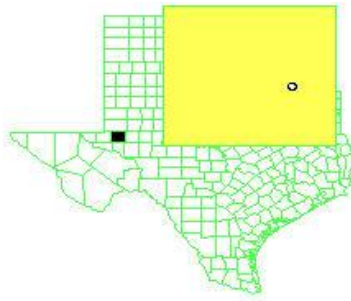


**ODESSA CHROMIUM #1  
Ector County, Texas**

**EPA ID# TXD980867279  
Site ID: 0602943**



**EPA Region 6  
Congressional District 19**

**Contact: Ruben Moya  
Updated: October 2011**

## **Background**

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The Odessa Chromium I Superfund site is located within the City limits of Odessa, Texas and is located on the southern edge of the Texas High Plains region. The surficial soil in the site area is principally Amarillo loam. Generally, it is fine sandy loam which ranges in depth from 8 to 10 inches. Below that, to depths from 18 to 24 inches, the subsoil is fine sandy loam to sandy clay. Pleistocene windblown sand, clay deposits, and alluvium deposits underlie the soil section. Beneath the Pleistocene are 25 to 35 feet of caliche deposits, which can be relatively impermeable in local areas.

Historical land use is unknown prior to the establishment of chrome plating operations in the early 1950s. The district surrounding the Odessa Chromium I Superfund site is primarily zoned as industrial, with some residential properties located within close proximity of the site.

## **Current Status**

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### **Site will begin annual updates given the final stage(s) of cleanup currently in. Site has begun a third Five Year Review in FY 2011.**

The provision of an alternate water supply eliminated the potential for exposure to contaminants at the Odessa Chromium #1 site while groundwater cleanup activities proceed. Pump and treatment plant installation, modifications, and lengthy operation period prove unsuccessful in independently achieving required remediation as established by the ROD objectives. Therefore, an Explanation of Significant Differences (ESD) for the Record of Decision was signed and approved by EPA on 10/25/99 to add in-situ treatment to the ROD to enhance site remediation. The Five-Year review was signed September 25, 2001 in which in-situ treatment was addressed to accelerate the achievement of the remediation goals. EPA currently has completed the second Five-Year review, which was signed in September, 2006. Ferrous Sulfate in-situ treatment was conducted at the site and achieved remediation goals in four of the eight wells namely RW-1, 2, 3, and 5; however, RW- 4, 6, 102, & 106 Trinity Aquifer recovery wells were not remediated. The State of Texas, TCEQ, and its Contractor Shaw conducted sampling and analysis on site wells in March 2003 for both tri and hex-valence chromium. Upon receipt of analytical results further enhancement actions were evaluated.

The State of Texas, TCEQ, under its contractor began in-situ treating with Metals Remediation Compounds (MRC) application December 10<sup>th</sup> to 25<sup>th</sup>, 2003. Long Term Pump and Treat (LTRA) ended December 25, 2003. The State of Texas, TCEQ, has taken over site O&M Activities on December 26, 2003.

The State of Texas, TCEQ, and its Contractor Shaw and its sub-contractor Regensis has in-situ treat with Metals Remediation Compounds (MRC). Currently, Shaw has plugged and abandoned eight site remediated wells and conducted related work between January 25 to early March 2007 along with waste classification and disposal, well vault demolition and disposals and the other work items.

TCEQ/ Shaw Environmental/ and subcontractor Regensis has two existing site wells which are awaiting results from the 3/31/07 sampling of RW-6 and RW-102. The next two sampling events are scheduled for April and the end of May on these two remaining wells.

## Benefits

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A safe alternate drinking water supply has been provided for approximately 3,500 people living in the site area.

The remedy has treated over 246 million gallons of contaminated ground water from the Trinity aquifer of the Odessa area.

## Site Assessment and Ranking

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Site HRS Score: 42.24

NPL LISTING HISTORY:

Proposed Date: 10/15/84

NPL Update: No. 2 Final Date: 5/20/86

## Site Description

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The site is located in the vicinity of 44th St. and Brazos Ave., Odessa, Ector County, Texas.

Population: Approximately 3500 persons live outside the city limits within one mile of the site.

Setting: The nearest residence is within the site boundaries. The nearest drinking water well is also on-site. Approximately 200 water wells are within 1/2-mile of the site. A municipal water well is within 1,250 feet of the site. The sources of site contamination are within a 10-acre industrial area.

Hydrology: The estimated surface projection of the ground water plume is more than 20 acres. The Trinity-Edwards aquifer is sandstone and conglomerate rock overlaid by 20 ft- 60 ft. of soil and caliche (hard-pan). The aquifer itself is 60'-100' thick and underlain by redbed clays.

The depth to ground water at the site is 75 feet.

## Wastes and Volumes

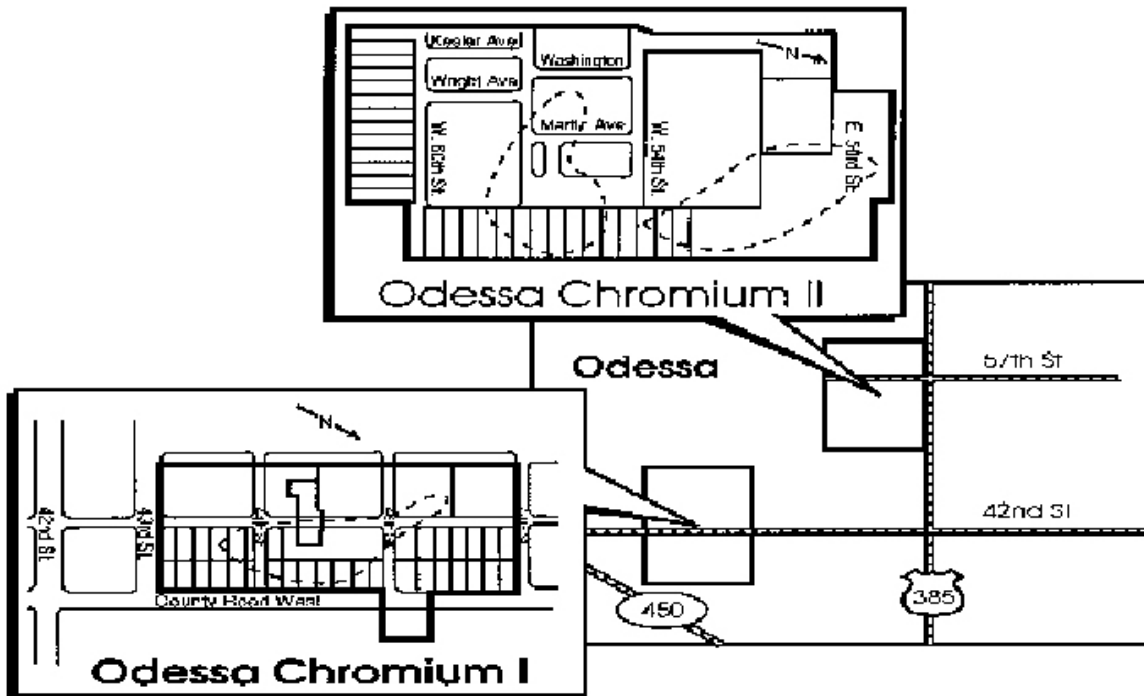
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The principal pollutant found during the Remedial Investigation is hexavalent chromium ranging to 72 parts per million (ppm) in ground water.

The volume of ground water treated is 191 million gallon as of 8/31/01.

## Site Map

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## The Remediation Process

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### Site History:

The contamination resulted from chrome plating operations from the late 1960s - 1970s. Site remediation has been addressed in two phases by the Texas Natural Resource Conservation Commission (now known as Texas Commission on Environmental Quality (TCEQ)).

The first phase, or operable unit, dealt with development of an alternate water supply (AWS) for area residents and businesses. The second phase addressed the source and the remediation of the chromium in the ground water. The Remedial Investigations and Feasibility Studies (RI/FS) for the two phases were completed in September 1986 (AWS) and March 1988 (Source/Ground Water).

### Health Considerations:

More than a 20-acre portion of the area's sole source aquifer (Trinity) was contaminated. Ground water contamination has been documented in 16 of 200 existing wells sampled. 5 of 14 monitoring wells contained detectable levels of chromium.

The affected wells are outside of the city water supply service area.

## Record of Decision

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Signed: September 8, 1986 (Alternate Water Supply)  
Signed: March 18, 1988 (Source Control/Ground Water)

## Alternate Water Supply

### Phase (AWS):

For this phase, the Record of Decision (ROD) calls for an extension of the existing municipal water supply stem to those persons residing within the impacted area.

### Source Control /Ground Water:

This ROD selected extraction and electrochemical treatment of contaminated ground water from the Trinity Aquifer.

<u>Other Remedies Considered</u>	<u>Reason Not Chosen</u>
-----Alternate Water Supply-----	
1. "No Action"	Did not meet remedial objectives; not protective of human health and the environment
2. Development of surface water supply	High monthly water bills for users; Water Association must be formed
3. Removal via treatment	Stringent operational review required to ensure contaminants are properly removed
4. Development of new well field	Long term supply of water questionable
-----Source Control/Ground Water-----	
1. " No Action"	Did not meet remedial objectives; not protective of human health or the environment
2. Containment Wall	Difficult to implement; high cost to users
3. Ion Exchange	System will generate a hazardous sludge
4. Chemical Treatment	Treatment may increase Total Dissolved Solids (TDS) of the ground water

## Community Involvement

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Community Involvement Plan: Developed 6/85, revised 9/89, and again in 12/92.

Open houses and workshops: 4/86, 12/87, 9/89, 1/91

Proposed Plan Fact Sheet and Public Meeting: 7/86 (AWS), 1/88 (Source/Ground Water)

ROD Fact Sheet: 9/86 (AWS), 3/88 (Source/Ground Water)

Milestone Fact Sheets: 1/85, 8/85, 12/87, 3/90, 9/90 (TWC), 12/90 (TWC), 1/91 (TWC), 2/94 (TWC)

Citizens on mailing list: 33

Constituency Interest: Low to moderate concerns regarding site after alternate water supply was brought on-line.

**Site Repositories:**

- (1) Ector County Library, 321 West Fifth Street, Odessa, TX 79761; Permian Basin Regional Planning Commission, 2910 Laforce Blvd., Odessa, TX.
- (2) EPA's Region 6, files in Dallas, Texas; please call first, Contact 1(800) 887-6063 for file viewing information and hours open or written request through Freedom of Information Act (FOIA), FOIA Officer, Jerva Durham: 1445 Ross Avenue, Dallas, TX. 75202
- (3) Texas Commission on Environmental Quality (TCEQ), files in Austin, Texas: Contact: Telephone (512) 239-2920 for file viewing information and hours open; Address: TCEQ -Records (Mail Code 199), Building D, P.O. Box 13087 Austin, Texas 78711

## Technical Assistance Grant

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Availability Notice: 4/11/89

Letters of Intent Received: Gerald Fugit, Chrom Sites, Inc. - 12/20/90

Draft Application Received: 4/10/91

Grant Award: None - application denied

Current Status: No TAG in process.

## Contacts

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Remedial Project Manager (EPA):	Ruben Moya, 214-665-2755, Mail Code: 6SF-RA
State Project Manager (TCEQ):	Alvie Nichols, 512/239-2439; E-Mail: anichols@tceq.state.tx.us
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Attorney (EPA):	Anne Foster, 214-665-2169, Mail Code: 6RC-S
Regional Public Liaison (EPA):	Donn Walters, 214-665-6483
State Coordinator (EPA):	Kathy Gibson, 214/665-7196, Mail Code : 6SF-VC
Prime Contractor: For TCEQ;	SHAW -Jack M. Reynolds, P.G. Project Manager, 432-520-6045
Engineer:	SHAW-E&I - Jimmy Gibson, PE
EPA Toll Free Telephone Number	1-800-533-3508