELD SAMPLING PLAN ADDENDUM AT CORRECTIVE ACTION PLAN SITES
04/19, 06, 14/22 15, 16, 20 AND 25 AT TREASURE ISLAND (NAVSTA TI)

Encl: (1) RESPONSE TO COMMENTS ON THE PHASE 2 SAMPLING FOR THE
CORRECTIVE ACTION PLAN SITES AT NAVAL STATION TREASURE
ISLAND

1. Enclosure (1) is provided for your review. Enclosure (1) constitutes the Phase 2 work plan addendum. Please provide comments by July 12, 2000.
2. Thank you for your guidance and involvement in this project. For further information, please call me at (619) 532-0968.

ELLEN CASADOS
By direction

Distribution:

California Department of Toxic Substances Control (Attn: Mr. David Rist)
California Regional Water Quality Control Board (Attn: Ms. Sarah Raker)
U.S. Environmental Protection Agency, Region IX (Attn: Mr. Phillip Ramsey)
San Francisco Redevelopment Agency (Attn: Ms. Martha Walters)
Geomatrix Consultants (Attn: Mr. Gary Foote)
Tetra Tech EM Inc. (Attn: Mr. Neil Morgan Butcher) (w/o encl)
International Technology Corporation (Attn: Mr. John Baur)
Community RAB Members:
Mr. Nathan Brennan (RAB Co-Chair)
Ms. Patricia Nelson (RAB Tech. Chair)
Ms. Dale Smith
ARC Ecology (Ms. Chris Shirley)
Mr. Peter Kiel
Mr. Lew Schalit

**RESPONSE TO COMMENTS ON THE
PHASE 2 SAMPLING FOR THE CORRECTIVE ACTION PLAN SITES
NAVAL STATION TREASURE ISLAND**

This document presents the U.S. Department of the Navy's (Navy) responses to comments from the San Francisco Redevelopment Agency (SFRA) on the proposed phase 2 sampling for the corrective action plan (CAP) sites at Treasure Island (TI). The Navy received these comments from the SFRA consultant Geomatrix Consultants, Inc. in a letter dated May 23, 2000. The Navy began the phase 2 fieldwork on May 25, 2000, and was unable to address the SFRA concerns before initiating this work. SFRA comments are presented below in boldface type.

The Navy did not receive any written comments from the regulatory agencies, although verbal comments from Linda Dorn of the Regional Water Quality Control Board (RWQCB) were incorporated into the phase 2 fieldwork. The Navy relocated three borings in response to these comments. Borings 14/22-HP074 and 14/22-HP075 were shifted approximately 30 feet closer to the shore, and the Navy added groundwater sampling and analysis for total petroleum hydrocarbons (TPH) at these locations. The purpose of these borings was to show the extent of TPH contamination in soil in the central portion of Site 14. By shifting these borings downgradient (toward the shore), the Navy substantively achieved the objective of determining the extent of TPH in soil, while also documenting TPH concentrations in grab groundwater samples along parts of the shoreline where groundwater concentrations had not been previously measured. Boring 25-HP037 was also moved in response to RWQCB comments. This boring was shifted approximately 30 feet eastward in response to concerns that the boring had been located too far from the presumed area of TPH contamination.

Figures showing the final proposed phase 2 sample locations have been attached. As was noted during distribution of the draft figures, the Navy produced these final figures from a geographic information system (GIS) that is currently under development for use on the TI project. Not all relevant site features (such as underground storage tanks and former pipelines) are correctly represented, and some (mostly older) data are not posted. The Navy expects to have most of these issues resolved within the next month or so such that future data presentations will be increasingly complete. Navy decisions regarding proposed phase 2 borings relied on other figures, when necessary, to obtain a complete understanding of the available data.

RESPONSE TO COMMENTS FROM SFRA

General Comments

1. **Comment:** The current program is based on applying to all of Treasure and Yerba Buena Islands the 447 milligram of TPH per kilogram (mg/kg) of soil and 1.4 [milligrams] of TPH per liter (mg/l) of groundwater screening levels approved for Site 12. However, screening levels have not been approved for the rest of Treasure and Yerba Buena Islands. It is important that the issue of screening levels be resolved between the Navy and the regulatory agencies soon.

We have noted that not all relevant information is shown on the draft maps distributed by email by Neill Morgan-Butcher. For example, Well 143-MW02 does not appear on Figure 13. We understand that these maps are drafts and that they also represent a stage in the ongoing development of the Navy's new geographical information system (GIS) for the Treasure Island project. We caution that the maps should not be relied on as definitive in their present form.

- Response:** The Navy acknowledges the importance of resolving how screening levels will be applied in the CAP report and continues to discuss this issue with RWQCB and the other agencies. The Navy and agencies are in agreement that 447 mg/kg and 1.4 mg/L of TPH are acceptable screening levels for the purpose of conducting the current investigations.

The Navy further acknowledges that the figures provided are not "definitive" and will need to be corrected in the CAP report. As noted above, the Navy did not rely solely on these figures for interpretation of the phase 1 results. The Navy is committed to implementing the GIS for Treasure Island in the belief that it will bring significant interpretive value to the project.

Site Specific Comments

CAP Site 6 – Former Fire-Fighting Training Area (Neill Morgan-Butcher's Figs. 3 and 4)

1. **Comment:** I suggest that groundwater sampling and TPH analyses be added to the Navy's proposed sampling and analyses at proposed sampling stations 06-HP074, 075, 076, 083, 084, and 088, where only soil sampling is currently proposed. This will address two concerns. First, it does not appear that groundwater chemical concentrations have been monitored in this area (the northern and eastern boundaries of Site 6) since about 1995, and it is appropriate to collect more-recent data to support remedial decision-making. In addition, TPH was previously detected in this area at concentrations up to 100 mg/l, in Wells 06-MW05 and 06-MW08. Those data were not included on the Navy's figures or addressed by the Navy's current sampling proposal.

Response: In general, once the extent of contamination has been defined using such techniques as Geoprobe™ groundwater grab sampling, the Navy will primarily rely on monitoring well data to characterize the actual groundwater concentrations (especially in lieu of groundwater filtration for extractable TPH [TPH-e]). As such, extensive grab groundwater sampling would not be advocated at Site 6. The vicinity of suggested grab groundwater sampling at locations 06-HP074 and 06-HP075 appears to be reasonably well covered by a recent grab groundwater sample collected at location 06-HP042A and by monitoring wells 06-MW03, 06-MW17, and 06-MW18. Suggested grab groundwater sampling at locations 06-HP076, 06-HP083, and 06-HP084 are unnecessary due to the proximity of these locations to monitoring wells 06-MW03, 06-MW22, and 06-MW21, respectively. The suggested grab groundwater sampling at location 06-HP088 is discussed under the response to site specific comment No. 2, below.

The comment above correctly noted that data for former monitoring well 06-MW05 were not properly posted on Figure 4. Inaccurate location coordinates caused the data for this well to be posted at the same point as monitoring well 06-MW08 (data for well 06-MW05 was obscured). As noted above, the Navy also relied on other figures correctly posting earlier site data to interpret the phase 1 data and proposed phase 2 locations.

2. **Comment:** I suggest that an additional hydraulic-push sampling station be added for both soil and groundwater TPH analyses along the front of Building 461, between former sampling stations 06-HP032 and 06-HP047, because there do not appear to be any groundwater monitoring data downgradient of the high chemical concentrations detected at 06-MW01, 06-MW11, and 06-HP033.

Response: The Navy is in the process of integrating data from the recent bioventing/biosparging pilot-scale test into the investigation data for Site 6. The need for any additional soil or groundwater data, including installation of monitoring wells, near borings 06-HP037, 06-HP047, and 06-HP088 (see site specific comment No. 1, above) will be reevaluated for potential addition to phase 3 activities.

CAP Sites 14/22 – New Fuel Farm (14) and Former NEX Gas Station (22) (Neill Morgan-Butcher’s Figs. 5 and 6)

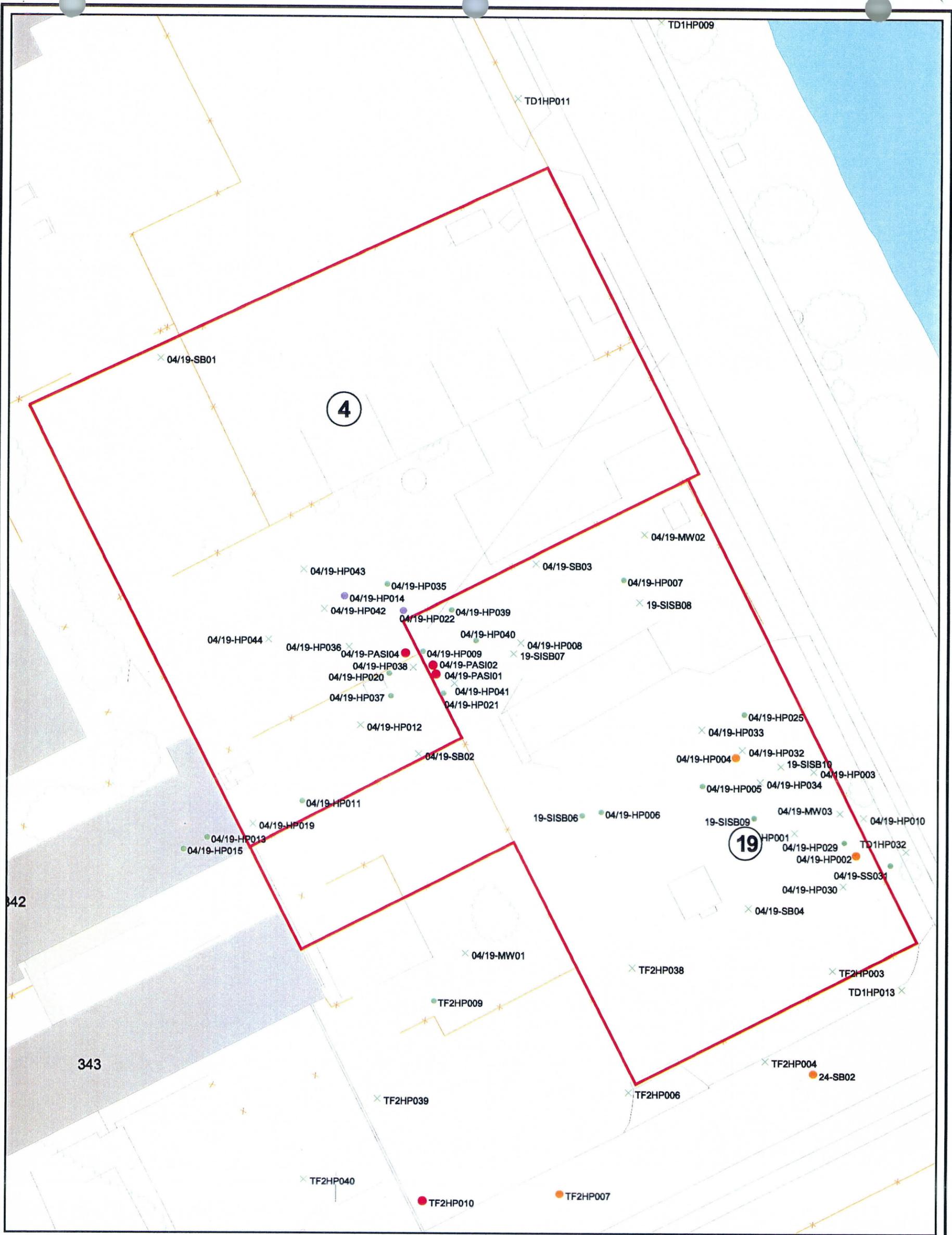
3. **Comment:** I understand from discussion during the site walk that the Navy will conservatively assume that the available TPH data from sampling stations nearest the bay (e.g. 14-HP 061 and 22-MW07) will represent TPH concentrations between those stations and the bay margin, rather than continue characterization within a few tens of feet from the bay. I suggest that we request the Navy to document this remediation-planning assumption or to provide a more accurate description of their approach to site characterization and remediation planning at this site.

Response: Monitoring wells 14-MW05, 22-MW06, and 22-MW07 and boring 14-HP061 were located as close to the shoreline as possible. Location 22-MW07 was in part constrained by utilities, while the other locations were limited by riprap at the shoreline. No particular remedial planning should be inferred from the location of groundwater sampling points along the shoreline, and the Navy did not intend to imply during the site walk on May 17, 2000, that the distance of these points from the shoreline was in some way related to a remedial strategy.

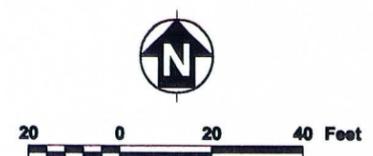
CAP Site 20 – Former Auto Hobby Shop (Neill Morgan-Butcher's Figs. 10 and 11)

4. **Comment:** I suggest that we request the Navy to add a hydraulic-push sampling station, with collection and analysis of soil and groundwater samples for TPH and VOCs, west of Building 225, in the presumed downgradient direction. The sampling station should be approximately aligned with the long axis of the building and located a few tens of feet from the building, perhaps in the median of the street just west of the building. This sampling station is proposed because experience at other vehicle-maintenance and repair facilities indicates that the past use of Building 225 might have included the storage, use, and disposal of TPH and VOCs inside the building, but there are not sufficient data to directly assess contamination that might have originated in the building.

Response: The Navy will reevaluate the existing data for all of the CAP sites prior to proposing phase 3 sampling. The results of this data review will be discussed with the agencies and SFRA. A preliminary review of the Site 20 data supports the collection of additional groundwater data west of Building 225. This data could help distinguish between low concentrations of tetrachloroethene observed at boring 20-HP023 and at monitoring well 12-MW07.



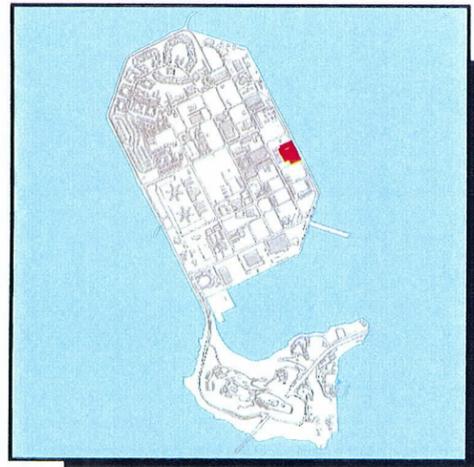
- ⊙ PROPOSED BORING LOCATIONS
- TOTAL TPH IN SOIL
- × ND
- < 447 ppm
- 447 - 1000 ppm
- 1000 - 5000 ppm
- > 5000 ppm
- ▭ IR SITES
- ▭ BUILDINGS
- ▭ APERTURNANCES
- ▭ ROADS
- ▭ FENCES
- ▭ TREES, BRUSH
- ▭ OTHER SITE FEATURES
- ▭ ABOVEGROUND STORAGE TANKS
- ▭ UNDERGROUND STORAGE TANKS
- ▭ SUSPECTED UNDERGROUND STORAGE TANKS
- ▭ SHORELINE

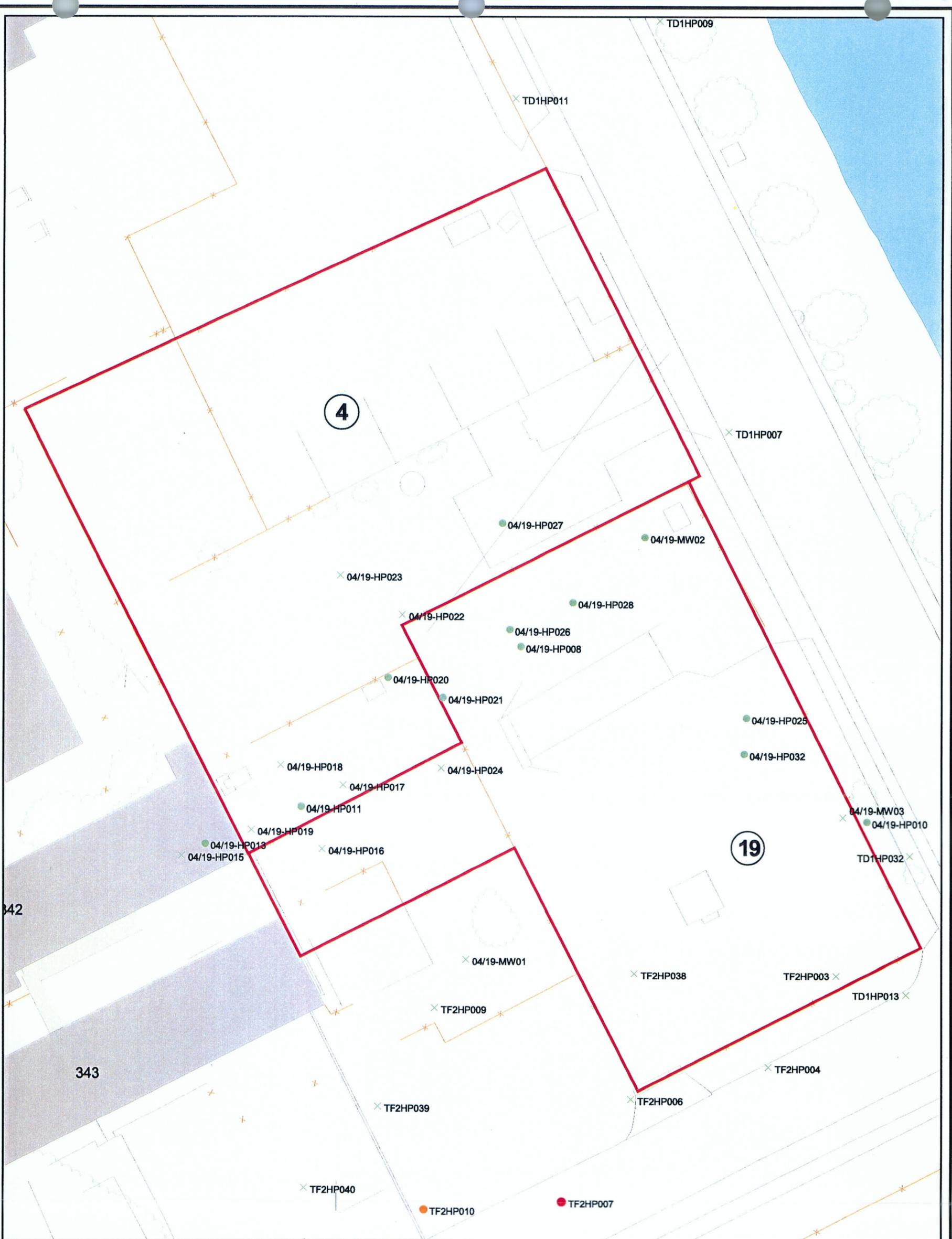


Tetra Tech EM Inc.

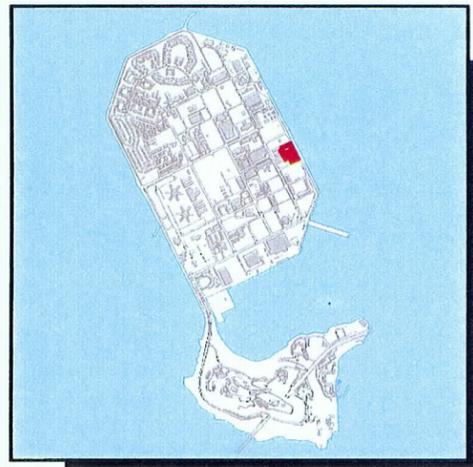
SITE 4/19
TREASURE ISLAND, CALIFORNIA

FIGURE 1
TOTAL TPH IN SOIL





05/11/00 j:\u_yb\arcview\projects\cbo257\cbo257a.apr TIE\MI-SF Simon Cardinale



- ⊙ PROPOSED BORING LOCATIONS
- TOTAL TPH IN WATER
- × ND
- < 1.4 mg/L
- 1.4 - 5 mg/L
- 5 - 10 mg/L
- > 10 mg/L
- ▭ IR SITES
- ▭ BUILDINGS
- ▭ APERTURNANCES
- ▭ ROADS
- ▭ FENCES
- ▭ TREES, BRUSH
- ▭ OTHER SITE FEATURES
- ▭ ABOVEGROUND STORAGE TANKS
- ▭ UNDERGROUND STORAGE TANKS
- ▭ SUSPECTED UNDERGROUND STORAGE TANKS
- ▭ SHORELINE

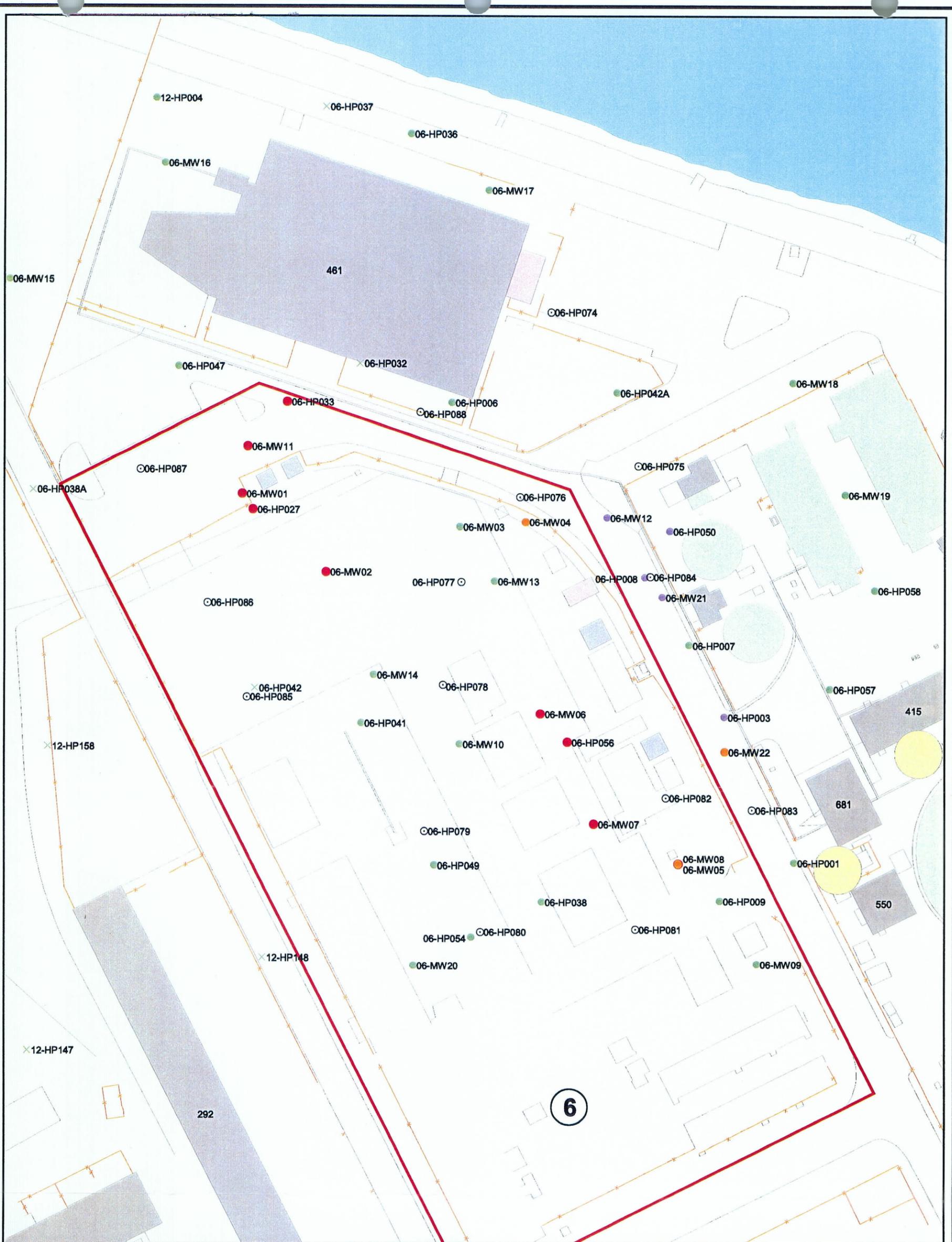


20 0 20 40 Feet



SITE 4/19
TREASURE ISLAND, CALIFORNIA

FIGURE 2
TOTAL TPH IN WATER



○ PROPOSED BORING LOCATIONS

TOTAL TPH IN WATER

- × ND
- < 1.4 mg/L
- 1.4 - 5 mg/L
- 5 - 10 mg/L
- > 10 mg/L
- IR SITES

- ABOVEGROUND STORAGE TANKS
- UNDERGROUND STORAGE TANKS
- SUSPECTED UNDERGROUND STORAGE TANKS
- BUILDINGS
- APERTURNANCES
- ROADS

- FENCES
- TREES, BRUSH
- OTHER SITE FEATURES
- SHORELINE

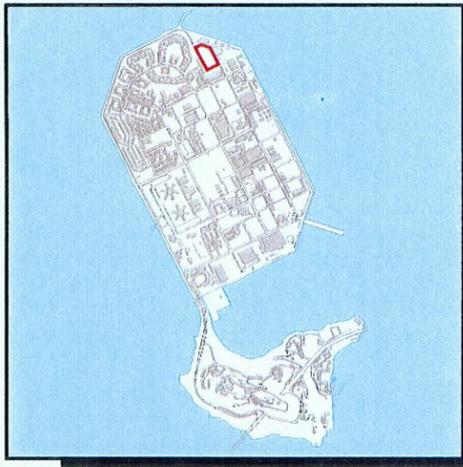


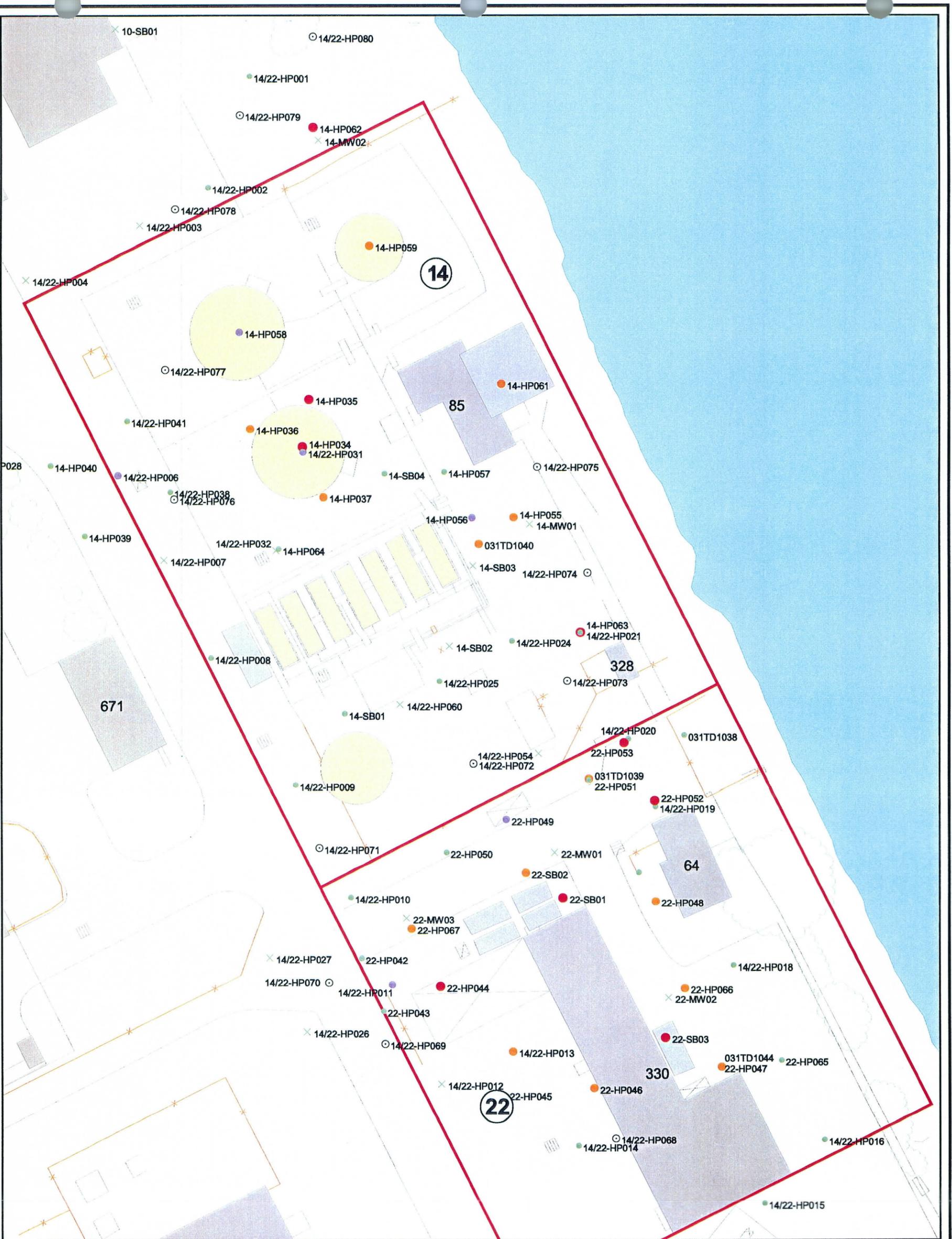
30 0 30 60 Feet



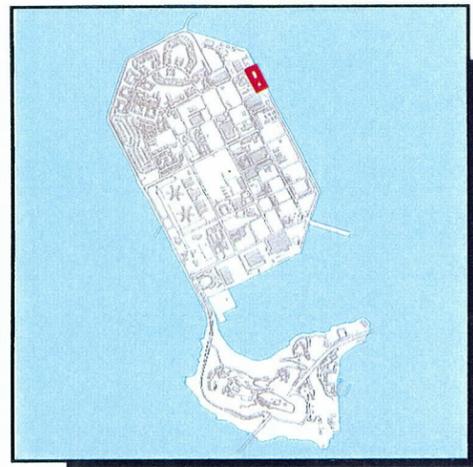
SITE 6
TREASURE ISLAND, CALIFORNIA

FIGURE 4
TOTAL TPH IN WATER





06/19/00 j:\u_y\larcview\projects\cto257\cto257a.apr T\EM-SF Simon Cardinale



- PROPOSED BORING LOCATIONS
- TOTAL TPH IN SOIL
- × ND
- < 447 ppm
- 447 - 1000 ppm
- 1000 - 5000 ppm
- > 5000 ppm
- IR SITES
- ABOVEGROUND STORAGE TANKS
- UNDERGROUND STORAGE TANKS
- SUSPECTED UNDERGROUND STORAGE TANKS
- BUILDINGS
- APERTURNANCES
- ROADS
- FENCES
- TREES, BRUSH
- OTHER SITE FEATURES
- SHORELINE



20 0 20 40 Feet

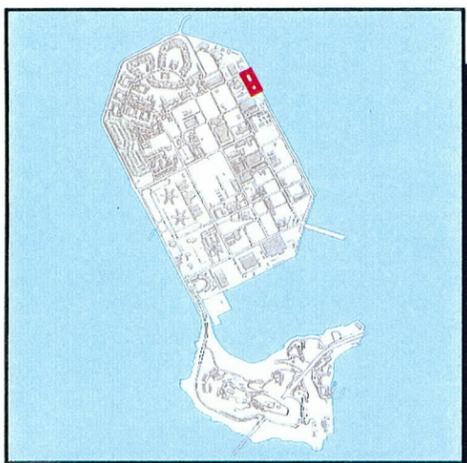


SITE 14/22
TREASURE ISLAND, CALIFORNIA

FIGURE 5
TOTAL TPH IN SOIL



06/19/00 j:\u_yb\arcview\projects\c257\c257a.apr TIE-MI-SF Simon Cardinale



⊙ PROPOSED BORING LOCATIONS

TOTAL TPH IN WATER

- × ND
- < 1.4 mg/L
- 1.4 - 5 mg/L
- 5 - 10 mg/L
- > 10 mg/L

▭ IR SITES

- ABOVEGROUND STORAGE TANKS
- UNDERGROUND STORAGE TANKS
- SUSPECTED UNDERGROUND STORAGE TANKS
- BUILDINGS
- APERTURNANCES
- ROADS

- FENCES
- TREES, BRUSH
- OTHER SITE FEATURES
- SHORELINE

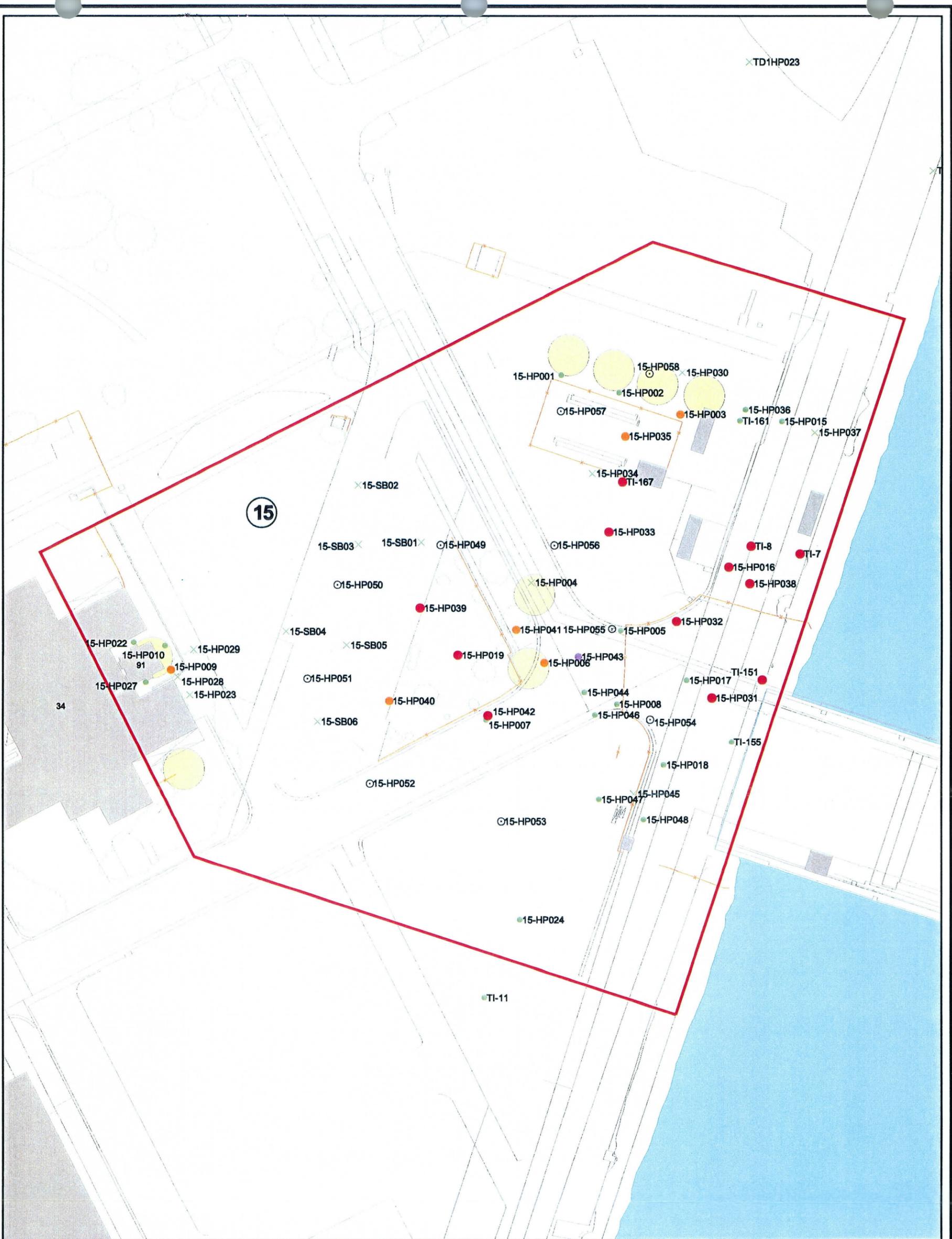


20 0 20 40 Feet

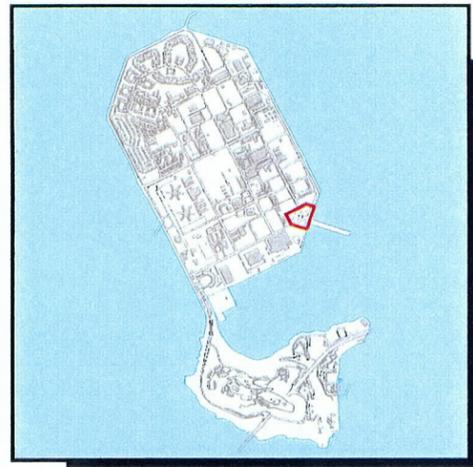
TC Tetra Tech EM Inc.

SITE 14/22
TREASURE ISLAND, CALIFORNIA

FIGURE 6
TOTAL TPH IN WATER



05/1/00 j:\u_yollar\view\projects\site257\site257a.apr TCEM-SF Simon Cardinale



- PROPOSED BORING LOCATIONS
- TOTAL TPH IN SOIL
- × ND
- < 447 ppm
- 447 - 1000 ppm
- 1000 - 5000 ppm
- > 5000 ppm
- IR SITES
- BUILDINGS
- APERTURNANCES
- ROADS
- FENCES
- TREES, BRUSH
- OTHER SITE FEATURES
- ABOVEGROUND STORAGE TANKS
- UNDERGROUND STORAGE TANKS
- SUSPECTED UNDERGROUND STORAGE TANKS
- SHORELINE



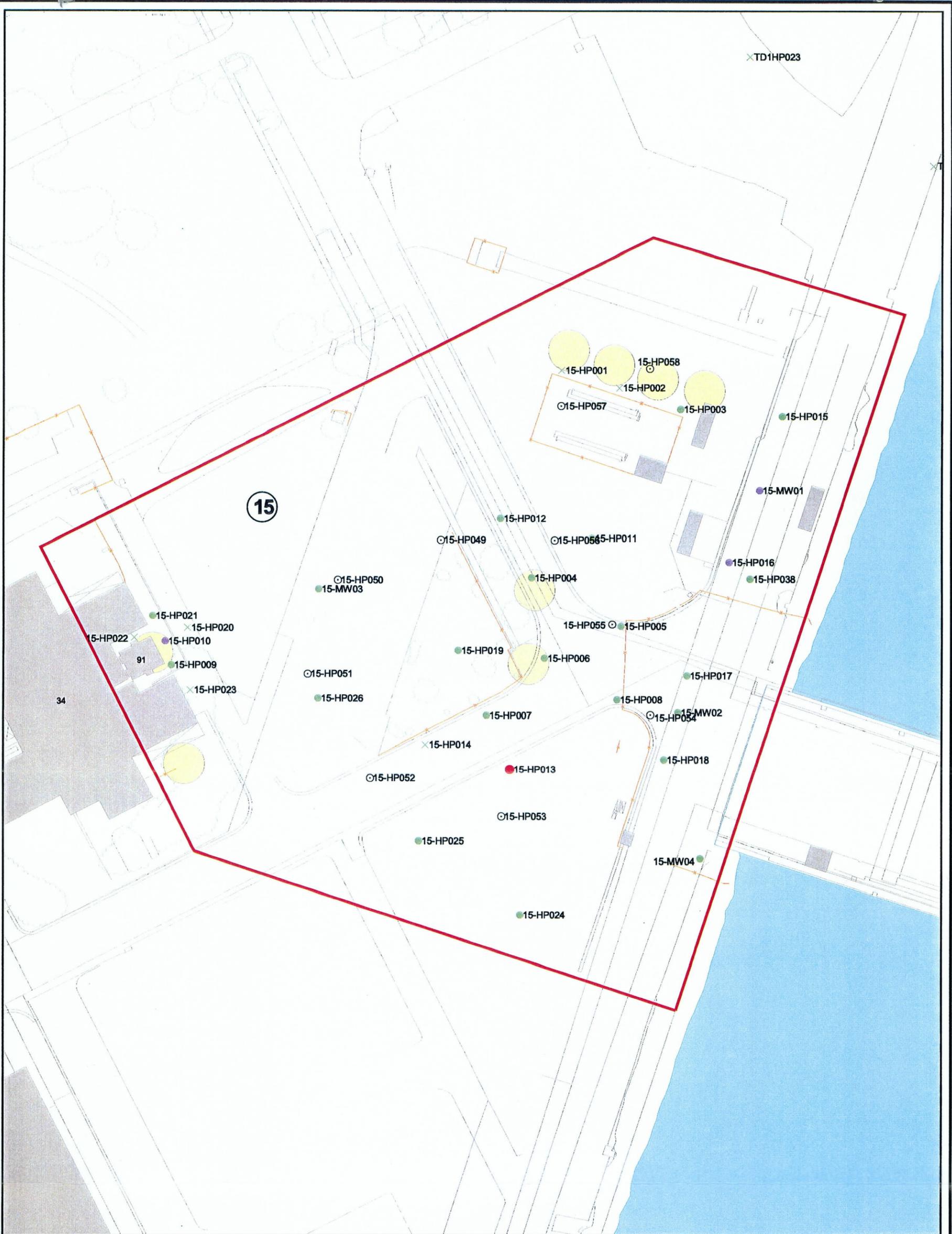
35 0 35 70 Feet



SITE 15
TREASURE ISLAND, CALIFORNIA

FIGURE 7

TOTAL TPH IN SOIL



05/11/00 j:\u_yh\arcview\projects\cso257\cso257.a.apr TCEM-SF Simon Cardinale



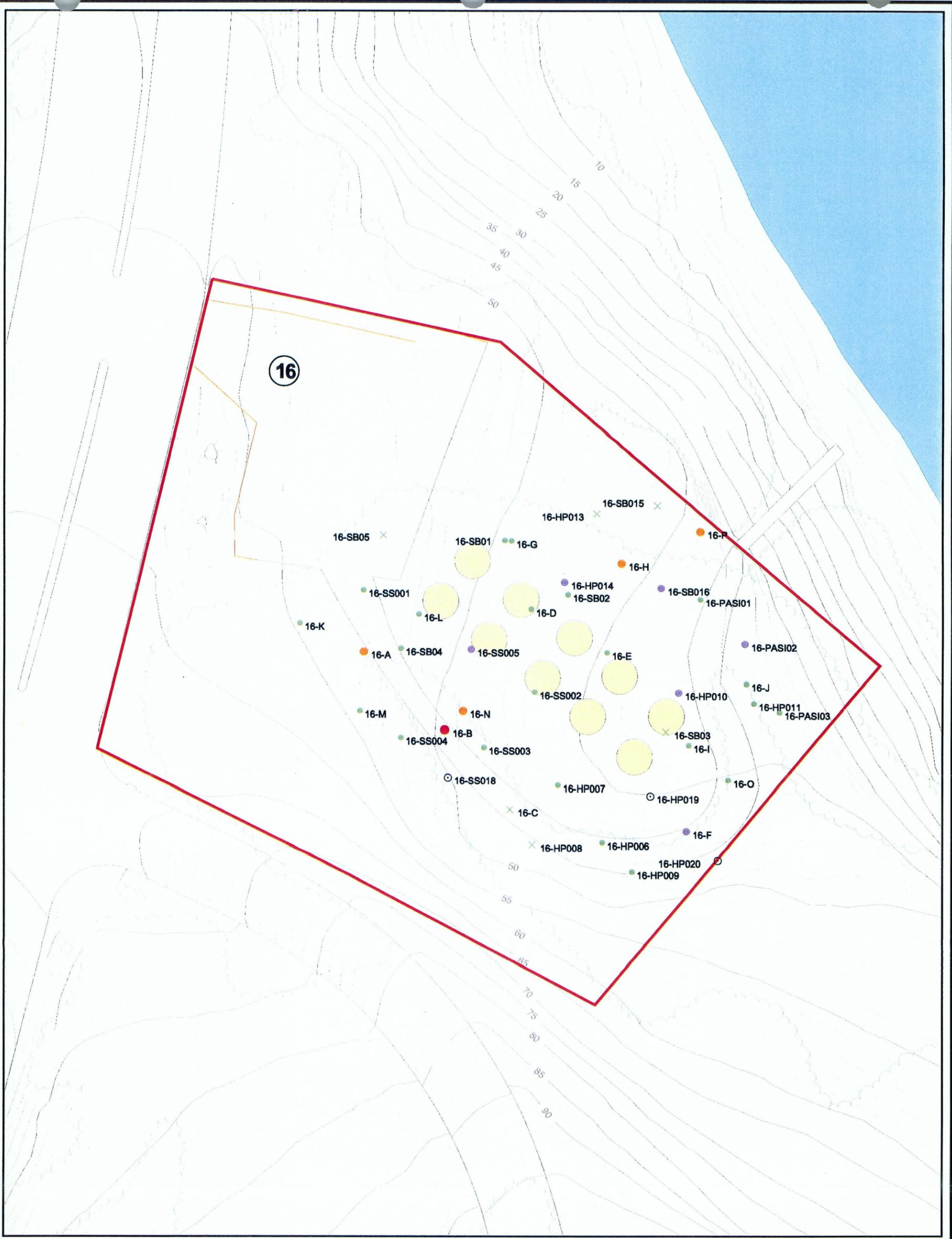
- ⊙ PROPOSED BORING LOCATIONS
- TOTAL TPH IN WATER
- × ND
- < 1.4 mg/L
- 1.4 - 5 mg/L
- 5 - 10 mg/L
- > 10 mg/L
- IR SITES
- BUILDINGS
- APERTURNANCES
- ROADS
- FENCES
- TREES, BRUSH
- OTHER SITE FEATURES
- ABOVEGROUND STORAGE TANKS
- UNDERGROUND STORAGE TANKS
- SUSPECTED UNDERGROUND STORAGE TANKS
- SHORELINE



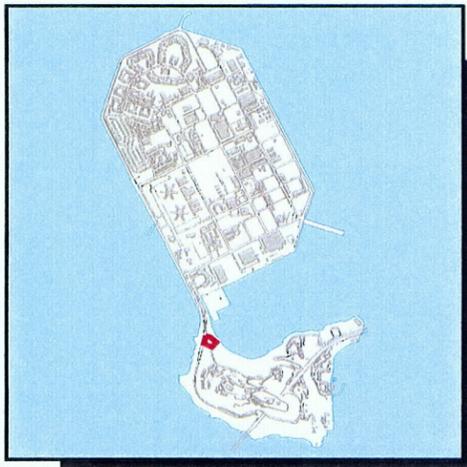
TE Tetra Tech EM Inc.

SITE 15
TREASURE ISLAND, CALIFORNIA

FIGURE 8
TOTAL TPH IN WATER



05/12/00 j:\6_vollanview\projects\cso257\cso257.a.apr TFCM-SF Simon Cardinale



⊙ PROPOSED BORING LOCATIONS
TOTAL TPH IN SOIL

- × ND
- < 447 ppm
- 447 - 1000 ppm
- 1000 - 5000 ppm
- > 5000 ppm

- IR SITES
- BUILDINGS
- APERTURNANCES
- ROADS

- FENCES
- TREES, BRUSH
- OTHER SITE FEATURES

- ABOVEGROUND STORAGE TANKS
- UNDERGROUND STORAGE TANKS
- SUSPECTED UNDERGROUND STORAGE TANKS
- SHORELINE

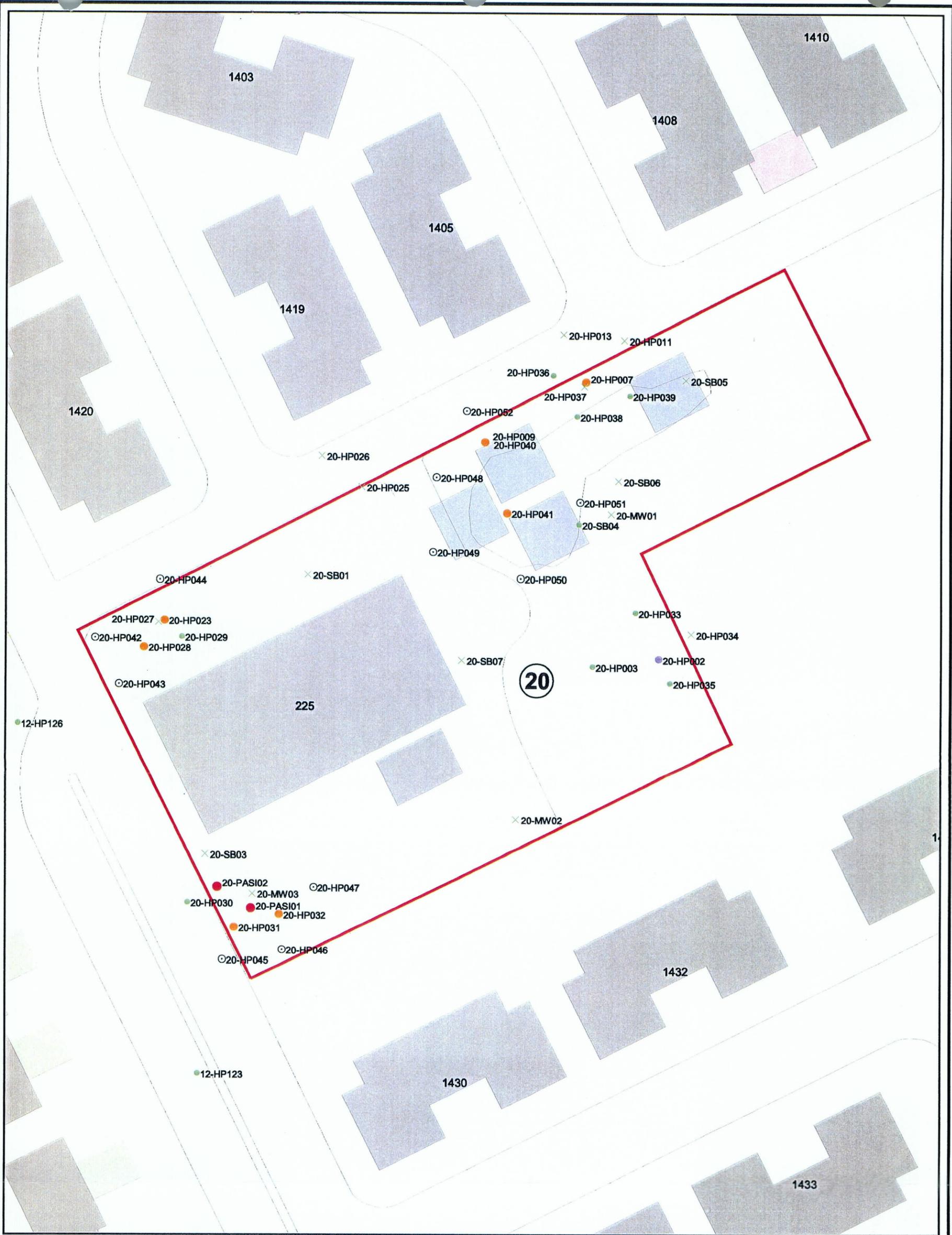


20 0 20 40 Feet



SITE 16
TREASURE ISLAND, CALIFORNIA

FIGURE 9
TOTAL TPH IN SOIL



⊙ PROPOSED BORING LOCATIONS

- TOTAL TPH IN SOIL
- × ND
 - < 447 ppm
 - 447 - 1000 ppm
 - 1000 - 5000 ppm
 - > 5000 ppm

- IR SITES
- BUILDINGS
- APERTURNANCES
- ROADS

- FENCES
- TREES, BRUSH
- OTHER SITE FEATURES

- ABOVEGROUND STORAGE TANKS
- UNDERGROUND STORAGE TANKS
- SUSPECTED UNDERGROUND STORAGE TANKS
- SHORELINE



SITE 20
TREASURE ISLAND, CALIFORNIA

FIGURE 10
TOTAL TPH IN SOIL



- PROPOSED BORING LOCATIONS
- TOTAL TPH IN WATER
- × ND
- < 1.4 mg/L
- 1.4 - 5 mg/L
- 5 - 10 mg/L
- > 10 mg/L
- IR SITES
- BUILDINGS
- APERTURNANCES
- ROADS
- FENCES
- TREES, BRUSH
- OTHER SITE FEATURES
- ABOVEGROUND STORAGE TANKS
- UNDERGROUND STORAGE TANKS
- SUSPECTED UNDERGROUND STORAGE TANKS
- SHORELINE

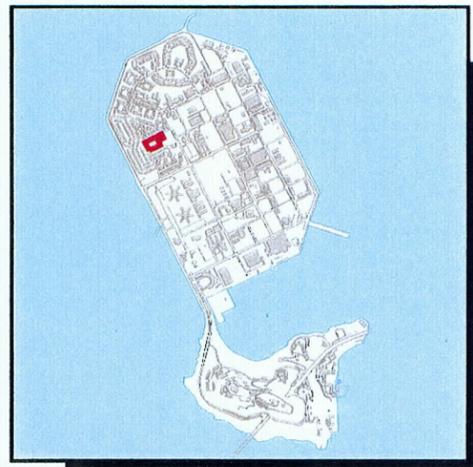


25 0 25 50 Feet



SITE 20
TREASURE ISLAND, CALIFORNIA

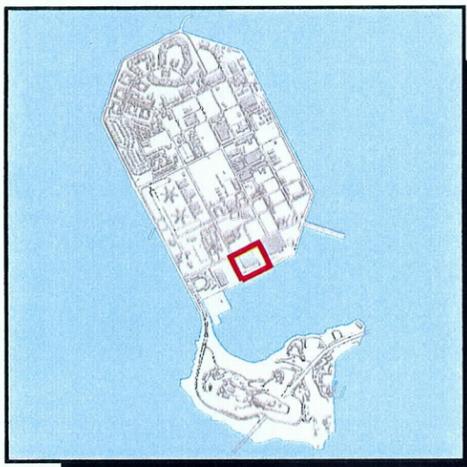
FIGURE 11
TOTAL TPH IN WATER



25



06/19/00 j:\h\arcview\projects\cb257\cb257.a.apr T:\EM-SF Simon Cardinale



- ⊙ PROPOSED BORING LOCATIONS
- TOTAL TPH IN SOIL
- × ND
- < 447 ppm
- 447 - 1000 ppm
- 1000 - 5000 ppm
- > 5000 ppm
- IR SITES
- BUILDINGS
- APERTURNANCES
- ROADS
- FENCES
- TREES, BRUSH
- OTHER SITE FEATURES
- ABOVEGROUND STORAGE TANKS
- UNDERGROUND STORAGE TANKS
- SUSPECTED UNDERGROUND STORAGE TANKS
- SHORELINE



Tetra Tech EM Inc.

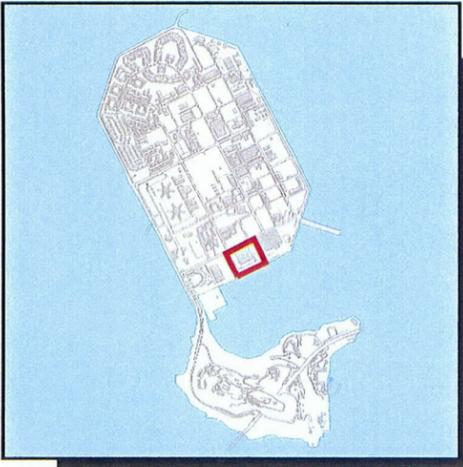
SITE 25
TREASURE ISLAND, CALIFORNIA

FIGURE 12
TOTAL TPH IN SOIL

25



06/19/00 j:\0_yollarview\project\site25\7\co257a.apr TTEM-SF Simon Cardinale



- PROPOSED BORING LOCATIONS
- TOTAL TPH IN WATER
- × ND
- < 1.4 mg/L
- 1.4 - 5 mg/L
- 5 - 10 mg/L
- > 10 mg/L
- IR SITES
- BUILDINGS
- APERTURNANCES
- ROADS
- FENCES
- TREES, BRUSH
- OTHER SITE FEATURES
- ABOVEGROUND STORAGE TANKS
- UNDERGROUND STORAGE TANKS
- SUSPECTED UNDERGROUND STORAGE TANKS
- SHORELINE



25 0 25 50 Feet



SITE 25
TREASURE ISLAND, CALIFORNIA

FIGURE 13
TOTAL TPH IN WATER

FINAL
FIELD SAMPLING AND ANALYSIS PLAN
ADDITIONAL SAMPLING AT
CORRECTIVE ACTION PLAN SITES

THIS DOCUMENT WAS NOT RECEIVED IN THE
RESTORATION RECORDS FILE.

FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, COMMAND RECORDS MANAGER, CODE EV33
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY (NBSD BLDG. 3519)
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil