



HAZARDOUS WASTE INVESTIGATION

Pacific Gas and Electric Company
Topock Gas Compressor Station
15 Miles Southeast of Needles, California

Fact Sheet #1

March 1998

INTRODUCTION

The California Environmental Protection Agency, *Department of Toxic Substances Control (DTSC)*, is the lead agency overseeing a *hazardous waste* investigation at *Pacific Gas and Electric Company's (PG&E)* Topock Gas Compressor Station site in eastern San Bernardino County (see Figure 1). The objective of the investigation is to characterize the nature and extent of certain hazardous substances at the site and facility (see Figure 2).

This fact sheet provides information on investigation activities and future activities at the site. The fact sheet also includes a brief facility description, information about past site investigations, regulatory requirements, a summary of the corrective action process, a description of current sampling activities, and identification of possible future activities. Additional information about waste management activities and site/groundwater investigations at the Topock site is available at the local *information repositories* or by contacting DTSC staff.

REGULATORY REQUIREMENTS FOR INVESTIGATION

The *Resources Conservation and Recovery Act (RCRA)* corrective action process is designed to evaluate the nature and extent of releases of hazardous substances at a site. The process also identifies, develops and implements appropriate *corrective measures* to protect public health and the environment.

An agency may become involved in not only investigating the permitted facility, but the entire site. The DTSC has the legal authority to require environmental assessment and investigation of other locations at the site.

(Hazardous substances and key words are italicized in this text and are defined in the glossary.)

FACILITY DESCRIPTION

The Topock Gas Compressor Station is located in eastern San Bernardino County, about 15 miles southeast of Needles and south of Freeway I-40. The facility occupies about 100 acres. The compressor station is located near the Havasu National Wildlife Refuge, a portion of which is located along the Colorado River. The nearest communities are two mobile home parks: Topock, Arizona, located about one-half mile east-northeast of the facility, and Park Moabi, California, located about one mile northwest of the facility. A third community known as Golden Shores, Arizona, is located eight miles north. Within 35 miles of the facility are the Fort Mojave Indian Reservation; the Chemehuevi Indian Reservation; and the Colorado River Indian Reservation.

The facility, which began operation in 1951, compresses natural gas for transportation through pipelines to PG&E's service territory in Central and Northern California. As natural gas is compressed, its temperature increases and the compressed gas is cooled in two cooling towers before it is transported through the pipelines.

CHROMIUM-BASED WASTEWATER DISCHARGES LED TO CONTAMINATION

From 1951 to 1985, PG&E added a *chromium*-based substance to the water in the cooling towers to prevent corrosion of the cooling tower equipment. During the 1950s and 1960s, untreated cooling tower wastewater containing *hexavalent chromium* was discharged into the Bat Cave Wash area (see Figure 2), which is normally a dry streambed that feeds into the Colorado River.

In the mid- to late-1960s, PG&E began treating the cooling tower wastewater to convert hexavalent chromium to *trivalent chromium*. In the early 1970s, PG&E discharged treated wastewater to an injection well near the Bat Cave Wash and later stored wastewater exclusively in single-lined

evaporation ponds, which held and contained the wastewater until it evaporated. These evaporation ponds have been closed and are no longer in use.

PG&E switched to a more environmentally safe phosphate additive in 1985, and built four new evaporation ponds, featuring double-lined bottoms, for holding phosphate-based wastewater. These new ponds are under the jurisdiction of the Colorado River Basin Regional Water Quality Control Board at (760) 776-8945.

PG&E also began working with state regulatory authorities at this time to close all regulated hazardous waste management units at the site.

PREVIOUS SOIL AND GROUNDWATER INVESTIGATIONS AND CLEANUPS

In 1987, an RFA was prepared for the Topock site as part of the corrective action process. With respect to wastewater discharges at the site, the RFA concluded that from 1951 to 1969 approximately 6 million gallons per year of untreated cooling tower wastewater containing hexavalent chromium-based corrosion inhibitors were discharged into the Bat Cave Wash area (see Figure 2).

Additional investigations and cleanup activities were conducted at the Site between 1987 and 1995. One study included shallow soil sampling in the Bat Cave Wash in the vicinity of the previous wastewater discharge area. Chromium concentrations were found to be very low at these shallow depths and did not pose a significant threat to the environment. Additional samples will be taken at greater depths in the wash during the RFI investigation. Another activity conducted during 1993-1994 included the cleanup and closure of the four original evaporation ponds and the removal of sludge and contaminated soil. Although groundwater beneath the ponds was found not to be contaminated, additional groundwater monitoring was initiated at other locations onsite in the late 1980s and will continue for the foreseeable future. The results of these and additional groundwater investigations required by the RFI are expected in late 1998.

CORRECTIVE ACTION AT THE TOPOCK SITE

In 1996, PG&E and DTSC entered into an agreement to conduct an investigation at the Topock site based on the corrective action process of the Resource Conservation and Recovery Act (RCRA).

CORRECTIVE ACTION PROCESS

RCRA Facility Assessment (RFA) - The first step in the corrective action process, an investigation to determine whether or not potential hazardous substances or other constituents of concern exist in soils or groundwater at or near a facility. A lead agency, such as the DTSC, gathers information about potential chemical releases relative to chemical usage, storage and treatment at the site. This may involve a visual site inspection, file review and initial sampling or other investigations. The agency prepares and issues an RFA Report, which indicates whether further investigation needs to be undertaken.

RCRA Facility Investigation (RFI) - The owner - in this case, PG&E - develops an RFI Workplan outlining the specifics of the planned investigation. The investigation may include both soil, surface water and groundwater. DTSC reviews and approves the RFI Workplan before the investigation begins. After the investigation begins, an RFI Report is prepared, summarizing field work results. DTSC oversees field work, reviews and approves the RFI report, and involves the public by issuing fact sheets and conducting briefings and public meetings, if there is interest in the work.

Interim Measures - Action is taken if there is an immediate threat to human health or the environment or if interim action will facilitate addressing the site. Such measures can happen at any time during the corrective action process. Prior to implementing interim measures, an Interim Measures Workplan must be prepared and approved by DTSC. The public has the opportunity to provide input on Interim Measures and is kept informed of these activities.

Corrective Measures Study - Remedial or cleanup options for the site are evaluated and a remedial plan is proposed if necessary. DTSC reviews the study, receives public input on the proposed remedy selection, and selects options for implementation.

Corrective Measures Implementation - A plan for the design and construction of the corrective measures is reviewed and approved by DTSC. DTSC oversees construction and monitoring activities. The public is kept informed of this activity.

PG&E submitted to DTSC: (1) a report summary of activities to date at the Bat Cave Wash and surrounding area, and (2) a workplan outlining planned investigative activities. At this time, PG&E also began working with DTSC on assessing community interest and public participation requirements. As part of this agreement, PG&E is conducting a facility investigation known as an RFI. (See box, Corrective Action Process.)

The RFI, which began in April 1997, involved the following: soil sampling and analysis in the Bat Cave Wash area and other areas; installation of groundwater monitoring wells; groundwater sampling and analysis; and surface water sampling. Below is a summary of activities to date in each of these areas:

- **Soil Sampling and Analysis:** Collected 140 soil samples at depths ranging from 1 to 200 feet below grade and analyzed for chromium and other heavy metals.
- **Groundwater Monitoring Wells:** Installed 7 wells to depths of up to 200 feet below grade.
- **Groundwater Sampling and Analysis:** Collected 55 groundwater samples and analyzed them for chromium and other heavy metals.
- **Surface Water Samples:** Collected 11 surface water samples and analyzed them for chromium and other heavy metals.

Results of the initial round of sampling were submitted in December 1997 to the DTSC for review. Additional field work will take place starting in March 1998. Following analysis of the results and DTSC approval, an RFI report describing the investigation results will be prepared. A fact sheet summarizing the RFI report will be mailed to those on the site mailing list and provided to the local information repositories. A public meeting may be held if there is community interest in the findings.

FUTURE ACTIVITIES

PG&E will take appropriate corrective measures at the Topock site based upon the findings of the RFI and DTSC requirements. If corrective action is appropriate, PG&E will submit a Corrective Measures Study (CMS) to propose remedial or cleanup options for the site. DTSC will review the study, receive public comment on the proposed remedial selection, and select options for implemen-

tation. PG&E will implement the plan and issue a report for DTSC review and approval.

The project is expected to continue over the next two years.

COMPLIANCE HISTORY

Federal and state regulations of the Topock Compressor Station began in the early 1970s, when PG&E was required to comply with various hazardous waste management regulations at the Topock site. Based upon DTSC records, PG&E has a cooperative compliance history and is currently in compliance with hazardous waste regulations at the Topock site.

ENVIRONMENTAL REVIEW

The California Environmental Quality Act requires that government agencies evaluate a project's potential for significant environmental impacts.

If remediation is required at the Topock Gas Compressor Station, an initial study will be prepared to evaluate whether the remediation would pose any potential for significant environmental impacts. This environmental review is also subject to public input.

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

DTSC has solicited public input for the PG&E Topock project, and invites continued public involvement. A *Public Participation Plan* that will include a summary of public concerns and involvement needs is expected to be completed by early 1998.

DTSC will conduct public meetings, if there is community interest in the project investigation process.

FOR ADDITIONAL INFORMATION

If you have questions concerning this project or would like additional information about the PG&E Topock Compressor Station site, please call the contacts listed below or visit and refer to the documents available at one of the information repositories. Eduardo Vallesteros, DTSC Project Manager at (818) 551-2176, or Martin Prisco, DTSC Public Participation Specialist at (818) 551-2875. The Project Manager for PG&E is Melvin Wong. The project contact at PG&E is Linda Quinones-Vaughan, PG&E Public Affairs at (805) 321-4407.

GLOSSARY

Chromium: A naturally occurring element found in rocks, animals, plants, soil and volcanic dust and gases. It is present in the environment in several different forms, most commonly trivalent chromium and hexavalent chromium (see below).

Corrective measures: Specific activities designed to clean up contamination at a site resulting from present and past hazardous waste handling practices.

Corrective Measures Study (CMS): A study performed if the DTSC determines that a release poses a potential threat to human health and/or the environment.

Department of Toxic Substances Control (DTSC): A department within the California Environmental Protection Agency charged with the responsibility for overseeing the investigation and remediation of hazardous waste sites and regulatory hazardous waste management companies.

Evaporation ponds: Surface impoundments constructed to evaporate and therefore reduce wastewater.

Hazardous waste: Waste substances that can pose a substantial or potential hazard to human health or the environment when improperly managed. A hazardous waste possesses at least one of these four characteristics (or appears on special U.S. EPA lists): ignitability, corrosivity, reactivity, or toxicity.

Hexavalent chromium: A compound used in various industrial processes and is considered carcinogenic and toxic in relatively small concentrations. Some of the uses of hexavalent chromium compounds include chrome plating, corrosion inhibitors, and other industrial processes. The type of chromium used at natural gas compressor stations was soluble hexavalent chromium, which kept the interior of cooling equipment clear of scales and other residues.

Information Repositories: Information repositories are established at appropriate locations to allow open and convenient public access to all site-related documents approved by the DTSC for public disclosure.

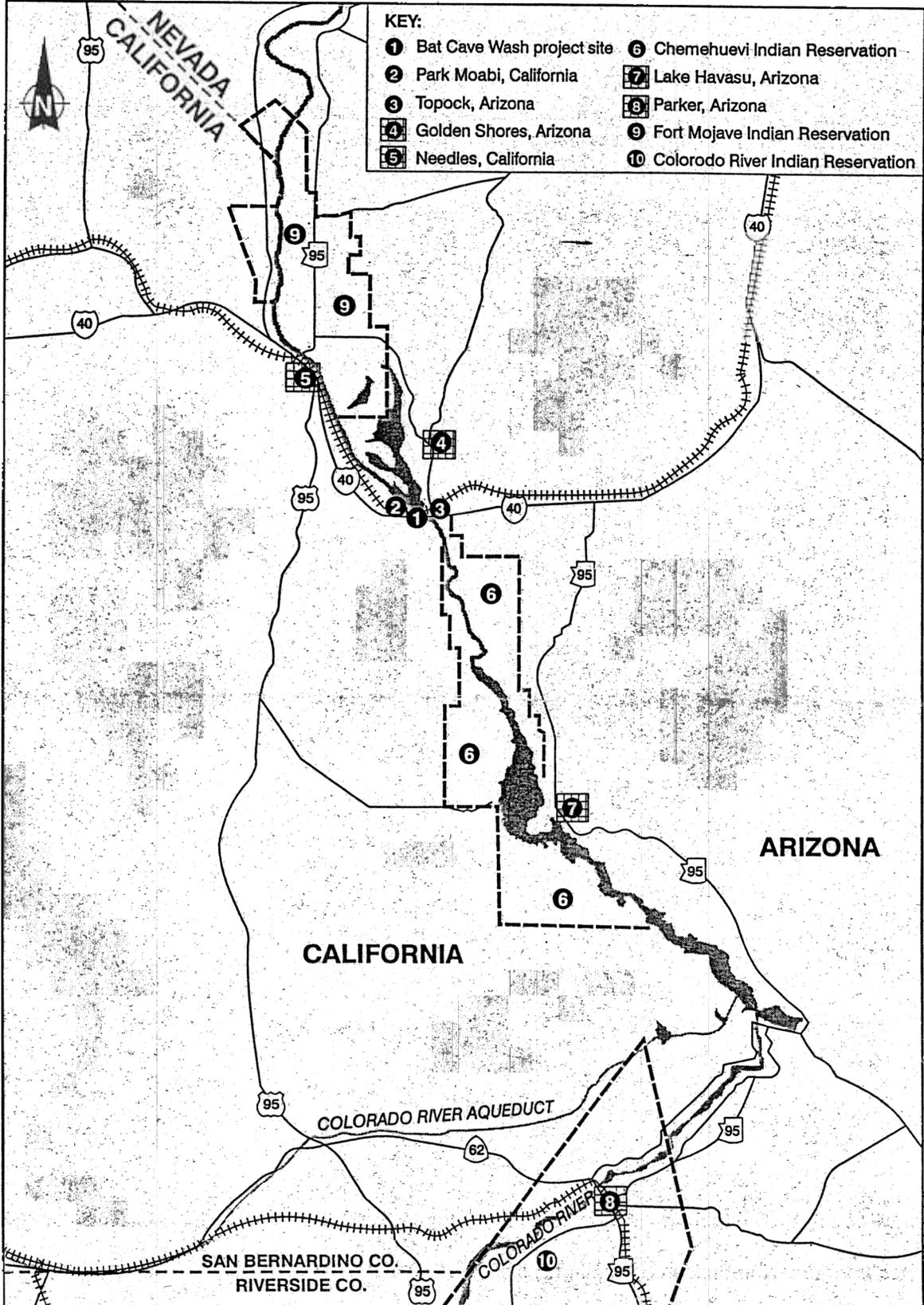
Pacific Gas and Electric Company (PG&E): A subsidiary of PG&E Corporation, PG&E is an investor-owned electric and gas utility serving more than 13 million people in Northern and Central California. As part of its operations, PG&E transports gas supplies from the Southwest and Canada through a system of pipelines and compressor stations to PG&E's distribution and storage systems.

Phosphate: A chemical compound containing phosphorous and oxygen most commonly used in detergent and fertilizer. Also used as water treatment for corrosion control.

Public Participation Plan: A plan to formally document community concerns regarding a site or facility, and to identify specific activities that will be implemented to ensure the community is involved in the DTSC decision-making process.

Resource Conservation and Recovery Act (RCRA): A 1976 amendment to the first federal solid waste legislation, the Solid Waste Disposal Act of 1965. In RCRA, Congress established initial directives and guidelines for the U.S. Environmental Protection Agency to regulate and manage hazardous waste.

Trivalent chromium: Non-cancerous semi-gray heavy metal. Considered an essential human nutrient in trace amounts.



SOURCE: Ecology and Environment, Inc. 1997

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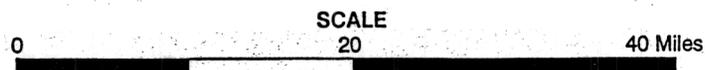


Figure 1 REGIONAL LOCATION AND SURROUNDING COMMUNITIES

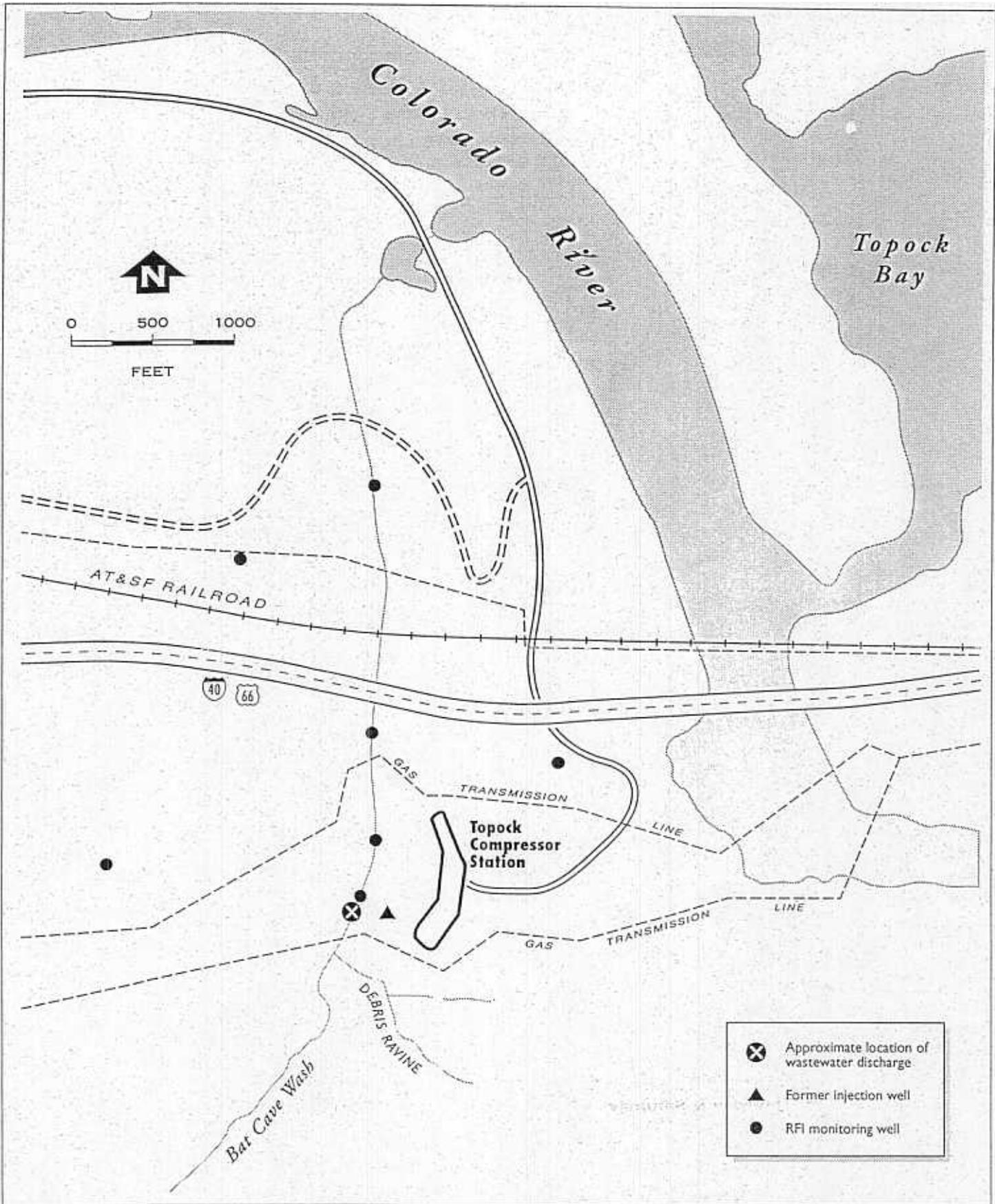


Figure 2
PROJECT SITE

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
ATTN: MARTIN PRISCO
1011 N GRANDVIEW AVENUE
GLENDALE CA 91201

INFORMATION REPOSITORIES

Department of Toxic Substances Control
1011 N. Grandview Avenue
Glendale, California 91201
Contact: Ms. Jackie Sherwood
(818) 551-2886
8am - 5pm, Monday - Friday

Golden Shores / Topock Library Station
13136 Golden Shores Parkway
Topock, Arizona 86436
Contact: Ms. Tina O'Hara
(520) 768-2235 (fax answers when closed)
2pm - 7pm, Monday
8am - 1pm, Tuesday & Thursday

Needles Library
1111 Bailey Avenue
Needles, California 92363
Contact: Ms. Barbara Guhin
(760) 326-9255
10am - 6pm, Monday & Tuesday
10am - 5pm, Thursday & Saturday

Lake Havasu City Library
1787 McCulloch Blvd.
Lake Havasu City, Arizona 86403
Contact: Ms. Bonnie Campbell
Contact: (520) 453-0718
9am - 5pm, Mon, Wed, Fri & Sat
9am - 8pm, Tuesday & Thursday