

EDMUND G. BROWN JR.  
GOVERNOR

MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

**San Francisco Bay Regional Water Quality Control Board**

April 2, 2014 (AF)  
GeoTracker Global ID: SL0607548721

Presidio Trust  
Attn. Ms. Eileen Fanelli  
Remediation Project Manager  
P.O. Box 29052  
San Francisco, CA 94129-0052  
Via email: [EFanelli@presidiotrust.gov](mailto:EFanelli@presidiotrust.gov)

**Subject: No Further Action for Fuel Distribution System (FDS) Sections MT-4 and MT-9, Presidio of San Francisco, San Francisco County**

Dear Ms. Fanelli:

This letter confirms that based on the available information, and with the provision that the information provided is accurate and representative of site conditions, site investigation and corrective actions are complete and no further action (NFA) is required for the sites summarized below:

Site Name	GeoTracker Case ID	Regional Water Board Case No.
FDS Section MT-4	T10000005782	None assigned
FDS Section MT-9	T10000005783	None assigned

**Basis and Assumptions**

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the sites referenced above. The information provided indicates that the above-referenced sites are satisfactorily cleaned up to standards consistent with unrestricted land use. We may reconsider these findings should new information be discovered regarding previously undetected contamination.

**Conclusion**

Petroleum fuel at these sites is presumed to have affected soil-only. Groundwater was not investigated due to the lack of soil contamination in excess of soil cleanup standards for protection of groundwater, and the estimated depth to groundwater (approximately 27-30 feet below ground surface).

Attached please find the site closure summary. Please contact Agnes Farres of my staff at (510) 622.2401 or [AFarres@waterboards.ca.gov](mailto:AFarres@waterboards.ca.gov) if you have any questions regarding this matter.

No Further Action for FDS Sections MT-4 and MT-9  
Presidio of San Francisco

Sincerely,

Bruce H. Wolfe  
Executive Officer

Attachments: Site Closure Summary Form

Email distribution:

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**SITE CLOSURE SUMMARY**  
**FDS Sections MT-4 and MT-9**

April 2, 2014

1. AGENCY INFORMATION	
<b>Agency Name:</b> SF Bay Regional Water Quality Control Board	<b>Address:</b> 1515 Clay Street, Suite 1400
<b>City/State/Zip:</b> Oakland, CA 94612	<b>Phone:</b> (510) 622-2300
<b>Responsible Staff Person:</b> Agnes Farres	<b>Title:</b> Environmental Scientist
<b>Division:</b> Groundwater Protection	<b>Program:</b> DoD

2. SITE AND FILE INFORMATION	
<b>Site Name:</b> FDS Sections MT-4, MT-9	
<b>Parent Military Base:</b> Presidio of San Francisco	
<b>Site Address:</b> MT-4: Storey Avenue MT-9: Wright Loop	
<b>Site Latitude (decimal degrees):</b> NA	<b>Longitude:</b> NA
<b>Site Type:</b> Military UST	
<b>WB Case No.:</b> NA	<b>GeoTracker Case ID:</b> MT-4: T10000005782 MT-9: T10000005783
<b>WB File No. :</b> 2169.6012	<b>Paperless Office ID:</b> SL0607548721

3. RESPONSIBLE PARTY:
<b>Company/Agency:</b> Presidio Trust <b>Contact Name:</b> Eileen Fanelli <b>Contact Title:</b> Remediation Program Manager <b>Street Address:</b> 34 Graham Street, PO Box 29062 <b>City, State, Zip Code:</b> San Francisco, California 94129-0052 <b>Tel. No.:</b> 415.561.4259 <b>E-mail:</b> EFanelli@presidiotrust.gov

## SITE CLOSURE SUMMARY FDS Sections MT-4 and MT-9

4. SITE DESCRIPTION, LAND USE, AND BENEFICIAL USE
<p><b>Site Size and Description:</b> The Army constructed the FDS around 1900 to supply fuel oil to heat residential and administrative buildings located throughout the Presidio. The Army decommissioned the FDS from the early 1940s through the early 1960s, but the piping remained in place. The Army conducted the FDS removal program from 1996 to 1999 under Water Board Order 96-070. FDS Section MT-4 was a 1,769-ft. pipeline and MT-9 was a 800-ft. pipeline.</p>
<p><b>Vicinity:</b> <u>FDS Section MT-4</u> was located in the northwestern portion of the Presidio beneath Storey Avenue. The predominant features in the vicinity include residential and office buildings, athletic fields, and the Fort Winfield Scott parade ground.</p> <p><u>FDS Section MT-9</u> was located in the central portion of the Presidio near Wright Loop. The predominant features in the vicinity include paved roadways, hills forested with eucalyptus, Monterey pine, and cypress trees, and the California Highway 1 overpass.</p>
<p><b>Site Plan Map Attached:</b> Figures showing the locations of the pipelines are attached.</p>
<p><b>Current Site Use(s):</b> Residential</p>
<p><b>Future Land Use(s):</b> Residential</p>
<p><b>Beneficial Uses:</b> As established in Board Order R2-2003-0080, the San Francisco Sands Groundwater Basin underlying the Presidio was subdivided into groundwater basins, based on documented geologically controlled groundwater flow regimes. All 3 pipelines were located in the Marina Groundwater Basin. The SF Bay Water Board Basin Plan designated the following existing and potential beneficial uses of groundwater underlying and adjacent to the Presidio: (1) municipal and domestic water supply; (2) industrial process water supply; (3) industrial service water supply; (4) agricultural water supply; and (5) freshwater replenishment to surface waters.</p>
<p><b>Beneficial Use Exceptions:</b> NA</p>

5. RELEASE INFORMATION						
Source (e.g., UST, AST, pipeline, sump, wash rack, etc.)	Capacity or dimensions	Contents	How Closed?	Date	Latitude (decimal degrees)	Longitude (decimal degrees)
MT-4	1,769 ft.	Fuel oil	1,769 ft. removed & disposed offsite	March 1997	NA	NA
MT-9	800 ft.	Fuel oil	740 ft. removed & disposed offsite, 60 ft. abandoned in place	June 1997	NA	NA

## SITE CLOSURE SUMMARY FDS Sections MT-4 and MT-9

### 6. SITE CHARACTERIZATION AND CONCEPTUAL SITE MODEL

**Cause and description of release:** The FDS removal program included the removal of all accessible lengths of pipeline, stockpile soil sampling, confirmation sampling along walls and floors of excavations, and sampling along lengths and at the ends of abandoned pipelines. Sections that could not be removed (due to the locations of buildings or other obstructions) were generally pressure tested and capped at both ends. Confirmation soil samples collected by the Army were generally analyzed on-site using immunoassay procedures, with 10% of soil samples sent to a fixed laboratory for confirmation of analytical results.

**Section MT-4:** In March 1997, the Army excavated Section MT-4 resulting in a trench 1,800 ft. long, 2 ft. wide, and 4.5 ft. deep. During excavation of this section, the Army collected 14 soil samples per 1,769 ft. of piping removed including samples collected at each change in direction. Six composite samples were also collected from stockpiled excavated soil. Contaminated soil was encountered in 3 areas (adjacent to the north end of Storey Ave. and the western trench, adjacent to the north end of Storey Ave. and the eastern trench, and the center of Storey Ave.) and remediation was conducted. TPH and PAHs were below cleanup levels in soil confirmation samples.

In September 2007, the Trust collected 6 overburden soil samples at 6 locations along Section MT-4 to ensure that the soil the Army used as backfill met cleanup levels. One overburden soil sample had 12,000 mg/kg TPH-d and 12,000 mg/kg TPH-fo (residential cleanup level is 1,380 mg/kg for TPH-d and 1,900 mg/kg for TPH-fo).

In June 2009, the Trust excavated soil impacted with TPH-d and TPH-fo in the vicinity of the overburden soil sample discussed above. Concentrations of TPH and PAHs were either not detected or were below cleanup levels in all confirmation soil samples.

Groundwater was not encountered during the excavation and groundwater samples were not collected. Based on data from nearby monitoring wells, depth to groundwater in this area is approximately 27 ft. bgs.

**Section MT-9:** In June 1997, the Army excavated Section MT-9 resulting in a trench 740 ft. long, 2 ft. wide and 1.5 ft. deep. During excavation of this section, the Army collected 8 soil samples per 740 ft. of piping removed including samples collected at each change in direction. Contaminated soil was encountered in 2 areas (west of Hitchcock St. and Building 1305 and southwest of Building 1305) and remediation was conducted. Concentrations of TPH and PAHs were below cleanup levels in confirmation soil samples.

In September 2007, the Trust collected 3 overburden soil samples from 3 locations along Section MT-9 because the Army did not adequately sample stockpiled soil used as backfill. One sample taken at 2 ft. bgs exceeded ecological terrestrial cleanup levels with concentrations of 830 mg/kg TPH-d and 1,600 mg/kg TPH-fo (ecological terrestrial cleanup level is 700 mg/kg and 980 mg/kg respectively).

To assess the extent of residual contamination, the Trust conducted follow up sampling in June 2009. Four soil samples were collected in the vicinity of the overburden soil sample discussed above. TPH and PAHs were below cleanup levels in all samples. Due to the limited amount of affected soil the potential risk to receptors is believed to be low.

Groundwater was not encountered during the excavation and groundwater samples were not collected. Depth to groundwater is estimated to be greater than 30 ft. bgs. Groundwater impacts are not likely due to the limited amount of affected soil and estimated depth to groundwater.

<b>Groundwater (GW)</b>	<b>Depth to first GW:</b> Depth to groundwater is estimated to be approximately 27 ft. bgs at Section MT-4 and approximately 30 ft. bgs at Section MT-9.
	<b>GW gradient direction:</b> north/northeast at Sections MT-4 and MT-9.
	<b>GW sampled?:</b> No.
<b>GW monitoring wells</b>	<b>GW monitoring wells installed?:</b> No.
	<b>Total number of monitoring wells used in support of closure decision:</b> 0
	<b>Status of MWs:</b> NA

## SITE CLOSURE SUMMARY FDS Sections MT-4 and MT-9

### 7a. CLEANUP STANDARDS AND SITE REMEDIATION

**Describe basis for cleanup standards:**

Soil cleanup levels are for residential use, recreational use, ecological receptors and groundwater that may be used as a source of drinking water.

**Describe risk-based approach to develop cleanup standards:**

Site-specific cleanup levels were established in Order No. R2-2003-0080.

**Describe remediation efforts for soil and groundwater:**

Section MT-4: Petroleum hydrocarbon affected soil was encountered in 3 areas during removal of this section (adjacent to the north end of Storey Ave. and the western trench, adjacent to the north end of Storey Ave. and the eastern trench, and the center of Storey Ave.). In 1997 the Army excavated a total of 20 cubic yards of soil from the 3 excavations. Concentrations of TPH and PAHs were below cleanup levels in all confirmation soil samples.

In 2007, the Trust collected an overburden soil sample that exceeded cleanup levels for TPH-d and TPH-fo. In 2009, the Trust removed TPH-impacted soil from an excavation 4 ft. deep, 6 ft. wide and 12 ft. long in the vicinity of this overburden soil sample. Concentrations of TPH and PAHs were below cleanup levels in all confirmation soil samples.

Section MT-9: Petroleum hydrocarbon affected soil was encountered in 2 areas during removal of this section (west of Hitchcock St. and Building 1305 and southwest of Building 1305). In 1997, the Army removed approximately 555 cubic yards from the 2 excavations. Concentrations of TPH and PAHs were below cleanup levels in confirmation soil samples.

### 7b. POST-REMEDATION MAXIMUM RESIDUAL CONTAMINANT CONCENTRATIONS (e.g., based on confirmation sample results)

FDS Section MT-4			
<i>CONTAMINANT</i>	<i>SOIL (ppm)</i>	<i>GW (ppb)</i>	<i>SOIL VAPOR (ppb or ug/m<sup>3</sup>)</i>
TPH-g	--	--	--
TPH-d	310	--	--
TPH-fo	390	--	--
Benzene	--	--	--
Toluene	--	--	--
Ethylbenzene	--	--	--
Xylenes	--	--	--
Total cPAHs	<0.0423	--	--
FDS Section MT-9			
<i>CONTAMINANT</i>	<i>SOIL (ppm)</i>	<i>GW (ppb)</i>	<i>SOIL VAPOR (ppb or ug/m<sup>3</sup>)</i>
TPH-g	--	--	--
TPH-d	830	--	--

## SITE CLOSURE SUMMARY FDS Sections MT-4 and MT-9

TPH-fo	1,600	--	--
Benzene	--	--	--
Toluene	--	--	--
Ethylbenzene	--	--	--
Xylenes	--	--	--
Total cPAHs	0.128	--	--

<b>8. CLOSURE CRITERIA CHECKLIST</b> (include comments as necessary)
<p><b>1a) Pollutant sources are identified and evaluated</b></p> <ul style="list-style-type: none"> <li>√ <i>Leak/spill sources (tanks, sumps, pipelines, etc.) are identified and controlled</i></li> <li>√ <i>The pollutant source zone (sorbed/entrained residual pollutants and free product that sustain groundwater &amp; vapor plumes) is identified and delineated</i></li> </ul>
<b>Comments:</b> Yes
<p><b>1b) The site is adequately characterized</b></p> <ul style="list-style-type: none"> <li>√ <i>Site history, hydrology, and hydrogeology are characterized</i></li> <li>√ <i>The nature &amp; extent (lateral and vertical) of pollutants are characterized in soil, groundwater &amp; soil gas, as necessary</i></li> </ul>
<b>Comments:</b> Yes
<p><b>1c) Exposure pathways, receptors, and potential risks, threats, and other environmental concerns are identified and assessed</b></p> <ul style="list-style-type: none"> <li>√ <i>Nearby receptors (wetlands, streams, wells, homes, schools, businesses, etc.) are identified</i></li> <li>√ <i>Groundwater &amp; vapor migration/exposure pathways, natural &amp; artificial (storm drains, sewer lines, buried channels, abandoned wells, etc.) are assessed</i></li> <li>√ <i>Reasonably anticipated land and water use scenarios have been considered</i></li> <li>√ <i>Actual and potential risks to receptors and adverse effects to beneficial uses are assessed</i></li> </ul>
<b>Comments:</b> Yes
<p><b>1d) Pollutant sources are remediated to the extent feasible</b></p> <ul style="list-style-type: none"> <li>√ <i>The technical and economic feasibility of source remediation methods/technologies have been evaluated</i></li> <li>√ <i>Feasible source remediation technologies have been implemented</i></li> <li>√ <i>Appropriate source remediation performance monitoring has been conducted</i></li> <li>√ <i>Source mass removal has been documented</i></li> <li>√ <i>The effects of source remediation on groundwater/vapor plume behavior have been</i></li> </ul>

**SITE CLOSURE SUMMARY FDS Sections MT-4 and MT-9**

<i>evaluated</i>
<b>Comments:</b> Yes

<p><b>e) Unacceptable risks to human health, ecological health, and sensitive receptors, considering current and future land and water uses, are mitigated</b></p> <ul style="list-style-type: none"> <li>√ <i>Necessary &amp; appropriate corrective actions have been implemented</i></li> <li>√ <i>Confirmation sampling, monitoring, and/or risk management measures demonstrate that risks are mitigated</i></li> </ul>
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<b>Comments:</b> Yes.
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<p><b>f) Unacceptable threats to groundwater and surface water resources, considering existing and potential beneficial uses, are mitigated</b></p> <ul style="list-style-type: none"> <li>√ <i>Necessary &amp; appropriate corrective actions have been implemented</i></li> <li>√ <i>Confirmation sampling, monitoring, and/or risk management measures demonstrate that threats are mitigated</i></li> </ul>
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<b>Comments:</b> Yes.
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<p><b>g) Groundwater plumes are stable or decreasing<sup>1</sup></b></p> <ul style="list-style-type: none"> <li>√ <i>Appropriate plume monitoring has confirmed the lateral and vertical extent over time</i></li> <li>√ <i>Spatial and temporal trends for pollutants, including parent and breakdown products, have been evaluated</i></li> <li>√ <i>Spatial and temporal trends for natural attenuation indicators have been evaluated</i></li> <li>√ <i>Evidence of breakdown to acceptable end products is documented</i></li> <li>√ <i>Plume concentrations are decreasing and the plume is not moving or expanding</i></li> </ul>
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<p><b>Comments:</b> Groundwater was not investigated at Section MT-4 and MT-9 due to the lack of soil contamination in excess of soil cleanup standards for the protection of groundwater and the estimated depth to groundwater (approximately 27-30 ft. bgs).</p>
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<p><b>h) Cleanup standards have been met or can be met in a reasonable timeframe</b></p> <ul style="list-style-type: none"> <li>√ <i>The estimated timeframe to achieve cleanup standards throughout the affected area is evaluated</i></li> <li>√ <i>The anticipated timeframe for beneficial use of the affected and nearby water resources is evaluated</i></li> <li>√ <i>The potential to adversely affect beneficial uses is assessed considering cleanup and beneficial use timeframes, hydrogeologic conditions, and the CSM</i></li> </ul>
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<b>Comments:</b> Yes
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<p><b>i) Risk management measures are appropriate, documented, and do not require future Water Board oversight</b></p>
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## SITE CLOSURE SUMMARY FDS Sections MT-4 and MT-9

✓ <i>Necessary risk management measures (land use restrictions, engineered vapor barriers, soil management plans, etc.) are implemented and documented</i> ✓ <i>Risk management measures do not require future Water Board oversight</i>
<b>Comments:</b> NA

<sup>1</sup> *For petroleum groundwater plumes, stability is a sufficient criterion. For solvent or other non-petroleum groundwater plumes, closure should be supported by evidence of a decreasing plume.*

<b>9. NFA BASIS AND ASSUMPTIONS</b>
1. This NFA status applies only to releases of petroleum fuel and fuel constituents at the subject site. 2. Cleanup standards for this site were based on unrestricted land use.

<b>10a. NFA CONDITIONS AND REQUIREMENTS</b>
NA
<b>10b. LAND USE CONTROLS/COVENANTS</b>
NA

<b>11. ADDITIONAL COMMENTS</b>
NA

<b>12. TECHNICAL REPORTS, CORRESPONDENCE, ETC., THAT THIS CLOSURE RECOMMENDATION WAS BASED UPON</b>	
<b>REPORTS ON FILE</b>	<b>Where is report(s) filed?:</b> Presidio Trust Library, Paperless Office
Revised Closure Request for Four Former Area B Fuel Distribution System (FDS) Sections Phase III, EKI	March 2011

**Attachments:** Location Maps showing Army sampling results for FDS Sections MT-4 and MT-9.  
 Location Maps showing Presidio Trust sampling results for FDS Sections MT-4 and MT-9.

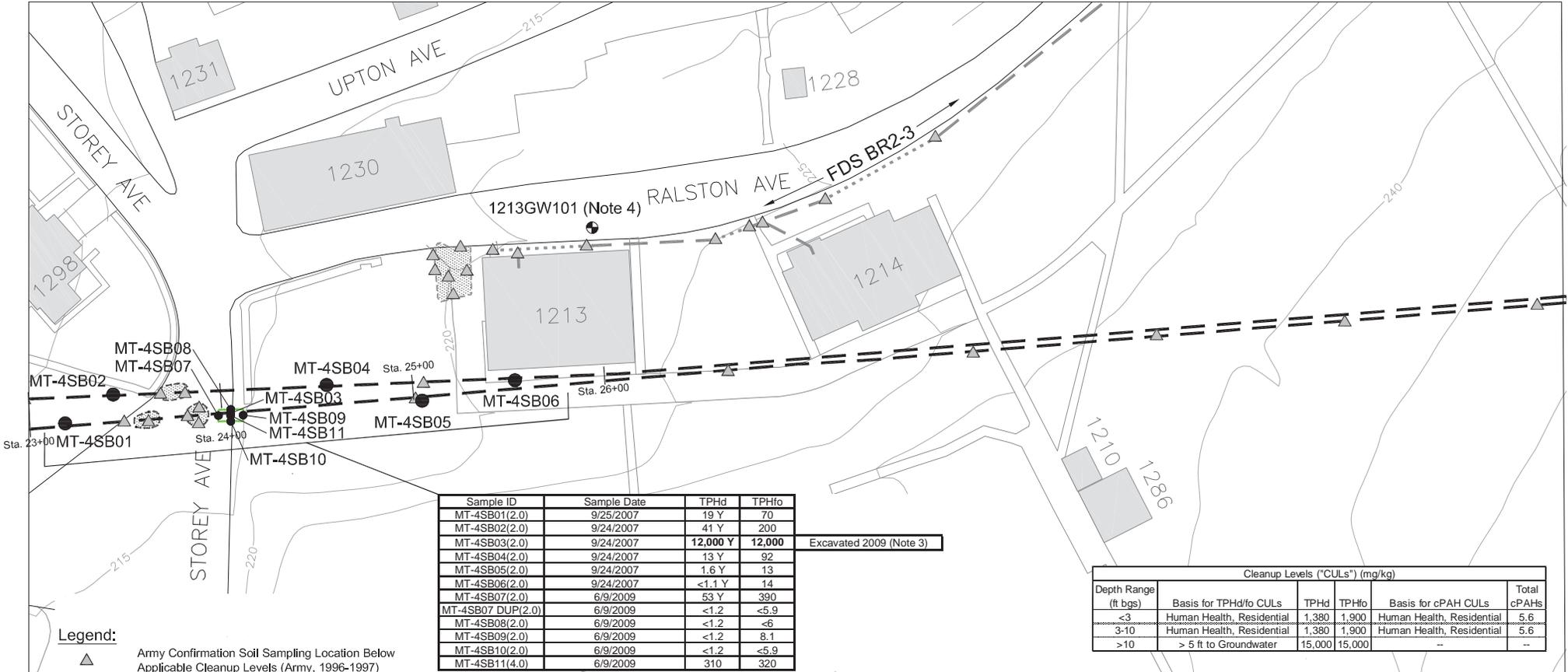
**Notes and Abbreviations (in alphabetical order):**

- µg/L – micrograms per liter
- µg/m<sup>3</sup> – micrograms per cubic meter
- AST – aboveground storage tank
- bgs – below ground surface
- BTEX – benzene, toluene, ethylbenzene, and xylenes
- COC – chemical of concern
- DoD – Department of Defense
- GW – Groundwater
- LUC – land use control
- mg/kg – milligrams per kilogram
- MTBE – methyl tert-butyl ether
- MW – monitoring well

## SITE CLOSURE SUMMARY FDS Sections MT-4 and MT-9

NA – not applicable  
ND – not detected  
NFA – No Further Action  
PAH – polycyclic aromatic hydrocarbon  
ppb – parts per billion or  $\mu\text{g/L}$   
ppm – parts per million or  $\text{mg/kg}$   
TPH – Total Petroleum Hydrocarbons  
TPH-d – diesel range TPH  
TPH-fo – fuel oil range TPH  
TPH-g – gasoline range TPH  
TPH-mo – motor oil range TPH  
UST – underground storage tank





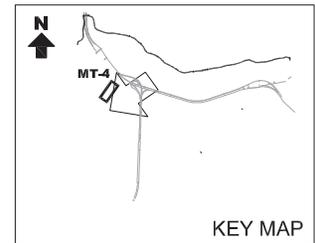
Sample ID	Sample Date	TPHd	TPHfo
MT-4SB01(2.0)	9/25/2007	19 Y	70
MT-4SB02(2.0)	9/24/2007	41 Y	200
MT-4SB03(2.0)	9/24/2007	<b>12,000 Y</b>	<b>12,000</b>
MT-4SB04(2.0)	9/24/2007	13 Y	92
MT-4SB05(2.0)	9/24/2007	1.6 Y	13
MT-4SB06(2.0)	9/24/2007	<1.1 Y	14
MT-4SB07(2.0)	6/9/2009	53 Y	390
MT-4SB07 DUP(2.0)	6/9/2009	<1.2	<5.9
MT-4SB08(2.0)	6/9/2009	<1.2	<6
MT-4SB09(2.0)	6/9/2009	<1.2	8.1
MT-4SB10(2.0)	6/9/2009	<1.2	<5.9
MT-4SB11(4.0)	6/9/2009	310	320

Excavated 2009 (Note 3)

Depth Range (ft bgs)	Cleanup Levels ("CULs") (mg/kg)				Total cPAHs
	Basis for TPHd/fo CULs	TPHd	TPHfo	Basis for cPAH CULs	
<3	Human Health, Residential	1,380	1,900	Human Health, Residential	5.6
3-10	Human Health, Residential	1,380	1,900	Human Health, Residential	5.6
>10	> 5 ft to Groundwater	15,000	15,000	--	--

- Legend:**
- ▲ Army Confirmation Soil Sampling Location Below Applicable Cleanup Levels (Army, 1996-1997)
  - Overburden Soil Sampling Location (EKI, 2007)
  - ⊕ Groundwater Monitoring Well
  - FDS Pipeline (Abandoned in Place)
  - ==== FDS Pipeline (Previously Removed by Army from 1996-1999)
  - ▨ Historical Excavation Area
  - ▭ Excavation Area (Note 3)
- Abbreviations:**
- cPAHs = carcinogenic Polycyclic Aromatic Hydrocarbons
  - ft bgs = Feet Below Ground Surface
  - FDS = Fuel Distribution System
  - TPHd = Total Petroleum Hydrocarbons as Diesel
  - TPHfo = Total Petroleum Hydrocarbons as Fuel Oil
  - Y = Chromatographic Pattern does not Resemble Standard

- Notes:**
- All locations are approximate.
  - Basemap source: Presidio Trust, 2006 - FDS Pipeline Location digitized from Montgomery Watson, April 1999.
  - Excavation in June 2009 removed sample location MT-4SB03. Samples MT-4SB07 through MT-4SB11 serve as excavation confirmation samples.
  - The historical groundwater elevation at well 1213GW101 is between 18 and 30 ft bgs. Monitoring well location source: Semi-Annual Groundwater Monitoring Report, First and Second Quarters 2007, Presidio-Wide Quarterly Groundwater Monitoring Program, Presidio of San Francisco, Ca, prepared by Treadwell & Rollo, Inc., October 2007.
  - Reported chemical concentrations above applicable soil cleanup levels are in **bold**.
  - All concentrations in milligrams per kilogram ("mg/kg").



# Erlar & Kalinowski, Inc.

## Soil Sampling Results at Fuel Distribution System Section MT-4

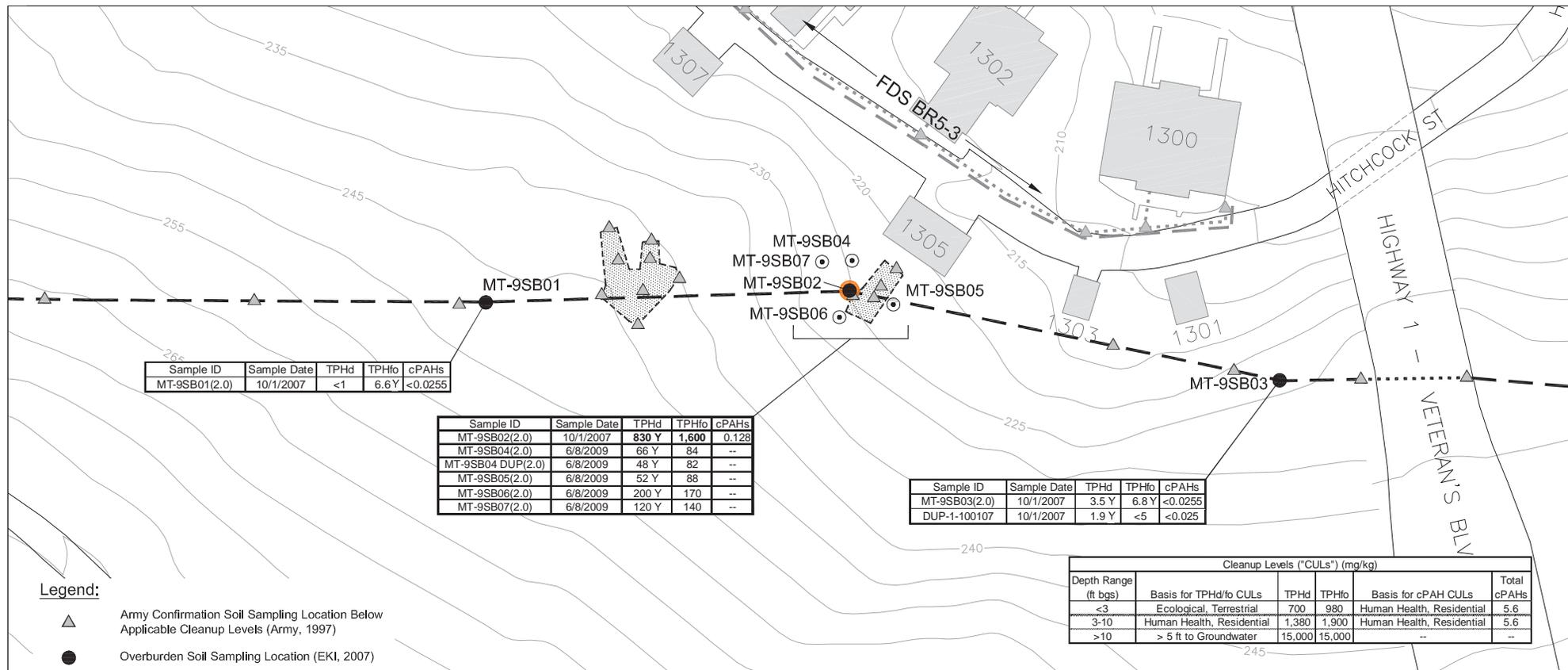
Presidio Trust  
San Francisco, CA  
October 2009  
EKI A70004.16



Figure 3



20091001.14307766 G:\V200804.16\00009\Figure\_04.dwg MT-9



Sample ID	Sample Date	TPHd	TPHfo	cPAHs
MT-9SB01(2.0)	10/1/2007	<1	6.6 Y	<0.0255

Sample ID	Sample Date	TPHd	TPHfo	cPAHs
MT-9SB02(2.0)	10/1/2007	<b>830 Y</b>	<b>1,600</b>	<b>0.128</b>
MT-9SB04(2.0)	6/8/2009	66 Y	84	--
MT-9SB04 DUP(2.0)	6/8/2009	48 Y	82	--
MT-9SB05(2.0)	6/8/2009	52 Y	88	--
MT-9SB06(2.0)	6/8/2009	200 Y	170	--
MT-9SB07(2.0)	6/8/2009	120 Y	140	--

Sample ID	Sample Date	TPHd	TPHfo	cPAHs
MT-9SB03(2.0)	10/1/2007	3.5 Y	6.8 Y	<0.0255
DUP-1-100107	10/1/2007	1.9 Y	<5	<0.025

Depth Range (ft bgs)	Cleanup Levels ("CULs") (mg/kg)				Total cPAHs
	Basis for TPHd/fo CULs	TPHd	TPHfo	Basis for cPAH CULs	
<3	Ecological, Terrestrial	700	980	Human Health, Residential	5.6
3-10	Human Health, Residential	1,380	1,900	Human Health, Residential	5.6
>10	> 5 ft to Groundwater	15,000	15,000	-	--

**Legend:**

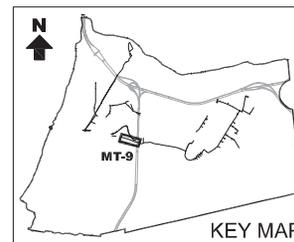
- Army Confirmation Soil Sampling Location Below Applicable Cleanup Levels (Army, 1997)
- Overburden Soil Sampling Location (EKI, 2007)
- Overburden Sampling Location (EKI, 2009)
- FDS Pipeline (Abandoned in Place)
- FDS Pipeline (Previously Removed by Army from 1996-1999)
- Historical Excavation Area
- Soil Sample Above Applicable Cleanup Levels

**Abbreviations:**

- cPAHs = carcinogenic Polycyclic Aromatic Hydrocarbons
- FDS = Fuel Distribution System
- TPHd = Total Petroleum Hydrocarbons as Diesel
- TPHfo = Total Petroleum Hydrocarbons as Fuel Oil
- Y = Chromatographic Pattern does not Resemble Standard

**Notes:**

1. All locations are approximate.
2. Basemap source: Presidio Trust, 2006 - FDS Pipeline Location digitized from Montgomery Watson, April 1999.
3. FDS trench locations were adjusted based on observations of trench scars in the field and survey coordinates of samples taken along former trench.
4. Reported chemical concentrations above applicable soil cleanup levels are in **bold**.
5. All concentrations in milligrams per kilogram ("mg/kg").



**Erler & Kalinowski, Inc.**

**Soil Sampling Results at Fuel Distribution System Section MT-9**

Presidio Trust  
San Francisco, CA  
October 2009  
EKI A70004.16

Figure 4

