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Proposed Remedial Action Document

for

Toups State Superfund Site

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June 2000

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PROPOSED REMEDIAL ACTION DOCUMENT

TOUPS STATE SUPERFUND SITE
SOUR LAKE, HARDIN COUNTY, TEXAS

June 2000

PREPARED BY:
TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
SUPERFUND CLEANUP SECTION
REMEDIATION DIVISION

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1 INTRODUCTION

1.1 Statement of Basis and Purpose

This *Proposed Remedial Action Document (PRAD)* presents the recommended *Remedial Action*, which is designed to ensure the protection of public health and the environment at the Toups State Superfund Site. The selection of the remedial action was made in accordance with the *Texas Solid Waste Disposal Act (TSWDA),* codified as the Texas Health and Safety Code, Chapter 361, and all applicable state and federal environmental regulations.

The purposes of this document are to:

1) describe the actions taken by the *Texas Natural Resource Conservation Commission (TNRCC)* to investigate and mitigate the contamination at the site;

2) solicit public review and comment on the actions taken and decisions made by the TNRCC with regard to the proposed remedial action; and

3) provide information on how the public can comment on the actions taken by the TNRCC with regard to the proposed remedial action.

This PRAD summarizes information that can be found in greater detail in various studies and reports located in the site files. (Words appearing in italics in this document are defined in Section 5, the Glossary.) Relevant documents that are summarized in this PRAD include the:

1) *Hazard Ranking System (HRS)* document, which consists of the preliminary evaluation (ranking) that qualified the site for listing on the State Registry and allowed funds to be used to investigate and remediate the site under the state superfund program;

2) *Remedial Investigation (RI)* Report, which contains the technical report from the state's consultant, and has the results of the sampling and analyses data collected during the remedial investigations at the site,

3) *Baseline Risk Evaluation (BRE)* Report, which assesses the potential human health and ecological risks posed by contamination at the site; and,

4) *Presumptive Remedy Document (PRD),* which describes and evaluates the alternatives for cleaning up the site.

The TNRCC encourages the public to review these documents in order to gain a better understanding of the site, the State Superfund process, and the actions taken by the TNRCC. Copies of the documents summarized in this PRAD, as well as other relevant information, can be found in Sour Lake at the:

Alma M. Carpenter Public Library
310 South Ann Street
Sour Lake, Texas 77659

or in Austin at the:

TNRCC
12100 Park 35 Circle
Building D, Room 190
Austin, Texas 78753

1.2 Site Location

The Toups State Superfund Site is located on the west side of Highway 326, 2.1 miles north of the intersection of Highway 326 and Highway 105, in Sour Lake, Hardin County, Texas. The site consists of two adjacent tracks of land, 19.015 acres and 2.52 acres, for a total of 21.535 acres. The site is bordered by Highway 326 on the east and by residential areas on the west, north and south (see Figures 1 and 2).

1.3 Site History

1.3.1 Site Operating History

The site operated simultaneously as a pentachlorophenol (PCP) fencepost treating facility and a municipal waste dump from 1957 until the late 1960s. The fencepost treating facility ceased operations in the late 1960s and the municipal waste dumping ceased in approximately 1970.

During the fencepost treating operation, the land was cleared and fenceposts were stacked from the north entrance front gate to the back of the property. The facility was closed down because of the short supply of fenceposts, and the difficulty of obtaining employees to work at a remote site.

1.3.2 Removal Activities

In March 1992, the Texas Water Commission (TNRCC predecessor agency) responded to a public request to investigate the site. During this investigation and subsequent investigations, approximately 35 drums of an oil/tar substance were found south and west of the barn located on the site. Drums containing a dark substance were found in a flatbed truck, approximately three fiberpack drums containing what was identified as a herbicide were found inside the barn, and

approximately seventy 55-gallon drums containing paint waste were discovered in the central west area of the property.

This site was justified and approved for an immediate removal under the TSWDA. The immediate removal activities were conducted from March until May 1993 and consisted of staging and overpacking drums and the construction of a security fence around the affected property.

1.3.3 Remedial Investigation Activities

The remedial investigation at the Toups site was conducted in two phases. Based on the history of the site, the site was divided into 22 Areas of Concern (AOCs). These AOCs represent the areas which are believed to be most likely impacted by the operations which were conducted at the site.

The AOCs were initially sampled during Phase I of the field investigation conducted in July 1998. As applicable, surface soil, surface water, sediment, or water well samples were collected from each AOC. In August 1998, an electromagnetic induction (EMI) geophysical survey was conducted across the presumed main landfill area (AOC No.8) to delineate any areas potentially containing buried drums. In November 1998, a Phase II field investigation was initiated to confirm and further delineate detected contamination from the Phase I investigation, install five ground water monitor wells, and to drill confirmatory soil borings in the landfill. In April 1999, the on-site water well adjacent to the landfill was overdrilled and plugged and replaced with a properly constructed monitor well. This new monitor well was sampled and all of the on-site sample points were surveyed to Texas state plane coordinates and mean sea level (MSL) elevations. The final RI report, dated August 1999, contains a complete discussion of RI activities conducted at the site.

1.3.4 Baseline Risk Evaluation

A baseline risk evaluation (BRE) was completed for the Toups site in September 1999. This evaluation was performed using a residential future land use scenario. Based on the results of this risk evaluation, the surface and subsurface soils (to a depth of approximately 2 feet below grade) in the fence post treating area (AOC No. 4) exceed both the human health and groundwater protection cleanup goals for both semivolatile organic constituents (SVOCs) and dioxin. While lead is widespread across the site at low concentrations, based on a soil attenuation model, the lead does not exceed the site-specific cleanup goal for groundwater protection. The site was not found to pose unacceptable excess risk to environmental receptors. The soil and groundwater cleanup goals, determined in

the BRE, as amended by the Addendum to the Baseline Risk Evaluation Report, dated June 2000, are summarized on Tables 1 and 2.

TABLE 1

SOIL CLEANUP GOALS

Constituents of Concern	Maximum Concentration Detected (mg/kg)	Cleanup Goal[1] (mg/kg)
Benzo(a)anthracene	41	5.7
Benzo(b)fluorancene	22.6	5.7
Benzo(a)pyrene	12.8	0.56
Dibenz(a,h)anthracene	1.98	0.55
Indeno(1,2,3-cd)pyrene	5.92	5.7
Naphthalene	430	220
Pentachlorophenol	1200	1.8
2,3,4,6-Tetrachlorophenol	250	170
TCDD,2,3,7,8 (dioxin)	0.001444	.001

Notes:

[1]Cleanup goal based on soil to groundwater pathway ($^{GW}Soil_{Class3}$) or soil ingestion/inhalation/dermal contact ($^{Tot}Soil_{Comb}$), whichever is lower
mg/kg - milligrams per kilograms

TABLE 2

GROUNDWATER CLEANUP GOALS

Constituents of Concern	Maximum Concentration Detected (mg/L)	Cleanup Goal (mg/L)
Lead	0.08	0.015
Pentachlorophenol	100	0.001

Notes:

[1] - Cleanup goal based on groundwater ingestion ($^{GW}GW_{Ing}$)
mg/L - milligrams per liter

2 PROPOSED REMEDIAL ACTION

2.1 Basis of Selection

2.1.1 Soils

Based on the evaluation of the Toups State Superfund Site using the presumptive remedies process (as presented in the TNRCC guidance document *Presumptive Remedies for Soils at Texas State Superfund Sites*, April 1997) (PRD), offsite disposal of soils containing constituents above the cleanup goals is the recommended cleanup alternative. The basis for this selection is more fully documented in the PRD and includes:

1) SVOCs (including PCP) are the predominant chemical group in the soils.

2) There are an estimated 250 cubic yards of soil exceeding the cleanup goals.

3) Offsite disposal will adequately address both SVOCs and dioxin in soil above the cleanup goals.

4) The fence post treatment equipment will be appropriately decommissioned and the drums present at the site will be appropriately consolidated and disposed of as a part of the remedy.

2.1.2 Groundwater

Based on the evaluation of the Toups State Superfund Site using the presumptive remedies process for groundwater (*Presumptive Remedies for Groundwater at Texas State Superfund Sites*, January 1999), monitored natural attenuation is the recommended cleanup alternative for site groundwater. This decision is based on the following information:

1) Monitor Well (MW)-05, which is located in AOC #4 (the fence post treating area), has been impacted by the fencepost treating operations at the site. Pentachlorophenol, which has been detected in MW-05, has not been detected in any other site monitor wells, or in any offsite water wells.

2) MW-06 has had detected concentrations of lead above the federal drinking water standard. This site monitor well is installed approximately 15 feet east of a poorly constructed water well. The water well did not appear to have a grout seal between the well casing and the ground, thus

allowing lead-impacted surface water to flow down the outside of the well casing and into the groundwater. This water well is now plugged and abandoned.

As there is no evidence of offsite groundwater contamination and the limited onsite contamination is located either adjacent to AOC #4, at which soils exceeding groundwater protection cleanup will be excavated and disposed of offsite, or adjacent to an improperly completed water well, which is now properly plugged and abandoned (thus removing the source of lead to the groundwater), monitored natural attenuation is the preferred remedy for site groundwater.

2.2 Description of Recommended Remedy

2.2.1 Soils

1) Clearing of the areas within AOC No. 4 to be excavated (decommissioning of the equipment is addressed below).

2) Excavating soils according to the remedial design. The excavation plan will be finalized during the remedial design and final limits of excavation will be determined at the time of remediation based on the confirmation sampling.

3) Confirmation sampling in the excavation area to verify residual concentrations of the SVOCs (the constituents of concern) and dioxin meet cleanup goals.

4) Offsite disposal of classified waste (soils).

5) Backfilling, grading, and re-vegetation of excavated areas.

2.2.2 Fencepost Treating Equipment and Drums

1) Decommissioning of the tanks within AOC No. 4 will be performed in accordance with 30 *Texas Administrative Code (TAC)* Chapter 334 (Underground and Aboveground Storage Tank rules). This would involve decontamination followed by offsite disposal or on-site abandonment in place.

2) Drum contents will be consolidated based on waste type and accordingly disposed offsite. Drum carcasses will be decontaminated and scrapped offsite.

2.2.3 Groundwater

The proposed remedy for groundwater is monitored natural attenuation. The site monitor wells will be sampled and analyzed on a semiannual basis for PCP and total lead. A notice will be placed with the property deed stating that the site groundwater is contaminated and should not be used as a potable drinking water source.

The operation and maintenance (O&M) activities, consisting of the groundwater sampling and analysis, will continue on a semiannual basis for 5 years. At the end of the 5-year period, the groundwater sampling results will be reviewed. If, based on this review, the contaminant levels in the groundwater have been reduced below cleanup levels, the sampling and analysis will be discontinued, and the deed notice will be removed. If, however, the results indicate that the contaminant levels still exceed the cleanup goals, the monitoring will continue for another 5 years. If, at any time during the O&M activities TNRCC determines that natural attenuation is not reducing the contaminant levels or that the groundwater plume may migrate offsite, TNRCC will take appropriate action to alleviate the situation.

2.3 Evaluation of the Proposed Remedial Actions

2.3.1 Soil

The selected remedy, offsite disposal has been evaluated with respect to the criteria included in 30 TAC §335.348(k) (presumptive remedy process) as follows:

1) Long-term Effectiveness: The proposed remedy is effective for the long term, since no further maintenance/monitoring will be required for the soils at the site once the affected soils have been properly disposed of at a permitted facility.

2) Compliance with Applicable Regulations: The selected remedy will be compliant with applicable regulations. The primary regulatory consideration for offsite disposal of affected soils from AOC No. 4 are the land disposal restrictions (LDRs) for solid wastes. The affected soils will require treatment (stabilization) to concentrations below the universal treatment standards (UTS) prior to landfilling in order to meet the LDRs. Decommissioning the fencepost treatment equipment in AOC No. 4 will meet the requirements of 30 TAC §334.

3) Reduction of Toxicity, Mobility and Volume: Offsite disposal of soils that exceed the cleanup goals will result in the toxicity of remaining soils being below cleanup goals. Mobility and volume of the constituents of concern will also be reduced to acceptable levels as a result.

4) Relative Cost: Offsite disposal of affected soil is anticipated to be the least expensive of the alternatives considered compared to incineration and thermal desorption.

5) Impacts and Implementation: Movement of the affected soils is required for the offsite disposal alternative, which will be performed by a permitted waste transportation company.

6) Technical Merit: Stabilization/treatment and offsite disposal of PCP-affected soils has been successfully performed in the past, providing a high probability of success for this remedy.

2.3.2 Groundwater

The selected remedy, monitored natural attenuation, has been evaluated with respect to the criteria included in 30 TAC §335.348(k) (presumptive remedy process) as follows:

1) Long-term Effectiveness: The deed notice will prevent exposure to the groundwater over an extended period of time.

2) Compliance with Applicable Regulations: As the deed notice will prevent onsite exposure to the groundwater, and the long term monitoring will indicate whether the contaminant plume is migrating toward offsite water wells, this remedy meets this criterion.

3) Reduction of Toxicity, Mobility and Volume: Over time, it is anticipated that groundwater quality will improve, due to both intrinsic biodegradation and source removal.

4) Relative Cost: This remedy is the most cost effective of all remedies considered and includes only the cost of the long term groundwater monitoring program.

5) Impacts and Implementation: There are no anticipated impacts due to implementation of this remedy.

6) Technical Merit: This remedy is easily implemented and has been shown to be effective at other state superfund sites which have limited areas of groundwater contamination with low concentrations of contaminants.

3 SUMMARY OF RECOMMENDED REMEDIAL ACTION

3.1 Soil

As a result of an evaluation of the six above mentioned criteria, the TNRCC recommends offsite disposal as the most cost effective remedy for soil at the Toups site. This recommendation is consistent with the state remedy selection criteria found in the Health and Safety Code, Section 361.193, in that it is the most cost effective alternative that is technologically feasible and reliable. This remedial action also effectively mitigates and minimizes damage to, and provides adequate protection of, the public health and safety or the environment under a residential future land use scenario.

3.2 Groundwater

As a result of an evaluation of the six above mentioned criteria, the TNRCC recommends natural attenuation as the most cost-effective remedy for groundwater at the Toups site. This recommendation is consistent with the state remedy selection criteria found in the Health and Safety Code, Section 361.193, in that it is the most cost effective alternative that is technologically feasible and reliable. This remedial action also effectively mitigates and minimizes damage to, and provides adequate protection of, the public health and safety or the environment under a residential future land use scenario.

4 COMMUNITY PARTICIPATION IN THE SUPERFUND PROCESS

The public is invited to comment on the proposed remedial action for the Toups site. Those wanting to make oral comments may do so before or at the *Public Meeting*. The meeting is scheduled for Thursday, August 24, 2000 at 7:00 pm, at the cafeteria of the Sour Lake Elementary School, 1055 Highway 326 South in Sour Lake, Texas. The *Public Comment Period* begins July 19, 2000 and ends August 24, 2000, at the close of the public meeting. During this time period, the public may comment on any aspect of the site, the proposed remedial action, the investigation of the site or other TNRCC actions concerning the site. Written comments concerning the proposed remedial action must be submitted at least 10 days before the public meeting to:

Gary Wehrman, Project Manager
or Carol Boucher, Assistant Project Manager
Superfund Cleanup Section (MC 143)
Texas Natural Resource Conservation Commission
P.O. Box 13087
Austin, Texas 78711-3087

The TNRCC will respond to comments received during the public comment period in the *Responsiveness Summary*. The Responsiveness Summary will be made available to the public at their request and in the site files.

5 GLOSSARY

Baseline Risk Evaluation (BRE) — an assessment of the risks to human health and the environment posed by a contaminated site. This assessment assumes the site has not been cleaned up and there are no controls, such as fences or deed restrictions, at the site.

Presumptive Remedy Document (PRD) — a report which describes and assesses the potential cleanup strategies for a site.

Hazard Ranking System (HRS) — a preliminary evaluation (ranking) which qualifies a site for listing on the State Superfund Registry and funds to investigate and cleanup under the state superfund program. A score of 5 or above allows a site to be included as a state superfund site.

Proposed Remedial Action Document (PRAD) — a document which describes a state superfund site and the TNRCC's planned cleanup.

Public Comment Period — a period of time in which the public is invited to comment on the proposed remedial action and the actions taken by the TNRCC at a site.

Public Meeting — a meeting announced to the public in which the TNRCC is required by the Texas Solid Waste Disposal Act (TSWDA) to solicit public comment on the proposed remedial action for a site.

Remedial Action — a cleanup designed to be a permanent remedy of a contamination problem at a site.

Remedial Investigation (RI) — an in-depth study designed to gather the data necessary to determine the nature and extent of contamination at a Superfund site and establish criteria for cleaning up the site.

Responsiveness Summary — a document in which the TNRCC summarizes its response to all comments received during the public comment period, whether verbal or oral.

30 Texas Administrative Code (TAC) — State regulations which govern the authority and set the requirements of state environmental programs.

Texas Natural Resource Conservation Commission (TNRCC) — the state agency whose authorities include protection of the environment, disposal of wastes and management of natural resources.

Texas Solid Waste Disposal Act (TSWDA) — the act of the state legislature that authorized the TNRCC to establish a state superfund program. Many responsibilities of the TNRCC are detailed in the TSWDA.