

SCI 447.010

Mr. Gilbert Wistar
Alameda County Health Care Services Agency
80 Swan Way, #200
Oakland, California 94612

STP
469

Work Plan
Hydrocarbon Contamination Assessment
Connell Oldsmobile
3093 Broadway
Oakland, California

Dear Mr. Wistar:

Presented herein is a Work Plan developed by Subsurface Consultants, Inc. (SCI) to assess hydrocarbon contamination at the Connell Oldsmobile Sales and Repair Facility in Oakland, California. Elevated levels of oil and grease, diesel, gasoline and fuel constituents (BTXE) were encountered in the soil at the site during removal of three underground storage tanks. SCI observed tank removal activities in December 1989 and analyzed soil and water samples as directed by the Alameda County Health Care Services Agency (ACHCSA). The results of SCI's services are presented in a report dated March 14, 1990; a copy of which is attached.

Additional subsurface investigation is proposed to assess soil contamination and to determine if groundwater has been impacted. The scope of investigation is presented in the following sections.

Soil Contamination

The extent of soil contamination will be evaluated by drilling 5 test borings at the locations shown on the Site Plan, Plate 1. ~~The borings will be extended to about 5 feet below the groundwater surface.~~ Based on data generated by others in the area, the groundwater surface is situated about 19 feet below the existing sidewalk grade. The borings will be drilled using either 8-inch-diameter hollow-stem auger or trailer-mounted 4-inch-diameter continuous flight auger equipment.

15'
MINIMUM
EWC

90 MAR 26 AM 11:52

Our field engineer will observe drilling operations and prepare detailed logs on the soils encountered. Soil samples will be

■ Subsurface Consultants, Inc.

Mr. Gilbert Wistar
ACHCSA
SCI 447.010
March 19, 1990
Page 2

obtained at 3 foot intervals and screened in the field using an organic vapor meter (OVM). Soil samples will be retained in 2-inch-diameter brass sample liners. Sample liner ends will be covered with Teflon sheeting and plastic caps, prior to sealing them with duct tape. Drilling and sampling equipment will be steam cleaned prior to each use. The samples will be refrigerated until they are transmitted to the analytical laboratory.

Two of the test borings will be completed as groundwater monitoring wells as described in the next section. The other test borings will be backfilled with cement/bentonite grout. Contaminated soil cuttings generated during drilling will be stockpiled on-site.

Assessing the Potential Impact to Groundwater

Two monitoring wells will be installed to determine whether groundwater has been impacted. Prior to monitoring well construction, the necessary well permits will be obtained.

The wells will be about 25 feet deep and consist of 2-inch-diameter PVC well pipe. The lower portion of the wells will consist of 15 feet of machine-slotted well screen with 0.02 inch slots. The upper portion will consist of solid pipe. Pipe sections will be connected with flush-threaded joints. The annular space around the screened sections will be filled with an appropriate sand filter. A bentonite plug will be placed above the filter pack and the upper portions of the borehole will be sealed with cement and bentonite grout. The wellheads will be secured with locking caps and finished below-grade in traffic-rated utility boxes. Well details are shown on Plate 2.

The wells will be developed by pumping and/or bailing until the water is relatively clear. Development water will be placed in drums and left on-site for later disposal by others. After development, groundwater samples will be obtained from the wells using a Teflon sampling device. Water samples will be retained in containers pre-cleaned by the supplier in accordance with EPA protocol, and refrigerated until delivery to the analytical laboratory.

After well installation, SCI will perform a level survey of the tops of the new well casings as well as existing nearby wells, using an assumed elevation datum. We will measure the depth to groundwater in the wells. Based on the data, we will evaluate the direction of groundwater flow in the area. SCI will also check the wells for free-floating product.

Mr. Gilbert Wistar
ACHCSA
SCI 447.010
March 19, 1990
Page 3

Analytical Testing

Selected soil and groundwater samples will be transmitted to a laboratory certified by the California State Department of Health Services for Hazardous Waste and Water Testing. The testing program will include:

1. Total extractable hydrocarbons (TEH), sample preparation and analysis using EPA Methods 3550 (sonification) and 8015 (gas chromatography coupled to a flame-ionization detector),
2. Total volatile hydrocarbons (TVH), sample preparation and analysis using EPA Methods 5030 (purge and trap) and 8015, modified (gas chromatography coupled to a flame-ionization detector),
3. Benzene, toluene, xylene and ethylbenzene (BTXE), sample preparation and analysis using EPA Methods 5030 (purge and trap) and 8020/602 (gas chromatography coupled to a photo-ionization detector),
4. Total oil and grease (TOG), sample preparation and analysis using standard methods for waste water 503E.

A written report summarizing our services will be prepared at the completion of the investigation. The report will include a site plan, boring and well logs and analytical test reports.

If you have any questions regarding this Work Plan, please call.

Yours very truly,

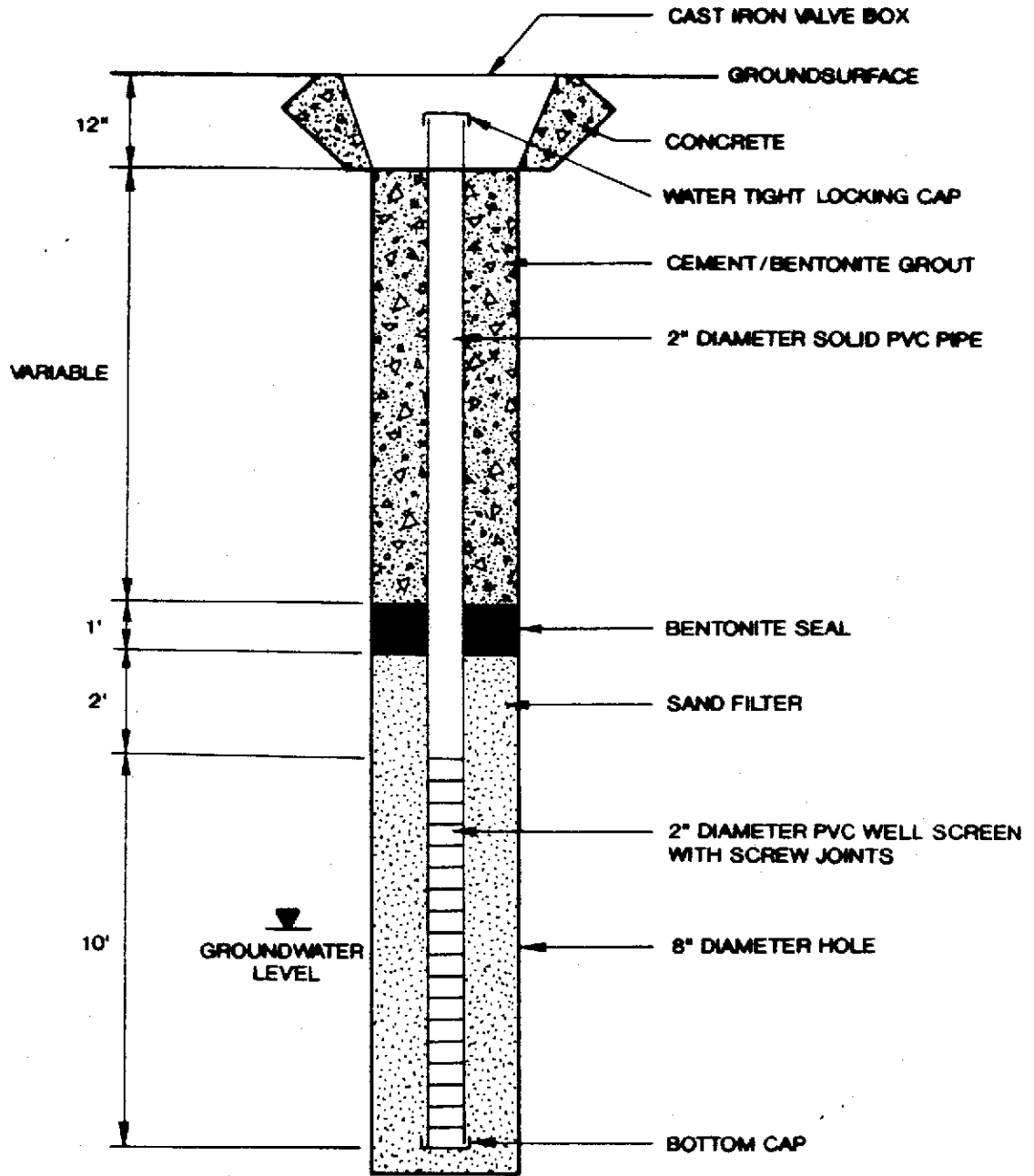
Subsurface Consultants, Inc.



R. William Rudolph
Geotechnical Engineer 741 (expires 12/31/91)

JNA:RWR:clh:mb1

Attachment: Plate 1 - Site Plan/Test Boring & Well Locations
 Plate 2 - Monitoring Well Details



GROUNDWATER
MONITORING WELL DESIGN

CONNELL OLDSMOBILE - OAKLAND, CA

PLATE

Subsurface Consultants

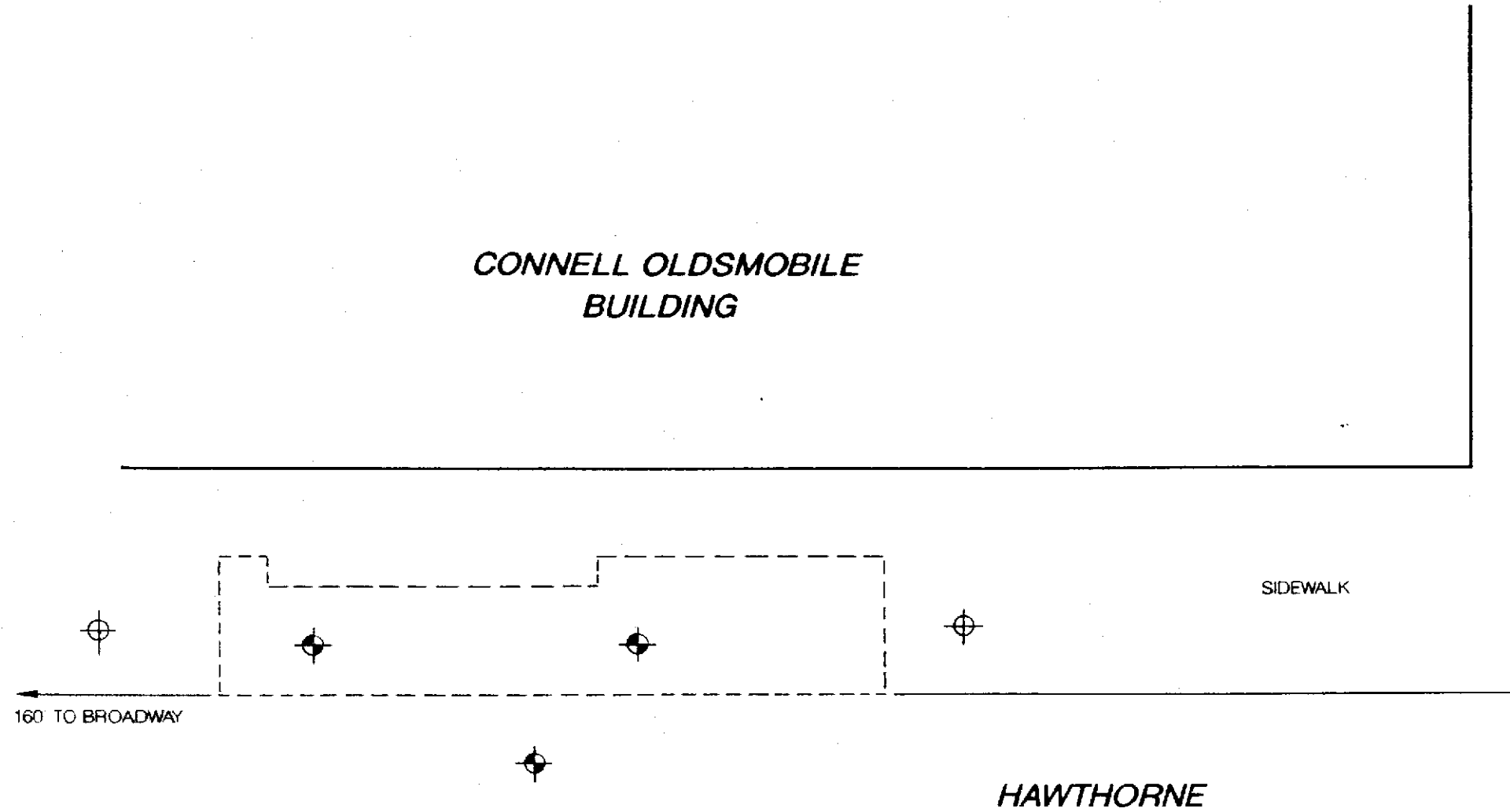
JOB NUMBER
447.010

DATE
3/16/90

APPROVED
[Signature]

2

CONNELL OLDSMOBILE
BUILDING



- ⊕ WELL
- ⊙ TEST BORING
- ⊔ LIMIT OF EXCAVATION



NO SCALE
SCHEMATIC ONLY

SITE PLAN

Subsurface Consultants

CONNELL OLDSMOBILE - OAKLAND, CA

JOB NUMBER
447.010

DATE
3/16/90

APPROVED
[Signature]

PLATE
1