64522

SUPPLEMENT
SITE ASSESSMENT PROGRAM
TUTU ESSO STATION
TUTU, ST. THOMAS, U.S.V.I.

OCTOBER 1993

Prepared By:

Blasland & Bouck Engineers, P.C.
1 East Uwchlan Avenue, Suite 112
Exton, PA 19341-1281

Supplement
Site Assessment Program
Tutu Esso Station
Tutu, St. Thomas, U.S.V.I.

1.0 INTRODUCTION

1.1 Objectives of Supplemental Investigation Tasks

To incorporate the Phase Two activities identified in the 15 January 1993 Court Order signed by Chief Magistrate Geoffrey W. Barnard (District Court of the Virgin Islands, Division of St. Thomas - St. John), the August 1993 work program prepared by Blasland & Bouck Engineers, P.C. has been supplemented and modified. By identifying revisions to the previously submitted work program, this document serves as an addendum to the aforementioned Site Investigation Program with respect to work scope and tentative implementation schedule.

The primary modification to the work scope was to incorporate subsurface excavation activities for certain portions of the Esso station property. Areas designated for excavation include:

1. the purported Subsurface Detection Investigations, Inc. (SDII) ground penetrating radar (GPR) anomaly in the northeastern portion of the property;
2. the termini of influent and effluent pipes extending from the "north" oil/water separator ("waste oil containment structure");
3. the area surrounding the south oil/water separator and certain appurtenant piping; and
4. the former hydraulic lift area (southwestern corner of the station property).

It is important to note that modifications to the August 1993 work program have been discussed with Caribbean Hydro-Tech (the hydrogeologic consultant for Four Winds Plaza). Through a series of correspondence, telephone conversations and a site walk-over, Mr. Thomas Maguire of Blasland & Bouck Engineers and Mr. Bruce Green of Caribbean Hydro-Tech have reached concurrence with respect to the scope of supplemental activities. Additionally, proposed site investigation activities were discussed and conceptually approved

Regulator, Department of Planning and Natural Resources, U.S.V.I.) during a site walk-over on October 7, 1993.

2.0 SUPPLEMENTAL INVESTIGATIVE ACTIVITIES

2.1 Excavation Activities

2.1.1 Purported GPR Anomaly

Although there is no empirical data to support the existence of an unknown structure beneath the northeast corner of the Esso property, to remove any doubt regarding the existence of a subsurface structure, excavation activities will be conducted in the area identified in Figure 2-1. The subsurface investigation will be conducted in accordance with Phase Two of the 15 January 1993 Court Order, therefore, the previously proposed soil boring (August 1993 work program) will be eliminated.

The excavation investigation will be implemented in accordance with the following procedures:

- a backhoe will be utilized to excavate a trench approximately two feet wide (one bucket width) and seven feet deep;
- the trench will start approximately three feet southwest of the alleged western terminus of the SDII GPR anomaly;
- the trench will end approximately three feet northeast of the opposite end of the purported anomaly; and
- unless a subsurface structure is encountered, no soil samples will be collected for either geologic or environmental characterization.

2.1.2 Termini of Influent/Effluent Piping (North Oil/Water Separator)

Both the influent and effluent pipes connected to the north oil/water separator were traced to obstructions in the piping during the previous site investigation (January 1993). The effluent pipe was traced 10.4 feet to the west from the separator, while the influent pipe was traced 22.2 feet to the east. To determine the ultimate termination point of each of these pipes, excavation activities will be conducted in the two areas depicted in Figure 2-1. Due to the presence of building structures and limited over-head access, excavation will be

conducted by manual means. There are presently no plans to collect soil samples for geological or environmental characterization during these activities. Should site conditions warrant the characterization of soils, a decision will be made in the field to obtain discrete soil samples.

2.1.3 South Oil/Water Separator

To confirm the results of both mechanical and fluid tracing of influent and effluent piping connected to the south oil/water separator, the area surrounding the separator will be excavated (Figure 2-1). It is presently anticipated that these excavation activities can be conducted through a combination of mechanical and manual excavation techniques. A trench will be excavated around the perimeter of the concrete structure extending to a depth equal to that of the separator (approximately three feet). In addition, the pipe which was formerly connected to the floor drain in the lift area (previously traced through physical measurements of pipe trench surficial expression) will also be excavated (Figure 2-1). Should previously unknown connections to the separator be identified through the perimeter excavation process, these pipes will be traced either through fluid/mechanical tracing and/or excavation techniques.

2.1.4 Former Hydraulic Lift Area

The soil boring proposed for the former hydraulic lift area (August 1993 work program) will be supplemented with an excavation investigation. A trench will be excavated across the former location of the eastern hydraulic lift in the open garage area (Figure 2-1). The former location of this lift can be identified by the presence of a patch in the existing concrete floor. Excavation activities will proceed in accordance with the following:

- a backhoe will be utilized to install a trench approximately two feet wide(one bucket width) and seven feet deep;
- the trench will start approximately three feet south of the southern edge of the concrete patch and extend in a northerly direction; and

- the trench will end approximately three feet north of the opposite end of the concrete patch (northern edge);

Discrete soil samples may be collected to characterize subsurface geologic and/or environmental conditions. The decision to collect soil samples will be made in the field based upon site observations.

3.0 TENTATIVE INVESTIGATION SCHEDULE

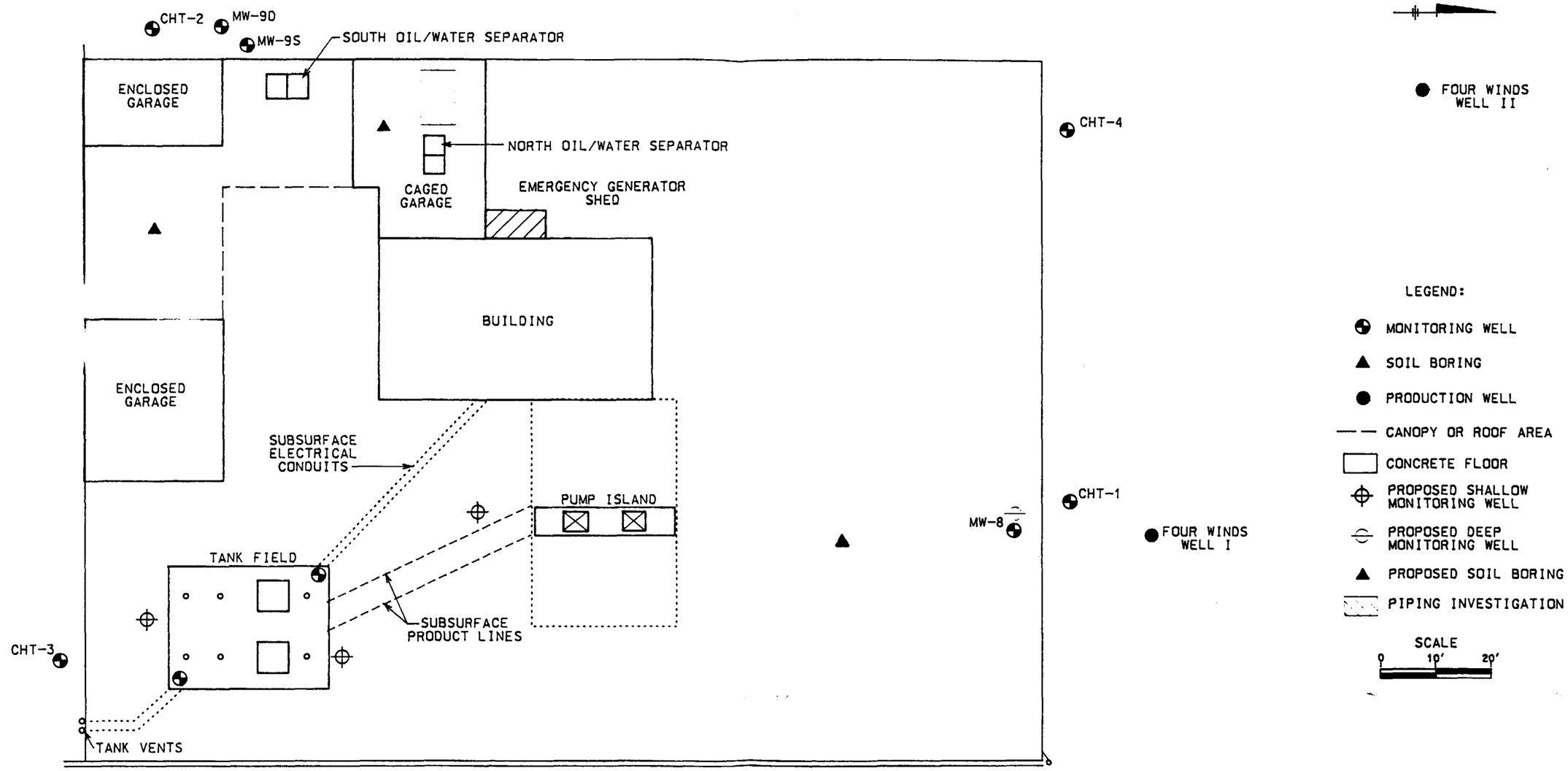
3.1 Revised Investigation Schedule

The previously identified schedule (August 1993 work program) has been modified to incorporate the implementation of site excavation activities. Given these modifications, it is presently anticipated that the proposed work program can be implemented in accordance with the tentative schedule outlined in Table 3-1. Reasonable efforts will be made to achieve this tentative schedule and, under certain circumstances, some tasks may be expedited.

TABLE 3-1
TENTATIVE INVESTIGATION SCHEDULE

INVESTIGATIVE TASK	WEEKS AFTER 20 SEPTEMBER 1993
Permit Acquisition	4
Drilling and Excavation Contractor Mobilization	4 - 6
Excavation Investigation	7 - 8
Soil Boring Installation	8
Laboratory Analysis of Soil Samples	9 - 17
Monitoring Well Installations/Development/Surveying	8 - 10
Monitoring Well Equilibration Period	11 - 12
First Round of Ground Water Sampling	13
Hydraulic Conductivity Testing of Select Wells	13 - 14
Vacuum Testing of Select Wells	13 - 14
Laboratory Analysis of First-Round Ground Water Samples	14 - 22
Second Round of Ground Water Sampling	22
Laboratory Analysis of Second-Round Ground Water Samples	23 - 31
IRM/FRM Screening Analysis	22 - 35
Report Preparation	31 - 35

* Initiation of field work subject to acquisition of requisite approvals and permits from DPNR



BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & SCIENTISTS

ESSO TUTU SERVICE STATION
ST. THOMAS, USVI

PROPOSED MONITORING WELL LOCATIONS

FIGURE 2-1

1.8.8.93 ON
8/17/93 SD-PGL
C:\DGN\58101\58101SM1.DGN

TUT 004 0659