Treadwell&Rollo

4 June 1999
Project No. 2543.01

Mr. Larry Seto
Hazardous Materials Specialist
Alameda County Department of Environmental Health
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Subject: Preliminary Results of
Source Investigation of Free Product
2855 Mandela Parkway Property
Oakland, California

This brief report has been prepared by Treadwell & Rollo, Inc. on behalf of 2855 Mandela Property, the current owner of the subject property. This report is provided in advance of our planned meeting on 7 June 1999 and presents a partial summary of the preliminary results of the recent soil boring and groundwater sampling program. This sampling program was implemented in accordance with our *Workplan for Source Investigation of Free Product* of 14 April 1999 and subsequently approved by you. The primary objective of the investigation was to further evaluate the source of free liquid-phase petroleum hydrocarbons (free product) under and upgradient of the site.

Field Investigation Program

For this program, we advanced 11 soil borings penetrating groundwater (designated SB-17 through SB-24, and TR-1 through TR-3) on 10 May 1999 at the approximate locations shown on the attached figure (this figure also shows the approximate location of previous borings by Ceres Associates during their three sampling programs conducted in 1998). Three of our borings (TR-1 through TR-3) were converted into temporary piezometers. Three of our borings (SB-18, -23, and -24) were placed near some of the previous borings where free product was encountered. Our workplan stated that at our borings where free product was encountered, it would be sampled and submitted for laboratory analysis; if free product was not encountered, then a grab sample of groundwater would be obtained instead for analysis.

Preliminary Results

The results of our groundwater analyses for Total Petroleum Hydrocarbons as gasoline (TPH-g) and for benzene, and whether free product was encountered, are summarized on the attached figure, along with results from the previous sampling programs. For clarity, the results for other parameters are not shown on the figure. MTBE was not detected in any of our samples. The preliminary analytical results of the product sample from SB-18 indicate that the material is gasoline.

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Surprisingly, free product was encountered in only one of the borings (SB-18) that was placed next to a previous free product detection. Free product was not detected in any of the other borings (a sheen was noted at location SB-21).

At this time, we surmise that absence of free product may be due to differences in drilling techniques between the three previous sampling rounds and our drilling program. All of the three previous drilling programs, as well as this one, utilized direct push drilling equipment, but the previous program of October 1998 (which in retrospect accounted for the majority of the previous product detections) utilized a slightly larger soil core and different pushing equipment.

The distribution of groundwater concentrations do not appear to support the hypothesis that the primary source of the free product is the former tank located under the Willow Street sidewalk at the 2607 Mandela Parkway building or from further to the east. However, the source has not been identified. Other than the gasoline storage tank removed from the site in 1991, the results suggest that the source may be a third, unknown tank, located either at the site or under Willow Street.

Proposed Follow-up Actions

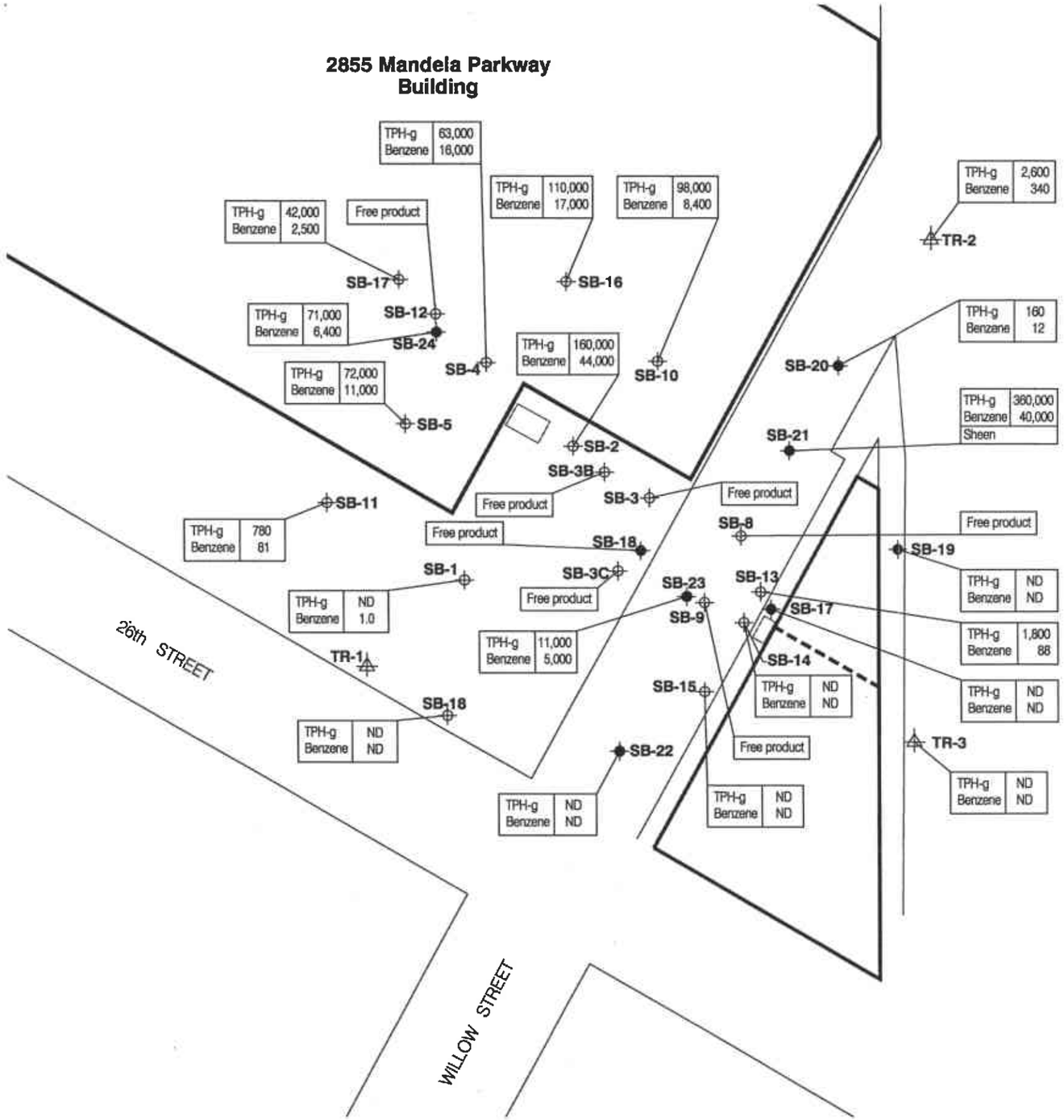
We propose that the next phase of work include installation of three shallow, auger-installed groundwater wells at the site to serve the dual purpose of more reliably detecting and monitoring free-product, if present, and to begin trial extraction of free product to assess abatement options. Two of these wells would be located where free product has been previously detected, specifically near SB-18 in the outside yard and SB-12 inside the building, while the third would be located further to the north inside the building. This third location is proposed to further delineate the extent of product and significant dissolved-phase concentrations.

We look forward to discussing these results and proposed follow-up actions in more detail at our meeting. If you have any questions, please call me at 925.253.2683 or contact Faye Beverett of 2855 Mandela Property.

Sincerely,
TREADWELL AND ROLLO, INC.

Michael P. McGuire, P.E.
Senior Engineer

Attachment



EXPLANATION

- **SB-12** ⊕ Approximate boring location by Ceres Associates, August and November 1998
- **SB-20** ◆ Approximate boring location by Treadwell & Rollo, Inc., April 1999
- **TR-1** △ Approximate piezometer location Treadwell & Rollo, Inc.
- TPH-g 360,000 / Benzene 40,000 / Sheen — Soil and groundwater sample chemical analysis results in parts per billion (ppb)
- ND — Not detected at or above laboratory detection limits

N

0 50 Feet

Approximate scale

2855 MANDELA PARKWAY PROPERTY
Oakland, California

BORING LOCATIONS AND ANALYTICAL RESULTS

Date 6/1/99	Project No. 2543.01	Figure

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