



Weston Solutions, Inc.
Suite 420
100 Peachtree Street, NW
Atlanta, Georgia 30303-1911
404-527-7000 • Fax 404-527-7001
www.westonsolutions.com

November 6, 2002

Mr. Terry Stilman
On-Scene Coordinator
U.S. Environmental Protection Agency
61 Forsyth Street, SW, 11th Floor
Atlanta, Georgia 30303



Subject: *Transmitted electronically*
Removal Action Letter Report, Revision 1
Royal Oaks Buried Drum Site
EPA Contract No. 68-W-00-123
Technical Direction Document (TDD) No. 4W-02-07-B-002
Document Control No. WSI-ROD-0002

Dear Mr. Stilman:

Weston Solutions, Inc., Superfund Technical Assessment and Response Team - 2 (START-2) is submitting one copy of the revised removal action letter report for the Royal Oaks Buried Drum site in Edgewater, Volusia County, Florida.

Please contact Michael Sparks at (404) 527-7015 if you have any questions or comments regarding this report.

Sincerely,
Weston Solutions, Inc.

Curt Haworth
START-2 Project Manager

Enclosure

cc: Matthew Monsees, EPA Project Officer (w/o appendices)
 Joseph A. Baer, START-2 Deputy Program Manager (w/o enclosure)
 S. Michael Sparks, START-2 Removal Coordinator (w/o enclosure)
 START-2 File

**REMOVAL ACTION
LETTER REPORT**

**ROYAL OAKS BURIED DRUM SITE
EDGEWATER, VOLUSIA COUNTY, FLORIDA
EPA ID FLN000407257**

Revision 1

Prepared for

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 4
Atlanta, Georgia 30303**

Contract No.	:	68-W-00-123
TDD No.	:	4W-02-07-B-002
Document Control No.	:	WSI-ROD-0002
WESTON Work Order No.	:	12587-001-002-0150
Date Prepared	:	October 30, 2002
EPA Work Assignment Manager	:	Terry Stilman
Telephone No.	:	561-616-8880
Prepared by	:	Weston Solutions, Inc.- START-2
START Project Manager	:	Curt Haworth
Telephone No.	:	(469) 374-7731

C:\Edgewater_FINAL Report\Royal Oaks Letter Report rv1.wpd

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1.0 INTRODUCTION

This document has been prepared in accordance with TDD No. 4W-02-07-B-002, which the United States Environmental Protection Agency (EPA) assigned to the Weston Solutions, Inc., (Weston) Superfund Technical Assessment and Response Team - 2 (START-2). The overall scope of this TDD, monitored by On-Scene Coordinator (OSC) Terry Stilman, was the documentation of site conditions and activities and the collection of environmental samples at the Royal Oaks Buried Drum site, EPA ID No. FLN000407257.

2.0 BACKGROUND

The Royal Oaks Buried Drum Site is located at 210 Mango Tree Road in Edgewater, Volusia County, Florida (see Figure 1). From 1962 to 1999, the site was owned by an excavating company called Hanson & McAllister, Inc. During this period of ownership, Hanson & McAllister excavated sand from the middle parcel creating a large borrow pit. Subsequently, the pit was reported to have been filled in with land clearing debris such as tree stumps, and possibly, construction debris. By 1999, the borrow pit had been filled in and the property was sold to Golden Start of Central Florida, Inc., who began developing a manufactured home subdivision called Royal Oaks. In December 2000, several drums and several one-gallon paint cans were unearthed during excavation of utility lines within the Royal Oaks subdivision.

The developers hired a cleanup contractor in an initial attempt to remove the drums. Approximately twenty (20) drums were exhumed by the cleanup contractor prior to the Florida Department of Environmental Protection (FDEP) being notified. An inspector from the FDEP's Central District responded to the site on December 21, 2000 and reported that approximately 20 drums had been exhumed. Drum samples collected by the FDEP at this time confirmed that the drums contained hazardous substances. Drum samples were characteristic of ignitability and contained elevated concentrations of volatile organic substances (VOCs). The FDEP informed the property owner and contractor of the proper procedures needed to remediate the site. FDEP held several meetings with the developer and previous landowner to identify potentially responsible parties (PRPs) and to discuss future removal actions. In February 2001, at the request of the FDEP, the U.S.

Environmental Protection Agency's (EPA) Emergency Response and Removal Branch (ERRB), and EPA-Environmental Response Team (ERT), conducted a geophysical survey of the site in an attempt to identify the extent of the buried drums. Two areas were identified as possible anomalies. The FDEP entered into an agreement with the property owner for the conducting of all necessary cleanup actions. In April 2001, the property owner's contractor began excavation and drum removal operations at the site in the ERT identified areas. Approximately 80 drums were removed at this time. Drum removal operations ceased in early May 2001. During this period, a resident whose house was within the immediate vicinity of the drum burial area was relocated and the manufactured house was removed from the site. The FDEP notified the landowner, previous landowner, and cleanup contractor several times from April 2001 to July 2001 of improper cleanup and safety actions at the site. On July 9, 2001, the FDEP referred the site to the EPA-ERRB for federal removal action eligibility. At that time, approximately 150 drums were reported to have been exhumed by the landowners. The EPA-ERRB initiated enforcement actions with the current landowner following the FDEP's referral. All cleanup activities at the site were suspended. On August 1, 2001, EPA-ERRB toured the site to observe the current site conditions.

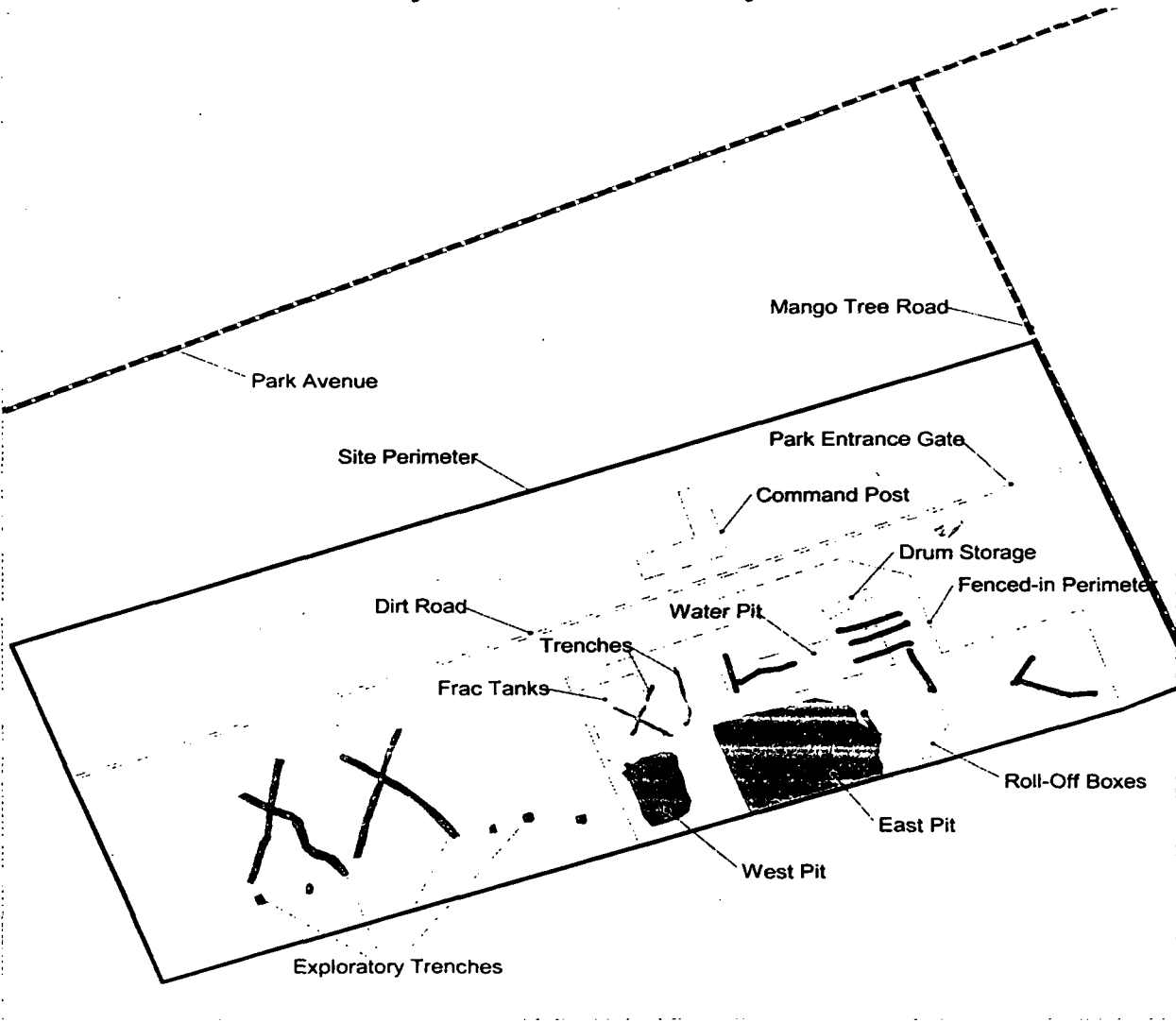
3.0 SITE ACTIVITIES

On July 8, 2002, EPA, START-2 mobilized to Royal Oaks Drum Site. Prior to the arrival of START-2, the landowner's contractor had removed some drums and other hazardous substances from the site (see Section 2.0 of this report). Throughout the removal activity, START-2 provided sampling support and documented site activities.

Figure 1 - Site Location Map

Figure 2 - Site Layout

Royal Oaks Site Layout



DRAWN:	DATE: 11/06/2002	W.O. NO.: 12587.001.002.0150
SCALE:	EPA ID NO.: FLN000407257	TDD NO.: 4W-02-07-B-002

When EPA-ERRB started operating, site activities mainly consisted of excavating contaminated soil to a maximum depth of twelve feet. Exploratory trenches were also dug in certain areas of the property using excavator track hoes, two bull dozers, and a small track loader to search for drums and hazardous substances. During these excavations, many old drums and paint cans were found. The unidentified substances/containers were placed in overpack drums by the ERRS contractor CMC Environmental (CMC). Figure 2 illustrates the excavated areas. During all excavating, the ERRS contractor conducted their work in Level B protective gear.

During the course of operations, three large pits were excavated by the ERRS contractor. After the pits were excavated, they would immediately fill up with water. The water from the pits was then pumped into five frac tanks, where it was sampled by the City of Edgewater. After sample results showed no hazardous substances in the water, the water was then drained into the sewer system to be treated at the Edgewater water treatment plant.

During excavation activities, many items were discovered. The items found consisted of construction debris, household wastes, small paint cans, and large drums of unidentified substances. Samples of the unidentified substances were taken by the Florida DEP on July 25, 2002.

3.1 WASTE DISPOSAL

Excavated soil was stockpiled on site during the removal activities. After the excavation was complete, the soil was hauled off-site by Baker Trucking. The soil was classified as non-hazardous and disposed of at a local landfill operated by Waste Management, Inc.

3.2 SAMPLING ACTIVITIES

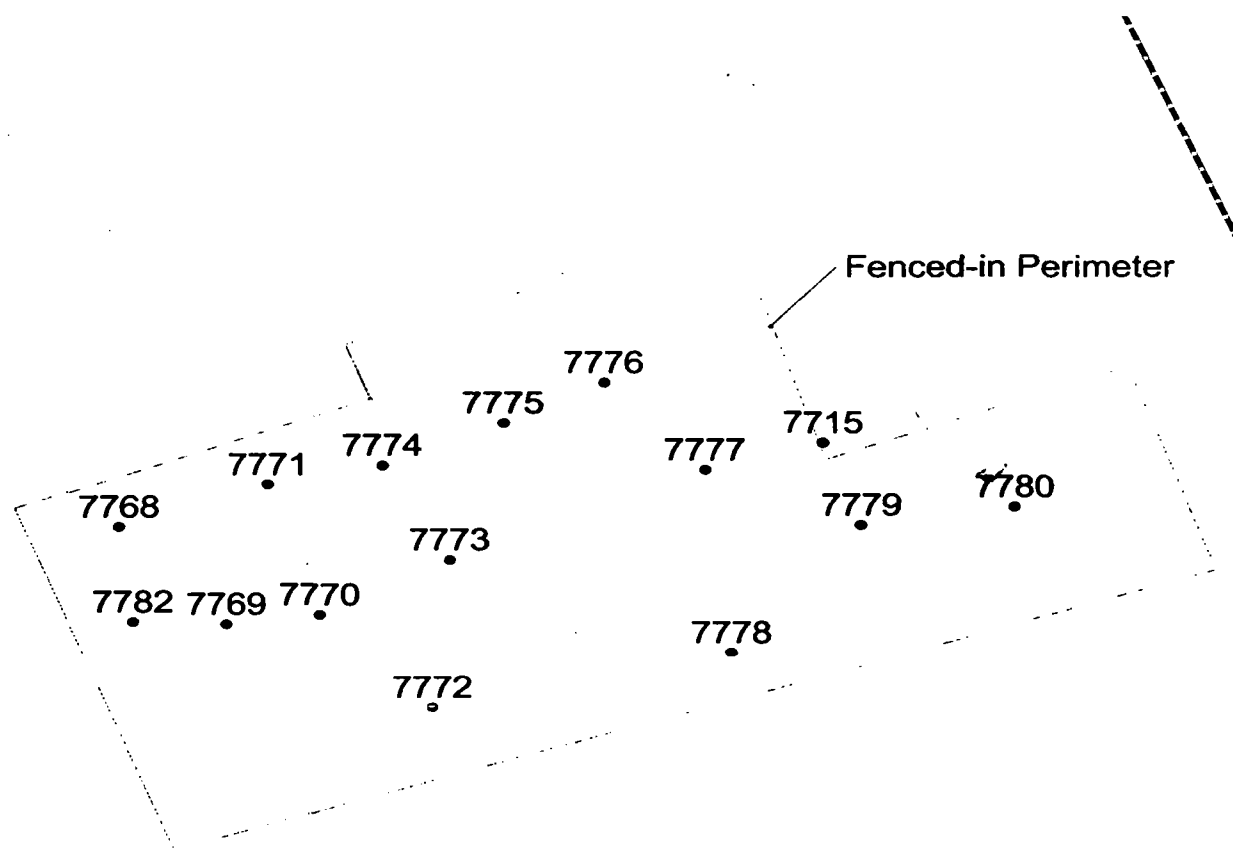
On August 6, 2002, START-2 collected 15 subsurface soil samples (see Figure 3) at Royal Oaks to confirm that clean-up goals had been achieved for the removed soil. Subsurface soil samples were collected as composite and grab samples from throughout the site at approximately six inches deep. Samples were analyzed for a full scan. Confirmation samples were analyzed through the EPA Contract Laboratory

Program. Sample results are summarized in Table 1 and the analytical data are presented in Appendix C.

Figure 3 - Sampling Location Map



Sample Location Map



DRAWN:	DATE: 11/06/2002	W.O. NO.: 12587.001.002.0150
SCALE:	EPA ID NO.: FLN000407257	TDD NO.: 4W-02-07-B-0C

Table 1 - Soil Sampling Summary

Sample Number	Compound Detected Above Detection Limits	Amount Detected (micrograms per kilogram)	Detection Limit (see Appendix E)
7768	Methylene Chloride	13	E
7769	Less than detection limit.	N/A	E
7770	Less than detection limit.	N/A	E
7771	Aroclor 1242	160	E
7772	Less than detection limit.	N/A	E
7773	Phenanthrene	2300	E
7773	Anthracene	400	E
7773	Fluoranthene	2300	E
7773	Pyrene	1500	E
7773	Benzo(a)anthracene	840	E
7773	Chrysene	830	E
7773	Benzo(b)fluoranthene	700	E
7773	Benzo(k)fluoranthene	660	E
7773	Benzo-a-pyrene	670	E
7773	Indeno (1,2,3-CD)pyrene	440	E
7773	Benzo(GH)perylene	490	E
7773	Alpha-chlordane	8.1	E
7774	Aroclor 1242	48	E
7775	Alpha-chlordane	2	E
7776	Methylene Chloride	11	E
7777	4,4'-DDE (P,P'-DDE)	8.3	E
7777	4,4'-DDD (P,P'-DDD)	8.5	E
7777	Methylene Chloride	14	E
7778	Less than detection limit.	N/A	E
7779	Less than detection limit.	N/A	E
7780	4,4'-DDD (P,P'-DDD)	4.8	E
7780	Alpha-chlordane	3.6	E
7780	Total Xylenes	22	E
7781	Less than detection limit.	N/A	E
7782	Less than detection limit.	N/A	E

4.0 CONCLUSIONS

From July 6 through August 7, 2002, EPA, START-2, and ERRS conducted removal activities at Royal Oaks, in Edgewater, Florida. START-2 provided sampling support and documented site activities with logbook notes and photographs. ERRS excavated contaminated soil and replaced it with clean backfill. At the completion of the project, confirmation samples were taken. All contaminated areas of the property were excavated, backfilled with clean fill, and graded to previous elevations. Immediate and potential physical and chemical hazards of the site have been eliminated from the site due to EPA removal activities.

TABLE OF WITNESSES

Terry Stillman, On-Scene Coordinator (OSC)
U.S. Environmental Protection Agency
61 Forsyth Street, 11th Floor
Atlanta, GA 30303
(404) 562-8747

Michael Sparks
Weston Solutions, Inc., Superfund Technical Assessment and Response Team - 2 (START2)
100 Peachtree Street, NW Suite 100
Atlanta, Georgia 30303-1911
(404) 527-7000

Curt V Haworth
Weston Solutions, Inc.
GIS Analyst
14160 Dallas Parkway, Ste. 850
Dallas, TX 75254
(469) 374-7700

Bill Jaekel
Response Manager
Environmental Quality Management, Inc.
1310 Kemper Meadow Drive
Cincinnati, Ohio 45240
(513) 825-7500

H. Scott McEver
Florida DEP
100 Bush Boulevard
Sanford, FL 32773



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 1**

Subject: Panoramic Site Overview

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: July 9, 2002

Orientation: SW

Photographer: Brian Mason, START 2

Witness: None

B-1



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 2**

Subject: Panoramic Site Overview

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: July 9, 2002

Orientation: NW

Photographer: Brian Mason, START 2

Witness: None

B-2



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 3**

Subject: Removal Contractor Excavating Area
of Concern

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: July 9, 2002

Orientation: SSE

Witness: None

Photographer: Brian Mason, START 2

B-3



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 4**

Subject: Removal Contractor Excavating A
Pit To Hold Water That Will Be
Pumped From The Area of Concern

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

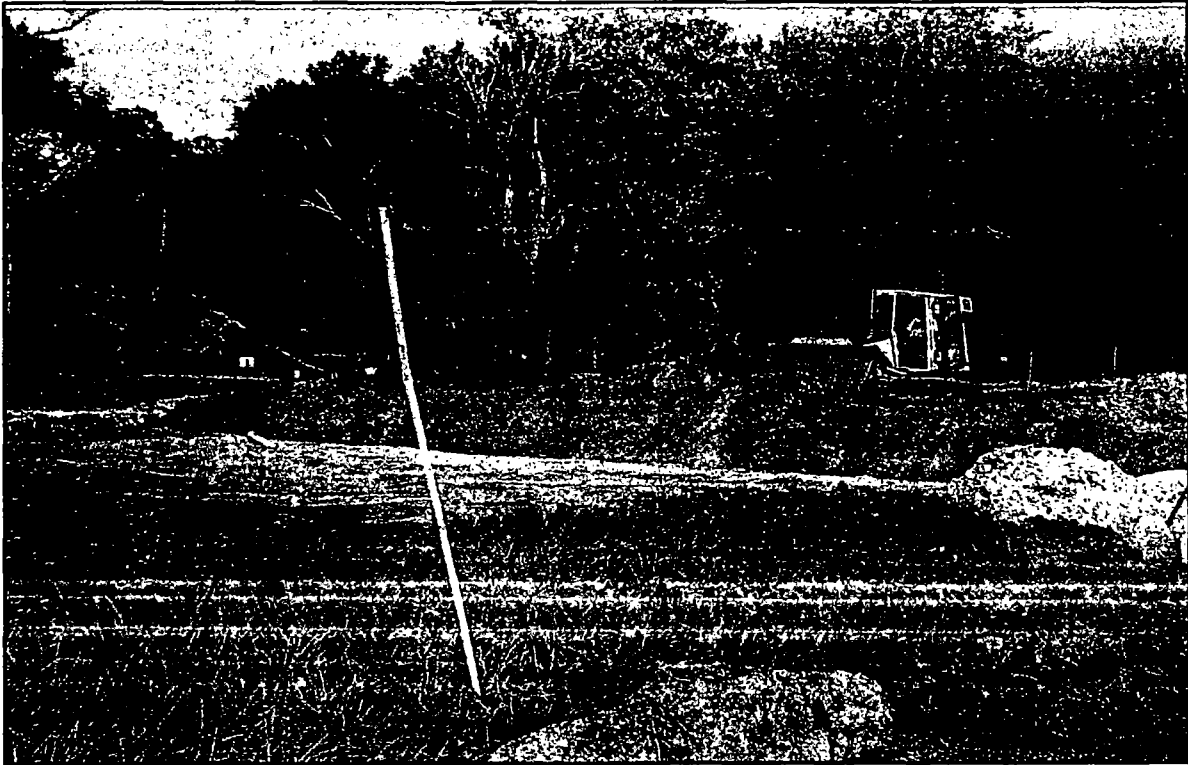
Orientation: W

Date: July 9, 2002

Witness: None

Photographer: Brian Mason, START 2

B-4



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 5**

Subject: Removal Contactor Backfilling Pit

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: July 12, 2002

Orientation: SW

Photographer: Brian Mason, START 2

Witness: None

B-5



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 6**

Subject: View of East pit.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: July 15, 2002

Orientation: S

Photographer: Curt Haworth, START 2

Witness: None



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 7**

Subject: CMC crew digging West pit.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: July 15, 2002

Orientation: S

Photographer: Curt Haworth, START 2

Witness: None

B-7



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 8**

Subject: CMC crew digging West pit.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: July 15, 2002

Orientation: SW

Photographer: Curt Haworth, START 2

Witness: None

B-8



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 9**

Subject: Fill pile from West pit.

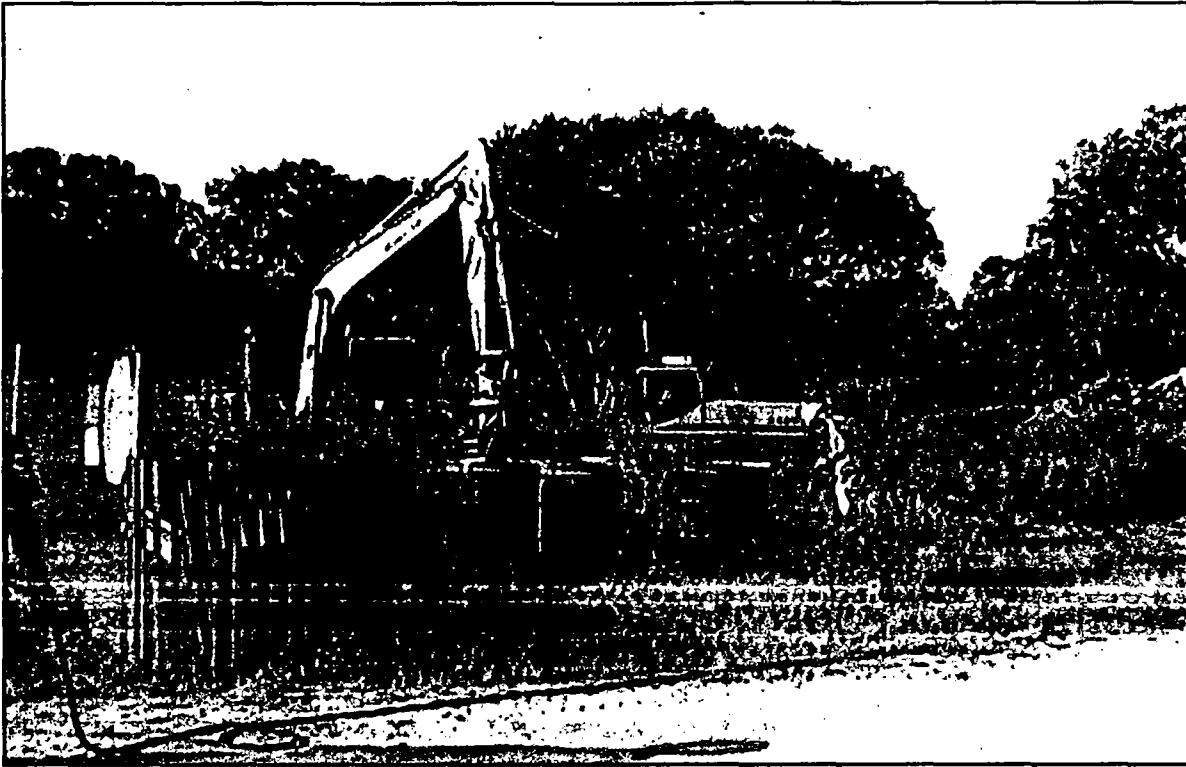
Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: July 16, 2002

Orientation: SE

Photographer: Curt Haworth, START 2

Witness: None



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 10**

Subject: CMC crew digging "X" trenches on
West side of property. USCG
Sedlack performing air monitoring.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Orientation: SW

Date: July 17, 2002

Witness: None

Photographer: Curt Haworth, START 2

B-10



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 11**

Subject: View of exploratory ditches dug
South of "X" trenches.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: July 18, 2002

Orientation: SW

Witness: None

Photographer: Curt Haworth, START 2

B-11



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 12**

Subject: CMC crew digging "X" trench
where frac tanks were located.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: July 24, 2002

Orientation: SE

Witness: None

Photographer: Curt Haworth, START 2

B-12



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 13**

Subject: View of where "X" trench and frac tanks were. West pit in the background.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

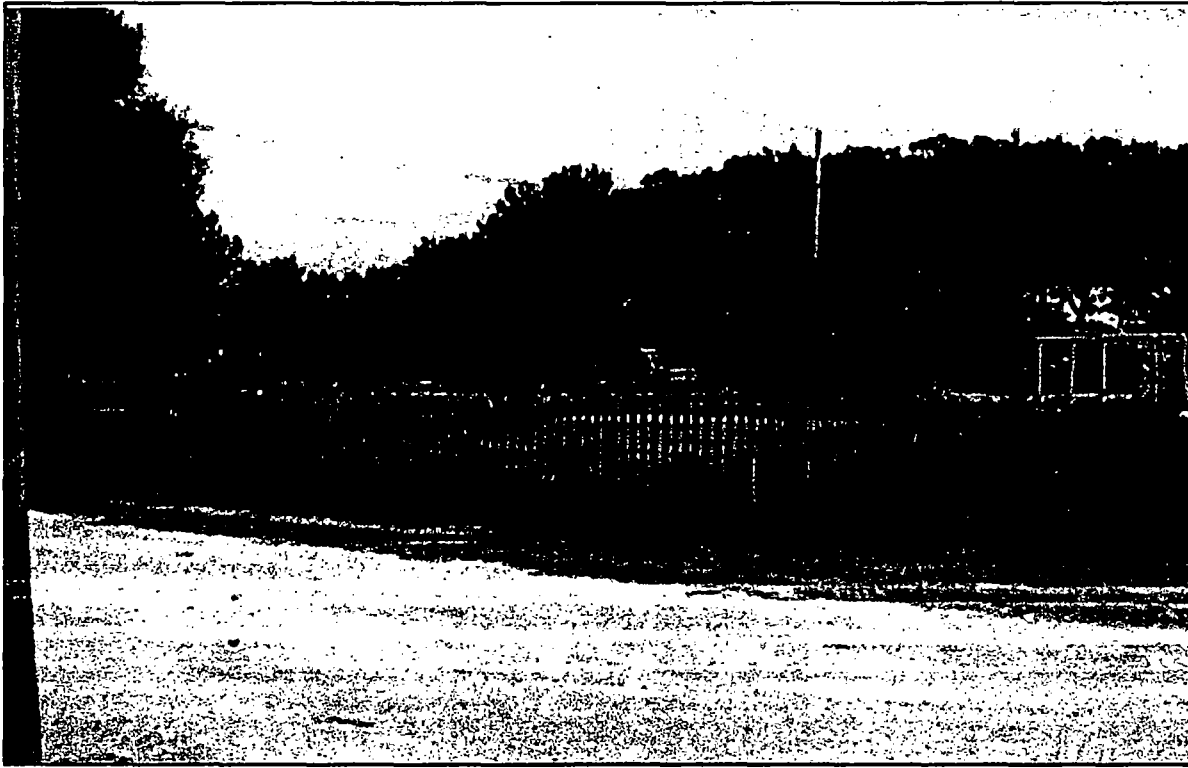
Orientation: SW

Date: July 26, 2002

Witness: None

Photographer: Curt Haworth, START 2

B-13



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 14**

Subject: View of east side of property.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: July 26, 2002

Orientation: SE

Photographer: Curt Haworth, START 2

Witness: None

B-14



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 15**

Subject: East view of property.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: August 6, 2002

Orientation: SE

Photographer: Curt Haworth, START 2

Witness: None

B-15



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 16**

Subject: Center view of property.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: August 6, 2002

Orientation: S

Photographer: Curt Haworth, START 2

Witness: None

B-16



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 17**

Subject: Center view of property.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: August 6, 2002

Orientation: S

Photographer: Curt Haworth, START 2

Witness: None

B-17



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 18**

Subject: West view of property.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: August 6, 2002

Orientation: SW

Photographer: Curt Haworth, START 2

Witness: None

B-18



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICIAL SITE PHOTOGRAPH NO. 19**

Subject: Sample location #13.

Site: Royal Oaks Buried Drum Site
Edgewater, Volusia County, Florida
TDD No. 4W-02-07-B-002

Date: August 6, 2002

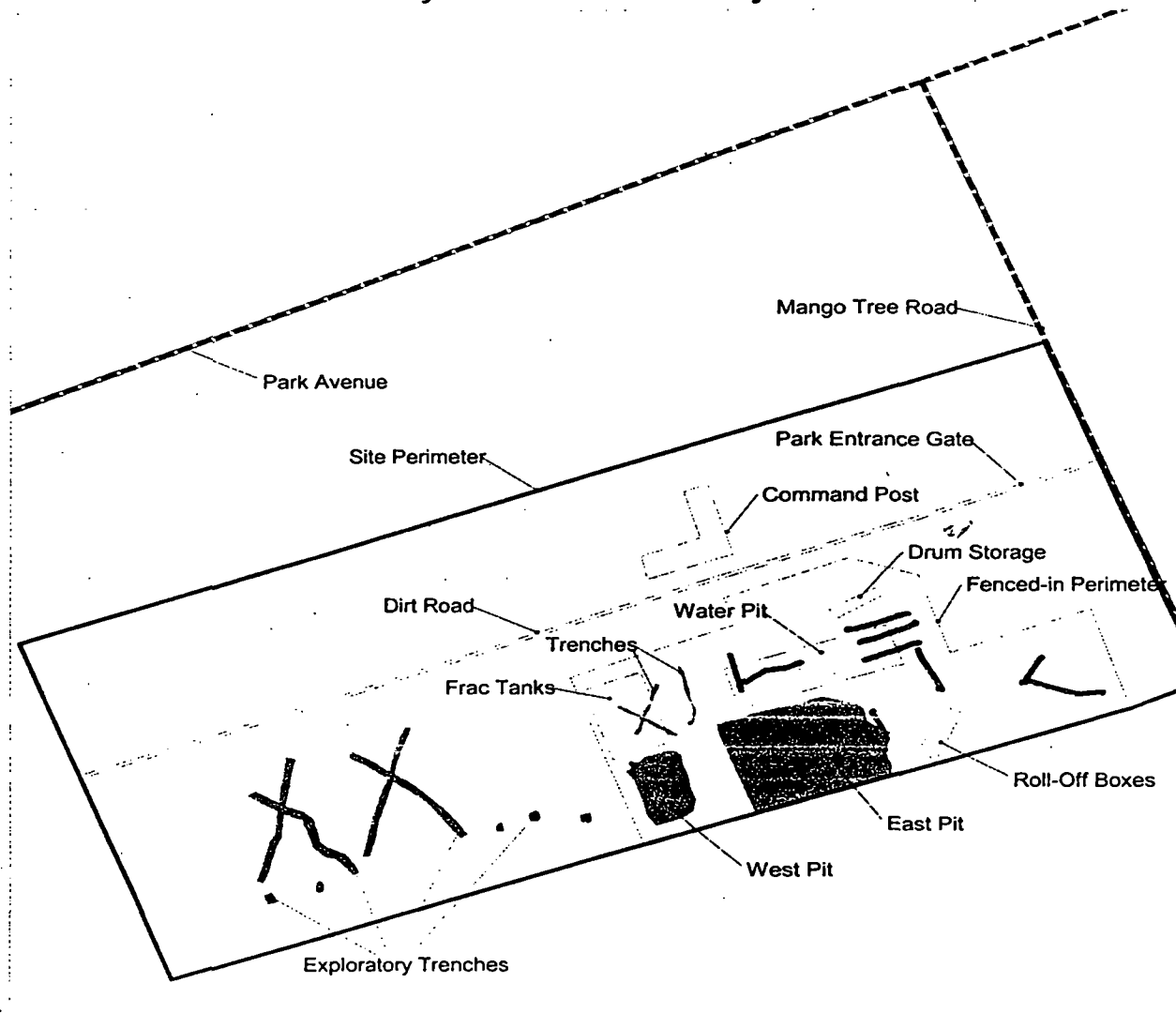
Orientation: E

Photographer: Curt Haworth, START 2

Witness: None

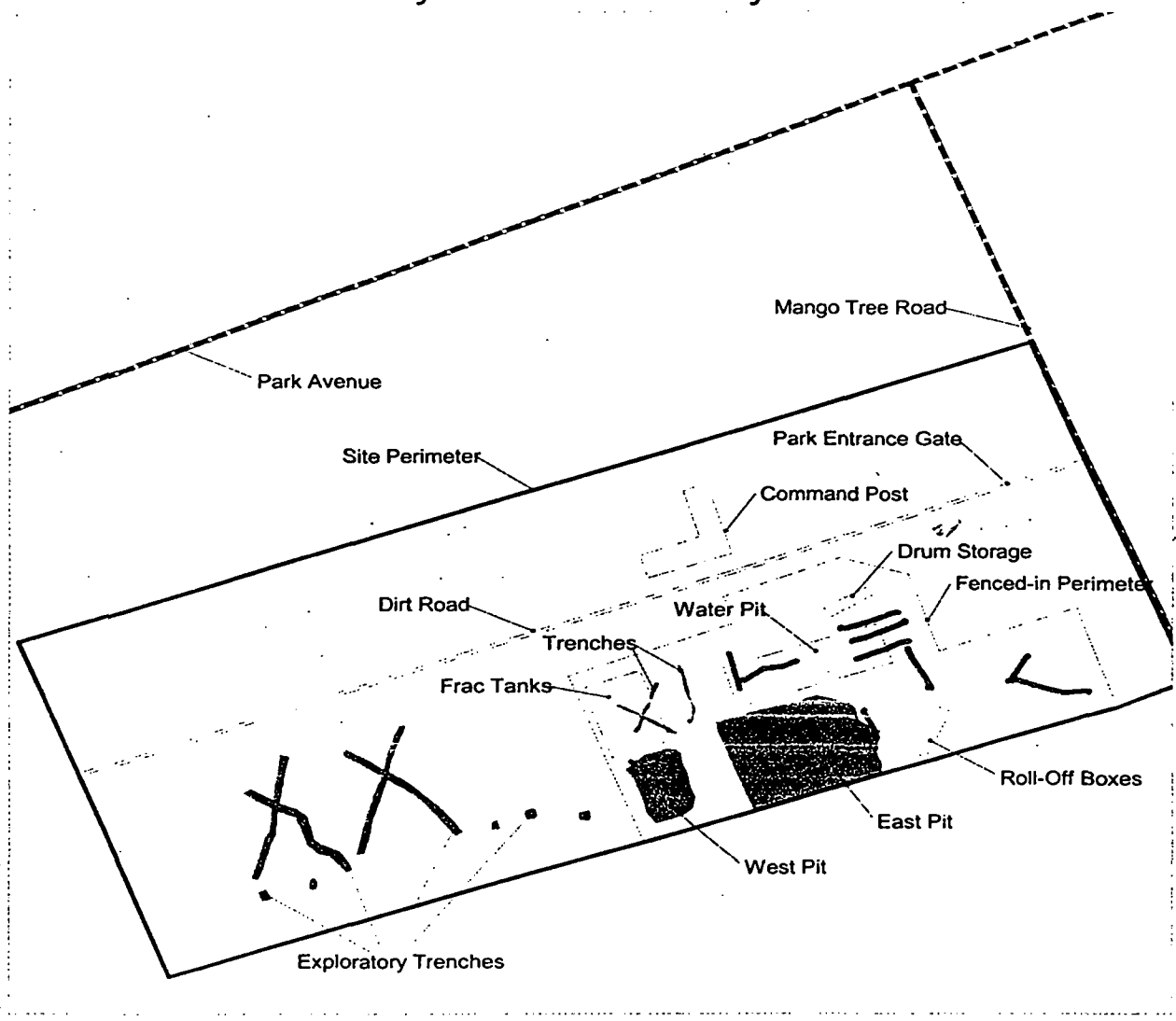
B-19

Royal Oaks Site Layout



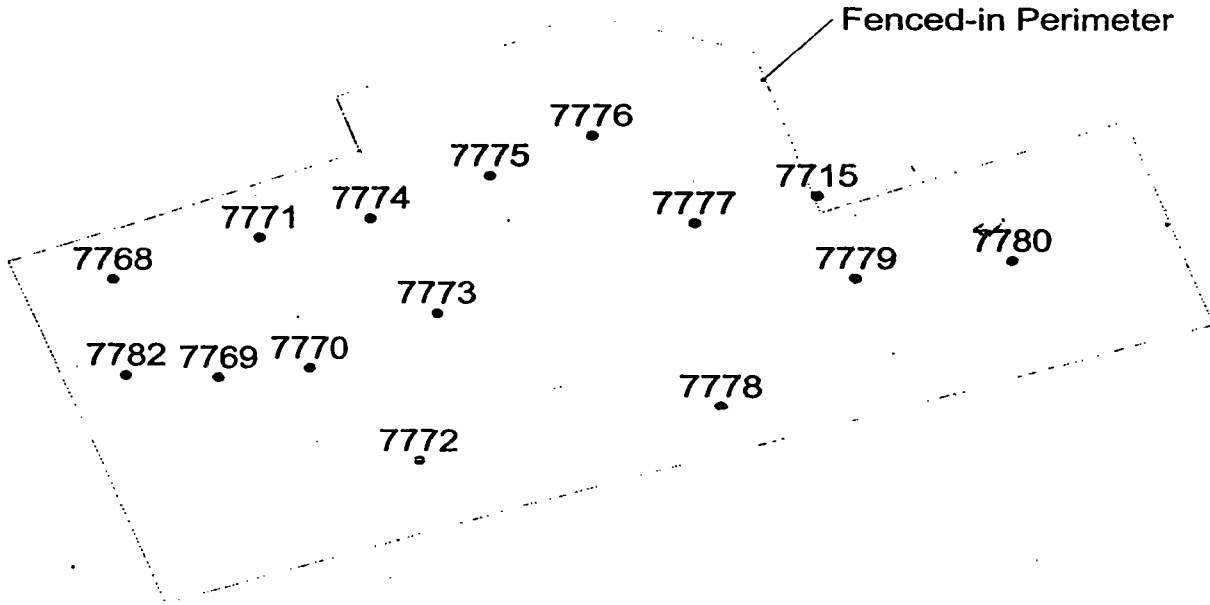
DRAWN:	DATE: 11/06/2002	W.O. NO.: 12587.001.002.0150
SCALE:	EPA ID NO: FLN000407257	TDD NO: 4W-02-07-B-002

Royal Oaks Site Layout



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SCALE:	EPA ID NO.: FLN000407257	TDD NO.: 4W-02-07-B-002

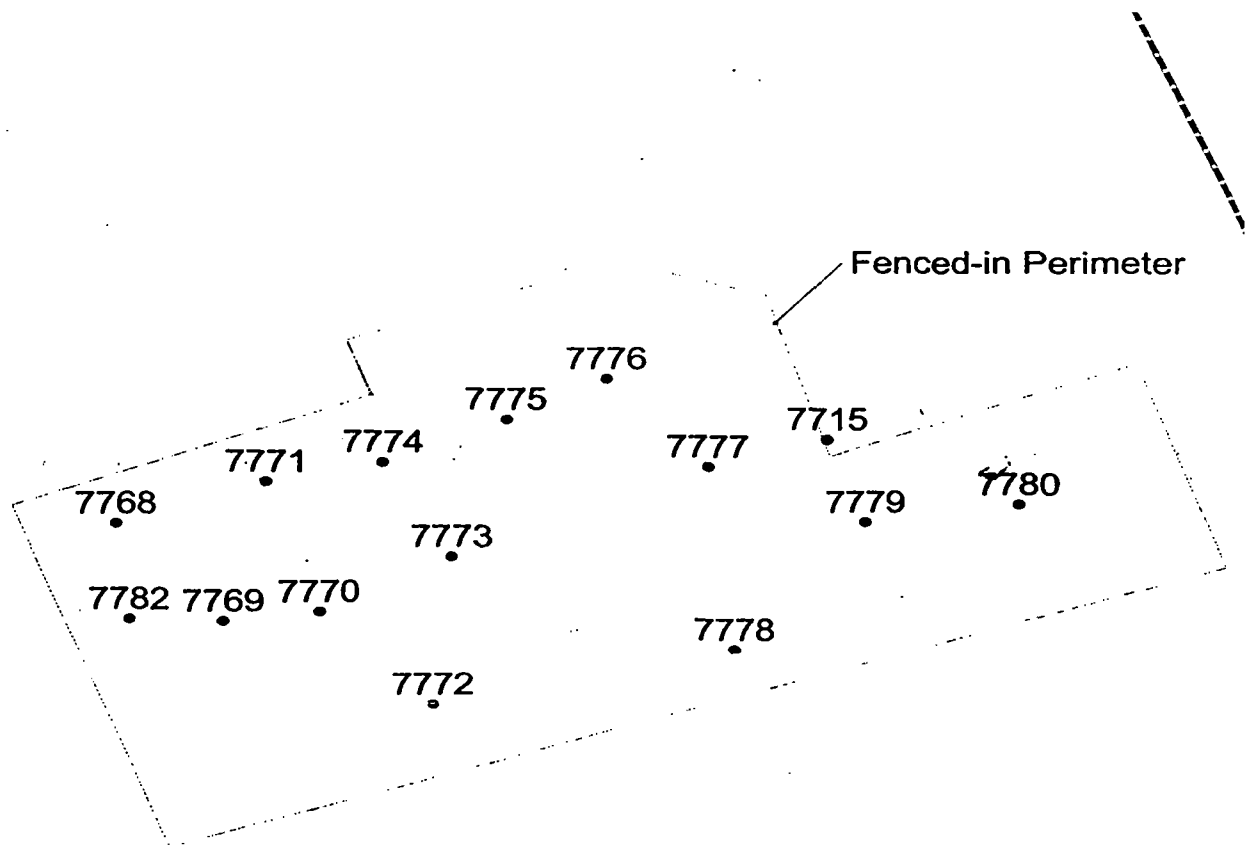
Sample Location Map



DRAWN:	DATE: 11/06/2002	W.O. NO.: 12587.001.002.0150
SCALE:	EPA ID NO: FLN000407257	TDD NO: 4W-02-07-B-002



Sample Location Map



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