

CLOSURE ASSESSMENT REPORT

**Underground Storage Tank Removal
8 Old Road
Boston, Massachusetts**

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Prepared for:

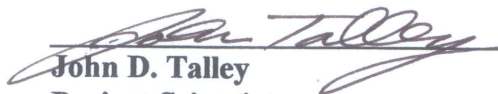
**Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
One Winter Street
Boston, Massachusetts 02108**

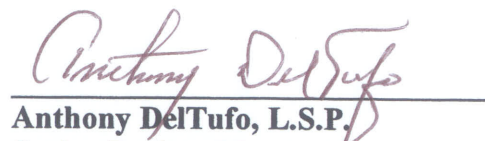
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CHES Job No. SB-1134649

April 17, 2006


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Environmental Services[®]
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CLOSURE ASSESSMENT REPORT

Underground Storage Tank Removal 8 Old Road Dorchester, Massachusetts

INTRODUCTION

As per the Request for Cost Estimates issued January 17, 2006 by the Massachusetts Department of Environmental Protection (DEP), Clean Harbors Environmental Services (CHES) performed an Underground Storage Tank (UST) Closure at 8 Old Road in the Dorchester area of Boston, Massachusetts (the site).

A total of six-abandoned single-walled steel USTs were located in close proximity to one another. Four of the six USTs had capacities of 5,000 gallons and the remaining two each had a capacity of 2,000 gallons. The USTs are thought to have contained leaded and unleaded gasoline only and were reportedly installed in 1960 and 1971. The USTs were permanently put out of service in the 1980s. In addition to the USTs, there was an extensive array of underground steel piping used in a remote filling system, to link some of the USTs together, and to dispense the gasoline to the end user. During the closure operation CHES removed and disposed of all six USTs as well as the associated underground piping and the overlying concrete, asphalt, and a small concrete pump island. Photographs documenting the activities were taken throughout the closure process, several of which can be found in Appendix A. Personnel from the DEP oversaw much of the closure activity.

SITE BACKGROUND AND SETTING

The site of the UST closure is a property on the corner of Michigan Avenue and Old Road and is the location of the former Settles and Thompson Gasoline Station. The immediate neighborhood consists primarily of residential properties with a mix of light commercial property. Franklin Park, a large Protected Open Space, is located within 1,000 feet of the site to the west as can be seen on the Locus Map attached as Figure 1. A site sketch is attached as Figure 2, an aerial photograph as Figure 3, and the DEP GIS map of the area as Figure 4.

UST REMOVAL AND ASSOCIATED ACTIVITIES

Prior to commencement of the excavation, CHES obtained DigSafe number 20060901238, a Property Access License and Building Permit from the City of Boston, and a UST Removal Permit from the Boston Fire Department that is attached in Appendix B.

Following a site inspection, CHES began the excavation on Monday, March 6, 2006 using a Hoeram to break up the concrete and asphalt that overlay the USTs. The following day, March 7, 2006, CHES removed 15.87 tons of concrete (including a small pump island) from the site and transported it to Recycle Technology, LLC in Charlton City, MA for recycling under a Straight Bill of Lading (Document No. 80016). The Bill of Lading and the weight slip are attached in Appendix B. A CHES vacuum truck was then used to remove residual liquid and sludge from the tanks. In all, 1,712 gallons were removed from the tanks and transported under Uniform Hazardous Waste Manifest # MAU-190465 to Clean Harbors of Braintree in Braintree, MA. A copy of the manifest is attached in Appendix B. Following the UST cleaning an excavator was utilized to remove the soil around the tanks. On March 7, 2006, a 5,000 and a 2,000-gallon capacity UST were unearthed. On March 8, 2006, two more 5,000-gallon and one 2,000-gallon capacity USTs were pulled from the ground and five of the six USTs were transported to Tank Yard Number 008 of the James G. Grant Co., Inc. at 28 Wolcott St. in Readville, MA. The following day, March 9, 2006, the remaining UST (with a 5,000-gallon capacity) was pulled from the ground, and along with the underground piping, these materials were loaded onto a flatbed trailer, and transported to the James G. Grant Co. facility in Readville, MA. All USTs were inerted by venting and application of dry ice, prior to individual inspection and sign off by BFD Fire Inspector that each UST was safe for transport off site. On March 13, 2006, CHES removed and shipped the remaining 18.27 tons of concrete to Recycle Technology, LLC under a Straight Bill of Lading (Document No. 75310: see Appendix B).

CONFIRMATORY SAMPLING

The first tank removed, a 5,000-gallon UST, showed definite signs of corrosion with several spots on the tank having rusted completely through. The sand below and the soil around the tank however, revealed no olfactory or visible evidence of petroleum impact and was stockpiled on-site for subsequent reuse. The five remaining USTs and all associated piping showed no visible signs of damage or leakage. All tanks were resting on a poured concrete pad which extended beneath the entire tank grave area. On March 9, 2006, a CHES Project Scientist visited the site to document and sample the excavation limits. The site had been partially backfilled with the excavated soil as directed by the DEP representative. As shown on Figure 2, the final excavation measured approximately 50 feet by 40 feet including the area that was the location of the pump island, with a maximum depth of approximately 15 feet to the concrete pad. Groundwater was not encountered and no visual or olfactory evidence of petroleum was noted. CHES did not excavate beneath this concrete pad structure. As shown on Figure 2, twelve grab soil samples,

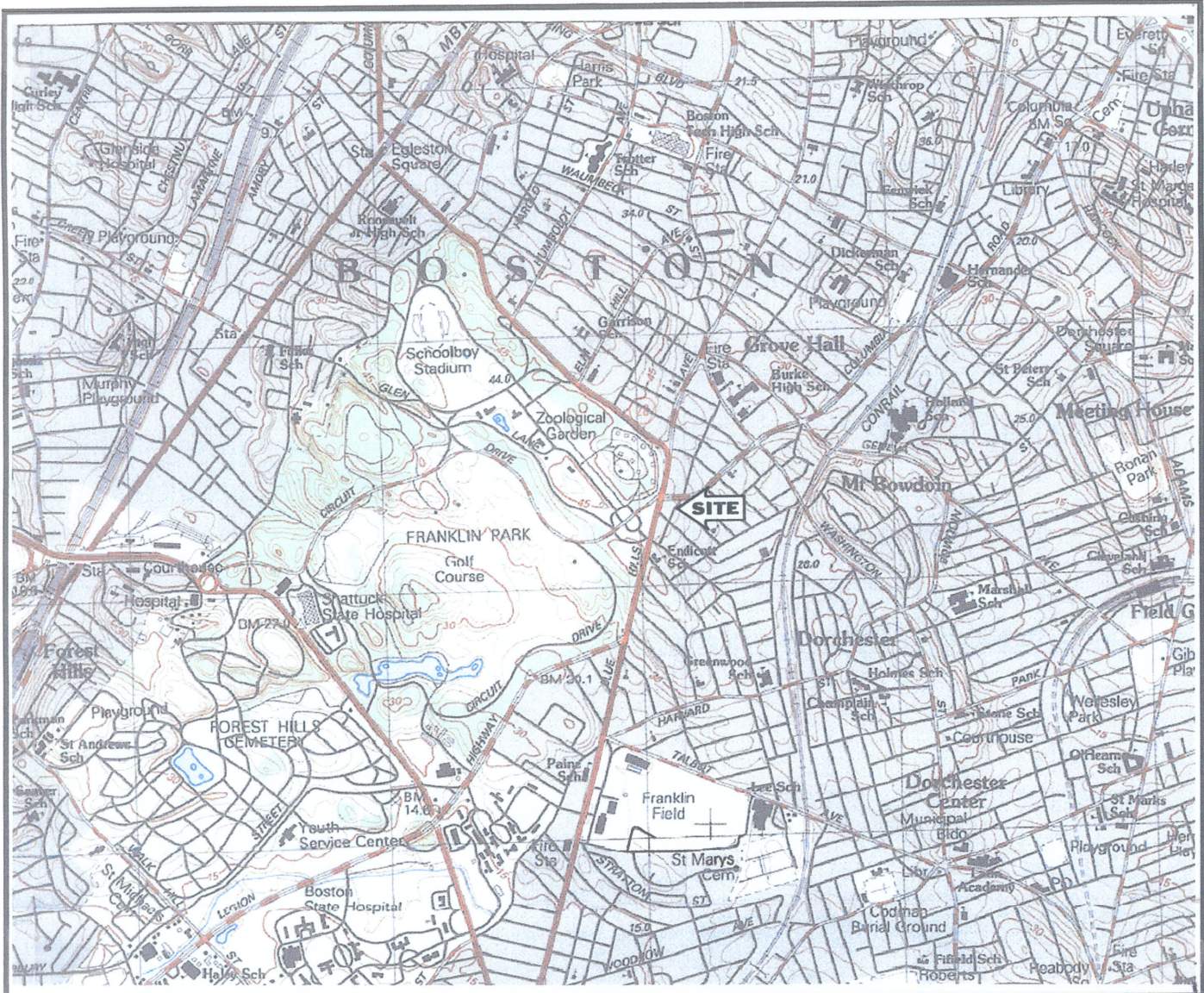
designated FS-1 through FS-12, were obtained from various locations in the excavation. The samples were field screened for volatile organic compounds (VOC) using standard headspace methodologies and a photoionization detector (PID) calibrated to a benzene response. The samples, which represent both the backfill soil and the soil at the excavation limits, exhibited no visual or olfactory evidence of petroleum and as summarized in Table 1, VOC screening results varied from 0.0 to 7.2 parts per million (ppm). At the direction of the DEP representative, splits of these samples were composited for laboratory analysis. Therefore, CHES submitted four samples to GeoLabs, Inc. analytical laboratory in Braintree, Massachusetts for Volatile Petroleum Hydrocarbon (VPH) analysis, two samples for Extractable Petroleum Hydrocarbon (EPH) analysis and two samples for total lead analysis. Samples VPH-1 and EPH-2 were composites of samples FS-3 & FS-4, VPH-2 and EPH-1 were composites of samples FS-2 & FS-8, VPH-3 was a composite of samples FS-1 & FS-7 and VPH-4 was a composite of samples FS-6 & FS-11. Two composite samples (C-1 and C-2) were also obtained for laboratory analysis for lead. Sample C-1 was collected from three areas, FS-1, FS-2 and FS-3 sample areas, while C-2 was collected from the FS-5, FS-6 and FS-9 sample areas. The laboratory results are summarized in Tables 2, 3 and 4 and a copy of the Laboratory Report is presented in Appendix C.

EXCAVATION AND SITE RESTORATION

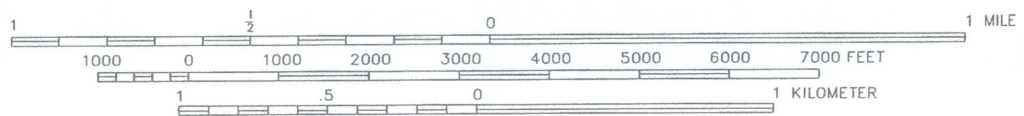
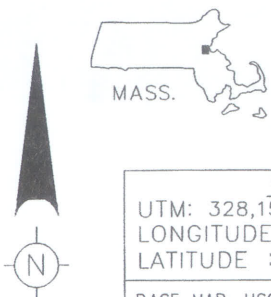
The UST Closure excavation resulted in an irregularly shaped pit that measured approximately 40 feet in width at the northern edge which ran along the Michigan Avenue sidewalk, was approximately 50 feet in length at both the eastern and western sides and tapered to approximately 10 feet at the southern edge closest to the former gas station building (see Figure 2). The depth of the excavation was consistent at approximately 15 feet under the USTs and was less than a foot at the southern edge under the vent line and the eastern edge at the location of the remote fill piping. Six USTs and associated underground piping, a mix of approximately 1,700 gallons of waste gasoline, sludge and water, and approximately 34 tons of concrete were removed from the site. There was a concrete pad present below the USTs that was left in place. To replace the material removed, approximately 168 tons of backfill was added to the site over a two-day period (March 9 and 10, 2006), compacted and returned to the original grade minus a two-inch allowance for asphalt. CHES has contracted and scheduled US Paving Co. to repave the site.

FIGURES





SCALE 1:24 000



COORDINATES		A		CLOSURE REPORT		JT	JT	DS	3.9.06
UTM: 328,154mE, 4,685,319mN		ISSUE		DESCRIPTION		DRWN.	CHKD.	APPR.	DATE
LONGITUDE : W 71° 05' 05"									
LATITUDE : N 42° 36' 31"									
BASE MAP: USGS TOPOGRAPHIC MAP PRINTED FROM TOPO! 1998 WILDFLOWER PRODUCTIONS									

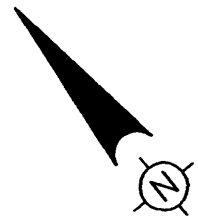
CleanHarbors

ENVIRONMENTAL SERVICES
REMEDIAL ENVIRONMENTAL CONSTRUCTION

1501 Washington Street
Braintree, Massachusetts 02185
Telephone (781) 849-1800

UNDERGROUND STORAGE TANK REMOVAL
8 OLD ROAD
DORCHESTER, MASSACHUSETTS
LOCUS MAP

PROJECT NO.	SB1134649	DWG. NO.	0306-L-01	FIGURE 1
SCALE	AS NOTED			



MICHIGAN AVENUE

OLD ROAD

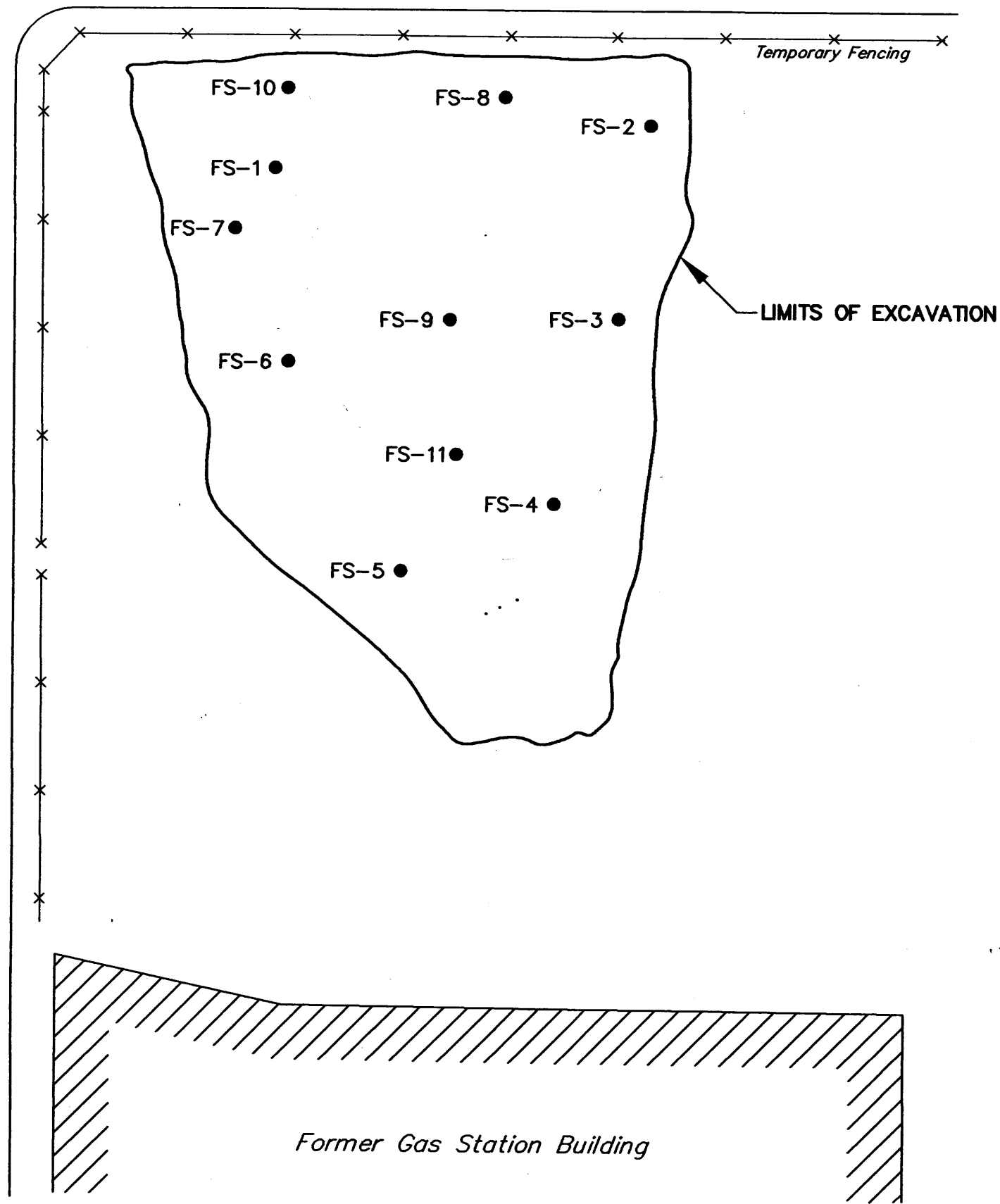


FIGURE 2

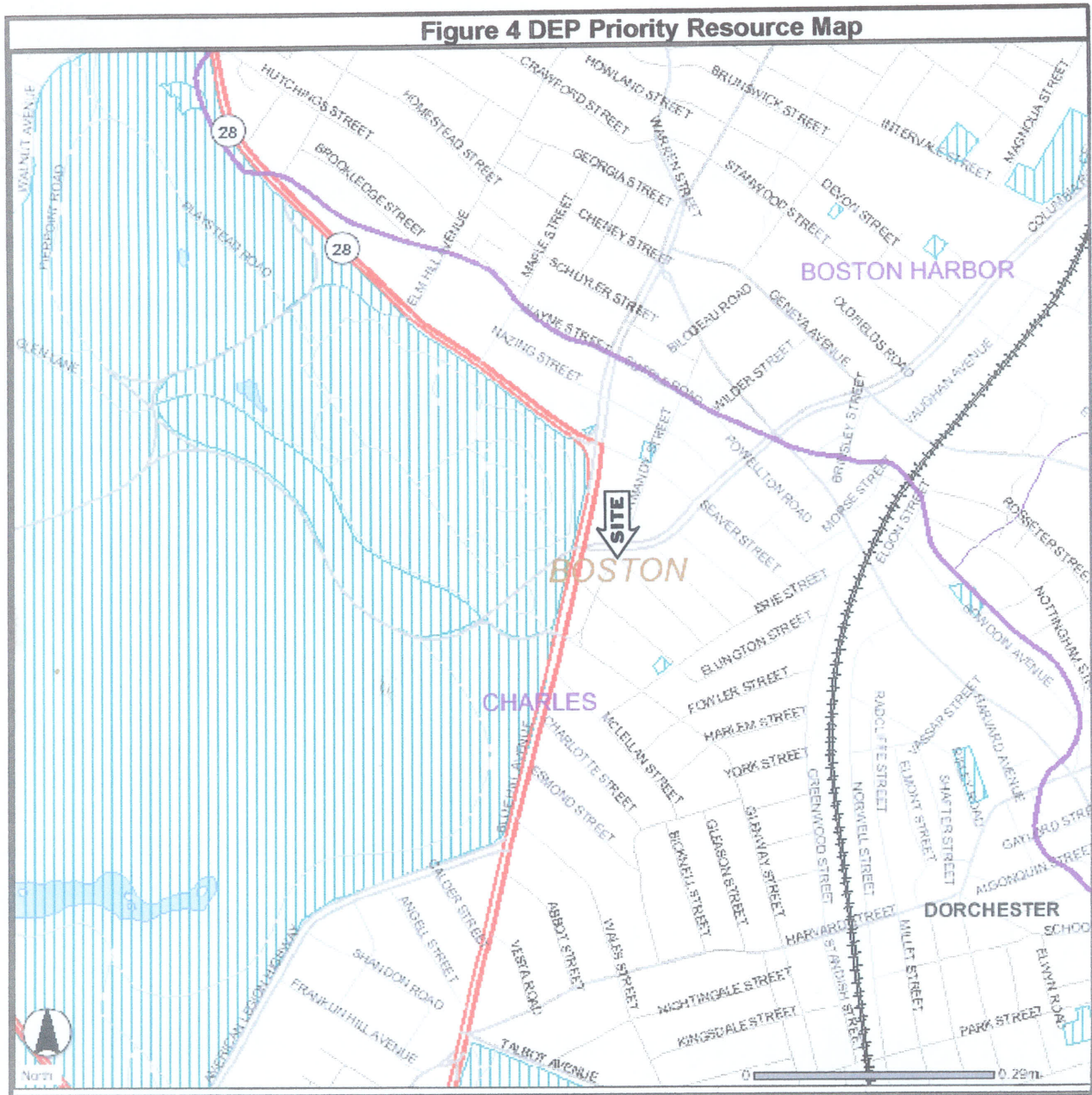
A	RAO STATEMENT	K.M.C. J. T. J.A.M.D. 4/17/06	DRWN.	CHKD.	APPR.	DATE
	ISSUE	DESCRIPTION				
<p>UST REMOVAL 8 OLD ROAD DORCHESTER, MASSACHUSETTS</p> <p>SITE SKETCH</p> <p>PROJECT NO. SB1134649 DWG. NO. 1134649-C-01 SCALE 1" = 10' (APPROX.)</p>						

CleanHarbors
 ENVIRONMENTAL SERVICES
 REMEDIATION AND ENVIRONMENTAL CONSTRUCTION
 1501 Washington Street
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LEGEND

FS-1 ● SOIL SAMPLE





TABLES



Table 1
Field Screening of Soil Samples for VOCs
8 Old Road, Dorchester, MA
Sample Dates: March 9, 2006

Sample ID	Sample Depth (feet)	PID Results (ppm)	Notes/Observations:
FS-1	12	0.0	Silty Sand, no petroleum odor
FS-2	0.5	0.0	Silty Sand, no petroleum odor
FS-3	0.5	0.0	Silty Sand, no petroleum odor
FS-4	0.5	0.0	Silty Sand, no petroleum odor
FS-5	0.5	0.0	Silty Sand, no petroleum odor
FS-6	0.5	3.6	Silty Sand, no petroleum odor
FS-7	0.5	0.0	Silty Sand, no petroleum odor
FS-8	0.5	0.1	Silty Sand, no petroleum odor
FS-9	0.5 - 3	7.3	Silty Sand, no petroleum odor
FS-10	15	0.1	Silty Sand, no petroleum odor
FS-11	6	7.2	Silty Sand, no petroleum odor

VOC = Volatile Organic Compounds as measured with a PID.

PID = Photoionization Detector calibrated to benzene response and using headspace screening methods.

ppm = parts per million.

Table 2
 Laboratory Analysis of Soil Samples for VPH and Target Compounds
 8 Old Road, Dorchester, MA
 Sample Date: March 9, 2006

Sample ID	VPH-1	VPH-2	VPH-3	VPH-4	MCP Reportable Concentration RCS-1
	0.5	0.5	0.5 - 12	0.5 - 6	
C5 - C8 Aliphatics	ND(6.50)	ND(6.50)	ND(6.50)	ND(6.50)	100
C9- C12 Aliphatics	ND(6.50)	ND(6.50)	ND(6.50)	ND(6.50)	1,000
C9 - C10 Aromatics	2.02	ND(1.50)	ND(1.50)	ND(1.50)	100
MTBE	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	0.1
Benzene	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	2
Toluene	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	30
Ethylbenzene	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	80
Xylene (total)	1.38	ND(0.50)	ND(0.50)	ND(0.50)	300
Naphthalene	ND(1.00)	ND(1.00)	ND(1.00)	ND(1.00)	4

VPH = Volatile Petroleum Hydrocarbons

ND = not detected at the laboratory detection limit

All results in milligrams per kilogram (mg/kg) or parts per million (ppm)

Table 3
 Laboratory Analysis of Soil Samples for EPH
 8 Old Road, Dorchester, MA
 Sample Date: March 9, 2006

Sample ID	EPH-1	EPH-2	MCP Reportable Concentrations: RCS-1
Sample Depth (feet)	0.5	0.5	
EPH			
C9 - C18 Aliphatics	ND(10.5)	ND(10.5)	1,000
C19- C36 Aliphatics	25.9	72.0	3,000
C11 - C22 Aromatics	ND(10.5)	ND(10.5)	200

EPH = Extractable Petroleum Hydrocarbons
 ND = not detected at the laboratory detection limit
 All results in milligrams per kilogram (mg/kg) or parts per million (ppm)

Table 4
 Laboratory Analysis of Composite Soil Samples for Lead
 8 Old Road, Dorchester, MA
 Sample Date: March 9, 2006

Sample ID	C-1	C-2	MCP Reportable Concentrations: RCS-1
Sample Depth (feet)	0.5 - 12	0.5 - 3	
Lead	58.4	79.3	300

All results in milligrams per kilogram (mg/kg) or parts per million (ppm)

APPENDIX A





Photo 1: Excavator removes the concrete broken up earlier with a hoe-ram: photo taken facing east on 3/7/06.



Photo 2: Following the removal of overlying concrete,USTs were pumped out: photo taken 3/7/06.



Photo 3: USTs are unearthed, vented, and dry ice is added to inert: photo taken facing north on 3/8/06.



Photo 4: UST is lifted onto flatbed trailer for transport to disposal facility: photo taken facing north on 3/8/06.



Photo 5: Last UST is prepared for transport to disposal facility: photo taken on 3/9/06 while facing west.



Photo 6: Backfilling process begins: photo taken while facing south on 3/9/06.