

Third Five-Year Review Report
for the
Crystal City Airport Site
Crystal City, Zavala County, Texas



PREPARED BY:
Region 6
United States Environmental Protection Agency
Dallas, Texas

May 2006

THIRD FIVE-YEAR REVIEW
Crystal City Airport Site
EPA ID# TXD980864763
Crystal City, Zavala County, Texas

This memorandum documents the United States Environmental Protection Agency's (EPA's) performance, determinations, and approval of the Crystal City Airport Site (site) third five-year review under Section 121(c) of the Comprehensive Environmental Response, Compensation & Liability Act (CERCLA), 42 United States Code (USC) §9621(c), as provided in the attached Third Five-Year Review Report prepared by CH2M HILL, Inc., on behalf of EPA.

Summary of Five-Year Review Findings

The third five-year review for the Crystal City Airport Site was performed through a review of site documents and site-specific requirements, a site inspection performed on February 16, 2006, interviews with relevant parties, and a review of data collected at the site during the third five-year review period. The site landfill is in good condition and the site appears well maintained. In accordance with the Record of Decision (ROD), the Texas Commission of Environmental Quality (TCEQ) samples the City of Crystal City water supply well no. 3 annually and the analytical results show no detections of site-related contaminants, except for low levels of arsenic in one sample in 2003 (well below drinking water standards). TCEQ also performs a twice yearly inspection of the site cover and access controls, and mows the site twice yearly (this represents a reduction from the quarterly inspections and mowing required by the ROD). During the site inspection, minor deficiencies were noted at the site (e.g., small dessication cracks and animal burrows in the landfill cover, and stressed vegetation on the landfill cover due to dry conditions), but none were significant enough to warrant a finding that the remedy is not protective. Site access is restricted by chain-link fencing with locked gates and no trespassing signs, all in good condition. A deed notice of the fenced cap area has been prepared and is shown as **Figure 2** of this report. The City of Crystal City owns the property, and EPA is currently working with the City and TCEQ to implement a notice on the deed to prevent trenching, excavation, and well installation in the capped area (in the chain link fence area with the interior rip-rap sloped cap shown in the photographs of **Attachment 4** of this report).

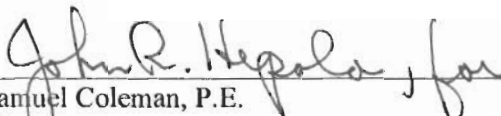
The site is protective of human health and the environment in the short-term and will be protective long-term provided site inspections, monitoring, mowing and maintenance continue, and the deed notice is implemented as planned.

Actions Needed

None of the minor deficiencies noted during the site inspection were significant enough to warrant further action, other than continued site inspections and maintenance. Inspections and mowing should continue to be performed at least twice per year to check the condition of the landfill cover and site access restrictions (fencing and no trespassing signs), and repairs should be performed as necessary to maintain current conditions at a minimum. In accordance with the ROD, TCEQ should continue to sample annually city water supply well no. 3, shown in Photograph 8 of Attachment 4 of this report, and prepare annual reports describing the analytical results and annual inspection/ mowing activities. TCEQ should update the Operations and Maintenance (O&M) Plan for the site for the site to reflect the reduced frequency in fence and cap inspections from quarterly to twice a year. EPA is currently working with the City and TCEQ to implement a notice on the deed to prevent trenching, excavation, and well installation in the capped area.

Determinations

I have determined that the remedy for the Crystal City Airport Site is protective of human health and the environment in the short term, and will remain so provided the action items identified in the Five-Year Review Report are addressed as described above.



Samuel Coleman, P.E.
Director
Superfund Division, Region 6
U.S. Environmental Protection Agency

5/15/06

Date

CONCURRENCES

THIRD FIVE-YEAR REVIEW
Crystal City Airport Site
EPA ID# TXD980864763
Crystal City, Zavala County, Texas

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Ernest Franke, U.S. EPA
Remedial Project Manager

By: [Signature] Date: April 20, 06
Gustavo Chavarria, U.S. EPA
Chief, Arkansas/Texas Program Management Section

By: John R. Hepola Date: 4/24/06
John Hepola, U.S. EPA
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By: [Signature] Date: 05/11/06
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Mark Peycke, U.S. EPA
Chief, Superfund Branch, Office of Regional Counsel

By: John R. Hepola, for Date: 5/15/06
Pam Phillips, U.S. EPA
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List of Acronyms

ARARs	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DDT	Dichlorodiphenyltrichloroethane
EPA	United States Environmental Protection Agency
FR	Federal Register
FS	Feasibility Study
LDR	Land Disposal Restriction
MCL	Maximum Contaminant Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OSHA	Occupational Safety and Health Administration
OUs	Operable Units
ppb	parts per billion
ppm	parts per million
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
TAC	Texas Administrative Code
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
TCEQ	Texas Commission on Environmental Quality
TDWR	Texas Department of Water Resources
TNRCC	Texas Natural Resources Conservation Commission
TWC	Texas Water Commission

Executive Summary

The third five-year review of the Crystal City Airport Site located in Crystal City, Zavala County, Texas, was completed in March 2006. The results of this five-year review, which covers the period since the second five-year review dated September 2000, indicate that the remedy is protective of human health and the environment in the short term. The remedial actions performed appear to be functioning as designed, and the site has been maintained appropriately. No deficiencies were noted that directly impact the protectiveness of the remedy. Ongoing monitoring, inspections and maintenance of the landfill cover, and implementation of a deed notice on the property, are recommended to ensure continued protectiveness. The O&M Plan should be updated to revise the reduced frequency in fence and cap inspections at the site from quarterly to twice a year.

The remedy for the site was chosen to remove the principle health threats at the site that presented an excess lifetime cancer risk, to prevent further releases from the site, and to establish a long-term monitoring program to ensure that the remedy remains protective. Soils containing concentrations of total pesticides (arsenic, dichlorodiphenyltrichloroethane (DDT), and toxaphene) in excess of 100 parts per million (ppm) were excavated and disposed onsite under a Resource Conservation and Recovery Act (RCRA) cap. O&M at the site includes cap inspections, fence and sign inspections, mowing, and sampling of the City water well no. 3 for analysis of toxaphene, DDT, and arsenic. Annual samples collected from this well in 2003, 2004, and 2005, demonstrate no detections of toxaphene and DDT. Arsenic was detected at 0.2 parts per billion (ppb) in the sample collected in 2003, well below the drinking water standard of 10 ppb. Samples collected in 2004 and 2005 were non-detect for arsenic.

The site is protective of human health and the environment in the short-term and will be protective long-term provided site inspections, monitoring, mowing and maintenance continue, and the deed notice is implemented as planned.

Five-Year Review Summary Form		
SITE IDENTIFICATION		
Site name (from WasteLAN): Crystal City Airport		
EPA ID (from WasteLAN): TXD980864763		
Region: EPA Region 6	State: Texas	City/County: Crystal City/Zavala
SITE STATUS		
NPL Status: <input type="checkbox"/> Final <input checked="" type="checkbox"/> Deleted <input type="checkbox"/> Other (specify):		
Remediation status (choose all that apply): <input type="checkbox"/> Under Construction <input checked="" type="checkbox"/> Operating <input checked="" type="checkbox"/> Complete		
Multiple OUs? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Construction completion date: July 1990	
Has site been put into reuse? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
REVIEW STATUS		
Reviewing agency: <input checked="" type="checkbox"/> EPA <input type="checkbox"/> State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency:		
Author: EPA Region 6, with support from RAC6 contractor CH2M HILL, Inc.		
Review period: August 2000 to March 2006		
Date(s) of site inspection: February 16, 2006		
Type of review: <input checked="" type="checkbox"/> Statutory <input type="checkbox"/> Policy <input type="checkbox"/> Post-SARA <input type="checkbox"/> Pre-SARA <input type="checkbox"/> NPL-Removal only <input type="checkbox"/> Non-NPL Remedial Action Site <input type="checkbox"/> NPL State/Tribe-lead <input type="checkbox"/> Regional Discretion		
Review number: <input type="checkbox"/> 1 (first) <input type="checkbox"/> 2 (second) <input checked="" type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify):		
Triggering action: <input type="checkbox"/> Actual RA On-site Construction <input type="checkbox"/> Actual RA Start <input checked="" type="checkbox"/> Construction Completion <input checked="" type="checkbox"/> Recommendation of Previous <input type="checkbox"/> Other (specify): Five-Year Review Report		
Triggering action date: December 1991 (Construction completion in CERCLIS database; corresponds with date of the Site Closeout Report)		
Due date: December 2006		

Five-Year Review Summary Form

Issues: The site landfill is in good condition and the site appears well maintained. In accordance with the Record of Decision (ROD), the Texas Commission of Environmental Quality (TCEQ) samples the City of Crystal City water supply well no. 3 annually and the analytical results show no detections of site-related contaminants toxaphene and DDT, although a low level of arsenic was detected in a sample collected in 2003 (well below drinking water standards). Samples collected in 2004 and 2005 were non-detect for arsenic. TCEQ performs a twice yearly inspection of the site cover and access controls, and mows the site twice yearly, which represents a reduction from the quarterly inspections and mowing required by the ROD. During the site inspection, minor deficiencies were noted at the site (e.g., small dessication cracks and animal burrows in the landfill cover, and stressed vegetation on the landfill cover due to dry conditions), but none were significant enough to warrant a finding that the remedy is not protective. Site access is restricted by chain-link fencing with locked gates and no trespassing signs, all in good condition. A deed notice of the fenced cap area has been prepared and is shown as Figure 2 of this report. The City of Crystal City owns the property, and EPA is currently working with the City and TCEQ to implement a notice on the deed to prevent trenching, excavation, and well installation in the capped area (in the chain link fence area with the interior rip-rap sloped cap shown in the photographs of Attachment 4 of this report).

Recommendations and Follow-up Actions: None of the minor deficiencies noted during the site inspection were significant enough to warrant further action, other than continued site inspections and maintenance. Inspections and mowing should continue to be performed at least twice per year to check the condition of the landfill cover and site access restrictions (fencing and no trespassing signs), and repairs should be performed as necessary to maintain current conditions at a minimum. In accordance with the ROD, TCEQ should continue to sample annually city water supply well no. 3, shown in Photograph 8 of Attachment 4 of this report, and prepare annual reports describing the analytical results and annual inspection/ mowing activities. TCEQ should update the Operations and Maintenance (O&M) Plan for the site for the site to reflect the reduced frequency in fence and cap inspections from quarterly to twice a year. EPA is currently working with the City and TCEQ to implement a notice on the deed to prevent trenching, excavation, and well installation in the capped area.

Protectiveness Statement(s): The site is protective of human health and the environment in the short-term and will be protective long-term provided site inspections, monitoring, mowing and maintenance continue, and the deed notice is implemented as planned.

Other Comments: None.

Third Five-Year Review Report

Crystal City Airport Site

The United States Environmental Protection Agency (EPA) Region 6 has conducted a third five-year review of the remedial actions implemented at the Crystal City Airport Site (“site”), located in Crystal City, Zavala County, Texas, for the period between the completion of the second five-year review in September 2000 to March 2006. The purpose of a five-year review is to determine whether the remedy at a site remains protective of human health and the environment, and to document the methods, findings, and conclusions of the five-year review in a Five-Year Review Report. Five-Year Review Reports identify issues found during the review, if any, and make recommendations to address the issues. This Third Five-Year Review Report documents the results of the review for the Crystal City Airport Site, conducted in accordance with EPA guidance on five-year reviews.

EPA guidance on conducting five-year reviews is provided by OSWER Directive 9355.7-03B-P, *Comprehensive Five-Year Review Guidance (EPA, 2001a)* (replaces and supercedes all previous guidance on conducting five-year reviews). EPA and contractor personnel followed the guidance provided in this OSWER directive in conducting the five-year review performed for the Crystal City Airport Site.

1.0 Introduction

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 United States Code (USC) ' 9601 *et seq.* and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) 300 *et seq.*, call for five-year reviews of certain CERCLA remedial actions. EPA policy also calls for a five-year review of remedial actions in some other cases. The statutory requirement to conduct a five-year review was added to CERCLA as part of the Superfund Amendments and Reauthorization Act of 1986 (SARA), P.L. 99-499. The EPA classifies each five-year review as either *Astatutory@or Apolicy@* depending on whether it is being required by statute or is being conducted as a matter of policy. The third five-year review for the Crystal City Airport Site is a statutory review.

EPA’s five-year review guidance specifies that five-year reviews are required or appropriate whenever a remedial action results in hazardous substances, pollutants, or contaminants remaining on site at levels that will not allow for unrestricted use or unrestricted exposure. As specified by CERCLA and the NCP, statutory reviews are required for such sites if the ROD was signed on or after the effective date of SARA. CERCLA ' 121(c), as amended, 42 USC ' 9621(c), states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than

each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

The implementing provisions of the NCP, as set forth in the CFR, state at 40 CFR 300.430(f)(4)(ii):

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

The EPA five-year review guidance further states that a five year review should be conducted as a matter of policy for the following types of actions:

- A pre-SARA remedial action that leaves hazardous substances, pollutants, or contaminants onsite above levels that allow for unlimited use and unrestricted exposure;
- A pre or post SARA remedial action that, once completed, will not leave hazardous substances, pollutants, or contaminants on site above levels that allow for unlimited use and unrestricted exposure but will require more than five years to complete; or,
- A removal-only site on the National Priorities List (NPL) where the removal action leaves hazardous substances, pollutants, or contaminants on site above levels that allow for unlimited use and unrestricted exposure and no remedial action has or will be conducted.

The five-year review for the Crystal City Airport Site, a statutory review, is being conducted because hazardous substances, pollutants, or contaminants remain onsite above levels that allow for unlimited use and unrestricted exposure.

This is the third five-year review for the Crystal City Airport Site. The first five-year review was completed in March 1995, and the second five-year review was completed in September 2000. EPA guidance indicates the triggering action date for a statutory five-year review is typically the date at which construction completion is achieved. Construction activities were completed at the site in July 1990, and construction completion was documented on December 26, 1991.

2.0 Site Chronology

A chronology of significant site events and dates is included in [Table 1](#), provided at the end of the report text. Sources of this information are listed in [Attachment 1, Documents Reviewed](#).

3.0 Background

This section describes the physical setting of the site, including a description of the land use, resource use, and environmental setting. This section also describes the history of contamination associated with the site.

Remedial actions performed for the site are described in [Section 4](#).

3.1 Physical Characteristics

The Crystal City Airport Site is located on 195.75 acres in Crystal City, Zavala County, Texas, as recorded in Book 51, pages 618 and 619 of the Zavala County Records. See [Figure 1](#) for the site location, [Figure 2](#) for the cap location, and [Attachment 4](#) for cap photographs. The airport is owned by the City of Crystal City. The contamination at the site resulted from the operation of several aerial pesticide application businesses that operated at the airport from the early 1950s until 1982 (EPA, 1987). The site is not associated with any other Superfund sites.

Property use to the north and southeast of the site is pasture land. A closed municipal landfill is located to the northeast of the property. A high school and an elementary school are located to the southwest of the site, and residential areas are located west and south of the site (EPA, 1995). Observations made during the February 2006 site inspection indicate that land use around the site has not changed (refer to [Section 6.2](#) for more details regarding the site inspection). The population density in the area is low, and the local economy is dominated primarily by agriculture and oil and gas production. The source of drinking water for residents of Crystal City is the Carrizo Aquifer located 750 feet below ground surface. One municipal water supply well is located adjacent to the entrance to the airport, across the runway from the disposal cell (EPA, 1987, and EPA, 1995). This well is designated City water supply well no. 3.

3.2 Land and Resource Use

The site was first used by the U. S. military during World War II as a detention facility. In 1949, the federal government deeded the property to the City of Crystal City. Since then, the property has been operated as a municipal airport. Beginning in the 1950s, several aerial pesticide application businesses began operating at the Crystal City Airport. Contamination at the site resulted from the improper waste handling practices of these businesses. By 1982, these operations ceased and the businesses declared bankruptcy, abandoning their equipment and deteriorated drums at the site (EPA, 1995).

3.3 History of Contamination

The Texas Department of Water Resources (TDWR), predecessor to the Texas Water Commission (TWC) and the Texas Natural Resources Conservation Commission (TNRCC), now the Texas Commission on Environmental Quality (TCEQ), initiated site investigations in April of 1983 at the request of city officials. At least 50 drums of various pesticides and herbicides and soil staining were noted. An Immediate Removal Action, initiated by EPA, occurred on October 31, 1983, and resulted in the placement of 50-70 drums and 40 cubic yards of soil in two temporary disposal cells onsite. A second removal action in May of 1984 resulted in the removal of 19 drums from the site, construction of a fence around the site, and posting of warning signs (EPA, 1987).

3.4 Initial Response

The site was placed on the NPL on May 20, 1986 (EPA, 1995). A Remedial Investigation (RI) was conducted between September 1986 and April 1987. The results of the RI and risk assessments are summarized in the RI Report in June 1987 (Ebasco Services, Inc., 1987a). The Feasibility Study (FS) was released in July 1987 (Ebasco Services, Inc., 1987b). Results indicated that onsite contamination consisted of numerous organochlorine pesticides and herbicides, arsenic, and semi-volatile organic compounds. Exposure to soils due to direct contact and erosion of contaminated soils were deemed to be the principle threats at the site. The contamination was found to be limited to the upper 18 inches of the soil. Groundwater was not detected to a depth of 50 feet in any of the soil borings drilled at the site. On September 28, 1987 the ROD for the site was signed (EPA, 1987).

3.5 Basis for Taking Action

The purpose of the response actions conducted at the Crystal City Airport Site was to protect public health and welfare and the environment from releases or threatened releases of hazardous substances from the site. The primary threat the Crystal City Airport Site posed to public health and safety was the potential for chronic and acute health effects resulting from direct contact with the contaminated soils. Other long-term objectives included preventing significant deterioration of air quality and preventing degradation of surface waters (EPA, 2006).

4.0 Remedial Actions

The remedial action completed at the Crystal City Airport included onsite consolidation under a RCRA cap of all soil contaminated in excess of 100 mg/kg total toxaphene, DDT, and arsenic. At the time of the landfill construction, all wastes stored at the site had been removed from the source areas through previous removal actions. Access to the site was to be restricted by a fence, and warning signs were to be posted. Thirty years of site monitoring were also required as part of the remedy (**EPA, 1987**). Approximately 12,000 cubic yards of soil were excavated and placed in the consolidation cell (**EPA, 1988**). Included in this section is a description of the remedy selection process employed at the Crystal City Airport, the implementation of the remedy, the O&M, and the progress made at the site since the previous five-year review.

4.1 Remedial Action Objectives

Short-term objectives for the selected remedy were to:

- Minimize direct exposure to onsite workers during remedy implementation;
- Prevent significant deterioration of air quality due to blowing dust; and
- Minimize the degradation of surface waters due to erosion.

The specific long-term remedial objectives of the remedial action were to:

- Prevent direct contact with contaminated soils in order to prevent chronic and acute health effects;
- Prevent significant deterioration to air quality; and
- Prevent degradation to surface waters (**EPA, 1987**).

4.2 Remedy Selection

The remedy for the site was chosen to remove the principle health threats at the site that presented an excess lifetime cancer risk, to prevent further releases from the site, and to establish a long-term monitoring program to ensure that the remedy remains protective. The remedy selected for the Crystal City Airport was onsite consolidation with a RCRA cap of all contaminated soils, building a fence around the disposal unit, and the posting of warning signs. This remedy was deemed adequate to reduce the threat of contaminant migration, given the site stratigraphy and climate. The direct contact threat would be removed by the remedy, and the land use as an airport was to be maintained (**EPA, 1987**). The Remedial Design (RD) began on June 14, 1988, and was completed on January 1, 1989 (**EPA, 2006**).

4.3 Remedy Implementation

The contract for the Remedial Action (RA) was awarded by the TWC to Qualtec, Inc. on April 21, 1989. Concerns about the remedy caused local officials to deny access to the property, and a CERCLA Section 104 Unilateral Administrative Order was issued by EPA to the City of Crystal City on November 1, 1989. Implementation of the remedy began on February 5, 1990 (**EPA, 1995**).

Construction of the remedy involved the following activities:

- Construction of the consolidation cell.
- Excavation and consolidation of contaminated materials in the cell.
- Verification monitoring.
- Placement, compaction, grading, and seeding of clean backfill.
- Storm water control.
- Building decontamination and demolition.
- Reconstruction and relocation of airport facilities.
- Construction of a RCRA cap over the consolidation cell.
- Continuous air monitoring and dust control.
- Construction of a security fence around the consolidation cell (**EPA, 1991**).

Inspections by EPA and the TWC were held on May 31, June 6, and in September of 1990. Construction for the remedy ended in July 1990, and acceptance of the final work product was issued on September 25, 1990, after the final EPA and TWC inspection. The final RA report was approved on June 6, 1991. In December 1991, the Site Close Out Report determined that no further response actions were necessary at the site to protect human health and the environment (**EPA, 1995**).

4.4 Operations and Maintenance and Long-Term Monitoring

The TCEQ (formerly the TNRCC) is currently responsible for O&M activities at the site. The O&M Plan currently requires annual water analysis of arsenic, DDT, and toxaphene in samples collected from the municipal water supply well located adjacent to the airport. Cap inspections, cap maintenance, and fence and sign inspections are required quarterly, and mowing is required as necessary. The O&M Plan calls for 30 years of cap and fence inspections, maintenance, and water sampling (**Ebasco Services, Inc., 1988**).

Water samples were collected by the TNRCC as required by the O&M Plan up until April 1998. After April 1998, the TNRCC relied on the monthly municipal water supply well sampling conducted under the Safe Drinking Water Act (SDWA) to cover monitoring requirements for this well. All of the water samples that were collected and analyzed by the TNRCC were below detection limits for arsenic, DDT, and toxaphene. Cap and fence inspections were conducted quarterly until April 1998. No major maintenance was required for the cap during that time. The security fence around the cell remained intact and provided restricted access to the cell (**TNRCC, 1995 through 1998**).

During the interview conducted for the second five-year review with the TNRCC representative, Mr. Emmanuel Ndam, it was reported that no sampling, cap inspections, or maintenance had occurred at the site since April 1998. The second five-year review recommended that the O&M requirements for the site be conducted as originally established in the O&M Plan (**EPA, 2001b**). Annual sampling of the city water supply well and site inspections resumed in 2003 (**TCEQ, 2003 through 2005**). Arsenic was detected in a 2003 sample from the City water supply well no. 3, at an estimated concentration of 0.2 ppb, well below the MCL of 10 ppb. Samples collected in 2004 and 2005 were non-detect for arsenic, and all samples were non-detect for toxaphene and DDT (**Table 2**).

During the interview conducted with the site's current TCEQ representative, Mr. Barry Lands, for this five-year review, it was confirmed that the site is visited, inspected, and mowed twice a year, and that the municipal well is sampled once a year. Mr. Lands also reported that O&M costs average currently about \$7,800 per year.

According to the most recent site inspection performed by URS Corporation (URS) on January 26, 2006, the site was mowed, the city water supply well was sampled, and the cap was inspected. Results of the cap inspection indicated that the soil on the cap was dry, hard, and cracked, with large portions of the vegetative cover having died or being dormant due to drought conditions, leaving the majority of the soil on the cap exposed. The fence and signs were found to be in good condition, but revegetation of the cap was recommended (**URS, 2004 through 2006**).

4.5 Progress Since Initiation of Remedial Action

The remedial activities specified in the ROD were implemented as planned. The contaminated soils were consolidated into a cell onsite with a RCRA cap. The site was provided with appurtenant structures, including fencing and signage (**EPA, 1991**).

Approximately 12,000 cubic yards of contaminated material waste were removed and are now consolidated in the onsite vault. Airport buildings were decontaminated and demolished, and the airport facilities reconstructed and relocated (EPA, 2006).

The first five-year review was finalized on March 7, 1995. At the time of the first five-year review, the remedy was found to be in good condition and operating as designed. The first five-year review found no deficiencies at the site and only recommended continued O&M activities (EPA, 2001b).

On March 23, 1995, the site was deleted from the NPL. The second five-year review was finalized on September 4, 2001, and is further discussed in [Section 5.0](#) (EPA, 2006).

5.0 Progress Since the Second Five-Year Review

Since the second five-year review, O&M activities have resumed at the site (TCEQ, 2003 through 2005). The findings of the second five-year review, the status of recommendations and follow-up actions, the results of implemented actions, and the status of any other issues are described in the following sections.

5.1 Protectiveness Statements from Second Five-Year Review

The Second Five-Year Review Report concluded that because the remedial actions implemented at the Crystal City Airport Site continue to be protective, the remedy for the site continues to be protective of human health and the environment. The Second Five-Year Review Report stated that the remedy continues to function as intended by the ROD. Data review had shown that the City of Crystal City water supply well was not contaminated (EPA, 2001b).

5.2 Second Five-Year Review Recommendations and Follow-up Actions

The second five-year review of the Crystal City Airport Site, completed in September 2001, recommended the following follow-up actions:

- O&M activities should be conducted as originally scheduled in the O&M Plan.
- A thorough cover inspection should be performed. The cracks in the landfill cover should be repaired, and then it should be revegetated.
- The area inside the perimeter fence, including the landfill cover and adjacent areas, should be mowed regularly.
- The city water supply well should be monitored to verify that it is not contaminated (EPA, 2001b).

5.3 Status of Recommended Actions

This section describes the current status of implementation of the recommendations included in the Second Five-Year Review Report.

O&M activities have resumed at the site. The city water supply well is being monitored annually (**TCEQ, 2003 through 2005**). Regular inspections of the fence and cover, as well as mowing, are occurring at the site. However, these activities are occurring twice a year, instead of at the quarterly frequency dictated by the O&M Plan (**URS, 2004 through 2006**). This frequency appears to be acceptable; however, the O&M Plan has not yet been updated to reflect this change.

Cracks in the landfill cover and sparse vegetation continue as a result of dry conditions, as documented in the five-year review site inspection and most recent annual inspection (**URS, 2004 through 2006**).

6.0 Five-Year Review Process

This third five-year review for the site has been conducted in accordance with EPA's Comprehensive Five-Year Review guidance dated June 2001 (**EPA, 2001a**). Interviews were conducted with relevant parties; a site inspection was conducted; and applicable data and documentation covering the period of the review were evaluated. The activities conducted as part of this review and specific findings are described in the following paragraphs.

6.1 Administrative Components

The five-year review for this site was initiated by EPA. The review team was led by the EPA Remedial Project Manager (RPM), Ernest Franke/EPA Region 6, with participation from Mr. Barry Lands/TCEQ. The components of the review included community involvement, document review, data review, a site inspection, interviews, and development of this Third Five-Year Review Report, as described in the following paragraphs.

6.2 Community Involvement

Upon signature, the Third Five-Year Review Report will be placed in the information repositories for the site, including the Crystal City Public Library, the TCEQ office in Austin, Texas, and the EPA Region 6 office in Dallas, Texas. A notice will then be published in the local newspaper to summarize the findings of the review and announce the availability of the report at the information repositories. A draft copy of the public notice is provided as **Attachment 5** to this report.

6.3 Document Review

This third five-year review for the site included a review of relevant site documents, including decision documents, construction and implementation reports, sampling reports, and related monitoring data.

Documents reviewed are listed in [Attachment 1](#).

6.4 Data Review

The only data collected since the previous five-year review are water samples collected by the TCEQ at the City water supply well no. 3, located at the entrance to the airport. Samples were collected annually during 2003, 2004, 2005 (**TCEQ, 2003 through 2005**) and 2006 (**URS, 2004 through 2006**). These samples were analyzed for toxaphene, DDT, and arsenic (results are listed in [Table 2](#)).

Toxaphene and DDT have been non-detect for all samples collected by the TCEQ from 2003-2005 (**TCEQ, 2003 through 2005**). Arsenic was detected below the maximum contaminant level (MCL) from 2003-2005 (**TCEQ, 2003 through 2005**). Analytical results from the 2006 sampling event were not yet available for review at the time this five-year review was conducted.

Applicable or Relevant and Appropriate Requirements (ARARs) for this site were identified in the ROD dated September 29, 1987 (**EPA, 1987**). This five-year review included identification of and evaluation of changes in these ARARs to determine whether such changes may affect the protectiveness of the selected remedy.

The Crystal City Airport ROD identified the following ARARs as having an impact on the proposed remedy:

- Superfund Amendments and Reauthorization Act (SARA) requirements that the selected remedy, to the extent practicable, be permanent and significantly reduce volume, mobility, and toxicity.
- Water quality criteria for human health and drinking water established under the Clean Water Act.
- RCRA requirements for the operation of hazardous waste storage facilities, as regulated under 40 CFR Part 264.
- Land Disposal Restrictions (LDRs), as regulated under 40 CFR Part 268.
- Worker protection standards under the Occupational Health and Safety Act, as regulated under 29 CFR Part 1910.
- Ambient air quality standards and emissions limitations established under the Clean Air Act.
- Operation of hazardous waste storage facilities governed under the Texas Solid Waste Disposal Act.
- Texas air regulations of the Texas Clean Air Act, as regulated under 30 TAC §101.4.

No changes have occurred to SARA since the signing of the ROD that would call into question the effectiveness of the remedy.

The substantive requirements of 40 CFR Part 264 and the Texas Solid Waste Disposal Act are still met by the remedy.

The RCRA cap in place at the site is designed to prevent surface runoff of contamination so that the water quality criteria of the Clean Water Act are met. The water supply well next to the site is monitored (monthly by the city, and annually by the TCEQ). As of the second five-year review, no contamination has yet been documented in the well. Arsenic was detected in a 2003 sample from the City water supply well no. 3, at an estimated concentration of 0.2 ppb, well below the MCL of 10 ppb. Samples collected in 2004 and 2005 were non-detect for arsenic ([Table 2](#)). As stated in the second five-year review, if the groundwater is found to be contaminated, then the MCLs promulgated under the Safe Drinking Water Act apply. The current drinking water standard for arsenic is 10 ppb (on January 22, 2001, EPA adopted 10 ppb as the new standard for arsenic, replacing the old standard of 50 ppb).

Groundwater monitoring is still occurring at the site, and the OSHA requirements of 29 CFR Part 1910 related to groundwater sampling are still applicable requirements for the site. These requirements are addressed under the site-specific health and safety plan.

As noted in the second five-year review, the EPA has promulgated changes in the LDRs with regards to the classification of contaminated soil (40 CFR 268.49, 63 FR 28602-28622, May 26, 1998, and 64 FR 25417, May 11, 1999). The remedy satisfies these ARAR requirements.

Soil is no longer being excavated at the site, and the potential for air emissions has been eliminated by the cap. The Clean Air Act and the Texas Clean Air Act are no longer applicable requirements for the site remedy.

In summary, it appears that no new laws or regulations have been promulgated or enacted that would call into question the effectiveness of the remedy at the Crystal City Airport to protect human health and the environment.

6.5 Interviews

During the course of this third five-year review, interviews were conducted with one city representative and one state representative. Interview Record Forms, which document the issues discussed during these interviews, are provided in [Attachment 2](#).

Interviews were conducted with Mr. John Camarillo of the City of Crystal City on February 16, 2006, at the site, and with Mr. Barry Lands of the TCEQ by email on March 6, 2006. The overall impression of the remedy effectiveness since the previous five year review was that the remedy is still protective of human health and the environment. Both stated that no significant concerns about the site have been expressed by people in the local community.

O&M costs for the site are kept by the TCEQ. The TCEQ representative Mr. Barry Lands indicated that the cost for O&M at the site is estimated to be \$7,800 per year. O&M activities at the site have resumed since the last five-year review, and therefore the O&M costs have increased since the last five-year review.

6.6 Site Inspection

A site inspection was conducted at the site on February 16, 2006. The completed site inspection checklist is provided in [Attachment 3](#). Photographs taken during the site visit are provided in [Attachment 4](#).

The disposal cell constructed for containment of the onsite wastes is situated on the northeast side of the runway at the Crystal City Airport ([Figure 2](#), and [Photograph 1](#)). Immediately next to the site is open range land overgrown with mesquite trees. During the site inspection, it was observed that the fencing around the site appeared intact and secure, and warning signs were posted ([Photograph 2](#)). No signs of vandalism were evident. The City water supply well no. 3 appeared to be in good condition ([Photograph 8](#)). The rocks and vegetation on the sloped area of the cap appeared to be adequate and healthy ([Photographs 3, 4, and 5](#)). Numerous desiccation cracks were observed along the outer edges and top of the cap ([Photographs 6 and 7](#)), and evidence of animal activity in the form of trails, burrows, and droppings was observed. Very little vegetation remained on the surface of the cover ([Photographs 6 and 7](#)). The area within the perimeter fence appeared to have been mowed recently. Although portions of the cover lacked vegetation, no visible signs of erosion or settlement were observed.

As part of the review, actual O&M costs are compared to the projected costs to determine if any unanticipated costs have been incurred during the review period. Based on information given by the TCEQ during the interview, the actual annual costs for site O&M activities is currently \$7,800 a year. This cost is higher than the cost projected in the O&M Plan, but the difference does not signify a failure of the remedy at the site. Therefore, the O&M costs are not an issue of concern for this site.

7.0 Technical Assessment

The five-year review must determine whether the remedy at a site is protective of human health and the environment. The EPA guidance lists three questions used to provide a framework for organizing and evaluating data and information and to ensure all relevant issues are considered when determining the protectiveness of a remedy. These questions are answered for the site in the following paragraphs. At the end of the section is a summary of the technical assessment.

7.1 Question A: Is the Remedy Functioning as Intended by the Decision Documents?

The decision documents for the Crystal City Airport Site include the September 1987 ROD (EPA, 1987), and the first and second five-year reviews (EPA, 1995, and EPA, 2001b). In general, the remedy is operating as designed. EPA is in the process of implementing institutional controls at the site in the form of a deed notice (see Figure 2 and Section 8.0).

Opportunities for Optimization. A reduced frequency in the inspections of the cap and fence and mowing has been implemented at the site, from quarterly to twice yearly. Sampling of the city municipal well is still required annually, with site maintenance (of the cap and perimeter fence) to occur on an as-needed basis.

Early Indicators of Potential Remedy Problems. Early indicators related to the remedy implemented at the Crystal City Airport Site would potentially include visible damage to the cap, through erosion, settlement, encroachment of woody vegetation, and/or burrowing animals, and ground water contamination in the city water supply well. Some minor damage to the cap was observed during the site inspection, although no significant damage to the cover has yet occurred. Arsenic was detected in a 2003 sample from the City water supply well no. 3, at an estimated concentration of 0.2 ppb, well below the MCL of 10 ppb. Samples collected in 2004 and 2005 were non-detect for arsenic (Table 2).

7.2 Question B: Are the Exposure Assumptions, Toxicity Data, Cleanup Levels, and Remedial Action Objectives Used at the Time of the Remedy Selection Still Valid?

The purpose of this question is to evaluate the effects of any significant changes in standards or assumptions used at the time of remedy selection. Changes in promulgated standards or “to be considereds” (TBCs) and assumptions used in the original definition of the remedial action may indicate an adjustment in the remedy is necessary to ensure the protectiveness of the remedy.

Changes in Exposure Pathways, Toxicity, and Other Contaminant Characteristics. There have been no changes in exposure pathways for the Crystal City Airport Site since completion of the Second Five-Year Review.

Changes in ARARs. ARARs for this site were identified in the September 1987 ROD, including, on the Federal level, the Superfund Amendments and Reauthorization Act (SARA), the Clean Water Act, the Clean Air Act, the Resource Conservation and Recovery Act (RCRA), the Occupational Health and Safety Act (OSHA), and LDRs. On the State level, ARARs identified for the remedy included the Texas Clean Air Act and the Texas Solid Waste Disposal Act. This five-year review for the site included a review of ROD-specified ARARs to determine whether changes may have been implemented that may affect the protectiveness of the selected remedy. The TCEQ and Federal regulations have not been revised to the extent that the effectiveness of the remedy at the site would be called into question.

7.3 Question C: Has any Other Information Come to Light that Could Call into Question the Protectiveness of the Remedy?

The type of other information that might call into question the protectiveness of the remedy includes potential future land use changes in the vicinity of the site or other unexpected changes in site conditions or exposure pathways. No other information has come to light as part of this third five-year review for the site that would call into question the protectiveness of the site remedy.

7.4 Summary of the Technical Assessment

The third five-year review for the Crystal City Airport Site was performed through a review of site documents and site-specific requirements, a site inspection performed on February 16, 2006, interviews with relevant parties, and a review of data collected at the site during the third five-year review period. The site landfill is in good condition and the site appears well maintained. In accordance with the Record of Decision (ROD), the Texas Commission of Environmental Quality (TCEQ) samples the City of Crystal City water supply well no. 3 annually and the analytical results show no detections of site-related contaminants, except for low levels of arsenic in one sample in 2003 (well below drinking water standards). TCEQ also performs a twice yearly inspection of the site cover and access controls, and mows the site twice yearly (this represents a reduction from the quarterly inspections and mowing required by the ROD). During the site inspection, minor deficiencies were noted at the site (e.g., small dessication cracks and animal burrows in the landfill cover, and stressed vegetation on the landfill cover due to dry conditions), but none were significant enough to warrant a finding that the remedy is not protective. Site access is restricted by chain-link fencing with locked gates and no trespassing signs, all in good condition; however, future site use is not restricted currently in the form of a notice or record on the deed. The City of Crystal City owns the property, and EPA is currently working with the City and TCEQ to implement a notice on the deed to prevent trenching, excavation, and well installation in the capped area (see [Figure 2](#) and [Section 8.0](#)).

8.0 Institutional Controls

Institutional Controls (ICs) are generally defined as non-engineered instruments such as administrative and legal tools that do not involve construction or physically changing the site and 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 (EPA, 2005). ICs can be used for many reasons including restriction of site use, modifying behavior, and providing information to people (EPA, 2000). ICs may include deed notices, easements, covenants, restrictions or other conditions on deeds, and/or ground water and/or land use restriction documents (EPA, 2001a). The following paragraphs describe the ICs implemented at the Site, the potential affect of future land use plans on ICs and any plans for changes to site contamination status.

8.1 Types of Institutional Controls In Place at the Site

The City of Crystal City owns the property, and EPA is currently working with the City and TCEQ to implement a notice on the deed to prevent trenching, excavation, and well installation in the capped area (see Figure 2). Although not of themselves considered institutional controls, the Site is secured by a perimeter fence, entrance to the Site is restricted by a locked gate, and warning signs are visible on each side of the perimeter fence.

8.2 Effect of Future Land Use Plans on Institutional Controls

No future land uses has been established or are anticipated for the Site that would require an adjustment to the ICs currently being put into place.

8.3 Plans for Changes to Site Contamination Status

No changes to the status of the contamination at the site are anticipated.

9.0 Issues

The site landfill is in good condition and the site appears well maintained. In accordance with the Record of Decision (ROD), the Texas Commission of Environmental Quality (TCEQ) samples the City of Crystal City water supply well no. 3 annually and the analytical results show no detections of site-related contaminants toxaphene and DDT, although a low level of arsenic was detected in a sample collected in 2003 (well below drinking water standards). Samples collected in 2004 and 2005 were non-detect for arsenic. TCEQ performs a twice yearly inspection of the site cover and access controls, and mows the site twice yearly, which represents a reduction from the quarterly inspections and mowing required by the ROD. During the site inspection, minor deficiencies were noted at the site (e.g., small dessication cracks and animal burrows in the landfill cover, and stressed vegetation on the landfill cover due to dry conditions), but none were significant

enough to warrant a finding that the remedy is not protective. Site access is restricted by chain-link fencing with locked gates and no trespassing signs, all in good condition; however, future site use is not restricted currently in the form of a notice or record on the deed. The City of Crystal City owns the property, and EPA is currently working with the City and TCEQ to implement a notice on the deed to prevent trenching, excavation, and well installation in the capped area.

10.0 Recommendations and Follow-up Actions

None of the minor deficiencies noted during the site inspection were significant enough to warrant further action, other than continued site inspections and maintenance. Inspections and mowing should continue to be performed at least twice per year to check the condition of the landfill cover and site access restrictions (fencing and no trespassing signs), and repairs should be performed as necessary to maintain current conditions at a minimum. In accordance with the ROD, TCEQ should continue to sample annually city water supply well no. 3, shown in Photograph 8 of [Attachment 4](#) of this report, and prepare annual reports describing the analytical results and annual inspection/ mowing activities. TCEQ should update the Operations and Maintenance (O&M) Plan for the site for the site to reflect the reduced frequency in fence and cap inspections from quarterly to twice a year. EPA is currently working with the City and TCEQ to implement a notice on the deed to prevent trenching, excavation, and well installation in the capped area.

11.0 Protectiveness Statement

The site is protective of human health and the environment in the short-term and will be protective long-term provided site inspections, monitoring, mowing and maintenance continue, and the deed notice is implemented as planned.

12.0 Next Review

The next five-year review, the fourth for the site, should be completed during 2011. This review should include an update on the condition of the landfill cover to ensure that appropriate corrective action has been taken and O&M continues as required.

Table 1
Chronology of Site Events
Crystal City Airport Site
Crystal City, Zavala County, Texas

Date	Event
April 1983 - July 1983	Initial site investigations were conducted by the Texas Department of Water Resources to determine the amount of contamination present in soils.
October 31, 1983	Immediate Removal Action conducted by EPA to remove contaminated materials from the site.
May 1984	Second removal action conducted by EPA to remove drums, construct a fence, and post warning signs at the site.
September 28, 1985	Cooperative Agreement signed by the State of Texas and EPA to conduct a Remedial Investigation (RI) and Feasibility Study (FS).
May 20, 1986	Site listed on the NPL.
June 1987	Final RI report approved.
July 1987	Final FS report approved.
September 29, 1987	Record of Decision signed.
June 14, 1988	Cooperative Agreement signed by the Texas Water Commission and EPA to conduct the Remedial Design (RD) and Remedial Action (RA).
June 14, 1988	RD started.
January 1, 1989	RD finished.
November 1, 1989	Unilateral Administrative Order issued by EPA to city authorities to allow state contractor access to the site.
February 5, 1990	RA started.
July 1990	RA completed.
June 6, 1991	Final RA report approved.
December 1991	Close Out Report issued by EPA and the State of Texas.
March 1995	First Five-Year Review report issued.
March 23, 1995	Site deleted from the NPL.
September 2001	Second Five-Year Review completed.
May 2006	Third Five-Year Review completed

Table 2
Data Comparison
Crystal City Airport Site
Crystal City, Zavala County, Texas

Contaminant	Well	Pre-RA Highest Concentration (ppb)	2003 Monitoring Event (ppb)	2004 Monitoring Event (ppb)	2005 Monitoring Event (ppb)	Cleanup Level (ppb)
Arsenic	City Well	non-detect	0.2 J	0.22 U-MB	0.41 U-MB	N/A
DDT	City Well	non-detect	non-detect	non-detect	non-detect	N/A
Toxaphene	City Well	non-detect	non-detect	non-detect	non-detect	N/A

Note: The MCL for arsenic in drinking water is 10 parts per billion (ppb).

Laboratory Qualifiers:

U- Analyte not detected

J- Analyte detected below quantitation limits

B- Analyte detected in the associated Method Blank (MB)



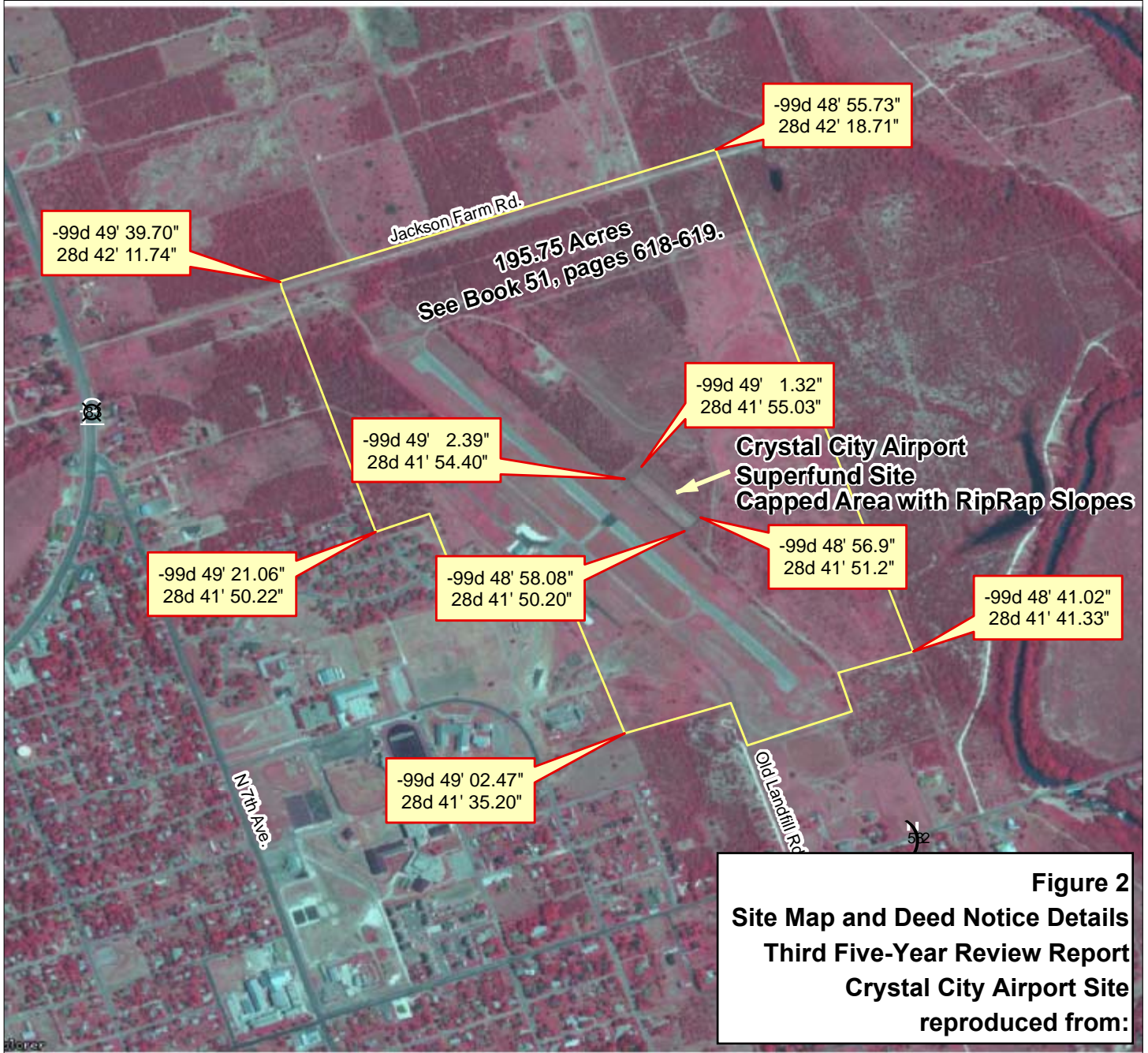
Figure 1
Site Location
Third Five-Year Review Report
Crystal City Airport Site

Crystal City Airport Superfund Site Zavala County, Texas

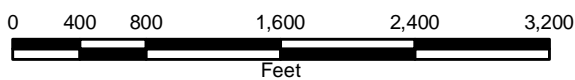
Posted Site, within a 6 ft Chain Link Fence / Gate Entrance

"BURIED CONTAMINANTS" - STOP BEFORE YOU DIG!

Any Reuse or Redevelopment involving Subsurface Utilities, Trenching, Excavation, or Well Installation Requires Prior Approval by TCEQ, USEPA, and the Property Owner.



Capped facility within city owned property as recorded in Book 51, pages 618-619 of Zavala County Deed Records.



Deed Notice of Capped Facility

EPA ID# TXD980864763
Congressional District 23

Image from GlobeXplorer
07/01/2004 1:12,000

Map Created 04/27/06



Attachment 1
Documents Reviewed

Attachment 1 Documents Reviewed

- Ebasco Services, Inc., 1987a. *Crystal City Airport Site, Crystal City, Texas, Remedial Investigation*. Final, June 1987.
- Ebasco Services, Inc., 1987b. *Crystal City Airport Site, Crystal City, Texas, Feasibility Study*. Final, July 1987.
- Ebasco Services, Inc., 1988. *Operations and Maintenance Plan, Crystal City Airport Site, Zavalla County, Texas*. December 9, 1988.
- Texas Conservation on Environmental Quality (TCEQ), 2003 through 2005. Crystal City water supply well sampling analytical results, August 13, 2003, February 18, 2004, and February 25, 2005.
- Texas Natural Resources Conservation Commission (TNRCC), 1995 through 1998. Letter Reports from Robert D. Conti/TNRCC to Ernest Franke/U. S. EPA Region 6 regarding *Crystal City Federal Superfund Site State Funded Operations and Maintenance*. Summaries of cap and fence inspections, and summaries of analytical results from city water well, June 13, 1995, September 14, 1995, December 12, 1995, March 7, 1996, June 13, 1996, September 6, 1996, December 5, 1996, March 20, 1997, August 7, 1997, October 24, 1997, and January 30, 1998.
- URS Corporation (URS), 2004 through 2006. Memorandum from Thomas Wiberg/URS to Barry Lands/TCEQ regarding *Crystal City Airport Superfund Site Progress Report*. February 11, 2004, August 16, 2004, March 16, 2005, August 16, 2005, and February 5, 2006.
- U.S. Environmental Protection Agency (EPA), 1987. *Declaration For The Record of Decision*. Crystal City Airport Superfund Site. Final, September 29, 1987.
- U.S. Environmental Protection Agency (EPA), 1988. *Guide to Technical Resources for the Design of Land Disposal Facilities*. EPA625-6-88-018. December 1998.
- U.S. Environmental Protection Agency (EPA), 1991. *Superfund Site Close Out Report, Crystal City Superfund Site, Crystal City, Texas*. Final, December 1991.
- U.S. Environmental Protection Agency (EPA), 1995. *First Five-Year Review, Crystal City Airport Superfund Site, Crystal City, Zavala County, Texas*. Final, March 1995.
- U.S. Environmental Protection Agency (EPA), 2000. *Institutional Controls: A Site Manager's Guide to Identifying, Evaluating and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups*. EPA 540-F-00-005. September 2000.
- U. S. Environmental Protection Agency (EPA), 2001a. *Comprehensive Five-Year Review Guidance*. EPA 540-R-01-007. June 2001.
- U.S. Environmental Protection Agency (EPA), 2001b. *Second Five-Year Review Report for the Crystal City Airport Site, Crystal City, Zavala County, Texas*. September 2001.

U.S. Environmental Protection Agency (EPA), 2005. *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*. EPA-540-R-04-003. February, 2005.

U.S. Environmental Protection Agency (EPA), 2006. *Site Status Summary Crystal City Airport*. March 6, 2006.

Attachment 2

Interview Record Forms

Five-Year Review Interview Record Crystal City Airport Crystal City, Texas		Interviewee: John Camarillo Affiliation: City of Crystal City Telephone: 830-374-3477 email:		
Site Name	EPA ID Number	Date of Interview	Interview Method	
Crystal City Airport	EPA ID# TXD980864763	02/16/06	In person at site	
Interview Contacts				
Name	Organization	Phone	Email	Address
Ernest Franke	EPA Region 6	214-665-8521	Franke.Ernest@epa.gov	1445 Ross Ave Dallas, Texas 75202
Margaret O'Hare	CH2M HILL, EPA contractor	972-980-2170	mohare@ch2m.com	12377 Merit, Suite 1000 Dallas, Texas 75251
Purpose of the Five-Year Review				
<p>The purpose of the five-year review is to evaluate the implementation and performance of the remedy, to confirm that human health and the environment continue to be protected by the remedial actions being performed at the site. This interview is being conducted as a part of the third five-year review for the Crystal City Airport site. The period covered by this five-year review is from completion of the second five-year review in 2000 to current.</p>				
Interview Questions				
<p>1. What is your overall impression of the work conducted at the site since the second Five-Year Review period (September 2000)?</p> <p>Response:</p> <p>Mr. Camarillo indicated he felt the work conducted was appropriate.</p>				
<p>2. From your perspective, what effects have continued O&M at the site had on the surrounding community? Are you aware of any ongoing community concerns regarding the site or its operation and maintenance?</p> <p>Response:</p> <p>Mr. Camarillo indicated that only the older people recall the site when it was active. There are periodically rumors of cancer clusters, but there are no continuing concerns.</p>				
<p>3. Please describe the frequency and content of routine communications or activities conducted by your office regarding the site (e.g. site visits, inspections, reporting activities, etc.).</p> <p>Response: The site is visited twice a year. The municipal well is sampled annually.</p>				

4. Are you aware of any unanticipated events, incidents, or activities that have occurred at the site, such as dumping, vandalism, fire, or anything that required emergency response from local authorities? If so, please give details.

Response: No unanticipated events at the site. There have been drag racing events on the runway, and private use of the airport but these do not impact the landfill.

Have there been any complaints, violations or other incidents related to the site that required a response by your office? If so, please summarize the events and results.

Response: None.

3. Do you feel well informed about the site's activities and progress?

Response: Mr. Camarillo indicated he feels well informed about the site.

4. Do you have any comments, suggestions, or recommendations regarding the site?

Response: Mr. Camarillo requested a copy of the five-year review report.

Five-Year Review Interview Record Crystal City Municipal Airport Crystal City, Texas		Interviewee: Barry Lands Affiliation: TCEQ Telephone: 512-239-6547 email: blands@tnrcc.state.tx.us		
Site Name	EPA ID Number	Date of Interview	Interview Method	
Crystal City Municipal Airport	EPA ID# TXD980864763	03/06/06	By email	
Interview Contacts				
Name	Organization	Phone	Email	Address
Ernest Franke	EPA Region 6	214-665-8521	Franke.Ernest@epa.gov	1445 Ross Ave Dallas, Texas 75202
Margaret O'Hare	CH2M HILL, EPA contractor	972-980-2170	mohare@ch2m.com	12377 Merit, Suite 1000 Dallas, Texas 75251
Purpose of the Five-Year Review				
<p>The purpose of the five-year review is to evaluate the implementation and performance of the remedy, to confirm that human health and the environment continue to be protected by the remedial actions being performed at the site. This interview is being conducted as a part of the third five-year review for the Crystal City Airport site. The period covered by this five-year review is from completion of the second five-year review in 2000 to current.</p>				
Interview Questions				
<p>5. What is your overall impression of the work conducted at the site since the second Five-Year Review period (September 2000)?</p> <p>Response:</p> <p>Adequate</p>				
<p>6. From your perspective, what effects have continued O&M at the site had on the surrounding community? Are you aware of any ongoing community concerns regarding the site or its operation and maintenance?</p> <p>Response:</p> <p>No longer much interest in the site by the community.</p>				
<p>3. Please describe the frequency and content of routine communications or activities conducted by your office regarding the site (e.g. site visits, inspections, reporting activities, etc.).</p> <p>Response: The site is visited twice a year. On each visit the site is evaluated (cap conditions, security and fence condition). Additionally the site is mowed on each visit. Once a year a groundwater sample is collected from the municipal well located at the adjacent airport property.</p>				

4. Are you aware of any unanticipated events, incidents, or activities that have occurred at the site, such as dumping, vandalism, fire, or anything that required emergency response from local authorities? If so, please give details.

Response: No unanticipated events at the site.

Have there been any complaints, violations or other incidents related to the site that required a response by your office? If so, please summarize the events and results.

Response: None.

7. Are you aware of any problems or difficulties encountered since the second five year review period (September 2000) which impacted the site or resulted in a change in O&M procedures? Please describe the changes and impacts.

Response: No changes in O&M procedures.

8. Have there been any changes in state or local environmental standards since the second five-year review period (September 2000) that may call into question the protectiveness or effectiveness of the remedy?

Response: No changes.

9. Please describe any opportunities to optimize the operation, maintenance, or sampling efforts at the site since the second five year review period (September 2000), and indicate whether and when such changes were adopted.

Response: The plan is as optimized as possible.

10. Please describe the annual cost of O&M activities, and there have been any significant changes in annual O&M costs since the second five year review period (September 2000).

Response: Currently the cost of completing the O&M plan is \$7804.24.

11. Do you feel well informed about the site's activities and progress?

Response: Yes.

12. Do you have any comments, suggestions, or recommendations regarding the site?

Response: None.

Attachment 3
Site Inspection Checklist

Crystal City Airport Site Crystal City, Zavala County, Texas Five-Year Review Site Inspection Checklist

Please note that "O&M" is referred to throughout this checklist. At sites where Long-Term Response Actions are in progress, O&M activities may be referred to as "system operations" since these sites are not considered to be in the O&M phase while being remediated under the Superfund program. N/A means "not applicable".

I. SITE INFORMATION	
Site Name: Crystal City Airport Site	EPA ID: TXD980864763
City/State: Crystal City, Zavala County, Texas	Date of Inspection: February 16, 2006
Agency Completing 5 Year Review: EPA	Weather/temperature: Sunny to partly cloudy, 80 degrees
Remedy Includes: (Check all that apply) <input checked="" type="checkbox"/> Landfill cover/containment <input checked="" type="checkbox"/> Access controls <input checked="" type="checkbox"/> Institutional controls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input type="checkbox"/> Other:	
Attachments: <input checked="" type="checkbox"/> Inspection team roster attached <input type="checkbox"/> Site map attached	
II. INTERVIEWS (Check all that apply)	
O&M site manager: Barry Lands/TCEQ Name: Title: Date: Interviewed: <input type="checkbox"/> at site <input checked="" type="checkbox"/> by email <input type="checkbox"/> by phone Phone Number: <u>Problems, suggestions:</u> <input checked="" type="checkbox"/> Additional report attached (if additional space required). See Attachment 2 to this five-year review report for interview record.	
2. O&M staff: Name: Title: Date: Interviewed: <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone Number: <u>Problems, suggestions:</u> <input type="checkbox"/> Additional report attached (if additional space required).	

3. Local regulatory authorities and response agencies (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency: City of Crystal City
Contact: Public Works Department

Name: John Camarillo
Title: Director of Public Works
Date: February 16, 2006
Phone Number: 830-374-3478

Problems, suggestions: Additional report attached (if additional space required).

See Attachment 2 to this five-year review report for interview record.

Agency:

Contact:

Name:
Title:
Date:
Phone Number:

Problems, suggestions: Additional report attached (if additional space required).

4. Other interviews (optional) N/A Additional report attached (if additional space required).

III. ONSITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. O&M Documents
- | | | | |
|---|---|-------------------------------------|------------------------------|
| <input checked="" type="checkbox"/> O&M Manuals | <input checked="" type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input type="checkbox"/> N/A |
| <input type="checkbox"/> As-Built Drawings | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input type="checkbox"/> N/A |
| <input type="checkbox"/> Maintenance Logs | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input type="checkbox"/> N/A |
- Remarks:

2. Health and Safety Plan Documents
- | | | | |
|---|--|-------------------------------------|---|
| <input type="checkbox"/> Site-Specific Health and Safety Plan | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
| <input type="checkbox"/> Contingency plan/emergency response plan | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input type="checkbox"/> N/A |
- Remarks:

3. O&M and OSHA Training Records Readily available Up to date N/A
- Remarks:

4. Permits and Service Agreements
- | | | | |
|---|--|-------------------------------------|---|
| <input type="checkbox"/> Air discharge permit | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
| <input type="checkbox"/> Effluent discharge | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
| <input type="checkbox"/> Waste disposal, POTW | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
| <input type="checkbox"/> Other permits | <input type="checkbox"/> Readily available | <input type="checkbox"/> Up to date | <input checked="" type="checkbox"/> N/A |
- Remarks:

5.	Gas Generation Records <u>Remarks:</u>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
6.	Settlement Monument Records <u>Remarks:</u> Next survey scheduled for early 2006.	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
7.	Groundwater Monitoring Records <u>Remarks:</u>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
8.	Leachate Extraction Records <u>Remarks:</u>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
9.	Discharge Compliance Records <u>Remarks:</u>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
10.	Daily Access/Security Logs <u>Remarks:</u>	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input checked="" type="checkbox"/> N/A
IV. O&M Costs				<input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A
O&M Organization				
<input type="checkbox"/> State in-house <input checked="" type="checkbox"/> Contractor for State <input type="checkbox"/> PRP in-house <input type="checkbox"/> Contractor for PRP <input type="checkbox"/> Other:				
O&M Cost Records				
<input checked="" type="checkbox"/> Readily available <input type="checkbox"/> Up to date <input type="checkbox"/> Funding mechanism/agreement in place <u>Original O&M cost estimate:</u> <input type="checkbox"/> Breakdown attached				
<u>Total annual cost by year for review period if available</u>				
<u>From (Date):</u>		<u>To (Date):</u>	<u>Total cost:</u>	<input type="checkbox"/> Breakdown attached
<u>From (Date):</u>		<u>To (Date):</u>	<u>Total cost:</u>	<input type="checkbox"/> Breakdown attached
<u>From (Date):</u>		<u>To (Date):</u>	<u>Total cost:</u>	<input type="checkbox"/> Breakdown attached
<u>From (Date):</u>		<u>To (Date):</u>	<u>Total cost:</u>	<input type="checkbox"/> Breakdown attached
<u>From (Date):</u>		<u>To (Date):</u>	<u>Total cost:</u>	<input type="checkbox"/> Breakdown attached
Unanticipated or Unusually High O&M Costs During Review Period				<input checked="" type="checkbox"/> N/A

<u>Describe costs and reasons:</u>
V. ACCESS AND INSTITUTIONAL CONTROLS <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A
Fencing
Fencing damaged <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> Gates secured <input type="checkbox"/> N/A <u>Remarks:</u> Fence is in good condition.
Other Access Restrictions
Signs and other security measures <input checked="" type="checkbox"/> Location shown on site map <input type="checkbox"/> N/A <u>Remarks:</u> Signs are in good condition.
Institutional Controls
Implementation and enforcement Site conditions imply ICs not properly implemented: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Site conditions imply ICs not being fully enforced: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Type of monitoring (e.g, self-reporting, drive by): drive-by Frequency: twice per year Responsible party/agency: TCEQ (regulatory agency)/City of Sand Springs (owner) Contact: TCEQ Name: Barry Lands Title: Date: Phone Number: Reporting is up-to-date: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Reports are verified by the lead agency: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Specific requirements in deed or decision documents have been met: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Violations have been reported: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Other problems or suggestions: <input type="checkbox"/> Additional report attached (if additional space required).
Adequacy <input type="checkbox"/> ICs are adequate <input checked="" type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A <u>Remarks:</u> Deed restrictions are not yet in place. EPA is working with TCEQ to implement.
General
Vandalism/trespassing <input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> No vandalism evident <u>Remarks:</u> No sign of vandalism/trespassing.
Land use changes onsite <input checked="" type="checkbox"/> N/A <u>Remarks:</u>
Land use changes offsite <input checked="" type="checkbox"/> N/A <u>Remarks:</u>

VI. GENERAL SITE CONDITIONS		
Roads	<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
Roads damaged	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
<u>Remarks:</u>		
Other Site Conditions		
<u>Remarks:</u>		
VII. LANDFILL COVERS		
		<input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A
1. Landfill Surface		
Settlement (Low spots)	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Settlement not evident
Areal extent:	Depth:	
<u>Remarks:</u>		
Cracks	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Cracking not evident
Lengths: Widths: Depths:		
<u>Remarks:</u> Minor cracking due to dry conditions.		
Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
Areal extent:	Depth:	
<u>Remarks:</u>		
Holes	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Holes not evident
Areal extent:	Depth:	
<u>Remarks:</u> Some minor holes due to animal burrowing, and ant hills		
Vegetative Cover		
Cover properly established	<input type="checkbox"/> No signs of stress	<input type="checkbox"/> Grass <input type="checkbox"/> Trees/Shrubs
<u>Remarks:</u> Cover vegetation stressed due to dry conditions. .		
Alternative Cover (armored rock, concrete, etc.)		<input checked="" type="checkbox"/> N/A
<u>Remarks:</u>		
Wet Areas/Water Damage	<input checked="" type="checkbox"/> Wet areas/water damage not evident	
<input type="checkbox"/> Wet areas	<input type="checkbox"/> Location shown on site map	Areal extent:
<input type="checkbox"/> Ponding	<input type="checkbox"/> Location shown on site map	Areal extent:
<input type="checkbox"/> Seeps	<input type="checkbox"/> Location shown on site map	Areal extent:
<input type="checkbox"/> Soft subgrade	<input type="checkbox"/> Location shown on site map	Areal extent:
<u>Remarks:</u>		

Slope Instability Areal extent: Remarks:	<input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of slope instability
Benches (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)		
1. Flows Bypass Bench Remarks:	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A or okay
2. Bench Breached Remarks:	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A or okay
3. Bench Overtopped Remarks:	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A or okay
Letdown Channels <input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A		
Settlement Areal extent: Depth: Remarks:	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of settlement
Material Degradation Material type: Areal extent: Remarks:	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of degradation
Erosion Areal extent: Depth: Remarks:	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of erosion
Undercutting Areal extent: Depth: Remarks:	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of undercutting
Obstructions Type: Areal extent: Height: Remarks:	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> N/A
Excessive Vegetative Growth <input type="checkbox"/> Evidence of excessive growth <input type="checkbox"/> Location shown on site map Remarks:	<input checked="" type="checkbox"/> No evidence of excessive growth <input type="checkbox"/> Vegetation in channels but does not obstruct flow Areal extent:	

Cover Penetrations <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
Gas Vents		<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Active	<input type="checkbox"/> Passive	<input type="checkbox"/> Routinely sampled	<input type="checkbox"/> Good condition
<input type="checkbox"/> Properly secured/locked		<input type="checkbox"/> Functioning	
<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs O&M	
<u>Remarks:</u>			
Gas Monitoring Probes		<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Routinely sampled		<input type="checkbox"/> Functioning	<input type="checkbox"/> Good condition
<input type="checkbox"/> Properly secured/locked		<input type="checkbox"/> Needs O&M	
<input type="checkbox"/> Evidence of leakage at penetration			
<u>Remarks:</u>			
Monitoring Wells (within surface area of landfill)		<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Routinely sampled		<input type="checkbox"/> Functioning	<input type="checkbox"/> Good condition
<input type="checkbox"/> Properly secured/locked		<input type="checkbox"/> Needs O&M	
<input type="checkbox"/> Evidence of leakage at penetration			
<u>Remarks:</u>			
Leachate Extraction Wells		<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Routinely sampled		<input type="checkbox"/> Functioning	<input type="checkbox"/> Good condition
<input type="checkbox"/> Properly secured/locked		<input type="checkbox"/> Needs O&M	
<input type="checkbox"/> Evidence of leakage at penetration			
<u>Remarks:</u>			
Settlement Monuments		<input type="checkbox"/> Located	<input type="checkbox"/> Routinely surveyed
<u>Remarks:</u>			
Gas Collection and Treatment <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
Gas Treatment Facilities		<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Flaring	<input type="checkbox"/> Thermal destruction	<input type="checkbox"/> Collection for reuse	
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O&M		
<u>Remarks:</u>			
Gas Collection Wells, Manifolds and Piping		<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O&M		
<u>Remarks:</u>			
Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings)		<input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O&M		
<u>Remarks:</u>			

Cover Drainage Layer	<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A	
Outlet Pipes Inspected <u>Remarks:</u>	<input type="checkbox"/> Functioning	<input checked="" type="checkbox"/> N/A
Outlet Rock Inspected <u>Remarks:</u>	<input type="checkbox"/> Functioning	<input checked="" type="checkbox"/> N/A
13. Detention/Sedimentation Ponds <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
Siltation Areal extent: <u>Remarks:</u>	<input type="checkbox"/> Siltation evident Depth:	<input checked="" type="checkbox"/> N/A
Erosion Areal extent: <u>Remarks:</u>	<input type="checkbox"/> Erosion evident Depth:	<input checked="" type="checkbox"/> N/A
Outlet Works <u>Remarks:</u>	<input type="checkbox"/> Functioning	<input checked="" type="checkbox"/> N/A
Dam <u>Remarks:</u>	<input type="checkbox"/> Functioning	<input checked="" type="checkbox"/> N/A
Retaining Walls <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
Deformations Horizontal displacement: <u>Remarks:</u>	<input type="checkbox"/> Location shown on site map Vertical displacement:	<input checked="" type="checkbox"/> Deformation not evident Rotational displacement:
Degradation <u>Remarks:</u>	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Degradation not evident
Perimeter Ditches/Off-site discharge <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
Siltation Areal extent: <u>Remarks:</u>	<input type="checkbox"/> Location shown on site map Depth:	<input checked="" type="checkbox"/> Siltation not evident
Vegetative Growth Areal extent: <u>Remarks:</u>	<input type="checkbox"/> Location shown on site map Type:	<input checked="" type="checkbox"/> Vegetation does not impede flow

Erosion Areal extent: <u>Remarks:</u>	<input type="checkbox"/> Location shown on site map Depth:	<input checked="" type="checkbox"/> Erosion not evident
Discharge Structure <input type="checkbox"/> Functioning <u>Remarks:</u>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Good Condition	<input checked="" type="checkbox"/> N/A
VIII. VERTICAL BARRIER WALLS <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
Settlement Areal extent: Remarks:	<input type="checkbox"/> Location shown on site map Depth:	<input type="checkbox"/> Settlement not evident
Performance Monitoring <input type="checkbox"/> Performance not monitored <input type="checkbox"/> Performance monitored <input type="checkbox"/> Evidence of breaching <u>Remarks:</u>	Frequency: Head differential:	<input checked="" type="checkbox"/> N/A
IX. GROUNDWATER/SURFACE WATER REMEDIES <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
Groundwater Extraction Wells, Pumps, and Pipelines <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
Pumps, Wellhead Plumbing, and Electrical <input type="checkbox"/> All required wells located <u>Remarks:</u>	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O& M <input checked="" type="checkbox"/> N/A
Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances <input type="checkbox"/> System located <u>Remarks:</u>	<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O& M <input checked="" type="checkbox"/> N/A
Spare Parts and Equipment <input type="checkbox"/> Readily available <input type="checkbox"/> Requires Upgrade <u>Remarks:</u>	<input type="checkbox"/> Good condition <input type="checkbox"/> Needs to be provided	<input checked="" type="checkbox"/> N/A
Surface Water Collection Structures, Pumps, and Pipelines <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A		
Collection Structures, Pumps, and Electrical <input type="checkbox"/> Good condition <u>Remarks:</u>	<input type="checkbox"/> Needs O& M	<input checked="" type="checkbox"/> N/A
Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances <input checked="" type="checkbox"/> N/A		
<input type="checkbox"/> Good condition <input type="checkbox"/> Needs O& M <u>Remarks:</u> Not observed.		

Spare Parts and Equipment		<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Readily available	<input type="checkbox"/> Good condition	
<input type="checkbox"/> Requires Upgrade	<input type="checkbox"/> Needs to be provided	
<u>Remarks:</u>		
Treatment System		<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
Treatment Train (Check components that apply)		
<input type="checkbox"/> Metals removal	<input type="checkbox"/> Oil/water separation	<input type="checkbox"/> Bioremediation
<input type="checkbox"/> Air stripping	<input type="checkbox"/> Carbon adsorbers	<input type="checkbox"/> Filters (list type): Sand
<input type="checkbox"/> Additive (list type, e.g., chelation agent, flocculent)		
<input type="checkbox"/> Others (list):		
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O&M	
<input type="checkbox"/> Sampling ports properly marked and functional		
<input type="checkbox"/> Sampling/maintenance log displayed and up to date		
<input type="checkbox"/> Equipment properly identified		
<input type="checkbox"/> Quantity of groundwater treated annually (list volume): Approximately 6,000,000 gallons		
<input type="checkbox"/> Quantity of surface water treated annually (list volume): 0		
<u>Remarks:</u>		
Electrical Enclosures and Panels (properly rated and functional)		<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O&M	
<u>Remarks:</u>		
Tanks, Vaults, Storage Vessels		<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Good condition	<input type="checkbox"/> Proper secondary containment	<input type="checkbox"/> Needs O&M
<u>Remarks:</u>		
Discharge Structure and Appurtenances		<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O&M	
<u>Remarks:</u>		
Treatment Building(s)		<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Good condition (esp. roof and doorways)	<input type="checkbox"/> Needs Repair	
<input type="checkbox"/> Chemicals and equipment properly stored		
<u>Remarks:</u>		
Monitoring Wells (pump and treatment remedy)		<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> All required wells located	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O&M	<input type="checkbox"/> Routinely sampled
<u>Remarks:</u>		
Monitored Natural Attenuation		<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
Monitoring Wells (natural attenuation remedy)		<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> All required wells located	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O&M	<input type="checkbox"/> Routinely sampled
<u>Remarks:</u>		
5. Long Term Monitoring		<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A

Monitoring Wells		<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> All required wells located	<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning
<input type="checkbox"/> Good condition	<input type="checkbox"/> Needs O&M	<input type="checkbox"/> Routinely sampled
Remarks: City well is monitored annually.		
X. OTHER REMEDIES		<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
XI. OVERALL OBSERVATIONS		
14. Implementation of the Remedy		
Cap and access restrictions (fence) are in good condition. Some stress to cover vegetation due to dry conditions. Some evidence of fire ants and animal burrows, but not severe enough to warrant maintenance at this time.		
2. Adequacy of O&M		
O&M procedures are adequate.		
3. Early Indicators of Potential Remedy Failure		
None.		
4. Opportunities for Optimization		
None.		

Site Inspection Team Roster

Name	Organization	Title
Ernest Franke	US EPA Region 6	Remedial Project Manager
Barry Lands	TCEQ	Project Manager
John Camarillo	City of Crystal City	Director of Public Works
Margaret O'Hare	CH2M HILL, Inc.	Contractor to EPA

Attachment 4
Site Inspection Photographs



Photo 1: View of landfill from southwest side of runways (at airport entrance).

Date taken: 2/16/2006



Photo 2: Landfill entrance gate (locked) with access restriction sign.

Date taken: 2/16/2006



Photo 3: View along southwest side of landfill, facing southeast (outside fence).

Date taken: 2/16/2006



Photo 4: View along southwest side of landfill, inside fence.

Date taken: 2/16/2006



Photo 5: View of northeast side of landfill, facing southeast.

Date taken: 2/16/2006



Photo 6: View of landfill cover. Note stressed vegetation due to dry conditions.

Date taken: 2/16/2006



Photo 7: Minor cracks in landfill cover due to dry conditions.

Date taken: 2/16/2006



Photo 8: City of Crystal City Supply Well No. 3 (southeast of airport).

Date taken: 2/16/2006

Attachment 5

Notices to the Public Regarding the Five-Year Review



**CRYSTAL CITY AIRPORT SITE
PUBLIC NOTICE
U.S. EPA Region 6 Completes the
Third Five-Year Review of the Site Remedy
June 2006**



The U.S. Environmental Protection Agency Region 6 (EPA), in coordination with the Texas Commission on Environmental Quality, has completed the Third Five-Year Review of the remedy for the Crystal City Airport site in Crystal City, Zavala County, Texas. The review consisted of a site inspection, interviews with persons familiar with the site, and review of data and currently applicable regulatory requirements.

Based on the results of the Third Five-Year Review, the remedy conducted at the Crystal City Airport site continues to be protective of human health and the environment. The next Five-Year Review is scheduled for 2011.

The Third Five-Year Review Report is available for review at the following information repository:

**Crystal City Public Library
101 East Dimmit Road
Crystal City, TX 78839**

Information about the Site is available on the Internet at:

<http://www.epa.gov/earth1r6/6sf/pdf/files/0602920.pdf>

For more information about the site, contact Ernest Franke at (214) 665-8521 or 1-800-533-3508 (toll-free) or by e-mail at franke.ernest@epa.gov.