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160 SPEAR STREET, SAN FRANCISCO, CALIFORNIA 94105, TEL. 415/777-2811

International Specialists in the Environment

MEMORANDUM

TO: Carolyn Douglas, EPA Region IX

FROM: Jim James, Ecology and Environment, Inc. JMJ

DATE: February 15, 1991

SUBJECT: Completed Work

cc: Marcia Brooks, E & E FIT

Attached is the following completed:

PA___ PA Review___ SSI X___ LSI___ SIRe____

Other_____

Site Name: Pacific Engineering and Production Company of Nevada - PEPCON

EPA ID #: NVD008506974 2935

City, County: Henderson, Clark County

State Recommendation:
(for Reviews only)

FOR EPA USE ONLY

CERCLIS Lead: EPA
SSI complete 2/27/91 cjd
NFRAP W 2/28/91

kz/cwm-trans

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Purpose: CERCLA Screening Site Inspection

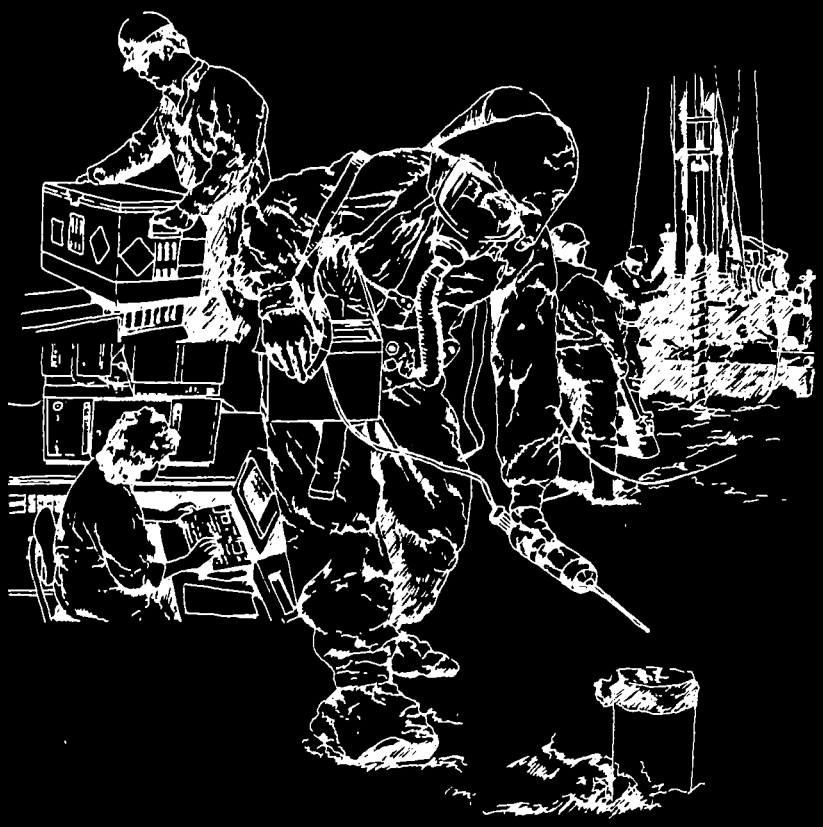
Site: Pacific Engineering and Production
8201 Gibson Road
Henderson, Nevada
Clark County

2/12/90

EPA
HAZARDOUS
SITE
EVALUATION
DIVISION

SUPERFUND RECORDS CENTER
DOC. 3331 VOL. [redacted]

Field Investigation Team Zone II



CONTRACT NO.
68-01-7347

ecology and environment, inc.
International Specialists in the Environment

Purpose: CERCLA Screening Site Inspection

Site: Pacific Engineering and Production Company of Nevada - PEPCON
8201 Gibson Road
Henderson, Nevada
Clark County

2/12/90

Site EPA ID Number:	NVD008506974
TDD Number:	F9-9007-013
Program Account Number:	FNV1007SAA
FIT Investigators:	Kathy Zavitz KZ Lorene Flaming
Date of Inspection:	August 20, 1990
Report Prepared By:	Kathy Zavitz
Through:	Lorene Flaming LCF
Report Date:	February 12, 1990
FIT Review/Concurrence:	James M. James 2/25/91
Submitted To:	Carolyn Douglas EPA Region IX Site Assessment Manager

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kz/pep/ssi

1. INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA) the U.S. Environmental Protection Agency has tasked Ecology and Environment Inc.'s Field Investigation Team (FIT) to conduct a Screening Site Inspection of Pacific Engineering and Production Company of Nevada in Henderson, Nevada. This report summarizes FIT's investigative efforts.

2. SITE DESCRIPTION

2.1 SITE LOCATION AND OWNER/OPERATOR HISTORY

The Pacific Engineering & Production Company of Nevada (PEPCON) site is located at 8201 Gibson Road in Henderson, Nevada (Latitude: 36 02'04", Longitude: 114 58'48")(see Figure 2-1, Site Location Map). The site is situated in the Mohave Desert approximately 4 miles from downtown Henderson and 15 miles from Las Vegas (1). The facility manufactured ammonium perchlorate for use as a solid rocket fuel oxidizer in the space shuttle program and various strategic missile propellant programs procured by the Department of Defense (2). The facility also manufactured odor control and disinfectant equipment (8). The company was founded in 1955 and operations began at the site in 1958 (2). The facility employed approximately 120 workers until 1988 when an explosion destroyed the plant. The neighboring Kidd Marshmallow Factory was also destroyed (3).

The PEPCON facility consisted of 16 buildings. The facility covered approximately 18 acres and was located on approximately 700 acres of land owned by PEPCON (15).

2.2 FACILITY PROCESSES/WASTE MANAGEMENT

2.2.1 HISTORICAL

The production of ammonium perchlorate at PEPCON involved several steps. Figure 2-2 outlines PEPCON's production process. First sodium chloride was converted to sodium chlorate and then to sodium perchlorate in two electrolysis steps. Next, sodium perchlorate was reacted with ammonium chloride (formed from ammonia and hydrochloric acid) to yield ammonium perchlorate and sodium chloride (2). This slurry product was filtered and then dried to form a solid crystalline substance (4,5).

The production of sodium chlorate and sodium perchlorate were sequential intermediate steps in the process of producing ammonium perchlorate.

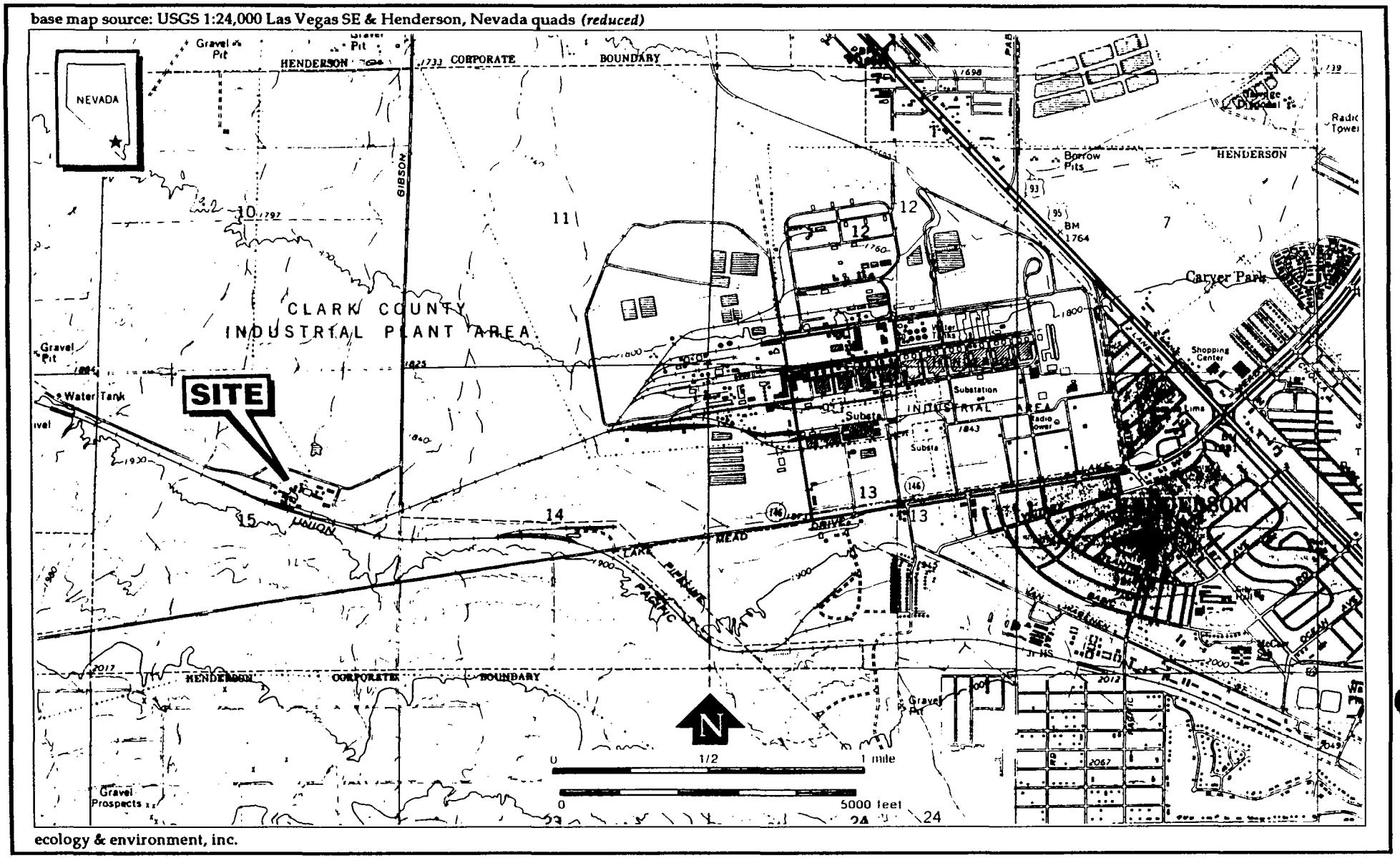


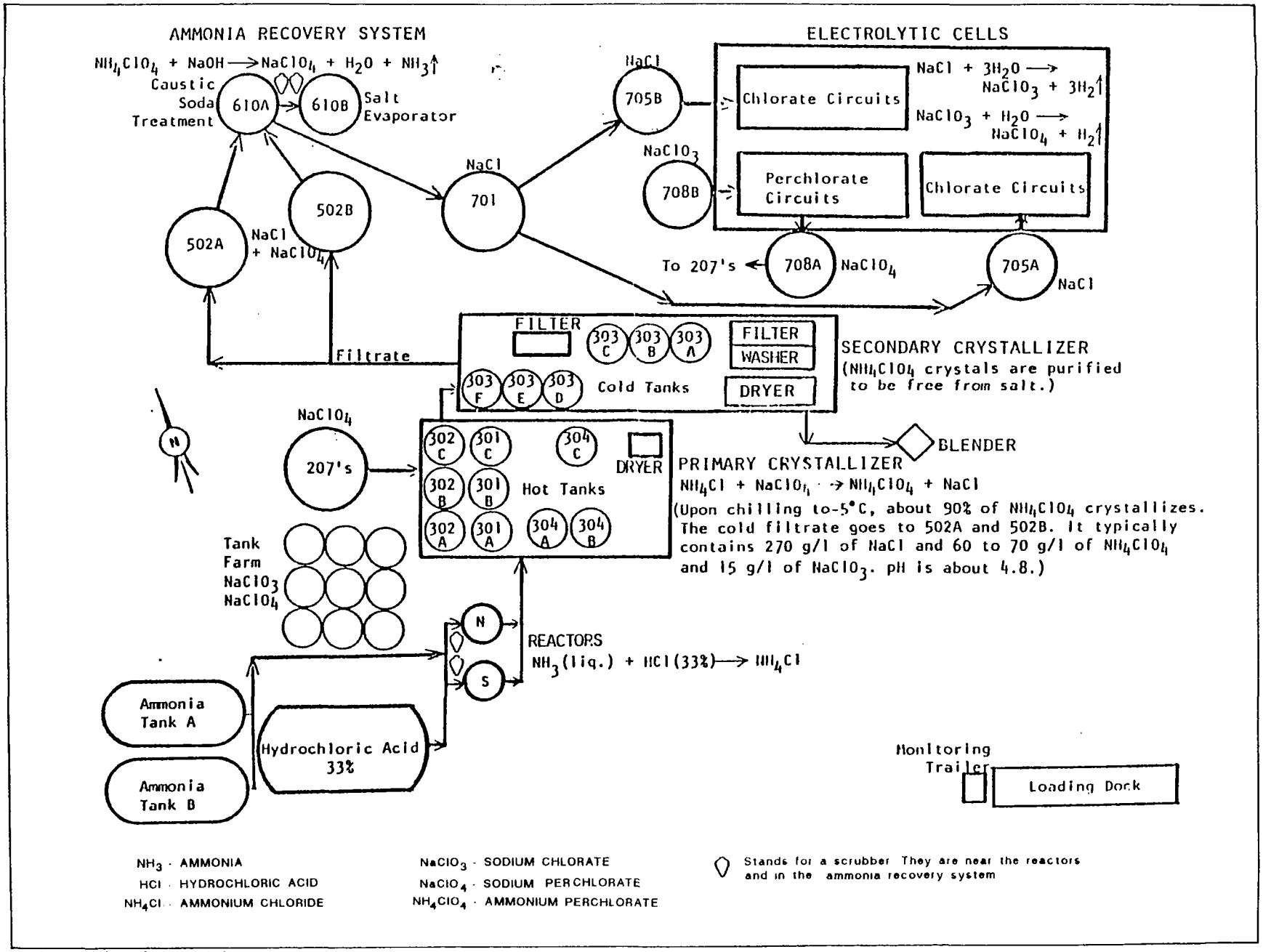
Figure 2-1

-- SITE LOCATION --

PACIFIC ENGINEERING & PRODUCTION CO. of NEVADA (PEPCON)

8201 Gibson Road

Henderson, Nevada



ecology and environment, inc.

FIGURE 2
PEPCON'S AMMONIUM PERCHLORATE PROCESS

Production of these compounds required the oxidizing of sodium chloride and sodium perchlorate. This oxidation was accomplished through electroloysis and required the use of an anode inert to the reaction (6).

PEPCON produced its own anodes in the anode building. This building housed plating tanks of lead nitrate in solution; the lead nitrate having been formed through the reaction of lead oxide and nitric acid. This plating solution is used to plate the graphite substrate and create the working anode (7). Lead dioxide was used to plate the graphite anodes. Lead dioxide was the solid on the anode; lead nitrate was the plating solution. PEPCON reclaimed the lead dioxide from used anodes (4,5,8,9).

Wastewater from the plant operations discharged to a bermed evaporation pond on site (3,10). The wastewater consisted of non-contact cooling tower blowdown, boiler blowdown, and washdown of the production area and parking lots (3,10,11). The size of this surface impoundment was approximately 175 feet by 325 feet by 3 feet. The approximate surface area was 57,000 square feet and the volume was approximately 170,000 cubic feet (5). The surface impoundment was dry at the time of the FIT site visit (15).

There is an abandoned waste burning and disposal area on the PEPCON property. PEPCON buried or burned an unknown quantity of wastes onsite prior to 1976 (3,6,12). The abandoned disposal area was reported located approximately 1,200 feet west of the PEPCON plant site according the the Clark County Health Department (13,14). There was no cover of any type on the dumpsite, and the area was not fenced (12). Ammonium perchlorate-contaminated debris, including the paper liners from barrels of rocket fuel component were reportedly deposited there (7,12). Old metal drums were also buried in this area before polyethlene drums were available. In addition, this area was used as a burial site for the graphite substrates of used anodes, and large amounts of graphite and lead dioxide accumulated in this area. According to a facility representative, most of the graphite material and lead dioxide were eventually sold to parties interested in recovering the lead from the

lead dioxide and recycling the graphite, and almost all of the material had been sold by the time of the 1988 explosions (14).

2.2.2 CURRENT

The company relocated its ammonium perchlorate production facilities to a site near Cedar City, Utah after the May 1988 incident. The Henderson site is vacant except for a trailer in the parking lot. NDEP is overseeing PEPCON's remediation of lead-contaminated soil (15).

There is extensive litigation pending due to the explosion and fire. According to a PEPCON representative, the only ammonium perchlorate currently stored on the PEPCON site is stored in steel drums in a fenced and secure area. This material was impounded as evidence in the litigation (5).

3. APPARENT PROBLEM

Several fires and a series of explosions occurred May 4, 1988, destroying the PEPCON Production facility and the neighboring candy factory. A substantial portion of approximately 10.3 million pounds of ammonium perchlorate located on the site was destroyed as a result of this incident (5). As a result of this incident, two people died, 300 sustained bodily injury, and wide-spread property damage was observed throughout the surrounding communities. Debris from the explosion was found on the PEPCON site and the surrounding desert. EPA's Technical Assistance Team (TAT) performed emergency stabilization after the explosion (2,5).

TAT conducted on-site wipe sampling for polychlorinated biphenals (PCBs), polychlorinated dibenzo-p-dioxin (PCDD), and dibenzo-p-furan (PCDF). The sampling was undertaken because one or more of the explosions caused a leak to develop in a transformer which in turn was found to have contaminated some of the surrounding soil area. Thus, there was the potential for PCDF and PCDD formation. PCBs were detected in the vicinity of the leaking transformer. After removing the PCB-contaminated oil and transformer from the site, the surrounding soil was excavated and removed (4,5). According to PEPCON, additional testing after the excavation yielded results indicating that the soil contained less than 10 ppb of PCBs (5).

The explosion in May 1988 resulted in the release of contaminants into the atmosphere including chlorine, ammonium perchlorate, titanium, and sodium hydroxide (11). Although the fires involved ammonium perchlorate, according to PEPCON, such hazardous process chemicals as hydrochloric acid and ammonia were not involved in any of the fires (5). The explosion also resulted in the release of large quantities of lead oxide and lead dioxide (11).

After the fire, PEPCON conducted its own cleanup. Open lead containers were capped and secured to reduce possible airborne emissions. A leaking

transformer was repaired (13). Anhydrous ammonia was sold and transported to UNOCAL in California; and concentrated hydrochloric acid was sold and transported to Stauffer Chemical Company (5).

The major known contaminant on site was lead found in a dry wash northeast of the former visitor's parking lot at PEPCON (10). The explosion ruptured plating tanks and resulted in the release of lead plating fluids into the wash. Estimates of the amount of plating fluids released range from a PEPCON estimate of 6,000 gallons, to an NDEP estimate of 11,000 gallons (5,11). The plating fluids flowed across the plant property and into natural drainage areas in the undeveloped area northeast of the paved plant area (7,13,17).

The EPA Environmental Monitoring Services Laboratory-Las Vegas (EMSL-LV) used x-ray fluorescence analysis to determine the extent of the lead contamination. Lead was detected about 100 yards downstream in the wash (17). EMSL-LV detected concentrations as high as 36.9 percent lead by weight in on-site soils. The area of the flood wash that lies east and down-gradient of Gibson Road, off-site, was also tested with the x-ray fluorescence instrument by PEPCON and results of this testing reportedly yielded no evidence of lead contamination. However, the Nevada Department of Environmental Protection (NDEP) recently requested that PEPCON sample the area downstream of the road to confirm that Gibson Road had acted as a natural barrier to surface water migration, thus preventing lead from migrating beyond that point (5,9,10,17).

The lead nitrate solution spilt as a result of the explosion contributed to contamination of surface soils in the wash. However, sampling by EMSL-LV showed high concentrations of lead in the wash at depths of 10 to 13 inches. The alternating layers of lead and soil in the wash deposits indicated that lead may have been deposited over time rather than being solely disposited from the explosion. Lead was probably carried as a suspended load in episodic pulses of water down the wash (11,17).

NDEP is overseeing remediation of the lead contamination. In 1988, NDEP issued an order that required PEPCON to remove the lead contaminated soil, test two off-site monitoring wells, sample the dump and burning area, and sample the surface impoundment as part of the remediation requirements. NDEP's cleanup criteria for lead contamination required removal of any waste material containing 5 ppm or greater of "extractable" lead. This waste was disposed of at U.S. Ecology, a permitted hazardous waste facility in Beatty, Nevada (7,27).

In May 1989 NDEP approved PEPCON's plan for removal of lead-contaminated soil (10). PEPCON used an x-ray fluorescence instrument similar to the one used by EMSL to determined lead concentrations during the soil removal (18). Remediation included removal of lead contaminated soil from the drainage located northeast of the PEPCON site (18). The removal process involved the excavation of the lead-contaminated soil and subsequent screening and separation of soil from cobbles (10). These soils were reportedly removed and relocated to a cleared paved asphalt area (7). PEPCON estimates approximately 1,250 cubic yards of soil was removed during the lead remediation (5). The soil was sprayed with water to minimize airborne particulates, and the water was evaporated in a lined evaporation pond (3). The lead sludge, pond liner, and lead-contaminated soils were disposed of at the U.S. Ecology landfill in Beatty, Nevada. NDEP is currently reviewing documentation confirming site cleanup (10).

NDEP required the sampling of two monitoring wells, one shallow and one deep, downgradient of the drainage wash on the east side of Gibson Road, to determine if any lead contamination existed in the groundwater as a result of disposal activities in the natural drainage areas (5,11). According to PEPCON, the lead concentration found in both well water samples (<0.01ppm) was well below the allowable limit of 5 ppm, thus demonstrating that gro undwater contamination from the surface deposit had not occurred (7).

NDEP also required sampling in the area where dumping and burning had occurred (18,19). Near-surface soil samples were collected from two

parcels located northwest of the Kidd Marshmallow Plant to evaluate the possible presence of metals and buried storage containers. No samples exceeded any of the EP toxicity levels for metals tested. A magnatometer survey of both areas was also conducted to detect buried drums and no buried metal objects were found (18,20).

NDEP required that PEPCON sample and analyze composite liquid and sludge samples from the surface impoundment as part of the agency's lead remediation requirements (11). This surface impoundment had been tested in the early 1980s, and based on these results NDEP had decided that no discharge permit was needed (3,10). According to PEPCON's report to remediation of lead contamination, surface impoundment sampling data indicated no hazardous materials; all samples gave results showing concentrations below the limit for hazardous chemicals as defined in EPA 40 CFR Part 261.24 characteristics of EP toxicity (3,7,10,19). Only As, Ba, Cr, and Pb were found above the limit of detection in the sediment samples using the EP toxicity tests and the values are well below the maximum allowable concentration (7). Composite samples were taken of sediment from the walls of the pond. NDEP recently required that the pond be resampled to obtain discrete samples of the sediment (9,27).

4. REGULATORY INVOLVEMENT

The Nevada Department of Environmental Protection (NDEP) is the lead agency for the lead contamination remediation (10). In 1988, NDEP required PEPCON to remove the lead contaminated soil, test two off-site monitoring wells, sample the dump and burning area, and sample the surface impoundment as part of the remediation requirements (7,11).

NDEP did not consider PEPCON a hazardous waste generator. Although PEPCON processes created lead oxide, a hazardous waste; this lead oxide was reused. A 1983 Resource Conservation and Recovery Act (RCRA) Generator Compliance Investigation report by NDEP stated that no hazardous waste by-products produced were at this site. The last inspection made by NDEP prior to the 1988 explosions was in August 1983 (8).

NDEP also determined that PEPCON did not send wastewater to Las Vegas Wash and consequently did not need a discharge permit (22).

EPA performed a RCRA Facility Investigation in 1981 and found that the company did not store, generate, or transport any hazardous wastes. No RCRA violations were observed during that investigation (21).

In the EPA Generator Biennial Hazardous Waste Report for the year of 1985, PEPCON reported that they were a non-handler of hazardous wastes (23). PEPCON is listed as a generator on the November 11, 1990 RCRA database.

5. HRS FACTORS

The Hazard Ranking System (HRS) is a scoring system used to assess the relative threat associated with actual or potential releases of hazardous substances from sites. It is the principal mechanism EPA uses to place sites on the National Priorities List (NPL). FIT has evaluated the following HRS factors relative to this site.

5.1 WASTE TYPE AND QUANTITY

FIT identified several potential sources of uncontained hazardous substances at the site associated with historical activities and/or resulting from the 1988 explosions. These sources include: lead-contaminated soil found in the dry wash, PCB contamination from a leaking transformer, an on-site surface impoundment, and an abandoned burning and disposal area.

Lead contaminated soil was removed during a major soil removal as part of the remediation effort after the explosion. NDEP required PEPCON to sample the wash and required the removal of soil with lead concentrations above 5 ppm (5). Approximately 1,250 cubic yards of contaminated soil were hauled to the U.S. Ecology hazardous waste facility in Beatty, Nevada. This lead contamination was caused by tanks which ruptured after the explosion and also has been linked to episodic pulses of lead-laden debris flowing down the wash (5,17).

TAT sampled for PCBs, PCDD, and PCDF after the explosion. The sampling was undertaken because the explosions caused a leak to develop in a transformer which in turn was found to have contaminated some of the surrounding soil area with PCBs. After the PCB-contaminated oil and transformer were removed from the site, the surrounding soil was excavated and removed. According to PEPCON, additional testing after the excavation yielded results that the soil contained less than 10 ppb of PCBs. An unknown amount of soil was removed (4,5).

An on-site surface impoundment received wastewater consisting of non-contact cooling tower blowdown, boiler blowdown, and washdown from the production areas and parking lots (3,10,11). The size of this surface impoundment was approximately 175 feet by 325 feet by 3 feet. The approximate surface area was 57,000 square feet and the volume was approximately 170,000 cubic feet (5). This surface impoundment was tested in the early 1980s and NDEP decided that no permit was needed (3,10). NDEP required that PEPCON collect liquid and sludge samples from the surface impoundment as part of the remediation requirements (11). According to NDEP, the sampling data indicated no contamination (7,19).

An unknown quantity of graphite rods and ammonium perchlorate was buried and/or burned on site. NDEP required soil sampling for metals and a magnatometer survey in the areas where dumping and burning had occurred. No buried metal objects (drums) were found. Lead levels in soil were below 5 ppm (18,19,20).

5.2 GROUNDWATER

Most of Clark County receives water from Lake Mead (25). Groundwater use in the area is minimal because the upper aquifer is naturally saline (29). Most users are connected to municipal water. Groundwater well use is limited to the unincorporated areas that are connected to the municipal water system (26). PEPCON used water from a well located at the facility. This well has been abandoned since the explosion. A well located approximately 1 mile west of the plant site, referred to as the Bonanza Well, also was used by the PEPCON production facility. This well was tested during the lead remediation process; according to PEPCON, sampling did not detect the presence of lead. The well has a depth of approximately 700 feet below ground surface (bgs) and a water level of approximately 116 feet bgs (5,15).

PEPCON is located midfan on a semi-arid alluvial fan system made up of anastomosing channel and flood flow deposits in the south-central portion of the Las Vegas Valley (7). The valley fill consists of two distinct lithologic units, the upper coarse-grained alluvial fan deposits and the

lower fine-grained clayey and silty unit called the Muddy Creek Formation. The Muddy Creek Formation is composed of a thick sequence of clays and silts with interbeds of sand, gravel and caliche (30).

Groundwater in the Las Vegas Valley occurs mainly in the unconsolidated sediments of the valley fill. A shallow unconfined aquifer is found in the upper alluvial. The thickness of the alluvial fan deposits ranges from 30 to 60 feet; only the lower 10 to 20 feet are saturated. The unsaturated zone consists of deposits that range from silty sands to coarse sediments, including boulders. The alluvial deposits, though poorly sorted, are able to transmit relatively large quantities of groundwater. The Muddy Creek Formation contains a lower confined aquifer. The Muddy Creek Formation acts as an impermeable base on which the groundwater in the upper alluvial deposits flows (29,30,31).

The direction of groundwater flow is from southwest to northeast (7). The depth to groundwater is estimated to be 40 feet bgs in this area (7,17). The net annual precipitation for the area is 0.3 inches (32,33).

There has been no documented release to groundwater. The potential for a release from the lead contaminated soil found in the wash is low due to the low groundwater mobility of lead. In addition, groundwater use in the area is limited to a small number of residents not connected to the municipal water supply.

5.3 SURFACE WATER

Lead contaminated soil present in the dry wash prior to remediation may have released to surface water. The dry wash on PEPCON property eventually flows to the Las Vegas Wash 4.5 miles north of the facility. Las Vegas Wash, the only nearby perennial stream, empties into Lake Mead (a Colorado River reservoir) approximately 9 mile further downstream. Las Vegas Wash consists primarily of Las Vegas and Henderson secondary sewage effluent (98%), irrigation return flow, and ground water seepage. The average flow of the Las Vegas Wash, 144 cubic feet per second (cfs), makes up only a fraction of the 12,400 cfs daily average that flows out

of Lake Mead. The majority of water flowing into Lake Mead comes from the Colorado River (34,35).

Lake Mead is located within the 1,500,000-acre Lake Mead National Recreation Area. The lake itself covers about 500,000 acres (36). Recreational fishing on Lake Mead nets 1,800,000 pounds of fish per year. The razorback fish, present in Lake Mead, is a proposed federal endangered species (37).

Lake Mead is the drinking water source for most of Clark County. Approximately 16 miles downstream from the site is the nearest drinking water intake. The intake is located on the east side of Saddle Island and serves a Clark County population of approximately 463,100 (25).

The 2-year, 24-hour rainfall for Henderson is 1 inch (39).

Lead contaminated soil present in the dry wash prior to remediation may have released to surface water. This lead contamination was removed as part of the remedial activities. The potential for a release of lead surface water is minimal due to distance the substance would have to travel and the low mobility of lead. There are no drinking water intakes within 15 miles downstream of the site.

5.4 AIR

A release to air of hazardous substances from the site occurred as a result of the May 4, 1988 explosion. However, FIT evaluated the site based on current conditions. The potential for a release to air of hazardous substances is low. The removal of lead-contaminated soil eliminated the only known source available to the air pathway.

The City of Henderson, located approximately 4 miles from the site, has a population of approximately 50,000 (5).

Potential habitats within 4 miles of the site for sensitive animal and plant species as designated by the Nevada National Heritage Program

include the Gila monster, desert tortoise, arctomecon California, and the penstemon bicolor. FIT was unable to obtain information on the exact location of these plant and animal species (38).

5.5 SOIL EXPOSURE

There are no known uncontained hazardous substances available to the soil exposure pathway. PEPCON removed lead-contaminated from the dry wash area under the direction of NDEP. The site is partially fenced. Nearby populations include 70 workers at the rebuilt Kidd Marshmallow factory (15).

6. SUMMARY OF FIT INVESTIGATIVE ACTIVITIES

FIT was assigned to conduct a Screening Site Inspection (SSI) of the PEPCON site located in Henderson, Nevada. This assignment was subsequent to a Preliminary Assessment Reassessment conducted by FIT in 1989. As part of the SSI, FIT reviewed EPA, TAT, NDEP, and Clark County Air Pollution files relating to the site, and contacted the facility (Jeff Gibson, Site Cleanup Supervisor) to arrange a site visit (10,15).

FIT conducted the site reconnaissance visit of PEPCON on August 20, 1990. FIT members included Kathy Zavitz, Project Manager, and Lorene Flaming, Site Safety Officer. Jeff Gibson and Pete Gibson, a PEPCON attorney, were present for an interview and site tour.

The interview provided information regarding site history, site operations, the May 4, 1988 incident, and remedial actions. Information gathered during the interview and the subsequent tour is presented throughout this report (15).

FIT, with EPA concurrence, conducted no sampling (28).

7. EMERGENCY RESPONSE CONSIDERATIONS

The National Contingency Plan [40 CFR 300.415(b)(2)] authorizes the Environmental Protection Agency to consider emergency response actions at those sites which pose an imminent threat to human health or the environment.

There is no apparent need for emergency response at this time because the site is currently being remediated under the direction of NDEP. The site is adequately secured from public access. All known wastes are being addressed by PEPCON under the direction of NDEP (15).

8. SUMMARY OF HRS CONSIDERATIONS

Pacific Engineering and Production Company of Nevada manufactured ammonium perchlorate until a series of explosions and fires on May 4, 1988 destroyed the facility. The site has not been operational since that date. There was a significant quantity of chemicals on site before the explosion.

The Nevada Department of Environmental Protection (NDEP) is overseeing remediation at the site. NDEP approved the facility's cleanup plan for the removal of the lead-contaminated soil in 1989. This plan included sampling other areas of concern, including two down-gradient wells, an abandoned disposal area, and an onsite surface impoundment. NDEP is currently evaluating PEPCON's remediation.

The following are significant Hazard Ranking System factors associated with the Pacific Engineering and Production Company of Nevada site:

- Known waste sources have been addressed by PEPCON under NDEP direction;
- Hazardous wastes have been shipped to a permitted hazardous waste facility;
- No documented release to groundwater;
- Groundwater within 4 miles of the site serves a small population;
- Low potential for a release to surface water or air; and
- Small population within 4 miles of the site.

9. EPA RECOMMENDATION

	Initial	Date
No Further Action under CERCLA	Ayd	2/27/91
Listing Site Inspection		

Notes:

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33. U.S. Department of Comerce, National Oceanic and Atmospheric Administration, National Environmental Satellite Data and Information Service, National Climatic Data Center, Comparative Climatic Data for the United States through 1985, Nashville, TN.

34. Prudic, Dave, U.S. Geological Survey, and Peter Towle, E & E FIT, telephone conversation, August 31, 1989.

35. Williams, Bruce, Bureau of Reclamation, and Peter Towle, E & E FIT, telephone conversation, October 5, 1989.

36. Hourie, Robin, Lake Mead Recreation Area, and Peter Towle, E & E FIT, telephone conversation, September 11, 1989.

37. Buck, David, State of Nevada, and Rob Balas, E & E FIT, telephone conversation, September 1, 1989.

38. Clemmer, Glen, Nevada National Heritage Program, and Kathy Zavitz, E & E, FIT, telephone conversation, December 28, 1989.

39. U.S. Department of Commerce, Weather Bureau, Rainfall Frequency Atlas of the United States, Washington, D.C., 1961.

APPENDIX A

CONTACT LOG AND CONTACT REPORTS

CONTACT LOG

Facility Name: PEPCON
Facility ID: NVD008506974

Name	Affiliation	Phone #	Date	Information
Joe Monscvitz	Las Vegas Valley Water District	702-486-6741	8/31/89	See Contact Report.
Dave Prudic	U.S. Geological Survey	702-887-7611	8/31/89	See Contact Report.
David Buck	State of Nevada-Welfare Dept.	702-986-5127	9/1/89	See Contact Report.
Robin Hourie	Lake Mead Natl. Rec. Area	702-293-8907	9/11/89	See Contact Report.
Bruce Williams	Bureau of of Reclamation	702-293-8525	10/5/89	See Contact Report.
Dan Gross	Nevada Department of Env. Protection (NDEP)	702-687-5872	11/21/89 1/16/91	See Contact Report.
Joe Livak	NDEP-Water Section	702-687-5872	11/21/89 7/30/90	See Contact Report.
Keith Rooker	PEPCON	702-735-2200	11/27/89	See Contact Report.
Glen Clemmer	Nevada Natural Heritage Program	702-885-4370	12/28/89	See Contact Report.
Jeff Gibson	PEPCON	702-565-4032	7/27/90	He is charge of PEPCON site cleanup and has an office on site. He will send copy of final cleanup report.
Dan Gross	NDEP	702-687-5872	7/27/90	File search set up for August 13, 1990.

kz/pepcon/clcr

CONTACT LOG (continued)

Facility Name: PEPCON
Facility ID: NVD008506974

Name	Affiliation	Phone #	Date	Information
Jolaine Johnson	NDEP	702-687-5872	8/8/90	She is in charge of the Superfund program for NDEP. Dave Emme will meet with me on Monday 8/13.
Mike Naylor	Air Pollution Clark County Health	702-383-1276	8/14/90	Set up file search for 8/13/90.
Carolyn Douglas	EPA	415-744-2343	8/17/90	See Contact Report.
Dottie Sherman	Clark County Health Dept.	702-383-1261	9/21/90	See Contact Report.

kz/pepcon/clcr

CONTACT REPORT

AGENCY/AFFILIATION: Las Vegas Valley Water District		
DEPARTMENT: Southern Nevada Water Board		
ADDRESS/CITY: Boulder City		
COUNTY/STATE/ZIP: Nevada		
CONTACT(S)	**TITLE**	**PHONE**
1. Joe Monscvitz	Dir. Treatment & Transmission	702-486-6741
2.		
E & E PERSON MAKING CONTACT: Rob Balas		**DATE:** 8/31/89
SUBJECT: Water Intakes Out of Lake Mead		
SITE NAME: PEPCON		**EPA ID#:** NVD008506974*

One intake - east side of Saddle Island
160 ft. below surface
110 inches in diameter

Serves all of Clark County population of 463,087.

* This information was obtained during an investigation of Montrose EPA ID# NVD008506974.

kz/pepcon/clcr

CONTACT REPORT

AGENCY/AFFILIATION: United States Geological Survey		
DEPARTMENT:		
ADDRESS/CITY: Carson City		
COUNTY/STATE/ZIP: Nevada		
CONTACT(S)	**TITLE**	**PHONE**
1. Dave Prudic		702-887-7611
2.		
E & E PERSON MAKING CONTACT: Peter Towle		**DATE:** 8/31/89
SUBJECT: Various River Discharge Flow Into Lake Mead		
SITE NAME: PEPCON		**EPA ID#:** NVD008506974*

1)	Virgin River (metered near Littlefield)	- 262 CFS ave. annual	1988 figure
2)	Las Vegas Wash (metered near Henderson)	- 144 CFS 98% sewage treatment effluent ave. annual	1988 figure
3)	Muddy River (near Overton)	- 40 CFS	1988 figure

* This information was obtained during an investigation of Kerr McGee EPA ID# NVD008290330.

kz/pepcon/clcr

CONTACT REPORT

AGENCY/AFFILIATION: State of Nevada		
DEPARTMENT: Welfare		
ADDRESS/CITY: Las Vegas		
COUNTY/STATE/ZIP: Nevada		
CONTACT(S)	**TITLE**	**PHONE**
1. David Buck	Supervising Biologist for Southern Nevada	702-986-5127
2.		
E & E PERSON MAKING CONTACT: Rob Balas		**DATE:** 9/1/89
SUBJECT: Total Poundage Taken Out of Lake Mead		
SITE NAME: PEPCON		**EPA ID#:** NVD008506974*

Total poundage - 1,804,720 pounds

Number of fish - 902,360

Average weight of fish - 2 pounds

Razorbacks, a fish, found in Lake Mead, are a proposed federal endangered species.

* This information was obtained during an investigation of Montrose EPA ID# NVD008237489.

kz/pepcon/clcr

CONTACT REPORT

AGENCY/AFFILIATION: Lake Mead National Recreation Area		
DEPARTMENT: Visitors Information		
ADDRESS/CITY: Boulder City		
COUNTY/STATE/ZIP: Nevada		
CONTACT(S)	**TITLE**	**PHONE**
1. Robin Hourie	Secretary	702-293-8907
2.		
E & E PERSON MAKING CONTACT: Peter Towle		**DATE:** 9/11/89 10/5/89
SUBJECT: Lake Mead		
SITE NAME: PEPCON		**EPA ID#:** NVD008506974*

- Lake Mead is a National Recreation area. The lake itself is greater than 500 acres in area.

- Lake Mead is used for recreational fishing only.

10/5/89

- Surface area of Lake Mead: 500,000 acres.

* This information was obtained during an investigation of Kerr McGee EPA ID# NVD008290330.

kz/pepcon/clcr

CONTACT REPORT

AGENCY/AFFILIATION: Bureau of Reclamation		
DEPARTMENT: River Operations and Policy		
ADDRESS/CITY: Boulder City		
COUNTY/STATE/ZIP: Clark County, Nevada		
CONTACT(S)	**TITLE**	**PHONE**
1. Bruce Williams	Hydraulic Engineer	702-293-8525
2.		
E & E PERSON MAKING CONTACT: Peter Towle		**DATE:** 10/5/89
SUBJECT: Average Water Flow Out of Lake Mead		
SITE NAME: PEPCON		**EPA ID#:** NVD008506974*

The 1989 average flow, per day, out of Lake Mead into the Colorado River is 12,400 (cfs).

* This information was obtained during an investigation of Kerr McGee EPA ID# NVD008506974.

kz/pepcon/clcr

CONTACT REPORT

AGENCY/AFFILIATION: Nevada Dept. of Environmental Protection		
DEPARTMENT: Waste Management Office		
ADDRESS/CITY: 201 South Fall Street, Carson City		
COUNTY/STATE/ZIP: Nevada		
CONTACT(S)	**TITLE**	**PHONE**
1. Dan Gross	Waste Management Officer	702-885-4670
2. Joe Livak	Water Quality Enforcement Off.	702-885-4670
E & E PERSON MAKING CONTACT: Kathy Zavitz		**DATE:** 11/21/89
SUBJECT: Background		
SITE NAME: PEPCON	**EPA ID#:** NVD008506974	

The major known contamination from explosion is lead from lead oxide tank spill. Over 11,000 gallons of lead oxide spilled down the wash.

On May 19, 1989 NDEP approved PEPCON's plan for removal of lead contaminated soil and the screening (separation) of cobbles from soil. NDEP still has not received a final report on the clean-up or extent of contamination.

PEPCON is in an alluvial fan-with big rocks and cobbles. During the clean-up of lead contaminated soil, PEPCON picked up everything. They proposed to screen out cobbles from soil. Clark County monitored air quality during the operation. The area was wetted down and screened. The sludge was put in a evaporation pond. The sludge and liner were shipped to Beatty, Nevada.

The contents of the PEPCON pond was analyzed and determined to be non-hazardous, so no permit was ever issued for the pond.

7/27/90 Dan Gross
He visited the site in May and was shown a draft cleanup report.

PEPCON has completed the removal of the contaminated lead soil. Lead from the tank rupture during the explosion has been cleaned up.

7/30/90 Joe Livak
There is a thin file in the water section that deals with the site. Sampling results of an on-site pond are found in this file. These results were used to justify that PEPCON did not need a permit for the pond. (Nothing was detected.)

kz/pepcon/clcr

There was a wash that was created from the rupture of a tank during the explosion. Discharges prior to the explosion might have also contributed to the wash. The wash runs toward the highway. It never makes it to the Las Vegas Wash.

Tom Fronapfel was the principal investigator after the explosion. He is now in the mining Regulation and Reclamation Section 702-687-4670.

1/25/91 Dan Gross

NDEP recently requested that PEPCON sample the area downstream of the road to confirm that Gibson Road had acted as a natural barrier to surface water migration, thus preventing lead from migrating beyond that point.

kz/pepcon/clcr

CONTACT REPORT

AGENCY/AFFILIATION: PEPCON		
DEPARTMENT:		
ADDRESS/CITY: Henderson		
COUNTY/STATE/ZIP: Nevada		
CONTACT(S)	**TITLE**	**PHONE**
1. Keith Rooker	Attorney	702-735-2200
2.		
E & E PERSON MAKING CONTACT: Kathy Zavitz		**DATE:** 11/27/89
SUBJECT: Background information		
SITE NAME: PEPCON	**EPA ID#:** NVD008506974	

- PEPCON did not use BMI Ponds.
- PEPCON burned wastes on site prior to the mid-sixties.
- There is one pond on site. It received cooling tower blowdown and boiler blowdown. The pond measured 100 ft. X 300 ft.
- Plating cells ruptured during the explosion. Plating solution went onto soil north of parking lot. Approximately 35,000 yards of contaminated soil have been removed so far.
- 120 people worked at facility before the explosion.
- The Kidd Marshmallow factory was also destroyed.

kz/pepcon/clcr

CONTACT REPORT

AGENCY/AFFILIATION: Nevada Natural Heritage Program		
DEPARTMENT:		
ADDRESS/CITY: 201 S. Fall Street, Carson City		
COUNTY/STATE/ZIP: Nevada, 89710		
CONTACT(S)	**TITLE**	**PHONE**
1. Glen Clemmer	Zoologist	702-885-4370
2.		
E & E PERSON MAKING CONTACT: Kathy Zavitz		**DATE:** 12/28/89
SUBJECT: Endangered Species Habitats		
SITE NAME: PEPCON		**EPA ID#:** NVD008506974

The following sensitive animal and plant species, as designated by the Nevada National Heritage Program, may be found in the Henderson area:

- Gile Monster
- Desert tortoise
- Arctomecon California, and the
- Penstemon bicolor

* This information was obtained during an investigation of State Industries NVD008506974.

kz/pepcon/clcr

CONTACT REPORT

AGENCY/AFFILIATION: EPA		
DEPARTMENT: Site Evaluation Section		
ADDRESS/CITY:		
COUNTY/STATE/ZIP:		
CONTACT(S)	**TITLE**	**PHONE**
1. Carolyn Douglas	Site Assessment Manager	744-2343
2.		
E & E PERSON MAKING CONTACT: Kathy Zavitz		**DATE:** 8/17/90
SUBJECT: Scoping Session		
SITE NAME: PEPCON		**EPA ID#:** NVD008506974

I explained to here that I was working on the site and would be evaluating the site based on present conditions. She agreed that this was a good approach.

A scoping session set up for 10/23/90.

10/23/90 Scoping Session

FIT will not perform any sampling at this site.

kz/pepcon/clcr

CONTACT REPORT

AGENCY/AFFILIATION: Clark County Health Department		
DEPARTMENT:		
ADDRESS/CITY:		
COUNTY/STATE/ZIP:		
CONTACT(S)	**TITLE**	**PHONE**
1. Dottie Sherman		702-383-1261
2.		
E & E PERSON MAKING CONTACT: Kathy Zavitz		**DATE:** 9/21/90
SUBJECT: Wells in area		
SITE NAME: PEPCON		**EPA ID#:** NVD008506974

Most residences in Clark County are hooked up to the municipal water system. This water comes from Lake Mead.

There are two industrial wells near the site, located in T.22 R.62, Section 14. Savage Industries drilled a well there in August 1990 that is 400 feet deep. Thatcher Chemical drilled a well in 1987 that is 250 feet deep.

Marie McCaughey at DWR, might also be able to help out. 702-486-7052.

kz/pepcon/clcr

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT

Ecology and Environment, Inc.		
Field Investigation Team (FIT)		
160 Spear Street, Suite 1400		
San Francisco, California 94105		
(415) 777-2811		
E & E PERSON(S) CONDUCTING INTERVIEW AND MAKING OBSERVATIONS:		
Kathy Zavitz and Lorene Flaming		
FACILITY REPRESENTATIVE(S):	**TITLE:**	**PHONE:**
Jeff Gibson	Site Supervisor	
Pete Gibson	Attorney	
SITE NAME: Pacific Engineering and Production Co. of Nevada		**DATE:** 8/20/90
CITY/STATE: Henderson, Nevada		**EPA ID#:** NVD008506974

The PEPCON facility consisted of 16 buildings and was located on approximately 700 acres of land owned by PEPCON. The plant covered 18 acres. The site is partially fenced.

AmPac, the parent company, plans to eventually develop as much of the property as possible. The area to be developed is approximately 375 acres. The area not involved in the cleanup is unfenced. AmPac owns the property that Kidd Marshmallow is built on, also.

There were approximately 120 employees employed by PEPCON at the time of the explosion. Seventy workers now work at the rebuilt Kidd Marshmallow factory.

There were two areas used as dumpsites on the property. The dumpsites were located west of the plant. The dumpsites received metal containers and paper liners from the manufacturing process. Salvagable metals were taken out and sold. The dumps were incineration dumps. Burning stopped in the late 1970s. Manufacturing residues were burned there in the open. The area closest to the plant area was 250′ by 100′. The second area was much larger than the first.

Most of the PCB oil was consumed in the 1,000 C fire. PCB contaminated asphalt was removed. Oil left in transformer carcasses was sampled and shipped off-site for disposal.

Lead anodes were used in the production process.

kz/recon

There were never any underground storage tanks.

Two wells provided water to PEPCON and the Kidd Marshmallow Factory. One was located in the plant area. One was located approximately one mile away from the plant area near the gravel piles.

PEPCON removed lead-contaminated from the dry wash area under the direction of NDEP. 18,063 tons of lead contaminated soil were removed (76 truck loads) as part of the cleanup of the wash. Clean up action levels were 5 ppm lead TCLP.

The Clark County Air Board continuously monitored with a high-volume sampler about 200 feet down wind while the lead contaminated soil was being removed.

The original pond may have been bentonite lined. It was a catch basin for evaporative cooling blowoff. The surface impoundment was dry at the time of the site visit.

PEPCON also manufactured odor control and disinfectant equipment.

kz/recon

APPENDIX B

PHOTODOCUMENTATION

FIELD PHOTOGRAPHY LOG SHEET

DATE: 8/20/90

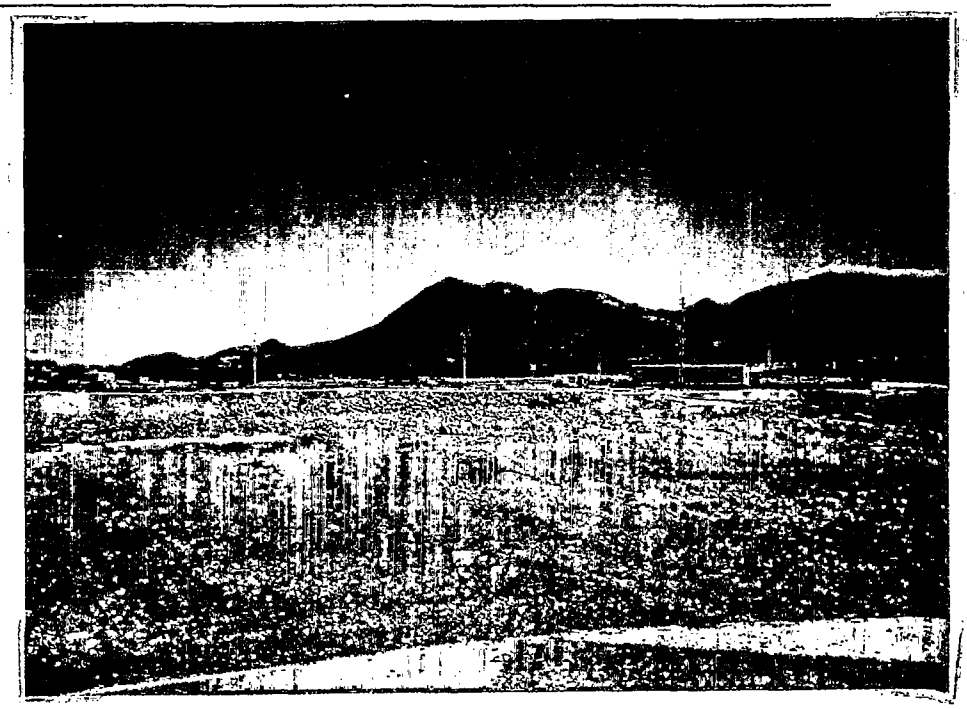
WEATHER: Windy and warm

PHOTOGRAPHED BY: Kathy Zavitz

DESCRIPTION:

Location of former PEPCON facility.

DATE: 8/20/90



WEATHER: Windy and warm

PHOTOGRAPHED BY: Kathy Zavitz

DESCRIPTION:

Location of former surface impoundment. This pond received boiler blowdown and parking lot washdown.

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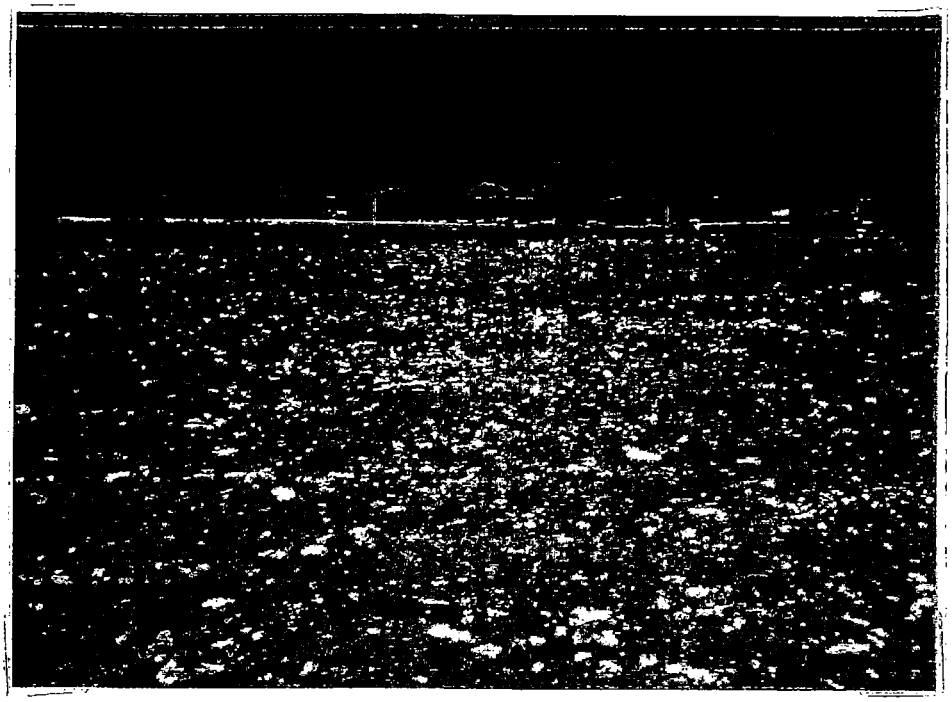
pepcon/fpls

FIELD PHOTOGRAPHY LOG SHEET

DATE: 8/20/90



WEATHER: Windy and warm

PHOTOGRAPHED BY: Kathy Zavitz

DESCRIPTION:

Drainage area where lead contaminated soil was removed.

DATE: 8/20/90

WEATHER: Windy and warm

PHOTOGRAPHED BY: Kathy Zavitz

DESCRIPTION:

Wash that flowed across Gibson Road from site.

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pepcon/fpls

FIELD PHOTOGRAPHY LOG SHEET

DATE: 8/20/90

WEATHER: Windy and warm

PHOTOGRAPHED BY: Kathy Zavitz

DESCRIPTION:

This down-gradient well was sampled as part of NDEP's remediation requirements. Gibson Road and the PEPCON property are in the background.

pepcon/fpls