

1304-0610310008



Department of Energy  
Office of Legacy Management

August 22, 2006

Mr. Tim Fischer  
U.S. Environmental Protection Agency  
77 W. Jackson Boulevard, SR-6J  
Chicago, IL 60604

Mr. Brian Nickel  
Ohio EPA  
Southwest District Office  
401 E. 5<sup>th</sup> Street  
Dayton, OH 45402-2911

Subject: Annual Assessment of the Effectiveness of Institutional Controls Applied to the Former Mound Site Property

Dear Mr. Fischer & Mr. Nickel:

Enclosed please find the final copy of the "Annual Assessment of the Effectiveness of Institutional Controls Applied to the Former Mound Site Property" dated June 2006. This report was prepared in accordance with the "Operation and Maintenance Plan for the Implementation of Institutional Controls at the 1998 Mound Plant Property, Phase I Parcel Update, Rev. 0" and summarizes the results of DOE's inspection of Parcels D, H, 4, 3 and Phase I on February 22, 2006, and DOE's inspection of City of Miamisburg and Miamisburg Mound Community Improvement Corporation (MMCIC) records on February 20, 2006.

If you have any questions regarding the above draft, please contact me at 937-847-8350 Ext. 318.

Sincerely,

Handwritten signature of Arthur W. Kleinrath in cursive.

Arthur W. Kleinrath  
DOE/LM Mound Site Manager

Enclosures

**Distribution:**

**Paul Lucas, DOE**

**Sue Smiley, DOE**

**Art Kleinrath, DOE-LM**

**Mike Grauwelman, MMCIC**

**Frank Bullock, MMCIC**

**John Weithofer, City of Miamisburg**

**Beth Moore, City of Miamisburg**

**Becky Cato, Stoller Corp**

**Donna Gallaher, Stoller, Corp**

**OEPA Administrative Record (2 copies)**

**USEPA Administrative Record (2 copies)**

**CERCLA Administrative Record**

**Mound Public Reading Room**

**Mike Eben, CH2M Hill**

1304-0610310008

DOE-LM/GJ1219-2006



# Annual Assessment of the Effectiveness of Site-Wide Institutional Controls Applied to the Former Mound Site Property

August 2006



U.S. Department  
of Energy

## Office of Legacy Management

Work Performed Under DOE Contract No. DE-AC01-02GJ79491  
for the U.S. Department of Energy Office of Legacy Management.  
Approved for public release; distribution is unlimited.

**Annual Assessment of the Effectiveness of  
Site-Wide Institutional Controls  
Applied to the Former  
DOE Mound Site Property**

August 2006

Work Performed by S.M. Stoller Corporation under DOE Contract No. DE-AC01-02GJ79491  
for the U.S. Department of Energy Office of Legacy Management, Grand Junction, Colorado

# Contents

## Acronyms v

1.0	Introduction .....	1
2.0	Overview of Parcel Transfer Process .....	1
3.0	Overview of Institutional Controls.....	2
4.0	Period of Review .....	4
5.0	Aerial View of the Former DOE Mound Site Property .....	5
6.0	Summary of Previous Year's Inspection.....	5
7.0	Summary of Inspection Performed in June 2006 .....	5
7.1	Parcel D .....	16
7.2	Parcel H .....	16
7.3	Parcel 4 .....	16
7.4	Parcel 3 .....	20
7.5	Phase I parcel.....	20
8.0	Interviews with City Personnel and Review of City or MMCIC Records.....	27
8.1	Records, other than Permits, issued by the City of Miamisburg: .....	29
9.0	Conclusions .....	31
10.0	Recommendations .....	31
11.0	For Further Information .....	31

## Figure

Figure 1.	Parcel Map as of April, 2006, for the former DOE Mound Site Property .....	3
Figure 2.	Mound Plant .....	6
Figure 3.	Parcel 3 .....	7
Figure 4.	Parcel D.....	8
Figure 5.	Parcel H.....	9
Figure 6.	Parcel 4 .....	10
Figure 7.	Phase IA .....	11
Figure 8.	Phase IB .....	12
Figure 9.	Phase IC .....	13
Figure 10.	Mound Site Southern Oblique Aspect .....	14
Figure 11.	Mound Site Northern Oblique Aspect .....	15
Figure 12.	Parcel 4, looking toward Phase IB .....	17
Figure 13.	Parcel 4, MMCIC property.....	17
Figure 14.	Ground water well 0158 located in the southwest corner of Parcel 4, near the intersection of Benner Road and Old State Route 25.....	18
Figure 15.	Ground water well 0444 on northern boundary of Parcel 4, locked and in good repair .....	18
Figure 16.	MMCIC Pond located in southwest corner of Parcel 4, with signage in foreground and Mound site on hill in background.....	19
Figure 17.	Parcel 4, looking southwest towards pond .....	19
Figure 18.	Well P015, located in the Parcel 8, construction spoils area .....	21
Figure 19.	Former DOE salt storage shed located in Phase IB sub-parcel.....	21
Figure 20.	CH2M Hill sealands and shipping materials, staged in the burn area, Phase IB .....	22
Figure 21.	Well P033, located in the Phase IC sub-parcel .....	22
Figure 22.	Well 0400 identification plate.....	23

Figure 23. Well 0400, located in the Phase IC sub-parcel, are screened in the BVA well was locked and in good repair ..... 23

Figure 24. Well 0445, located in Parcel I, recommendation to abandon this well due to low flow ..... 24

Figure 25. Well 0411 locked and in good repair, one of five MNA wells in Parcel I..... 24

Figure 26. Ground water seep number 617, located in Parcel I..... 25

Figure 27. Well 0442, locked and in good repair, located in Phase IB parcel..... 25

Figure 28. Identification plate for well 0344 located in the Phase IC sub-parcel..... 26

Figure 29. Well 0344, locked and in good repair ..... 26

Figure 30. Well 0319, located in the Phase IC sub-parcel ..... 27

## Tables

Table 1. City of Miamisburg File on 1075 Mound Road (AKA “Mound Building 102”)..... 29

Table 2. City of Miamisburg Files on Other Permits..... 29

## Appendix

Appendix A Field Inspection Checklists For Parcels D, H, 4, 3, and I (Inspections conducted on February 26, 2006

## Exhibits

Exhibit 1 Real Estate Easement for Utility Work Performed on MMCIC Property

Exhibit 2 Institutional Controls: A Citizen’s Guide to Understanding Institutional Controls at Superfund, Brownfields, Federal Facilities, Underground Storage Tank, and Resource Conservation and Recovery Act Cleanups

## Acronyms

BVA	Buried Valley Aquifer
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CRP	Comprehensive Reuse Plan
DOE	U.S. Department of Energy
EM	Office of Environmental Management
EPA	U.S. Environmental Protection Agency
IC	Institutional Controls
LM	Office of Legacy Management
MCP	Miamisburg Closure Project
MMCIC	Miamisburg Mound Community Improvement Corporation
MNA	Monitored Natural Attenuation
O&M	Operations and Maintenance
ODH	Ohio Department of Health
OEPA	Ohio Environmental Protection Agency
ROD	Record of Decision

End of current text

## 1.0 Introduction

In accordance with the "Operation and Maintenance (O&M) Plan for the Implementation of Institutional Controls at the 1998 Mound Plant Property, Phase I Parcel update, Rev. 0," the U.S. Department of Energy (DOE) Miamisburg Closure Project (MCP) is required to perform an annual assessment of the effectiveness of "site-wide" institutional controls (ICs) defined in Records of Decision (ROD) covering specific geographic areas of the original approximate 306-acre former DOE Mound Site Property. The annual assessment is documented in a draft report and is submitted to the U.S. Environmental Protection Agency (EPA) and the Ohio Environmental Protection Agency (OEPA), no later than June 13th of each year. This year the draft report was to be submitted to EPA and OEPA, no later than July 31, due to a request by EPA to delay the physical walk-over portion of the review.

DOE's annual review includes a physical walk-over of each land parcel that has completed the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 120(h) requirements for property transfer. EPA, OEPA and the Ohio Department of Health (ODH) must be contacted 30 days in advance (or as otherwise agreed to) of DOE's visual inspection of each property. DOE's annual review also consists of discussions with the property owner(s), and a review of any records maintained by DOE, the property owner(s), and the City of Miamisburg Engineering and Planning Departments. During the physical walkover, DOE (or its agent) determines if new facilities have been constructed on the property, if obvious improvements have been made to the property, and/or if property usage has changed. The previous year's inspection provides the basis for determining the nature and extent of property improvements. If there have been changes since the last DOE review and reporting period, DOE must determine if those changes are consistent with the site-wide ICs.

Discussions with local government offices and records reviews will include, at a minimum, contacting the offices of the City of Miamisburg Engineering and Planning Departments to obtain information regarding construction, street opening, occupancy or other permits, as well as requests for zoning modifications issued for land parcels that comprise the former DOE Mound Site Property (specifically, those land parcels which have completed the CERCLA 120[h] process for property transfer).

## 2.0 Overview of Parcel Transfer Process

In January 1998, DOE executed a sales agreement with a DOE-designated Community Reuse Organization. The agreement calls for transfer of discrete land parcels to the Miamisburg Mound Community Improvement Corporation (MMCIC), via a series of quitclaim deeds, after the parcels have been declared excess to DOE's needs and all requirements of CERCLA 120(h) have been met for property transfer. Once the MMCIC acquires ownership of individual land parcels, the parcel becomes part of the Mound Advanced Technology Center, a light industrial/technology park operated by the MMCIC. In March 1999, the first land parcel (Parcel D) was transferred to the MMCIC. Parcel D contained approximately 12.5 acres of land and two buildings. In August 1999, a second land parcel (Parcel H) was transferred to the MMCIC. Parcel H contained approximately 14.3 acres of land, a large parking lot, and a site access road. In April 2001, a third land parcel (Parcel 4) was transferred to the MMCIC. Parcel 4 contained approximately 95 acres of undeveloped land. In August 2002, a fourth land parcel (Parcel 3) was

transferred to the MMCIC. Parcel 3 contained approximately 5 acres of land and Buildings GH and GP-1. On July 31, 2003, the ROD for a fifth land parcel (Phase I) was executed; on December 11, 2003, EPA approved transfer of the parcel to the MMCIC. The Phase I land parcel contains approximately 52 acres of land and several buildings. At this point in time, DOE has offered, for conveyance via quit claim deed, the Phase I land parcel to the MMCIC.

Since the O&M Plan for site-wide ICs applies to land parcels that have undergone the CERCLA 120(h) process for property transfer, whether or not title to those parcels is actually transferred (i.e., after DOE's receipt of EPA's approval to transfer) to the MMCIC, Phase I land parcel is included, even though it has not been transferred to the MMCIC. Therefore the scope of this review includes Parcels D, H, 4, 3 and the Phase I land parcel. These five land parcels represent approximately 58 percent of the total acreage that comprised the original approximate 306-acre former DOE Mound Site Property. At the time this annual assessment was written, the remaining acreage still subject to completion of CERCLA 120(h) requirements had been divided into three parcels (Parcels 6, 7 and 8), and DOE was still in the process of preparing the various documents necessary to complete the CERCLA 120(h) requirements for Parcels 6, 7 and 8. Refer to Figure 1 for a map of the original boundaries of the former DOE Mound Site Property (DOE acreage totaling approximately 306 acres). The five land parcels that have completed the CERCLA 120(h) process to-date include Parcels D, H, 4, 3 and the Phase I land parcel. The remaining land parcels that have yet to complete the CERCLA 120(h) process include Parcels 6, 7 and 8.

### **3.0 Overview of Institutional Controls**

The former DOE Mound Site Property is being remediated to achieve EPA's risk-based industrial/ commercial use standards. Once remediation is complete, DOE's mission will be limited to O&M of the CERCLA remedies, including ICs and any engineering controls, associated with land parcels that were originally owned by DOE. Consistent with the definition of "site" in the CERCLA statute, any privately-owned properties that have been impacted by DOE operations, and for which a ROD has been executed, may also be subject to O&M requirements including, but not limited to, ICs. This annual assessment on the effectiveness of "site-wide" ICs includes only those ICs that are defined in RODs covering land parcels that were associated with the original approximate 306-acre former DOE Mound Site Property.

The RODs, for all parcels that have completed the CERCLA 120(h) process to-date, include the requirement for DOE to perform this annual assessment of the effectiveness of site-wide ICs, which are in the form of deed restrictions. The ROD for each parcel includes the deed restriction language embedded in the quitclaim deed for the parcel. The deed restrictions are communicated to the landowner via the quitclaim deed. The quitclaim deed includes the "CERCLA 120(h) Summary Notice of Hazardous Substances" for the parcel, and the quitclaim deed is recorded with Montgomery County as a matter of public record. By recording both the quitclaim deed and the CERCLA Summary document with the County, all future property owners will be cognizant of the deed restrictions imposed by the CERCLA remedy on their property.

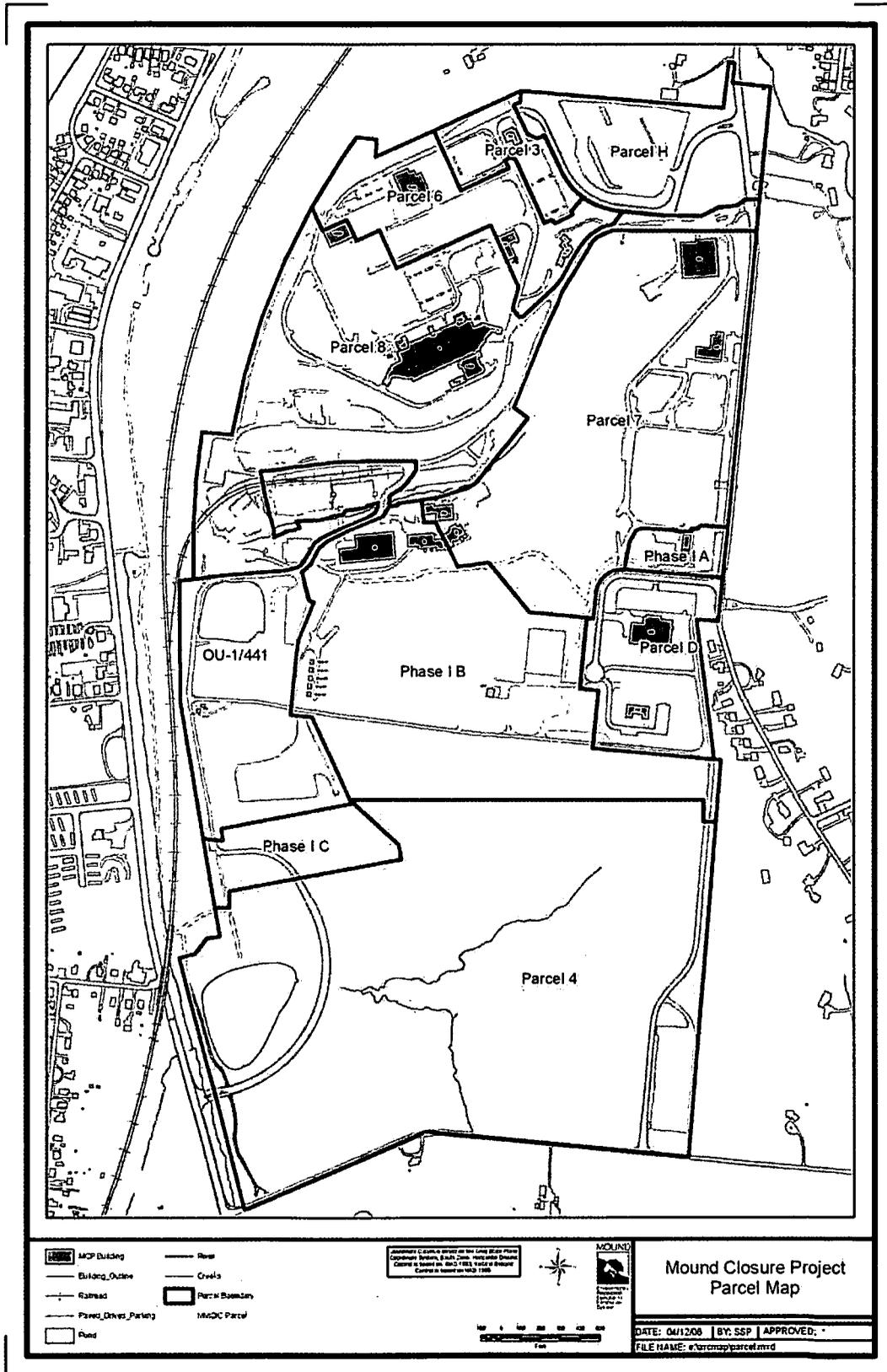


Figure 1. Parcel Map as of April, 2006, for the former DOE Mound Site Property

For the five parcels that have completed the CERCLA 120(h) process to-date, there are three deed restrictions. These three deed restrictions will also be included in the ROD that covers the remaining three land parcels (i.e., Parcels 6, 7, 8) of the former DOE Mound Site Property. The first deed restriction prohibits the removal of soil from the original DOE Mound Site Property boundaries, unless prior written approval from the OEPA and ODH has been obtained. The second deed restriction prohibits the extraction, consumption, exposure or use in any way of the ground water underlying the premises, unless prior written approval from the EPA and the OEPA has been obtained. The third deed restriction limits land use to industrial/commercial only. Each parcel ROD identifies land uses that will not be permitted onsite, but the list is not meant to be all-inclusive – parcels may not be used for any residential or farming activities, or any activities that could result in the chronic exposure of children under 18 years of age to soil or ground water from the premises. Restricted uses include, but are not limited to

- Single or multi-family dwellings or rental units;
- Day care facilities;
- Schools or other educational facilities for children under 18 years of age; and
- Community centers, playgrounds, or other recreational or religious facilities for children under 18 years of age.

The preceding language on the deed restrictions applied to all land parcels that have completed the CERCLA 120(h) process to-date is a summary only. Readers are encouraged to consult the ROD for individual land parcels in order to better-understand the parcel-specific deed restriction language. RODs for parcels, as well as other parcel-specific CERCLA documents, are available in the CERCLA Public Reading Room located at 955 Mound Road, Miamisburg, Ohio 45342. The primary purpose of this annual assessment is to document the effectiveness of the ICs that have been applied to parcels that have completed the CERCLA 120(h) process for property transfer, including a determination of whether or not a particular IC has been violated on a discrete land parcel.

## **4.0 Period of Review**

This annual assessment covers Parcel D, since its ROD was issued on March 15, 1999; Parcel H, since its ROD was issued on July 22, 1999; Parcel 4, since its ROD was issued on March 12, 2001; Parcel 3, since its ROD was issued on August 28, 2001; and the Phase I land parcel, since its ROD was issued on July 31, 2003. The MMCIC is the property owner of Parcels D, H, 4 and 3, however, DOE still owns the Phase I land parcel. Refer to Figure 1 for a map of the original boundaries of the former DOE Mound Site Property, and the boundaries of the first five land parcels that have completed the CERCLA 120(h) process. Each annual assessment will identify new information, such as new construction, demolition or excavation, lot-splits or sale of parcels to new landowners, and permit applications filed with the City of Miamisburg by property owners or their agents since the last reporting period. Previous annual assessments are available in the CERCLA Public Reading Room, and are also included in the official CERCLA Administrative Record for the former DOE Mound Site Property.

## **5.0 Aerial View of the Former DOE Mound Site Property**

Figures 2 through 11 are aerial photographs (taken in April 2006) of the original DOE Mound Site Property, as a whole (i.e., including property still owned by DOE, as well as land parcels that DOE had already transferred to the MMCIC). The actual photographs were taken at low altitude using a nominal negative scale of 1:4800 and were developed using 1"=100' scale planimetric mapping (scale size of figures in this assessment vary). Photographic controls points were Horizontal Datum: NAD83, Vertical Datum: NAVD88, US Survey Feet, and State Plane – Ohio South Zone.

These aerial photos give the reader a better understanding of each parcel's relationship to the site, as a whole, as well as the proximity of the site to downtown Miamisburg, Ohio, and surrounding residential and recreational areas. These also give the reader a sense of orientation upon reading later sections of this annual assessment, which document the results of a physical inspection of each parcel. The aerial photos also complement photographs taken at ground-level in each parcel during the physical inspections.

## **6.0 Summary of Previous Year's Inspection**

Based upon the results of a physical inspection, document review and personnel interview process performed in June 2005 for Parcels D, H, 4, 3 and the Phase I land parcel, DOE and its regulators agreed that the three site-wide ICs were operating as designed, adequate oversight mechanisms were in place to identify possible violations of those controls, and adequate resources were available to correct or mitigate any problems in the event that a violation were to occur. There was one recommendation in the June 2005 annual assessment; this recommendation was based on best management practices for DOE to prevent recreational use of the MMCIC pond in Parcel 4. This recommendation was related to the effectiveness of the CERCLA remedy for "site-wide" ICs on Parcel 4, (which assesses the effectiveness of the site-wide ICs on all land parcels that have completed the CERCLA 120[h] process for property transfer).

## **7.0 Summary of Inspection Performed in June 2006**

On February 22, 2006, the following personnel performed a visual inspection of Parcels D, H, 4, 3, and the Phase I land parcel: Art Kleinrath, DOE Office of Legacy Management (LM); Steve Golian, DOE Office of Environmental Management (EM); Tim Fisher, EPA; Brian Nickel, OEPA; Frank Bullock, MMCIC; Beth Moore, City of Miamisburg; Mark Gilliat, CH2M Hill; Becky Cato, Environmental S.M. Stoller; Chuck Friedman, Environmental S.M. Stoller; Joyce Massie, Stakeholder Relations S.M. Stoller; Mike Hurshman, Safety S.M. Stoller; Karen D. Williams, Ohio Transition Coordinator S. M. Stoller. The results of the visual inspection for each parcel are summarized in the following paragraphs. A copy of the field inspection checklist for each parcel is also included (Appendix A).

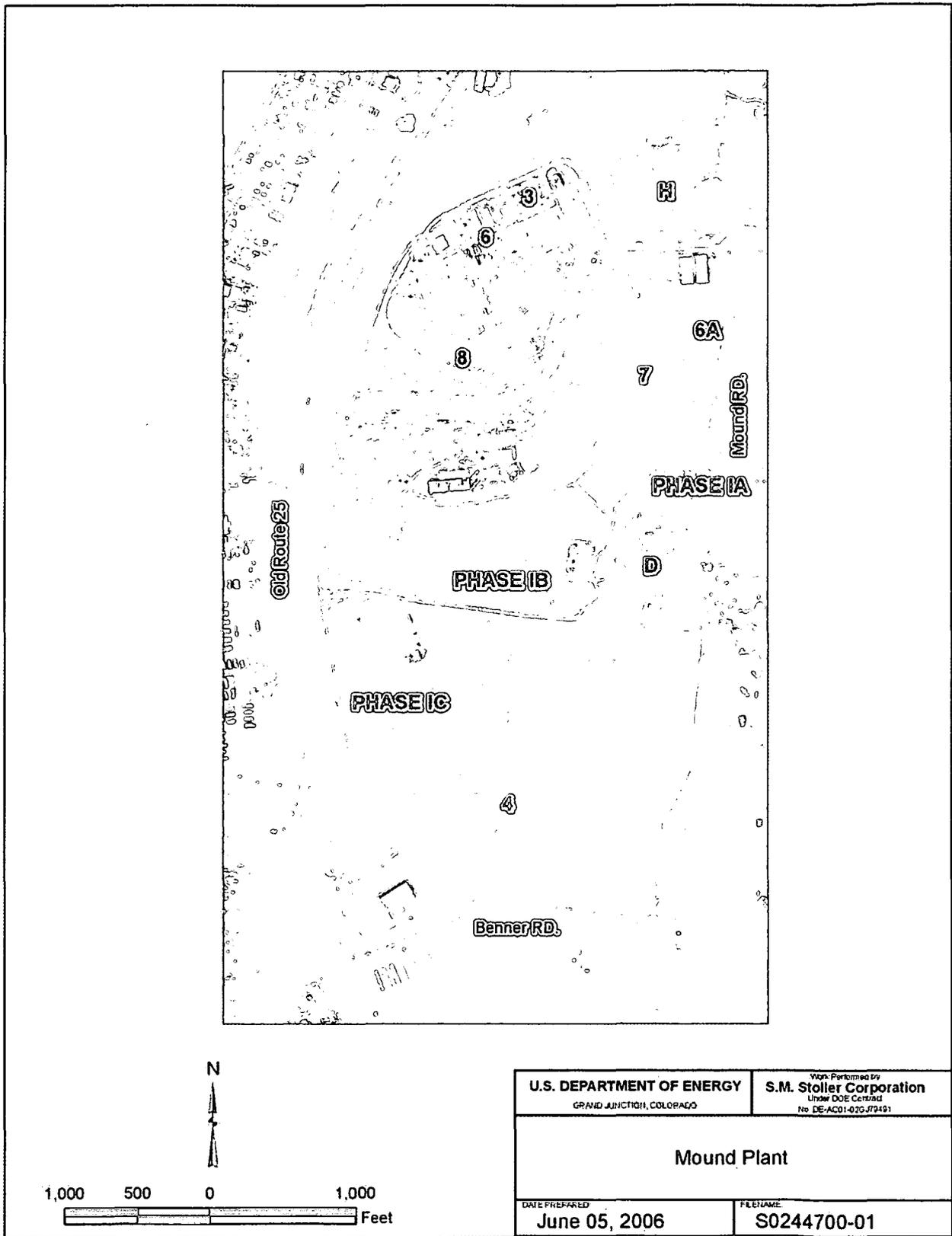


Figure 2. Mound Plant

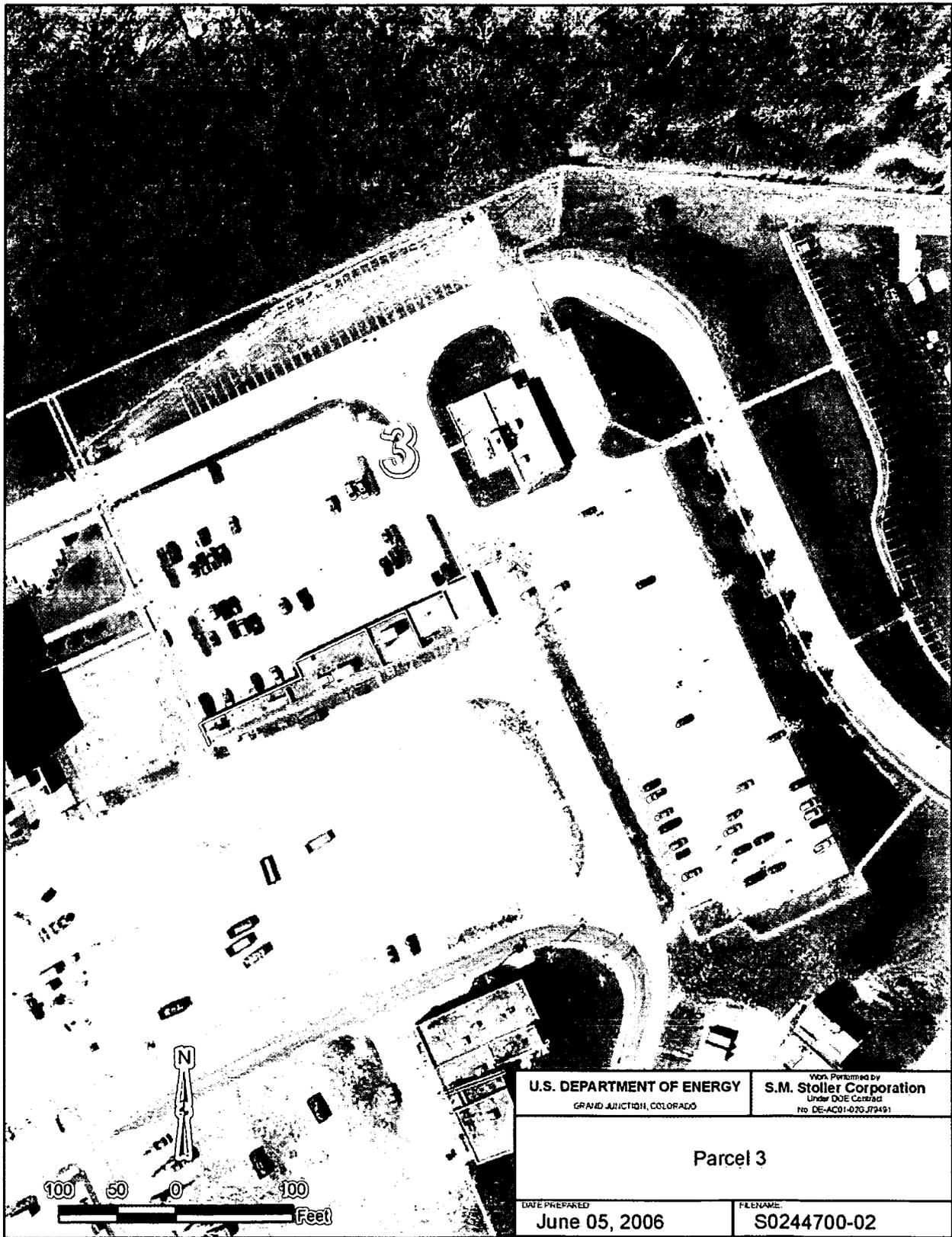
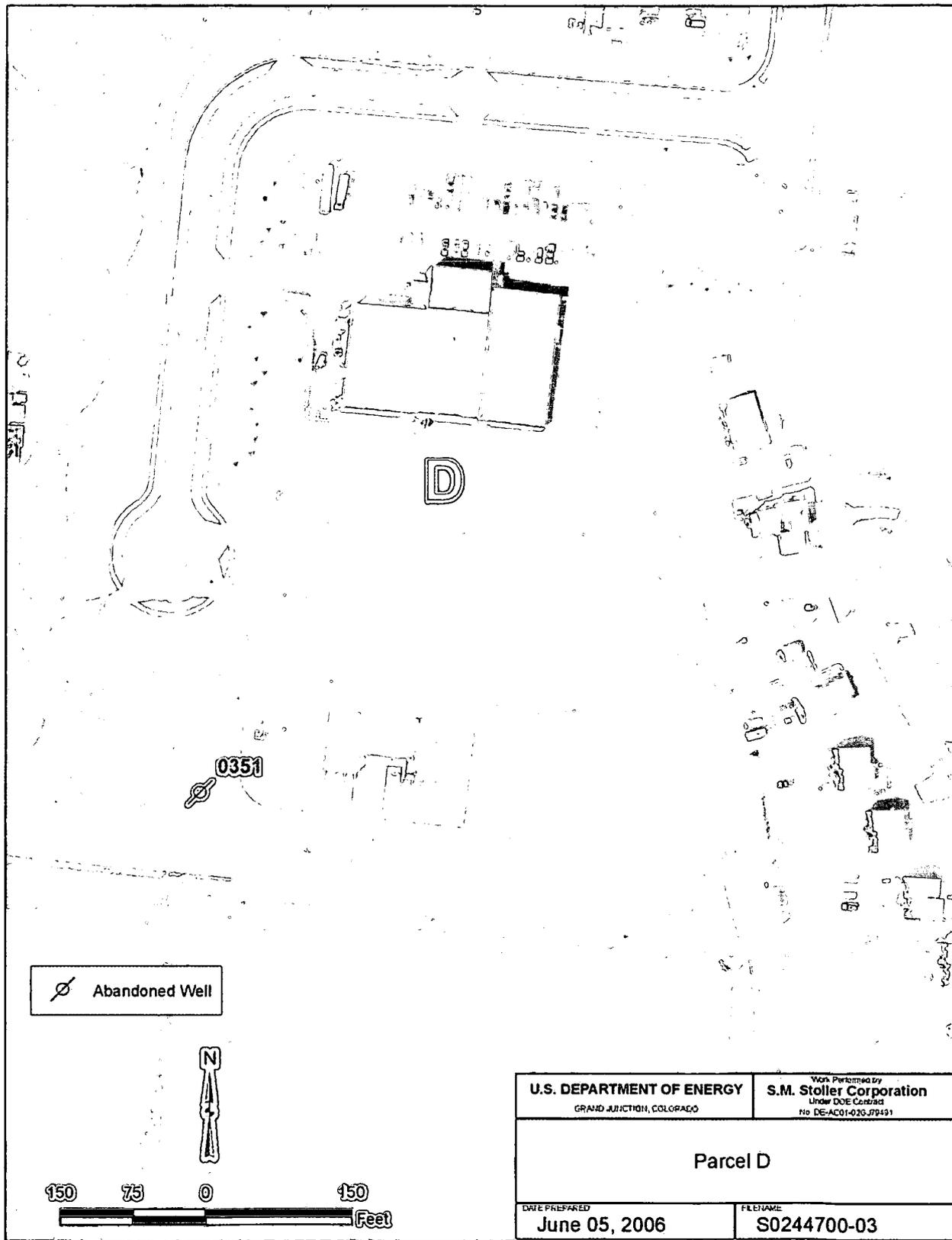
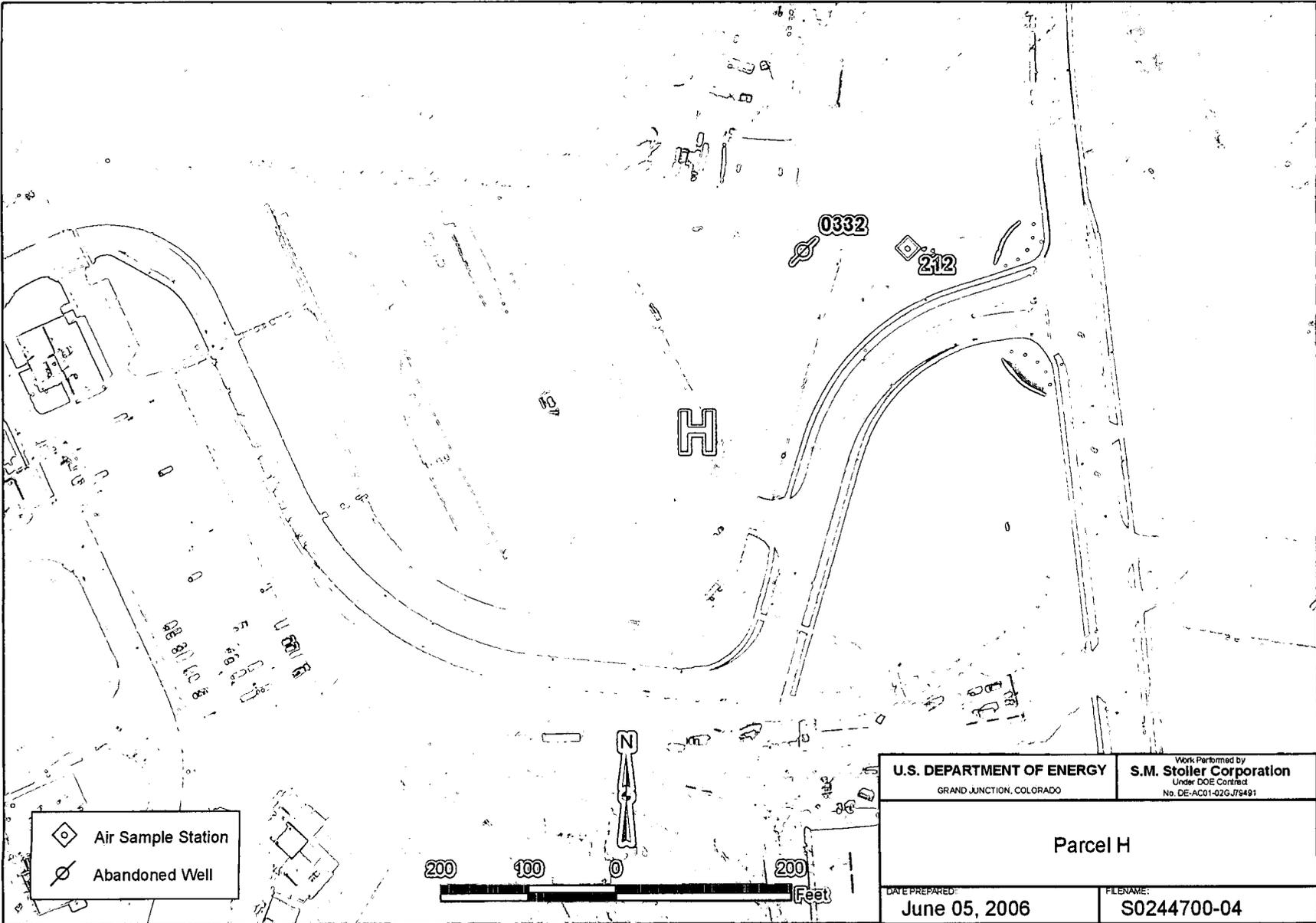


Figure 3. Parcel 3



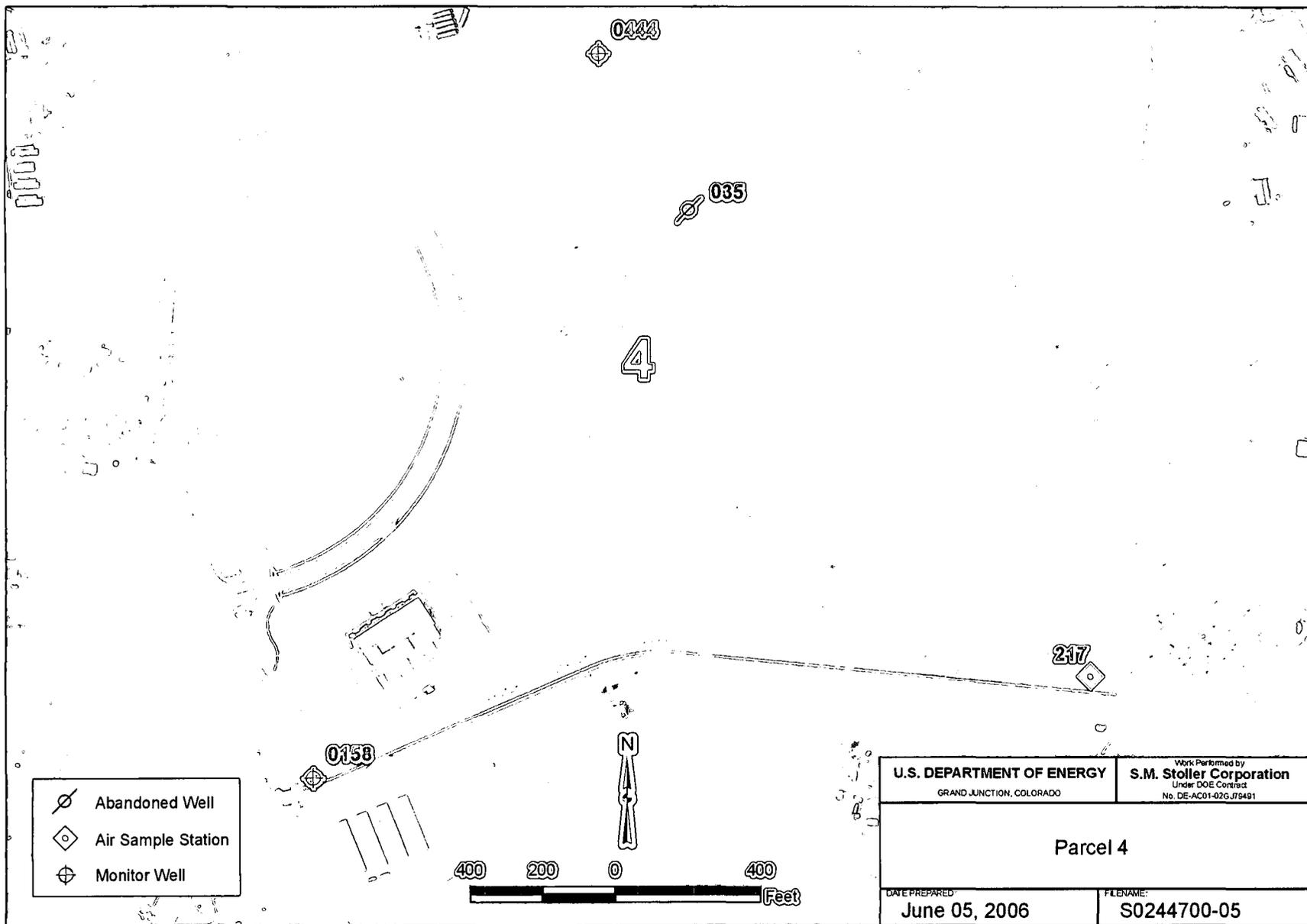
M:\LTS\111\0061\02\S0244703\S0244700-03.mxd coatesc 6/7/2006 1:43:46 PM

Figure 4. Parcel D



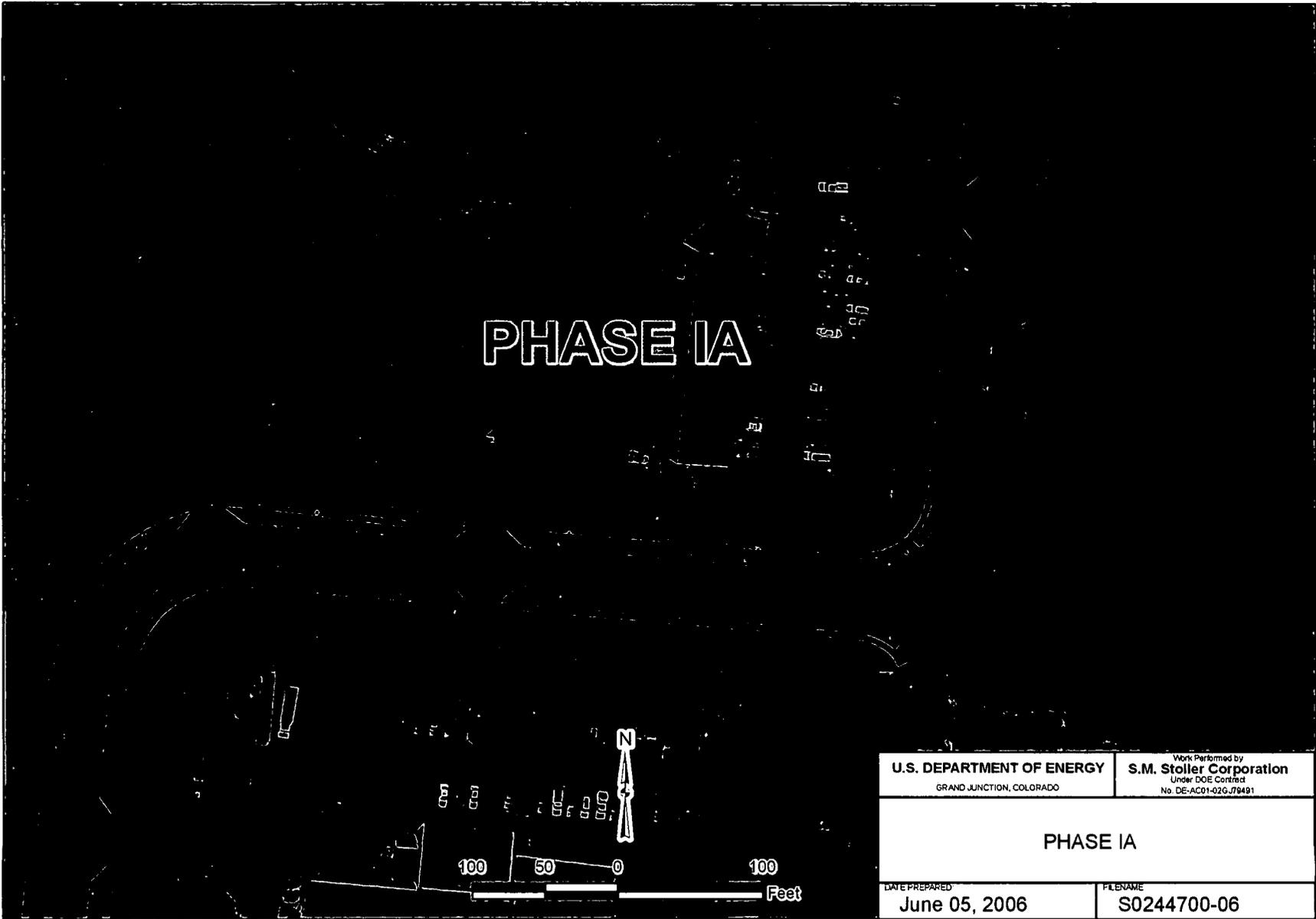
M:\LTS\111\0061\02\S02447\04\S0244700-04.mxd coatesc 6/7/2006 1:48:58 PM

Figure 5. Parcel H



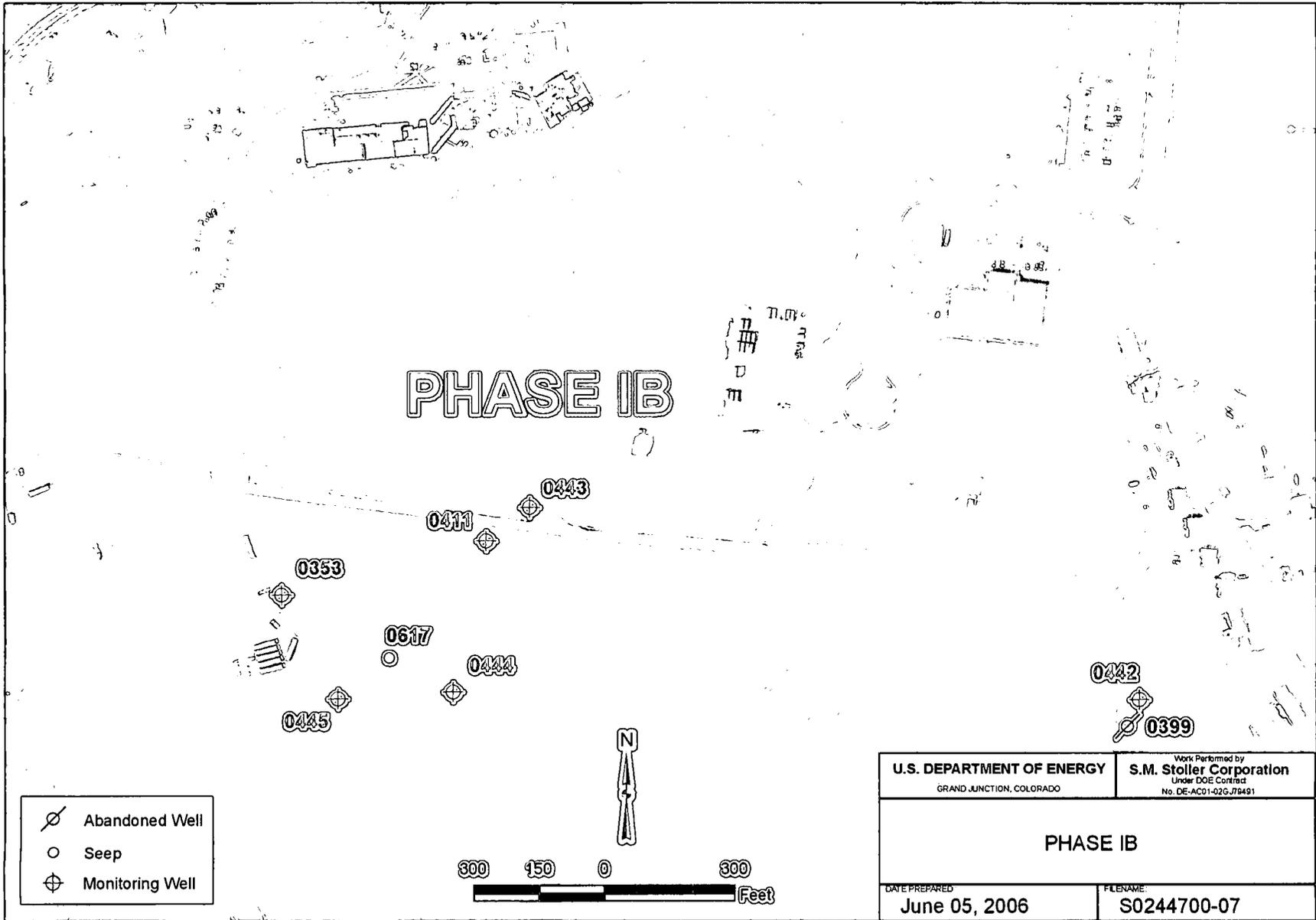
M:\LTS\111\006\1\02\S02447\05\S0244700-05.mxd coatesc 6/7/2006 1:53:30 PM

Figure 6. Parcel 4



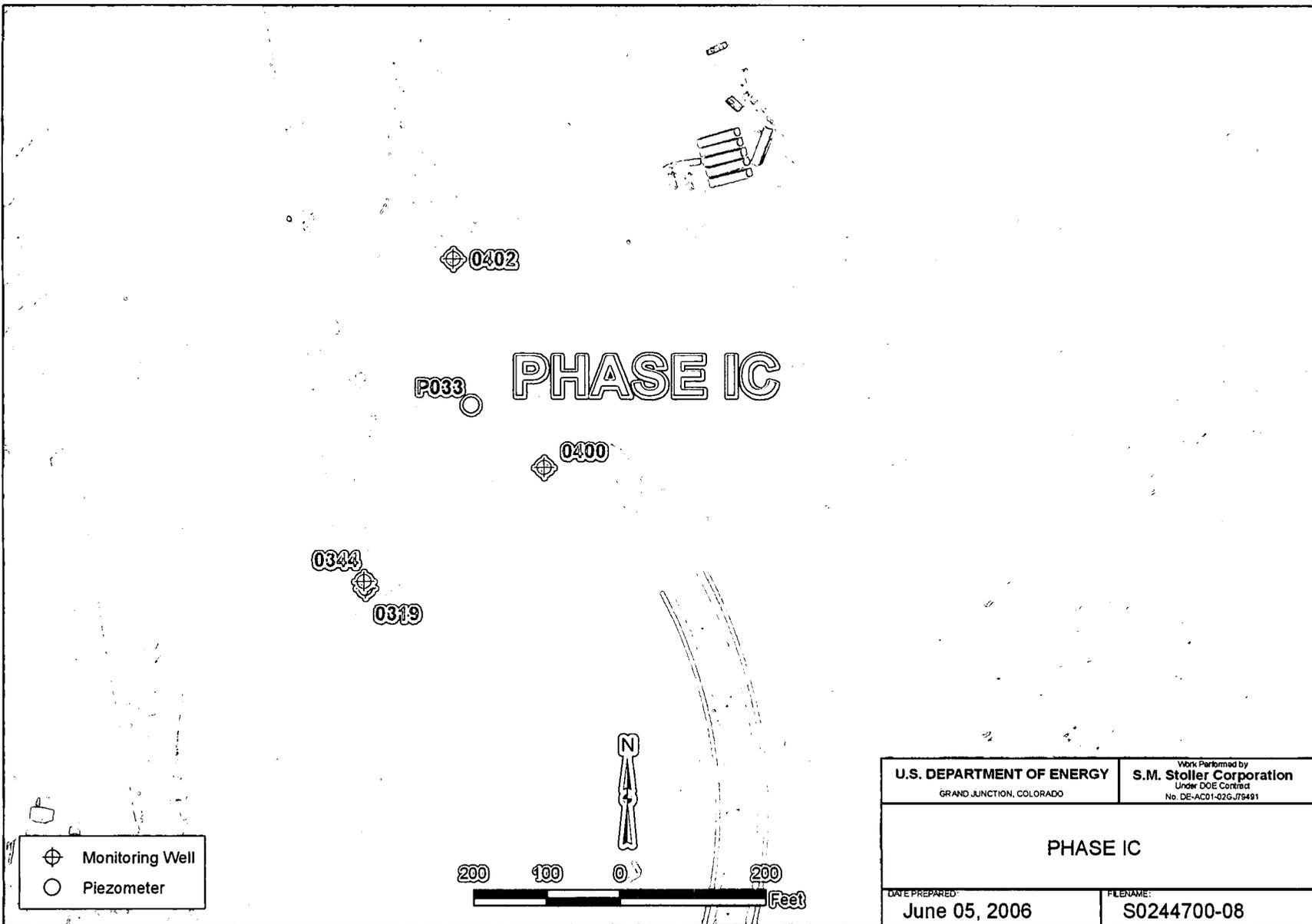
M:\LTS\111\0061\02\S02447\06\S0244700-06.mxd coatesc 6/7/2006 1:57:46 PM

Figure 7. Phase IA



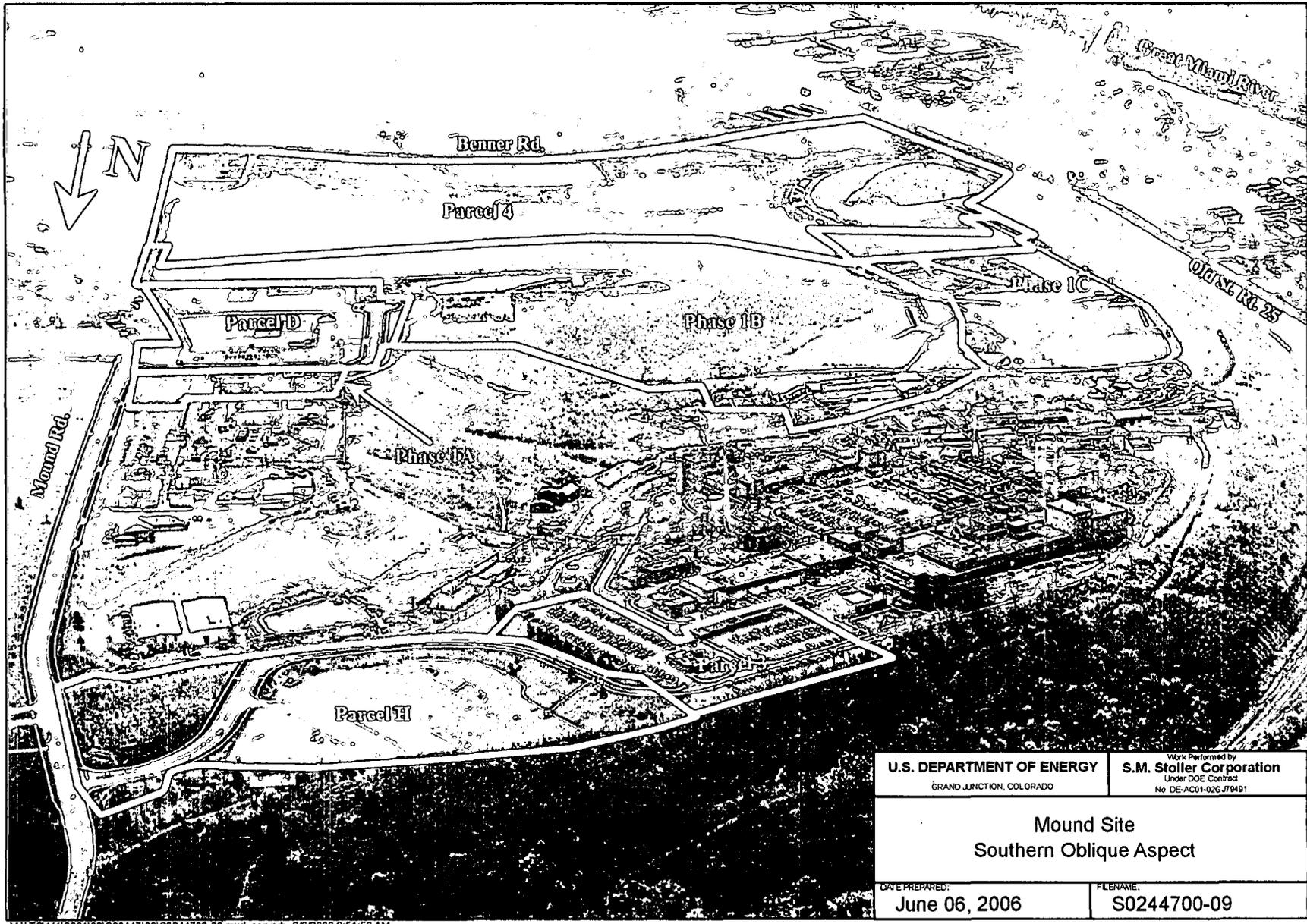
M:\LTS\111\0061\02\S02447\07\S0244700-07.mxd coatesc 6/7/2006 2:00:33 PM

Figure 8. Phase IB



M:\LTS\111\0061\02\S0244700\S0244700-08.mxd coatesc 6/7/2006 2:03:10 PM

Figure 9. Phase IC



U.S. DEPARTMENT OF ENERGY GRAND JUNCTION, COLORADO	Work Performed by <b>S.M. Stoller Corporation</b> Under DOE Contract No. DE-AC01-02G-J79491
<b>Mound Site</b> <b>Southern Oblique Aspect</b>	
DATE PREPARED: <b>June 06, 2006</b>	FILENAME: <b>S0244700-09</b>

M:\LTS\111\0061102\S02447\09\S0244700-09.mxd carverh 6/6/2006 9:51:56 AM

Figure 10. Mound Site Southern Oblique Aspect

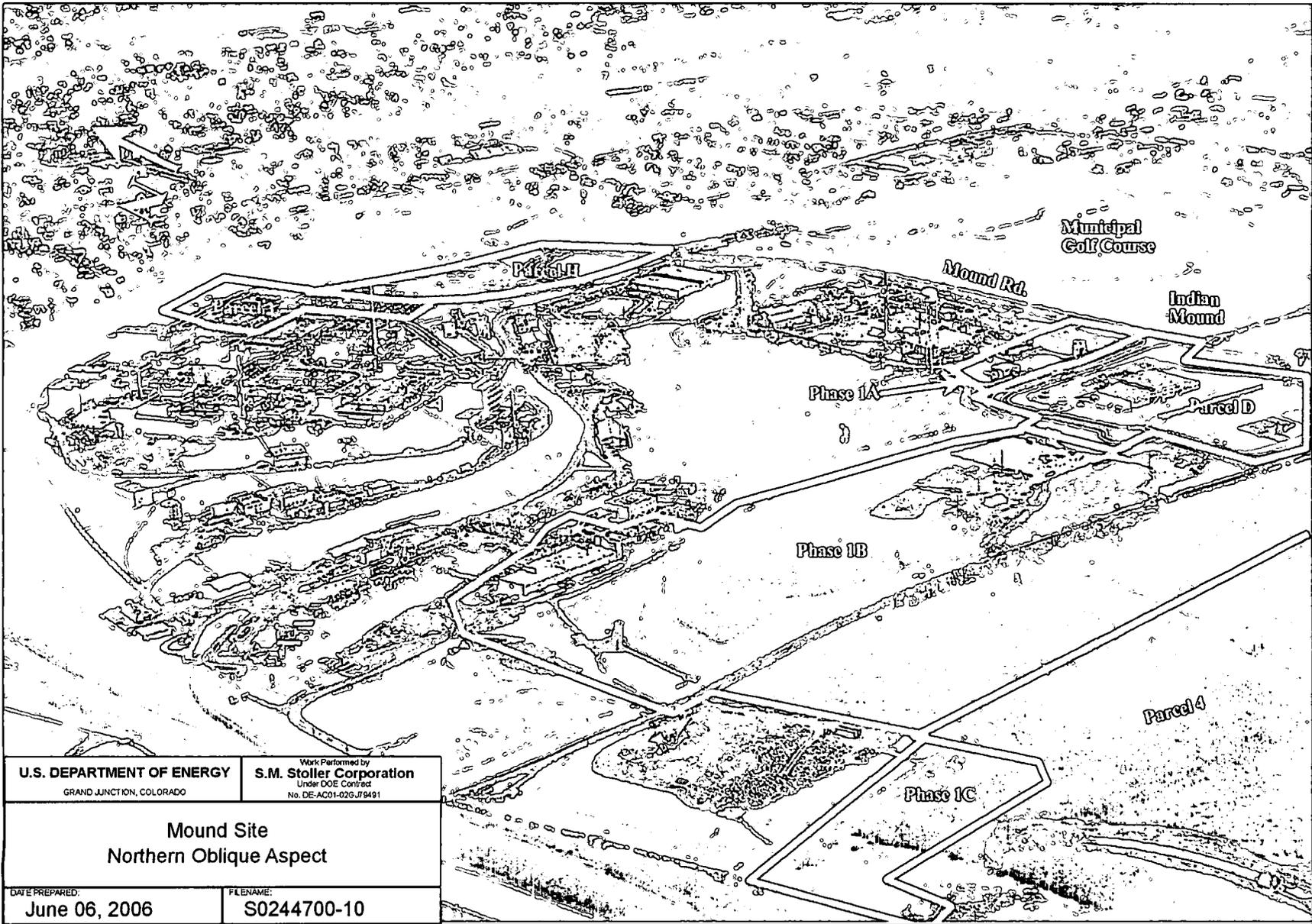


Figure 11. Mound Site Northern Oblique Aspect

M:\LTS\111\0061\02\S0244710\S0244700-10.mxd carved 6/6/2006 10:05:01 AM

## 7.1 Parcel D

In Parcel D, there were no observations of non-compliance with the ICs, including no evidence of unauthorized well installation or soil removal from the original boundaries of the DOE Mound Site Property (Figure 4). There were two piles of staged sand in the southeast corner of the parcel. These piles were fill material that MMCIC imported to the site, and the piles have remained un-changed since they were described in the 2003 annual assessment. Ground water monitoring well 0351 on Parcel D has been abandoned with a permanent identification tag on the concrete pad within Parcel D (abandoned well identification shown in last years assessment).

## 7.2 Parcel H

In Parcel H, there were no observations of non-compliance with the ICs, including no evidence of unauthorized well installation or soil removal from the original boundaries of the DOE Mound Site Property (Figure 5). Ground water monitoring well 0332 (located in the northeast corner of Parcel H parking lot) has been abandoned (pictures of well closure shown in last year's assessment). There are DOE and OEPA air monitoring stations located on the southeast corner of Parcel H, near Soil Staging Area (PRS 441), OU-1 (monitoring station not operational at this time), Building-102 and the western edge of the site (monitoring station 214). Ohio EPA air monitoring stations are not operational at this time. Ohio EPA will be abandoning their air monitoring stations between June 2006 and June 2007. DOE air monitoring stations will remain operational in these areas. Air monitoring is not part of the CERCLA remedy for Parcel H.

## 7.3 Parcel 4

In Parcel 4, there were no observations of non-compliance with the ICs during the walkover (Figure 6). There was no evidence of unauthorized well installation or soil removal from the original boundaries of the DOE Mound Site Property (Figures 12 and 13). The two year old "Flex" building is leased to a single tenant. The tenant's line of business is consistent with the City of Miamisburg's I-2 General Industrial District Zoning ordinance.

There are three ground water monitoring wells on Parcel 4. Well 0158 (Figure 14) is located near the intersection of Benner Road and Old State Route 25. Well 0354, located and abandoned near the northern boundary of Parcel 4. Well 0444 is located on the northern boundary of Parcel 4, near the boundary of the Phase I land parcel (Figure 15). Well 0444 was padlocked and in good repair. However, well 0444 is not identified by a monument. A United States Geological Service marker is also located on Parcel 4, near the intersection of Benner and Mound Roads.

There is a storm water run-off retention pond located on Parcel 4 (Figures 16 and 17). This pond has been posted "Recreational Use Prohibited." There are four signs around the pond. The signs were placed around the pond after people were observed fishing in the pond during June 2004 and in 2005. There are no indications of fishing during this year's inspection. Anecdotal evidence supports that fishing activity has diminished. Exhibit 2 is an EPA document on the role of ICs.

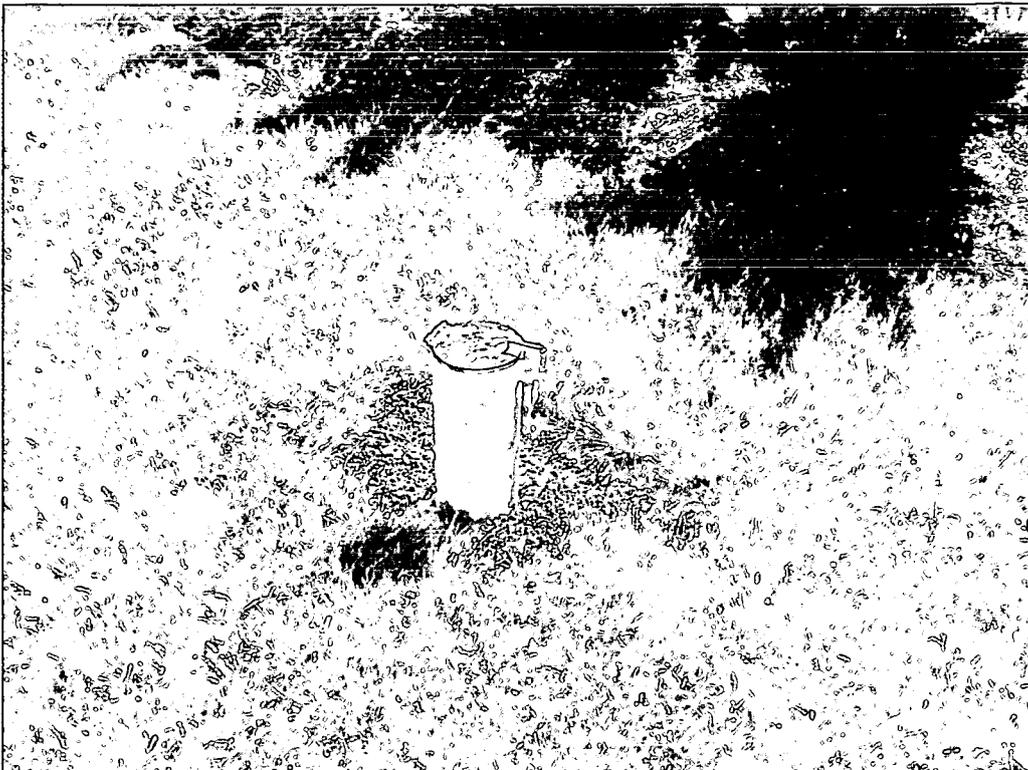
Improvements have been made by MMCIC to the southern boundary of Parcel 4. As demonstrated in the June 2005 annual assessment the installed sidewalk cut off access to the old construction entrance to the Mound Facility. Soil piles were also staged by the MMCIC near the southern boundary of Parcel 4 to provide a deterrent.



*Figure 12. Parcel 4, looking toward Phase IB*



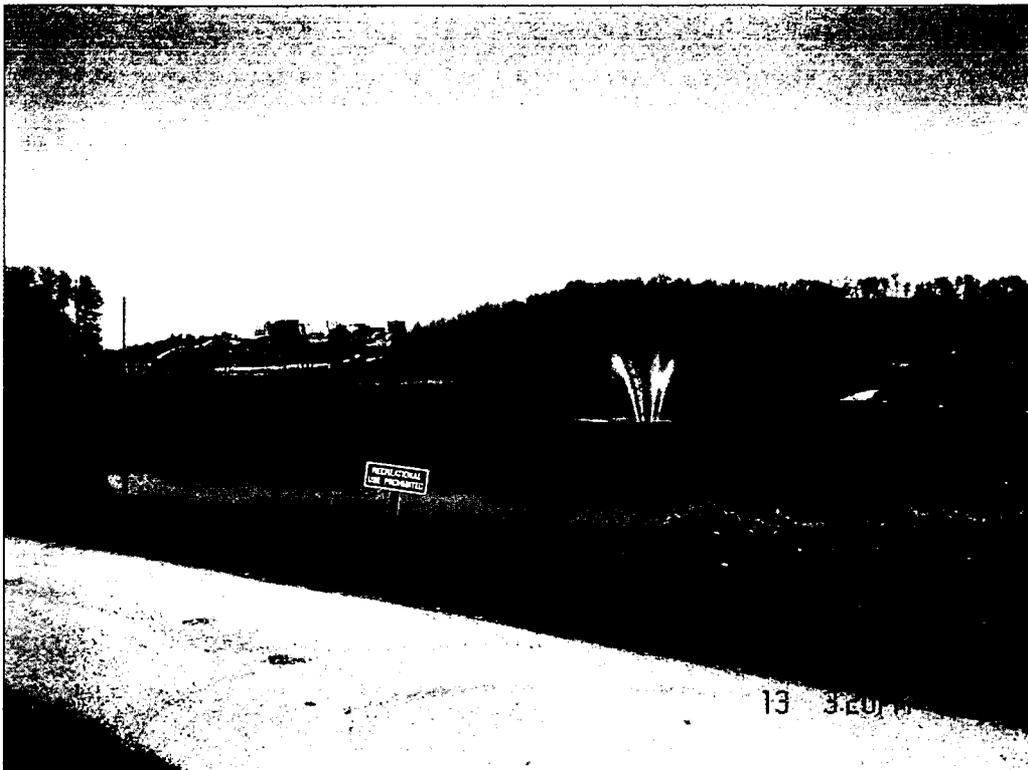
*Figure 13. Parcel 4, MMCIC property*



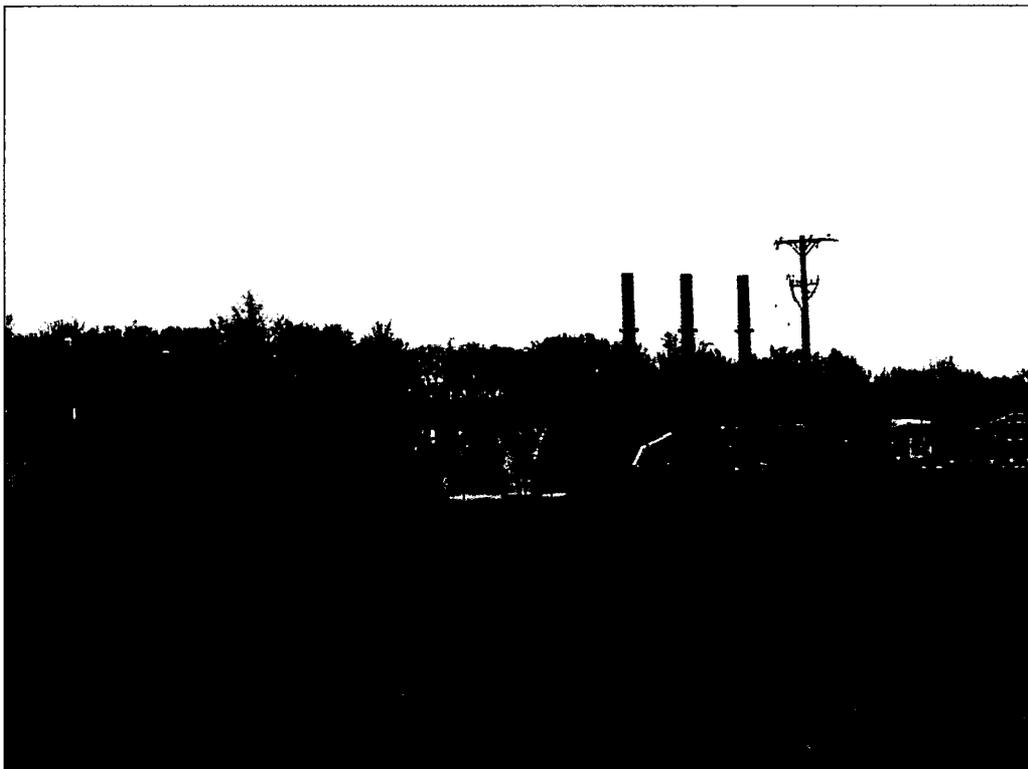
*Figure 14. Ground water well 0158 located in the southwest corner of Parcel 4, near the intersection of Benner Road and Old State Route 25*



*Figure 15. Ground water well 0444 on northern boundary of Parcel 4, locked and in good repair*



*Figure 16. MMCIC Pond located in southwest corner of Parcel 4, with signage in foreground and Mound site on hill in background*



*Figure 17. Parcel 4, looking southwest towards pond*

## 7.4 Parcel 3

In Parcel 3, there were no observations of non-compliance with the ICs, including no evidence of unauthorized well installation or soil removal from the original boundaries of the DOE Mound Site Property (Figure 3). No ground water monitoring wells are located on Parcel 3. The parcel remains virtually unchanged (i.e., two buildings and three parking lots) since DOE transferred the property to the MMCIC in August 2002. Since last year's annual inspection, a subsidence caused by erosion from a broken storm water line, at the southeastern end of the parcel was repaired. The sink-hole did not affect any of the IC's associated with Parcel 3, nor did it affect any ongoing environmental restoration on DOE-owned property and/or the CERCLA remedies associated with any other DOE or MMCIC-owned properties associated with the original Mound Plant Site.

## 7.5 Phase I parcel

In the Phase I land parcel, there were no observations of non-compliance with the ICs, including no evidence of unauthorized well installation or soil removal from the original boundaries of the DOE Mound Site Property. As mentioned in an earlier section of this report, the Phase I land parcel is divided into three sub-parcels (none of which are contiguous with one another). At this point in time, none of the Phase I sub-parcels have been transferred to the MMCIC. Unlike Parcels D, H, 4 and 3, the Phase I land parcel includes both an IC remedy and a Monitored Natural Attenuation (MNA) Remedy. Eight (8) ground water monitoring wells and one ground water seep are included in the "Phase I Remedy (Monitored Natural Attenuation) Ground Water Monitoring Plan." Five of the eight wells (wells 0400, 0411, 0443, 0445, and P033), and the seep (Seep 0617), are located in the Phase I land parcel. One of the eight wells (well 0444) is located in Parcel 4, and the remaining two wells (wells 0353 and 0402) are located on proposed Parcel 8, DOE-owned property to the north of the Phase IC sub-parcel (Figure 18 shows well P015 in the construction spoils area. Figure 19 is the former DOE salt storage shed and Figure 20 shows sealands staged in the burn area both located in Phase IB sub-parcel. This annual report documents the effectiveness of the ICs remedy applied to the Phase I land parcel (and Parcels D, H, 4 and 3); this report does not include a determination of the effectiveness of the MNA remedy associated with the Phase I land parcel. The annual Phase I Ground Water Monitoring Report can be found in the in the CERCLA Public Reading Room at 955 Mound Road, Miamisburg, OH 45342.) However, since wells 0353 and 0402 fall outside the boundaries of the Phase I land parcel, but are included in the Phase I MNA remedy/ground water monitoring plan, they are only mentioned briefly. Well 0353, located in the old spoils area, was locked and new cover on the casing inside of the cover pipe was in place. Well 0402 on DOE property was padlocked and in good repair.

There are five wells located in the Phase I land parcel, which are subject to the monitoring requirements in the Phase I MNA remedy/ground water monitoring plan. Wells P033 (Figure 21) and 0400 (Figures 22 and 23), located in the Phase IC sub-parcel, are screened in the Buried Valley Aquifer (BVA), well 0445 (Figure 24) is a bedrock well that is also located in the Phase IC sub-parcel, and wells 0411 (Figure 25) and 0443 are bedrock sources located in the Phase IB sub-parcel. Seep 0617 (Figure 26) is also located in the Phase IB sub-parcel. There are three other monitoring wells located in the Phase I land parcel; well 0399 was abandoned during the past year. wells 0399 and 0442 (Figure 27) in the Phase IB sub-parcel, and wells 0344 (Figures 28 and 29) and 0319 (Figure 30) in the Phase IC sub-parcel. However, none of these four wells are subject to the Phase I MNA remedy/ground water monitoring plan.



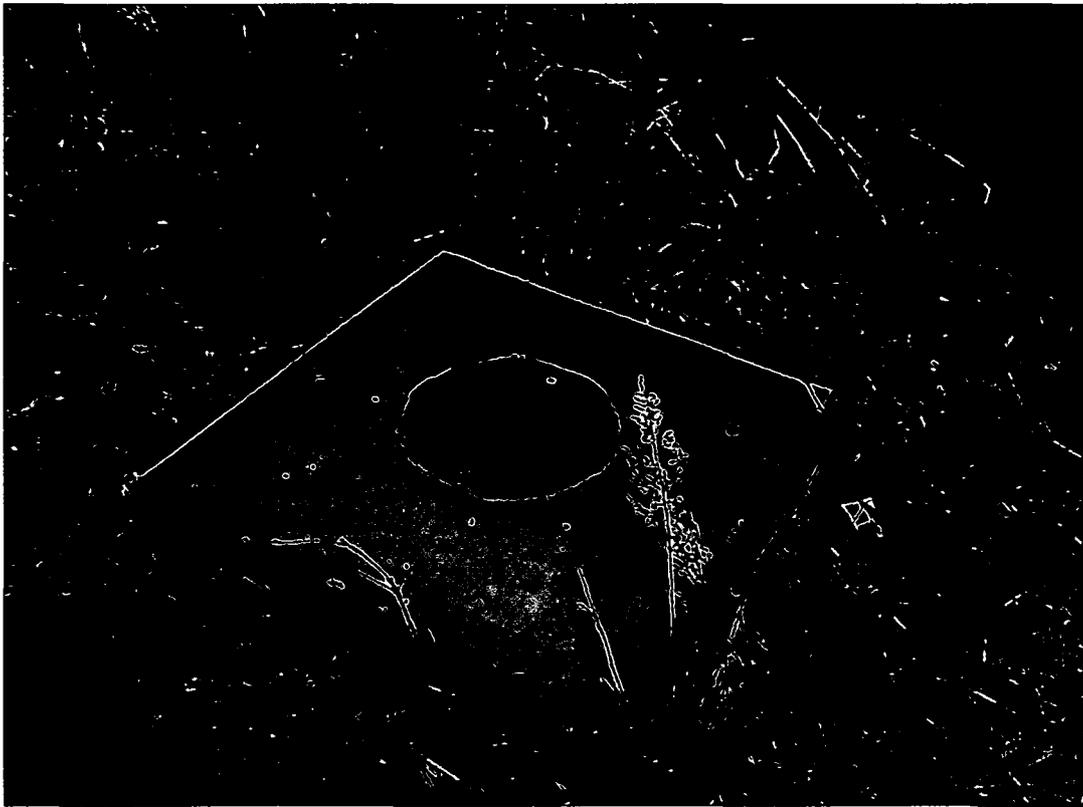
*Figure 18. Well P015, located in the Parcel 8, construction spoils area*



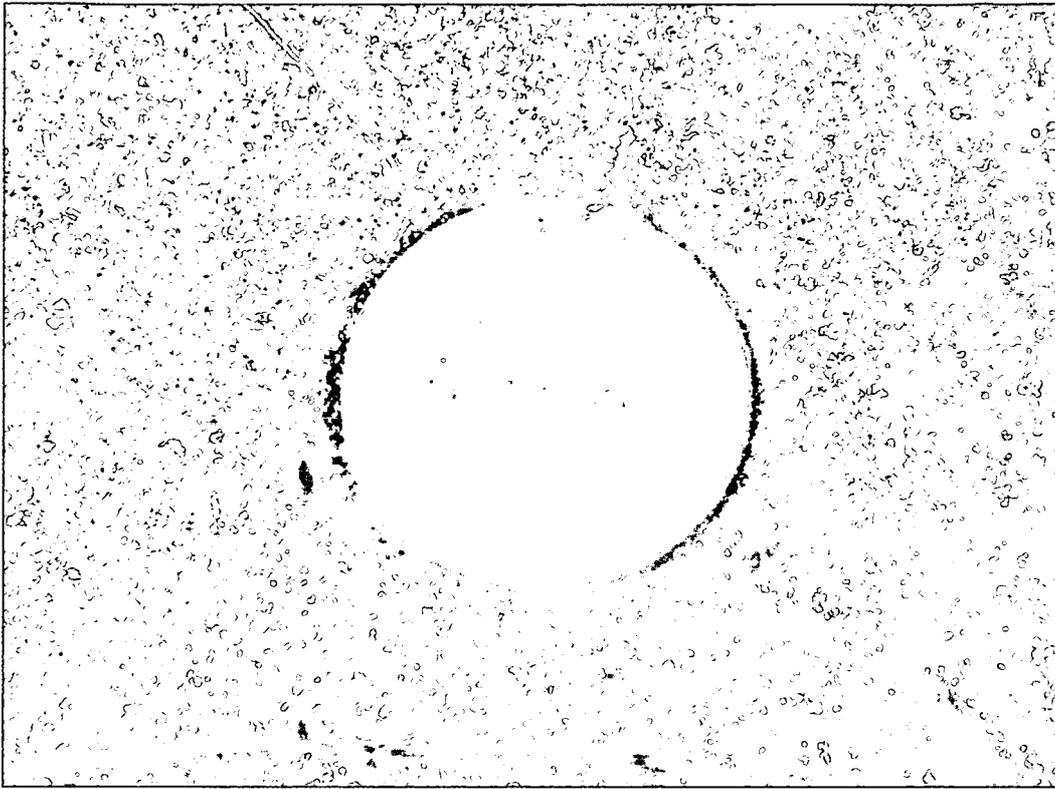
*Figure 19. Former DOE salt storage shed located in Phase IB sub-parcel*



*Figure 20. CH2M Hill sealands and shipping materials, staged in the burn area, Phase IB*



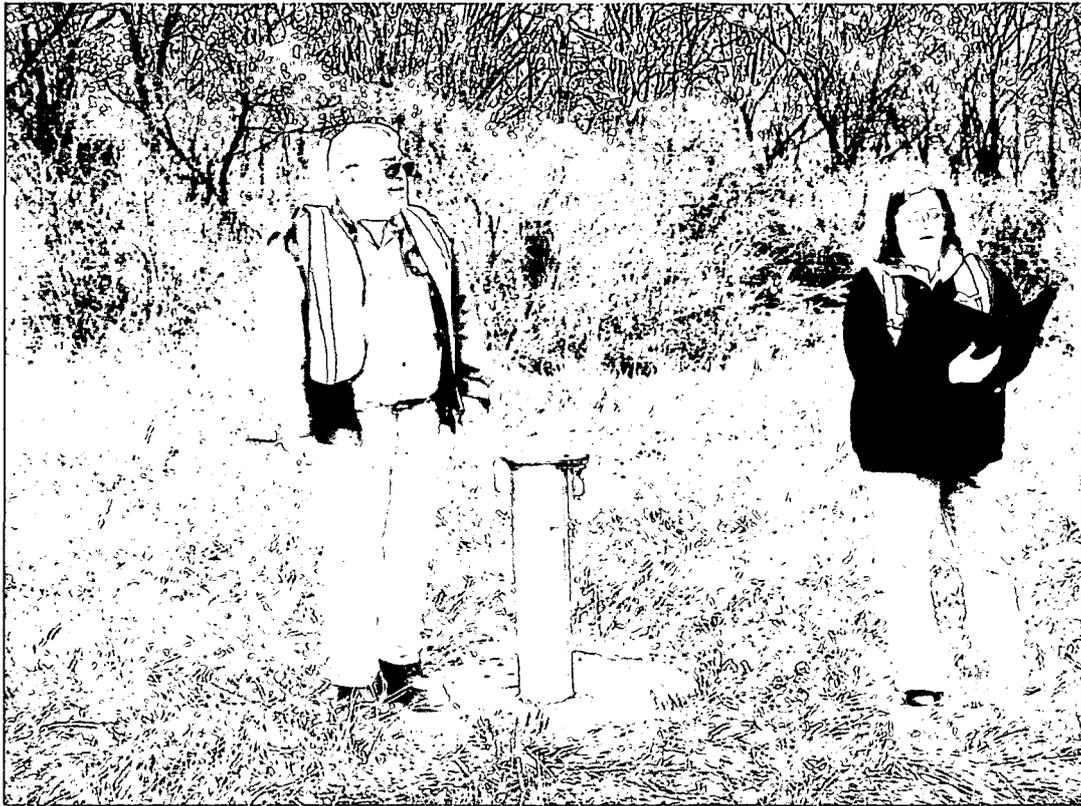
*Figure 21. Well P033, located in the Phase IC sub-parcel*



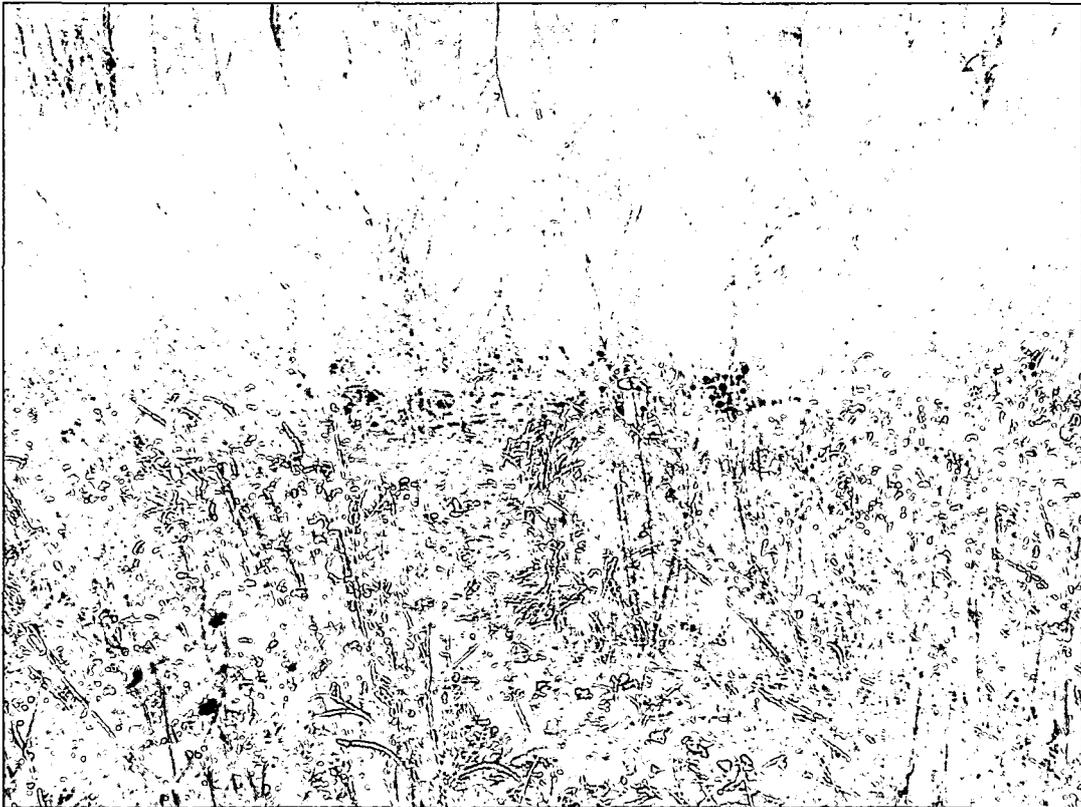
*Figure 22. Well 0400 identification plate*



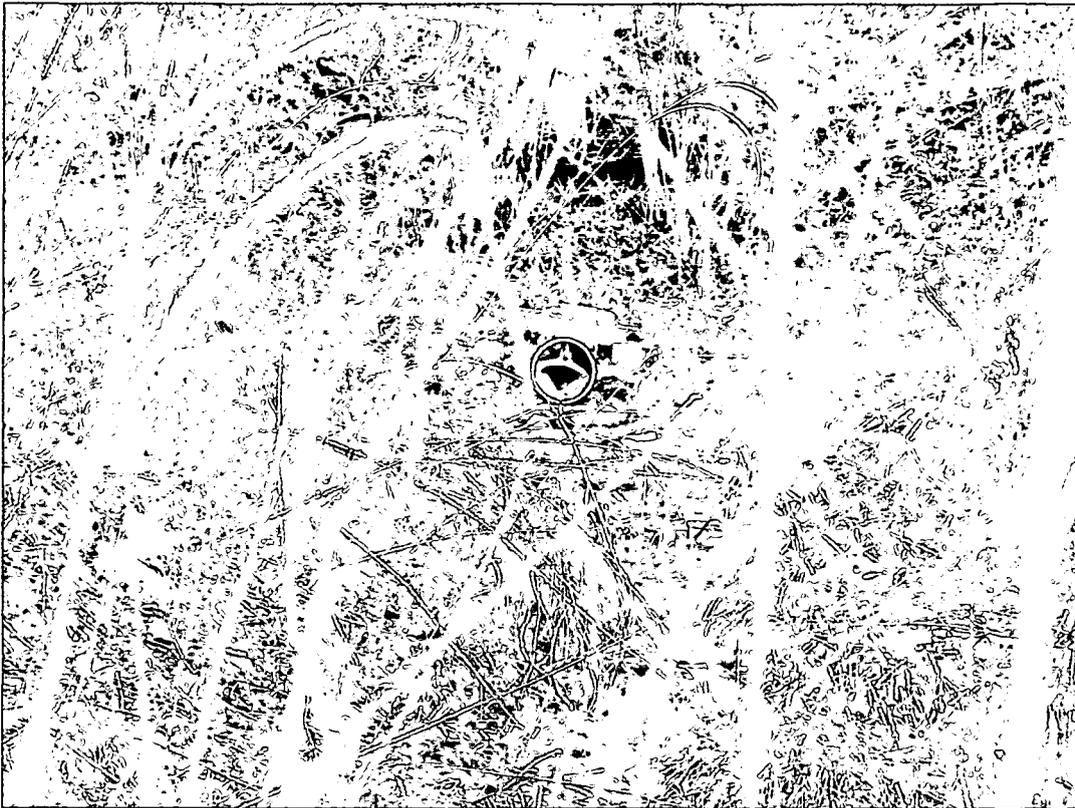
*Figure 23. Well 0400, located in the Phase IC sub-parcel, are screened in the BVA well was locked and in good repair*



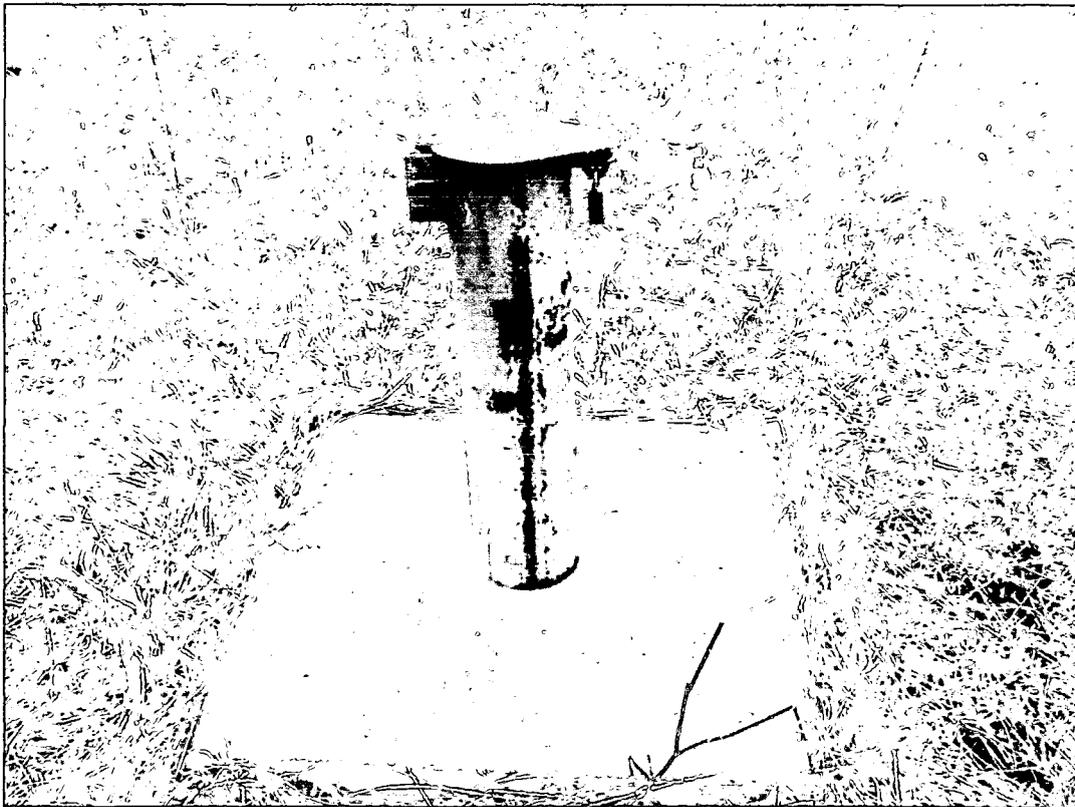
*Figure 24. Well 0445, located in Parcel I, recommendation to abandon this well due to low flow*



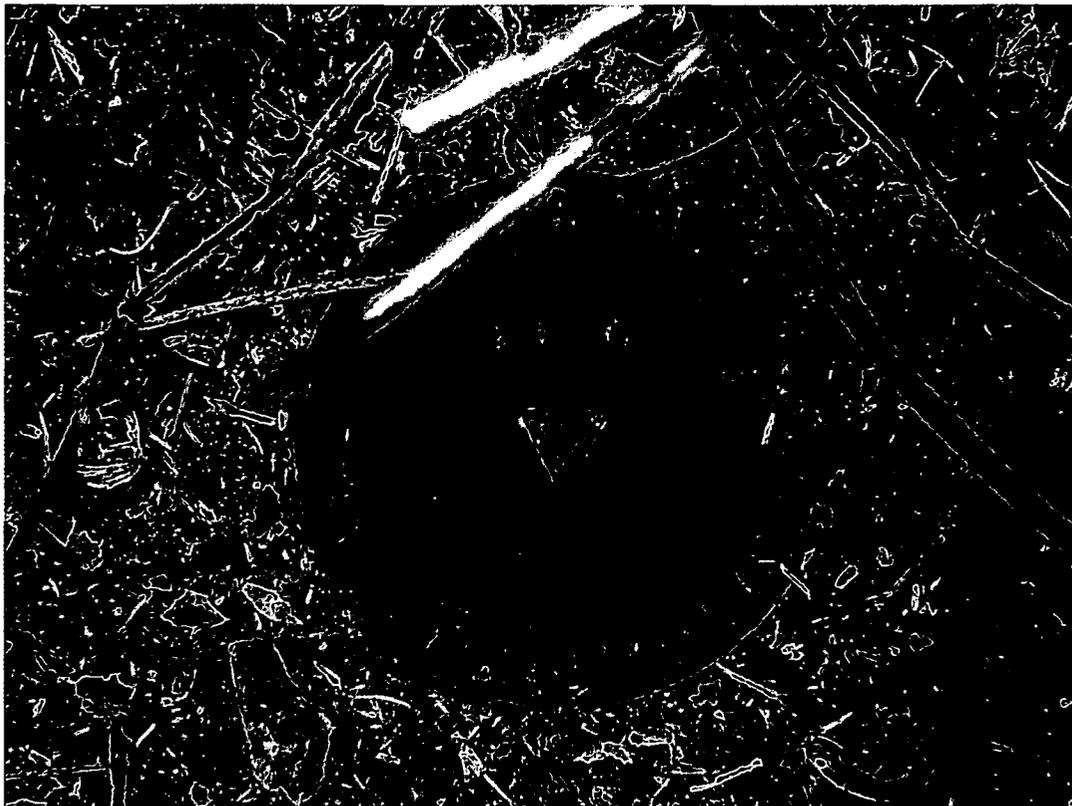
*Figure 25. Well 0411 locked and in good repair, one of five MNA wells in Parcel I*



*Figure 26. Ground water seep number 617, located in Parcel 1*



*Figure 27. Well 0442, locked and in good repair, located in Phase IB parcel*



*Figure 28. Identification plate for well 0344 located in the Phase IC sub-parcel*



*Figure 29. Well 0344, locked and in good repair*



*Figure 30. Well 0319, located in the Phase IC sub-parcel*

## **8.0 Interviews with City Personnel and Review of City or MMCIC Records**

In addition to the visual inspection of Parcels D, H, 4, 3 and the Phase I land parcel performed on February 22, 2006, representatives from DOE LM (Art Kleinrath) visited the City of Miamisburg Engineering and City Planning Departments on February 20, 2006, and reviewed permits maintained by those departments for all work performed by MMCIC and/or its tenants or subcontractors, on Parcels D, H, 4, 3 and the Phase I land parcel. Of all permits reviewed (i.e. total of seven permits), one (1) permit pertained to work performed on, or that had the potential to impact, Parcel 1A, since the date of DOE's last inspection of Parcel 1A (i.e., June 2005). The 7 permits for the site are detailed in the table on the following page. Any work under an approved permit that included excavation is highlighted in bold text.

In general, the permit review process that was conducted by DOE LM on February 20, 2006, demonstrated that the City of Miamisburg's record-keeping system is adequate. All permits that were expected to be on file with the City were, indeed, on file. Furthermore, all work performed by the MMCIC or other parties (e.g., contractors to the MMCIC) on the former DOE Mound Site Property, that Art Kleinrath and Frank Bullock were cognizant of during the 12-month reporting period, appeared to be adequately covered by permits submitted to, and approved by, the City of Miamisburg. As noted in DOE's 2005 annual report on the effectiveness of site wide ICs, in 2003, the City of Miamisburg implemented an electronic permits database, which allows permits to be queried via key word searches (e.g., permit number, date, location, nature of work).

Permits issued by the City prior to implementation of the City's new database (e.g., permits documented in DOE's annual reports dating back to 2001) may not be input in the City's database, however, paper copies of all permits are retained by the City in accordance with a Records Retention Plan that meets all State of Ohio requirements.

Given that permits filed with the City of Miamisburg do not have a set expiration date, DOE and the property owner (at present, the MMCIC) should remain cognizant of permits filed with the City of Miamisburg, where work covered by that permit may have been postponed for performance at a later date. Maintaining this cognizance will provide a checks-and-balance that work requiring a permit and which was performed since the date of the last DOE inspection was, indeed, approved by the appropriate City officials.

**NOTE:** The table on the following page does not repeat information on permits included in previous year's DOE reports on the effectiveness of the site-wide ICs. Nor will each year's report necessarily list permits filed by the MMCIC and/or its tenants or subcontractors for work performed on DOE-owned/MMCIC-leased property. Instead, the following tables are typically limited to permits filed after a ROD has been executed for a particular parcel, since DOE is responsible for O&M of the site-wide ICs remedy (regardless of whether or not DOE has conveyed title of that parcel, in whole or in part, to the MMCIC).

Until DOE conveys a land parcel to the MMCIC, in whole or in part, the property is not subject to City of Miamisburg permitting requirements. The MMCIC has proactively used the City-permitting process in order to familiarize the City with the properties that will eventually belong to the MMCIC. This familiarity can greatly reduce the amount of time it takes for the MMCIC to receive City approval (e.g., for a Building Occupancy Permit), once the MMCIC acquires title of that property from DOE. Since DOE first began performing annual inspections of City records in May 2001, DOE has performed spot-checks of all permits located within a particular City file (City files are maintained by street address) in order to confirm that the entire set of permits is maintained in chronological order (most-recent at front of file). These spot-checks have consistently shown that the City maintains its permit files under configuration control. The below list provides a "crosswalk" of the former DOE Building names/numbers, and the corresponding new Miamisburg street addresses. Not all of the below-listed former DOE buildings reside in a land parcel that DOE has conveyed, in whole or in part, to the MMCIC via quitclaim deed. The list provides an accurate listing of the Miamisburg street addresses associated with each building.

Former DOE Building	New Miamisburg Street Address	Former DOE Building	New Miamisburg Street Address
28	330 Capstone Circle	126	955 Mound Rd.
45	935 Vanguard Blvd.	COS	360 Capstone Circle
61	885 Mound Rd.	GH	500 Capstone Circle
63	1070 Vanguard Blvd.	OSE	480 Capstone Circle
87	1100 Vanguard Blvd.		
100	790 Enterprise Court	OSW	460 Capstone Circle
102	1075 Mound Rd.	T	350 Capstone Circle
105	1195 Mound Rd.		

The following table, and “Note” at the end of the table, corresponds to the City of Miamisburg’s filing system, which provides each former DOE building name or number with a street address, except for those former DOE buildings that the MMCIC plans to demolish.

*Table 1. City of Miamisburg File on 1075 Mound Road (AKA “Mound Building 102”)*

Location of work	Permit number	Date of Permit Application	Submitted by	Nature of Work	Parcel/ Building	Work Performed by
1075 Mound Rd	050477	05/13/2005	Chapel Electric	Underground elec for EPA monitor	Parcel IA Building 102	Chapel

**NOTE:** The following additional City files were reviewed by DOE and MMCIC on February 20, 2006; however, none of these files contained permits that had an impact on the effectiveness of site-wide ICs. The City of Miamisburg does not maintain files on buildings that the MMCIC plans to demolish. City files do exist on buildings that have already been demolished, however, those files are now considered obsolete.

*Table 2. City of Miamisburg Files on Other Permits*

Location of Work	Permit Number	Date of Permit Application	Submitted by	Nature of Work	Parcel/ Building	Work Performed by
855 Mound Rd	050643	06/09/2005	CH2MHill	Central Fire Protection/sprinkler renovation	Parcel 7 Building 61	CH2MHill
955 Mound Rd	051065	05/13/2005	DOE	Sign	Parcel 6A Building 126	Fast Sign
955 Mound Rd. South of building	050476	05/13/2005	Chapel Electric	Underground electric for EPA monitor	Parcel 6A Building 126	Chapel
955 Mound Rd.	040948	10/11/2004	Frye Mechanical	Boiler	Parcel 6A Building 126	Frye Mechanical
500 Capstone	App 11552	01/03/2006	Gary Hartman Design	Sign	Parcel 8 Building GH	Gary Hartman
935 Vanguard	051187	11/03/2005	Starco	Boiler	Parcel 6 Building 45	Starco

### 8.1 Records, other than Permits, issued by the City of Miamisburg:

The property-owner’s adherence to the site-wide ICs imposed on a land parcel is critical to DOE’s effective maintenance of the CERCLA Remedy. The MMCIC, including all future property owners, are required to comply with the ICs associated with parcels at the former DOE Mound Site Property. To facilitate compliance, the MMCIC ensures that all parties performing work on behalf of the MMCIC (e.g., landscaping, utility work involving excavation, construction) are aware of, and subject to compliance with, the ICs. The MMCIC accomplishes this consistently embedding the following language in the Technical Requirements section of all Requests for Proposal and subsequent Work Orders:

*Excavated soils must be managed and remain on MMCIC property. Soils from excavation shall be placed at an on-site location, as directed by MMCIC.*

The MMCIC Project Manager who oversees work performed on-site also monitors the vendor's work and conformance to all Technical Requirements in the Work Order. In addition to the Technical Requirement requiring compliance with the ICs, the MMCIC provides a real estate easement to the vendor, and this easement is recorded with Montgomery County as a matter of public record. A copy of the real estate easement used for utility work on MMCIC property is included as Exhibit 1. Note that Section 2 of the easement provides detailed information to the utility provider/vendor on the ICs associated with the MMCIC's property. This requires compliance with restrictions, which are the ICs.

Continuing public education is an important component of DOE's post-closure responsibilities. Exhibit 2 is a document produced by the EPA to provide information concerning ICs to citizens. Educating all future property owners on their responsibility to comply with the ICs will be an important element of DOE's public education campaign. It is more difficult, for DOE and the property-owner (currently, the MMCIC), to educate the general public on the importance of adhering to the site-wide ICs. Therefore, postings such as warning signs near the MMCIC pond that recreational use is prohibited is important to properly educate the public regarding required compliance with ICs. However, as noted elsewhere in this report, these signs do not appear to be working since several people have been observed fishing in the retention pond.

Prior to initiating construction on any land parcel, the MMCIC provides the builder with a pre-construction package that includes a description of the ICs associated with that particular parcel. This is how the MMCIC ensures that the builder is aware of the ICs applied to that parcel. In a new construction scenario, probably the most important IC to educate builders on is the prohibition against removing any soils from the original boundaries of the approximate 306-acre former DOE Mound Site Property.

MMCIC's Comprehensive Reuse Plan (last updated in December 2003) identifies each building at the Mound Advanced Technology Center with its own lot. Eventually, the MMCIC plans to plat the entire former DOE Mound Site Property. In order for the MMCIC to receive financing (e.g., for new construction) on land parcels that comprise the original DOE Mound Site Property, the MMCIC records a lot split with the Montgomery County Recorder's Office. If the MMCIC does not require financing for property improvements it conducts within a parcel, the MMCIC does not have to immediately record a Miamisburg Planning Commission-approved lot split with the County. However, if the MMCIC decides to sell the property, the MMCIC has to record the lot split with the County at that time. The recorded real estate documentation would include the original quitclaim deed that DOE issued to the MMCIC for the parcel, as a whole, as well as the "CERCLA 120(h) Summary Notice of Hazardous Substances" associated with the original parcel. This will ensure that future property-owners, of individual lot splits, remain aware of the site-wide ICs imposed on acreage that lays within the boundaries of the parcels as originally conveyed by DOE to the MMCIC.

The property-owner's adherence to the IC's imposed on a land parcel is vital to the effective maintenance of those IC's. MMCIC currently coordinates the movement of soil and site grading, as DOE completes remediation of individual soil contamination sites. Once DOE's EM mission is complete, managing the movement of soil throughout the site should be an effective way for the property owner(s) to ensure that soil is not being removed from the site, as a whole. To accomplish this task, the MMCIC's Comprehensive Reuse Plan (CRP) establishes locations where future construction/property improvements will occur on the former DOE Mound Site

Property. The CRP also includes a site-wide soil-grading plan. The CRP was adopted by the City of Miamisburg, and incorporated in the City's Comprehensive Plan. The City's Comprehensive Plan is the basis for zoning of properties that fall within the city limits. If the MMCIC decides to subdivide the property and sell portions (or all) of the former DOE Mound Site Property, the new property owners would be required to comply with the requirements stipulated in the CRP and the City's Comprehensive Plan.

## **9.0 Conclusions**

The ICs for Parcels D, H, 3 and the Phase I land parcel continue to function as designed, adequate oversight mechanisms appear to be in place to identify possible violations of those controls, and adequate resources are available to correct or mitigate any problems in the event that a violation were to occur.

## **10.0 Recommendations**

Though not directly relevant to the effectiveness of ICs, a recommendation is made to abandon well 0445 in parcel I, due to low flow the well is never flushed, therefore, this downgradient well is not effective.

## **11.0 For Further Information**

For further information on the content of this annual report or the former DOE Mound Site Property, in general, contact either:

Mr. Paul Lucas  
Remedial Project Manager  
DOE-MCP  
175 Tri County Parkway  
Springdale, OH 45246  
(513) 246-0071

Mr. Art Kleinrath  
Project Manager  
DOE LM  
955 Mound Road  
Miamisburg, Ohio 45342  
(513) 847-8350

**Appendix A**

**Field Inspection Checklists  
For  
Parcels D, H, 4, 3, and Phase I**

**(Inspections conducted on February 26, 2006)**

For further information on the regulatory processes governing the CERCLA 120(h) process for property transfer at the former DOE Mound Site Property, contact:

Mr. Tim Fischer  
Remedial Project Manager  
U.S. Environmental Protection Agency  
77 W. Jackson Blvd.  
Chicago, IL 60604-3590  
(312) 886-7058

Mr. Brian Nickel  
Remedial Project Manager  
Ohio Environmental Protection Agency  
401 E. Fifth St.  
Dayton, OH 45402-2911  
(937) 285-6468

**CHECKLIST**  
for  
**Review of Effectiveness**  
of  
**Institutional Controls**

Date(s) Performed: February 22, 2006

Review led by: Art Kleinrath

Phone #: 937-848-8350

Participants: Art Kleinrath, DOE LM; Steve Golian, DOE EM; Tim Fisher, EPA; Brian Nickcl, OEPA; Frank Bullock, MMCIC; Beth Moore, City of Miamisburg; Mark Gilliat, CH2M Hill; Becky Cato, Environmental S.M. Stoller; Chuck Friedman, Environmental S.M. Stoller; Joyce Massie, Stakeholder Relations S.M. Stoller; Mike Hurshman, Safety S.M. Stoller; Karen D. Williams, Ohio Transition Coordinator S. M. Stoller.

Parcel reviewed: 3

Summary of property improvements since DOE's sale of parcel or since the previous Review (whichever is most recent). For example, have buildings been demolished or erected? Has surface water flow been modified? Has landscaping been done?

N/A. Parcel 3 unchanged since the last inspection on June 15, 2005.

Evidence of Soil removal from the "1998 Mound Plant Property"? Yes ( ) No ( x )

Evidence of (non-DOE) Ground water use? Yes ( ) No ( x )

Evidence of land use other than "Industrial" (e.g., residential)? Yes ( ) No ( x )

Signage/Markers in good repair (if applicable)? Yes ( ) No ( )

N/A Signage is not an IC for Parcel 3.

Fencing in good repair (if applicable)? Yes ( ) No ( )

N/A Fencing is not an IC for Parcel 3.

Ground water Monitoring Wells maintained properly? Yes ( ) No ( )

N/A No wells on Parcel 3.

Air Monitoring Stations maintained properly (if applicable)? Yes ( ) No ( )

N/A. Air monitoring is not a part of CERCLA remedy for Parcel 3.

Containment system(s) in good repair (if applicable)? Yes ( ) No ( )

N/A

Site Surveillance equipment in good repair (if applicable)? Yes ( ) No ( )

N/A

Other equipment associated with maintenance of the ICs in good repair (if applicable)? Yes ( ) No ( )

N/A

Summary of items discovered during previous Review (and disposition of same):

Date of previous Review: 06/15/2005

N/A. No observations of non-compliance with IC's.

Item # 1: N/A Corrected? Yes ( ) No ( )

Item # 2: Corrected? Yes ( ) No ( )

Item # 3: Corrected? Yes ( ) No ( )

Item # 4: Corrected? Yes ( ) No ( )

Personnel interviewed during the physical walk-over of parcel, or during review of documentation associated with the parcel:

List of documents reviewed (e.g., street opening permits or construction permits approved by the City of Miamisburg, engineering drawings for improvements to property, aerial photographs, maps):

No new permits filed for Parcel 3 since date of last inspection.

Based upon the review of the above-listed documents, were property improvements covered by the appropriate approvals (e.g., construction permit approved by City? Movement of soil or use of ground water approved by the regulators?).

Yes ( ) No ( )

N/A. No work performed since date of last inspection.

Miscellaneous items noted during review:

N/A

Recommendations:

N/A

Conclusion: IC's for Parcel 3 continue to function as designed with adequate oversight mechanisms in place to identify IC violations.

Checklist prepared by:

*Julian Kleemann* Date: *August 10 2006*  
U.S. Department of Energy

**CHECKLIST**  
for  
**Review of Effectiveness**  
of  
**Institutional Controls**

Date(s) Performed: February 22, 2006

Review led by: Art Kleinrath

Phone #: 937-848-8350

Participants: Art Kleinrath, DOE LM; Steve Golian, DOE EM; Tim Fisher, EPA; Brian Nickel, OEPA; Frank Bullock, MMCIC; Beth Moore, City of Miamisburg; Mark Gilliat, CH2M Hill; Becky Cato, Environmental S.M. Stoller; Chuck Friedman, Environmental S.M. Stoller; Joyce Massie, Stakeholder Relations S.M. Stoller; Mike Hurshman, Safety S.M. Stoller; Karen D. Williams, Ohio Transition Coordinator S. M. Stoller.

Parcel reviewed: 4

Summary of property improvements since DOE's sale of parcel or since the previous Review (whichever is most recent). For example, have buildings been demolished or erected? Has surface water flow been modified? Has landscaping been done?

Some dumping had been done in the area, motor bike frames and parts. CH2M Hill was following up on clean up, other than that Parcel 4 was virtually unchanged since the last inspection on June 15, 2005.

Evidence of Soil removal from the "1998 Mound Plant Property"? Yes ( ) No ( x )

Evidence of (non-DOE) Ground water use? Yes ( ) No ( x )

Evidence of land use other than "Industrial" (e.g., residential)? Yes ( ) No ( x )

Signage/Markers in good repair (if applicable)? Yes ( x ) No ( )

Signage is a part of the ICs for the retention pond, signs were in good repair and visible.

Fencing in good repair (if applicable)? Yes ( ) No ( )

N/A Fencing is not an IC for Parcel 4.

Ground water Monitoring Wells maintained properly? Yes ( x ) No ( )

Well 0158 (near intersection of Benner Road and Old State Route 25), and Well 0444 (northern boundary of Parcel 4, near boundary of the Phase I land parcel) were padlocked and in good repair. Well 0354 was abandoned as of last years IC report.

Air Monitoring Stations maintained properly (if applicable)? Yes ( ) No ( )

N/A. Air monitoring is not a part of CERCLA remedy for Parcel 4.

Containment system(s) in good repair (if applicable)? Yes ( ) No ( )

N/A

Site Surveillance equipment in good repair (if applicable)? Yes ( ) No ( )

N/A

Other equipment associated with maintenance of the ICs in good repair (if applicable)? Yes ( ) No ( )

N/A

Summary of items discovered during previous Review (and disposition of same):

Date of previous Review: 06/15/2005

Item # 1: Corrected? Yes ( ) No ( )

Item # 2: Corrected? Yes ( ) No ( )

Item # 3: Corrected? Yes ( ) No ( )

Item # 4: Corrected? Yes ( ) No ( )

Personnel interviewed during the physical walk-over of parcel, or during review of documentation associated with the parcel:

List of documents reviewed (e.g., street opening permits or construction permits approved by the City of Miamisburg, engineering drawings for improvements to property, aerial photographs, maps):

No new permits filed for Parcel 4 since date of last inspection.

Based upon the review of the above-listed documents, were property improvements covered by the appropriate approvals (e.g., construction permit approved by City? Movement of soil or use of ground water approved by the regulators?).

Yes ( ) No ( )

N/A. No work performed since date of last inspection.

Miscellaneous items noted during review:

N/A

Recommendations:

N/A

Conclusion: IC's for Parcel H continue to function as designed with adequate oversight mechanisms in place to identify IC violations.

Checklist prepared by: *Anthony Dunne* Date: *August 10 2006*  
U.S. Department of Energy

**CHECKLIST**  
for  
**Review of Effectiveness**  
of  
**Institutional Controls**

Date(s) Performed: February 22, 2006

Review led by: Art Kleinrath

Phone #: 937-848-8350

Participants: Art Kleinrath, DOE LM; Mark Gilliat, CH2M Hill; Becky Cato, Environmental S.M. Stoller; Chuck Friedman, Environmental S.M. Stoller; Joyce Massie, Stakeholder Relations S.M. Stoller; Mike Hurshman, Safety S.M. Stoller; Frank Bullock, MMCIC; Brian Nickel, OEPA; Beth Moore, City of Miamisburg; Steve Golian,

Parcel reviewed: D

Summary of property improvements since DOE's sale of parcel or since the previous Review (whichever is most recent). For example, have buildings been demolished or erected? Has surface water flow been modified? Has landscaping been done?

N/A. Parcel D unchanged since the last inspection on June 15, 2005.

Evidence of Soil removal from the "1998 Mound Plant Property"? Yes ( ) No ( x )

Evidence of (non-DOE) Ground water use? Yes ( ) No ( x )

Evidence of land use other than "Industrial" (e.g., residential)? Yes ( ) No ( x )

Signage/Markers in good repair (if applicable)? Yes ( ) No ( )

N/A Signage is not an IC for Parcel D.

Fencing in good repair (if applicable)? Yes ( ) No ( )

N/A Fencing is not an IC for Parcel D.

Ground water Monitoring Wells maintained properly? Yes ( ) No ( )

N/A. Well 0351, was abandoned last year.

Air Monitoring Stations maintained properly (if applicable)? Yes ( ) No ( )

N/A. Air monitoring is not a part of CERCLA remedy for Parcel D.

Containment system(s) in good repair (if applicable)? Yes ( ) No ( )

N/A

Site Surveillance equipment in good repair (if applicable)? Yes ( ) No ( )

N/A

Other equipment associated with maintenance of the ICs in good repair (if applicable)? Yes ( ) No ( )

N/A

Summary of items discovered during previous Review (and disposition of same):  
Two piles of staged sand in the southeast corner of the parcel. Piles were fill material that MMCIC imported to the site, they have remained unchanged since they were described in the 2003 annual report.

Date of previous Review: 06/15/2005

N/A. No observations of non-compliance with IC's.

Item # 1: N/A Corrected? Yes ( ) No ( )

Item # 2: Corrected? Yes ( ) No ( )

Item # 3: Corrected? Yes ( ) No ( )

Item # 4: Corrected? Yes ( ) No ( )

Personnel interviewed during the physical walk-over of parcel, or during review of documentation associated with the parcel:

List of documents reviewed (e.g., street opening permits or construction permits approved by the City of Miamisburg, engineering drawings for improvements to property, aerial photographs, maps):

No new permits filed for Parcel D since date of last inspection.

Based upon the review of the above-listed documents, were property improvements covered by the appropriate approvals (e.g., construction permit approved by City? Movement of soil or use of ground water approved by the regulators?).

Yes ( ) No ( )

N/A. No work performed since date of last inspection.

Miscellaneous items noted during review:

N/A

Recommendations:

N/A

Conclusion: IC's for Parcel D continue to function as designed with adequate oversight mechanisms in place to identify IC violations.

Checklist prepared by: Arthur K. Reinhardt Date: August 10 2006  
U.S. Department of Energy

**CHECKLIST**  
for  
**Review of Effectiveness**  
of  
**Institutional Controls**

Date(s) Performed: February 22, 2006

Review led by: Art Kleinrath

Phone #: 937-848-8350

Participants: Art Kleinrath, DOE LM; Steve Golian, DOE EM; Tim Fisher, EPA; Brian Nickel, OEPA; Frank Bullock, MMCIC; Beth Moore, City of Miamisburg; Mark Gilliat, CH2M Hill; Becky Cato, Environmental S.M. Stoller; Chuck Friedman, Environmental S.M. Stoller; Joyce Massie, Stakeholder Relations S.M. Stoller; Mike Hurshman, Safety S.M. Stoller; Karen D. Williams, Ohio Transition Coordinator S. M. Stoller.

Parcel reviewed: H

Summary of property improvements since DOE's sale of parcel or since the previous Review (whichever is most recent). For example, have buildings been demolished or erected? Has surface water flow been modified? Has landscaping been done?

N/A. Parcel H unchanged since the last inspection on June 15, 2005.

Evidence of Soil removal from the "1998 Mound Plant Property"? Yes ( ) No ( x )

Evidence of (non-DOE) Ground water use? Yes ( ) No ( x )

Evidence of land use other than "Industrial" (e.g., residential)? Yes ( ) No ( x )

Signage/Markers in good repair (if applicable)? Yes ( ) No ( )

N/A Signage is not an IC for Parcel H.

Fencing in good repair (if applicable)? Yes ( ) No ( )

N/A Fencing is not an IC for Parcel H.

Ground water Monitoring Wells maintained properly? Yes ( x ) No ( )

Well 0332, in good repair.

Air Monitoring Stations maintained properly (if applicable)? Yes ( ) No ( )

N/A. Air monitoring is not a part of CERCLA remedy for Parcel H.

Containment system(s) in good repair (if applicable)? Yes ( ) No ( )

N/A

Site Surveillance equipment in good repair (if applicable)? Yes ( ) No ( )

N/A

Other equipment associated with maintenance of the ICs in good repair (if applicable)? Yes ( ) No ( )

N/A

Summary of items discovered during previous Review (and disposition of same):

Date of previous Review: 06/15/2005

N/A. No observations of non-compliance with IC's.

Item # 1: N/A Corrected? Yes ( ) No ( )

Item # 2: Corrected? Yes ( ) No ( )

Item # 3: Corrected? Yes ( ) No ( )

Item # 4: Corrected? Yes ( ) No ( )

Personnel interviewed during the physical walk-over of parcel, or during review of documentation associated with the parcel:

List of documents reviewed (e.g., street opening permits or construction permits approved by the City of Miamisburg, engineering drawings for improvements to property, aerial photographs, maps):

No new permits filed for Parcel H since date of last inspection.

Based upon the review of the above-listed documents, were property improvements covered by the appropriate approvals (e.g., construction permit approved by City? Movement of soil or use of ground water approved by the regulators?).

Yes ( ) No ( )

N/A. No work performed since date of last inspection.

Miscellaneous items noted during review:

N/A

Recommendations:

N/A

Conclusion: IC's for Parcel H continue to function as designed with adequate oversight mechanisms in place to identify IC violations.

Checklist prepared by:

*Carla K. Stewart* Date: *August 10 2006*  
U.S. Department of Energy

**CHECKLIST**  
for  
**Review of Effectiveness**  
of  
**Institutional Controls**

Date(s) Performed: February 22, 2006

Review led by: Art Kleinrath

Phone #: 937-848-8350

Participants: Art Kleinrath, DOE LM; Steve Golian, DOE EM; Tim Fisher, EPA; Brian Nickel, OEPA; Frank Bullock, MMCIC; Beth Moore, City of Miamisburg; Mark Gilliat, CH2M Hill; Becky Cato, Environmental S.M. Stoller; Chuck Friedman, Environmental S.M. Stoller; Joyce Massie, Stakeholder Relations S.M. Stoller; Mike Hurshman, Safety S.M. Stoller; Karen D. Williams, Ohio Transition Coordinator S. M. Stoller.

Parcel reviewed: I

Summary of property improvements since DOE's sale of parcel or since the previous Review (whichever is most recent). For example, have buildings been demolished or erected? Has surface water flow been modified? Has landscaping been done?

N/A. Parcel I unchanged since the last inspection on June 15, 2005.

Evidence of Soil removal from the "1998 Mound Plant Property"? Yes ( ) No ( x )

Evidence of (non-DOE) Ground water use? Yes ( ) No ( x )

Evidence of land use other than "Industrial" (e.g., residential)? Yes ( ) No ( x )

Signage/Markers in good repair (if applicable)? Yes ( ) No ( )

N/A Signage is not an IC for Parcel I.

Fencing in good repair (if applicable)? Yes ( ) No ( )

N/A Fencing is not an IC for Parcel I.

Ground water Monitoring Wells maintained properly? Yes ( x ) No ( )

The Phase I land parcel includes both IC and Monitored Natural Attenuation (MNA) Remedy's. MNA includes five wells (0400, 0411, 0443, 0445, and PO33) and one Seep (Seep 617). None of the following wells found in the Phase I land parcel are a part of the Phase I MNA remedy/ground water monitoring plan; Well 0399 was abandoned in 2005, 0442 in the Phase IB sub-parcel, and Wells 0344, 0319 in the Phase IC sub-parcel. All active wells were padlocked and in good repair.

Air Monitoring Stations maintained properly (if applicable)? Yes ( ) No ( )

N/A. Air monitoring is not a part of CERCLA remedy for Parcel 1.

Containment system(s) in good repair (if applicable)? Yes ( ) No ( )

N/A

Site Surveillance equipment in good repair (if applicable)? Yes ( ) No ( )

N/A

Other equipment associated with maintenance of the ICs in good repair (if applicable)? Yes ( ) No ( )

N/A

Summary of items discovered during previous Review (and disposition of same):

Date of previous Review: 06/15/2005

N/A. No observations of non-compliance with IC's.

Item # 1: N/A Corrected? Yes ( ) No ( )

Item # 2: Corrected? Yes ( ) No ( )

Item # 3: Corrected? Yes ( ) No ( )

Item # 4: Corrected? Yes ( ) No ( )

Personnel interviewed during the physical walk-over of parcel, or during review of documentation associated with the parcel:

Discussion at Well 0445 (bedrock well), between Mark Gilliat and Tim Fisher. Tim Fisher asked if the flow was so low that the well was never being flushed. Mark answered yes. Tim

then commented that none of the down gradient wells were being affected and some consideration should be given to abandoning this well.

List of documents reviewed (e.g., street opening permits or construction permits approved by the City of Miamisburg, engineering drawings for improvements to property, aerial photographs, maps):

One new permit filed for Parcel IA since date of last inspection. Underground electric for EPA monitor (Building 102).

Based upon the review of the above-listed documents, were property improvements covered by the appropriate approvals (e.g., construction permit approved by City? Movement of soil or use of ground water approved by the regulators?).

Yes ( ) No ( )

N/A. No work performed since date of last inspection.

Miscellaneous items noted during review:

N/A

Recommendations:

N/A

Conclusion: IC's for Parcel I continue to function as designed with adequate oversight mechanisms in place to identify IC violations.

Checklist prepared by: Arthur J. Bennett Date: August 10 2006  
U.S. Department of Energy

End of current text

**Exhibit 1**

**Real Estate Easement for Utility Work  
Performed on MMCIC Property**

End of current text

NO TRANSFER  
08:01aa MARCH 20, 2003  
KARL L. KEITH, COUNTY AUDITOR

**SUPPLEMENTARY DECLARATION OF EASEMENT TO  
REAL ESTATE EASEMENT NO. 99-OH-00011**

THIS SUPPLEMENTARY DECLARATION OF EASEMENT TO REAL ESTATE EASEMENT NO. 99-OH-00011 ("Supplementary Declaration of Easement") is made on this 17<sup>th</sup> day of March, 2003, by MIAMISBURG MOUND COMMUNITY IMPROVEMENT CORPORATION, an Ohio non-profit corporation ("Declarant") under the terms and conditions set forth below.

**RECITALS:**

A. By virtue of Real Estate Easement No. 99-OH-00011 executed on September 22, 1999, and recorded at Microfiche No. 99-0702D09 (the "Original Easement"), The United States of America, acting by and through the Department of Energy ("DOE"), granted to AMERITECH an easement for the installation of communication lines over the area depicted in the Original Easement (the "Original Easement Area"), described in Exhibit A, attached hereto and incorporated herein by reference.

B. By virtue of a Quitclaim Deed dated August 4, 1999, and recorded at Microfiche No. 99-0852B11 of the Montgomery County, Ohio Recorder's office, and by virtue of a Quitclaim Deed dated November 19, 1999, and recorded at Microfiche No. 99-0852B05 of such Recorder's office, The United States of America, acting by and through the Secretary of the DOE, conveyed to Declarant the real property described on Exhibit B, attached hereto and incorporated herein by reference ("Declarant's Property"), which property is burdened by the Original Easement.

C. Declarant now desires to expand the Original Easement Area on the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the recitals set forth above and the terms and conditions set forth below, Declarant hereby declares as follows:

1. Grant. Declarant hereby grants to AMERITECH, its successors and assigns, a permanent, non-exclusive easement upon, over and under the area of the Declarant's Property described in Exhibit C, attached hereto and incorporated herein by reference ("Expanded Easement Area"). By making use of the Expanded Easement Area, AMERITECH shall be deemed to have agreed to be bound by the terms and conditions of this Declaration.

2. Compliance With Restrictions. AMERITECH shall have reviewed the restrictions and covenants set forth in the Deeds by which DOE conveyed to Declarant the Declarant's Property prior to the construction or installation of any of AMERITECH's equipment. AMERITECH agrees that, as set forth in the Deeds, its use of the Expanded Easement Area is subject to the terms thereof, and further agrees to be bound to comply with the restrictions and covenants set forth therein, including without limitation, the following:

2.1 Excepting those soils in an area approximately 40 feet wide and 218.17 feet long, bounded on the east by the centerline of Mound Road as described above, Grantee covenants that any soil from the Premises shall not be placed on any property outside the boundaries of that described in instruments recorded at Deed Book 1214, pages 10, 12, 15, 17 and 248; Deed Book 1215, page 347; Deed Book 1246,

\$58.00 03/20/03  
EASE-03-035151 0023  
Montgomery County  
Judy Dodge Recorder

page 45; Deed Book 1258, pages 56 and 74; Deed; Deed Book 1256, page 179; Micro-Fiche 81-376A01; and Micro-Fiche 81-323A11 of the Deed Records of Montgomery County, Ohio (and as illustrated in the CERCLA 120(h) Summary, Notices of Hazardous Substances Release Block D, Mound Plant, Miamisburg, Ohio dated January, 1999) without prior written approval from the Ohio Department of Health (ODH), or a successor agency. AMERITECH warrants that it will make its officers, agents, contractors, employees, and others for whom it is responsible aware of the restriction on soil removal and contractually obligate agents and contractors to abide by this restriction.

2.2 Each utility provider covenants not to use, or allow the use of, the Declarant's Property for any residential or farming activities, or any other activities that could result in the chronic exposure of children under eighteen years of age to soil or groundwater from the Declarant's Property. Restricted uses shall include, but not be limited to:

- (1) single or multifamily dwellings or rental units;
- (2) day care facilities;
- (3) schools or other educational facilities for children under eighteen years of age; and
- (4) community centers, playgrounds, or other recreational religious facilities for children under eighteen years of age.

Declarant shall be contacted to resolve any questions that may arise as to whether a particular activity would be considered a restricted use.

2.3 AMERITECH covenants not to extract, consume, expose, or use in any way the groundwater underlying the Declarant's Property without the prior written approval of the United States Environmental Protection Agency (Region V) and the OEPA.

If there is any conflict between the terms of the Deeds and this Supplementary Declaration of Easement, the terms of the Deeds shall control.

3. Incorporation of Original Easement. This Supplementary Declaration of Easement incorporates by reference all of the terms, conditions and covenants of the Original Easement Agreement. By its acceptance of the easement granted in this Supplementary Declaration of Easement, AMERITECH hereby covenants to comply with and observe the terms, conditions and covenants of the Original Easement for the benefit of Declarant, its successors and assigns forever, and agrees that Declarant, its successors and assigns forever, shall have the right to enforce such terms, covenants and conditions. As used in the Original Easement, the term "premises" shall mean Declarant's real property, whether or not burdened by the easements granted herein or in the Original Easement, and all surrounding Government-owned real property. All notices required to be provided to the DOE under the Original Easement shall be provided to Declarant at 720 Mound Road, COS Bldg., Suite 480, Miamisburg, Ohio 45342-6714, Attn: Planning Manager, or such other address as provided by Grantor.

4. Reservation. Declarant reserves for itself, its successors and assigns forever, the right to use the Expanded Easement Area for any purpose not inconsistent with the rights conveyed to AMERITECH herein; provided however, that Declarant shall not use the Expanded Easement Area in a manner that will prevent or hinder its use by AMERITECH for the purposes provided herein.

5. Covenants Run with the Land. All covenants, agreements and conditions contained in this Supplementary Declaration of Easement shall be considered as running with the land.

IN WITNESS WHEREOF, the undersigned has executed this Supplementary Declaration of Easement on behalf of Declarant as of the day and year first set forth above.

DECLARANT:

MIAMISBURG MOUND COMMUNITY  
IMPROVEMENT CORPORATION

By: Michael J. Grawertman

Printed Name: Michael J. Grawertman

Title: President

STATE OF OHIO, COUNTY OF MONTGOMERY, SS:

The foregoing instrument was acknowledged before me this 18<sup>th</sup> day of March, 2003, by Michael J. Grawertman the President of MIAMISBURG MOUND COMMUNITY IMPROVEMENT CORPORATION, an Ohio non-profit corporation, on behalf of said corporation.

Jean Wysong  
NOTARY PUBLIC

Jean Wysong, Notary Public  
in and for the State of Ohio  
My Commission Expires June 23, 2004

This instrument prepared by:  
Shannon L. Costello, Esq.  
Coolidge Wall Womiskey & Lombard Co., L.P.A.  
33 W. First Street, Suite 600  
Dayton, Ohio 45402

**Exhibit 2**

**Institutional Controls: A Citizen's Guide to Understanding  
Institutional Controls at  
Superfund, Brownfields, Federal Facilities, Underground Storage  
Tank, and Resource Conservation and Recovery Act Cleanups**



## Institutional Controls:

### A Citizen's Guide to Understanding Institutional Controls at Superfund, Brownfields, Federal Facilities, Underground Storage Tank, and Resource Conservation and Recovery Act Cleanups

#### Table of Contents

PURPOSE .....	1
WHAT ARE INSTITUTIONAL CONTROLS? .....	2
WHEN ARE ICs USED? .....	2
WHY CAN'T ALL THE CONTAMINATION BE REMOVED?.. .....	3
ARE ICs RELIABLE? .....	3
HOW MANY ICs ARE REQUIRED? .....	3
WHO IS RESPONSIBLE FOR MAKING SURE ICs WORK AS INTENDED? .....	4
WILL ICs HINDER THE USE OF THE SITE? .....	4
HOW AND WHEN CAN THE COMMUNITY GET INVOLVED? .....	5
CONCLUSION .....	5
GLOSSARY.....	7

Terms that appear in **bold** can be found in a glossary at the end of the document. Many of these terms describe some types of ICs.

#### PURPOSE

The purpose of this guide is to provide community members with general information about the role of *institutional controls* (ICs) in Superfund, Brownfields, Federal Facilities, Underground Storage Tanks (UST) and Resource Conservation and Recovery Act (RCRA) cleanups occurring in their neighborhoods. This guide will also discuss the community's role in providing input for the selection of ICs and helping to monitor them to ensure that human health and the environment remain protected in the future.

#### Key Points

- ICs are legal and administrative tools used to maintain protection of human health and the environment at sites.
- ICs are often an important part of the overall cleanup at a site.
- ICs can be used for many reasons and come in different types. These include restricting site use, modifying behavior, and providing information to people.
- There are 4 general types of ICs: *governmental, proprietary, enforcement, and informational.*

- 
- ICs are designed to lower the potential for people and the environment to be exposed to contamination.
  - ICs are usually most effective when layered and used in series to improve protectiveness.
  - ICs should fit the needs of the specific site and community.
  - The community can play an important role in identifying potential future uses of the site.
  - A cooperative relationship should be established early between government, the entity doing the cleanup and the community.
  - Seeking community input and involvement can maximize the effectiveness of ICs.
  - Communities can play a vital role as “eyes and ears” for monitoring ICs.
  - Federal, state, tribal, and local governments and parties responsible for the cleanup should keep the public informed of cleanup decisions that may affect them.
- 

### What Are Institutional Controls?

ICs are generally administrative and legal tools that do not involve construction or physically changing the site. ICs are generally divided into four categories:

1) **Government Controls**- include local laws or permits (e.g., county zoning, building permits, and Base Master Plans at military facilities);

2) **Proprietary Controls**- include property use restrictions based on private property law (e.g., *easements* and covenants);

3) **Enforcement Tools**- include documents that require individuals or companies to conduct or prohibit specific actions (e.g., environmental cleanup *consent decrees, unilateral orders, or permits*); and,

4) **Informational Devices**- include *deed notices* or public advisories that alert and educate people about a site.

In many site cleanups, ICs help reduce the possibility that people will come in contact with contamination and may also protect expensive cleanup equipment from damage. The use of ICs is not a way “around” treatment, but rather part of a balanced, practical approach to site cleanup that relies on both engineered and non-engineered remedies.

### When Are ICs Used?

ICs are normally used when waste is left onsite and when there is a limit to the activities that can safely take place at the site (i.e., the site cannot support unlimited use and unrestricted exposure) and/or when cleanup equipment remains onsite. ICs are often used throughout a site cleanup, including when:

- contamination is first discovered (i.e., to protect people from coming in contact with potentially harmful materials while the contamination is being investigated)
- cleanup work is ongoing (in some cases it may take many years to complete cleanup)
- some amount of contamination remains on-site as part of a cleanup remedy.

ICs can play an important role when a cleanup is conducted and when it is too difficult or too costly

to remove all contamination from a site. ICs are rarely used alone to deal with contamination at a site. Typically, ICs are part of a larger cleanup solution and serve as a non-engineered layer of protection. ICs are designed to keep people from using the site in a way that is not safe and/or from doing things that could damage the cleanup equipment, thus, potentially jeopardizing protection of people and the environment. For example, an IC may be necessary at a former landfill to notify the community and guard against excavators digging through a clay barrier that is meant to stop rain water from entering the landfill.

It is also important to remember that ICs are frequently used to protect cleanup equipment while the cleanup is being conducted. For example, sites may require complex technologies that remove, treat, and discharge groundwater. Operation of these systems may be needed for a long time in order to reach the cleanup goals.

Most cleanups will need to use a combination of engineered remedies and ICs. ICs provide an additional level of safety and help to make sure the remedy remains securely in place. Also, it is important to understand that a cleanup is not finished until all necessary action has been taken to protect people and the environment from contamination at the site.

### **Why Can't All The Contamination Be Removed?**

Removing all traces of contamination from a site is often not possible or practicable because of the types and location of contamination. However, the presence of some residual contamination does not mean that a site can't be used safely.

Use of a site with residual contamination is considered safe if exposure to contamination is prevented. ICs can help a site be reused. A common example of a site reuse is when a surface barrier layer is installed over contaminated soil and the area is used for athletic fields, a golf course, or a park because ICs are in place to prevent disturbance of the barrier layer.

### **Are ICs Reliable?**

All ICs have strengths and weaknesses. With this understanding, it is important to choose the best combination of ICs that will be protective of human health and the environment. One key challenge is that ICs are often implemented, monitored, and enforced by various levels of federal, state, tribal, or local governments. Therefore, it is critical to make sure there are enough IC safeguards and overlaps so no significant risk to human health or the environment or damage to the remedy occur.

EPA guidance encourages the use of ICs in "layers" and/or in "series" to enhance overall protectiveness. Layering ICs means using more than one IC at the same time, all with the same goal (e.g., a consent decree, deed notice, and covenant stopping the use of drinking water wells). Using ICs in series uses different ICs over time when site circumstances or IC processes change. For example, restrictions can gradually be reduced as progress is made toward cleanup goals. Used in such overlapping ways ICs can be more securely relied upon to provide an important measure of safety. Thus, usually more than one kind of IC is put in place at a single site.

### **How Many ICs Are Required?**

The decisions about how many and what types of ICs are needed are usually very site-specific. There are many important factors to consider when deciding how many ICs are required at a site. A few common considerations include:

- the level of experience and resource capacities of the party doing the cleanup
- who the intended ICs will affect and how
- the type of enforcement mechanism used (consent decree, order, permit, ordinance)
- who will enforce the mechanism (i.e., EPA, another federal agency at sites it owns, the State, a local agency)
- the likelihood of future redevelopment and/or reuse of the site
- the degree of cooperation exhibited by the different levels of government and community involved in the cleanup.

### **Who Is Responsible For Making Sure ICs Work As Intended?**

The responsibility for making sure that ICs work depends largely on the type of IC and who is conducting the cleanup. Overlapping responsibilities sometimes make it difficult to identify the person or entity responsible for the IC. For example, zoning is often the responsibility of a local zoning board, easements are based on state law, and permits or orders can occur at the federal, state, tribal and local level. It is also common for several entities to have some overlapping responsibility for an IC. For example, an agency that approves a cleanup frequently has some responsibility for making sure that the ICs work. However, the actual implementation steps may be completed by the cleanup party and/or another agency (i.e., local zoning board). Exceptions are active military facilities; the

authority for regulating and enforcing ICs typically lies with the commanding officer.

Regardless of who is responsible, ICs should be regularly monitored to make sure all the requirements are still in place and the ICs continue to work effectively. Because federal, state, and tribal government officials are not always located in the neighborhood of the site, local governments and community members can contribute to ensure that ICs work properly. One way to improve the use of ICs is to make sure that roles and responsibilities are clearly stated early in the process of choosing the ICs.

### **Will ICs Hinder The Reuse of the Site?**

In many ways, ICs can help return a site to a safe and productive reuse. ICs can identify possible uses for a site and communicate use limitations to present and future users. For example, a site may be fit for industrial reuse, but not for residential development. To determine the appropriate types of ICs, it is important to make sure that the preferred future use of the land is taken into account. It is important to recognize that ICs can affect future development at a site. For this reason, the appropriate mix of ICs is key. The objective is not to have as many ICs as possible, but to strike a balance that gives reasonable assurance that the site remedy will remain protective over time while being consistent with the site's future use. In most cases, the ICs can help shape the reuse of the site to one that is suitable, safe, and positive for the community.

Communities should be proactive in communicating with appropriate decision-makers about the types of land use they think will be best for their community. Because each community has a different history and different development

needs, it is critical that these needs are effectively communicated to elected officials and the cleanup agency so they can be taken into consideration during selection of the cleanup method and reuse plan for the site. Opportunities for involvement include attending public meetings, commenting on documents which state potential cleanup methods, and participating in local groups.

### **How And When Can The Community Get Involved?**

Community input can be essential to selecting, using, and monitoring ICs that are the best fit for the community and the protectiveness of the remedy. The cleanup agency or private party and other stakeholders should develop a working relationship with the community early in the cleanup process. Mutual respect, trust, and open and timely communication can greatly enhance the ability of all involved to ensure that the most effective ICs are used at the site.

The first time the community can get involved is during master planning meetings, zoning hearings, land use planning meetings to name a few. The community can also be involved in the site investigation and remedy selection process. Federal, state, tribal, and local authorities should make information available to the public so community members can provide informed input into the remedy selection process. EPA, States, Tribes, local governments and cleanup parties should evaluate ICs as thoroughly and rigorously as all remedy components. This analysis will help to identify potential strengths and weaknesses and to develop the appropriate balance of ICs and ultimately increase the long-term viability of the remedy. Because ICs are remedy components, they should be presented to the community in documents and at meetings. This is especially

important for ICs that may impose land use restrictions on property(ies) next to the site. The potential impacts of the ICs should be presented in a manner that can be understood by the local community.

The second way in which the community can be of great benefit is in assisting with monitoring ICs. Individual residents and business owners are the eyes and ears of a community. They are often the first to notice uses or excavation that appear inconsistent with the site's future use or remedy restrictions. By contacting the appropriate party, an important series of checks and balances can be developed. Cleanup parties should work with the community to establish an effective and user-friendly system for reporting and monitoring information about the site and ICs.

### **CONCLUSION**

The institutional controls discussed in this guide can be essential components of environmental cleanups. It is important for citizens to understand ICs and have the opportunity to take an active role in their selection, use, and monitoring. Because institutional controls are often in place long after physical cleanup is finished, community knowledge and input can be important in assuring that the ICs remain protective of human health and the environment. Working relationships between governments, stakeholders and communities are vital ingredients in the successful application of cleanups, especially the IC components.

For additional information about ICs, refer to the EPA web page at:

<http://www.epa.gov/superfund/action/ic/index.htm>.

For site specific information contact the Office of Superfund Remediation and Technology Innovation (OSRTI), the Federal Facilities Restoration and Reuse Office (FFRRO), the Office of Solid Waste

(OSW or RCRA), the Office of Brownfields Cleanup and Redevelopment (OBCR), or the Office of Underground Storage Tanks (OUST) and/or the respective state or local agency. Information about EPA program offices can be found online at <http://www.epa.gov/oswer/>.

This document provides guidance to EPA Regions and States involved in Superfund, Brownfields, Federal Facilities, Underground Storage Tanks, and RCRA corrective action cleanups. It also provides guidance to the public and the regulated community on how EPA intends to evaluate and implement ICs as part of a cleanup decision. The guidance is designed to implement national policy on these issues. The document does not, however, substitute for CERCLA, RCRA or EPA's regulations, nor is it a regulation itself. Thus, it does not impose legally-binding requirements on EPA, States, or the regulated community, and may not apply to a particular situation based upon the circumstances. EPA and State decision-makers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate. Any decisions regarding a particular facility will be made based on the applicable statutes and regulations. Therefore, interested parties are free to raise questions and objections about the appropriateness of the application of this guidance to a particular situation, and EPA will consider whether or not the recommendations or interpretations in the guidance are appropriate in that situation. EPA may change this guidance in the future.

**Office of Solid Waste and Emergency Response (5202G)**  
**OSWER 9355.0-98**  
**EPA- 540-R-04-003**  
**<http://www.epa.gov/superfund/action/ic/guide/index.htm>**  
**February 2005**

## GLOSSARY

**Consent Decree:** Legal document approved by a judge that formalizes an agreement reached between EPA and companies, governments, or individuals associated with contamination at the sites (potentially responsible parties (PRPs)) through which PRPs will take certain actions to resolve the contamination at a Superfund site.

**Deed Notice:** Non-enforceable, informational document filed in land records to alert the public to important information pertaining to a land parcel.

**Easement:** Property right conveyed by the land owner to another party, giving the second party certain rights to the land.

**Enforcement Tools:** Types of institutional controls that include orders compelling a party to limit certain site activities as well as ensure the performance of affirmative obligations (e.g., consent decree, RCRA permit, unilateral administrative order).

**Governmental Controls:** Types of institutional controls that impose land or resource restrictions using the authority of an existing unit of government (e.g., state legislation, local ordinance, well drilling permit, etc.).

**Informational Devices:** Type of institutional controls that provide information or notification to the public of contamination remaining in place.

**Institutional Controls:** Non-engineered instruments, such as administrative and/or legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land and/or resource use (e.g., easement, fish advisory, local permit).

**Proprietary Control:** Type of legal instrument that has its basis in real property law and is unique in that it generally creates legal property interests placed in the chain of title of a site property (e.g., easement, restrictive covenant).

**Unilateral Administrative Order:** Legal document signed by EPA directing a responsible party to take corrective action or refrain from an activity; it may describe the violations and actions to be taken, and can be enforced in court.