ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

ENVIRONMENTAL HEALTH DEPARTMENT
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

September 19, 2014

Dignity Housing West Inc.
c/o Community Housing Dev. &
c/o Oakland Com Housing
1535A Fred Jackson Way
Richmond, CA 94801-1525

City of Oakland
c/o Odili Ojukwu
250 Frank H. Ogawa Plaza, Suite 5301
Oakland, CA 94612

Oakland Properties Castro Street
c/o Ernie Muir
5885 Harbord Dr.
Oakland, CA 94611-3122

Subject: Case Closure for Fuel Leak Case No. RO0002456 and GeoTracker Global ID T0600100987, City of Oakland / Dignity Housing West, 690 15th Street, Oakland, CA 94612

Dear Responsible Parties:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25296.10[g]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (http://geotracker.waterboards.ca.gov) and the Alameda County Environmental Health website (http://www.acgov.org/aceh/index.htm).

If you have any questions, please call Matthew Soby at (510) 567-6725. Thank you.

Sincerely,

Dilan Roe

Dilan Roe, P.E.
LOP and SCP Program Manager

Enclosures:
1. Remedial Action Completion Certification
2. Case Closure Summary

Cc w/enc.:

Cherie McCaulou, San Francisco Bay Regional Water Quality Control Board, 1515 Clay Street, Suite 1400, Oakland, CA 94612 (sent via e-mail to cmccaulou@waterboards.co.gov)

Leroy Griffin, Oakland Fire Department, 150 Frank H. Ogawa Plaza, Suite 3354, Oakland, CA 94612-2032 (sent via electronic mail to lgriffin@oaklandnet.com)

Gopakumar Nair, Oakland Public Works, 250 Frank H. Ogawa Plaza, Suite 4314, Oakland, CA 94612 (sent via e-mail to gnair@oaklandnet.com)

Kwablah Attiogbe, Alameda County Public Works Agency, Environmental and Clean Water Program, 399 Elmhurst Street, Hayward, CA 94544 (sent via e-mail to kwablah@acpwa.org)

Sandra Rivera, Alameda County Planning Dept., Community Development Agency, 224 West Winton Ave, Room 111, Hayward, CA 94544 (sent via e-mail to sandra.rivera@acgov.org)

Ken Minn, East Bay Municipal Utility District, PO Box 24055, Oakland, CA 94623 (sent via e-mail to kminn@ebmud.com)

Subsurface Consultants, Inc. (acquired by Fugro West Inc.), 1000 Broadway, Oakland, CA 94607

Case Worker (sent via electronic mail to matthew.soby@acgov.org)

e-File, GeoTracker

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
OFFICE OF THE DIRECTOR
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502
(510) 567-6777
FAX (510) 337-9135

REMEDIAL ACTION COMPLETION CERTIFICATION

September 19, 2014

Dignity Housing West Inc.
c/o Community Housing Dev. &
c/o Oakland Com Housing
1535A Fred Jackson Way
Richmond, CA 94801-1525

City of Oakland
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Subject: Case Closure for Fuel Leak Case No. RO0002456 and GeoTracker Global ID T0600100987, City of Oakland / Dignity Housing West, 690 15th Street, Oakland, CA 94612

Dear Responsible Parties:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

Please be aware that claims for reimbursement of corrective action costs submitted to the Underground Storage Tank Cleanup Fund more than 365 days after the date of this letter or issuance or activation of the Fund's Letter of Commitment, whichever occurs later, will not be reimbursed unless one of the following exceptions applies:

- Claims are submitted pursuant to Section 25299.57, subdivision (k) (reopened UST case); or
- Submission within the timeframe was beyond the claimant's reasonable control, ongoing work is required for closure that will result in the submission of claims beyond that time period, or that under the circumstances of the case, it would be unreasonable or inequitable to impose the 365-day time period.

This notice is issued pursuant to subdivision (g) of Section 25296.10 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,

Ariu Levi
Director

UST Case Closure Summary Form

Agency Information Date: 19 September 2014

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: 510-567-6725
Staff Person: Matthew Soby	Title: Hazardous Materials Technician

Case Information

Facility Name: City of Oakland / Dignity Housing West		
Facility Address: 690 15th Street, Oakland, CA 94612		
RB LUSTIS Case No: ----	Local Case No.: ----	LOP Case No.: RO0002456
URF Filing Date: ----	GeoTracker Global ID: T0600100987	
APN: 3-73-6	Current Land Use: Residential	
Responsible Party(s):	Address:	Phone:
Dignity Housing West Inc. c/o Community Housing Dev. & c/o Oakland Com Housing	1535A Fred Jackson Way Richmond, CA 94801-1525	**----**
City of Oakland c/o Odili Ojukwu	250 Frank Ogawa Plaza, Suite 5301 Oakland, CA 94612	**----**
Oakland Properties Castro Street c/o Ernie Muir	5885 Harbord Dr. Oakland, CA 94611-3122	**----**

Tank Information

Tank No.	Size (gal)	Contents	Closed in-Place/ Removed/Active	Date
----	500	Gasoline	Removed	November 1987
----	1,000	Gasoline	Removed	November 1987

Conceptual Site Model (Attachment 1, 2 pages) (GeoTracker CSM Report)

Closure Criteria Met (Attachment 2, 1 pages) (GeoTracker LTCP Checklist)

LTCP Groundwater Specific Criteria (Attachment 3, 1 page)

LTCP Vapor Specific Criteria (Attachment 4, 1 page)

LTCP Direct Contact and Outdoor Air Exposure Criteria (Attachment 5, 1 page)

Site maps (Attachment 6, 11 pages)

Analytical Data (Attachment 7, 21 pages)

Soil Bore Logs (Attachment 8, 19 pages)

Additional Information:

Water Supply Wells in Vicinity:

There are zero (0) California Dept. of Public Health (CDPH) groundwater supply wells within 0.5 mile radius of this site.

There are zero (0) domestic and/or irrigation use groundwater supply wells within a 2,000 foot radius of the site per Alameda County Public Works (ACPWA) and GeoTracker Groundwater Ambient Monitoring & Assessment (GAMA) website.

Site Monitoring and Supply Wells:

Per ACPWA, the site has (or had) four monitoring wells on site, listed by State Well Number below. Historical site maps, site assessments, and boring logs note only three (3) monitoring wells (named MW-1, MW-2, or MW-3, all 2-inch wells, screened to total depths between 32 to 35 feet) were installed with site investigation activities in May 1991. A potential correlation appears between two of the four State Well Number wells (noted as drilled in April and May 1991) and two of three site monitoring wells. ACPWA has no well permits, no well logs, and no information for destruction of any of the monitoring wells in their database.

- *1S/4W-26N has a total depth of 33 feet, diameter = 2 inch (may possibly be well MW-3)*
- *1S/4W-26N 1 has a total depth of 22 feet, diameter = 4 inch*
- *1S/4W-26N 2 has a total depth of 14 feet, diameter = 4 inch*
- *1S/4W-26N 3 has a total depth of 35 feet, diameter = 2 inch (may possibly be well MW-1)*

Monitoring wells MW-1, MW-2, and MW-3 were attempted to be located by Arcadis in January and March 2011. Arcadis found no evidence of the three wells; they are assumed abandoned or destroyed during previous site and street improvement activities.

- *MW-1 and MW-2: Per historic site maps, these wells were located in or along 15th Street and are now considered lost due to street and site redevelopment.*
- *MW-3: Per historic maps, this well may have been located in the current courtyard or may be covered by the current building. This is well is considered lost due to redevelopment.*

6-inch Hand Dug Well

A 6-inch hand dug water supply well (total depth unknown) was destroyed in June 1991 per Zone 7 requirements. Per historic site maps, this well was located on the northeast portion of the site and is likely covered by the current building. The well destruction report names the well with State Well Number 1S/4W-26N 4.

UST Case Closure Summary Form

Site Management Requirements:

NO RESTRICTIONS

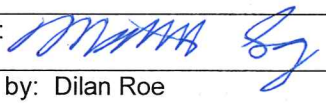
This fuel leak case has been evaluated for closure consistent with the State Water Resource Control Board Low-Threat Underground Storage Tank Closure Policy (LTCP). Based on this evaluation, no site management requirements appear to be necessary. However, excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities.

RWQCB Notification

Notification Date: 19 December 2013

RWQCB Staff Name: Cherie McCaulou	Title: Engineering Geologist

Local Agency Representative

Prepared by: Matthew Soby	Title: Hazardous Materials Technician
Signature: 	Date: 19 September 2014
Approved by: Dilan Roe	Title: LOP and SCP Program Manager
Signature: 	Date: 9/18/2014

This Case Closure Summary along with the Case Closure Transmittal letter and the Remedial Action Completion Certification provides documentation of the case closure. This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions. The Conceptual Site Model may not contain all available data. Additional information on the case can be viewed in the online case file. The entire case file can be viewed over the Internet on the Alameda County Environmental Health (ACEH) website (http://www.acgov.org/aceh/lop/ust.htm) or the State of California Water Resources Control Board GeoTracker website (http://geotracker.waterboards.ca.gov). Not all historic documents for the fuel leak case may be available on GeoTracker. A more complete historic case file for this site is located on the ACEH website.

ATTACHMENT 1

CITY OF OAKLAND / DIGNITY HOUSING WEST (T0600100987) - MAP THIS SITE

OPEN - ELIGIBLE FOR CLOSURE

690 15TH STREET
OAKLAND , CA 94612
ALAMEDA COUNTY

ACTIVITIES REPORT
PUBLIC WEBPAGE

VIEW PRINTABLE CASE SUMMARY FOR THIS SITE

CLEANUP OVERSIGHT AGENCIES
ALAMEDA COUNTY LOP *(LEAD) - CASE #: RO0002456*
CASEWORKER: *MATTHEW SOBY* - ***SUPERVISOR:*** *DILAN ROE*
SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: 01-1070*
CASEWORKER: *Cherie McCaulou* - ***SUPERVISOR:*** *Cheryl L. Prowell*

THIS PROJECT WAS LAST MODIFIED BY ***MATTHEW SOBY*** ON 9/18/2014 3:10:38 PM - HISTORY

CSM REPORT - VIEW PUBLIC NOTICING VERSION OF THIS REPORT

UST CLEANUP FUND CLAIM INFORMATION (DATA PULLED FROM SCUFIIS)

CLAIM NO	PRIORITY	CLAIMANT	SITE ADDRESS	AMT REIMB TO DATE	AGE OF LOC	IMPACTED WELLS?	FIVE YEAR REVIEW INFORMATION: REVIEW NUM	REVIEWER	FUND RECOMMENDATION	TO OVERSIGHT DATE	TO CLAIMANT DATE

PROJECT INFORMATION (DATA PULLED FROM GEOTRACKER) - MAP THIS SITE

SITE NAME / ADDRESS	STATUS	STATUS DATE	RELEASE REPORT DATE	AGE OF CASE	CLEANUP OVERSIGHT AGENCIES
CITY OF OAKLAND / DIGNITY HOUSING WEST (Global ID: T0600100987) 690 15TH STREET OAKLAND, CA 94612	Open - Eligible for Closure	8/11/2013	11/12/1987	27	ALAMEDA COUNTY LOP *(LEAD) - CASE #: RO0002456* ***CASEWORKER:*** *MATTHEW SOBY* - ***SUPERVISOR:*** *DILAN ROE* SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: 01-1070* ***CASEWORKER:*** *Cherie McCaulou* - ***SUPERVISOR:*** *Cheryl L. Prowell*

STAFF NOTES (INTERNAL)
Non-PHC concentrations of chloroform were determined to be laboratory contaminants; PCE detections determined to be from off-site source.

SITE HISTORY
Two USTs were removed from the site in November 1987. In 1990, a preliminary site assessment was performed which discovered that contaminated soil had been left in place following the initial UST removals. Approximately 430 cubic yards of soil was excavated to depths of 25 ft bgs and removed from the site in 1991. Groundwater monitoring wells were installed and quarterly groundwater sampling followed during 1991 and 1992. The site had three groundwater monitoring wells and a 6-inch diameter water supply well prior to redevelopment. The closure condition of the three monitoring wells is not known, but presumed to be lost or destroyed during redevelopment. The 6-inch water supply well was destroyed per Zone 7 criteria.

RESPONSIBLE PARTIES

NAME	ORGANIZATION	ADDRESS	CITY	EMAIL
ERNIE MUIR	OAKLAND PROPERTIES CASTRO STREET	5885 HARBORD DR	OAKLAND	
ODILI OJUKWU	CITY OF OAKLAND	250 FRANK OGAWA PLZ SUITE 5301	OAKLAND	
n/a	Dignity Housing West Inc.	1535A Fred Jackson Way	Richmond	

CLEANUP ACTION INFO

ACTION TYPE	BEGIN DATE	END DATE	PHASE	CONTAMINANT MASS REMOVED	DESCRIPTION
EXCAVATION	6/27/1991	6/27/1991	Soil		

RISK INFORMATION VIEW LTCP CHECKLIST VIEW PATH TO CLOSURE PLAN VIEW CASE REVIEWS

CONTAMINANTS OF CONCERN	CURRENT LAND USE	BENEFICIAL USE	DISCHARGE SOURCE	DATE REPORTED	STOP METHOD	NEARBY / IMPACTED WELLS
Tetrachloroethylene (PCE), * * Chloroform, * Chloroform, Gasoline		GW - Municipal and Domestic Supply		11/12/1987	Close and Remove Tank	0

FREE PRODUCT	OTHER CONSTITUENTS	NAME OF WATER SYSTEM	LAST REGULATORY ACTIVITY	LAST ESI UPLOAD	LAST EDF UPLOAD	EXPECTED CLOSURE DATE	MOST RECENT CLOSURE REQUEST
NO	NO	EBMUD	12/19/2013				

CDPH WELLS WITHIN 1500 FEET OF THIS SITE
NONE

CALCULATED FIELDS (BASED ON LATITUDE / LONGITUDE)

APN	GW BASIN NAME	WATERSHED NAME
003 007300600	Santa Clara Valley - East Bay Plain (2-9.04)	South Bay - East Bay Cities (20420)

COUNTY
Alameda

PUBLIC WATER SYSTEM(S)
- **EAST BAY MUD** - 375 ELEVENTH STREET, OAKLAND, CA 94607

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER - HIDE VIEW ESI SUBMITTALS

NO GROUNDWATER DATA HAS BEEN SUBMITTED TO GEOTRACKER ESI FOR THIS SITE

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN SOIL - HIDE VIEW ESI SUBMITTALS

NO SOIL DATA HAS BEEN SUBMITTED TO GEOTRACKER ESI FOR THIS SITE

MOST RECENT GEO_WELL DATA - HIDE VIEW ESI SUBMITTALS

NO GEO_WELL DATA HAS BEEN SUBMITTED TO GEOTRACKER ESI FOR THIS SITE

LOGGED IN AS MATTSOBY CONTACT GEOTRACKER HELP

ATTACHMENT 2

LTCP Checklist Go

CITY OF OAKLAND / DIGNITY HOUSING WEST (T0600100987) - MAP THIS SITE — *OPEN - ELIGIBLE FOR CLOSURE*

690 15TH STREET
OAKLAND , CA 94612
ALAMEDA COUNTY

VIEW PRINTABLE CASE SUMMARY FOR THIS SITE

ACTIVITIES REPORT
PUBLIC WEBPAGE

CLEANUP OVERSIGHT AGENCIES
ALAMEDA COUNTY LOP *(LEAD)* - *CASE #: RO0002456*
CASEWORKER: *MATTHEW SOBY* - ***SUPERVISOR:*** *DILAN ROE*
SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: 01-1070*
CASEWORKER: *Cherie McCaulou* - ***SUPERVISOR:*** *Cheryl L. Prowell*

THIS PROJECT WAS LAST MODIFIED BY ***MATTHEW SOBY*** ON 9/18/2014 3:20:46 PM - HISTORY

CLOSURE POLICY *THIS VERSION IS FINAL AS OF 9/18/2014* *CHECKLIST INITIATED ON 5/17/2013* CLOSURE POLICY HISTORY

General Criteria - *The site satisfies the policy general criteria* - CLEAR SECTION ANSWERS — **YES**

a. Is the unauthorized release located within the service area of a public water system?
Name of Water System : EBMUD — ◉ YES ○ NO

b. The unauthorized release consists only of petroleum (info). — ◉ YES ○ NO

c. The unauthorized ("primary") release from the UST system has been stopped. — ◉ YES ○ NO

d. Free product has been removed to the maximum extent practicable (info). — ◉ FP Not Encountered ○ YES ○ NO

e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed (info). — ◉ YES ○ NO

f. Secondary source has been removed to the extent practicable (info). — ◉ YES ○ NO

g. Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15. — ○ Not Required ◉ YES ○ NO

h. Does a nuisance exist, as defined by Water Code section 13050. — ○ YES ◉ NO

1. Media-Specific Criteria: Groundwater - *The contaminant plume that exceeds water quality objectives is stable or decreasing in areal extent, and meets all of the additional characteristics of one of the five classes of sites listed below.* - CLEAR SECTION ANSWERS — **YES**

EXEMPTION - Soil Only Case (Release has not Affected Groundwater - Info) — ◉ **YES** ○ **NO**

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air - *The site is considered low-threat for the vapor-intrusion-to-air pathway if site-specific conditions satisfy items 2a, 2b, or 2c* - CLEAR SECTION ANSWERS — **YES**

EXEMPTION - Active Commercial Petroleum Fueling Facility — ○ **YES** ◉ **NO**

Does the site meet any of the Petroleum Vapor Intrusion to Indoor Air specific criteria scenarios? — ◉ **YES** ○ **NO**

2a - Scenario 3 (example): Dissolved Phase Benzene Concentrations Only in Groundwater (Low concentration groundwater scenarios with or without O2 measurements must satisfy one i, ii, or iii): — **YES**

i. For bioattenuation zone without oxygen measurements or oxygen <4% and benzene concentration are <100 µg/L, the bioattenuation zone: Is a continuous zone that provides a separation of at least 5 feet vertically between the dissolved phase benzene and the foundation of existing or potential building; and contain total TPH <100 mg/kg throughout the entire depth of the bioattenuation zone. — ◉ YES ○ NO

ii. For bioattenuation zone without oxygen measurements or oxygen <4% and benzene concentration are >100 µg/L but <1,000 µg/L, the bioattenuation zone: Is a continuous zone that provides a separation of at least 10 feet vertically between the dissolved phase benzene and the foundation of existing or potential building, and contain total TPH <100 mg/kg throughout the entire depth of the bioattenuation zone. — ○ YES ○ NO

iii. For bioattenuation zone with oxygen ≥ 4% and benzene concentration are <1,000 µg/L, the bioattenuation zone: Is a continuous zone that provides a separation of at least 5 feet vertically between the dissolved phase benzene and the foundation of existing or potential building, and contain total TPH <100 mg/kg throughout the entire depth of the bioattenuation zone. — ○ YES ○ NO

3. Media Specific Criteria: Direct Contact and Outdoor Air Exposure - *The site is considered low-threat for direct contact and outdoor air exposure if it meets 1, 2, or 3 below.* - CLEAR SECTION ANSWERS — **YES**

EXEMPTION - The upper 10 feet of soil is free of petroleum contamination — ○ **YES** ◉ **NO**

Does the site meet any of the Direct Contact and Outdoor Air Exposure criteria scenarios? — ◉ **YES** ○ **NO**

3.1 - Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in the following table (LINK) for the specified depth below ground surface. — ◉ YES ○ NO

Additional Information

This case should be kept OPEN in spite of meeting policy criteria. — ○ YES ◉ NO

Has this LTCP Checklist been updated for FY 14/15? — ◉ YES ○ NO

SPELL CHECK

Save Form as Partially Completed | Save Form as Complete

LOGGED IN AS MATTSOBY

ATTACHMENT 3

ATTACHMENT 3
LTCP GROUNDWATER SPECIFIC CRITERIA

LTCP Groundwater Specific Scenario under which case was closed:
Site has not affected groundwater.

Site Data		LTCP Scenario 1 Criteria (ppb)	LTCP Scenario 2 Criteria (ppb)	LTCP Scenario 3 Criteria (ppb)	LTCP Scenario 4 Criteria (ppb)
Plume Length	----	<100 feet	<250 feet	<250 feet	<1,000 feet
Free Product	No free product	No free product	No free product	Removed to maximum extent practicable	No free product
Plume Stable or Decreasing	----	Stable or decreasing	Stable or decreasing	Stable or decreasing for minimum of 5 Years	Stable or decreasing
Distance to Nearest Water Supply Well	> 1,000 feet	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Distance to Nearest Surface Water and Direction	Site groundwater flow direction varies to the west (predominantly) and north. Lake Merritt: 3,700 feet east, up-gradient; San Francisco Bay: 2.3 miles west, down-gradient	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Property Owner Willing to Accept a Land Use Restriction?	----	Not applicable	Not applicable	Yes	Not applicable

GROUNDWATER CONCENTRATIONS

Constituent	Historic Site Maximum (ppb)	Current Site Maximum (ppb)	LTCP Scenario 1 Criteria (ppb)	LTCP Scenario 2 Criteria (ppb)	LTCP Scenario 3 Criteria (ppb)	LTCP Scenario 4 Criteria (ppb)
Benzene [a]	< 0.5	< 0.5	No criteria	3,000	No criteria	1,000
MTBE [b]	< 0.5	< 0.5	No criteria	1,000	No criteria	1,000

Scenario 5: If the site does not meet scenarios 1 through 4, has a determination been made that under current and reasonably expected future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame?	----

COMMENTS:

The site groundwater was analyzed for total volatile hydrocarbons (TVH), total extractable hydrocarbons (TEH), benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl-tertiary-butyl-ether (MTBE). Concentrations in groundwater were not detected above their respective laboratory reporting limits for all compounds.

Tetrachloroethylene (PCE) was detected in all three site monitoring wells circa 1991 and 1992 at a maximum concentration of 3.3 ug/L from well MW-3. PCE was detected in all site wells and is suspected to be from an up-gradient source as PCE was not used on-site (gasoline USTs). Additionally, the PCE detection is below the Regional Water Quality Control Board Environmental Screening Level of 5.0 ug/L (December 2013, Table F-1a, groundwater is a current

or potential drinking water resource).

Chloroform was detected in down-gradient well MW-1 circa 1991 and 1992 at a maximum concentration of 1.4 ug/L. The laboratory Method Blank reported a similar concentration of 1.2 ug/L. The chloroform detection is likely laboratory contamination.

[a] Benzene concentrations from circa 1991 and 1992 groundwater monitoring from wells MW-1, MW-2, and MW-3.

[b] MTBE concentrations from circa 2011 groundwater monitoring via direct push rig with temporary well screened from 20 to 30 feet below ground surface.

ATTACHMENT 4

ATTACHMENT 4
LTCP VAPOR SPECIFIC CRITERIA

LTCP Vapor Specific Scenario under which case was closed:
Scenario 3A

Not active fueling station	Active as of Not applicable

Site Data		LTCP Scenario 1 Criteria	LTCP Scenario 2 Criteria	LTCP Scenario 3A Criteria	LTCP Scenario 3B Criteria	LTCP Scenario 3C Criteria	LTCP Scenario 4 Criteria
Unweathered NAPL	No NAPL	LNAPL in groundwater	LNAPL in soil	No NAPL	No NAPL	No NAPL	No criteria
Thickness of Bioattenuation Zone Beneath Foundation	> 10 feet	≥30 feet	≥30 feet	≥5 feet	≥10 feet	≥5 feet	≥5 feet
Total TPH in Bioattenuation Zone	< 100 mg/kg	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm
Maximum Current Benzene Concentration in Groundwater	< 0.5 ug/L	No criteria	No criteria	<100 ppb	≥100 and <1,000 ppb	<1,000 ppb	No criteria
Oxygen Data within Bioattenuation Zone	No oxygen data	No criteria	No criteria	No oxygen data or <4%	No oxygen data or <4%	≥4% at lower end of zone	≥4% at lower end of zone
Depth of soil vapor measurement beneath foundation	----	No criteria	No criteria	No criteria	No criteria	No criteria	≥5 feet

SCENARIO 4 DIRECT MEASUREMENT OF SOIL VAPOR CONCENTRATIONS

Site Soil Vapor Data			No Bioattenuation Zone		Bioattenuation Zone	
Constituent	Historic Maximum (µg/m^3)	Current Maximum (µg/m^3)	Residential	Commercial	Residential	Commercial
Benzene	----	----	<85	<280	<85,000	<280,000
Ethylbenzene	----	----	<1,100	<3,600	<1,100,000	<3,600,000
Naphthalene	----	----	<93	<310	<93,000	<310,000

If the site does not meet scenarios 1 through 4, does a site-specific risk assessment for the vapor intrusion pathway demonstrate that human health is protected?	----
If the site does not meet scenarios 1 through 4, has a determination been made that petroleum vapors from soil or groundwater will have no significant risk of adversely affecting human health?	----

COMMENTS:

Approximately 430 cubic yards of soil were excavated from the former UST pit in June 1991. Confirmatory soil borings show the depth of fill extends approximately 6.5 to 12 feet below ground surface (bgs). Maximum soil concentrations were obtained from soil bore 8 between 13 to 19 feet bgs: benzene (0.055 mg/kg) and ethylbenzene (14 mg/kg).

ATTACHMENT 5

ATTACHMENT 5
LTCP DIRECT CONTACT AND OUTDOOR AIR EXPOSURE CRITERIA

LTCP Direct Contact and Outdoor Air Exposure Specific Scenario under which case was closed:
Maximum concentrations of petroleum hydrocarbons are less than or equal to those in Table 1 below.

Are maximum concentrations less than those in Table 1 below?		Yes, No, or ----				
Constituent		Residential		Commercial/Industrial		Utility Worker
		0 to 5 feet bgs (ppm) [a]	Volatilization to outdoor air (5 to 10 feet bgs) ppm [a]	0 to 5 feet bgs (ppm) [a]	Volatilization to outdoor air (5 to 10 feet bgs) ppm [a]	0 to 10 feet bgs (ppm) [a]
Site Maximum	Benzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
LTCP Criteria	Benzene	≤1.9	≤2.8	≤8.2	≤12	≤14
Site Maximum	Ethylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
LTCP Criteria	Ethylbenzene	≤21	≤32	≤89	≤134	≤314
Site Maximum	Naphthalene [b]	----	----	----	----	----
LTCP Criteria	Naphthalene	≤9.7	≤9.7	≤45	≤45	≤219
Site Maximum	PAHs [b]	----	----	----	----	----
LTCP Criteria	PAHs	≤0.063	NA	≤0.68	NA	≤4.5
If maximum concentrations are greater than those in Table 1, are they less than levels from a site-specific risk assessment?		----				
If maximum concentrations are greater than those in Table 1, has a determination been made that the concentrations of petroleum in soil will have no significant risk of adversely affecting human health as a result of controlling exposure through the use of mitigation measures or through the use of institutional controls?		----				

COMMENTS:

[a] Concentrations based on soil confirmation samples (one sample per 50 cubic yards) and soil stockpile samples from maximum excavation depths 23 to 25 feet bgs.

[b] Naphthalene and PAHs not sampled. Based on: 1) below reporting limit concentrations for TVH and TEH in over-excavated soils (exception being sample 18 from 22 feet bgs which had elevated concentrations of TVH, toluene, ethylbenzene, and total xylenes and noted as "removed by subsequent excavation"), and 2) Phase II soil bore 9 (all COCs reported below laboratory reporting limits (RLs)) and soil bore 10 (one detection of TVH at 2.4 mg/kg) concentrations, these semi-volatiles are not like present is sufficient quantities to present a vapor intrusion risk.

Soils from 0 to 5 feet bgs and 5 to 10 feet bgs within the UST excavation and former source area had historically high concentrations of petroleum hydrocarbons circa 1987 (maximum 5,600 mg/kg total petroleum hydrocarbons (TPH)). Over-excavation in 1988 reduced TPH concentrations to 960 mg/kg. These impacted soils have been remediated via excavation to depths of 23 to 25 feet bgs circa 1991.

During the Phase II site investigation in February and May 1991, maximum soil concentrations of benzene (0.055 mg/kg) and ethylbenzene (14 mg/kg) were obtained from soil bore 8 between 13 to 19 feet bgs. Soil bore 8 maximum concentrations of TVH and TEH were 750 mg/kg and 720 mg/kg, respectively. Soil contamination lateral and vertical extents were delineated via soil bores 5 (to 7.5 feet bgs), 9 (to 26 feet bgs), 12 (to 31 feet bgs), and 13

(to 26 feet bgs) where concentrations did not exceed their respective laboratory reporting limits for TVH, TEH, and BTEX. Soil bore 10 (to 26 feet bgs) had a maximum TVH detection of 2.4 mg/kg.

In June 1991, remediation efforts consisted of excavating approximately 430 cubic yards of soil from the former UST pit. The resulting excavation measured approximately 20 by 25 feet in plan to approximately 23 to 25 feet deep. During the remediation efforts, soils excavated were in the location of former soil bores 5, 6, 7, 8, 12 and 13 advanced as part of the Phase II site investigation. Post-remediation soil concentrations showed no detections of TVH, benzene, and ethylbenzene above laboratory RLs. Toluene and xylenes were detected in two samples from 15 to 22 feet bgs at maximum concentrations of 7.4 mg/kg and 7.3 mg/kg, respectively,

ATTACHMENT 6

SITE: 690 15th Street (in red box)

Google earth

feet 500

meters 100

Image date 06/2014

SITE: View from rear along 15th St., toward courtyard. Paved parking lot is adjacent parcel.

Google earth

feet 10
meters 4

Image date 6/2011

SITE, View from 15th St and Castro

Google earth

feet 10

meters 6

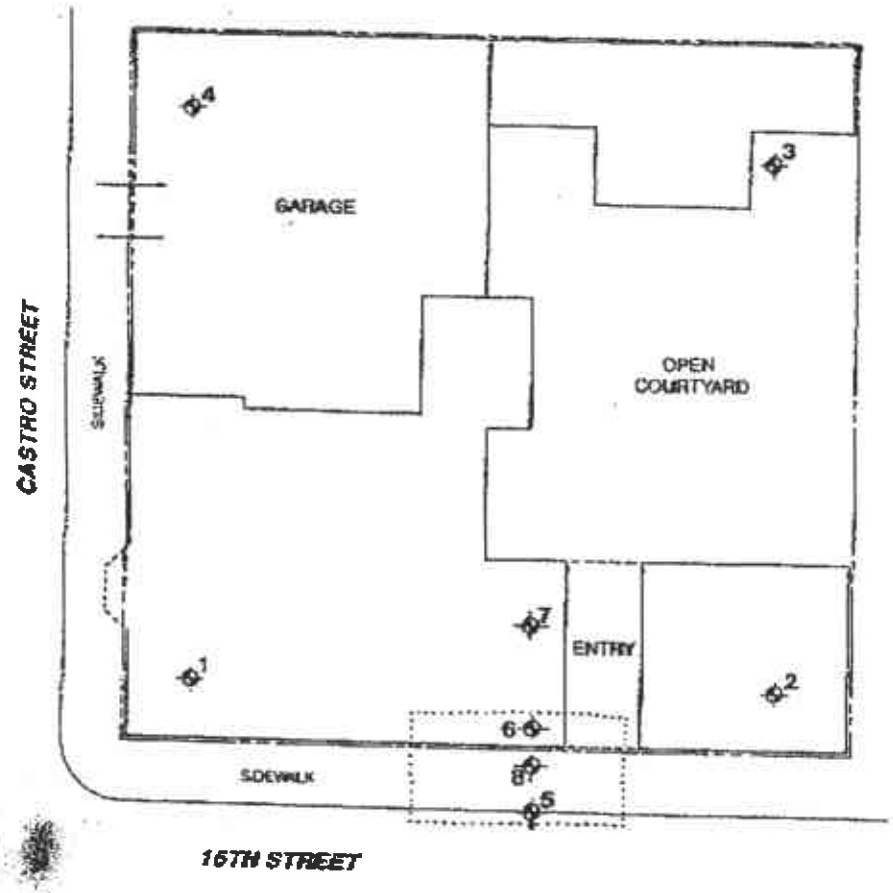
Image date 1/2014

SITE, View from rear along 16th St., toward courtyard (in red box). Paved parking lot is adjacent parcel.

Google earth

feet 10
meters 4

Image date 5/2011



VICINITY MAP

TEST BORING
PROPERTY LINE
APPROXIMATE LIMITS OF BACKFILL FROM PREVIOUS TANK EXCAVATION

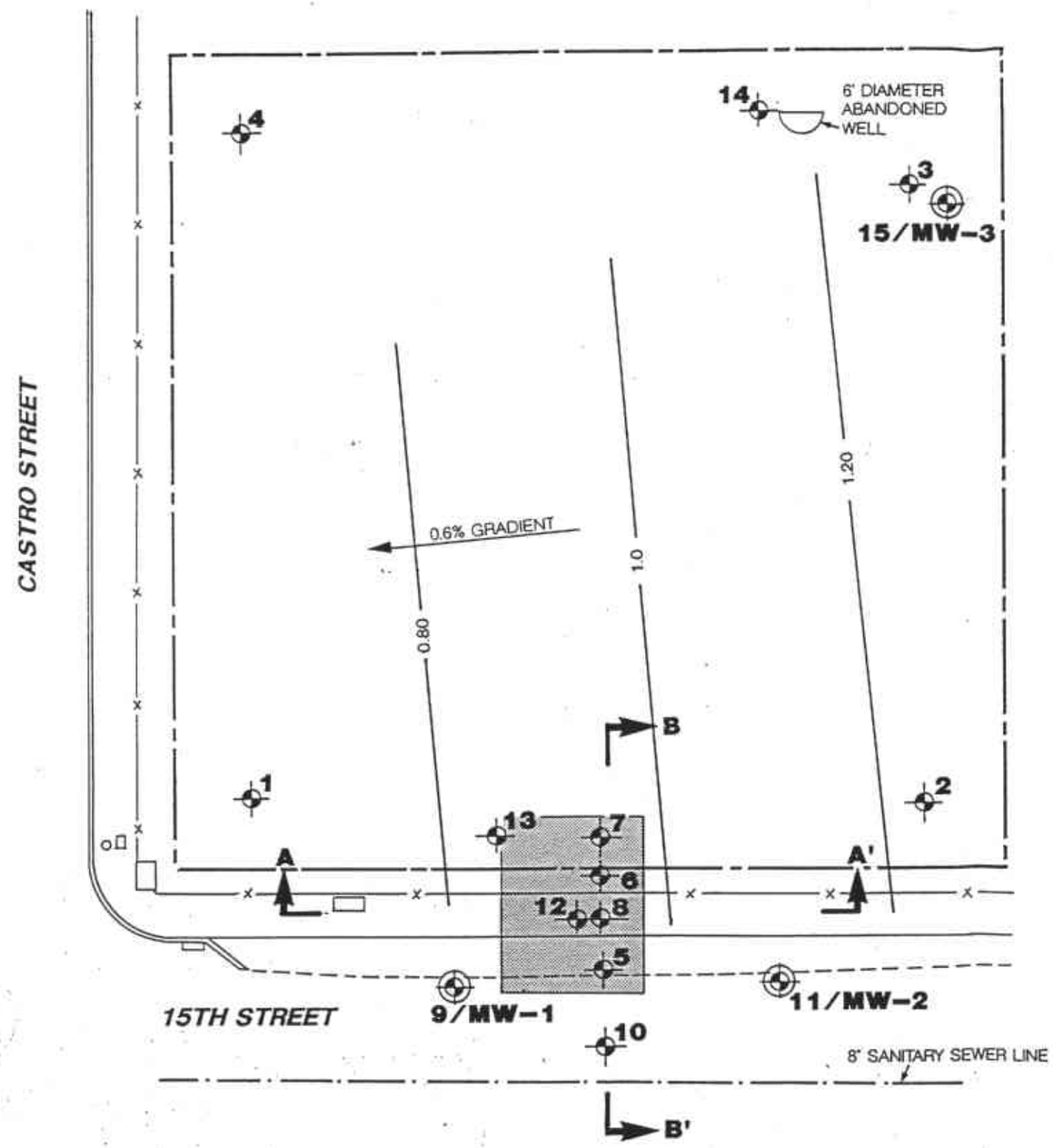
APPROXIMATE SCALE (feet)

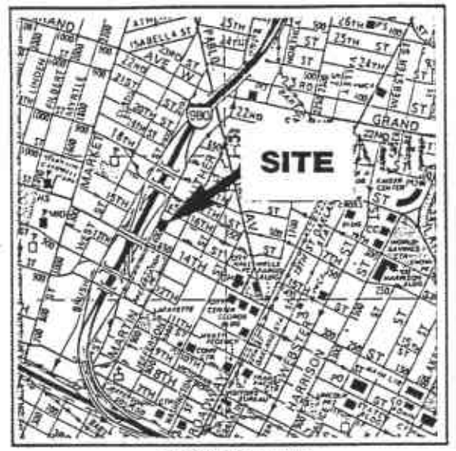
SITE PLAN

Subsurface Consultants

DIGNITY HOUSING WEST – OAKLAND, CA

JOB NUMBER	DATE	APPROVED	PLATE
615.009	3/1/91		1





VICINITY MAP

- TEST BORING/MONITORING WELL
- TEST BORING
- SOIL REMEDIATION EXCAVATION
- EDGE OF PAVEMENT
- 1.0 — GROUNDWATER GRADIENT CONTOUR
- A A' CROSS SECTION

APPROXIMATE SCALE (feet)

0 20 40

REFERENCE: TOPOGRAPHIC MAP PREPARED BY BATES AND BAILEY,LAND SURVEYORS ENTITLED "PROPERTY AT 690 15TH STREET, OAKLAND", DATED FEBRUARY 1991.

SITE PLAN

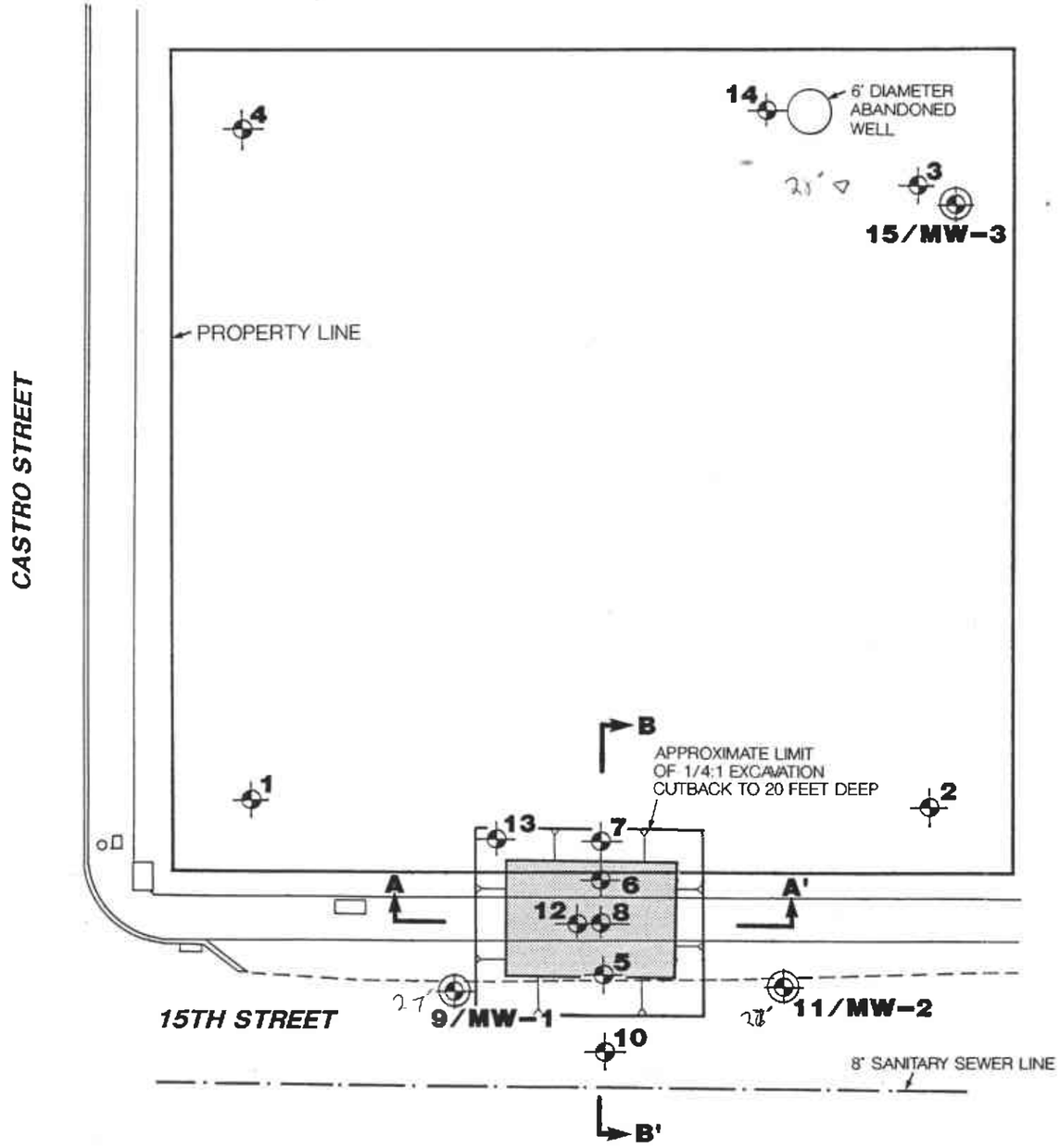
Subsurface Consultants

DIGNITY HOUSING WEST – OAKLAND, CA

JOB NUMBER	DATE	APPROVED	PLATE
615.003	6/27/91	JVB	1

VICINITY MAP

- TEST BORING/MONITORING WELL
- TEST BORING
- A A' CROSS SECTION
- EDGE OF PAVEMENT
- APPROXIMATE ZONE OF CONTAMINATED SOILS



APPROXIMATE SCALE (feet)
0 20 40

REFERENCE: TOPOGRAPHIC MAP PREPARED BY BATES AND BAILEY,LAND SURVEYORS ENTITLED "PROPERTY AT 690 15TH STREET, OAKLAND", DATED FEBRUARY 1991.

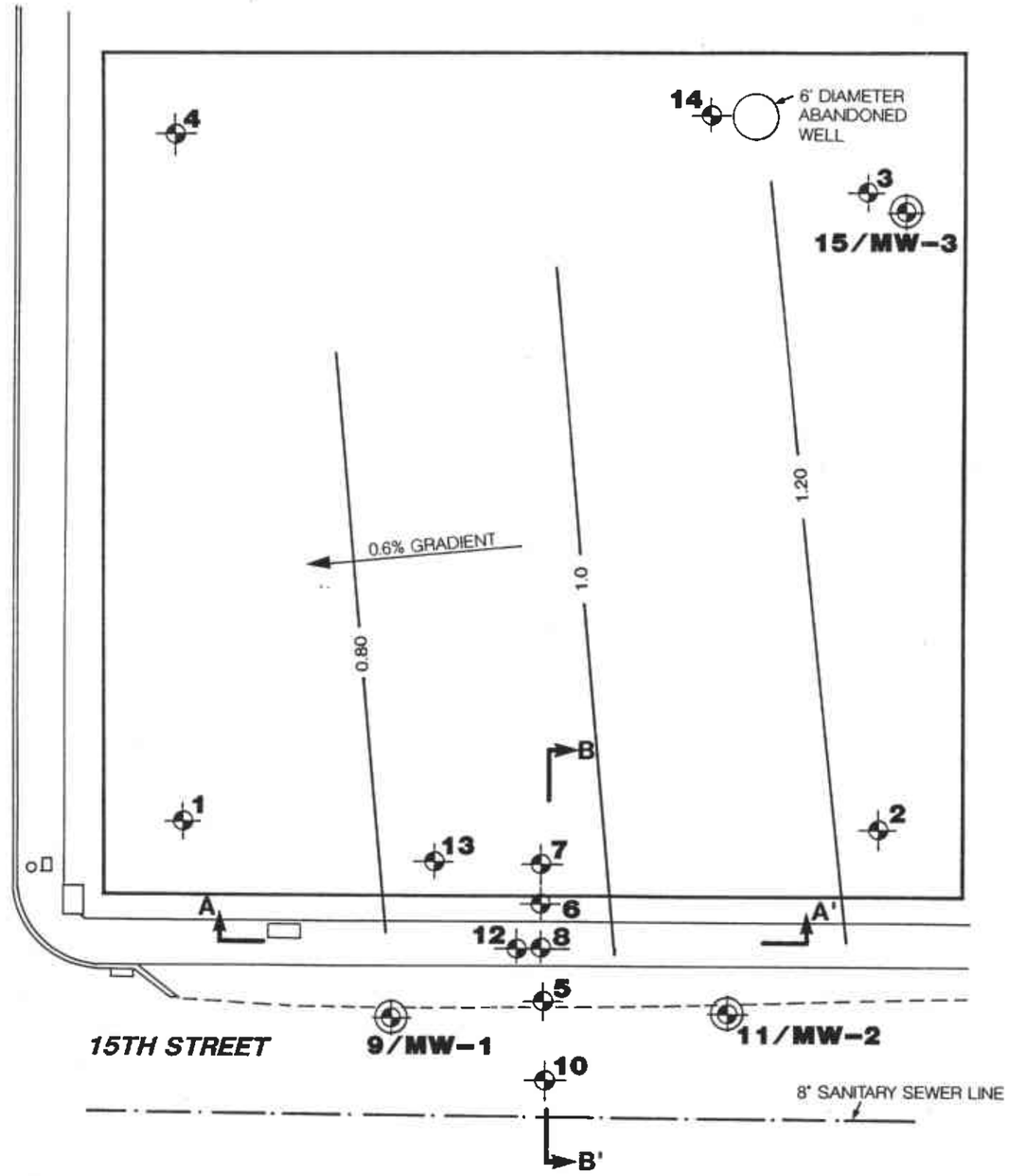
REMEDIATION PLAN

Subsurface Consultants

DIGNITY HOUSING WEST – OAKLAND, CA

JOB NUMBER	DATE	APPROVED
615.002	5/10/91	JVB

PLATE 3



VICINITY MAP

- TEST BORING/MONITORING WELL
- TEST BORING
- A A' CROSS SECTION
- EDGE OF PAVEMENT
- 1.0 GROUNDWATER GRADIENT CONTOUR

N

APPROXIMATE SCALE (feet)

0 20 40

REFERENCE: TOPOGRAPHIC MAP PREPARED BY BATES AND BAILEY,LAND SURVEYORS ENTITLED "PROPERTY AT 690 15TH STREET, OAKLAND", DATED FEBRUARY 1991.

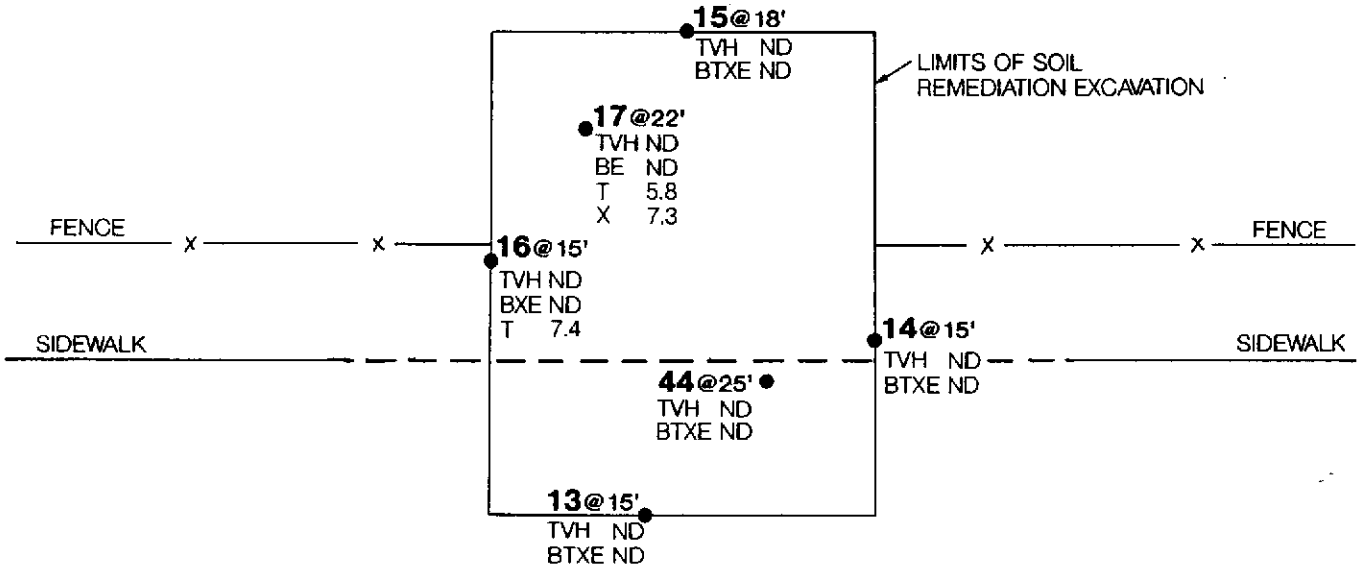
Subsurface Consultants

SITE PLAN

DIGNITY HOUSING WEST – OAKLAND, CA

JOB NUMBER	DATE	APPROVED
615.002	5/20/91	JVB

PLATE 1



15TH STREET

14@15' ●	FINAL CONFIRMATION SAMPLE LOCATION, NUMBER AND DEPTH
TVH	TOTAL VOLATILE HYDROCARBONS AS GASOLINE (mg/kg)
BTXE	BENZINE, TOLUENE ETHYLBENZINE & TOTAL XYLENE (ug/kg)

APPROXIMATE SCALE (feet)

0 10 20

SOIL REMEDIATION EXCAVATION PLAN

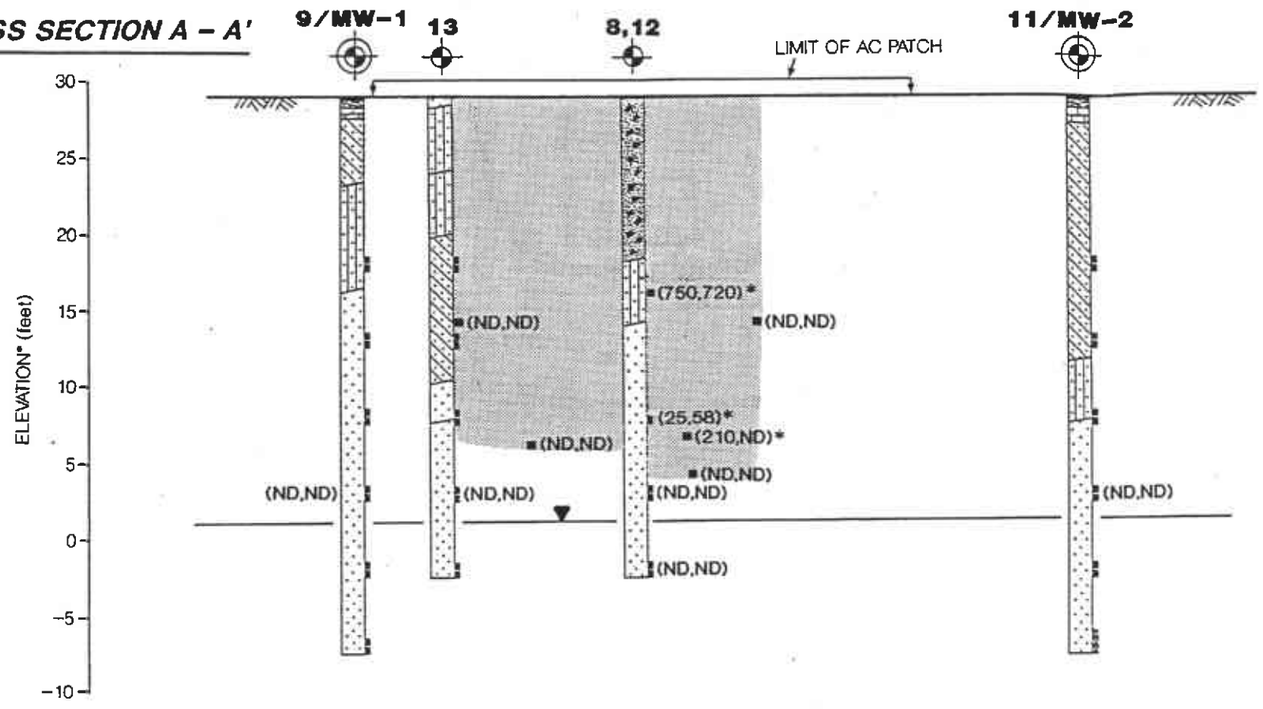
Subsurface Consultants

DIGNITY HOUSING WEST – OAKLAND, CA

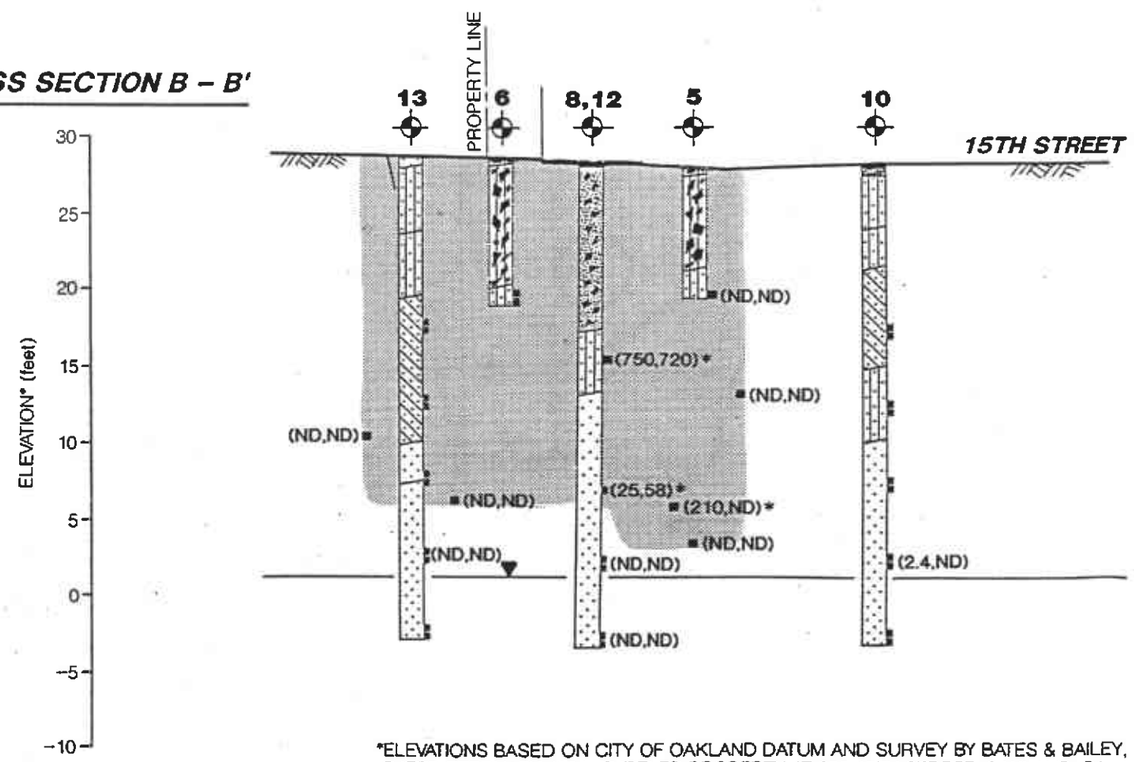
JOB NUMBER	DATE	APPROVED
615.003	6/27/91	JVB

PLATE **2**

CROSS SECTION A – A'



CROSS SECTION B – B'



*ELEVATIONS BASED ON CITY OF OAKLAND DATUM AND SURVEY BY BATES & BAILEY, DATED FEBRUARY 1991, ENTITLED PROPERTY AT 690 15TH STREET, OAKLAND, CA.

- TEST BORING/MONITORING WELL
- TEST BORING
- SAMPLE LOCATION
- (750,720) — TEH / TVH
- ND NONE DETECTED
- APPROXIMATE LIMIT OF SOIL REMOVAL
- * SOIL REMOVED BY EXCAVATION

HORIZONTAL SCALE: 1" = 10'

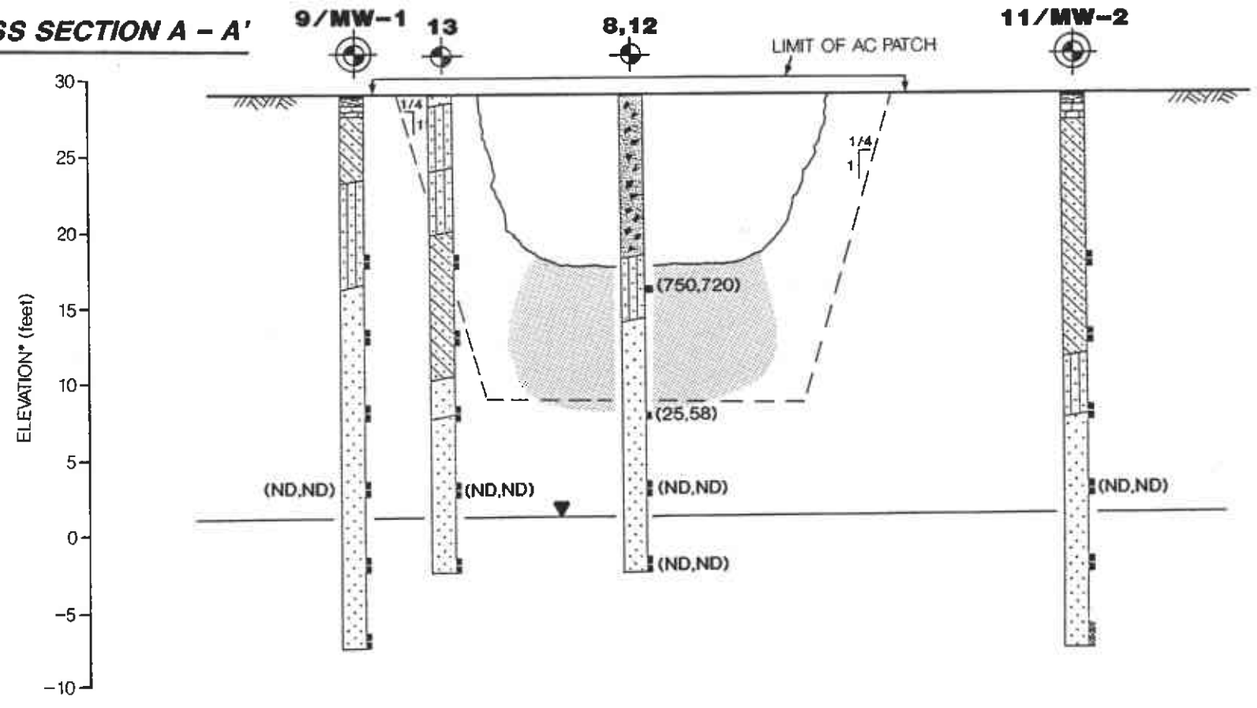
REMEDIATION CROSS SECTION

Subsurface Consultants

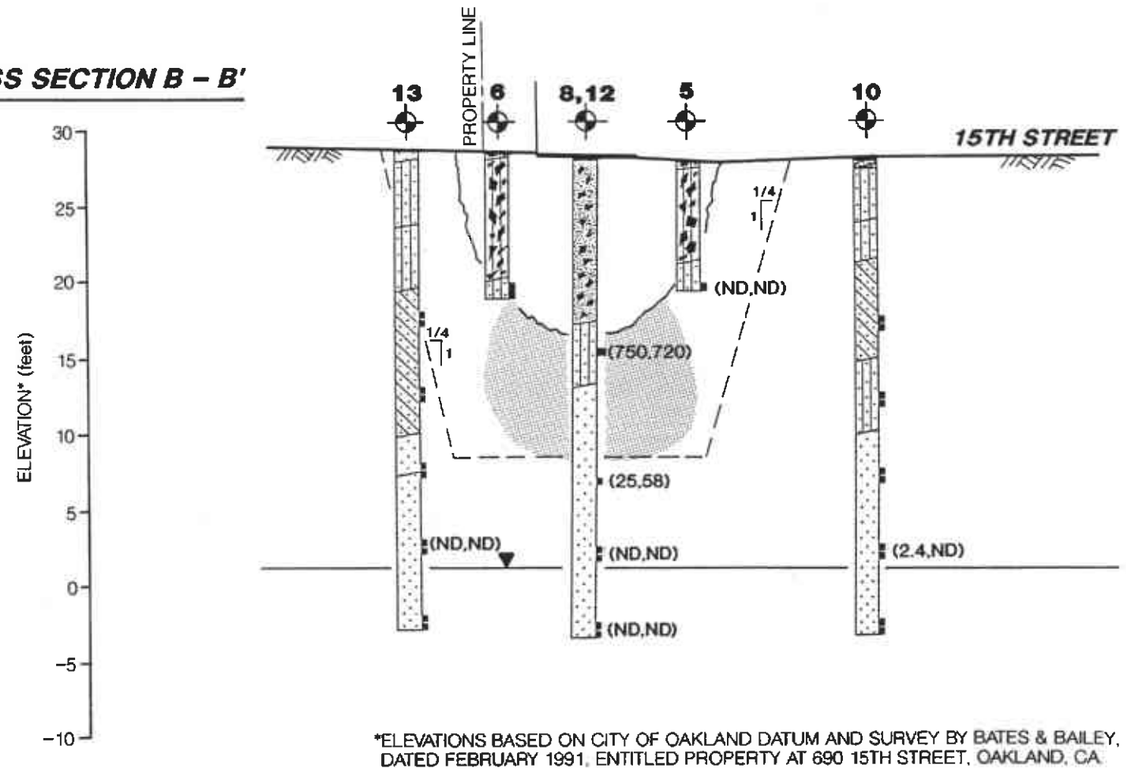
DIGNITY HOUSING WEST – PHASE II

JOB NUMBER	DATE	APPROVED	PLATE
615.002	5/10/91	JVB	3

CROSS SECTION A – A'



CROSS SECTION B – B'



*ELEVATIONS BASED ON CITY OF OAKLAND DATUM AND SURVEY BY BATES & BAILEY, DATED FEBRUARY 1991, ENTITLED PROPERTY AT 690 15TH STREET, OAKLAND, CA.

ZONE OF CONTAMINATED SOIL

TEST BORING/MONITORING WELL

TEST BORING

SAMPLE LOCATION

(750,720)
- TEH
- TVH

ND NONE DETECTED

APPROXIMATE LIMIT OF SOIL REMOVAL

HORIZONTAL SCALE: 1" = 20'

CROSS SECTIONS A–A' & B–B'

Subsurface Consultants

DIGNITY HOUSING WEST – PHASE II

JOB NUMBER	DATE	APPROVED
615.002	5/10/91	JVB

PLATE 2

ATTACHMENT 7

Table 4.
Concentrations of Organic Chemicals in Water
During Four Monitoring Events

Well	Sample Date	TVH ug/l	TEH ug/l	B ug/l	T ug/l	X ug/l	E ug/l	Chloro-form ug/l	PCE ug/l	Other EPA 8010 Chemicals ug/l
MW-1	05/08/91	<50	<50	<1	<1	<1	<1	**1.2**	**2.5**	<1
	08/13/91	<50	<50	<1	<1	<1	<1	<1	<1	<1
	11/08/91	<50	<50	<0.5	<0.5	<0.5	<0.5	**1.4**	**3.3**	<1
	02/13/92	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	**2.6**	<1
MW-2	05/08/91	<50	<50	<1	<1	<1	<1	<1	<1	<1
	08/13/91	<50	<50	<1	<1	<1	<1	<1	<1	<1
	11/08/91	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	**1.3**	<1
	02/13/92	<50						<1	<1	<1
MW-3	05/08/91	<50	<50	<1	<1	<1	<1	<1	**1.1**	<1
	08/13/91	<50	<50	<1	<1	<1	<1	<1	<1	<1
	11/08/91	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	<1	<1
	02/13/92	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	<1	<1

TVH = Total Volatile Hydrocarbons
TEH = Total Extractable Hydrocarbons
BTXE = benzene, toluene, xylene and ethylbenzene
PCE = Tetrachloroethylene
ug/l = micrograms per liter or parts per billion (ppb)
< = Contaminant not present at a concentration in excess of the detection limit shown.

Table 5.
Groundwater Elevations

Well	Date	Top of Casing Elevation	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-1	05/08/91	27.62	26.82	0.80
	08/13/91		27.06	0.56
	11/08/91		27.05	0.57
	02/13/92		26.58	1.04
MW-2	05/08/91	27.97	26.88	1.09
	08/13/91		27.11	0.86
	11/08/91		27.11	0.86
	02/13/92		26.85	1.12
MW-3	05/08/91	29.90	28.54	1.31
	08/13/91		28.82	1.08
	11/08/91		28.88	1.02
	02/13/92		28.92	0.98

Elevations are referenced to project datum established by Bates and Bailey on the Land Survey and Topographic Plan dated February 25, 1991.

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 231520
ANALYTICAL REPORT

Arcadis	Project : LC010060.0014.00001
2000 Powell St.	Location : 690 15th St. Oakland
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
EB100311	231520-001
SB-1	231520-002
SB-2	231520-003
SB-3	231520-004
SOIL DRUM	231520-005
TB100311	231520-006
DECON-DRUM	231520-007

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 10/21/2011
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**231520**
Client:	**Arcadis**
Project:	**LC010060.0014.00001**
Location:	**690 15th St. Oakland**
Request Date:	**10/04/11**
Samples Received:	**10/03/11**

This data package contains sample and QC results for six water samples and one four-point soil composite, requested for the above referenced project on 10/04/11. The samples were received cold and intact. All data were e-mailed to Daren Roth on 10/21/11.

TPH-Purgeables and/or BTXE by GC (EPA 8015B) Water:
No analytical problems were encountered.

TPH-Purgeables and/or BTXE by GC (EPA 8015B) Soil:
No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B) Water:
Low surrogate recovery was observed for o-terphenyl in the MS for batch 179687; the parent sample was not a project sample. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B) Soil:
SOIL DRUM (lab # 231520-005) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Water:
SB-1 (lab # 231520-002) had multiple vials combined due to sediment. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B) Soil:
Matrix spikes were not performed for this analysis in batch 179679 due to insufficient sample amount. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7470A) Water:
No analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A) Soil:
High recoveries were observed for copper and zinc in the MS for batch 179761; the parent sample was not a project sample, the BS/BSD were within limits, and the associated RPDs were within limits. No other analytical problems were encountered.

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Field ID:	DECON-DRUM	Batch#:	179886
Matrix:	Water	Sampled:	10/04/11
Units:	ug/L	Received:	10/03/11
Diln Fac:	1.000		

Type: SAMPLE Analyzed: 10/11/11
Lab ID: 231520-007

Analyte	Result	RL
Gasoline C7-C12	59 Y Z	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	78-123

Type: BLANK Analyzed: 10/10/11
Lab ID: QC612912

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	78-123

Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Field ID:	SOIL DRUM	Batch#:	180049
Matrix:	Soil	Sampled:	10/03/11
Units:	mg/Kg	Received:	10/03/11
Basis:	as received	Analyzed:	10/13/11
Diln Fac:	1.000		

Type: SAMPLE Lab ID: 231520-005

Analyte	Result	RL
Gasoline C7-C12	ND	0.92

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	88	74-132

Type: BLANK Lab ID: QC613600

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	91	74-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 3520C
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Field ID:	DECON-DRUM	Batch#:	179687
Matrix:	Water	Sampled:	10/04/11
Units:	ug/L	Received:	10/03/11
Diln Fac:	1.000	Prepared:	10/05/11

Type: SAMPLE Analyzed: 10/08/11
Lab ID: 231520-007

Analyte	Result	RL
Kerosene C10-C16	260 Y	50
Diesel C10-C24	1,000 Y	50
Motor Oil C24-C36	790	300

Surrogate	%REC	Limits
o-Terphenyl	83	68-120

Type: BLANK Analyzed: 10/06/11
Lab ID: QC612089

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	96	68-120

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	SHAKER TABLE
Project#:	LC010060.0014.00001	Analysis:	EPA 8015B
Field ID:	SOIL DRUM	Batch#:	179684
Matrix:	Soil	Sampled:	10/03/11
Units:	mg/Kg	Received:	10/03/11
Basis:	as received	Prepared:	10/05/11
Diln Fac:	1.000	Analyzed:	10/12/11

Type: SAMPLE Lab ID: 231520-005

Analyte	Result	RL
Kerosene C10-C16	ND	1.0
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	93	62-120

Type: BLANK Lab ID: QC612077

Analyte	Result	RL
Kerosene C10-C16	ND	1.0
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	97	62-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

MTBE by GC/MS

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	10/03/11
Units:	ug/L	Received:	10/03/11
Diln Fac:	1.000	Analyzed:	10/06/11
Batch#:	179721		

Field ID: EB100311 Lab ID: 231520-001
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127

Field ID: SB-1 Lab ID: 231520-002
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127

Field ID: SB-2 Lab ID: 231520-003
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

MTBE by GC/MS

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Matrix:	Water	Sampled:	10/03/11
Units:	ug/L	Received:	10/03/11
Diln Fac:	1.000	Analyzed:	10/06/11
Batch#:	179721		

Field ID: SB-3 Lab ID: 231520-004
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-127

Field ID: TB100311 Lab ID: 231520-006
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127

Type: BLANK Lab ID: QC612237

Analyte	Result	RL
MTBE	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-127

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5030B
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Field ID:	DECON-DRUM	Diln Fac:	1.000
Lab ID:	231520-007	Sampled:	10/04/11
Matrix:	Water	Received:	10/03/11
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Dibromochloromethane	ND	0.5	179765	10/07/11
1,2-Dibromoethane	ND	0.5	179765	10/07/11
Chlorobenzene	ND	0.5	179765	10/07/11
1,1,1,2-Tetrachloroethane	ND	0.5	179765	10/07/11
Ethylbenzene	ND	0.5	179765	10/07/11
m,p-Xylenes	ND	0.5	179765	10/07/11
o-Xylene	ND	0.5	179765	10/07/11
Styrene	ND	0.5	179765	10/07/11
Bromoform	ND	1.0	179721	10/06/11
Isopropylbenzene	ND	0.5	179765	10/07/11
1,1,2,2-Tetrachloroethane	ND	0.5	179765	10/07/11
1,2,3-Trichloropropane	ND	0.5	179765	10/07/11
Propylbenzene	ND	0.5	179765	10/07/11
Bromobenzene	ND	0.5	179765	10/07/11
1,3,5-Trimethylbenzene	ND	0.5	179765	10/07/11
2-Chlorotoluene	ND	0.5	179765	10/07/11
4-Chlorotoluene	ND	0.5	179765	10/07/11
tert-Butylbenzene	ND	0.5	179765	10/07/11
1,2,4-Trimethylbenzene	ND	0.5	179765	10/07/11
sec-Butylbenzene	ND	0.5	179765	10/07/11
para-Isopropyl Toluene	ND	0.5	179765	10/07/11
1,3-Dichlorobenzene	ND	0.5	179765	10/07/11
1,4-Dichlorobenzene	ND	0.5	179765	10/07/11
n-Butylbenzene	ND	0.5	179765	10/07/11
1,2-Dichlorobenzene	ND	0.5	179765	10/07/11
1,2-Dibromo-3-Chloropropane	ND	2.0	179765	10/07/11
1,2,4-Trichlorobenzene	ND	0.5	179765	10/07/11
Hexachlorobutadiene	ND	2.0	179765	10/07/11
Naphthalene	ND	2.0	179765	10/07/11
1,2,3-Trichlorobenzene	ND	0.5	179765	10/07/11

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	105	80-127	179765	10/07/11
1,2-Dichloroethane-d4	93	73-145	179765	10/07/11
Toluene-d8	98	80-120	179765	10/07/11
Bromofluorobenzene	97	80-120	179765	10/07/11

J= Estimated value
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5035
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Field ID:	SOIL DRUM	Diln Fac:	0.8489
Lab ID:	231520-005	Batch#:	179679
Matrix:	Soil	Sampled:	10/03/11
Units:	ug/Kg	Received:	10/03/11
Basis:	as received	Analyzed:	10/05/11

Analyte	Result	RL
Freon 12	ND	8.5
Chloromethane	ND	8.5
Vinyl Chloride	ND	8.5
Bromomethane	ND	8.5
Chloroethane	ND	8.5
Trichlorofluoromethane	ND	4.2
Acetone	ND	17
Freon 113	ND	4.2
1,1-Dichloroethene	ND	4.2
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.2
MTBE	ND	4.2
trans-1,2-Dichloroethene	ND	4.2
Vinyl Acetate	ND	42
1,1-Dichloroethane	ND	4.2
2-Butanone	ND	8.5
cis-1,2-Dichloroethene	ND	4.2
2,2-Dichloropropane	ND	4.2
Chloroform	ND	4.2
Bromochloromethane	ND	4.2
1,1,1-Trichloroethane	ND	4.2
1,1-Dichloropropene	ND	4.2
Carbon Tetrachloride	ND	4.2
1,2-Dichloroethane	ND	4.2
Benzene	ND	4.2
Trichloroethene	ND	4.2
1,2-Dichloropropane	ND	4.2
Bromodichloromethane	ND	4.2
Dibromomethane	ND	4.2
4-Methyl-2-Pentanone	ND	8.5
cis-1,3-Dichloropropene	ND	4.2
Toluene	ND	4.2
trans-1,3-Dichloropropene	ND	4.2
1,1,2-Trichloroethane	ND	4.2
2-Hexanone	ND	8.5
1,3-Dichloropropane	ND	4.2
Tetrachloroethene	ND	4.2

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	231520	Location:	690 15th St. Oakland
Client:	Arcadis	Prep:	EPA 5035
Project#:	LC010060.0014.00001	Analysis:	EPA 8260B
Field ID:	SOIL DRUM	Diln Fac:	0.8489
Lab ID:	231520-005	Batch#:	179679
Matrix:	Soil	Sampled:	10/03/11
Units:	ug/Kg	Received:	10/03/11
Basis:	as received	Analyzed:	10/05/11

Analyte	Result	RL
Dibromochloromethane	ND	4.2
1,2-Dibromoethane	ND	4.2
Chlorobenzene	ND	4.2
1,1,1,2-Tetrachloroethane	ND	4.2
Ethylbenzene	ND	4.2
m,p-Xylenes	ND	4.2
o-Xylene	ND	4.2
Styrene	ND	4.2
Bromoform	ND	4.2
Isopropylbenzene	ND	4.2
1,1,2,2-Tetrachloroethane	ND	4.2
1,2,3-Trichloropropane	ND	4.2
Propylbenzene	ND	4.2
Bromobenzene	ND	4.2
1,3,5-Trimethylbenzene	ND	4.2
2-Chlorotoluene	ND	4.2
4-Chlorotoluene	ND	4.2
tert-Butylbenzene	ND	4.2
1,2,4-Trimethylbenzene	ND	4.2
sec-Butylbenzene	ND	4.2
para-Isopropyl Toluene	ND	4.2
1,3-Dichlorobenzene	ND	4.2
1,4-Dichlorobenzene	ND	4.2
n-Butylbenzene	ND	4.2
1,2-Dichlorobenzene	ND	4.2
1,2-Dibromo-3-Chloropropane	ND	4.2
1,2,4-Trichlorobenzene	ND	4.2
Hexachlorobutadiene	ND	4.2
Naphthalene	ND	4.2
1,2,3-Trichlorobenzene	ND	4.2

Surrogate	%REC	Limits
Dibromofluoromethane	113	71-126
1,2-Dichloroethane-d4	113	74-130
Toluene-d8	88	80-120
Bromofluorobenzene	97	76-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	231520	Project#:	LC010060.0014.00001
Client:	Arcadis	Location:	690 15th St. Oakland
Field ID:	DECON-DRUM	Diln Fac:	1.000
Lab ID:	231520-007	Sampled:	10/04/11
Matrix:	Water	Received:	10/03/11
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	10	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Arsenic	ND	7.1	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Barium	190	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Beryllium	ND	2.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Cadmium	ND	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Chromium	69	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Cobalt	9.3	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Copper	28	5.0	179639	10/04/11	10/18/11	EPA 3010A	EPA 6010B
Lead	ND	5.0	179639	10/04/11	10/19/11	EPA 3010A	EPA 6010B
Mercury	ND	0.20	179776	10/07/11	10/07/11	METHOD	EPA 7470A
Molybdenum	24	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Nickel	23	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Selenium	ND	10	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Silver	ND	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Thallium	ND	10	179639	10/04/11	10/20/11	EPA 3010A	EPA 6010B
Vanadium	9.0	5.0	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B
Zinc	97	20	179639	10/04/11	10/16/11	EPA 3010A	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	231520	Project#:	LC010060.0014.00001
Client:	Arcadis	Location:	690 15th St. Oakland
Field ID:	SOIL DRUM	Basis:	as received
Lab ID:	231520-005	Diln Fac:	1.000
Matrix:	Soil	Sampled:	10/03/11
Units:	mg/Kg	Received:	10/03/11

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	0.50	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Arsenic	3.1	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Barium	44	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Beryllium	0.18	0.10	179761	10/06/11	10/20/11	EPA 3050B	EPA 6010B
Cadmium	ND	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Chromium	42	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Cobalt	5.3	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Copper	6.0	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Lead	1.8	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Mercury	ND	0.020	179848	10/10/11	10/10/11	METHOD	EPA 7471A
Molybdenum	ND	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Nickel	39	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Selenium	ND	0.50	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Silver	ND	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Thallium	ND	0.50	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Vanadium	28	0.25	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B
Zinc	21	1.0	179761	10/06/11	10/19/11	EPA 3050B	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Table 1.

Hydrocarbon Concentrations in Soil Prior to Remediation

Soil Samples Taken by Others Following Tank Removal

Sample Location	Sampling Date	TPH[1] (mg/kg)
Pit - West End	11/12/87	2400
Pit - East End	11/12/87	5600
Pit - North End	01/15/88	<50
Pit - South End	01/15/88	<50
Pit - East End	01/15/88	<50
Pit - West End	01/15/88	<50
Pit - Bottom	01/15/88	760
Pit - North End	02/12/88	960
Pit - South End	02/12/88	490
Pit - East End	03/15/88	<50
Pit - West End	03/15/88	89

Soil Samples Taken During SCI Investigation

Boring	Depth (ft.)	TVH (mg/kg)	TEH (mk/kg)	Benzene (ug/kg)	Toluene (ug/kg)	Ethyl Benzene (ug/kg)	Total Xylenes (ug/kg)	Oil & Grease (ng/kg)
5	7.5	<1	<1	<5	<5	<5	<5	<50
8	13.0	750	720	55	1,300	14,000	38,000	<50
8	19.5	24	58	40	110	170	910	<50
9	26.0	<1	<1	<5	<5	<5	<5	--
10	26.0	2.4	<1	<5	<5	<5	<5	--
12	26.0	2.4	<1	<5	<5	<5	<5	--
12	31.0	<1	<1	<5	<5	<5	12	--
13	26.0	<1	<1	<5	<5	<5	<5	--

TPH = Total petroleum hydrocarbons
TVH = Total volatile hydrocarbons, quantified as gasoline
TEH = Total extractable hydrocarbons, quantified as Stoddard Solvent (diesel not detected in these analysis)
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
ND = None detected, chemicals not present at concentrations above detection limits
-- = Test not requested
< = Contaminant not present at a concentration in excess of the detection limit shown

Table 3.
Hydrocarbon Concentrations in
Confirmation Soil Samples
Following Remediation

Sample Designation	TVH (mg/kg)	TEH (mg/kg)	Benzene (ug/kg)	Toluene (ug/kg)	Ethyl-Benzene (ug/kg)	Total Xylenes (ug/kg)
13 @ 15 ft	<1	<1	<5	<5	<5	<5
14 @ 15 ft	<1	<1	<5	<5	<5	<5
15 @ 18 ft	<1	<1	<5	<5	<5	<5
16 @ 15 ft	<1	<1	<5	**7.4**	<5	<5
17 @ 22 ft	<1	<1	<5	**5.8**	<5	**7.3**
44 @ 25 ft	<1	<1	<5	<5	<5	<5

TVH = Total volatile hydrocarbons (as gasoline)
TEH = Total extractable hydrocarbons (kerosene and diesel range)
mg/kg = milligrams per kilogram = parts per million = ppm
ug/kg = micrograms per kilogram = parts per billion = ppb
< = Contaminant not present at a concentration in excess of the detectin limit shown.

samples during our contamination assessment are also presented on Plate 3. The test boring samples shown on Plate 3 which were not analytically tested contained very low OVM readings.

The samples obtained during remediation were collected from a backhoe bucket. All loose soil and approximately 3 inches of intact material was scraped away from the sampling location. A clean brass liner was then pushed into the material using a rubber mallet. The liner was withdrawn and its ends were covered with Teflon sheets and plastic caps and then sealed with duct tape. The samples were placed in an ice filled cooler and remained refrigerated until delivery to Curtis and Tompkins, Ltd., a laboratory certified by the California DHS to conduct the analyses requested. The analytical program included analysis for total volatile hydrocarbons (TVH) (EPA 5030/8015 modified), total extractable hydrocarbons (TEH) (EPA 3550/8015 modified), and BTXE (EPA 5030/8020). The analytical results are summarized in Table 1.

Table 1.
Hydrocarbon Concentrations in Confirmation Soil Samples

Sample Designation	TVH[1] (mg/kg)[3]	TEH[2] mg/kg	Benzene (ug/kg)[4]	Toluene (ug/kg)	Ethyl-Benzene (ug/kg)	Total Xylenes (ug/kg)
13 @ 15 ft	<1	<1	<5	<5	<5	<5
14 @ 15 ft	<1	<1	<5	<5	<5	<5
15 @ 18 ft	<1	<1	<5	<5	<5	<5
16 @ 15 ft	<1	<1	<5	7.4	<5	<5
17 @ 22 ft	<1	<1	<5	5.8	<5	7.3
18 @ 22 ft[5]	210	<1	<80	280	960	5,400
44 @ 25 ft	<1	<1	<5	<5	<5	<5

---

1 TVH = Total volatile hydrocarbons (as gasoline)
2 TEH = Total extractable hydrocarbons (kerosene and diesel range)
3 mg/kg = milligrams per kilogram = parts per million = ppm
4 ug/kg = micrograms per kilogram = parts per billion = ppb
5 Contaminated soil was removed by subsequent excavation

Soil Remediation

Excavation activities generated approximately 430 cubic yards (loose) of contaminated soil. In order to evaluate treatment/disposal options, 4 soil samples were obtained for every 50 cubic yards (cy) of excavated soil. The 4 samples were composited by the analytical laboratory to form one sample for analysis. Each composite sample was analyzed for TVH, TEH, BTXE, total lead and soluble (TCLP) lead. One of the composites was also analyzed for reactivity, corrosivity and igniteability.

One 120 cy stockpile of clean soil has been created. One soil sample (#43) from this stockpile was obtained and analyzed for TVH, TEH and BTEX. The results of the analyses are presented in Tables 2 and 3.

Table 2.
Hydrocarbons and Lead in Soil Stockpiles

Sample Designation	TVH[1] (mg/kg)[5]	TEH[2] (mg/kg)	B[3] (ug/kg)[6]	T[3] (ug/kg)	E[3] (ug/kg)	X[3] (ug/kg)	Total Lead (mg/kg)	TCLP[4] Lead (ug/l)[7]
1,2,3,4	6.3	<1	<5	<5	6.1	28	6	<60
5,6,7,8	1.3	<1	<5	<5	<5	<5	<3	<60
9,10,11,12	<1	<1	<5	<5	<5	<5	<3	<60
19,20,21,22	39	<1	<5	<5	130	810	<3	<60
23,24,25,26	38	<1	<5	<5	<5	520	<3	<60
27,28,29,30	<1	<1	<5	<5	<5	<5	5	<60
31,32,33,34	1.7	<1	<5	8.0	<5	37	<3	<60
35,36,37,38	<1	<1	<5	<5	<5	<5	<3	<60
39,40,41,42	<1	<1	<5	<5	<5	<5	<3	<60
43	<1	<1	<5	<5	<5	<5	--[8]	--

---

1 TVH = Total volatile hydrocarbons (as gasoline)
2 TEH = Total extractable hydrocarbons (kerosene and diesel range)
3 BTEX = Benzene, toluene, ethylbenzene and total xylenes,
4 TCLP = Soluble lead in TCLP leachate
5 mg/kg = milligrams per kilogram = parts per million = ppm
6 ug/kg = micrograms per kilogram = parts per billion = ppb
7 ug/l = micrograms per liter = parts per billion = ppb
8 -- = test not requested

Table 2. Petroleum Hydrocarbons and BTXE Concentrations in Soil

Boring	Depth (feet)	TVH[1] (mg/kg)[3]	TEH[2] (mg/kg)	Benzene (ug/kg)[4]	Toluene (ug/kg)	Ethyl Benzene (ug/kg)	Total Xylenes (ug/kg)	Oil & Grease (mg/kg)
5	7.5	ND[5]	ND	ND	ND	ND	ND	ND
8	13	750	720	55	1,300	14,000	38,000	ND
8	19.5	25	58	40	110	170	910	ND

1 TVH = Total volatile hydrocarbons, quantified as gasoline
2 TEH = Total extractable hydrocarbons, quantified as Stoddard Solvent
3 mg/kg = milligrams per kilogram
4 ug/kg = micrograms per kilogram
5 ND = None detected, chemicals not present at concentrations above the detection limits

Discussion and Conclusions

The analytical test results indicate that gasoline, BTXE and stoddard solvent are present in the soil beneath the previous tanks at concentrations exceeding regulatory criteria. Currently, the horizontal and vertical extent of soil contamination, and whether or not groundwater has been impacted, are unknown. The analytical test results from SCI's Boring 8 suggest that contaminant concentrations decrease rapidly with depth. This may indicate that the extent of contamination is relatively limited. However, given that the site is underlain by relatively permeable sand, it is also possible that contamination has migrated vertically downward to greater depths. If this is the case, it is possible that the contamination has impacted a significant amount of soil as well as groundwater quality in the area. As a result, we judge that a more detailed investigation should be conducted to determine the vertical and lateral extent of soil contamination, and its impact on groundwater quality.

Table 4
Petroleum Hydrocarbons and BTXE Concentrations in Soil

Boring	Depth (ft.)	TVH[1] (ppm)[3]	TEH[2] (ppm)	Benzene (ppb)[4]	Toluene (ppb)	Ethyl Benzene (ppb)	Total Xylenes (ppb)	Oil & Grease (ppm)
5	7.5	ND[5]	ND	ND	ND	ND	ND	ND
8	13.0	750	720	55	1,300	14,000	38,000	ND
8	19.5	25	58	40	110	170	910	ND
9	26.0	ND	ND	ND	ND	ND	ND	--[6]
10	26.0	2.4	ND	ND	ND	ND	ND	--
12	26.0	ND	ND	ND	ND	ND	ND	--
12	31.0	ND	ND	ND	ND	ND	12	--
13	26	ND	ND	ND	ND	ND	ND	--

---

[1] TVH = Total volatile hydrocarbons, quantified as gasoline
[2] TEH = Total extractable hydrocarbons, quantified as Stoddard Solvent (diesel not detected in these analysis)
[3] ppm = mg/kg = milligrams per kilogram
[4] ppb = ug/kg = micrograms per kilogram
[5] ND = None detected, chemicals not present at concentrations above detection limits
[6] -- = Test not requested

ATTACHMENT 8

ARCADIS

690 15th St.

Logged By:	Dates Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
REM	10/3/11	Penecore	City of Oakland	F-550 DP Rig	SB-1

See Unified Soil Classification System for sampling method, classifications and laboratory testing methods.	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft): First Water ▽ 26' Static Water ▼ 26'	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	2			30	NA	NA

Feet (bgs)	Boring or Well Completion	Depth, (ft.)	Sample Recovery	Blows/6"	Classification Letter	Description (classification, color w/code using ASTM standard, grain shape, consistency, moisture, other, odor)	PID/FID (ppm)	Sample Name	SB-1 @1345	Feet (bgs)
	concrete					7.5" concrete				
1									Sample EB100311 @1340	1
2					SC	Sand w/ ~~trace~~ little clay (10YR 4/4)				2
3		HA				dark yellowish brown, moist,				3
4						m. dense, f-m grain				4
5										5
6						SAA	0.0			6
7		5'								7
8										8
9										9
10	Neat Cement						0.0			10
11										11
12					SC	Sand and Clay (5YR 3/3) dark	0.0			12
13		5'				reddish brown, w/ black streaks				13
14						plastic clay, moist, dense, f-m				14
15						Sand w/ ~~little~~ trace clay ~~cont. resumes~~				15
16						m.dense, moist, (10YR 4/4) dark	0.0			16
17		4'				yellowish brown, f-m grain				17
18					SC	slight moisture increase (10YR 5/4)	0.0			18
19						yellowish brown, little clay,				19
20						f-m grain	0.0			20
21		4'			SC	~~Sand w/ tr~~ SAA (10YR 4/4)				21
22						dark yellowish brown				22
23					SC	SAA (10YR 5/3) resumes				23
24		2'					0.0			24
25										25

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ARCADIS

Logged By:	Dates Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
REM	10/3/11	Penecore	City of Oakland	F-550 DP Rig	SB-1

Feet (bgs)	Boring or Well Completion	Depth, (ft.)	Sample Recovery	Blows/6"	Classification Letter	Description (classification, color w/code using ASTM standard, grain shape, consistency, moisture, other, odor)	PID/FID (ppm)	Sample Name		Feet (bgs)
26	Neat cement	2.5'			SC					26
27					SC	SAA but Brown (10YR 3/3) & wet	0.0			27
28					SC					28
29		2.5'				SAA but dark greyish brown (10 YR 4/2)	0.0			29
30										30
31						TD = 30' bgs				31
32						Temp well w/ 10' Screen				32
33						(20-30') used to collect				33
34						ground water.				34
35										35
36										36
37										37
38										38
39										39
40										40
41										41
42										42
43										43
44										44
45										45
46										46
47										47
48										48
49										49
50										50

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ARCADIS

Logged By:	Dates Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
REM	10/3/11	Penecone	City of Oakland LC0100060.0014	F-550 DP Rig (Penecare)	SB-2

See Unified Soil Classification System for sampling method, classifications and laboratory testing methods.	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft): First Water ▽ 25.0 Static Water ▼ 26.5	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	2			30	NA	NA

Feet (bgs)	Boring or Well Completion	Depth, (ft.)	Sample Recovery	~~Blows/6"~~	Classification Letter	Description (classification, color w/code using ASTM standard, grain shape, consistency, moisture, other, odor)	PID ~~FID~~ (ppm)	Sample Name	SB-2 @1210	Feet (bgs)
	Concrete					7.5" Concrete				
1					SP	w/ trace clays				1
2						Sand (10YR 4/6) dark yellowish brown				2
3		HA				damp. (clay below plastic limit)				3
4						f-m grain. dense				4
5										5
6						SAA	0.0			6
7		5'								7
8										8
9							0.0			9
10	Neat									10
11	cement					SAA	0.0			11
12										12
13		5'								13
14							0.0			14
15										15
16						SAA but moist (10YR 5/4)	0.0			16
17		4'				yellowish brown, med dense				17
18										18
19							0.0			19
20										20
21		4'		LL						21
22					SC	SAA w/ Little clay.	0.1			22
23										23
24										24
25			▽							25

Sample Name: (3) VOA's from temporary screened well

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ARCADIS

Logged By:	Dates Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
RDM	10/3/11	Penecore	City of Oakland	F-550 DP Rig	SB-2

Feet (bgs)	Boring or Well Completion	Depth, (ft.)	Sample Recovery	Blows/6" ▽	Classification Letter	Description (classification, color w/code using ASTM standard, grain shape, consistency, moisture, other, odor)	PID/FID (ppm)	Sample Name		Feet (bgs)
26					SC	SAA but wet @ 25'	0.0			26
27	Neat Cement			▼	—	—	0.0			27
28						SAA				28
29										29
30							0.0			30
31						TD = 30' bgs.				31
32										32
33						Temp well w/ 10' Screen (20-30') used to collect ground water.				33
34										34
35										35
36										36
37										37
38										38
39										39
40										40
41										41
42										42
43										43
44										44
45										45
46										46
47										47
48										48
49										49
50										50

Project No. LC01006O.0014.00001 Date 10/30/11 Page 2 of 2

ARCADIS

Logged By:	Dates Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
RBM	10/3/11	Penecone	City of Oakland LC010060.0014	F-550 DP Rig (Penecone)	SB-3

See Unified Soil Classification System for sampling method, classifications and laboratory testing methods.	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	2		First Water ▽ 22.5' Static Water ▼ 27'	31	NA	NA

Feet (bgs)	Boring or Well Completion	Depth, (ft.)	Sample Recovery	Blows/6"	Classification Letter	Description (classification, color w/code using ASTM standard, grain shape, consistency, moisture, other, odor)	PID/FID (ppm)	Sample Name	SB-3 @ 1150	Feet (bgs)
	concrete					Asphalt				
1	Stained					Boulders				1
2	Black to				SC	Sand (7.5 YR 4/4) Brown w/ little clay,				2
3	Match asphalt	HA				f-m grain, moist, loose.				3
4										4
5							0.0			5
6										6
7										7
8		5' rec					0.0			8
9	Neat									9
10	Cement			▽		Free moisture on liner, but Not free				10
11						water (10.5 to 12.5')	0.0			11
12		4' rec								12
13					SC	Sand and clay (5YR 4/3) reddish				13
14				▽		brown, f-m grain, plastic clay, M dense, moist	0.0			14
15					SC	Sand w/ little clay resumes,				15
16		5' rec				free moisture, and M dense	0.0			16
17										17
18					SC	SAA but (10YR 5/4) Yellowish brown + dense.				18
19							0.0			19
20										20
21		4'			SP	SAA w/ trace clay.				21
22				RM ▼ ▽			0.0			22
23					SP	Sand med grain (10YR 4/3)				23
24		4'				wet (very little water)	0.1			24
25										25

Sample Name column (written vertically): Composite soil jar + encore for IDW from drum after final boring; (3) 40 mL VOAs grab gw.

Project No. LC010060.0014.00001 Date 10/3/11 Page 1 of 2

ARCADIS

Logged By:	Dates Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
REM	10/3/11	Pencore	City of Oakland	F-550 DP rig	SB-3

Feet (bgs)	Boring or Well Completion	Depth, (ft.)	Sample Recovery	Blows/6"	Classification Letter	Description (classification, color w/code using ASTM standard, grain shape, consistency, moisture, other, odor)	PID/FID (ppm)	Sample Name		Feet (bgs)
26					SP					26
27	Neat cement			▼						27
28						Sand (10YR 4/4) dark yellowish brown, trace fines, wet, free water m. dense	0.1			28
29										29
30										30
31							0.0			31
32						TD = 31' bgs				32
33										33
34										34
35										35
36										36
37										37
38										38
39										39
40										40
41										41
42										42
43										43
44										44
45										45
46										46
47										47
48										48
49										49
50										50

Project No. _____ Date 10/3/11 Page 2 of 2

LOG OF TEST BORING 1

EQUIPMENT 6" Solid Flight Auger
DATE DRILLED 2/19/91
ELEVATION --

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
-200 = 28%	7.6	91	0		18 *	BROWN SILTY SANDY GRAVEL (GM) medium dense, moist, contains silt
	14.9	115			76	DARK BROWN SILTY SAND (SM) medium dense, moist
	8.3	105	5		83	MOTTLED BROWN CLAYEY SAND (SC) dense, moist
			10		60	
			15		86	
			20		78 *	BROWN SAND (SP) dense, moist
			25		78 +	GROUNDWATER NOT ENCOUNTERED DURING DRILLING
			30			
			35			
			40			

-200 = % Passing #200 Sieve

SAMPLER TYPE:
MODIFIED CALIFORNIA DRIVE
O.D.: 3.0 inches
I.D.: 2.5 inches

*CALIFORNIA DRIVE
O.D.: 2.5 inches
I.D.: 2.0 inches

+STANDARD PENETRATION TEST
O.D.: 2.0 inches
I.D.: 1.4 inches

HAMMER WEIGHT: 140 pounds
HAMMER DROP: 30 inches

Subsurface Consultants

DIGNITY HOUSE WEST - OAKLAND, CA

JOB NUMBER	DATE	APPROVED
615.001	2/10/91	JVB

PLATE B-1

LOG OF TEST BORING 2

EQUIPMENT 6" Solid Flight Auger
DATE DRILLED 2/19/91
ELEVATION --

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
-200 = 28%	6.2	93	0		10*	BROWN SILTY SAND (SM) loose to medium dense, moist
	12.7	116	5		36	MOTTLED BROWN CLAYEY SAND (SC) dense, moist
					75	
	10.9	124	10		58	
			15		53	BROWN SILTY SAND (SM) dense, moist
			20		55*	GROUNDWATER NOT ENCOUNTERED DURING DRILLING
			25			
			30			
			35			
			40			

Subsurface Consultants

DIGNITY HOUSE WEST - OAKLAND, CA

JOB NUMBER 615.001 | DATE 2/20/91 | APPROVED JVB

PLATE B-2

LOG OF TEST BORING 3

EQUIPMENT 6" Solid Flight Auger
DATE DRILLED 2/19/91
ELEVATION --

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
-200 = 34%	10.8	99	0		7 *	BROWN SILTY GRAVELLY SAND (SM) loose, moist
	11.3	114			77	BROWN CLAYEY SAND (SC) dense, moist
	12.9	117	5		79	BROWN SILTY SAND (SM) dense, moist
			10		61	
					77	
			15			
					70 *	BROWN SAND (SP) dense, moist
			20			
			25		70 +	
			▼			GROUNDWATER LEVEL DURING DRILLING
			30			
			35		50/+ 5"	
			40			

Subsurface Consultants

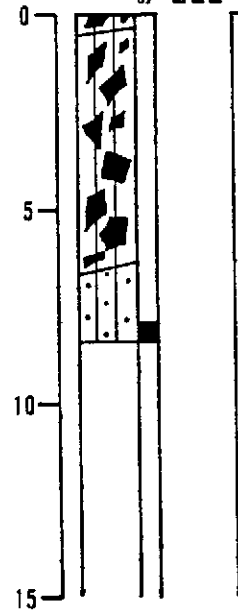
DIGNITY HOUSING WEST - OAKLAND, CA

JOB NUMBER	DATE	APPROVED
615.001	2/20/91	JVB

PLATE B-3

LOG OF TEST BORING 5

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 2/19/91
ELEVATION --

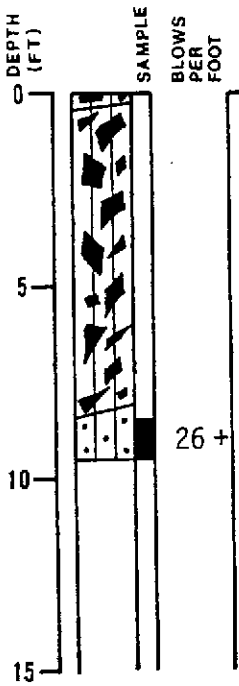


BROWN SANDY GRAVEL (GM)
loose, dry
GRAY SANDY GRAVEL (GM)
loose to medium dense, moist
3/4" crushed rock tank backfill

MOTTLED BLUISH GRAY SILTY SAND (SM)
dense, moist, with petroleum hydrocarbon smell
GROUNDWATER NOT ENCOUNTERED DURING DRILLING

LOG OF TEST BORING 6

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 2/19/91
ELEVATION --



BROWN SANDY GRAVEL (GM)
medium dense, dry
GRAY SANDY GRAVEL (GM)
loose to medium dense, moist
3/4" crushed rock tank backfill

BROWN SILTY SAND (SM)
medium dense, moist
GROUNDWATER NOT ENCOUNTERED DURING DRILLING

Subsurface Consultants

DIGNITY HOUSING WEST - OAKLAND, CA

JOB NUMBER 615.001 | DATE 2/20/91 | APPROVED JVB

PLATE B-5

LOG OF TEST BORING 7

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 2/19/91
ELEVATION --

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
			0			BROWN SANDY GRAVEL (GM) loose, dry
						DARK BROWN SILTY SAND (SM) medium dense, moist
			5			GRAY BROWN SILTY SAND (SM) dense, moist
						GROUNDWATER NOT ENCOUNTERED DURING DRILLING
			10			
			15			

Subsurface Consultants

DIGNITY HOUSING WEST - OAKLAND, CA

JOB NUMBER	DATE	APPROVED
615.001	2/20/91	JVB

PLATE B-6

LOG OF TEST BORING 8

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 2/19/91
ELEVATION --

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
			0			ASPHALTIC CONCRETE - 3" thick GRAY SANDY GRAVEL (GM) loose to medium dense, moist 3/4" crushed rock tank backfill
			5			
			10		27* 16*	
			15		9*	MOTTLED BLUISH GRAY SILTY SAND (SM) medium dense, moist, with petroleum hydrocarbon smell color change to gray
			20		65*	GROUNDWATER NOT ENCOUNTERED DURING DRILLING
			25			
			30			
			35			
			40			

Subsurface Consultants

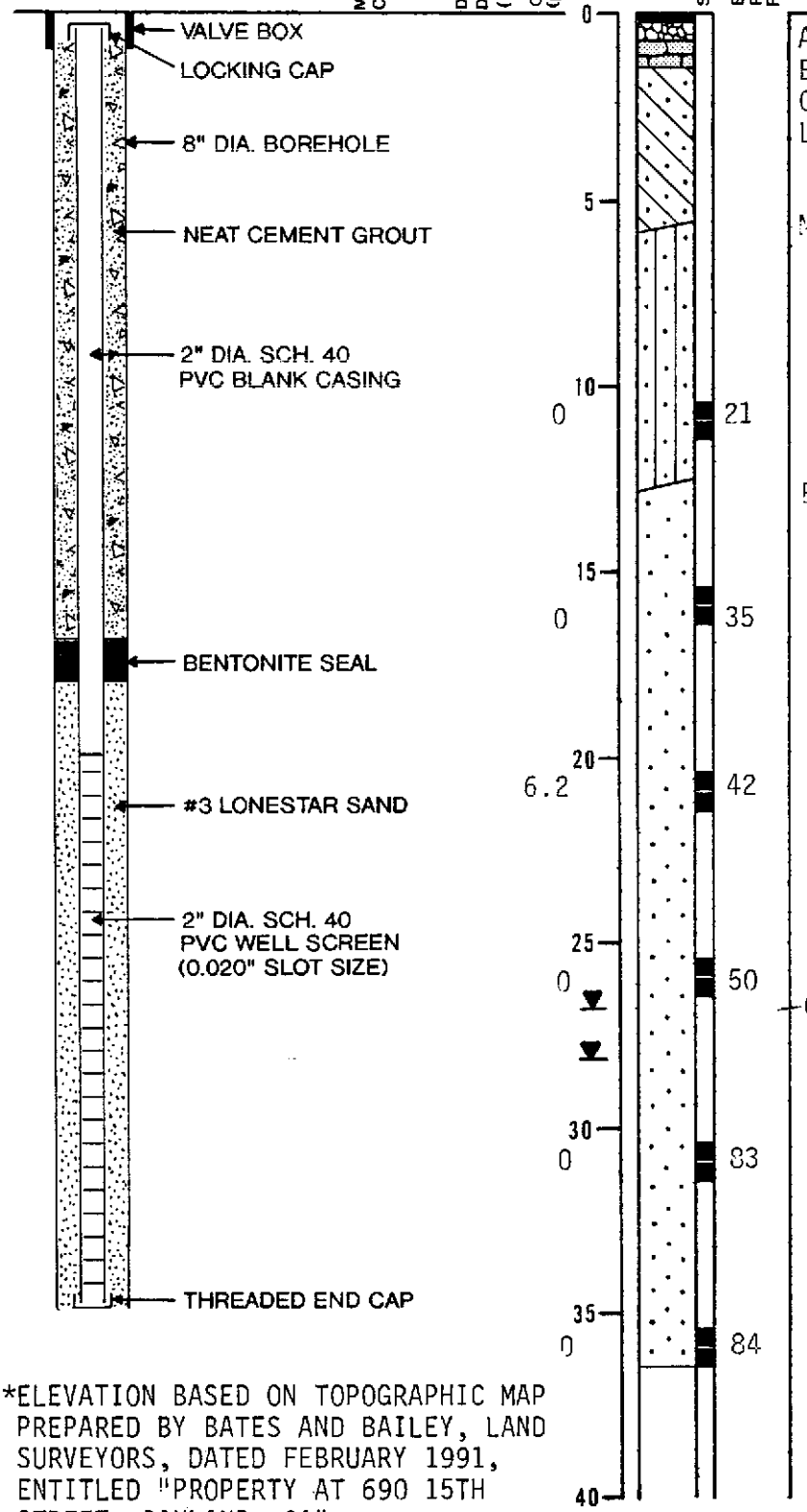
DIGNITY HOUSING WEST - OAKLAND, CA

JOB NUMBER	DATE	APPROVED
615.001	2/20/91	JVB

PLATE B-7

LOG OF TEST BORING 9/MW-1

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/2/91
ELEVATION 27.9 feet*



ASPHALTIC CONCRETE - 3" thick
BASE ROCK - 6" thick
COBBLESTONE - very hard
LIGHT BROWN CLAYEY SAND (SC)
medium dense, moist

MOTTLED BROWN SILTY SAND (SM)
dense, moist

BROWN SAND (SP)
very dense, moist, fine grained

GROUNDWATER LEVEL 5/8/91
GROUNDWATER LEVEL DURING DRILLING

SAMPLER TYPE:
CALIFORNIA DRIVE
I.D.: 2.0 inches
O.D.: 2.5 inches

HAMMER WEIGHT: 140 pounds
HAMMER DROP: 30 inches

*ELEVATION BASED ON TOPOGRAPHIC MAP PREPARED BY BATES AND BAILEY, LAND SURVEYORS, DATED FEBRUARY 1991, ENTITLED "PROPERTY AT 690 15TH STREET, OAKLAND, CA".

Subsurface Consultants

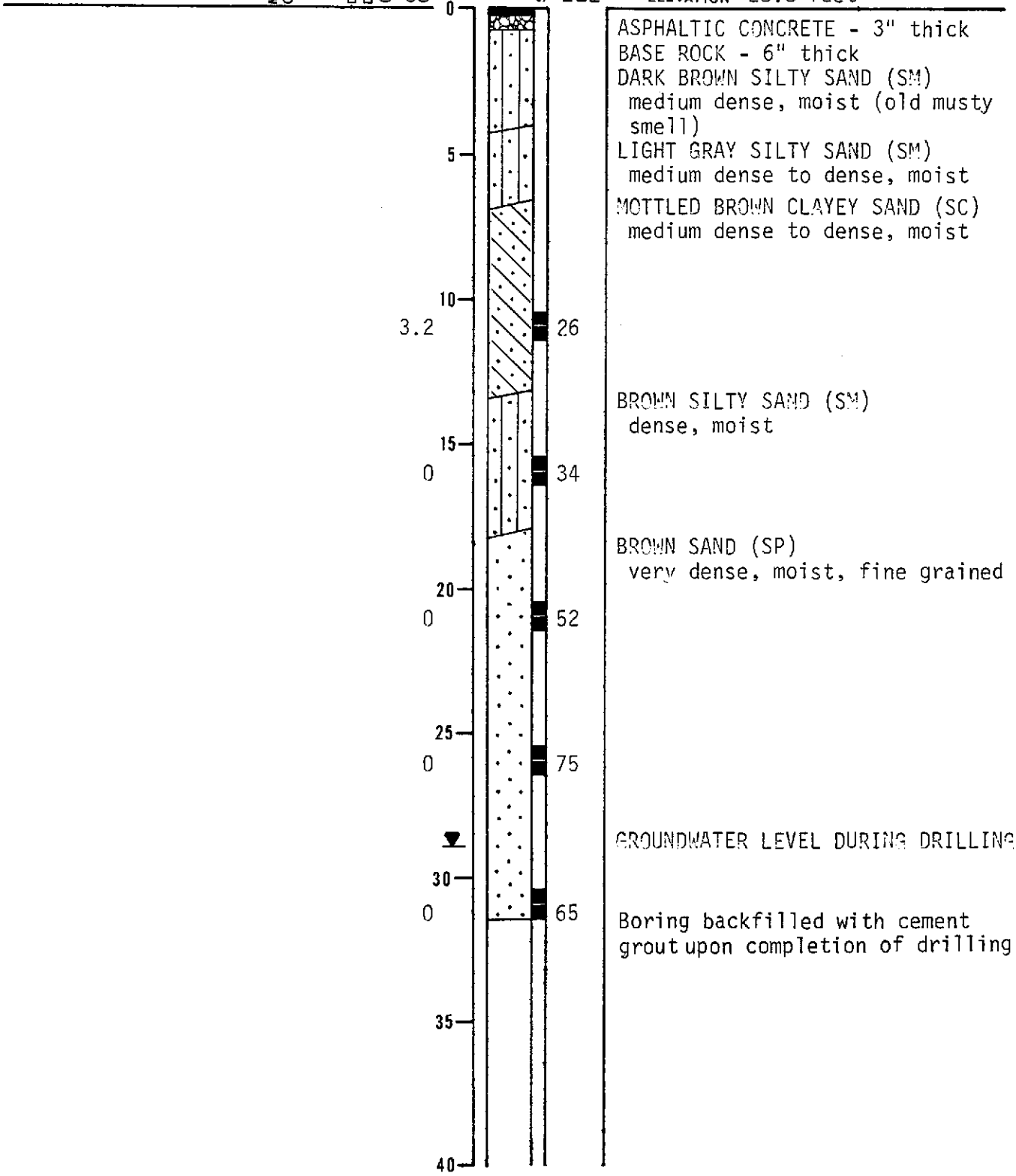
DIGNITY HOUSING WEST - PHASE II

JOB NUMBER	DATE	APPROVED
615.002	5/9/91	JVB

PLATE B-8

LOG OF TEST BORING 10

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/2/91
ELEVATION 28.8 feet



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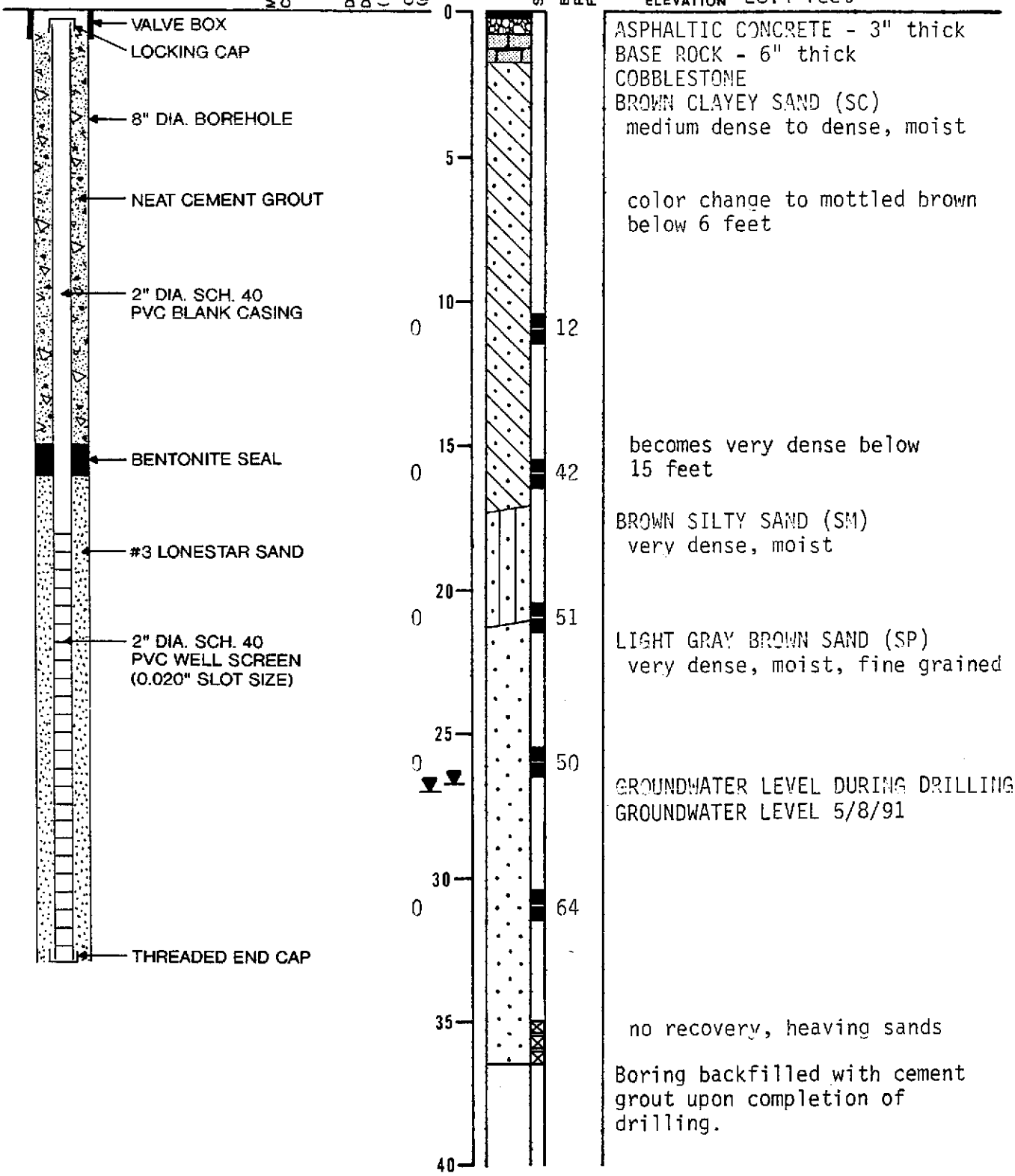
DIGNITY HOUSING WEST - PHASE II

JOB NUMBER	DATE	APPROVED
615.002	5/9/91	JVB

PLATE B-9

LOG OF TEST BORING 11/MW-2

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/2/91
ELEVATION 28.4 feet



ASPHALTIC CONCRETE - 3" thick
BASE ROCK - 6" thick
COBBLESTONE
BROWN CLAYEY SAND (SC)
medium dense to dense, moist

color change to mottled brown below 6 feet

becomes very dense below 15 feet

BROWN SILTY SAND (SM)
very dense, moist

LIGHT GRAY BROWN SAND (SP)
very dense, moist, fine grained

GROUNDWATER LEVEL DURING DRILLING
GROUNDWATER LEVEL 5/8/91

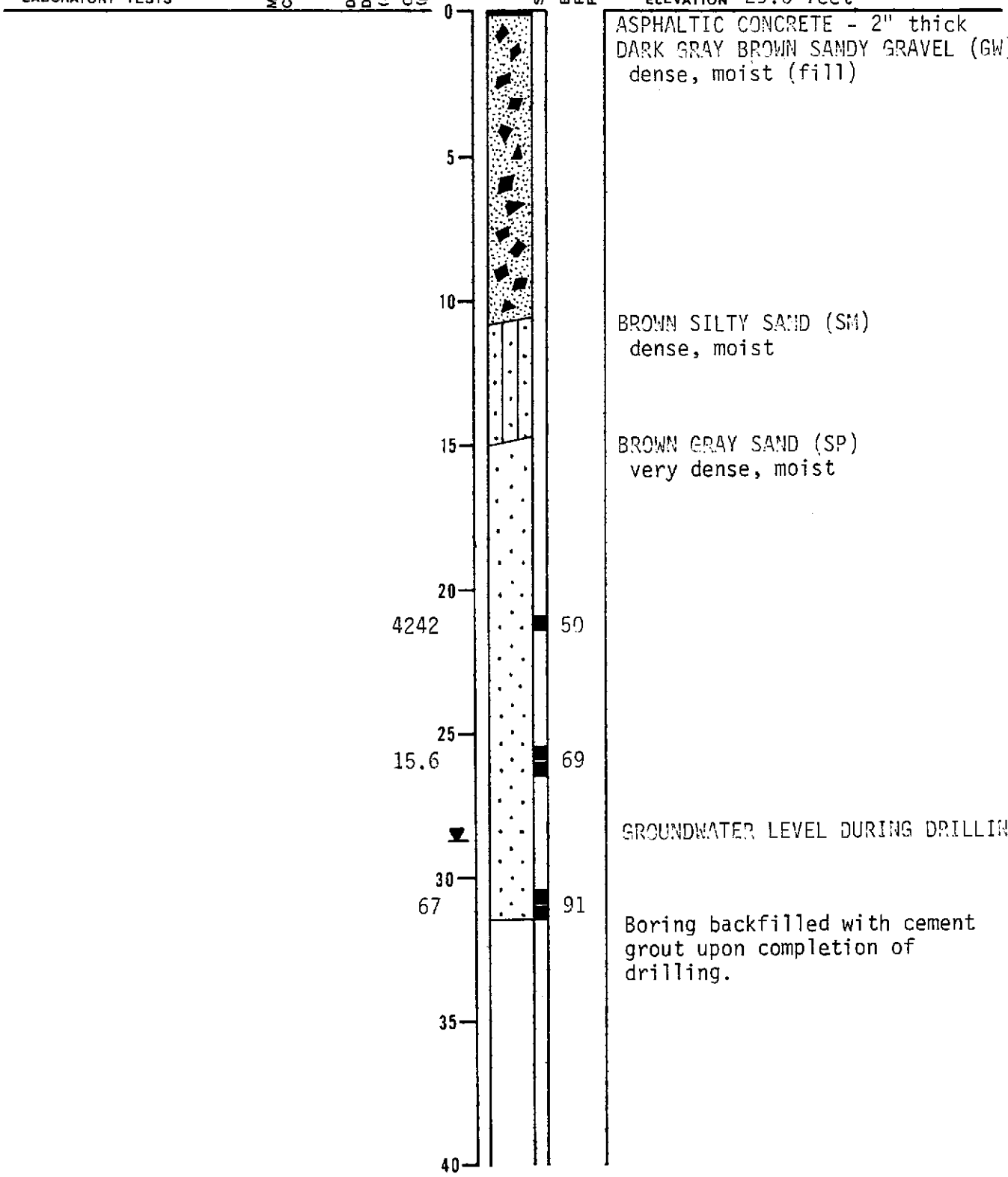
no recovery, heaving sands

Boring backfilled with cement grout upon completion of drilling.

Subsurface Consultants	DIGNITY HOUSING WEST - PHASE II			PLATE
	JOB NUMBER 615.002	DATE 5/9/91	APPROVED JVB	B-10

LOG OF TEST BORING 12

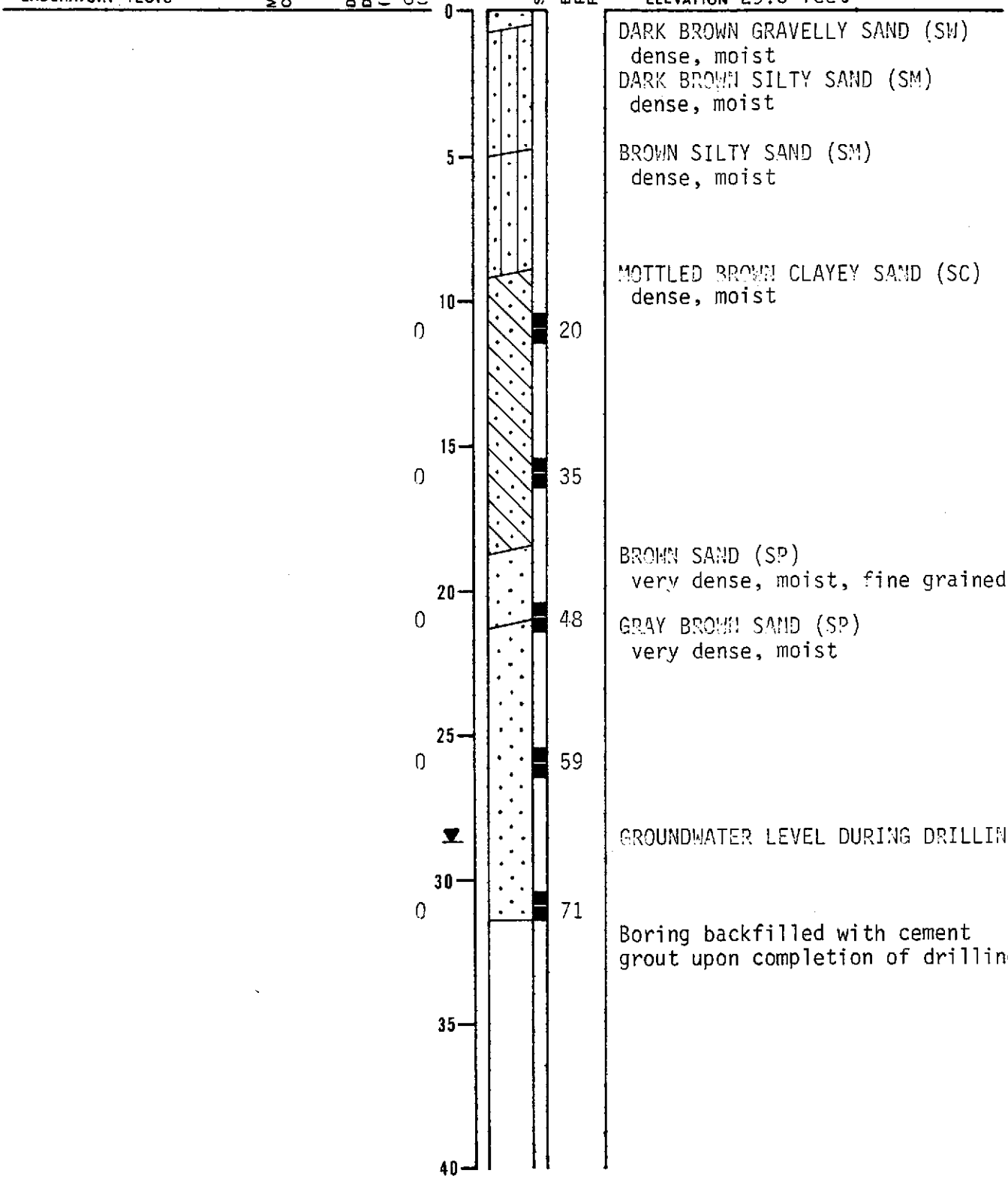
EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/3/91
ELEVATION 29.0 feet



Subsurface Consultants	DIGNITY HOUSING WEST - PHASE II			PLATE
	JOB NUMBER 615.002	DATE 5/9/91	APPROVED JVB	B-11

LOG OF TEST BORING 13

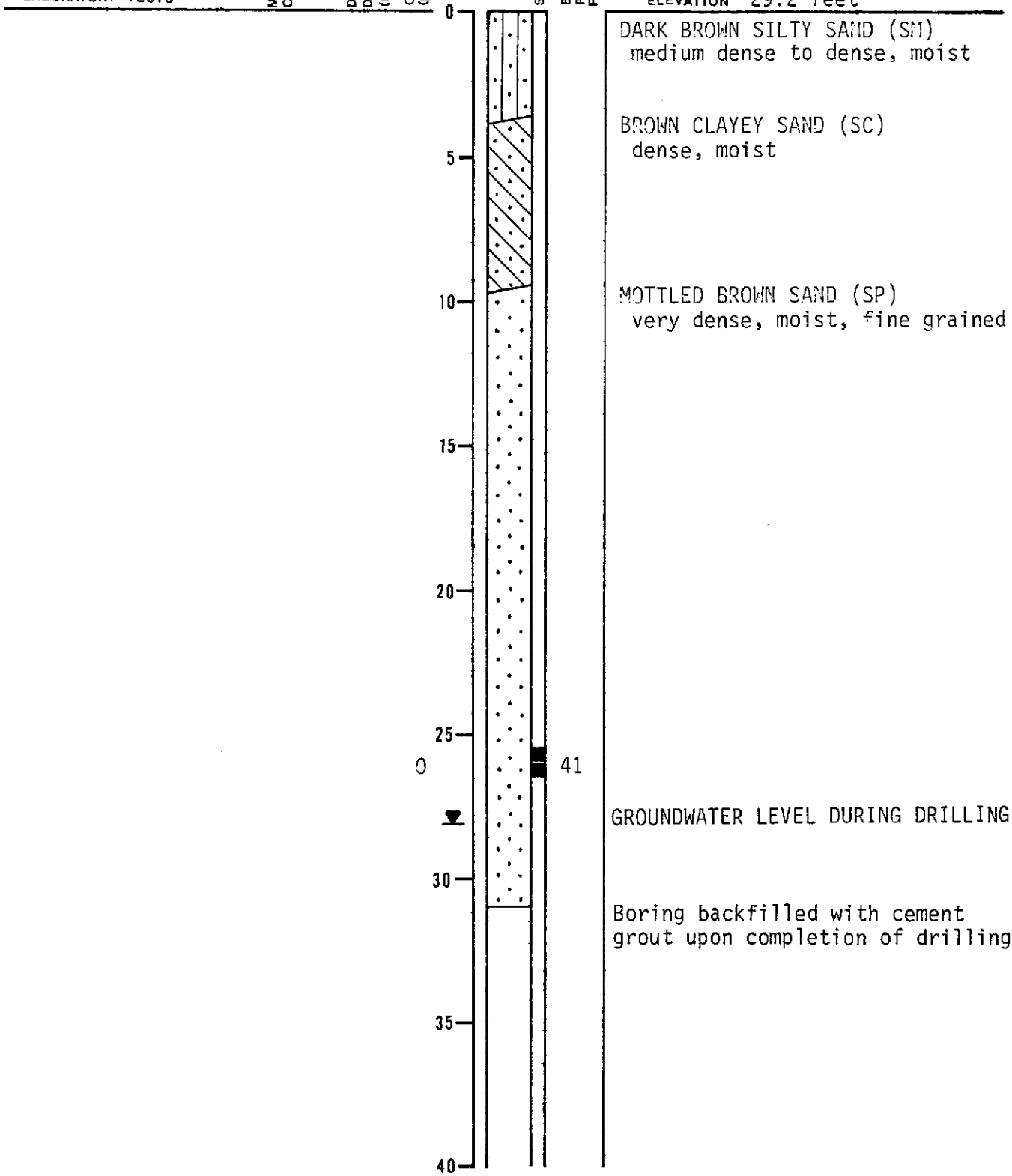
EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/3/91
ELEVATION 29.5 feet



Subsurface Consultants	DIGNITY HOUSING WEST - PHASE II			PLATE
	JOB NUMBER 615.002	DATE 5/9/91	APPROVED JVB	B-12

LOG OF TEST BORING 14

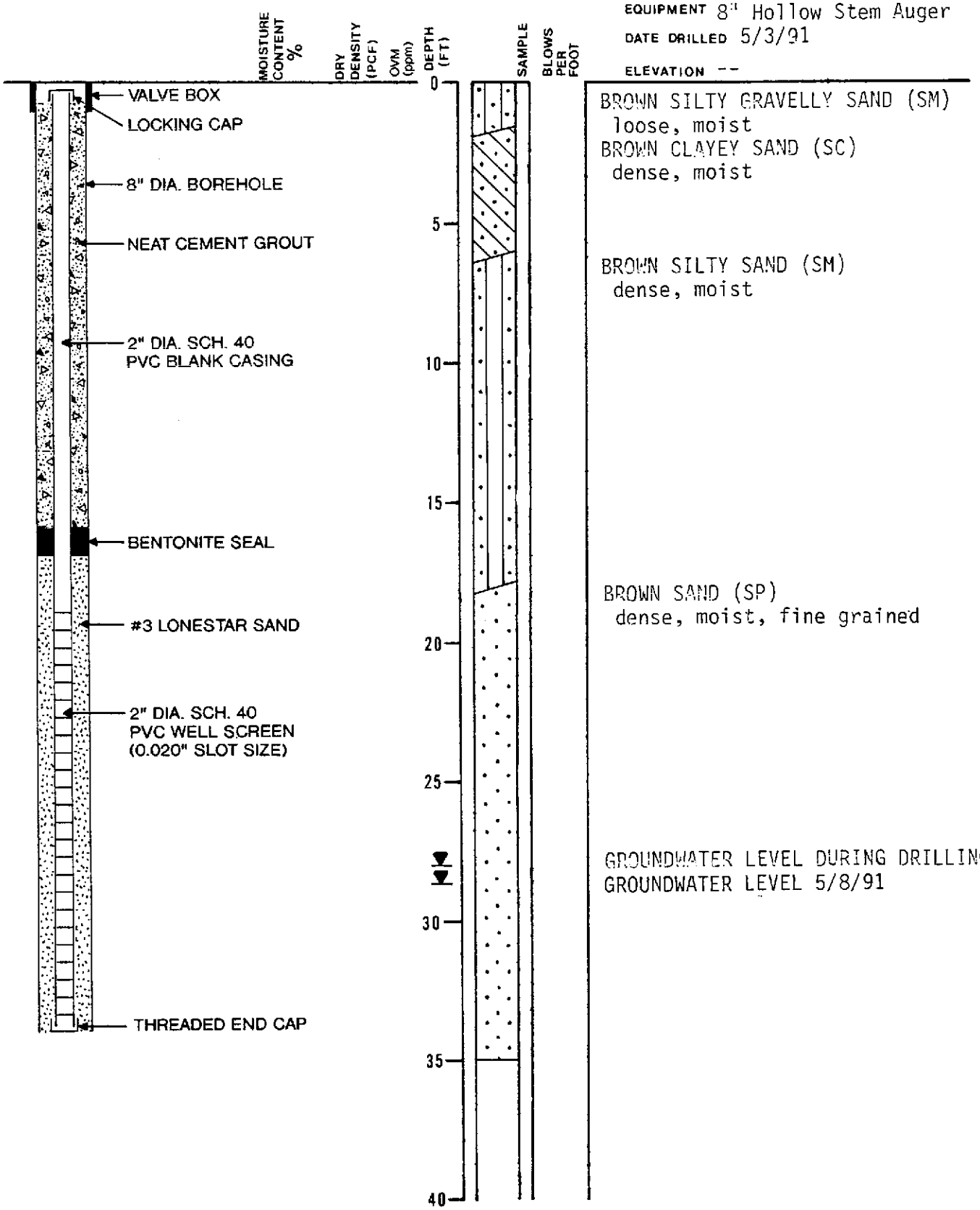
EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/3/91
ELEVATION 29.2 feet



Subsurface Consultants	DIGNITY HOUSING WEST - PHASE II			PLATE
	JOB NUMBER 615.002	DATE 5/9/91	APPROVED JVB	B-13

LOG OF TEST BORING 15/MW-3

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/3/91
ELEVATION --



Subsurface Consultants	DIGNITY HOUSING WEST - PHASE II			PLATE
	JOB NUMBER	DATE	APPROVED	B-14
	615.002	5/9/91	JVB	