Addenda to Interim Measures Workplan No. 2 Topock Compressor Station Needles, California

Prepared for

Department of Toxic Substances Control

On behalf of

Pacific Gas and Electric Company

March 1, 2004

CH2MHILL

Contents

Part I: Transportation Plan

Transportation Plan for Interim Measures No. 2 Topock Compressor Station, Needles, California

Prepared for

Pacific Gas & Electric Company

March 1, 2004

CH2MHILL
155 Grand Avenue
Suite 1000
Oakland, CA 94612

Contents

Transportation Plan for Interim Measures No. 2 Topock Compressor Station, Needles, California

1.0 Introduction and Purpose

Pacific Gas and Electric Company (PG&E) is addressing chromium in groundwater at the Topock Compressor Station under the oversight of the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). The Topock Compressor Station is located in San Bernardino County, approximately 15 miles to the southeast of Needles, California.

In a letter dated February 9, 2004, DTSC directed PG&E to prepare immediately an Interim Measures (IM) Workplan to address pumping, transporting, and disposing groundwater from existing offsite monitoring wells, located less than one-half mile from the compressor station. These wells are located on land owned by the Bureau of Reclamation and managed by the Bureau of Land Management. The DTSC determined that immediate action is required to prevent and/or mitigate potential impacts to the Colorado River pursuant to Section IV.A. of the Corrective Action Consent Agreement between DTSC and PG&E (1996, Corrective Action Consent Agreement, Docket HWCA 95/96-027).

This transportation plan is an addendum to the IM No. 2 Workplan. The IM No. 2 Workplan describes the components for implementing the specific actions prescribed by DTSC in the February 9, 2004 letter. Implementation of IM No. 2 includes transportation of groundwater containing chromium from the MW-20 bench area to an off-site treatment/disposal facility. This transportation plan includes the identification of transportation routes, and operational and mitigation measures to minimize impacts from the transportation element of IM No. 2.

2.0 Transportation Routes

The permitted treatment and disposal facility selected to receive wastes generated from IM No. 2 activities, including extracted groundwater, is the U.S. Filter Recovery Service site in Los Angeles, California. An alternate treatment and disposal facility is the Romic Environmental Technologies facility in Chandler, Arizona. Treatment and disposal facility information is provided in Table 2-1.

TABLE 2-1
Transportation Planned and Alternate Routes

	Transportation Route Trip Beginning	Transportation Route Trip Ending	Route Miles
Primary Route	Topock site - Park Moabi, CA	U.S. Filter 5375 South Boyle Avenue Los Angeles, CA 90058	270
Alternate Route	Topock site - Park Moabi, CA	Romic Environmental Technologies 6760 W. Allison Rd Chandler, AZ 85226	250

Attachment A includes route maps provided by Denbeste Transportation, Inc, the licensed hazardous waste hauler that will transport the chromium-containing groundwater to the treatment and disposal facility. The routes were evaluated to confirm that they meet Department of Transportation regulations (49 CFR 397.101) for transporting hazardous fluids. The primary and alternate routes are described below.

2.1 Primary Route: Park Moabi, CA to Los Angeles, CA (U.S. Filter Route)

The distance to the U.S. Filter facility ranges from approximately 270 to 280 miles. The route follows Interstate 40 westbound from Park Moabi through the Mojave Desert to the interchange of Interstate 15, where the route will turn southerly and proceed to the inland valley and metro area of Los Angeles via Interstate 15. The route proceeds westerly at Interstate 10. The final leg of the route will be along Interstate 710, leading to the final exit point from the freeway to the local treatment facility. The entire route to the Los Angeles treatment facility will be on divided highways. At-grade intersections will only be encountered on the last 2.5-mile segment after departing Interstate 710 and proceeding on surface streets to the facility on Boyle Avenue.

2.2 Alternate Route: Park Moabi, CA to Chandler, AZ Route (Romic Route)

The distance to the Romic Environmental facility is approximately 250 miles. The route begins at Interstate 40 westbound from Park Moabi to the interchange of US 95, where the route will turn south to the intersection of SR 62, and proceed east. The initial leg of the route is through a nearly unpopulated area, with sizable populations noted at where SR 62 enters the city of Parker, Arizona. The entire length of US 95 and SR 62 along this route is an undivided roadway and has at-grade intersections. At Parker, California Route 62 will become AZ-95 and will cross the northeast corner of the Colorado Indian Reservation. After departing Parker, the route continues in a southerly direction to the interchange with Interstate 10. Proceeding east on Interstate 10, the potential route will remain sparsely populated until a region of increased population entering the Phoenix area. Signs will direct hazardous loads to Interstate 17 south to bypass the Deck Tunnel and return to Interstate 10 east of the structure. Interstate 17 will proceed south and reconnect with Interstate 10 east to the end of the route in Chandler. The entire route along Interstates 10 and 17 to the treatment facility will be on divided highways. An at-grade intersection will be encountered again on the last 1-mile segment after departing Interstate 10 and proceeding on surface streets to the facility on West Allison Road.

3.0 Operational and Mitigation Measures

This section includes operational and mitigation measures to minimize impacts from the transportation element of IM No. 2. PG&E will comply with all applicable waste transportation requirements, including transport by a pre-approved, registered hazardous waste transporter (Denbeste Transportation, Inc), preparing hazardous waste manifests, and training in U.S. Department of Transportation requirements.

3.1 Historic State Route 66 Conditions

Figure 1 highlights transportation features, access points and speed limits on Historic State Route 66 (SR 66) in the vicinity of the MW-20 bench area. Figure 2 shows the primary access, and truck loading area at the MW-20 Bench.

SR 66 between the Topock Station and MW-20 bench is a two-lane roadway with a pavement section comprising a 1-inch chip seal, a 3-inch layer of pavement, and a 6-inch aggregate base course (estimated). Longitudinal and horizontal distress cracking is evident. The cracking is non-uniform and appears in blocks of varying sizes (See Attachment B, Photos 1 and 2).

The second turn from the departure of the Topock Station is deteriorated along, and the guardrail on the outside edge is damaged. The pavement section is raveling from vehicles and trucks making the almost 90-degree turn. The speed limit through this section is 10 miles per hour (mph). (See Attachment B, Photos 3 and 4).

The location of the primary driveway approach on the MW-20 bench is located north of the overhead railroad crossing. The shoulder pavement on SR 66 at the primary driveway location is cracked and will require protection from trucks hauling materials and turning into the MW-20 bench. (See Attachment B, Photos 5, 6, and 7).

The location of the secondary driveway approach on the MW-20 bench is located at the north end of the MW-20 bench and is a straight taper transition to SR 66. Similar to the primary access, the shoulder pavement along the secondary driveway is cracked and will require protection. (See Attachment B, Photos 8, 9, and 10).

The intersection of the Park Moabi Trailer Village and SR 66 is deteriorating and raveling. (See Attachment B, Photo 11).

Attachment B, Photo 12 shows conditions of I-40, maintained by California and Arizona.

3.2 Operational and Mitigation Measures for SR 66

The following measures will be implemented during IM No. 2 activities :

- Vehicles will stay on the existing and approved routes on Bureau of Land Management (BLM) property, and will not drive in the existing washes.
- Trucks drivers will drive at 10 mph between the gate at the compressor station to the secondary access and across the Workman Wash structure.
- Figure 2 shows the anticipated truck routing at the MW-20 bench. The equipment and trucking routes will be field-located to limit impacts to the area. WB-50 trucks will be allowed ingress/egress and U-turn movements at the primary access. Trucks will not be allowed to make a U-turn at the secondary ingress/egress location.
- Protect and improve the shoulder of the road at the primary and secondary access driveway approaches to the MW-20 bench, by placing metal plates and/or road base (see Figure 2).

- If continued IM No. 2 operations result in long-term frequent truck traffic on the MW-20 bench, a 2-foot overpave pavement section will be placed at both the primary and secondary access drives to the MW-20 bench to protect the existing shoulder paving.
- If continued IM No. 2 operations result in long-term frequent truck traffic on SR 66, the loose and raveled pavement debris at the Park Moabi Trailer Village/SR 66 intersection will be cleaned (see Figure 1), a tack coat will be applied to the cleaned surface, and a 1-inch overlay of pavement placed. The area of overlay is to be determined in the field.

3.3 Workman Wash Historic Structure Conditions

The Workman Wash structure (Br. No. 54C-0132) is located off the current State Route, but is part of the historic SR 66 National Trails Highway. (See Attachment B, Photos 13 and 14).

The Workman Wash structure was originally constructed in 1890. It is listed as a single-span rock masonry arch culvert, with approximately 10 feet of earth fill with unknown foundation support. A copy of the Caltrans bridge inspection report is provided in Attachment C. The Caltrans maintenance records indicate that the structure has an operation rating of 33.5 metric tons. The trucks hauling the chromium-containing groundwater will be highway-legal. The bridge appears to have adequate load carrying capacity

The structure appears to have been widened to the west at some point in time. The widened structure appears to be formed concrete. The general appearance of the structure indicates a structure in adequate condition based on the age of the structure. There were no visible cracks of any significance and no delaminating or spalling of the structural material for the culvert.

3.4 Operational and Mitigation Measures for Workman Wash Historic Structure

The following measures will be implemented during IM No. 2 activities to minimize impact to the workman wash historic structure:

- The speed of the trucks will be restricted to a maximum of 10 mph, and the trucks will be directed to not shift gears while crossing the structure..
- Trucks will be directed to cross the structure along the centerline of the roadway if there is no oncoming traffic. This will center the truck over the structure and will provide a more uniform loading of the structure.

3.5 MW-20 Bench Geotechnical Conditions

A reconnaissance-level geotechnical site investigation was conducted at the MW-20 bench site. The investigation included observation of the bench surface, the bench river sideslope, and the Route 66 road cut. The MW-20 boring logs and Ninyo & Moore's Geotechnical Reconnaissance Report dated January 17, 2001 (See Attachment C) were also reviewed. Based on our observations, the bench comprises sand, gravel, and cobble material up to 12 inches maximum-observed size. The bench appears to be constructed of material excavated from the road cut. The road cut is relatively steep (steeper than 1:1) and exposes dense alluvial deposits comprising sand, gravel, and cobbles with some interbedded fine sand layers. The boring logs indicated that the alluvium extended to approximately 90 feet

below the ground surface. The river sideslope of the bench varies between 1H:1V (horizontal : vertical) to 3H:1V. Some minor erosion was visible on the slope, but no slumping, bulging, or cracking of the slope or bench surface were observed.

3.6 Operational and Mitigation Measures for MW-20 Bench

The purpose of the geotechnical reconnaissance was to provide preliminary recommendations regarding the suitability of using the MW-20 bench for the interim measures equipment. The proposed equipment includes four to six 20,000-gallon water storage tanks with a haul truck access road. The water tanks will be approximately 8 feet wide, 32 feet long and 10 feet high. Based on our observations, the bench appears suitable for placement of the proposed equipment. It is recommended that the water holding tanks, equipment, and haul road be set back at least 25 feet from the edge of the bench descending slope.

Figures

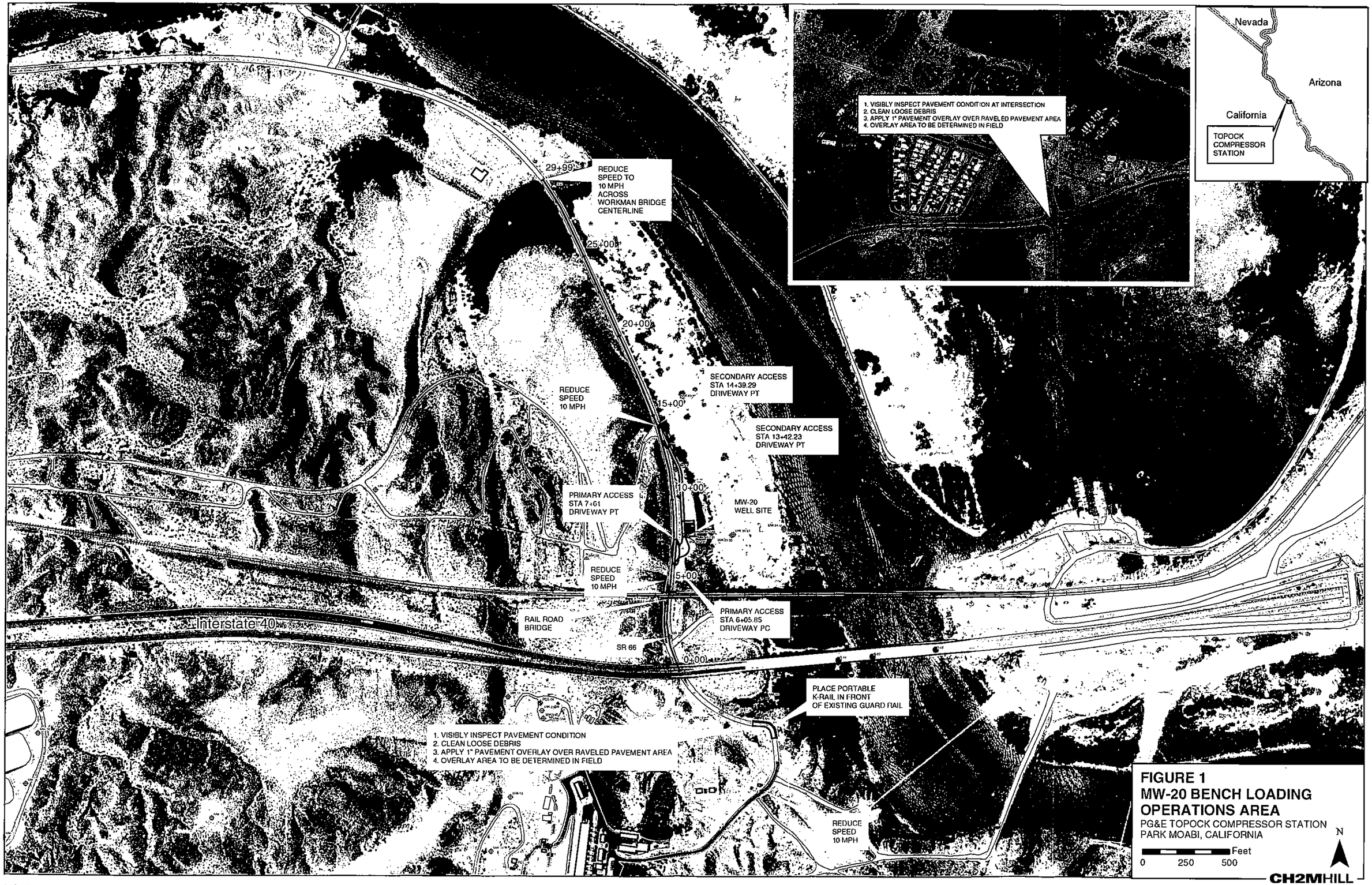


FIGURE 1
MW-20 BENCH LOADING OPERATIONS AREA
PG&E TOPOCK COMPRESSOR STATION
PARK MOABI, CALIFORNIA

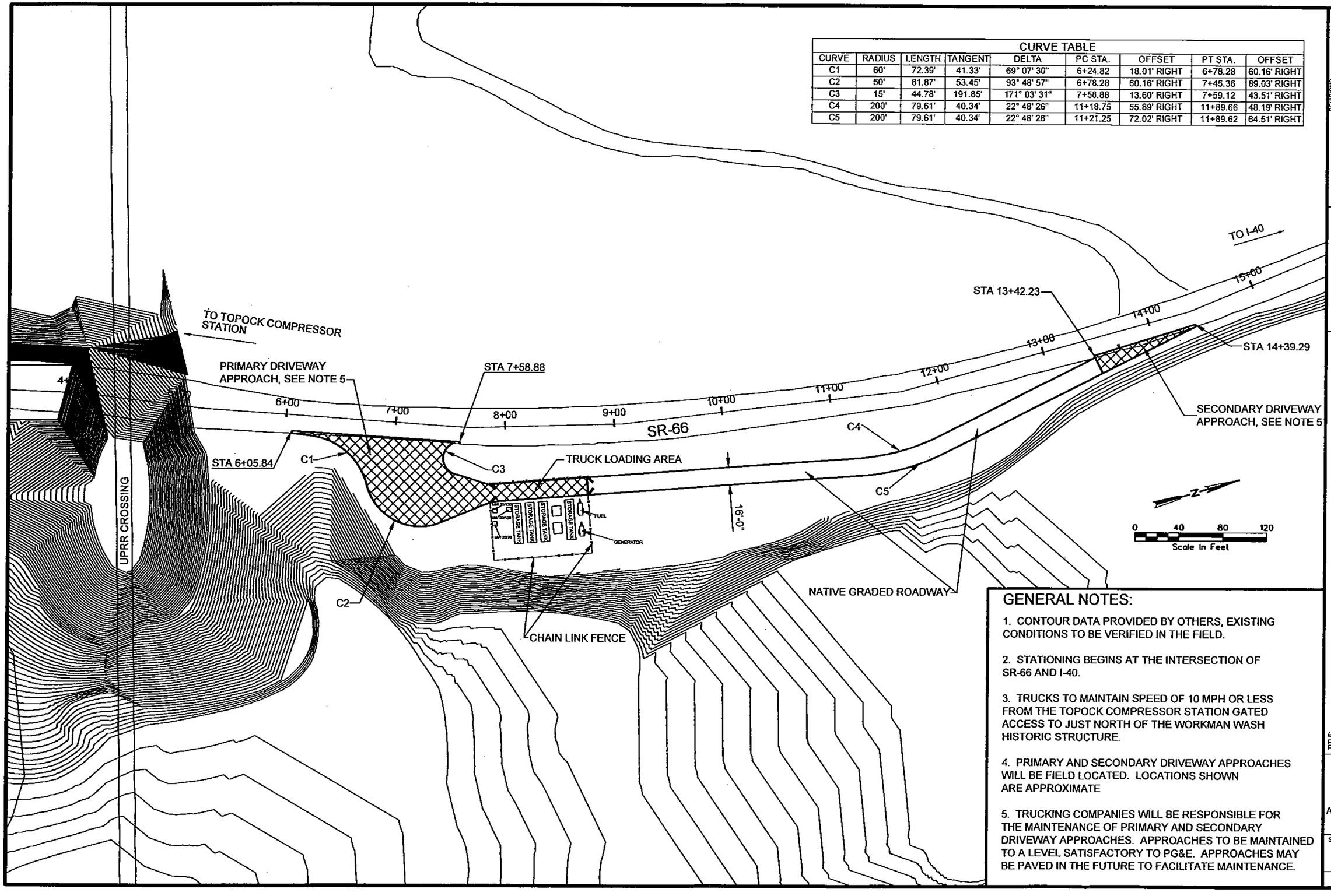
N

Feet
0 250 500

CH2MHILL

LAS \\ELVIS\GIS\PROJECTS\PGE\MXDS\LOADINGAREA_022604.MXD 02/26/2004 13:39:58

CURVE TABLE								
CURVE	RADIUS	LENGTH	TANGENT	DELTA	PC STA.	OFFSET	PT STA.	OFFSET
C1	60'	72.39'	41.33'	69° 07' 30"	6+24.82	18.01' RIGHT	6+78.28	60.16' RIGHT
C2	50'	81.87'	53.45'	93° 48' 57"	6+78.28	60.16' RIGHT	7+45.36	89.03' RIGHT
C3	15'	44.78'	191.85'	171° 03' 31"	7+58.88	13.60' RIGHT	7+59.12	43.51' RIGHT
C4	200'	79.61'	40.34'	22° 48' 26"	11+18.75	55.89' RIGHT	11+89.66	48.19' RIGHT
C5	200'	79.61'	40.34'	22° 48' 26"	11+21.25	72.02' RIGHT	11+89.62	64.51' RIGHT



GENERAL NOTES:

1. CONTOUR DATA PROVIDED BY OTHERS, EXISTING CONDITIONS TO BE VERIFIED IN THE FIELD.

2. STATIONING BEGINS AT THE INTERSECTION OF SR-66 AND I-40.

3. TRUCKS TO MAINTAIN SPEED OF 10 MPH OR LESS FROM THE TOPOCK COMPRESSOR STATION GATED ACCESS TO JUST NORTH OF THE WORKMAN WASH HISTORIC STRUCTURE.

4. PRIMARY AND SECONDARY DRIVEWAY APPROACHES WILL BE FIELD LOCATED. LOCATIONS SHOWN ARE APPROXIMATE

5. TRUCKING COMPANIES WILL BE RESPONSIBLE FOR THE MAINTENANCE OF PRIMARY AND SECONDARY DRIVEWAY APPROACHES. APPROACHES TO BE MAINTAINED TO A LEVEL SATISFACTORY TO PG&E. APPROACHES MAY BE PAVED IN THE FUTURE TO FACILITATE MAINTENANCE.

REVISIONS

NO.	DATE	DESCRIPTION	APP'D

PREPARED BY: B. HAFEN
CHECKED BY: M. LASKO

TITLE: MW-20 BENCH LOADING OPERATIONS AREA
PG&E TOPOCK COMPRESSOR STATION, PARK MOABI, CALIFORNIA

SHEET:

FIGURE 2
MW-20
BENCH SITE
ACCESS SKETCH

Sheet 1 of 1

28-FEB-2004 18:17:27

bjh pge.dgn

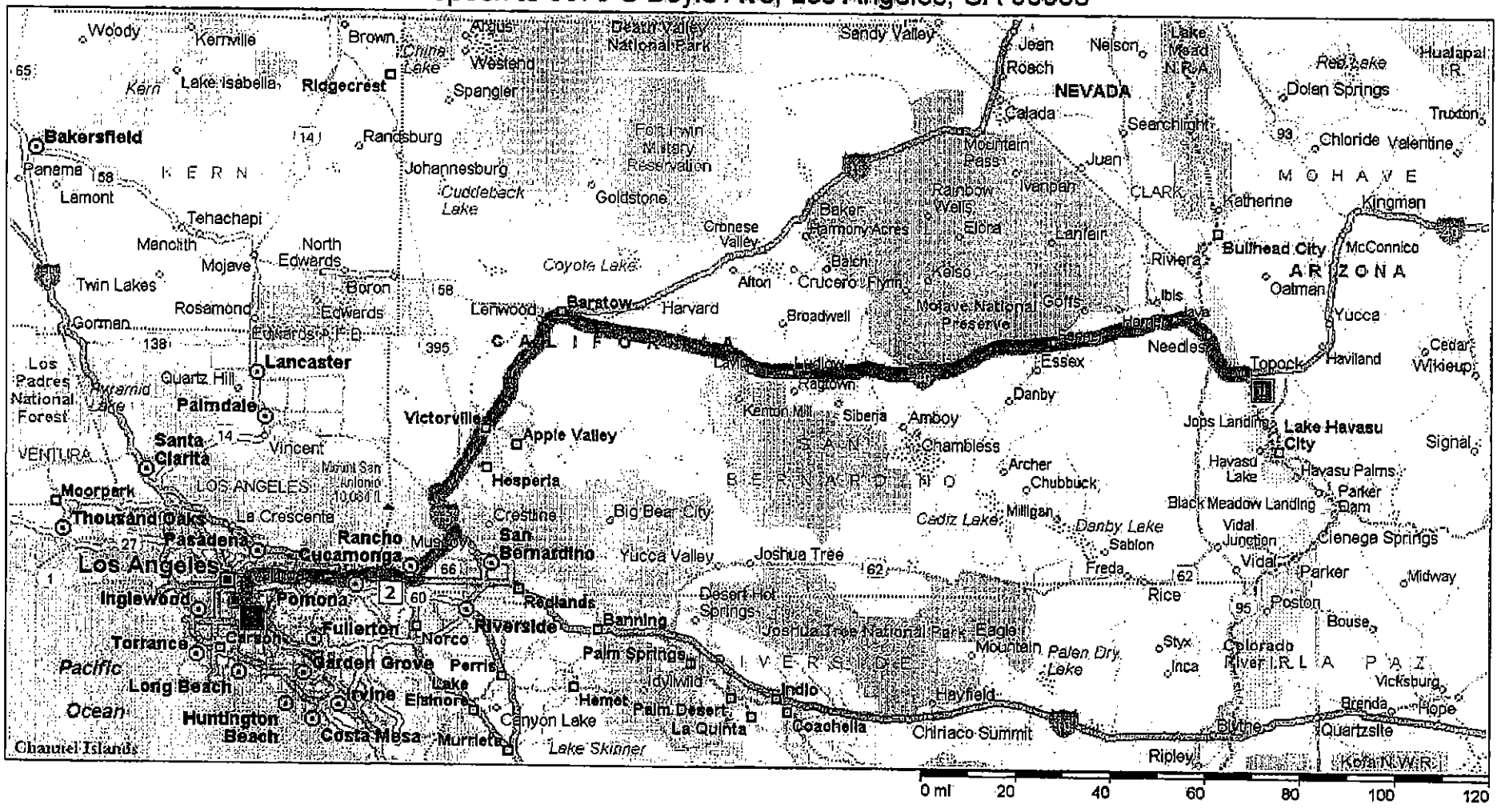
Attachments

ATTACHMENT A

Route Maps

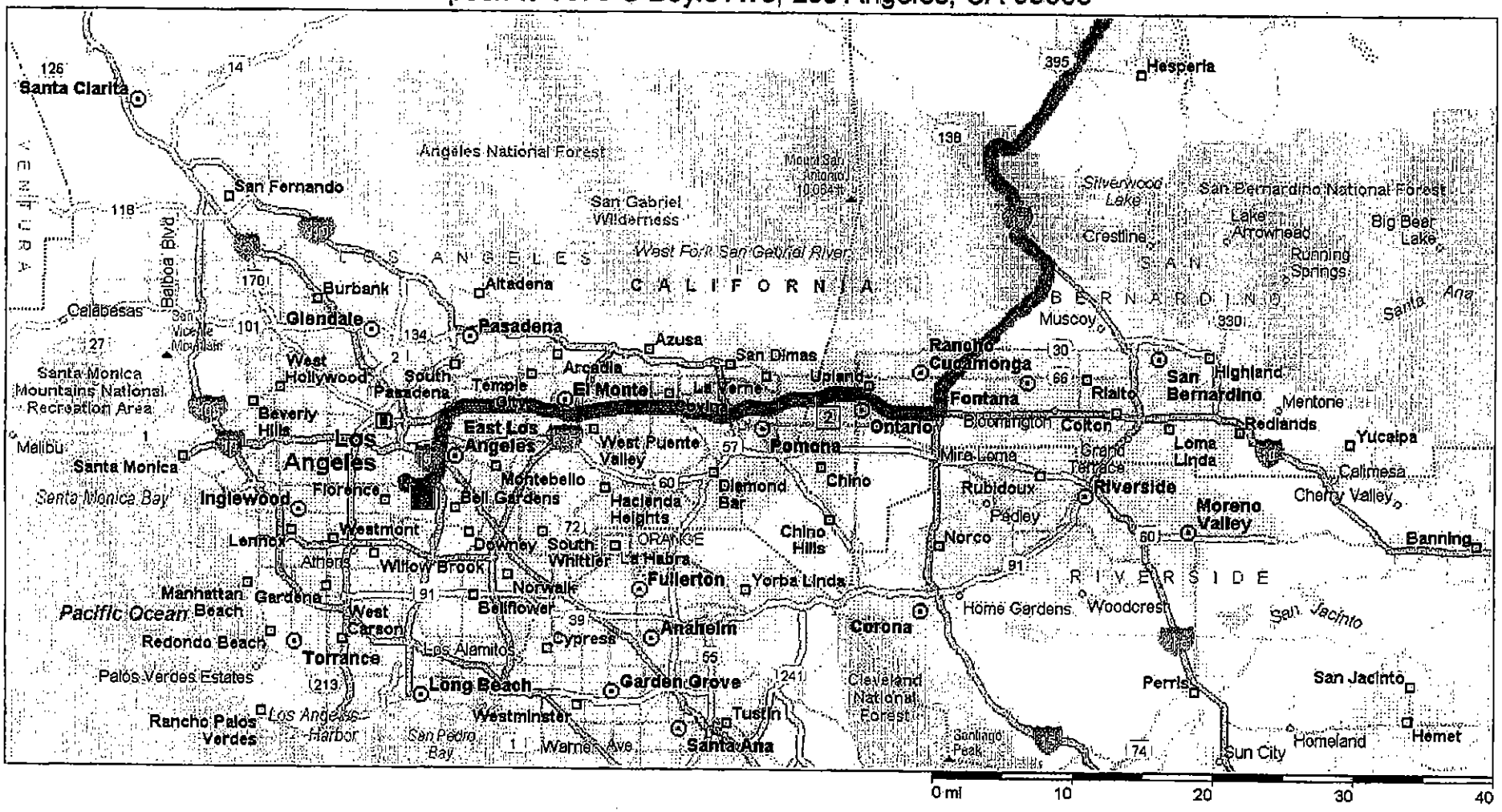
U.S. Filter—Vernon, CA

Topock to 5375 S Boyle Ave, Los Angeles, CA 90058



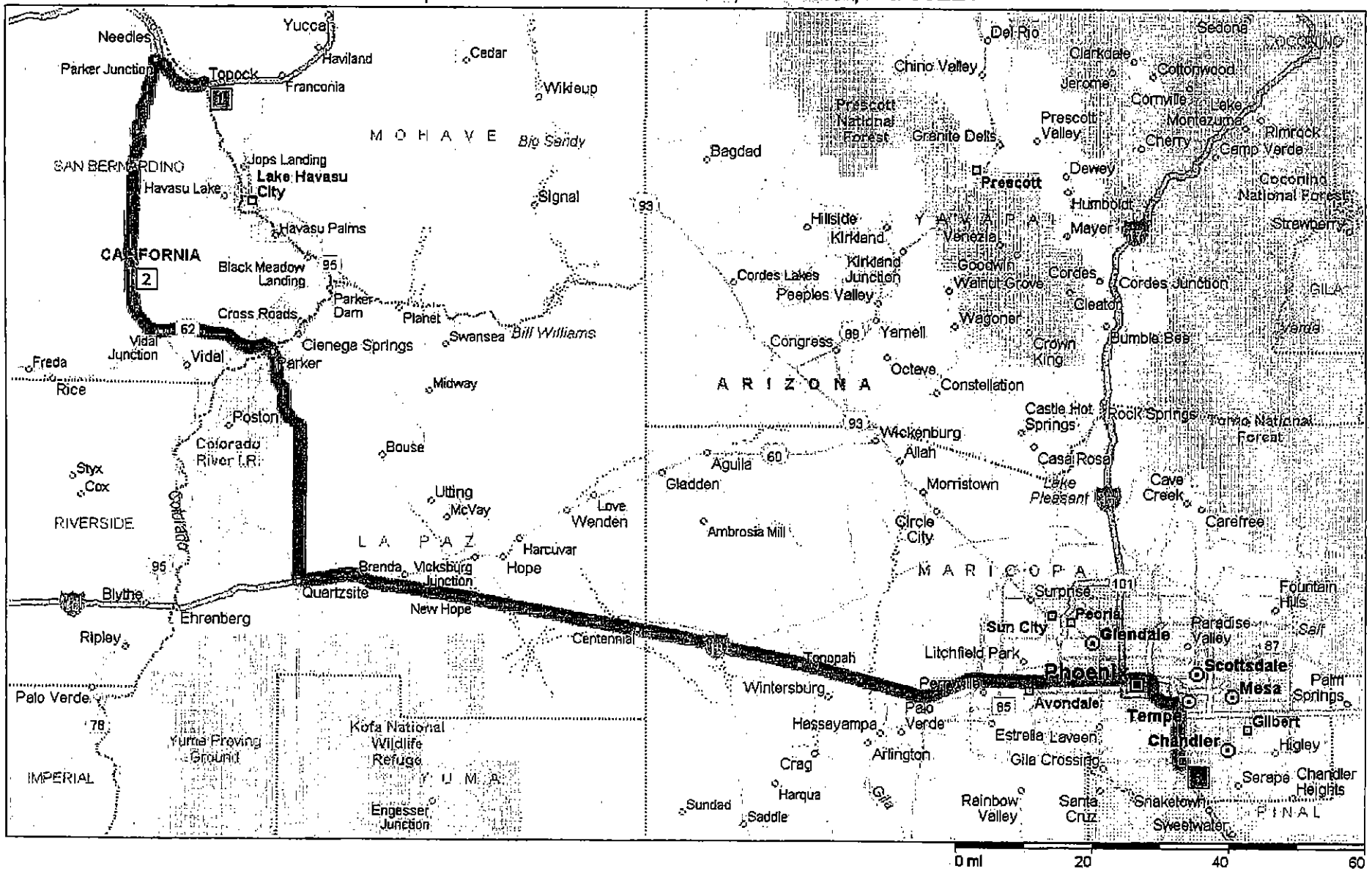
U.S. Filter – Vernon, CA

Topock to 5375 S Boyle Ave, Los Angeles, CA 90058



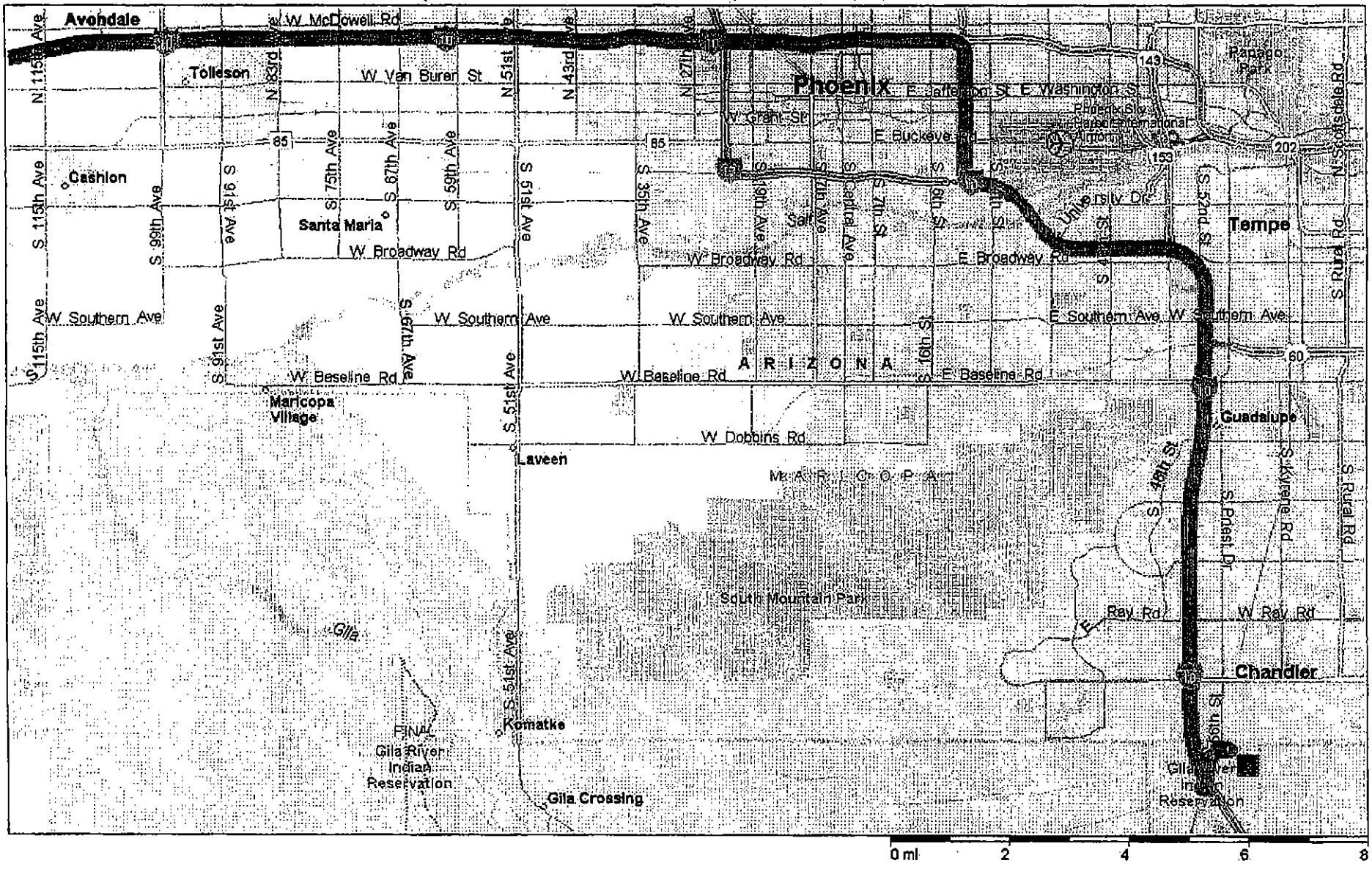
Route – Chandler, AZ

Topock to 6760 W Allison Rd, Chandler, AZ 85226



Ronic - Chandler, Az

Topock to 6760 W Allison Rd, Chandler, AZ 85226



ATTACHMENT B

Photo Log

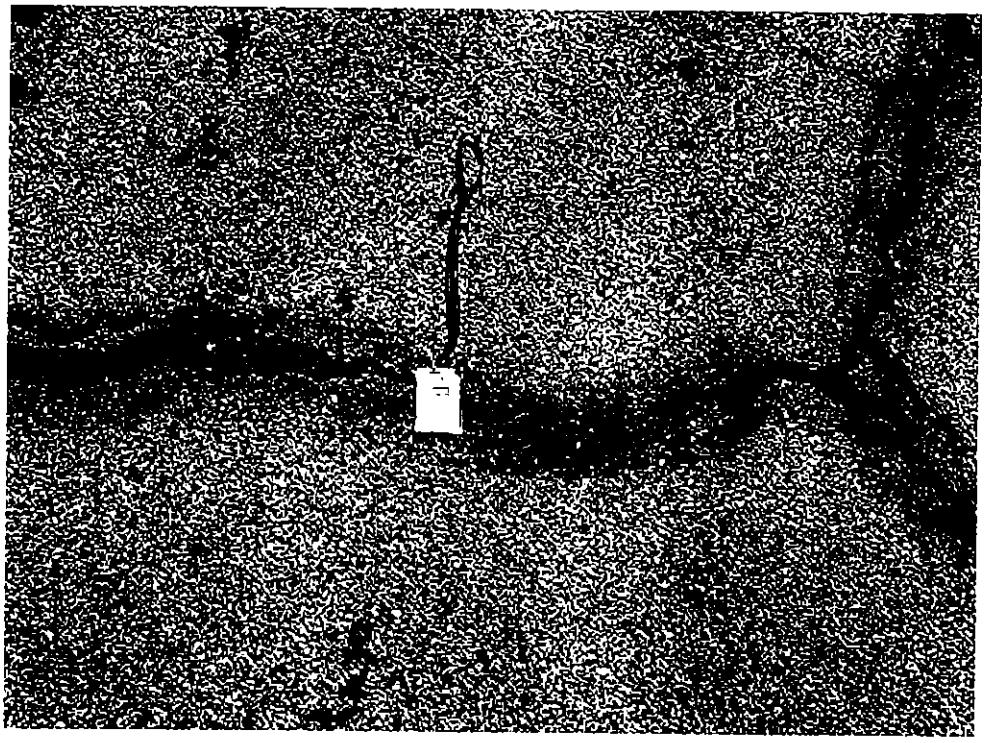


Photo No. 1 – Pavement distress cracking in SR 66 near the primary access to the MW-20 bench.

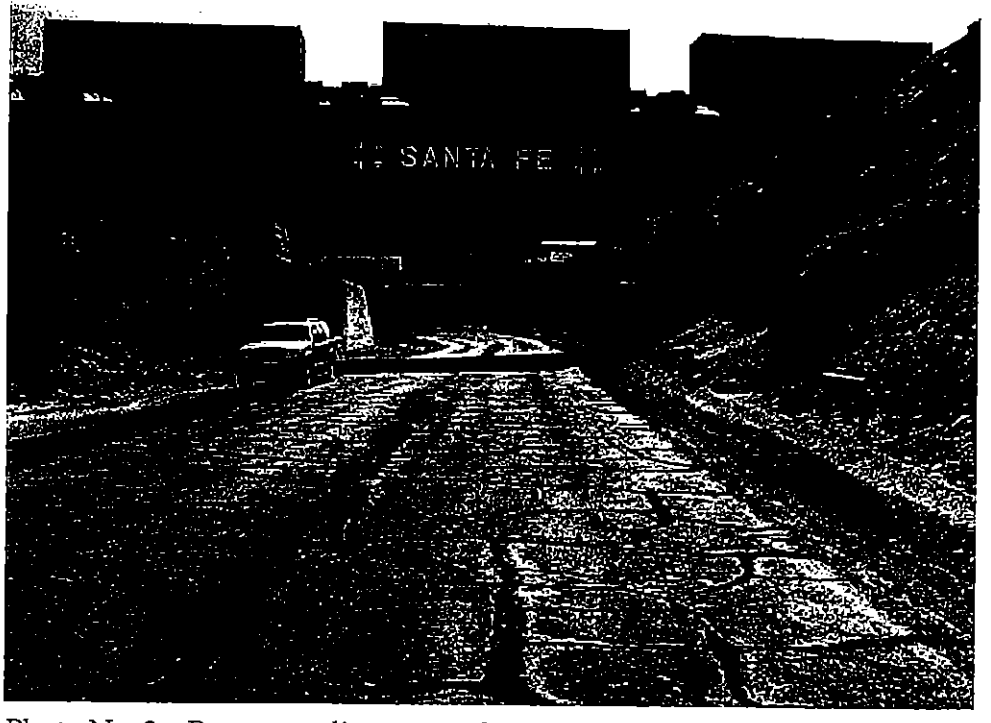


Photo No. 2 – Pavement distress cracking in SR 66 near the primary access to the MW-20 bench.

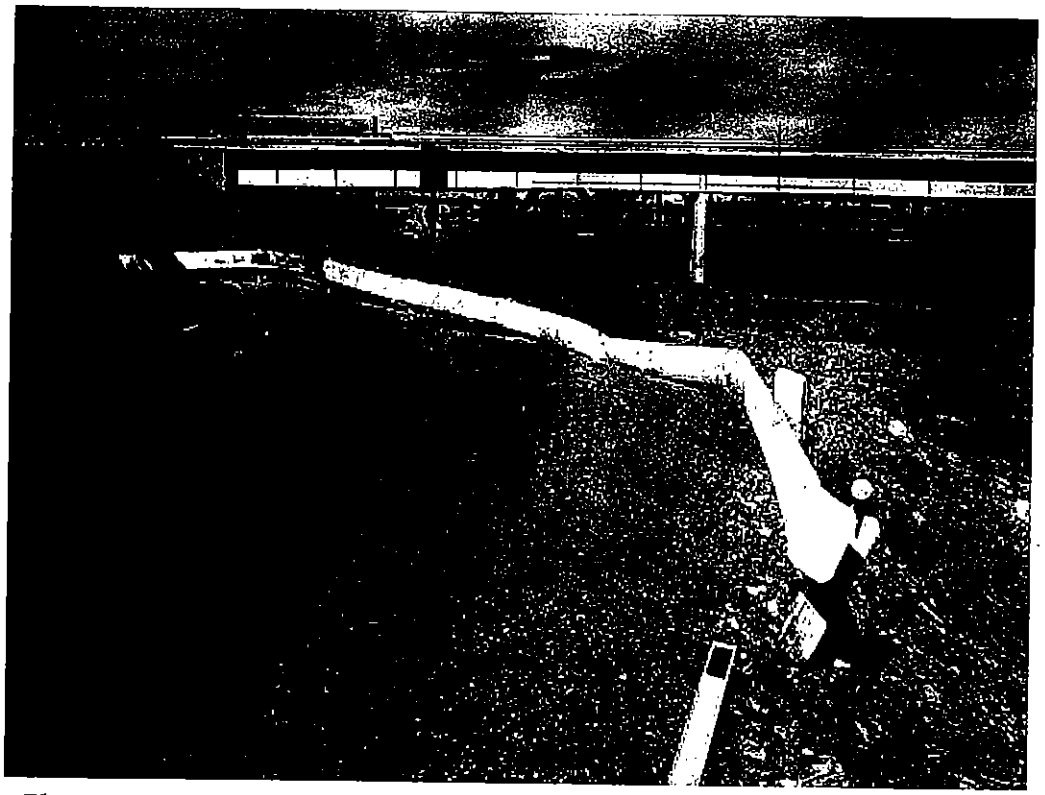


Photo No. 3 – 90° turn on SR 66.

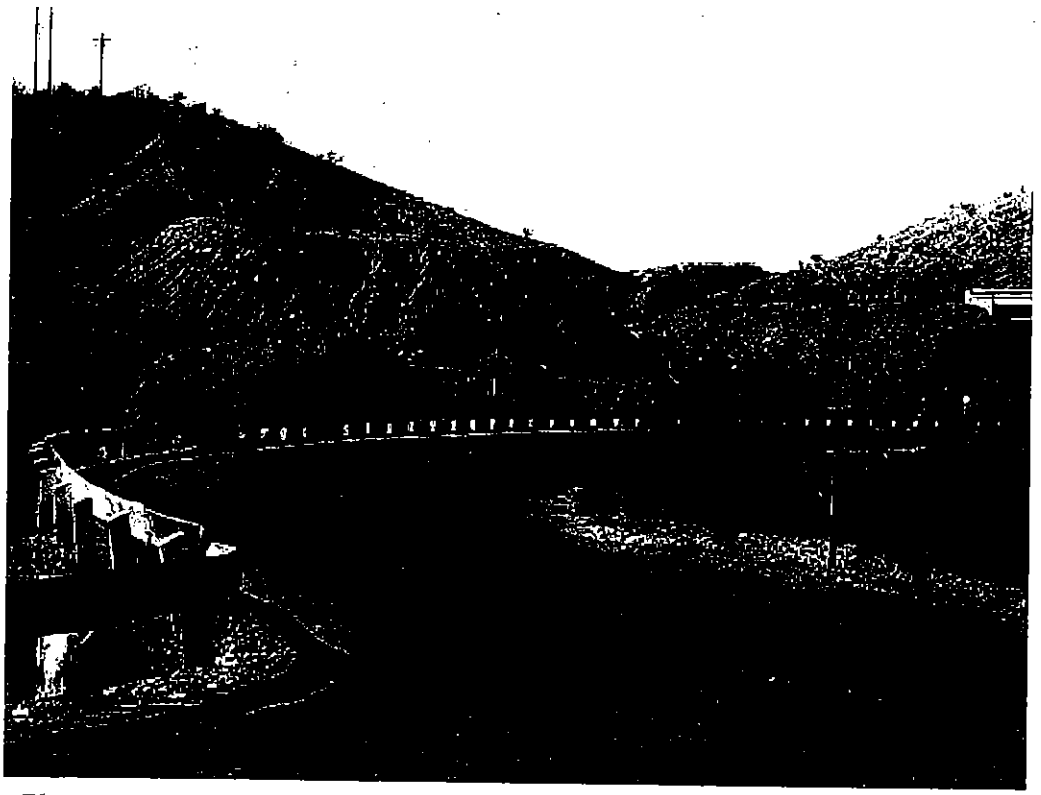


Photo No. 4 – Raveled pavement condition on SR 66 at 90° turn.

Photo No. 5 – MW-20 bench primary access location.

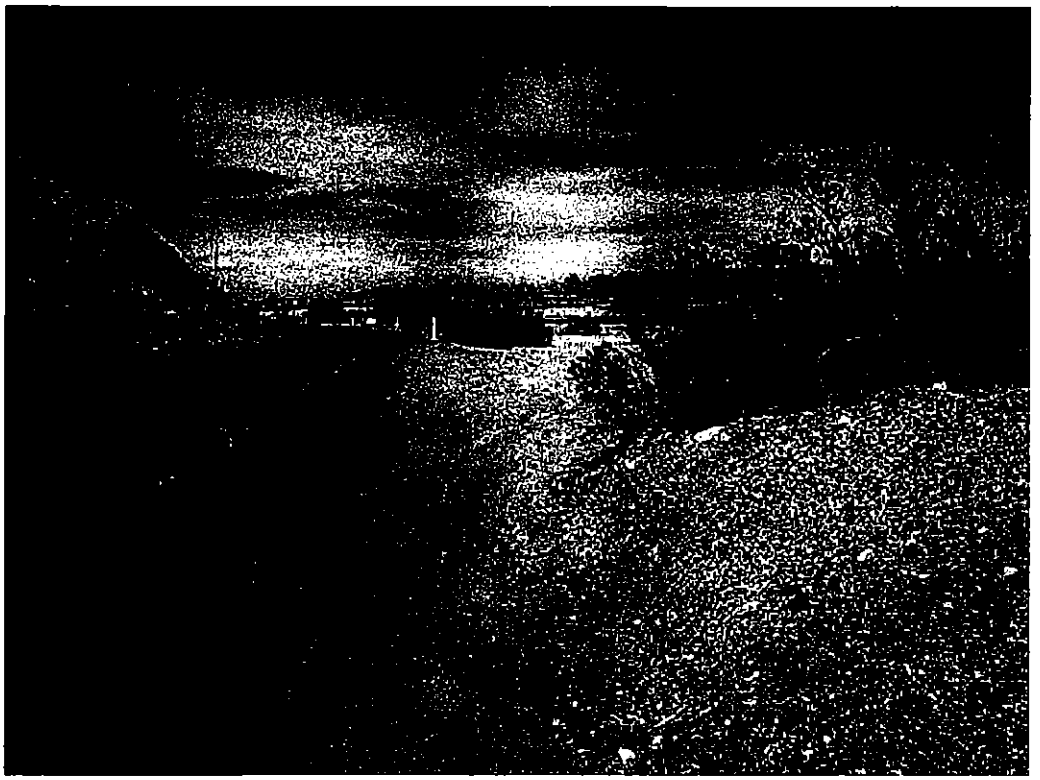


Photo No. 6 – MW-20 bench primary access location.

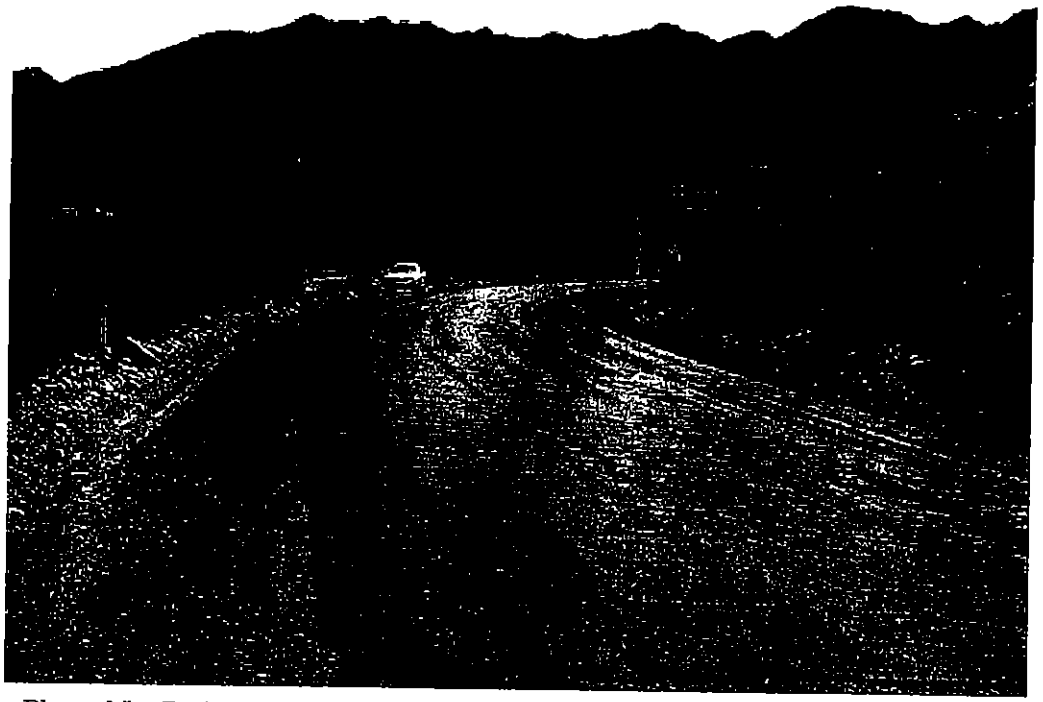


Photo No. 7 – MW-20 bench primary access location.

Photo No. 8 – MW-20 bench secondary access location.

Photo No. 9 – MW-20 bench secondary access location.

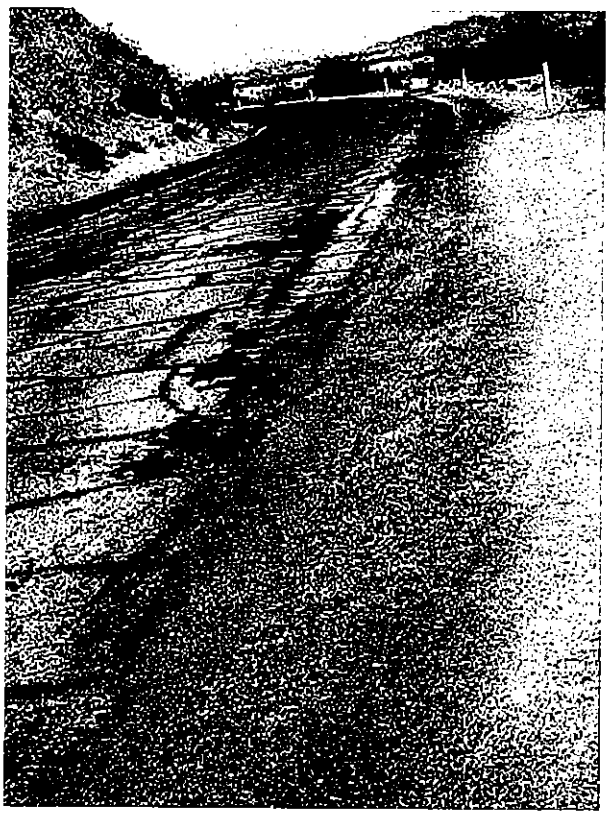


Photo No. 10 – SR 66 shoulder adjacent to MW-20 bench primary and secondary access locations.

Photo No. 11 – Raveled pavement condition at Park Moabi Trailer Village/ SR66 intersection.

Photo No. 12 – Roadway condition of I-40.

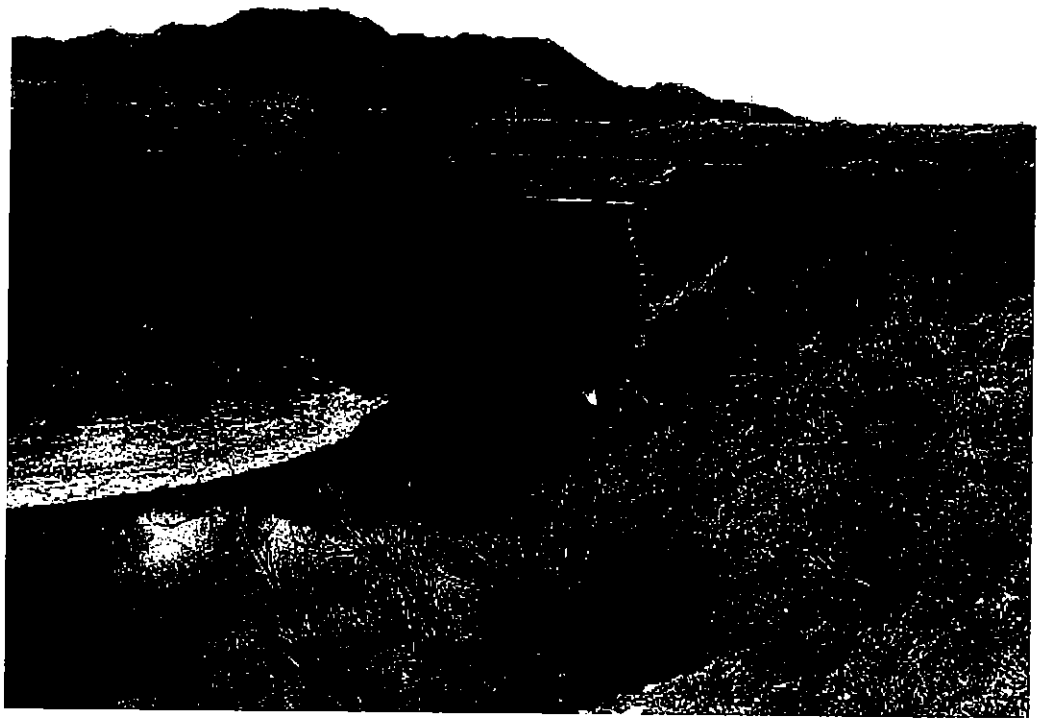


Photo No. 13 – 1890 Workman Wash historic bridge structure downstream end.

Photo No. 14 – 1890 Workman Wash historic bridge structure upstream end.

ATTACHMENT C

Exhibits

Exhibit 1 – Caltrans Bridge Inspection Report for the Workman Wash Structure

Exhibit 2 – Geotechnical Reconnaissance Letter by Ninyo & Moore

Exhibit 3 – MW-20 Boring Logs

Exhibit 1– Caltrans Bridge Inspection Report for the Workman Wash Structure

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 54C0132
Facility Carried: NAT TRAILS HWY
Location : 0.5 MI N/O RTE 40
City :
Inspection Date : 17-JUL-02

Bridge Inspection Report

Inspection Type

Routine	Group A	Underwater	Special	Other
X				

Name : WORKMAN WASH

CONSTRUCTION INFORMATION

Year Built : 1890
Year Widened : N/A
Length (m) : 7.9

Skew (degrees): 0
No. of Joints : 0
No. of Hinges : 0

Description of Structure : Single rock masonry arch culvert span with RC headwall with 3.0 m (10') +/- of earth fill, supported on unknown.

Span Configuration : (S) 7.3 m (N) clear, normal

LOAD CAPACITY AND RATINGS

Design Live Load : OTHER OR UNKNOWN
Inventory Rating : 19.9 metric tons — Calculation Method : ALLOWABLE STRESS
Operating Rating : 33.5 metric tons — Calculation Method : ALLOWABLE STRESS
Permit Rating : PPPPP
Posting Load : Type 3 N/A english tons Type 3S2 N/A english tons Type 3-3 N/A english tons

DESCRIPTION ON STRUCTURE

Bridge width : (W) 3.0 m ea, 8.2 m, 4.3 m ea (E)

Total Width : .0 m — Net Width : .0 m — No. of Lanes : 2
Rail Description : None — Rail Code : 0000
Min. Vertical Clearance : Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description : None.

CONDITION OF STRUCTURE

There are large cracks in the A/C pavement.
The trees, shrub and debris are choking the channel in the area upstream (westerly) of the culvert.

Surface inspection only and structure appears to be in fairly good condition.

MISCELLANEOUS

The inspection team consisted of G. Zorapapel and G. Choi.

ELEMENT LEVEL INSPECTION RATINGS

F#	Elem No.	Element Description	Env	Total Quantity	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
01	243	Other Culvert	2	23	m.	0	23	0	0	0

WORK RECOMMENDATIONS

Remove trees, shrubs and debris from both sides of culvert.

Item#	Rec. Date	Work By	Work Id.	Prog. Method	Cost
1	18-MAR-1997	County Agency	40132X97077X		

Repair the cracks in the A/C pavement.

Item#	Rec. Date	Work By	Work Id.	Prog. Method	Cost
2	15-AUG-2000	County Agency	40132X00228X		

Printed on : 31-JUL-2002 01:54:52 PM

AUG 30 2002

Bridge No.: 54C0132 Location: 0.5 MI N/O RTE 40 Inspection Date: 17-JUL-02

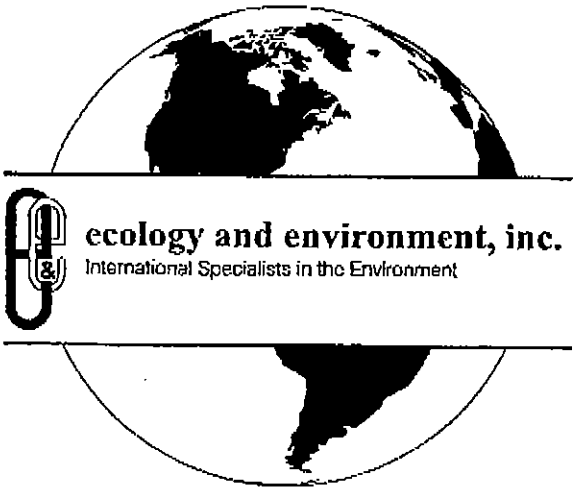
Inspected By : G. Zorapapel

Registered Civil Engineer

CC : Tom Rut
County of San Bernardino

AUG 30 2002

Exhibit 2 - Geotechnical Reconnaissance Letter by Ninyo & Moore



ecology and environment, inc.
International Specialists in the Environment

ATTORNEY CLIENT COMMUNICATION - PRIVILEGED AND CONFIDENTIAL
ATTORNEY WORK PRODUCT AND OTHER APPLICABLE PRIVILEGES ASSERTED

FAX TRANSMITTAL FORM

Ecology and Environment, Inc.
350 Sansome Street, #300, San Francisco, CA 94104
Phone 415-981-2811 Fax 415-981-0801

CONFIDENTIALITY NOTICE:

Date: 9/10/03	**Project Code:**
Fax Number: (510) 622-9047	**Time:**
To: Radha Gopalan	**Total Number of Pages (Including Transmission Form):** 11
Company: CH2M Hill	
From: Ralph Lambert	

If this fax is incomplete or illegible, please call (415) 981-2811 for retransmission.

Attachments 2, 3, 4 for the hydrotesting Work Plan.

January 17, 2001
Project No. 202785-01

Mr. Patrick Ritter
Ecology & Environment, Inc.
350 Sansome Street, Suite 300
San Francisco, California 94104

Subject: Geotechnical Reconnaissance
MW-20 Pump Test Site
PG&E Topock Compressor Station
Needles, California

Dear Mr. Ritter:

In accordance with your request and authorization, we have performed a geotechnical reconnaissance of the referenced pump test site at the PG&E Topock Compressor Station in Needles, California. The purpose of our reconnaissance was to make a preliminary evaluation of the geologic conditions in the area proposed for siting of test equipment with particular regard to potential slope stability concerns.

It is our understanding that Ecology & Environment, Inc. (E&E) has proposed to perform pump testing of existing groundwater monitoring wells, referred to as the MW-20 well cluster. Based on our recent discussions, the pump testing will include the temporary storage of well discharge water into two temporary storage tanks. The storage tanks measure approximately 40 feet long by 8 feet wide and 12 feet high, with a combined capacity of approximately 40,000 gallons. Pump test equipment, including a well service truck, will be situated adjacent to the existing monitoring wells. A plan view of the pump test layout, prepared by E&E, is shown on the attached Figure 1.

On January 3, 2001 our engineering geologist performed a reconnaissance of the proposed pump test site. The MW-20 well cluster site is situated on a relatively flat-lying bench near the nose of an alluvial fan just west of the Colorado River. Based on our reconnaissance, the flat area is the result of a road cut excavation. The cut slope for the roadway is present along the west side of an existing paved road (Figure 1). This cut slope exposes relatively flat-lying deposits of very

dense, gravelly sands and cobble to boulder size fanglomerates. Adverse geologic conditions were not observed. The flat bench area is bordered to the east by a relatively steep descending slope up to approximately 30 feet high. The slope surface exposes a mixture of sand, gravel, and cobbles with sparse vegetation. The materials exposed on the slope appear to be native top-soil/slopewash, but may include some fill material pushed over the slope during previous excavation activities. Landsliding, slumping, excessive erosion, ground cracking, or other indications of slope instability were not observed.

Based on the results of our reconnaissance, it is our opinion that the MW-20 well cluster site is underlain by relatively dense, coarse, ancient alluvial fan deposits. We did not observe indications of potential slope instability and it is our opinion that the site is suitable for support of the temporary storage tanks and test equipment as shown on Figure 1. We recommend that a setback of approximately 25 feet from the top edge of the descending slope area be maintained for equipment and/or storage tanks. We also recommend that our office be notified of changes in the planned pump testing.

Please note that our evaluation is based on visual reconnaissance only. We have not performed a subsurface evaluation, slope stability analysis or laboratory testing. A subsurface evaluation to further evaluate the on-site conditions will be provided upon request.

We appreciate the opportunity to be of service on this project. If you have any questions, or need additional information regarding this letter, please contact the undersigned at your convenience.

Sincerely,
NINYO & MOORE

REGISTERED GEOLOGIST
LAWRENCE JANSEN
No. 1198
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Lawrence Jansen, C.E.G.
Principal Geologist

Daniel Chu, G.E.
Chief Geotechnical Engineer

REGISTERED PROFESSIONAL ENGINEER
DANIEL B. CHU
No. GE 2096
Exp. 03/31/01
GEOTECHNICAL
STATE OF CALIFORNIA

LTJ/DC/CAP/kl

Attachment: Figure 1 – Plan View of Pump Test Layout at MW-20 Bench

Distribution: (3) Addressee

ATTACHMENT 3
Tank Specifications and Testing

CARBOLINE® 187 SYSTEM

VOC

SELECTION DATA

GENERIC TYPE: Modified epoxy-phenolic, amine adduct cured. Part A and B mixed prior to application.

GENERAL PROPERTIES: A high build, cost-effective, tank lining system generally consisting of a prime coat and one of two finish coats.

- Very good flexibility
- Excellent overall chemical resistance
- FDA acceptable for direct food contact surfaces (21 CFR 175.300)
- Very good abrasion resistance
- Easily applied by spray
- Meets stringent VOC regulations

Cured coating meets performance requirements of DOD-P-23236 Type 1, Class 1.

RECOMMENDED USES: Used as an interior lining to protect tanks or other storage vessels containing corrosive chemicals or to maintain product purity. Economical lining for steel/concrete tanks and rolling stock.

NOT RECOMMENDED FOR: Continuous immersion in water over 130°F (54°C), strong mineral and organic acids.

TYPICAL CHEMICAL RESISTANCE:

Exposure	Immersion
Acids/Mineral	Good
Alkalies	Excellent
Solvents	Good-Excellent
Salt	Excellent
Water	Excellent

TEMPERATURE RESISTANCE: (Non-immersion)
Continuous: 200°F (93°C)
Non-continuous: 250°F (121°C)

Immersion temperature resistance depends on exposure. Consult Carboline's Tank Lining Guide or the Technical Service Department for specific cargo and temperature recommendations. Metal tanks must be insulated when operating temperatures exceed 140°F (60°C).

SUBSTRATES: Apply over suitably prepared steel, concrete or others as recommended.

COMPATIBLE COATINGS: CARBOLINE 187 Finish may be applied over catalyzed epoxies, phenolics or other generic types as recommended. Apply CARBOLINE 187 Primer directly to properly prepared substrate. May be applied to CARBOLINE 151-2 or CARBOLINE 163-2 for seam sealers or glass reinforced tank bottoms. For concrete, use of an epoxy surfacer such as CARBOLINE 195 or STARGLAZE 2011S may be required. CARBOLINE 187 Primer may be topcoated with epoxies, modified phenolics or other generic types as recommended.

SPECIFICATION DATA

THEORETICAL SOLIDS CONTENT OF MIXED MATERIAL:

CARBOLINE 187 Primer	65% ± 2%
CARBOLINE 187 Finish	63% ± 2%

VOLATILE ORGANIC CONTENT (VOC)
The following are nominal values:
As Supplied:
Primer: 2.5 lbs/gal (300 g/l)
Finish: 2.6 lbs/gal (312 g/l)

Thinned: Utilizing THINNER #2

	% Thinned	Fluid Ozs./Gal.	Lbs./ Gal.	Grams/ Liter
Primer	25	32	3.42	410
Finish	25	32	3.50	420

RECOMMENDED DRY FILM THICKNESS PER COAT AND SYSTEM:
TYPICAL SYSTEM:
1c. CARBOLINE 187 Primer 5 mils (125 microns)
1c. CARBOLINE 187 Finish 5 mils (125 microns)

When required to meet specifications or increase service life, a second coat of CARBOLINE 187 Finish may be advisable.

THEORETICAL COVERAGE PER MIXED GALLON:
CARBOLINE 187 Primer
1043 mil sq. ft. (26 sq. m/l at 25 microns)
209 sq. ft. at 5 mils (5 sq. m/l at 125 microns)
CARBOLINE 187 Finish
1011 mil sq. ft. (25 sq. m/l at 25 microns)
202 sq. ft. at 5 mils (5 sq. m/l at 125 microns)

Mixing and application losses will vary and must be taken into consideration when estimating job requirements.

STORAGE CONDITIONS: Store indoors
Temperature:* 40–110°F (4–43°C) Humidity: 0–90%

*Return to minimum application temperature before use.

SHELF LIFE: Twenty-four months when stored at 75°F (24°C).

COLORS:
FDA approved colors: Primer — Brick Red (0500) only. Finish — White (1898), Gray (6797) and Blue (0100) only. For other non-FDA approved colors contact your local Carboline Sales Representative or Carboline Customer Service Department.

GLOSS: Flat

ORDERING INFORMATION

Prices may be obtained from your local Carboline Sales Representative or Customer Service Representative.

APPROXIMATE SHIPPING WEIGHT:

	1's	5's
CARBOLINE 187 Primer & Finish	13 lbs. (6 kg)	63 lbs. (29 kg)
THINNER #2	8 lbs. (4 kg)	39 lbs. (18 kg)

FLASH POINT: (Pensky-Martens Closed Cup)

CARBOLINE 187 Finish Part A	46°F (8°C)
CARBOLINE 187 Primer Part A	46°F (8°C)
CARBOLINE 187 Part B	95°F (29°C)
THINNER #2	24°F (– 5°C)

MAY 89-N

WATER TEST PROCEDURES – LODI TANK

1	Model #:	2	Inspection Date:		
3	ESP Serial #:	4	Inspector Name:		
5	Customer:	6	Customer Serial #:		

		ACCEPT	REJECT
7	**1st Water Test – Procedure**		
	a) All interior welds visually inspected for quality	☐	☐
	b) All exterior welds visually inspected for quality	☐	☐
	c) All manholes are closed and tightened	☐	☐
	d) Remove Blaylock pressure/vacuum valve and cover with blind flange (located on top of tank at the rear)	☐	☐
	e) Remove standard blind flange - replace with test blind flange (should have outlet port, 1/2" shut-off valve, and pressure gage). Located on top of tank at the front.	☐	☐
	f) Fill tank with water - when water flows full stream out of outlet pipe on top, valve is to be shut-off slowly while watching pressure gage for attaining 3 PSI pressure. After 3 PSI pressure is reached, pump is shut off, and valve is closed to maintain pressure: WARNING: DO NOT EXCEED 3 PSI PRESSURE.	☐	☐
	g) Inspect all exterior welds for leaks Mark location of leaks on tank - use RED paint marker Record Number of leaks (if any) Specifications: 20 min. with no leaks	☐	☐
	h) Pump water out of tank back into storage tank. NOTE: OPEN 1/2" VALVE ON TOP.	☐	☐
	i) Repair all leaks (if any) "No Leaks" – Ready for Paint After repairing leaks go to Step 8	☐	☐
8	**2nd Water Test**	ACCEPT	REJECT
	a) All interior repair welds visually inspected for quality	☐	☐
	b) All exterior repair welds visually inspected for quality	☐	☐
	c) All manholes are closed and tightened	☐	☐
	d) Fill tank with water - when water flows full stream out of outlet pipe on top, valve is to be shut-off slowly while watching pressure gage for attaining 3 PSI pressure. After 3 PSI pressure is reached, pump is shut off, and valve is closed to maintain pressure: WARNING: DO NOT EXCEED 3 PSI PRESSURE.	☐	☐
	e) Inspect all exterior welds for leaks Mark location of leaks on tank - use **WHITE** paint marker Record Number of leaks (if any) Specifications: 20 min. with no leaks	☐	☐
	f) Pump water out of tank back into storage tank. NOTE: OPEN 1/2" VALVE ON TOP.	☐	☐
	g) Repair all leaks (if any) "No Leaks" – Ready for Paint After repairing leaks go to Step 9	☐	☐
9	**3rd Water Test**	ACCEPT	REJECT
	a) All interior repair welds visually inspected for quality	☐	☐
	b) All exterior repair welds visually inspected for quality	☐	☐
	c) All manholes are closed and tightened	☐	☐
	d) Fill tank with water - when water flows full stream out of outlet pipe on top, valve is to be shut-off slowly while watching pressure gage for attaining 3 PSI pressure. After 3 PSI pressure is reached, pump is shut off, and valve is closed to maintain pressure: WARNING: DO NOT EXCEED 3 PSI PRESSURE.	☐	☐
	e) Inspect all exterior welds for leaks Mark location of leaks on tank - use **BLUE** paint marker Record Number of leaks (if any) Specifications: 20 min. with no leaks	☐	☐
	f) Pump water out of tank back into storage tank. NOTE: OPEN 1/2" VALVE ON TOP.	☐	☐
	g) Repair all leaks (if any) "No Leaks" – Ready for Paint If tank is still leaking – Repeat water test procedure	☐	☐

WATER TEST PROCUDER – LODI TANK (CONT.)

	ESP Serial #:		Inspection Date:

12	**GENERAL COMMENTS**
13	**Note: If reject condition(s) are noted above, check this box ☐ and review item(s) with Supervisor; obtain signature below. Final acceptance or rejection subject to Engineering Approval** Supervisor's Signature_____ Engineering signature_____ Date_____
14	Note: Disposition of any reject item(s) will be handled by Quality Control Department **Final** ☐ **Acceptance** ☐ **Rejection** Quality Control Manager Signature_____ Date_____

Bridge No.: 54C0132 Location: 0.5 MI N/O RTE 40 Inspection Date: 17-JUL-02

STRUCTURE INVENTORY AND APPRAISAL REPORT

********** IDENTIFICATION **********

(1) STATE NAME - CALIFORNIA 069
(8) STRUCTURE NUMBER 54C0132
(5) INVENTORY ROUTE(ON/UNDER) - ON 1 40 000000
(2) HIGHWAY AGENCY DISTRICT 08
(3) COUNTY CODE 071 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED - WORKMAN WASH
(7) FACILITY CARRIED - NAT TRAILS HWY
(9) LOCATION - 0.5 MI N/O RTE 40
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK - NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 34 DEG 43 MIN 28.8 SEC
(17) LONGITUDE 114 DEG 29 MIN 36.7 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

********** STRUCTURE TYPE AND MATERIAL **********

(43) STRUCTURE TYPE MAIN: MATERIAL - MASONRY
TYPE - ARCH - DECK CODE 8 11
(44) STRUCTURE TYPE APPR: MATERIAL - OTHER
TYPE - OTHER CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 1
(46) NUMBER OF APPROACH SPANS 0
(107) DECK STRUCTURE TYPE NOT APPLICABLE CODE N
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE - NOT APPLICABLE CODE N
B) TYPE OF MEMBRANE - NOT APPLICABLE CODE N
C) TYPE OF DECK PROTECTION - NOT APPLICABLE CODE N

********** AGE AND SERVICE **********

(27) YEAR BUILT 1890
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON - HIGHWAY 1
UNDER - WATERWAY 5
(28) LANES: ON STRUCTURE 02 UNDER STRUCTURE
(29) AVERAGE DAILY TRAFFIC 146
(30) YEAR OF ADT 2001 (109) TRUCK ADT 3%
(19) BYPASS, DETOUR LENGTH 199 KM

********** GEOMETRIC DATA **********

(48) LENGTH OF MAXIMUM SPAN 7.3 M
(49) STRUCTURE LENGTH 7.9 M
(50) CURB OR SIDEWALK: LEFT 0 M RIGHT 0 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 0 M
(52) DECK WIDTH OUT TO OUT 0 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 8.2 M
(33) BRIDGE MEDIAN - NO MEDIAN 0
(34) SKEW 0 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 15.5 M
(53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
(54) MIN VERT UNDERCLEAR REF - NOT H/RR 0 M
(55) MIN LAT UNDERCLEAR RT REF - NOT H/RR 99.9 M
(56) MIN LAT UNDERCLEAR LT 0 M

********** NAVIGATION DATA **********

(38) NAVIGATION CONTROL - NO CONTROL CODE 0
(111) PIER PROTECTION - CODE
(39) NAVIGATION VERTICAL CLEARANCE 0 M
(116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M
(40) NAVIGATION HORIZONTAL CLEARANCE 0

****

SUFFICIENCY RATING = 75.0

STATUS =

HEALTH INDEX = 66.67

********** CLASSIFICATION ********** CODE

(112) NBIS BRIDGE LENGTH - YES Y
(104) HIGHWAY SYSTEM - NOT ON NHS 0
(26) FUNCTIONAL CLASS - LOCAL RURAL 09
(100) DEFENSE HIGHWAY - NOT STRAHNET 0
(101) PARALLEL STRUCTURE - NONE EXISTS N
(102) DIRECTION OF TRAFFIC - 2 WAY 2
(103) TEMPORARY STRUCTURE -
(105) FEDERAL LANDS HIGHWAY -
(110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
(20) TOLL - ON FREE ROAD 3
(21) MAINTAIN - COUNTY HIGHWAY AGENCY 2
(22) OWNER - COUNTY HIGHWAY AGENCY 2
(37) HISTORICAL SIGNIFICANCE - NOT ELIGIBLE 5

********** CONDITION ********** CODE

(58) DECK
(59) SUPERSTRUCTURE
(60) SUBSTRUCTURE
(61) CHANNEL & CHANNEL PROTECTION 8
(62) CULVERTS

********** LOAD RATING AND POSTING ********** CODE

(31) DESIGN LOAD - OTHER OR UNKNOWN 0
(63) OPERATING RATING METHOD - ALLOWABLE STRESS 2
(64) OPERATING RATING - 33.5
(65) INVENTORY RATING METHOD - ALLOWABLE STRESS 2
(66) INVENTORY RATING - 19.9
(70) BRIDGE POSTING - Equal to or above legal loads 5
(41) STRUCTURE OPEN, POSTED OR CLOSED - A
DESCRIPTION - OPEN, NO RESTRICTION

********** APPRAISAL ********** CODE

(67) STRUCTURAL EVALUATION 5
(68) DECK GEOMETRY N
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 8
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES 0000
(113) SCOUR CRITICAL BRIDGES U

********** PROPOSED IMPROVEMENTS **********

(75) TYPE OF WORK - CODE
(76) LENGTH OF STRUCTURE IMPROVEMENT M
(94) BRIDGE IMPROVEMENT COST
(95) ROADWAY IMPROVEMENT COST
(96) TOTAL PROJECT COST
(97) YEAR OF IMPROVEMENT COST ESTIMATE
(114) FUTURE ADT 150
(115) YEAR OF FUTURE ADT 2021

********** INSPECTIONS **********

(90) INSPECTION DATE 07/02 (91) FREQUENCY 24 MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
A) FRACTURE CRIT DETAIL - NO -1 MO A)
B) UNDERWATER INSP - NO -1 MO B)
C) OTHER SPECIAL INSP - NO -1 MO C)

Printed on : 31-JUL-2002 01:54:52 PM

AUG 30 2002

ATTACHMENT -4
KVS Transportation Safey Program and Equipment

KVS Driver Safety and Training Program

KVS Transportation, Inc. is committed to the protection of its employees' health and safety and the promotion of their well being, the protection of the environment, and protection of resources and physical assets from accidental loss. In fulfilling this commitment to protect people, environment and property, KVS strives to provide and maintain a safe and healthful work environment through compliance with all Federal, State, and Local laws, regulations, rules, and statutes, as well as Company policies and procedures. KVS strives to identify and eliminate foreseeable hazards that may result in personal injuries or illnesses, property damage, fires, material releases, and security losses.

Injuries, occupational illnesses, and accidental loss are controlled through good management in combination with active employee involvement. Maintaining a healthful and safe work environment is the direct responsibility of all managers, supervisors, and employees alike. KVS maintains a full-time professional safety and training staff. All in-house driver training is geared to the specific needs of the company. All employees are required to participate in a comprehensive orientation program and ongoing training programs to maintain their knowledge of current regulatory requirements. KVS provides excellent safety incentives and safety bonus programs for all employees.

All management functions support KVS's commitment to its safety policy as they apply to the design, operation, and maintenance of production activities, facilities, and equipment. Job assignments and procedures are clearly defined and managers, supervisors and employees perform their jobs in accordance with established Company procedures and operations philosophy. All employees are equally responsible for minimizing accidents within the company.

Training subjects for the various elements of this program are constantly reviewed to ensure that they are adequate to meet needs and content for compliance with applicable codes, regulations, and client demands. Training routinely provided to employees includes hazardous material transportation training, hazardous waste operations training, defensive driving training, and site-specific hazard awareness training for special assignments.

All KVS drivers, supervisors and managers participate in an aggressively enforced Drug and Alcohol Program including pre-employment screening, random and post accident testing, and reasonable suspicion testing. In addition, drivers participate in a medical surveillance program to ensure physical competency.

KVS management is committed the success of its safety program.

Introduction

KVS TRANSPORTATION, INC. continually strives to provide businesses with a fleet of trucks and drivers unequalled throughout the industry. A fully licensed hazardous waste hauler in 30 states (including ICC Authority, state fuel permits and hazardous waste permits), KVS offers a complete line of transportation equipment including vacuum trucks. Ranging from 3,000-gallon bobtails to 6,000-gallon semi trailers, including stainless steel, KVS maintains one of the most comprehensive fleets of vacuum truck services in the country.

KVS also offers a complete line of transportation equipment for contaminated soil and debris, including end dumps, rough trailers and roll-off bins.

A heavy dirt division able to provide services for digging and loading from the smallest of jobs to the largest projects compliments this extensive line.

With waste streams from contaminated soils, sludge and debris to a growing asbestos industry, KVS has compiled an extensive line of roll-off equipment which includes semi roll-off trailers, truck mount roll-off and pull trailers and roll-off containers ranging in size from 4 yards to 40 yards.

As KVS' newest member of the fleet, the 48ft dry vans round out an already comprehensive fleet of trucks, trailers and roll-off equipment. Designed for the transportation of drummed waste (both solids and liquids) these vans provide state-of-the-art-equipment, such as air ride, sliding axles with air bag scales for loading convenience and secondary containment. Flat beds have a full set of sideboards and tarps to insure proper handling of all types of materials.

KVS's Central California location allows it to offer competitive rates to clients throughout the Western and Central United States. With equipment yards in Bakersfield, Taft, Ventura, Belridge, and Coalinga, KVS is very competitive in the California market.

KVS is licensed to transport hazardous waste/materials in 30 states (including ICC Authority, state fuel permits and hazardous waste permits) and is dedicated to safe transportation and top quality service. KVS is proud of its reputation for putting the customer first in every area of operations. KVS feels that this attitude is one of the most important contributors to its success and to the success of its customers.

At KVS TRANSPORTATION, INC. the goal is to provide each and every one of its customers with outstanding service at a very competitive price. We look forward to serving you!

Equipment

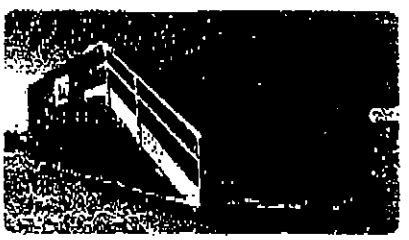
130bbl Semi Stainless & Vacuum Trailers

70bbl Bobtail Vacuum Trucks

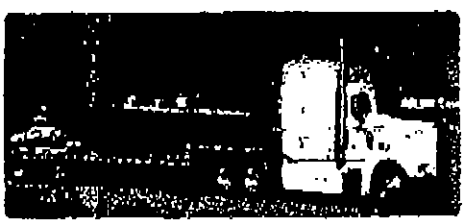
PresVac Unit

48ft Dry Vans

Roll-off Trailers – 12yds to 40yds



500bbl Portable Tanks



Flat Beds/Low Beds

Roll-off Bins

End Dumps &Rough Trailers

Exhibit 3 – MW-20 Boring Logs

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING MW-20/70

Page 1 of 1

SEE SITE PLAN

ALISTO PROJECT NO: 10-320-08 DATE DRILLED: 03/24-25/98

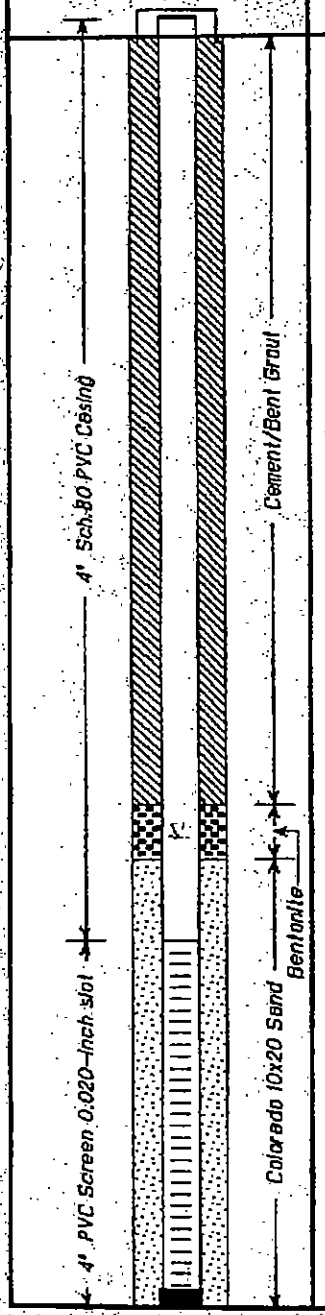
CLIENT: Pacific Gas and Electric Co.

LOCATION: Topock Compressor Station

DRILLING METHOD: AP-1000 Dual Tube Percussion

DRILLING COMPANY: THF Drilling CASING ELEVATION:

LOGGED BY: Dan Salaices APPROVED BY: Dan Salaices



DEPTH feet	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
		GP	sandy GRAVEL: moderate yellowish-brown; ~60-70% gravel, subrounded, to 80 mm; ~30-40% sand.
10		SP	SAND: pale yellowish-brown; very fine- to fine-grained; ~5% gravel.
20		GP	sandy GRAVEL: light brownish-gray; cobble at 21-24 feet. Changes at 24 feet of color to moderate yellowish-brown; ~60-70% gravel, subrounded, to 80 mm.
30		SP	gravelly SAND: light gray; ~90% sand, very fine- to fine-grained; ~10% gravel, subrounded, to 50 mm. gravelly SAND continued.
40			SAND: reddish brown; fine- to very fine-grained; ~5% fines; damp.
50		GP	sandy GRAVEL: reddish-brown; ~55% gravel, subrounded, to 80 mm; ~45% sand.
60			Appears wet at 60 feet.

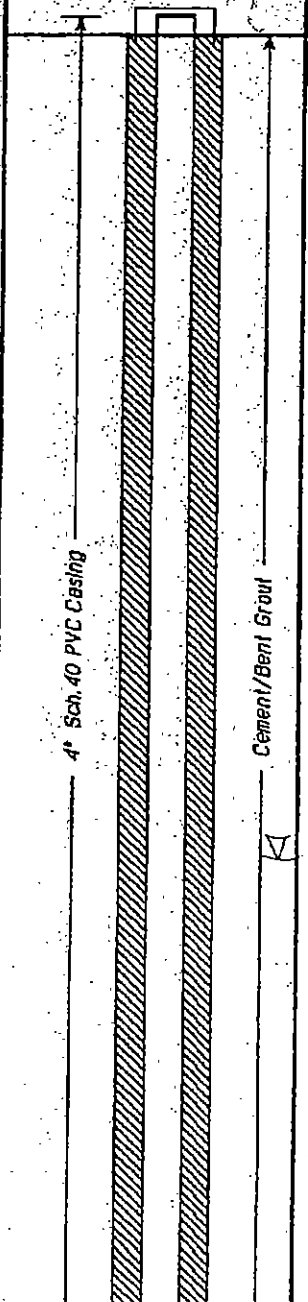
ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING MW-20/100

Page 1 of 2

SEE SITE PLAN

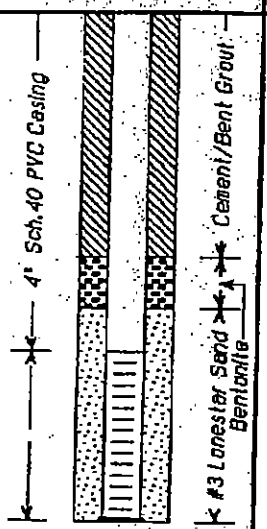
ALISTO PROJECT NO: 10-320-09 DATE DRILLED: 04/28-29/99
CLIENT: Pacific Gas and Electric Co.
LOCATION: Topock Compressor Station
DRILLING METHOD: Roto Sonic, Continuous Coring
DRILLING COMPANY: Boart Longyear CASING ELEVATION:
LOGGED BY: Chris Reinheimer APPROVED BY: Dan Hidalgo



DEPTH feet	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
		GP	sandy GRAVEL: moderate yellowish-brown; ~60-70% gravel, subrounded, ~80 mm; ~30-40% sand.
10		SP	SAND: pale yellowish-brown; very fine- to fine-grained; ~5% gravel.
20		GP	sandy GRAVEL: light brownish-gray; cobble at 21 to 24 feet. At 24 feet color change to moderate yellowish-brown; ~60-70% gravel, subrounded, ~80 mm.
30		SP	gravelly SAND: light gray; ~90% sand, very fine- to fine-grained; ~10% gravel, subrounded, ~50 mm. gravelly SAND continued.
40			SAND: reddish-brown; very fine- to fine-grained; ~5% fines; damp.
50		GP	sandy GRAVEL: reddish-brown; ~55% gravel, subrounded, ~80 mm; ~45% sand.
60		SP	gravelly SAND: brown to reddish-brown; 70% sand, fine- to coarse-grained; gravel, subrounded to subangular, 4 to 10 mm; wet.
		SC	gravelly clayey SAND: reddish-brown; 70% sand, fine- to coarse-grained; gravel, 4 to 8 mm; ~15% fines, plastic; wet.

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING MW-20/100



DEPTH feet	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
80		SC	gravelly clayey SAND continued.
		SP	SAND: reddish-brown; fine- to coarse-grained; minor gravel, fine-grained; wet.
		SC	gravelly clayey SAND: reddish-brown; 70% sand, fine- to coarse-grained; gravel, 4 to 8 mm; ~15% fines, plastic; wet.
		SP	SAND: reddish-brown; fine- to coarse-grained; minor gravel, fine-grained; wet.
90		SC	gravelly clayey SAND: reddish-brown; 70% sand, fine- to coarse-grained; gravel, 4 to 8 mm; ~15% fines, plastic; wet.
		SP	gravelly SAND: reddish-brown; 85% sand, very fine- to coarse-grained; gravel; wet.
		SC	gravelly clayey SAND: reddish-brown; 70% sand, fine- to coarse-grained; gravel, 4 to 8 mm; ~15% fines, plastic; wet.
100		SP	gravelly SAND: reddish-brown; ~85% sand, very fine- to coarse-grained; gravel, ~4 to 20 mm; wet.
			At 98 feet color change to moderate yellowish-brown; 80% sand, medium- to coarse-grained.
			At 98 feet color change to brown; 85% sand, very fine- to coarse-grained.
			Total depth of borehole at 99.5 feet.
110			
120			
130			
140			
150			

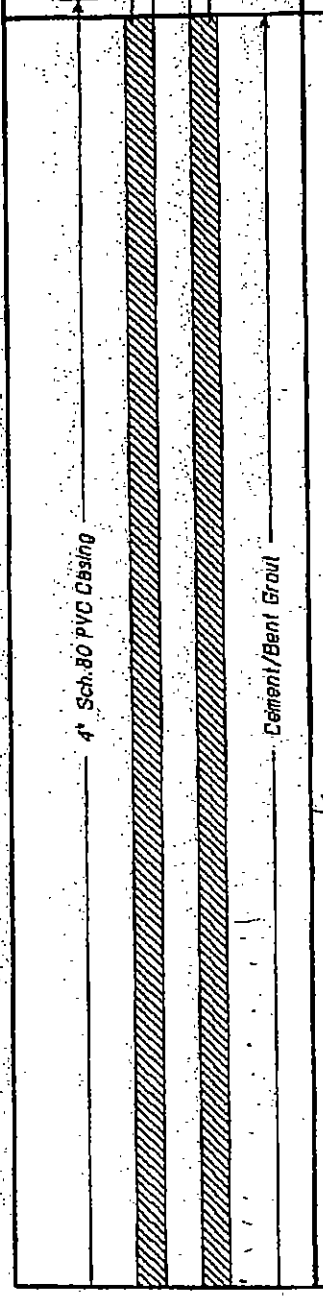
ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING MW-20/130

Page 1 of 2

SEE SITE PLAN

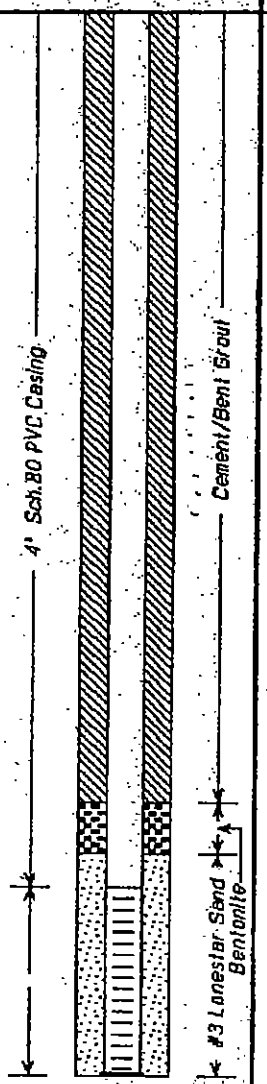
ALISTO PROJECT NO: 10-320-09 DATE DRILLED: 04/25-27/99
CLIENT: Pacific Gas and Electric Co.
LOCATION: Topock Compressor Station
DRILLING METHOD: Roto Sonic, Continuous Coring
DRILLING COMPANY: Boart Longyear CASING ELEVATION:
LOGGED BY: Dan Hidalgo & Chris Reinhelmer APPROVED BY: Dan Hidalgo



DEPTH feet	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
10		GP	sandy GRAVEL: moderate yellowish-brown; ~60-70% gravel, subrounded, ~80 mm; ~30-40% sand.
20		SP	SAND: pale yellowish-brown; very fine- to fine-grained; ~5% gravel.
30		GP	sandy GRAVEL: light brownish-gray; cobbles at 21 to 24 feet. At 24 feet color change to moderate yellowish-brown; ~60-70% gravel, subrounded, ~80 mm.
40		SP	gravelly SAND: light gray; ~80% sand, very fine- to fine-grained; ~10% gravel, subrounded, ~50 mm. gravelly SAND continued.
			SAND: reddish-brown; very fine- to fine-grained; ~5% fines; damp.
50		GP	sandy GRAVEL: reddish-brown; ~55% gravel, subrounded, ~80 mm; ~45% sand.
60		SP	gravelly SAND: brown to reddish-brown; 70% sand, fine- to coarse-grained; gravel, subrounded to subangular, 4 to 10 mm; wet.
		SC	gravelly clayey SAND: reddish-brown; 70% sand, fine- to coarse-grained; gravel, 4 to 8 mm; ~15% fines, plastic; wet.

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

LOG OF BORING MW-20/130



DEPTH feet	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
		SC	gravelly clayey SAND continued.
		SP	SAND: reddish-brown; fine- to coarse-grained; minor gravel, fine-grained; wet.
80		SC	gravelly clayey SAND: reddish-brown; 70% sand, fine- to coarse-grained; gravel, 4 to 8 mm; ~15% fines, plastic; wet.
		SP	SAND: reddish-brown; fine- to coarse-grained; minor gravel, fine-grained; wet.
		SC	No recovery.
		SP	gravelly clayey SAND: reddish-brown; 70% sand, fine- to coarse-grained; gravel, 4 to 8 mm; ~15% fines, plastic; wet.
90			gravelly SAND: reddish-brown; 85% sand, very fine- to coarse-grained; gravel, ~4 to 20 mm; wet.
		SC	gravelly clayey SAND: reddish-brown; 70% sand, fine- to coarse-grained; gravel, 4 to 8 mm; ~15% fines, plastic; wet.
		SP	gravelly SAND: reddish-brown; ~85% sand, very fine- to coarse-grained; gravel, ~4 to 20 mm; wet.
			At 98 feet color change to moderate yellowish-brown; 80% sand, medium- to coarse-grained.
100		ML	At 98 feet color change to brown; 85% sand, very fine- to coarse-grained.
			gravelly sandy SILT: medium reddish-brown with less than 2% greenish-gray stain; ~80% fines, non-plastic; ~20% gravel to 2", coarse-grained; moist to wet.
			gravelly sandy SILT continued.
110		SP	silty SAND: medium reddish-brown; ~80% sand, medium- to coarse-grained; ~10% gravel; ~10% fines, non-plastic; wet.
			At 114 feet change to ~30% gravel.
		ML	gravelly sandy SILT: medium reddish-brown with less than 2% greenish-gray stain; ~80% fines, non-plastic; ~20% gravel to 2", coarse-grained; moist to wet.
120		SC	clayey SAND: medium-orange; 80% sand, medium- to coarse-grained; ~30% fines, medium plasticity; ~10% gravel to 2"; wet to saturated.
		GM	silty GRAVEL: medium reddish-brown; ~70% gravel to 3"; ~30% fines, non-slight plasticity; moist.
130			At 129.5 feet changes to ~60% gravel to 3"; ~15% fines, non plastic; angular clast to 2"; damp.
			RED FANGLOMERATE cemented dry, drill refusal at 132 feet.
			Total depth of borehole at 132 feet.
140			
150			

Part II: Environmental Compliance Plan

Environmental Compliance Plan for the BLM Groundwater Extraction Site, Topock Compressor Station

Prepared for

Pacific Gas and Electric Company

March 1, 2004

CH2MHILL
155 Grand Avenue
Suite 1000
Oakland, CA 94612

Environmental Compliance Plan
PG&E Topock Compressor Station, BLM Groundwater Extraction Site

Amendment and Revision Log

Date	Description of Changes	Initials	Distribution

Contents

Acronyms

BOR	Bureau of Reclamation
CCR	California Code of Regulations
CUPA	Certified Unified Program Agency
DOT	United States Department of Transportation
DTSC	Department of Toxic Substances Control
IMWP	Interim Measures Work Plan
mg/L	milligrams per liter
PG&E	Pacific Gas and Electric Company
POTW	publicly-owned treatment works
PPE	personal protective equipment
TSD	treatment, storage, disposal
USEPA	United States Environmental Protection Agency

1.0 Introduction and Purpose

Pacific Gas and Electric Company (PG&E) is addressing chromium in groundwater at the Topock Compressor Station under the oversight of the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). The Topock Compressor Station is located in San Bernardino County, approximately 15 miles to the southeast of Needles, California. Figures 1 and 2 are area and site maps, respectively. Figure 3 is a facility map.

In a letter dated February 9, 2004, DTSC directed PG&E to prepare an Interim Measures Work Plan (IMWP) to address pumping, transporting, and disposing groundwater from existing off-site monitoring wells, located less than one-half mile from the compressor station. These wells are located on land owned by the Bureau of Reclamation (BOR) and managed by the Bureau of Land Management (hereafter, referred to as the "Site"). The DTSC determined that immediate action is required to prevent and/or mitigate potential impacts to the Colorado River pursuant to Section IV.A. of the 1996 Corrective Action Consent Agreement between DTSC and PG&E (Corrective Action Consent Agreement, Docket HWCA 95/96-027).

This site-specific Environmental Compliance Plan (ECP) provides guidance and direction for site operations (e.g., training, inspections, recordkeeping) as they relate to federal, state, and local requirements. Based on the anticipated operations, the primary focus of this ECP is hazardous materials and waste management and the requirements of the Certified Unified Program Agency (CUPA), the San Bernardino County Fire Department. This plan also addresses resource protection measures, as well as other environmental compliance areas such as air quality and stormwater management.

This ECP will be amended if required by regulation and/or site operations change significantly. The log at the front of this ECP will be maintained to keep a record of all amendments and revisions.

2.0 Background and Project Description

This ECP is an addendum to the IMWP No. 2, which describes the components for implementing the specific actions prescribed by DTSC in the February 9, 2004 letter. The interim measure is part of the overall corrective measures process for the site and is a step toward establishing a long-term approach for site remediation. Assisting DTSC and PG&E with the planning and review of interim measures are the members of the Topock Consultative Work Group—constituted under California's Site Designation Process—and consisting of representatives of DTSC, the Colorado River Basin Regional Water Quality Control Board, Metropolitan Water District of Southern California, and the various federal agencies who own or manage land overlying the chromium plume.

The major tasks and activities necessary to achieve the objective of this interim measure include:

- Site preparation.
- Groundwater extraction from monitoring wells MW-20-70, MW-20-100, and MW-20-130.
- On-site management of extracted groundwater and off-site transportation and disposal the extracted groundwater.
- Off-site transportation and disposal of the extracted groundwater.

3.0 Applicable Requirements, Permits, Notifications, and Registrations

Table 1 lists the requirements that were considered during development of the IMWP No. 2 and this ECP. Requirements applicable to this project require the permits, notifications, and registrations listed below.

- United States Environmental Protection Agency (USEPA) Identification Number

  The following documentation is maintained in Appendix A:

  - RCRA Subtitle C Site Identification Form
  - February 26, 2004 email message from the USEPA notifying PG&E of Identification Number for the Site
  - Confirmation Letter from USEPA (to be included in Appendix A upon receipt)
  - Documentation from State Board of Equalization with Hazardous Substance Tax Account number (to be included in Appendix A upon receipt)

- Business Emergency/Contingency Plan (Business Plan)

  The following documentation is maintained in Appendix B:

  - Letter proposal to CUPA requesting coverage under Topock Compressor Station's Business Plan
  - Record of February 26, 2004 voicemail message from CUPA
  - Letter approving coverage under Topock Compressor Station's Business Plan (to be included in Appendix B upon receipt)
  - Business Plan information

- Portable Diesel Generator Registration

The following documentation is maintained in Appendix C:

- Registration for portable diesel generator with Mojave Air District

Current copies these documents will be maintained in the referenced appendices.

4.0 Hazardous Waste Management

PG&E is responsible for complying with all applicable hazardous waste generator requirements including hazardous waste generator identification, manifesting, transportation, and disposal.

4.1 USEPA Identification Number

In accordance with California Code of Regulations, Title 22, Division 4.5 (22 CCR), Chapter 12, Section 66262.12, a USEPA Identification Number for the Site has been obtained. The number is **CAR000151118.** This number will be used on all Uniform Hazardous Waste Manifests accompanying off-site shipments of hazardous waste.

4.2 Waste Accumulation Time

In accordance with 22 CCR 66262.34(a), a generator may accumulate hazardous waste on site for 90 days or less without a permit or grant of interim status. Accumulation time for hazardous waste at the Site will not exceed 90 days.

4.3 Waste Stream Characterization

In accordance with 22 CCR 66262.11, a generator must properly characterize waste streams. Currently, extracted groundwater is the only waste stream anticipated to exceed hazardous waste criteria because of chromium content. Although chromium has been detected at concentrations up to 13 milligrams/liter (mg/L), concentrations in extracted groundwater are expected to range from 1 to 7 mg/L. The hazardous waste threshold for chromium is 5 mg/L. If the threshold is exceeded, the groundwater is a characteristic waste with waste codes D007 (federal and state code for chromium) and 132 (state code for aqueous solution with metals).

At a minimum, groundwater in the tanks will be sampled and analyzed weekly for hexavalent chromium, total chromium, and other constituents required by the treatment or disposal facility (i.e., waste profiling). A state-certified laboratory will be used to analyze samples. Copies of analytical results will be maintained on site.

If additional waste streams are generated during the course of this project (e.g., tank bottoms), PG&E will properly characterize and manage the waste accordingly.

4.4 Tank System

4.4.1 Design

The tank system is designed to meet the tank management standards of 22 CCR, Division 4.5, Chapter 10, including secondary containment standards. The system is compatible with

the waste being managed. Water pumped from the wells will be collected in single-wall steel 18,000-gallon holding tanks (or equivalent) prior to transfer to trucks for transport to a permitted waste disposal or treatment facility. The holding tanks will be located in lined and bermed secondary containment areas to further protect against uncontrolled or incidental releases. Double-wall piping or equivalent measures will be used to convey the water from the wells to the secondary containment areas. It is anticipated that at least four tanks will be needed initially to provide sufficient holding capacity at the site. If needed, additional holding tanks will be brought on site during operations. Power will be supplied by a portable diesel generator. Generator fuel will be stored in 55-gallon drums in a secondary containment tub. It is anticipated that up to four 55-gallon drums of fuel will be stored on site.

The holding tanks will be equipped with water-level sensors to automatically shut down the groundwater extraction system in the event of a high water level.

Piping and appurtenances are sized to accommodate the anticipated system flow rates. The system will be equipped with the following appurtenances to monitor system operations:

- Flow meter/totalizers to measure flow rate and cumulative flow from each extraction well
- In-line sample ports for each extraction well
- Sample port for sampling combined flow stream

Figure 3 shows the layout of the tank system.

4.4.2 Liquid Transfer Procedures for Groundwater

The procedure for transfer of extracted groundwater from the accumulation tanks to trucks is provided in Appendix D.

4.4.3 Signage and Labeling

The following signs will be posted in a visible location on the fence of the Topock remediation site.

- Hazardous Waste: "Danger Hazardous Waste Area - Unauthorized Personnel Keep Out" in English and Spanish. [22 CCR 66265.14(c)]
- Smoking: "No Smoking"
- Emergencies: "In Case of Emergency, Contact (760) 326-5516 or 911"
- Security: "No Trespassing"
- Proposition 65 Warning: "WARNING: This area contains a chemical known to the State of California to cause birth defects or other reproductive harm" [H&SC 25249.8]

Signs will be placed every 50 feet along the perimeter security fencing and will be visible from a distance of 25 feet.

In addition, the accumulation tanks will be labeled with the wording "Hazardous Waste." Additionally, all tanks shall be labeled with the following information:

- Composition and physical state of the wastes.
- Statement or statements which call attention to the particular hazardous properties of the waste (e.g., flammable, reactive, etc.).
- Name and address of the person producing the waste.

4.4.4 Inspections

In accordance with 22 CCR 66265.174, the tank system will be inspected each operating day. The Site Inspection Form, which includes the tank system, is provided in Appendix E.

4.5 Emergency Preparedness and Contingency Planning

Information on emergency preparedness and contingency planning is provided in the Business Plans.

Spill containment equipment (e.g., sorbent materials, shovels, etc.) will be maintained on site at all times. As a contingency in the event of a leak from the storage tank or equipment (vacuum trucks, pumps, etc.), trained spill response personnel will be on call 24 hours per day. PG&E has retained the services of Phillips Transportation and Remediation, Inc., a spill response contractor who will have the capability to mobilize to the site within 2 hours, if needed. As an added contingency, the Topock Compressor Station is manned 24 hours per day.

Procedures for responding to a release/spill from the tank system and the diesel containers are found at the back of the Business Plan (Appendix B). As noted on the Business Plan, the BLM Lake Havasu Field Office and the BOR Lower Colorado Regional Office will be notified as part of the emergency response process.

4.6 Uniform Hazardous Waste Manifest

In accordance with 22 CCR 66262.20, a uniform hazardous waste manifest will be prepared and signed prior to off-site transportation of the waste. Personnel preparing manifests will have current training in United States Department of Transportation (DOT) requirements. Copies of all hazardous waste manifests will be maintained at the Topock Compressor Station. Manifests will be tracked to ensure timely receipt of the returned treatment, storage, disposal (TSD) facility copy (22 CCR 66262.42).

4.7 Pre-transportation, Transportation, and Disposal

In accordance with 22 CCR, Division 4.5, Article 3, hazardous waste transported off site will meet DOT requirements for packaging, labeling, marking, and placarding as found in the Code of Federal Regulations Title 49 Parts 172, 173, 78, 179. Hazardous waste will transported off site by a pre-approved, registered hazardous waste transporter to a permitted TSD facility. PG&E has contracted with Denbeste Transportation, Inc. to transport

the waste. Groundwater will be transported to the U.S. Filter Vernon facility at 5375 South Boyle Avenue, Los Angeles, California. An alternate facility is Romic Chemical located at 6760 West Allison Road, Chandler, Arizona.

4.8 Record-keeping and Reporting

In accordance with 22 CCR 66262.40, copies of the following disposal-related records and reports will be maintained at the Site:

- Uniform Hazardous Waste Manifests
- Biennial Reports (if applicable)
- Land Ban Restriction forms (if applicable)
- Exception Reports for Uniform Hazardous Waste Manifests (if applicable)

In addition, copies of completed inspection forms will be maintained at the Site.

5.0 Non-hazardous Waste Management

If extracted groundwater is found not to be a hazardous waste, it will be transported offsite, under a Bill of Lading, to the receiving facility (i.e., U.S. Filter Vernon facility).

Used personal protective equipment (PPE), such as gloves and Tyvek coveralls, may be generated during loading of trucks with extracted groundwater and during sampling events. The used PPE will be bagged and handled as non-hazardous solid waste. An appropriate receptacle (e.g., 30-gallon waste bin) will be maintained on site to accumulate this waste stream. In the unlikely event that such equipment is ever designated as hazardous waste, it will be disposed of at a permitted facility in compliance with all hazardous waste regulatory requirements.

6.0 Hazardous Materials Management

The CUPA, the San Bernardino County Fire Department, requires a Business Plan for businesses that handled hazardous materials in quantities exceeding 55 gallons, 500 pounds, or 200 cubic feet (of compressed gas). A primary purpose of the Business Plan is to readily provide information regarding location, type, and health risks of hazardous materials to emergency response personnel in the event of a release or spill.

The only hazardous materials handled at the Site are the extracted groundwater and diesel fuel for the generator. The CUPA has approved incorporation of he Business Plan information for the Site into the Topock Compressor Station's Business Plan. A copy of that information is provided in Appendix B.

7.0 Mitigation Measures for Biological, Cultural, and Paleontological Resources

Personnel will adhere to the mitigation measures listed in Appendix F.

8.0 Closure

At closure of the Site, any remaining hazardous materials/waste will be removed, the tank system will be dismantled removed, and the area will be restored to previous conditions.

9.0 Training

Personnel will be trained, commensurate with their responsibilities, in the elements of this ECP. A specific list of training elements, frequency, etc. is included in the Business Plan (Appendix B). A list of personnel training records will be maintained at the Site.

10.0 Security

Site security will be provided to safeguard against vandalism and injury. All appropriate security measures will be implemented for the express purpose of providing safety to operators and the public. These measures include:

- Maintaining appropriate staffing during operations until security measures can be installed.
- Maintaining a visitor log to document person(s) accessing the property.
- Installing and maintaining site security fencing of 6-foot-tall, steel, chain-link fabric and post-construction, which completely encloses all extraction, storage, and treatment facilities and appurtenances.

Access will be provided by locked truck and personnel gates in the fencing. Figure 3 shows the location of gates. Access for trucks will be provided 24 hours per day, although every effort will be made to schedule all truck loading and shipments to occur during daylight hours. Warning signs (e.g., no trespassing, safety hazard signs) will be posted at several locations on each leg of the security fence. Padlocks will be hardened steel, with a steel link of at least 3/8 inch in diameter.

11.0 Air Quality Protection

A portable diesel generator will be used on site to supply electrical power for the groundwater well pumps, the tanker truck loading pumps, area lighting, operator's trailer, and other miscellaneous electrical needs. The generator will be rented from an equipment rental company and will be registered with the Mojave Desert Air Quality Management District.

12.0 Stormwater Management

As noted in Table 1, activities at the Site do not require coverage under the State's General Permits for Discharge of Storm Water Associated with Industrial or Construction Activities. However, site operations are managed in a manner that minimizes the potential for non-stormwater discharge (e.g., release of extracted groundwater from the Site). This includes a variety of best management practices, such as secondary containment of tank systems for diesel fuel, observations during loading operations, training, etc. Any stormwater that collects in the secondary containment areas will either be allowed to evaporate or will be added to the tanks for disposal.

Table

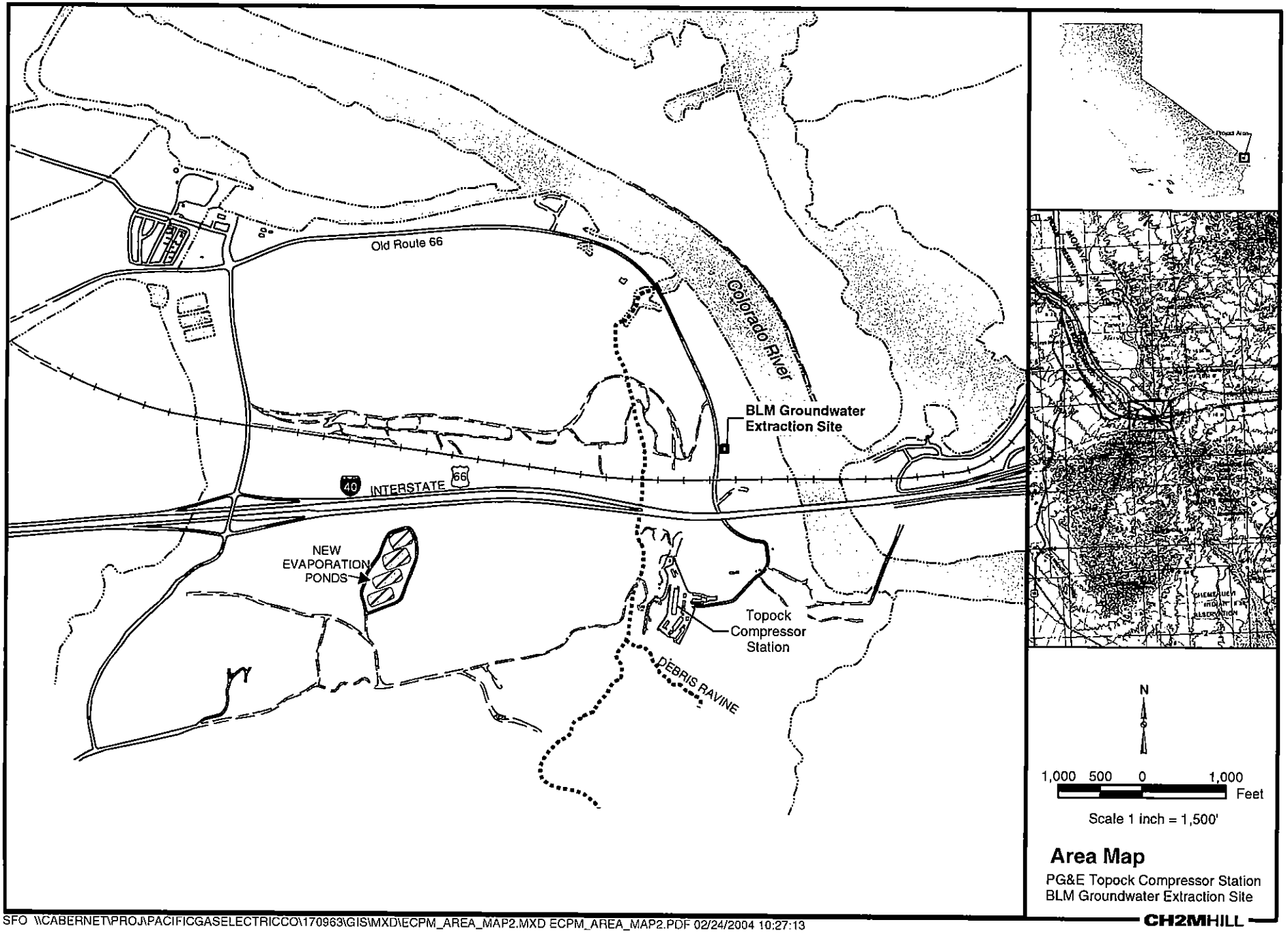
TABLE 1
Applicable Requirements, Permits, Notifications, and Registrations
Environmental Compliance Plan for the BLM Groundwater Extraction Site, Topock Compressor Station

Permits	Agency/Permit Type	Criteria/Notes	Applicability Description
Air permit	Mojave Desert Air Quality Management District - administrative	*Permit to Construct:* to build, erect, install, alter or replace any equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants. *Permit to Operate:* To operate equipment above	Applicable. Portable generator requires registration with Mojave Desert Management District. Rented generator will be pre-registered.
Building permit	San Bernardino County Building Department - administrative	Required to build, alter, repair, move, or demolish any building and to do electrical, plumbing, heating, solar, and air conditioning work.	Not applicable. Site is on federal land.
Conditional-use permit	San Bernardino County Planning Department - discretionary	Land-use permit required for projects that may have an environmental impact.	Not applicable. Site is on federal land.
Grading/excavation permit	San Bernardino County Building Department - administrative	Required for an excavation greater than 2 feet deep or a fill 1 foot thick or more.	Not applicable. No excavations greater than two feet in depth to occur.
Hazardous materials use permit	San Bernardino County Fire Department - administrative	Required for facilities using, storing, dispensing, or handling hazardous materials or wastes above certain designated. The threshold quantities vary by material and storage location. The quantities that trigger disclosure are based on the maximum quantity on site at any time excluding materials under active shipping papers or for direct retail sale to the public. The basic quantities are: hazardous materials at or exceeding 55 gallons, 500 pounds, or 200 cubic feet at any time in the course of a year; any amount of hazardous waste, category I or II pesticides, or explosives; specified amounts of radioactives, and extremely hazardous substances above the threshold planning quantity.	Applicable. Hazardous materials handled on site include extracted groundwater and generator fuel. CUPA has approved incorporating Business Plan information for Site activities under the PG&E Topock Compressor Station's Business Plan. Note: Approval by CUPA in process.
Hazardous Waste USEPA Identification Number	USEPA	Required for hazardous waste generators that transport off site.	Applicable. Hazardous waste may be generated and will require transport off site.

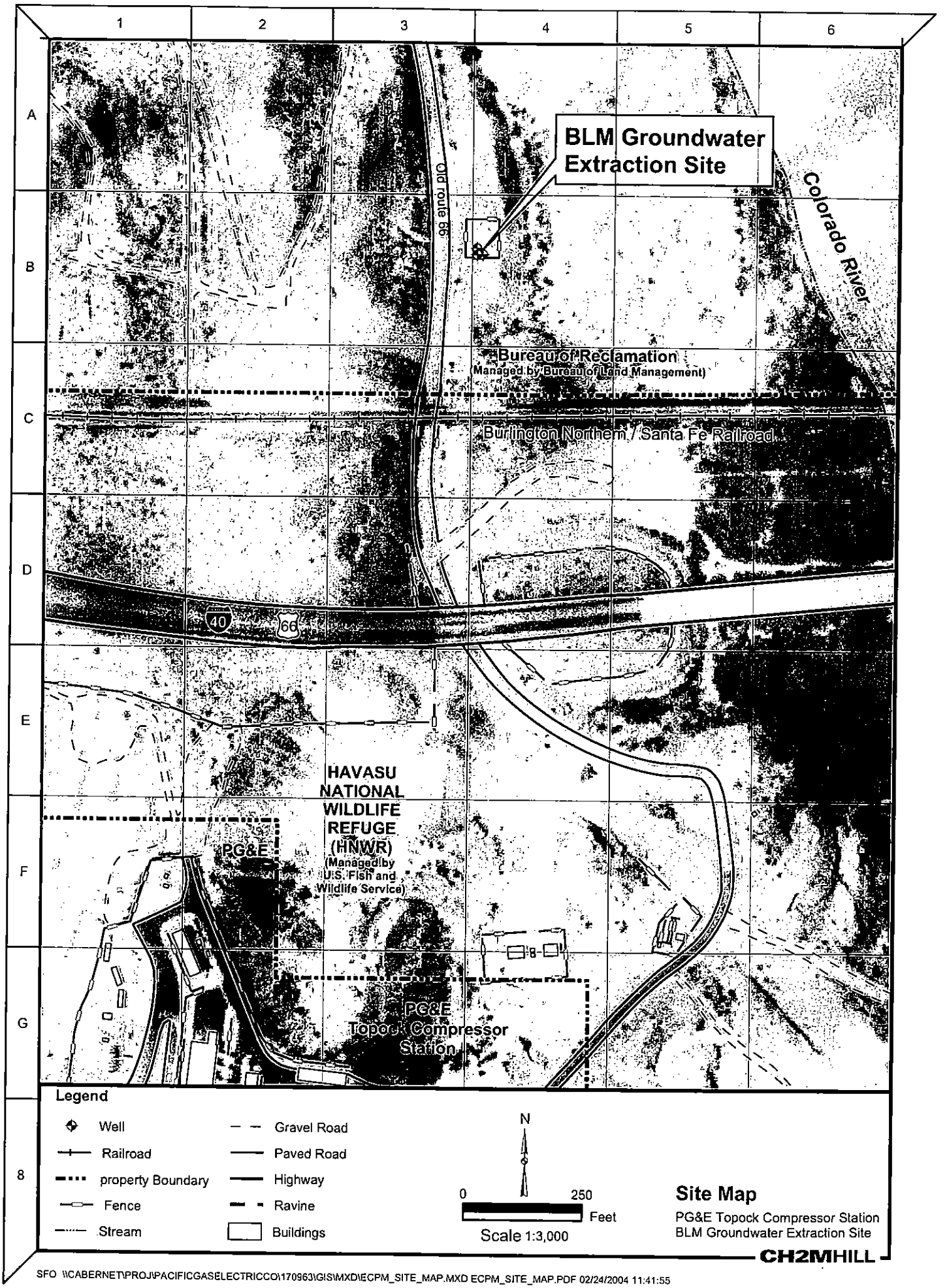
TABLE 1
Applicable Requirements, Permits, Notifications, and Registrations
Environmental Compliance Plan for the BLM Groundwater Extraction Site, Topock Compressor Station

Permits	Agency/Permit Type	Criteria/Notes	Applicability Description
Hazardous Waste Treatment, Storage, or Disposal Permit	USEPA and Cal/EPA	Required if hazardous waste is stored on site for more than 90 days, treated on site, or disposed on site.	Not applicable. Hazardous waste will not be stored on site for more than 90 days; nor will it be treated or disposed on site.
National Pollutant Discharge Elimination System (NPDES) permit	Colorado River Regional Water Quality Control District - discretionary	Required for the discharge of any pollutant or combination of pollutants to a surface water body.	Not applicable. No discharges to surface water.
Publicly-owned Treatment Works (POTW) permit	Local POTW - administrative	Required for industrial wastewater discharges.	Not applicable. Discharge of non-hazardous wastewater to POTW not currently anticipated. Authorization/permit will be obtained if this changes.
Sanitary system permit	San Bernardino County Public Health Department - administrative	Required for sanitary system discharge.	Not applicable. No sanitary system discharge.
Spill Prevention Control and Countermeasures Plan	USEPA	Required if oil storage capacity exceeds 1,320 gallons.	Not applicable. Oil storage capacity will not exceed 1,320 gallons.
Storm water permit	State Water Resources Control Board - administrative	Required for dischargers whose projects disturb one or more acres of soil or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity.	Not applicable. Soil disturbance will not exceed 1 acre.
Waste Discharge Requirements	Colorado River Basin Regional Water Quality Control Board - discretionary	Required for discharges of wastewater to land.	Not applicable. No discharges to land.
Well permit	San Bernardino County Public Health Department - administrative	Required for water well construction and destruction.	Not applicable. No additional wells being drilled at this time.

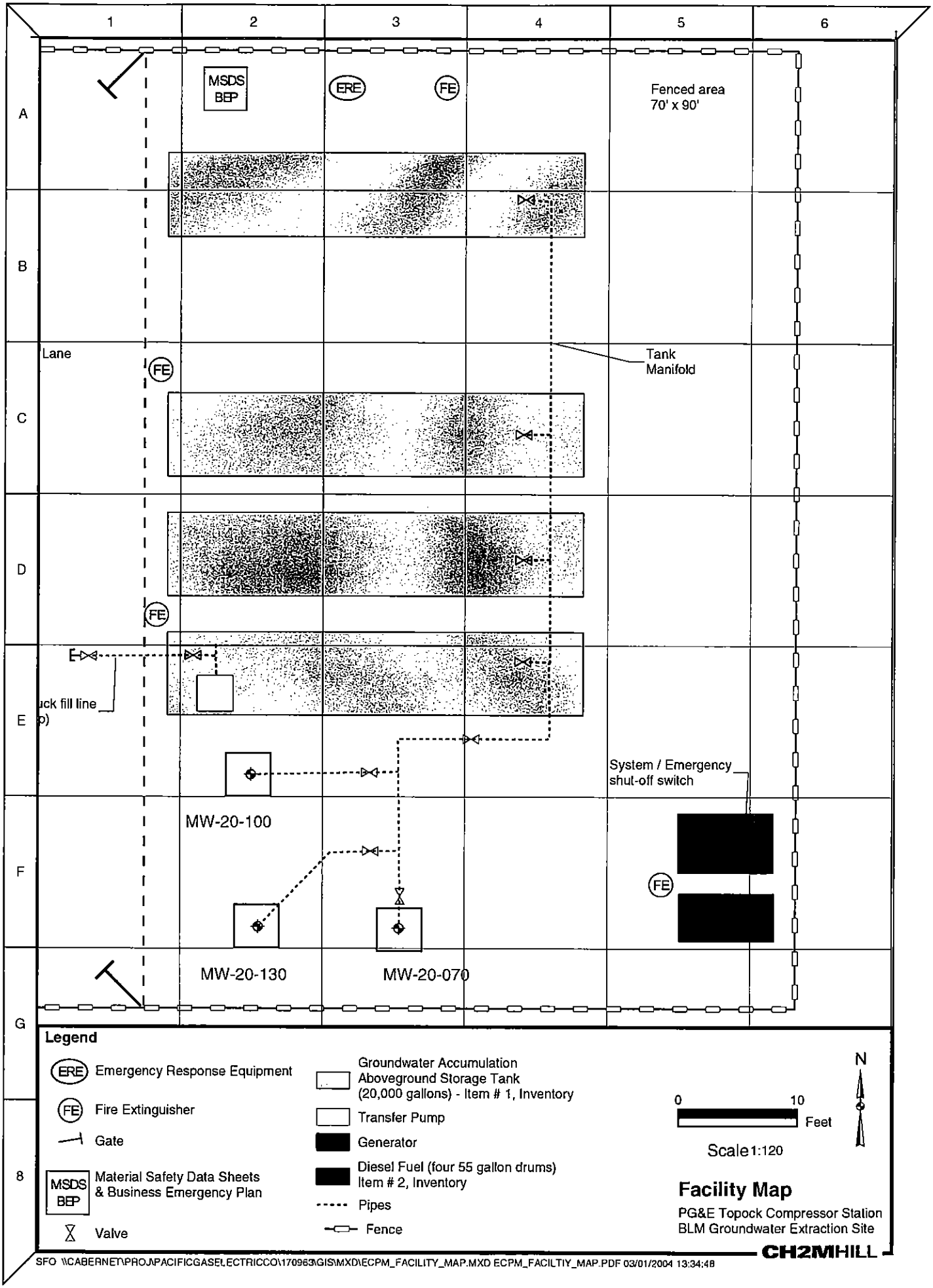
Figures



SFO \\CABERNET\PROJ\PACIFICGASELECTRICCO\170963\GIS\MXD\ECPM_AREA_MAP2.MXD ECPM_AREA_MAP2.PDF 02/24/2004 10:27:13



SFO \\CABERNET\PROJ\PACIFICGASELECTRICCO\170963\GIS\MXD\ECPM_SITE_MAP.MXD ECPM_SITE_MAP.PDF 02/24/2004 11:41:55


1
2
3
4
5
6
A
B
C
D
E
F
G
8
MSDS
BEP
ERE
FE
Fenced area
70' x 90'
Lane
Tank
Manifold
ck fill line
o)
System / Emergency
shut-off switch
MW-20-100
MW-20-130
MW-20-070
Legend
Emergency Response Equipment
Fire Extinguisher
Gate
Material Safety Data Sheets
& Business Emergency Plan
Valve
Groundwater Accumulation
Aboveground Storage Tank
(20,000 gallons) - Item # 1, Inventory
Transfer Pump
Generator
Diesel Fuel (four 55 gallon drums)
Item # 2, Inventory
Pipes
Fence
N
0
10
Feet
Scale 1:120
Facility Map
PG&E Topock Compressor Station
BLM Groundwater Extraction Site
CH2MHILL
SFO \\CABERNET\PROJ\PACIFICGASELECTRICCO\170963\GIS\MXD\ECPM_FACILITY_MAP.MXD ECPM_FACILTIY_MAP.PDF 03/01/2004 13:34:48

Appendix A
USEPA Identification Number

APPENDIX A

USEPA Identification Number

MessageFrom: Smith, Jared [Jared.Smith@ttemi.com]
Sent: Thursday, February 26, 2004 10:24 AM
To: Blume, Marilyn/SFO
Cc: Johns, Mathew/DEN; Porcella, John/SFO; Herson, Terri/SFO; jmfd@pge.com
Subject: RE: EPA Identification Number - CAR000151118

The site address for this number is listed as Hwy I-40 and Park Moabi Rd, 250 ft NE of, in Needles. The site name is listed in the EPA database as BLM Groundwater Extraction PG E Topock Compressor Station.

The number is CAR000151118.

Let me know if you have any questions,

-Jared
-----Original Message-----
From: Marilyn.Blume@ch2m.com [mailto:Marilyn.Blume@ch2m.com]
Sent: Tuesday, February 24, 2004 2:39 PM
To: Smith, Jared
Cc: Matt.Johns@ch2m.com; John.Porcella@ch2m.com; Terri.Herson@ch2m.com; jmfd@pge.com
Subject: EPA Identification Number

Mr. Smith,

Thank you for reviewing the RCRA Subtitle C Identification Form for the PG&E Topock Compressor Station, BLM Groundwater Extraction site, submitted by Mr. Jim Ferrell of PG&E. As discussed, "n/a" in Item 9.B. (Date Became Owner) should be changed to "1900".

As you suggested, I will contact you again on Thursday to ask if the identification number has been issued.

Thank you very much,
Marilyn Blume
CH2M HILL
510/587-7636

SEND COMPLETED FORM TO: The Appropriate State or EPA Regional Office.

United States Environmental Protection Agency

RCRA SUBTITLE C SITE IDENTIFICATION FORM

1. Reason for Submittal (See instructions on page 13.)

MARK ALL BOX(ES) THAT APPLY

Reason for Submittal:

- [X] To provide Initial Notification of Regulated Waste Activity (to obtain an EPA ID Number for hazardous waste, universal waste, or used oil activities)
- [ ] To provide Subsequent Notification of Regulated Waste Activity (to update site identification information)
- [ ] As a component of a First RCRA Hazardous Waste Part A Permit Application
- [ ] As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment #_____)
- [ ] As a component of the Hazardous Waste Report

2. Site EPA ID Number (page 14)

EPA ID Number

3. Site Name (page 14)

Name: PG & E Topock Compressor Station, BLM Groundwater Extraction

4. Site Location Information (page 14)

~~**Street Address:**~~ 34• 43' 8.93" N, 114• 29' 27.76" W

~~**City, Town, or Village:**~~ | ~~**State:**~~

~~**County Name:**~~ | ~~**Zip Code:**~~

5. Site Land Type (page 14)

Site Land Type: [ ] Private [ ] County [ ] District [X] Federal [ ] Indian [ ] Municipal [ ] State [ ] Other

6. North American Industry Classification System (NAICS) Code(s) for the Site (page 14)

A. 221210	B.
C.	D.

7. Site Mailing Address (page 15)

Street or P. O. Box: Highway I-40 and Park Moabi Road

City, Town, or Village: Needles

State: CA

Country: USA **Zip Code:** 92363

8. Site Contact Person (page 15)

First Name: Glen **MI:** **Last Name:** Riddles

Phone Number: (760) 326-5516 **Extension:** **Email address:**

9. Operator and Legal Owner of the Site (pages 15 and 16)

A. Name of Site's Operator: Pacific Gas & Electric Company

Date Became Operator (mm/dd/yyyy): 02 / 26 / 2004

Operator Type: [X] Private [ ] County [ ] District [ ] Federal [ ] Indian [ ] Municipal [ ] State [ ] Other

B. Name of Site's Legal Owner: Bureau of Reclamation (managed by Bureau of Land Management)

Date Became Owner (mm/dd/yyyy): N/A

Owner Type: [ ] Private [ ] County [ ] District [X] Federal [ ] Indian [ ] Municipal [ ] State [ ] Other

11. Description of Hazardous Wastes (See instructions on page 20.)

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

D007						

B. Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes. Please list the waste codes of the State-regulated hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed for waste codes.

12. Comments (See instructions on page 20.)

13. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. **(See instructions on page 20.)**

Signature of operator, owner, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
	Jim Ferrell	
	Sr. Env Consultant, PG&E Environmental Affairs	

Appendix B
Business Plan

APPENDIX B

Business Plan

February 26, 2004

Peter Brierty, Fire Marshall
San Bernardino County Fire Department
Hazardous Materials Division
620 South "E" Street
San Bernardino, CA 92425-0153

Subject: Proposal
Pacific Gas & Electric Company
Topock Compressor Station
Business Plan Activities, Groundwater Extraction

Dear Mr. Brierty:

On behalf of the Pacific Gas & Electric Company (PG&E), CH2M HILL is pleased to present this proposal to the San Bernardino County Fire Department, the Certified Unified Program Agency (CUPA). This proposal addresses Business Emergency/Contingency Plan (Business Plan) activities for groundwater extraction related to the PG&E Topock Compressor Station and was prepared following telephone conversations with Ms. Kristen Riegel, Registered Environmental Health Specialist, San Bernardino County Fire Department. Ms. Reign has indicated that the CUPA is considering including the groundwater extraction activities described below as part of the Topock Compressor Station's Business Plan. This proposal is offered in support of that consideration.

Background

PG&E is addressing chromium in groundwater at the Topock Compressor Station under the oversight of the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). The Topock Compressor Station is located in San Bernardino County, approximately 15 miles to the southeast of Needles, California. Area and site maps are included in Attachment A.

In a letter dated February 9, 2004, DTSC directed PG&E to immediately begin pumping, transporting, and disposing groundwater from existing offsite monitoring wells, located less than one-half mile from the compressor station. These wells are located on land owned by the Bureau of Reclamation and managed by the Bureau of Land Management (hereinafter, referred to as BLM land). The DTSC determined that immediate action is required to prevent and/or mitigate potential impacts to the Colorado River pursuant to Section IV.A. of the Corrective Action Consent Agreement between DTSC and PG&E (1996, Corrective Action Consent Agreement, Docket HWCA 95/96-027). DTSC has directed PG&E to begin pumping of groundwater on or before February 27, 2004.

Interim Measures Workplan

An Interim Measures (IM) Workplan has been prepared that describes the components for implementing the specific actions prescribed by DTSC in the February 9, 2004 letter. The IM is part of the overall corrective measures process for the site and is a step in establishing a long-term approach for site remediation. Assisting DTSC and PG&E with the planning and review of interim measures are the members of the Topock Consultative Workgroup, constituted under California's Site Designation Process, and consisting of representatives of DTSC, the Colorado River Basin Regional Water Quality Control Board, Metropolitan Water District of Southern California (MWD) and the various federal agencies who own or manage land overlying the chromium plume.

Project Description

The major tasks and activities necessary to achieve the objective of this IM include:

- Site preparation
- Groundwater extraction from monitoring wells MW-20-70, MW-20-100 and MW-20-130
- Onsite management of extracted groundwater and offsite transportation and disposal the extracted groundwater

Water pumped from the wells will be collected and temporarily accumulated on site in double wall steel 20,000 gallon holding tanks (or equivalent) prior to transfer to trucks for transport to a permitted waste disposal or treatment facility. The holding tanks will be located in lined and bermed containment areas to further protect against uncontrolled or incidental releases. Double wall piping will be used to convey the water from the wells to the tanks. It is anticipated that at least four tanks will initially be needed to provide sufficient holding capacity at the site. Additional holding tanks will be brought online if needed during operations. Power supply will be provided by a portable diesel generator. Generator fuel will be stored in two 55-gallon drums in secondary containment tub.

Piping and appurtenances will be sized to accommodate the anticipated system flow rates. The system will be equipped with the following appurtenances to monitor system operations:

- Flow meter/totalizers to measure flow rate and cumulative flow from each extraction well
- In-line sample ports for each extraction well

- Sample port for sampling combined flow stream

Chromium is the only hazardous constituent of concern. Although chromium has been detected at concentrations up to 13 milligrams/liter (mg/L), concentrations in extracted groundwater are expected to range from 1 to 7 mg/L. Groundwater in the tanks will be sampled and analyzed for hexavalent chromium, total chromium, and other constituents required by the treatment or disposal facility.

A site plan and equipment layout are included in Attachment A.

Hazardous Waste Management Standards

Groundwater will be managed as hazardous waste if concentrations of chromium exceed 5 mg/l, the state threshold for hazardous waste[1]. Groundwater determined to meet this criteria will not be accumulated onsite for more than 90 days. Representative samples from each tank will be taken and analyzed at least weekly to determine if the threshold is exceeded. As necessary, additional analyses will be performed to meet requirements of the receiving facility.

Because there is some uncertainty as to whether or not the groundwater will exceed the hazardous waste criteria, the tank system for the IM is being constructed to meet the hazardous waste tank management standards of 22CCR 66265.190 et seq. To comply with generator accumulation requirements[2], the following activities will take place:

- Labeling of tanks and inspection of the tank system in accordance with 22CCR 66265.195
- Maintenance and inspection of emergency prevention/response systems and equipment (e.g., high-level alarms on tanks, two-way radios) in accordance with 22CCR 66265.30-37
- Training of personnel commensurate with their responsibilities and in accordance with 22CCR 66265.16
- Hazardous waste will be transported offsite under Uniform Hazardous Waste Manifest by a registered hazardous waste hauler to a permitted hazardous waste facility.

Site Security

Site security is an important component of site management. During implementation of the IM, the following security measures will be implemented for the express purpose of providing a measure of safety to operators and the public:

- Maintaining appropriate on-site staffing for 24-hours during operations until security measures can be installed.
- Maintaining a communications link with the PG&E Topock Compressor Station
- Maintaining a visitor log to document person(s) accessing the property
- Site security fencing with secured access points.

---

[1] California Code of Regulations, Title 22, Division 4.5 (22CCR), Chapter 11, Section 66264.24

[2] 22CCR 66262.34

- Warning signs (i.e., no trespassing, safety hazard signs)

Site security measures will be evaluated periodically and maintained as necessary during system operation.

Schedule

The implementation schedule calls for pumping groundwater from these wells by February 27, 2004 pending BLM approval. Once PG&E receives approval, site preparation and equipment setup will take four to five days. Operation of the interim measure will continue as long as necessary to meet the interim measure objectives. PG&E intends to construct a permanent treatment facility with water reuse or disposal capacity at the compressor station or nearby property owned by MWD. The time required to obtain access and construct a facility is anticipated to be a minimum of six months.

Inclusion of Groundwater Extraction Activities in Topock Compressor Station Business Plan

PG&E will revise the Topock Compressor Station's Business Plan to include information related to groundwater extraction activities. Amended information for the Business Plan will be submitted within 30 days of initiating groundwater extraction. The only hazardous materials that will be managed on-site include extracted groundwater (if hazardous waste) and diesel fuel for the generator.

In addition, a monthly report will be submitted to the CUPA that includes copies of analytical results of samples collected from the groundwater accumulated in the tanks and copies of uniform hazardous waste manifests for waste sent offsite for disposal.

If you have any questions, please contact me at 510-587-7636.

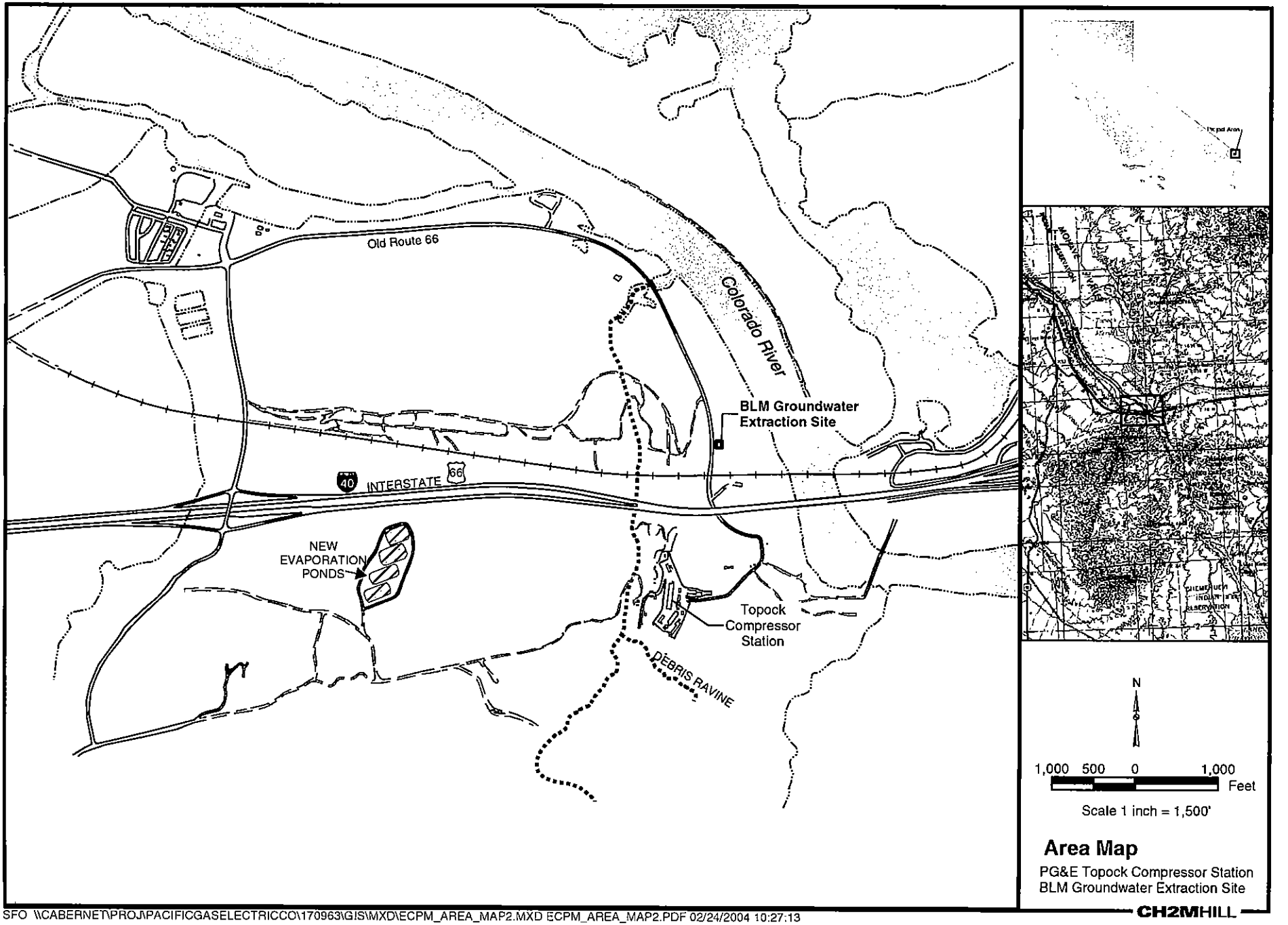
Sincerely,

CH2M HILL

Marilyn Blume
Senior Regulatory Specialist

c: John Porcella, CH2M HILL
Matt Johns, CH2M HILL
Terri Herson, CH2M HILL
Robert Doss, PG&E
Glen Riddle, PG&E
Barbara Benson, PG&E
Yvonne Meeks, PG&E

Attachment A

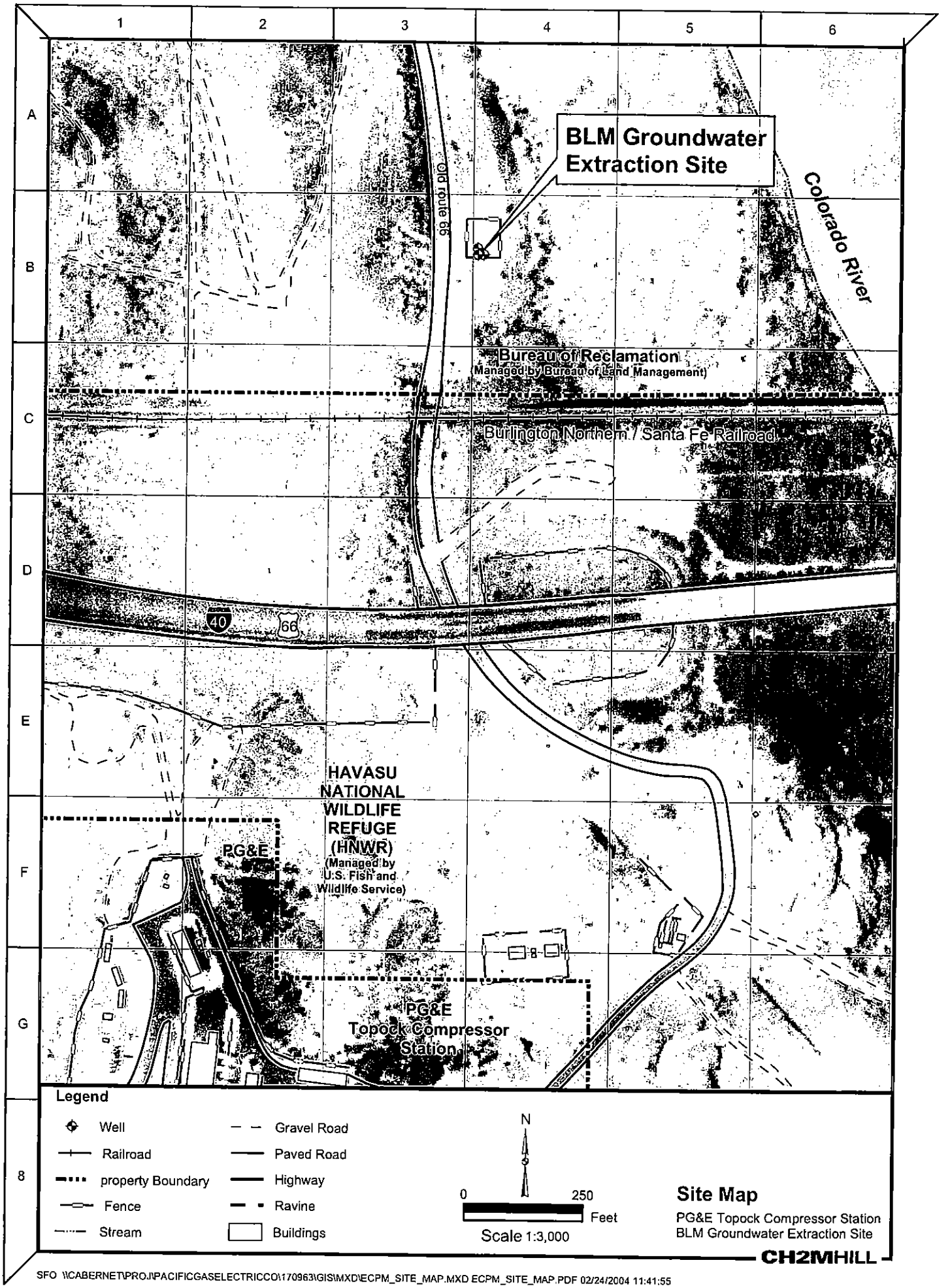


Area Map

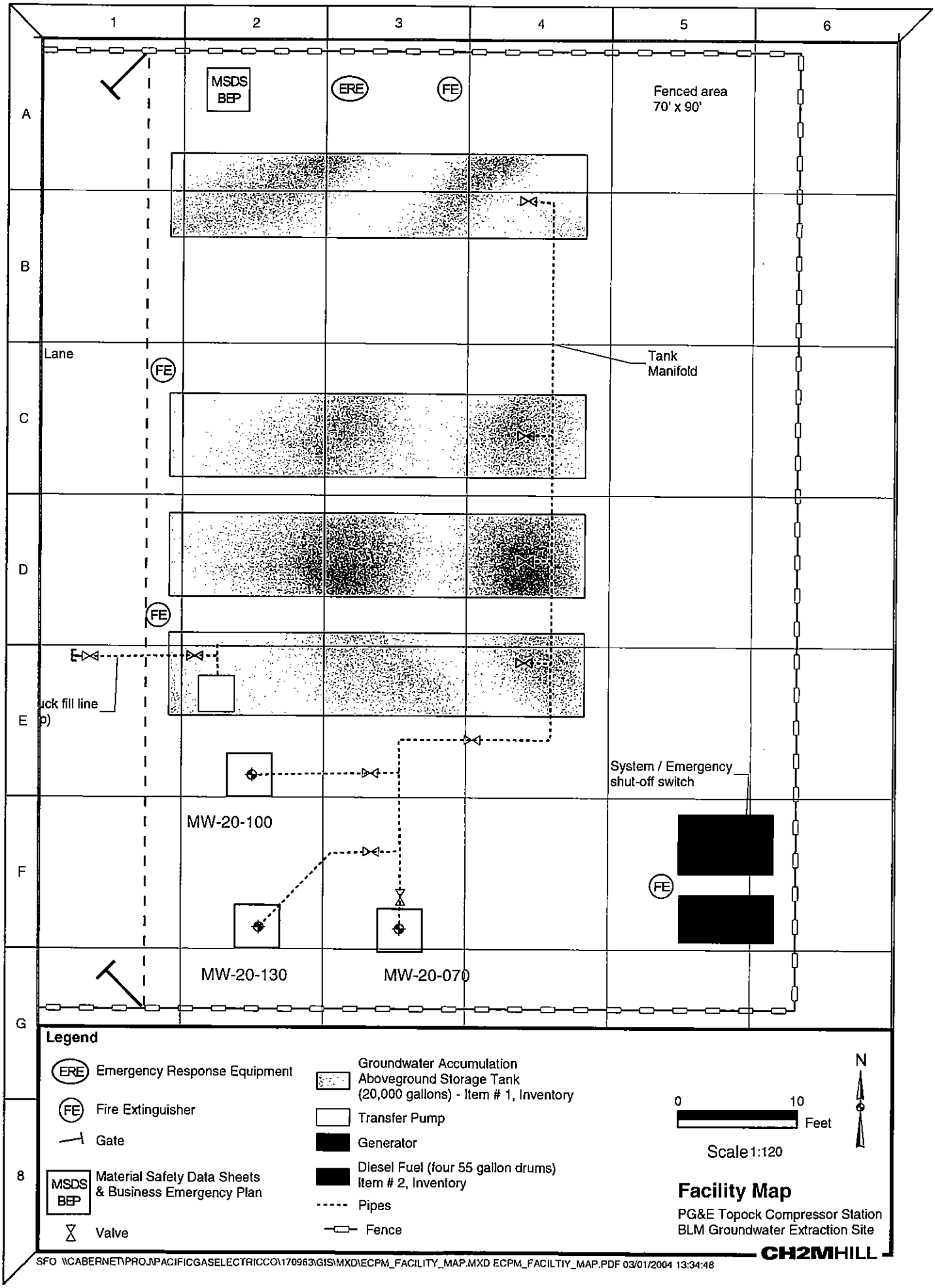
PG&E Topock Compressor Station
BLM Groundwater Extraction Site

CH2MHILL

SFO \\CABERNET\PROJ\PACIFICGASELECTRICCO\170963\GIS\MXD\ECPM_AREA_MAP2.MXD ECPM_AREA_MAP2.PDF 02/24/2004 10:27:13

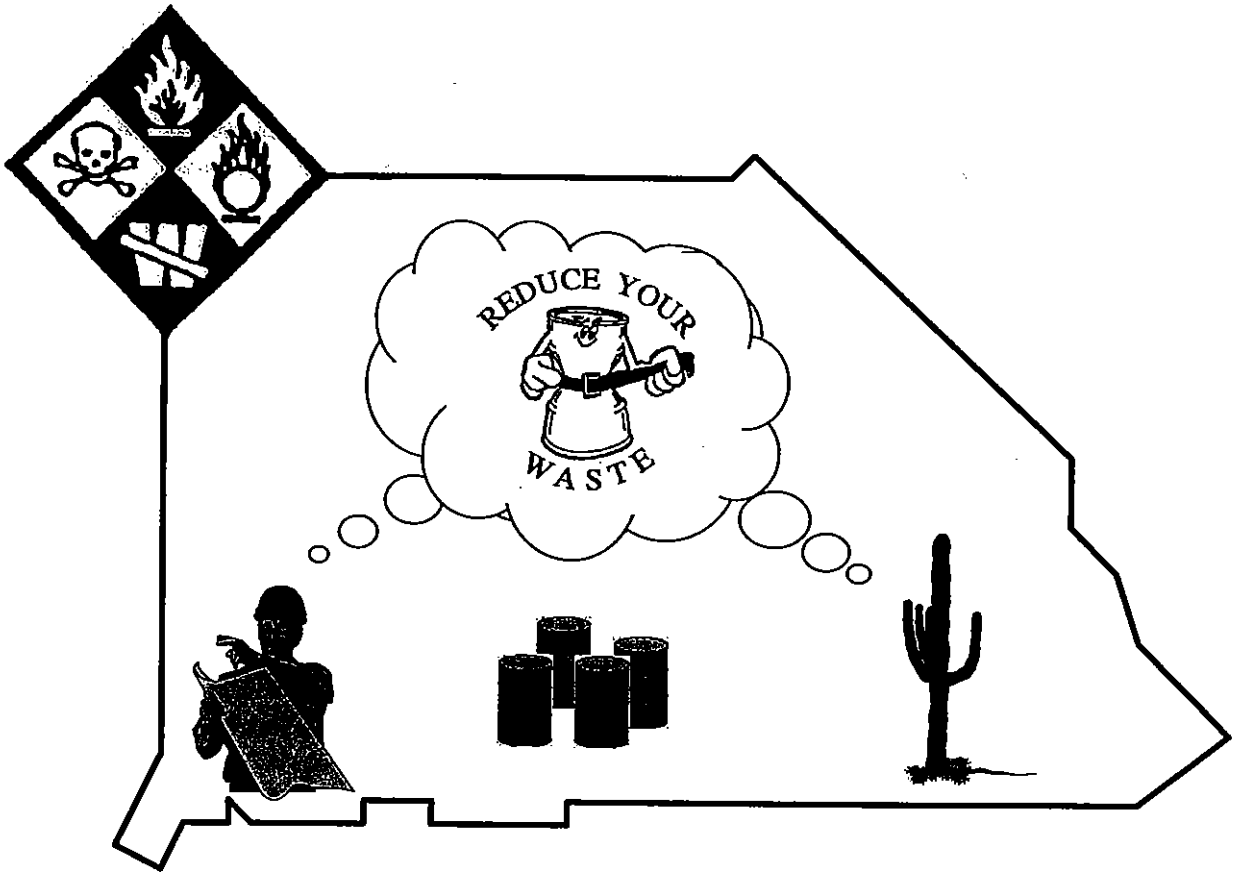


SFO \\CABERNET\PROJ\PACIFICGASELECTRICCO\170963\GIS\MXD\ECPM_SITE_MAP.MXD ECPM_SITE_MAP.PDF 02/24/2004 11:41:55


1
2
3
4
5
6
A
B
C
D
E
F
G
8
MSDS
BEP
ERE
FE
Fenced area
70' x 90'
Lane
Tank
Manifold
uck fill line
p)
System / Emergency
shut-off switch
MW-20-100
MW-20-130
MW-20-070
Legend
Emergency Response Equipment
Fire Extinguisher
Gate
Material Safety Data Sheets
& Business Emergency Plan
Valve
Groundwater Accumulation
Aboveground Storage Tank
(20,000 gallons) - Item # 1, Inventory
Transfer Pump
Generator
Diesel Fuel (four 55 gallon drums)
Item # 2, Inventory
Pipes
Fence
0
10
Feet
Scale 1:120
N
Facility Map
PG&E Topock Compressor Station
BLM Groundwater Extraction Site
CH2MHILL
SFO \\CABERNET\PROJ\PACIFICGASELECTRICCO\170963\GIS\MXD\ECPM_FACILITY_MAP.MXD ECPM_FACILTIY_MAP.PDF 03/01/2004 13:34:48

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • PHONE: (909) 386-8401 FAX: (909) 386-8460

BUSINESS EMERGENCY / CONTINGENCY PLAN GUIDELINES AND FORMS



Version 3.1 (Electronic Format)
Revised 12/20/2002

CUPA

San Bernardino County Fire Department • Hazardous Materials Division
620 South "E", San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

BUSINESS ACTIVITIES
FACILITY DENTIFICATION

FACILITY ID #	F	A								EPA ID # (Hazardous Waste Only)
										CAR 000151118

BUSINESS NAME (Same as FACILITY NAME or DBA)
PG&E Topock Compressor Station, BLM Groundwater Extraction Site

BUSINESS ADDRESS	CITY	ZIP CODE
Interstate 40 and Park Moabi Road	Needles	92363

ACTIVITIES DECLARATION

Does your facility	If YES, please complete these portions of the application	
A. HAZARDOUS MATERIALS Have onsite (for any purpose) hazardous materials at or above 55 gallons for liquids, 500 pounds for solids or 200 cubic feet for compressed gases; or the applicable Federal threshold quantity for an extremely hazardous substance; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70; or handle ANY amount of Class 1 or 2 explosives; or ANY amount Category I or II pesticides.	X YES ☐ NO	**BUSINESS EMERGENCY/CONTINGENCY PLAN** (Used in place of OES Form 2730 and 2731)
B. REGULATED SUBSTANCES Have Regulated Substances stored onsite in quantities greater than the threshold planning quantities established by the California Accidental Release Prevention Program (CalARP)?	☐ YES X NO	**BUSINESS EMERGENCY/CONTINGENCY PLAN** (Used in place of OES Form 2730 and 2731) **CalARP REGISTRATION FORM**
C. UNDERGROUND STORAGE TANKS (USTs)		
1. Own or operate underground storage tanks?	☐ YES X NO	**UST FACILITY** **UST TANK** (Pages 1 and 2) (One set per tank)
2. Intend to upgrade existing or install new USTs?	☐ YES X NO	**UST FACILITY** **UST TANK** (Pages 1 and 2) (One set per tank) **UST INSTALLATION – CERTIFICATE OF COMPLIANCE** (one page per tank)
3. Need to report closing a UST?	☐ YES X NO	**UST FACILITY** **UST TANK** (Pages 1 and 2) (One set per tank) **HAZARDOUS WASTE TANK CLOSURE CERTIFICATION**
D. ABOVE GROUND PETROLEUM STORAGE TANKS (ASTs) Store greater than 1320 gallons of petroleum products?	☐ YES X NO	IF YOU ANSWERED YES, PREPARE AND MAINTAIN A SPCC PLAN AS PART OF YOUR CONTINGENCY PLAN TO ADDRESS OIL SPILLS AND RELEASES FROM THE ASTs AT YOUR FACILITY.
E. HAZARDOUS WASTE		
1. Generate ANY amount of hazardous waste?	X YES ☐ NO	**EPA ID NUMBER**—provide at the top of this page **BUSINESS EMERGENCY/CONTINGENCY PLAN** (Used in place of OES Form 2730 and 2731)
2. Recycle more than 100 kg/month of excluded or exempted recyclable materials (per CHSC §25143.2)?	☐ YES X NO	**RECYCLABLE MATERIALS REPORT** (one per recycler)
3. Treat hazardous waste on site?	☐ YES X NO	**ONSITE HAZARDOUS WASTE TREATMENT - FACILITY** (Formerly DTSC Form 1772) **ONSITE HAZARDOUS WASTE TREATMENT - UNIT** (one page per unit) (Formerly DTSC Forms 1772A, B, C and L)
4. Treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)?	☐ YES X NO	**CERTIFICATION OF FINANCIAL ASSURANCE** (Formerly DTSC Form 1232)
5. Consolidated hazardous waste generated at a remote site?	☐ YES X NO	**REMOTE WASTE / CONSOLIDATED SITE ANNUAL NOTIFICATION** (Formerly DTSC Form 1196)

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

LOCALLY COLLECTED INVENTORY INFORMATION

I. FACILITY IDENTIFICATION

FACILITY ID #	F	A								(This number is on your CUPA permit.)

BUSINESS NAME (Same as FACILITY NAME or DBA)
PG&E Topock Compressor Station, BLM Groundwater Extraction Site

FACILITY ADDRESS (103)	CITY (104)
Interstate 40 and Park Moabi Road	Needles

II. ADDITIONAL CONTACT & OPERATIONS INFORMATION

BUSINESS MAILING ADDRESS	CITY	STATE	ZIP CODE
Interstate 40 and Park Moabi Road	Needles	CA	92363

BUSINESS FAX NUMBER	BUSINESS E-MAIL
760-326-5542	Gdr2@pge.com

NOTE: ALL CORRESPONDENCE, INVOICES, PERMITS, AND NOTICES WILL BE SENT TO THE ABOVE ADDRESS

Total # of Employees onsite/shift: (as reported on your most recent tax withholding forms.)	SHIFT 1	SHIFT 2	SHIFT 3	HOURS OF OPERATION
	1 person (8 a.m. – 5 p.m.)	N/a (remote operation)	N/ (remote operation	24 hours/7 days per week

Total # of employees onsite involved in the operation that uses hazardous materials:	1	TAXPAYER ID NUMBER 94-074-2640

ASSESSORS PARCEL NUMBER (S)	CROSS STREET
0650-161-08	Park Moabi Road

BUSINESS DESCRIPTION
Groundwater is extracted from wells, temporarily accumulated in aboveground storage tanks, and hauled offsite. Groundwater may contain concentrations of chromium exceeding hazardous waste levels. Hazardous waste will not be held onsite any longer than 90 days.

Number of Underground Storage Tanks located at this facility: **0**

Does this facility:

- Have a cumulative aboveground liquid petroleum (not including petroleum gases) storage capacity of greater than 1320 gallons? This includes both product and waste and includes tank and drum storage. ☐ YES **X** NO
- Store or handle extremely hazardous substances at a quantity above threshold planning quantity? (See Appendix B of this guide) ☐ YES **X** NO
- Is this site subject to EPCRA Section 311 & 312 (Emergency Planning and Community Right-to-Know Act)? (See Page 'i' for description) ☐ YES **X** NO
- Store or handle Regulated Substances (see Appendix C) in excess of threshold quantity? ☐ YES **X** NO

Name(s) of Regulated Substances:

Does this facility have a laboratory on site ☐ YES* **X** NO

* If yes, attach a general description of the laboratory and a **brief** description of the type(s) and quantity of hazardous materials in the lab.

III. VULNERABLE POPULATIONS

Is there a school, hospital, or extended care facility within 1,000 ft. (straight-line distance) of this facility? ☐ YES **X** NO

If yes, provide name and address of each school hospital or extended care facility site.

Date: March 1, 2004

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

BUSINESS NAME (Same as FACILITY NAME or DBA)		
PG&E Topock Compressor Station, BLM Groundwater Extraction Site		
FACILITY ADDRESS 103	CITY 104	
Interstate 40 and Park Moabi Road	Needles	

EMERGENCY RESPONSE PLANS & PROCEDURES - AGENCY NOTIFICATION
POST BY PHONE

Agency Notification: A handler of hazardous materials is required to immediately report any release or threatened release of a hazardous material to the administering agency and the Office of Emergency Services. Note that there is no reportable quantity under California statute. Spills exceeding federal reportable quantities require notification to the National Response Center. This CUPA requires a written report within fifteen (15) days after any reportable release or threatened release. Contact the CUPA for further guidance.

If a situation is an emergency, call 911 first. **(* Indicates mandatory notification.)**

Agency	Phone Number
1. *Local Emergency Response Agency (if an emergency)	**911**
2. *San Bernardino County Fire Department Hazardous Materials Division	**(800) 33-TOXIC or (909) 386-8425**
3. *State of California, Office of Emergency Services	**(800) 852-7550 or (916) 845-8911**
4. National Response Center	**(800) 424-8802**
5. Other Agencies *(Cal OSHA, Regional Board, Air Quality, as applicable)*	
Agency Name	*Phone Number*
Aaron Yue, DTSC	*Work: 714.484.5439*
	Cell: 714.493.6429
	Home: 626.913.9189
Mojave Desert Air Quality Management District	*760-245-1661*
Needles Fire Dept	*760-326-2833*
San Bernardino Count Sheriff Dept	*760-326-9200*
Agency Name	*Phone Number*
Jeff Smith, U.S. Bureau of Reclamation, Regional Hazmat Coordinator	*Work: 702.378.2400*
	Cell: 702.293.8060
	Home: 702.567.1586
Colorado River Medial Center	*760-326-4531*

EMERGENCY INFORMATION REQUIRED:

- Name & phone number of person reporting
- Name and street address of the business
- Location of the incident or threatened release
- Type of incident or threatened release
- Hazardous materials involved & physical state
- Hazards to human health and/or environment
- Estimate of the quantity released
- Media (soil, water, air) into which release occurred
- Precautions to take (if known)
- Time and duration of the release
- Is the chemical an extremely hazardous substance?
- Extent of injuries, if any

Release reporting citations (California Health and Safety Code):

§ 25501. Definitions:
(r) "Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, unless permitted or authorized by a regulatory agency.
(u) "Threatened release," means a condition creating a substantial probability of harm, when the probability and potential extent of harm make it reasonably necessary to take immediate action to prevent, reduce, or mitigate damages to persons, property, or the environment.

§ 25507(a) ... the handler or any employee, authorized representative, agent, or designee of a handler shall, upon discovery, immediately report any release or threatened release of a hazardous material to the administering agency, and to the office, in accordance with the regulations adopted pursuant to Section 25503. Each handler and any employee, authorized representative, agent, or designee of a handler shall provide all state, city, or county fire or public health or safety personnel and emergency rescue personnel with access to the handler's facilities.

§ 25515. Any person or business that violates Section 25507 shall, upon conviction, be punished by a fine of not more than twenty-five thousand dollars ($25,000) for each day of violation, or by imprisonment in the county jail for not more than one year, or by both the fine and imprisonment. .... Furthermore, if the violation results in, or significantly contributes to, an emergency, including a fire, to which the county or city is required to respond, the person shall also be assessed the full cost of the county or city emergency response, as well as the cost of cleaning up and disposing of the hazardous materials.

Date: March 1, 2004

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

BUSINESS NAME (Same as FACILITY NAME or DBA)
PG&E Topock Compressor Station, BLM Groundwater Extraction Site

FACILITY ADDRESS 103	CITY 104
Interstate 40 and Park Moabi Road	Needles

EMERGENCY RESPONSE PLANS AND PROCEDURES – PAGE 2

FACILITY TRAINING PLAN: Describe employee and operator training including local emergency response coordination, use of facility emergency equipment, and provisions for initial and refresher training. In addition, describe training for hazardous materials/waste handling as required by OSHA. (√ Check those items that apply and write additional information in the space provided)

- X New employee training.
- X Annual training & periodic refresher courses.
- X Familiarization with the Emergency Response Plans and Procedures of this Business Plan.
- X Spill control equipment
- X Monitoring system
- X Personal Protective Equipment
- On the job training. Describe below.
- X Other: **In addition to training in emergency response measures, personnel will be trained in responsibilities related to loading of trucks, sampling, conducting general site and tank system inspections, tracking of manifests, operating the portable generator, and mitigation measures.**

EMERGENCY PROCEDURES: Give duties of the Emergency Coordinator and how implementation of Facility Emergency Response will be accomplished. (e.g. Notification, evacuation, emergency coordination) (√ Check those items that apply and write additional information in the space provided)

Emergency Coordinator will:

- X Identify potential hazards and determine whether a release has occurred.
- X Activate local emergency systems (e.g. manual shutoff devices) and take appropriate immediate actions based on level of training and the ability to act safely.
- X Coordinate the notification and evacuation of employees and customers from the facility.
- X Make required agency notifications and request needed assistance.
- X Assist responding agencies by providing access to the facility and information about the facility.
- ☐ Other:

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • PHONE: (909) 386-8401 FAX: (909) 386-8460

INVENTORY SUMMARY FORM (REQUIRED)

I. FACILITY IDENTIFICATION

FACILITY ID # F A 1 (This number is on your CUPA permit.)

BUSINESS NAME (Same as FACILITY NAME or DBA)
PG&E Topock Compressor Station, BLM Groundwater Extraction Site

FACILITY ADDRESS 103	CITY 104
Interstate 40 and Park Moabi Road	Needles

II. INVENTORY SUMMARY

Item #	Name of Hazardous Material or Waste	Maximum Quantity	Size of Largest Container	Unit of Measure
3.	*Lubricating Oil (Example Only)*	*555*	*500*	*Gallon*
1.	Extracted Groundwater potentially containing Chromium exceeding hazardous waste levels of 5 mg/l	80,000	20,000	gallons
2	Diesel #2	220	55	gallons

Summarize the business plan inventory on this page. Place this summary in front of inventory section of the Business Plan. Make copies of this sheet as necessary. Reminder: You need not report hazardous materials with a maximum quantity of less than 55 gallons, 500 pounds, or 200 cubic feet. However, hazardous wastes, Category 1 and 2 pesticides, and explosives are reportable at any quantity.

III. SIGNATURE- EPCRA Facilities: Also sign the bottom of each individual attached inventory form.

SIGNATURE OF OWNER/OPERATOR	NAME OF SIGNER (*print*) 136	DATE 134
	Glen Riddle	March 1, 2004

San Bernardino County CUPA · HAZARDOUS MATERIALS DIVISION
620 South E Street, San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

HAZARDOUS MATERIALS INVENTORY FORM - Chemical Description

X MATERIAL ☐ WASTE

One page per item. Indicate if material OR waste (Do not combine material and waste on one form)

MAKE COPIES OF THIS FORM AS NEEDED.

ATTACH A MATERIAL SAFETY DATA SHEET (MSDS) IF THE MATERIAL IS NOT LISTED IN APPENDIX I OF THIS GUIDE.

ITEM NUMBER 1

FACILITY ID #	F A [redacted] 1	CHEMICAL LOCATION INFORMATION		
BUSINESS NAME PG&E Topock Compressor Station, BLM Groundwater Extraction Site		FACILITY MAP # Facility Map	GRID COORDINATE(s) F, 5-6	BLDG or AREA Southeast corner of Site
BUSINESS SITE ADDRESS Interstate 40 and Park Moabi Road				

CHEMICAL INFORMATION

CHEMICAL NAME	TRADE SECRET X NO Do not disclose trade secrets here. Contact this Dept for trade secret filing instructions. If EPCRA, follow EPA procedures
COMMON NAME Diesel, #2	EHS* ☐ YES X NO
CAS# n/a	EHS = Extremely Hazardous Substance (Appdx B) *If EHS is "YES", all amounts MUST be in pounds

HAZARDOUS MATERIAL TYPE *(Check one item only)* ☐ a. PURE X b. MIXTURE ☐ c. WASTE | RADIOACTIVE? Yes ☐ No X | CURIES

PHYSICAL STATE *(Check one item only)* ☐ a. SOLID X b. LIQUID ☐ c. GAS ☐ d. DUST | SIZE OF LARGEST CONTAINER: 55 gallons

FED HAZARD CATEGORIES ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH X e. CHRONIC HEALTH

AVERAGE AMOUNT	MAXIMUM AMOUNT	ANNUAL WASTE AMOUNT	STATE WASTE CODE
200	220	N/A	

UNITS* *(Check one item only)* X a. GALLONS ☐ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS ☐ E. OTHER: | DAYS ON SITE 365

STORAGE CONTAINER *(Check all that apply)*

☐ a. ABOVEGROUND TANK	X e. PLASTIC/NONMETALLIC DRUM	☐ i. FIBER DRUM	☐ m. GLASS BOTTLE	☐ q. RAIL CAR
☐ b. UNDERGROUND TANK	☐ f. CAN	☐ j. BAG	☐ n. PLASTIC BOTTLE	☐ r. OTHER
☐ c. TANK INSIDE BUILDING	☐ g. CARBOY	☐ k. BOX	☐ o. TOTE BIN	
☐ d. STEEL DRUM	☐ h. SILO	☐ l. CYLINDER	☐ p. TANK WAGON	

STORAGE PRESSURE X a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE X a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

%WT	COMPOSITION (LIST ALL COMPONENTS, HAZARDOUS FIRST)	EHS	CAS #
1.		☐ YES ☐ NO	
2.		☐ YES ☐ NO	
3.		☐ YES ☐ NO	
4.		☐ YES ☐ NO	
5.		☐ YES ☐ NO	

If more hazardous components are present at greater than 1% by weight if non-carcinogenic or 0.1% by weight if carcinogenic, attach additional sheets

NOTES *(Trade names/synonyms or other information relevant to the substances listed)*

If EPCRA, Owner/Operator please sign this page

Date: March 1, 2004

KEY TO BUSINESS EMERGENCY/CONTINGENCY PLAN MAP SYMBOLS

— N — REFERENCE TO NORTH

INCLUDE ALL ADJACENT STREETS BY NAME

DRIVEWAY/GATE

DOORS

ERE EMERGENCY RESPONSE EQUIPMENT

EVACUATION ROUTE

E/S EVACUATION/STAGING AREA

FENCE/BARRIERS

FA FIRE ALARM

FIRST AID

(F) FIRE HOSE

[F] FIRE EXTINGUISHER

FIRE HYDRANT

FLOOR DRAIN

[MSDS BEP] MATERIAL SAFETY DATA SHEETS & BUSINESS EMERGENCY PLAN

RAILROAD TRACKS

(S) SEWER

STORM DRAIN

UTILITY CONNECTIONS/SHUTOFFS

[E] ELECTRIC METER

(E) ELECTRIC SHUTOFF

[G] GAS METER

(G) GAS SHUTOFF

(P) PUMP SHUTOFF

(W) WATER MAIN LINE GATE VALVE

STORAGE TANKS

ABOVE GROUND TANK

UNDERGROUND TANK

HAZARDOUS WASTE TREATMENT FACILITIES MUST LOCATE TREATMENT UNIT (S) ON MAP.

ADDITIONAL SYMBOLS:

Symbol	Description	Symbol	Description

d. Arrange to have an emergency response contractor or Safety Health and Claims representative conduct air monitoring to determine Permissible Exposure Level (PEL) and Threshold Limit Value (TLV) if necessary.

e. Stop processes or operations where necessary. Continue to monitor for leaks, pressure buildup, gas generation or release, ruptures in pipes or valves.

f. Isolate affected containers equipment.

g. Remove non-affected, potentially hazardous materials.

3. Identify what material is involved.

a. The Facility Emergency Coordinator or Environmental Specialist will make notification to the following agencies as appropriate:

National Response Center	800-424-8802
State Office of Emergency Services	800-852-7550
EPA Region IX (only notify if spill Contains 50 ppm PCB or greater, or One pound or more PCBs by weight)	415-744-2000
Local Regional Water Quality Control Board	760-241-6583
Any additional local agencies where The facility has previously agreed to Provide notification	

The local Environmental Specialist will also assist in making external notification for any spills that enter or threaten to enter surface or groundwater or onto any grazing land or edible crops.
Property owners/residents should be notified of the spill and the cleanup activities that the company will be doing

b. Oil Spills (i.e., Diesel fuel for generators):

a. Cleanup

1. Cleanup shall be completed as soon as practicable, but should be initiated within 49 hours of notification.
2. Use absorbent material to collect freestanding liquids for deposit in approved containers.
3. Remove soil and vegetation to clean up all visible traces of liquid and deposit in approved containers.
4. Double wash/rinse all solid surfaces such as walls, sidewalks, streets, cars, etc., capturing waste liquid with absorbents for deposit in approved containers.
5. Manage all cleanup material and debris as state hazardous waste.
6. Post cleanup sampling is not required. However, local agencies may request additional sampling.

c. Documentation:

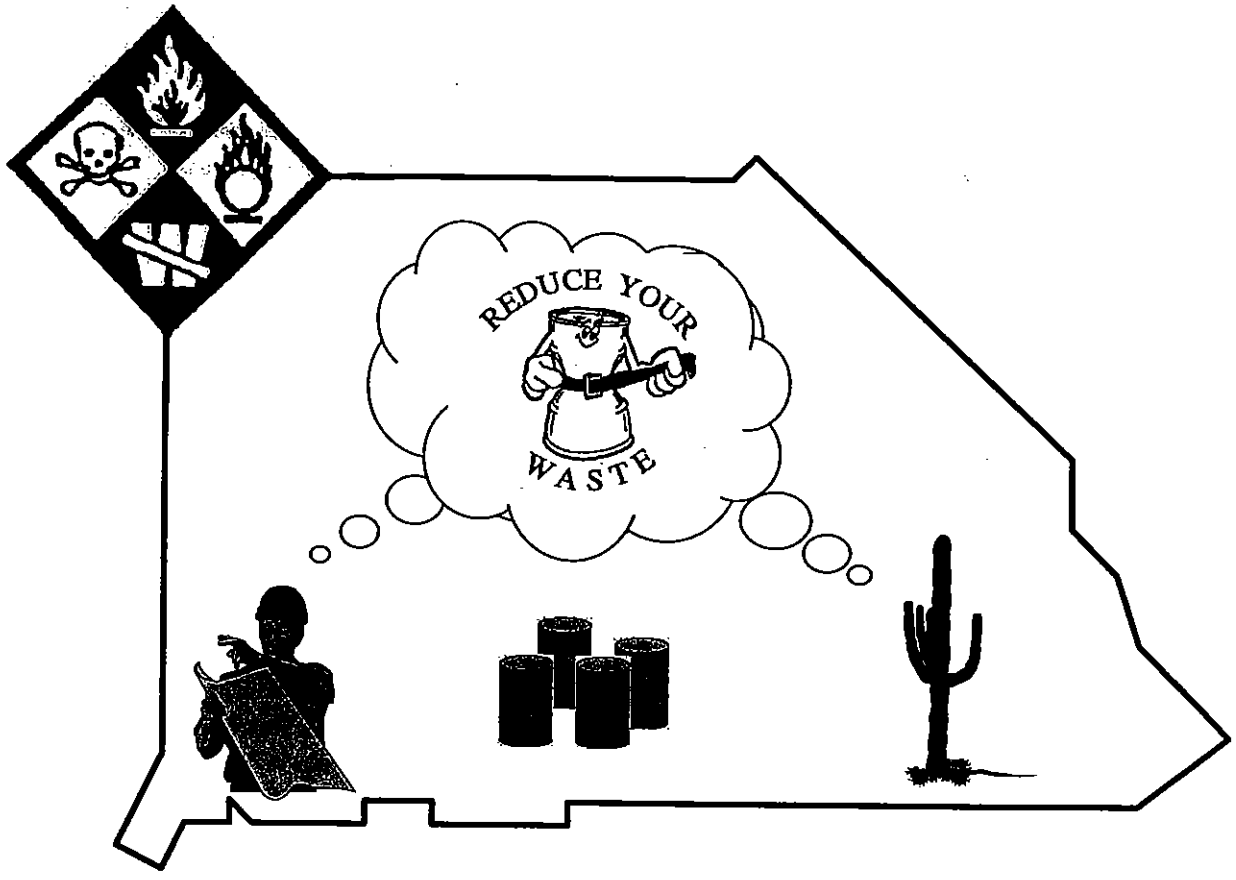
Records and test reports shall be retained at each local headquarters for a minimum of five years (after five years records should be archived). It is suggested that this documentation be retained in a file by site address. Documentation that should be retained includes copies of PCB/oil spill or Leak Report (Form 62-3685), site diagrams, laboratory test reports, emergency job estimates, accident report forms, and hazardous waste manifests.

d. Transportation

8. Waste oil is considered a hazardous waste in California and is subject to all hazardous waste transportation requirements.

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • PHONE: (909) 386-8401 FAX: (909) 386-8460

BUSINESS EMERGENCY / CONTINGENCY PLAN GUIDELINES AND FORMS



Version 3.1 (Electronic Format)
Revised 12/20/2002

PA

San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • PHONE: (909) 386-8401 FAX: (909) 386-8460

BUSINESS EMERGENCY/CONTINGENCY PLAN COVER SHEET

I. IDENTIFICATION

For Dept Use Only – Log In/Date Stamp

FACILITY ID #	F	A							

BUSINESS NAME (Same as FACILITY NAME or DBA) 3
PG&E Topock Compressor Station, BLM Groundwater Extraction Site

BUSINESS SITE ADDRESS	CITY	ZIPCODE
Interstate 40 and Park Moabi Road	Needles	92363

II. SUBMISSION CHECKLIST

(Complete this Section if submitting an entire business emergency/contingency plan whether new or revised)

Submission Checklist ☒ ***Items with an ' * ' are considered "Inventory" under State disclosure laws***

- X * Business Activities Form
- X * Business Owner/Operator Identification Form
- ☐ * Supplemental Emergency Contact Page
- X Emergency Response Plans and Procedures
- X * Hazardous Materials Inventory Summary Form for the facility listing materials (including wastes) by item number.
- X * One Hazardous Materials Inventory Form for each hazardous material (including wastes) which meet reporting criteria
- ☐ * Material Safety Data Sheets attached to the inventory form of each material not listed in Appendix I. (MSDS for Diesel Fuel not required by CUPA)
- X * Facility map (using grid form provided) consisting of all required features including the location of each inventoried item.
- X Site map (using grid form provided) consisting of all required features including surrounding facilities and areas.
- X Area map - photocopied city map with location of site indicated
- X Owner/Operator has signed and dated the plan and all required individual pages of the plan.
- X Submit 2 copies to the Hazardous Materials Division. One is for distribution to the local fire jurisdiction.
- X ***Retain one copy of the business emergency/contingency at the facility.***

III. UPDATE/CERTIFICATION

(Complete this Section if submitting a partial update or re-certifying an existing Plan)

Check the appropriate boxes below and sign the certification statement. Submit 2 copies of all update information.

☒ Please incorporate the following into my business emergency/contingency plan.

- ☐ New Business Owner/Operator Identification Form
- ☒ New Inventory Forms and new Inventory Summary Form (and maps, if affected).
- ☐ New Supplemental Emergency Contact Page.

☒ Other: See attached February 25, 2004 letter to CUPA.

Brief explanation of changes: _____

☐ There have been no changes to the inventory. In place of submitting the annual inventory, I hereby attest to all of the following:

- The information contained in the inventory most recently submitted to the CUPA is complete, accurate and up to date.
- There has been no change in the quantity, storage, or handling of hazardous materials (including waste) reported in the most recently submitted inventory.
- No hazardous materials (including waste) subject to inventory requirements are being handled that are not listed on the most recently submitted inventory.
- This certification is not being made to meet annual inventory submission requirements of EPCRA. (EPCRA requires complete annual submission)

IV. SIGNATURE

(Complete this Section for all submissions)

Certification - Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and believe the information is true, accurate and complete.

SIGNATURE OF OWNER/OPERATOR	DATE	NAME OF DOCUMENT PREPARER 135
	March 1, 2004	
NAME OF SIGNER *(print)*	TITLE OF SIGNER *(print)*	
Glen Riddle	**District Superintendent**	

CUPA

San Bernardino County Fire Department • Hazardous Materials Division
620 South "E", San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

BUSINESS ACTIVITIES
FACILITY IDENTIFICATION

FACILITY ID #	F	A								EPA ID # (Hazardous Waste Only) CAR 000151118

BUSINESS NAME (Same as FACILITY NAME or DBA)
PG&E Topock Compressor Station, BLM Groundwater Extraction Site

BUSINESS ADDRESS	CITY	ZIP CODE
Interstate 40 and Park Moabi Road	Needles	92363

I. ACTIVITIES DECLARATION

Does your facility:	If YES, please complete these portions of the application:	
A. HAZARDOUS MATERIALS Have onsite (for any purpose) hazardous materials at or above 55 gallons for liquids, 500 pounds for solids or 200 cubic feet for compressed gases; or the applicable Federal threshold quantity for an extremely hazardous substance; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70; or handle ANY amount of Class 1 or 2 explosives; or ANY amount Category I or II pesticides.	X YES ☐ NO	**BUSINESS EMERGENCY/CONTINGENCY PLAN** (Used in place of OES Form 2730 and 2731)
B. REGULATED SUBSTANCES Have Regulated Substances stored onsite in quantities greater than the threshold planning quantities established by the California Accidental Release Prevention Program (CalARP)?	☐ YES X NO	**BUSINESS EMERGENCY/CONTINGENCY PLAN** (Used in place of OES Form 2730 and 2731) **CalARP REGISTRATION FORM**
C. UNDERGROUND STORAGE TANKS (USTs) 1. Own or operate underground storage tanks?	☐ YES X NO	**UST FACILITY** **UST TANK** (Pages 1 and 2) (One set per tank)
2. Intend to upgrade existing or install new USTs?	☐ YES X NO	**UST FACILITY** **UST TANK** (Pages 1 and 2) (One set per tank) **UST INSTALLATION – CERTIFICATE OF COMPLIANCE** (one page per tank)
3. Need to report closing a UST?	☐ YES X NO	**UST FACILITY** **UST TANK** (Pages 1 and 2) (One set per tank) **HAZARDOUS WASTE TANK CLOSURE CERTIFICATION**
D. ABOVE GROUND PETROLEUM STORAGE TANKS (ASTs) Store greater than 1320 gallons of petroleum products?	☐ YES X NO	**IF YOU ANSWERED YES, PREPARE AND MAINTAIN A SPCC PLAN AS PART OF YOUR CONTINGENCY PLAN TO ADDRESS OIL SPILLS AND RELEASES FROM THE ASTs AT YOUR FACILITY.**
E. HAZARDOUS WASTE 1. Generate ANY amount of hazardous waste?	X YES ☐ NO	**EPA ID NUMBER**—provide at the top of this page **BUSINESS EMERGENCY/CONTINGENCY PLAN** (Used in place of OES Form 2730 and 2731)
2. Recycle more than 100 kg/month of excluded or exempted recyclable materials (per CHSC §25143.2)?	☐ YES X NO	**RECYCLABLE MATERIALS REPORT** (one per recycler)
3. Treat hazardous waste on site?	☐ YES X NO	**ONSITE HAZARDOUS WASTE TREATMENT - FACILITY** (Formerly DTSC Form 1772) **ONSITE HAZARDOUS WASTE TREATMENT - UNIT** (one page per unit) (Formerly DTSC Forms 1772A, B, C and L)
4. Treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)?	☐ YES X NO	**CERTIFICATION OF FINANCIAL ASSURANCE** (Formerly DTSC Form 1232)
5. Consolidated hazardous waste generated at a remote site?	☐ YES X NO	**REMOTE WASTE / CONSOLIDATED SITE ANNUAL NOTIFICATION** (Formerly DTSC Form 1196)

CUPA

San Bernardino County Fire Department • Hazardous Materials Division

620 South "E" Street, San Bernardino, CA 92415-0153 • PHONE: (909) 386-8401 FAX: (909) 386-8460

BUSINESS OWNER / OPERATOR IDENTIFICATION

FACILITY ID #	F A

(This number is on your CUPA permit.)

EFFECTIVE DATE 100	ENDING DATE 101
March 1, 2004	March 1, 2005

BUSINESS NAME (Same as FACILITY NAME or DBA)	BUSINESS PHONE
PG&E Topock Compressor Station, BLM Groundwater Extraction Site	760-326-2615

BUSINESS SITE ADDRESS 103

Interstate 40 and Park Moabi Road

CITY 104	COUNTY 106	STATE	ZIP CODE 105
Needles	SAN BERNARDINO	CA	92363

D&B NUMBER	PRIMARY SIC/NAICS CODE 107	DESCRIPTION OF BUSINESS ACTIVITY FOR THIS PRIMARY SIC CODE
00-691-2877	NAICS - 221210	Electric Power Distribution

BUSINESS OPERATOR NAME 109	BUSINESS OPERATOR PHONE 110
Glen Riddle	760-326-5516

II. BUSINESS OWNER

OWNER NAME 111	OWNER PHONE 112
PG&E	925-974-4207

OWNER MAILING ADDRESS 113

375 North Wiget Lane

CITY 114	STATE 115	ZIP CODE 116
Walnut Creek	CA	94598

III. ENVIRONMENTAL CONTACT

CONTACT NAME	CONTACT PHONE 118
Mike Bennet	559-263-5213

CONTACT MAILING ADDRESS 119

487 West Shaw Building B

CITY 120	STATE 121	ZIP CODE 122
Fresno	CA	93704

IV. EMERGENCY CONTACTS*

- PRIMARY -	- SECONDARY -
NAME 123: Glen Riddle	NAME 128: Dan Lytle
TITLE 124: District Superintendent	TITLE 129: L-300 South Superintendent
BUSINESS PHONE 125: 760-326-5516	BUSINESS PHONE 130: 760-253-7874
HOME PHONE (NOT CONFIDENTIAL - SEE NOTE BELOW)	HOME PHONE (NOT CONFIDENTIAL - SEE NOTE BELOW)
OTHER 24-HOUR PHONE (NOT CONFIDENTIAL - SEE NOTE BELOW) 126: 800-547-5955	24-HOUR PHONE (NOT CONFIDENTIAL - SEE NOTE BELOW) 131: 800-547-5955
PAGER/CELL # 127	PAGER /CELL # 132

*HOME PHONE NUMBERS ARE REQUIRED FOR ALL HAZARDOUS WASTE GENERATORS. IF YOU WISH TO KEEP 24-HOUR OR HOME PHONE NUMBERS CONFIDENTIAL, FILE THE CONFIDENTIAL EMERGENCY CONTACT PAGE (PAGE 3) AND LEAVE THE ABOVE 24 HR FIELDS BLANK. ALSO USE THE SEPARATE PAGE (PAGE 3) TO DESIGNATE MORE THAN 2 EMERGENCY COORDINATORS.

V. SIGNATURE

SIGNATURE OF OWNER/OPERATOR	NAME OF SIGNER (*print*) 136	DATE 134
	Glen Riddle	March 1, 2004

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

LOCALLY COLLECTED INVENTORY INFORMATION

I. FACILITY IDENTIFICATION

FACILITY ID # F A (This number is on your CUPA permit.)

BUSINESS NAME (Same as FACILITY NAME or DBA)
PG&E Topock Compressor Station, BLM Groundwater Extraction Site

FACILITY ADDRESS 103	CITY 104
Interstate 40 and Park Moabi Road	Needles

II. ADDITIONAL CONTACT & OPERATIONS INFORMATION

BUSINESS MAILING ADDRESS	CITY	STATE	ZIP CODE
Interstate 40 and Park Moabi Road	Needles	CA	92363

BUSINESS FAX NUMBER	BUSINESS E-MAIL
760-326-5542	Gdr2@pge.com

NOTE: ALL CORRESPONDENCE, INVOICES, PERMITS, AND NOTICES WILL BE SENT TO THE ABOVE ADDRESS

Total # of Employees onsite/shift: (as reported on your most recent tax withholding forms.)	SHIFT 1	SHIFT 2	SHIFT 3	HOURS OF OPERATION
	1 person (8 a.m. – 5 p.m.)	N/a (remote operation)	N/ (remote operation	24 hours/7 days per week
Total # of employees onsite involved in the operation that uses hazardous materials:			1	TAXPAYER ID NUMBER 94-074-2640

ASSESSORS PARCEL NUMBER (S)	CROSS STREET
0650-161-08	Park Moabi Road

BUSINESS DESCRIPTION
Groundwater is extracted from wells, temporarily accumulated in aboveground storage tanks, and hauled offsite. Groundwater may contain concentrations of chromium exceeding hazardous waste levels. Hazardous waste will not be held onsite any longer than 90 days.

Number of Underground Storage Tanks located at this facility: 0

Does this facility:

- Have a cumulative aboveground liquid petroleum (not including petroleum gases) storage capacity of greater than 1320 gallons? This includes both product and waste and includes tank and drum storage. ☐ YES X NO
- Store or handle extremely hazardous substances at a quantity above threshold planning quantity? (See Appendix B of this guide) ☐ YES X NO
- Is this site subject to EPCRA Section 311 & 312 (Emergency Planning and Community Right-to-Know Act)? (See Page 'i' for description) ☐ YES X NO
- Store or handle Regulated Substances (see Appendix C) in excess of threshold quantity? ☐ YES X NO

Name(s) of Regulated Substances:

Does this facility have a laboratory on site ☐ YES* X NO

* If yes, attach a general description of the laboratory and a **brief** description of the type(s) and quantity of hazardous materials in the lab.

III. VULNERABLE POPULATIONS

Is there a school, hospital, or extended care facility within 1,000 ft. (straight-line distance) of this facility? ☐ YES X NO

If yes, provide name and address of each school hospital or extended care facility site.

Date: March 1, 2004

BUSINESS NAME (Same as FACILITY NAME or DBA)
PG&E Topock Compressor Station, BLM Groundwater Extraction Site

FACILITY ADDRESS 103	CITY 104
Interstate 40 and Park Moabi Road	Needles

EMERGENCY CONTACTS

A business shall appoint an Emergency Coordinator and Alternate Emergency Coordinator. These persons shall be knowledgeable in all aspects of the business operation. In the event of a release or threatened release of hazardous materials, the Emergency Coordinators shall be responsible for initiating response actions by the business. The Emergency Coordinators shall have full access to the facility, site familiarity and authority to make decisions for the business and to commit business resources. Hazardous waste generators must provide the information required in Title 22 of the California Code of Regulations and must list all emergency coordinators in the order that they will assume responsibility.

ONLY Emergency Contacts listed on this separate page will be held as confidential.

NAME	TITLE 124
Glen Riddle	District Superintendent

OFFICE ADDRESS
Interstate 40 and Park Moabi Road

OFFICE PHONE 125	HOME PHONE 126	OTHER 24 HR PHONE (PAGER/CELL) 127
760-326-5516	928-681-4564	800-547-5955

NAME 123	TITLE 124
Dan Lytle	L-300 South Superintendent

OFFICE ADDRESS
35863 Fairview Road, Hinkley, CA 92347

OFFICE PHONE 125	HOME PHONE 126	OTHER 24 HR PHONE (PAGER/CELL) 127
760-253-7874	760-961-8552	800-547-5955

NAME 123	TITLE 124
Mike Bennett	Senior Environmental H&S Specialist

OFFICE ADDRESS
487 West Shaw Building B, Fresno

OFFICE PHONE 125	HOME PHONE 126	OTHER 24 HR PHONE (PAGER/CELL) 127
559-263-5213		

EMERGENCY RESPONSE TEAM (OWN EMPLOYEES OR CONTRACT) –IF APPLICABLE

NAME	24-HOUR PHONE
NAME	24-HOUR PHONE
NAME	24-HOUR PHONE
NAME	24-HOUR PHONE

Date: March 1, 2004

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

BUSINESS NAME (Same as FACILITY NAME or DBA)	
PG&E Topock Compressor Station, BLM Groundwater Extraction Site	
FACILITY ADDRESS 103	CITY 104
Interstate 40 and Park Moabi Road	Needles

EMERGENCY RESPONSE PLANS & PROCEDURES - AGENCY NOTIFICATION
POST BY PHONE

Agency Notification: A handler of hazardous materials is required to immediately report any release or threatened release of a hazardous material to the administering agency and the Office of Emergency Services. Note that there is no reportable quantity under California statute. Spills exceeding federal reportable quantities require notification to the National Response Center. This CUPA requires a written report within fifteen (15) days after any reportable release or threatened release. Contact the CUPA for further guidance.
If a situation is an emergency, call 911 first. **(* Indicates mandatory notification.)**

Agency	Phone Number
1. *Local Emergency Response Agency (if an emergency)	**911**
2. *San Bernardino County Fire Department Hazardous Materials Division	**(800) 33-TOXIC** or **(909) 386-8425**
3. *State of California, Office of Emergency Services	**(800) 852-7550** or **(916) 845-8911**
4. National Response Center	**(800) 424-8802**
5. Other Agencies *(Cal OSHA, Regional Board, Air Quality, as applicable)*	
Agency Name	*Phone Number*
Aaron Yue, DTSC	*Work: 714.484.5439*
	Cell: 714.493.6429
	Home: 626.913.9189
Mojave Desert Air Quality Management District	*760-245-1661*
Needles Fire Dept	*760-326-2833*
San Bernardino Count Sheriff Dept	*760-326-9200*
Agency Name	*Phone Number*
Jeff Smith, U.S. Bureau of Reclamation, Regional Hazmat Coordinator	*Work: 702.378.2400*
	Cell: 702.293.8060
	Home: 702.567.1586
Colorado River Medial Center	*760-326-4531*

EMERGENCY INFORMATION REQUIRED:

- Name & phone number of person reporting
- Name and street address of the business
- Location of the incident or threatened release
- Type of incident or threatened release
- Hazardous materials involved & physical state
- Hazards to human health and/or environment
- Estimate of the quantity released
- Media (soil, water, air) into which release occurred
- Precautions to take (if known)
- Time and duration of the release
- Is the chemical an extremely hazardous substance?
- Extent of injuries, if any

Release reporting citations (California Health and Safety Code):

§ 25501. Definitions:
(r) "Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, unless permitted or authorized by a regulatory agency.
(u) "Threatened release," means a condition creating a substantial probability of harm, when the probability and potential extent of harm make it reasonably necessary to take immediate action to prevent, reduce, or mitigate damages to persons, property, or the environment.

§ 25507(a) ... the handler or any employee, authorized representative, agent, or designee of a handler shall, upon discovery, immediately report any release or threatened release of a hazardous material to the administering agency, and to the office, in accordance with the regulations adopted pursuant to Section 25503. Each handler and any employee, authorized representative, agent, or designee of a handler shall provide all state, city, or county fire or public health or safety personnel and emergency rescue personnel with access to the handler's facilities.

§ 25515. Any person or business that violates Section 25507 shall, upon conviction, be punished by a fine of not more than twenty-five thousand dollars ($25,000) for each day of violation, or by imprisonment in the county jail for not more than one year, or by both the fine and imprisonment. .... Furthermore, if the violation results in, or significantly contributes to, an emergency, including a fire, to which the county or city is required to respond, the person shall also be assessed the full cost of the county or city emergency response, as well as the cost of cleaning up and disposing of the hazardous materials.

Date: March 1, 2004

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

BUSINESS NAME (Same as FACILITY NAME or DBA)
PG&E Topock Compressor Station, BLM Groundwater Extraction Site

FACILITY ADDRESS 103	CITY 104
Interstate 40 and Park Moabi Road	Needles

EMERGENCY RESPONSE PLANS AND PROCEDURES

State Law requires your business to complete all sections of the Emergency Response Procedure listed below:

For each of the following, **briefly** describe your business's standard operating procedures relating to the release or threatened release of hazardous materials located at your facility. You may attach additional pages if necessary, but do not include copies of facility manuals unless requested to do so by this Department. You may reference manuals that are used by your facility for these procedures, but you must still give a brief description of policy.

EVACUATION/NOTIFICATION: Indicate location(s) where employees, customers, visitors or others on site are to evacuate in an emergency. Describe how your business will immediately notify people and evacuate the facility in the event of a release or threatened release of hazardous materials. Include the route and meeting place.

See attached

PREVENTION/MITIGATION/ABATEMENT: Describe what policies and procedures your business will follow to prevent, reduce and/or remove the hazard to persons, property or the environment caused by a release or threatened release of hazardous materials and/or hazardous wastes. (√ Check those items that apply and write additional information in the space provided).

- ☐ Reduction of containers on site if not used or needed.
- ☐ Containers are properly labeled and closed when not in use.
- ☐ Compressed gas cylinders are properly secured.
- X Use of monitoring system. Type: **Automated Systems Fail-safe Alarms – high-level shutdown alarms in tanks**
- X Other:

Secondary containment for tank systems (tanks and associated piping)

Drip pads placed to collect incidental spills during loading operations

Operator observation of loading of groundwater into tanker trucks

Daily inspections of tank systems in accordance with 22CCR

Initial and refresher training of personnel managing hazardous materials

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

BUSINESS NAME (Same as FACILITY NAME or DBA)			
PG&E Topock Compressor Station, BLM Groundwater Extraction Site			
FACILITY ADDRESS	103	CITY	104
Interstate 40 and Park Moabi Road		Needles	

EMERGENCY RESPONSE PLANS AND PROCEDURES – PAGE 2

FACILITY TRAINING PLAN: Describe employee and operator training including local emergency response coordination, use of facility emergency equipment, and provisions for initial and refresher training. In addition, describe training for hazardous materials/waste handling as required by OSHA. (√ Check those items that apply and write additional information in the space provided)

- X New employee training.
- X Annual training & periodic refresher courses.
- X Familiarization with the Emergency Response Plans and Procedures of this Business Plan.
- X Spill control equipment
- X Monitoring system
- X Personal Protective Equipment
- On the job training. Describe below.
- X Other: **In addition to training in emergency response measures, personnel will be trained in responsibilities related to loading of trucks, sampling, conducting general site and tank system inspections, tracking of manifests, operating the portable generator, and mitigation measures.**

EMERGENCY PROCEDURES: Give duties of the Emergency Coordinator and how implementation of Facility Emergency Response will be accomplished. (e.g. Notification, evacuation, emergency coordination) (√ Check those items that apply and write additional information in the space provided)

Emergency Coordinator will:

- X Identify potential hazards and determine whether a release has occurred.
- X Activate local emergency systems (e.g. manual shutoff devices) and take appropriate immediate actions based on level of training and the ability to act safely.
- X Coordinate the notification and evacuation of employees and customers from the facility.
- X Make required agency notifications and request needed assistance.
- X Assist responding agencies by providing access to the facility and information about the facility.
- ☐ Other:

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

BUSINESS NAME (Same as FACILITY NAME or DBA)
PG&E Topock Compressor Station, BLM Groundwater Extraction Site

FACILITY ADDRESS 103	CITY 104
Interstate 40 and Park Moabi Road	Needles

EMERGENCY RESPONSE PLANS AND PROCEDURES – PAGE 3

FACILITY EMERGENCY EQUIPMENT: List facility emergency equipment on site (fire extinguisher, fire alarms, spill control equipment, SCBA, first aid kits, etc.); include test/maintenance plan. (√ Check those items that apply and write additional information in the space provided)

	Equipment	Quantity/Type	Maintenance Schedule/Frequency
X	Fire extinguisher(s)	3 (ABC)	Annual inspection; replace if used
X	First aid kit(s)	1	Annual inspection; replace items if used
☐	Fire alarm(s)		
X	Spill control equipment		
	Shovels	2	Annual inspection
	Spill Kit	2	Annual inspection (replace items if used)
	Pump	1	Annual inspection
X	Monitoring system	1 High-level alarm	Inspected monthly (tripping the alarm)
X	Personal Protective Equipment	Gloves (4 pair)	Annual inspection (replace if used)
☐		Safety glasses (4 pair)	Annual inspection (replace if used)

FACILITY EARTHQUAKE RESPONSE: Identify areas of the facility as well as mechanical or other systems that require immediate inspection due of their vulnerability to earthquake related ground motion. (E.g. Hazardous materials or waste storage locations, vessels, piping, pipe and tank supports, valves, gauges, etc.) (√ Check those items that apply and write additional information in the space provided)

- X Chemical Storage Locations – Product and Waste
- ☐ Process vessels
- X Aboveground storage tanks **(including piping)**
- ☐ Emergency shut-off systems
- ☐ Piping and pipe supports
- ☐ Utility connections
- X **Groundwater well heads**
- X **Auxillary fuel supply for generator**

ARRANGEMENTS/AGREEMENTS: Describe any arrangements or agreements that you have with private emergency response teams, waste haulers, disposal companies, recyclers, local hospitals, police or fire. If you have no arrangements or agreements, state that fact in the space provided. (√ Check those items that apply and write additional information in the space provided)

- ☒ Hazardous waste hauler **Denbeste [Philip Transportation and Remediation, Inc. 800-321-1030]**
- ☐ Emergency response team **Contract with Philips Transportation and Remediation, Inc., Phone No.: 800.321.1030**
- ☒ Local Hospitals **Colorado River Medical Center, Needles. 760-326-4531**
- ☐ Other:
- ☐ No arrangements or agreements at this time

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • PHONE: (909) 386-8401 FAX: (909) 386-8460

INVENTORY SUMMARY FORM (REQUIRED)

I. FACILITY IDENTIFICATION

FACILITY ID # F A 1 (This number is on your CUPA permit.)

BUSINESS NAME (Same as FACILITY NAME or DBA)
PG&E Topock Compressor Station, BLM Groundwater Extraction Site

FACILITY ADDRESS	103	CITY	104
Interstate 40 and Park Moabi Road		Needles	

II. INVENTORY SUMMARY

Item #	Name of Hazardous Material or Waste	Maximum Quantity	Size of Largest Container	Unit of Measure
3.	*Lubricating Oil (Example Only)*	*555*	*500*	*Gallon*
1.	Extracted Groundwater potentially containing Chromium exceeding hazardous waste levels of 5 mg/l	80,000	20,000	gallons
2	Diesel #2	220	55	gallons

Summarize the business plan inventory on this page. Place this summary in front of inventory section of the Business Plan. Make copies of this sheet as necessary. Reminder: You need not report hazardous materials with a maximum quantity of less than 55 gallons, 500 pounds, or 200 cubic feet. However, hazardous wastes, Category 1 and 2 pesticides, and explosives are reportable at any quantity.

III. SIGNATURE- EPCRA Facilities: Also sign the bottom of each individual attached inventory form.

SIGNATURE OF OWNER/OPERATOR	NAME OF SIGNER (*print*) 136	DATE 134
	Glen Riddle	March 1, 2004

San Bernardino County CUPA · HAZARDOUS MATERIALS DIVISION
620 South E Street, San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

HAZARDOUS MATERIALS INVENTORY FORM - Chemical Description

☐ MATERIAL
X WASTE

One page per item. Indicate if material OR waste (Do not combine material and waste on one form)

MAKE COPIES OF THIS FORM AS NEEDED.

ATTACH A MATERIAL SAFETY DATA SHEET (MSDS) IF THE MATERIAL IS NOT LISTED IN APPENDIX I OF THIS GUIDE.

ITEM NUMBER 2

FACILITY ID #	F A								1	CHEMICAL LOCATION INFORMATION

BUSINESS NAME	FACILITY MAP #	GRID COORDINATE(s)	BLDG or AREA
PG&E Topock Compressor Station, BLM Groundwater Extraction Site	Facility Map	A-E, 1-4	Site
BUSINESS SITE ADDRESS Interstate 40 and Park Moabi Road			

CHEMICAL INFORMATION

CHEMICAL NAME	TRADE SECRET X NO Do not disclose trade secrets here. Contact this Dept for trade secret filing instructions. If EPCRA, follow EPA procedures
COMMON NAME Extracted Groundwater Potentially Containing Chromium exceeding hazardous waste level of 5 mg/l	EHS* ☐ YES X NO
CAS# n/a	EHS = Extremely Hazardous Substance (Appdx B) *If EHS is "YES", all amounts MUST be in pounds

HAZARDOUS MATERIAL TYPE *(Check one item only)* ☐ a. PURE ☐ b. MIXTURE X c. WASTE | RADIOACTIVE? Yes ☐ No X | CURIES

PHYSICAL STATE *(Check one item only)* ☐ a. SOLID X b. LIQUID ☐ c. GAS ☐ d. DUST | SIZE OF LARGEST CONTAINER: **20,000** gallons

FED HAZARD CATEGORIES ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH X e. CHRONIC HEALTH

AVERAGE AMOUNT	MAXIMUM AMOUNT	ANNUAL WASTE AMOUNT	STATE WASTE CODE
40,000	80,000	6,600,000	D007, 132

UNITS* *(Check one item only)* X a. GALLONS ☐ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS ☐ E. OTHER: | DAYS ON SITE **365**

STORAGE CONTAINER *(Check all that apply)*

X a. ABOVEGROUND TANK	☐ e. PLASTIC/NONMETALLIC DRUM	☐ i. FIBER DRUM	☐ m. GLASS BOTTLE	☐ q. RAIL CAR
☐ b. UNDERGROUND TANK	☐ f. CAN	☐ j. BAG	☐ n. PLASTIC BOTTLE	☐ r. OTHER
☐ c. TANK INSIDE BUILDING	☐ g. CARBOY	☐ k. BOX	☐ o. TOTE BIN	
☐ d. STEEL DRUM	☐ h. SILO	☐ l. CYLINDER	☐ p. TANK WAGON	

STORAGE PRESSURE X a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE X a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

%WT	COMPOSITION (LIST ALL COMPONENTS, HAZARDOUS FIRST)	EHS	CAS #
1.		☐ YES ☐ NO	
2.		☐ YES ☐ NO	
3.		☐ YES ☐ NO	
4.		☐ YES ☐ NO	
5.		☐ YES ☐ NO	

If more hazardous components are present at greater than 1% by weight if non-carcinogenic or 0.1% by weight if carcinogenic, attach additional sheets

NOTES *(Trade names/synonyms or other information relevant to the substances listed)*	*If EPCRA, Owner/Operator please sign this page*

Date: March 1, 2004

San Bernardino County CUPA - HAZARDOUS MATERIALS DIVISION
620 South E Street, San Bernardino, CA 92415-0153 • (909) 386-8401 FAX (909) 386-8460

HAZARDOUS MATERIALS INVENTORY FORM - Chemical Description

X MATERIAL ☐ WASTE

One page per item. Indicate if material OR waste (Do not combine material and waste on one form)

MAKE COPIES OF THIS FORM AS NEEDED.

ATTACH A MATERIAL SAFETY DATA SHEET (MSDS) IF THE MATERIAL IS NOT LISTED IN APPENDIX I OF THIS GUIDE.

ITEM NUMBER 1

FACILITY ID #	F A								1	CHEMICAL LOCATION INFORMATION

BUSINESS NAME	FACILITY MAP #	GRID COORDINATE(s)	BLDG or AREA
PG&E Topock Compressor Station, BLM Groundwater Extraction Site	Facility Map	F, 5-6	Southeast corner of Site
BUSINESS SITE ADDRESS: Interstate 40 and Park Moabi Road			

CHEMICAL INFORMATION

CHEMICAL NAME	TRADE SECRET X NO Do not disclose trade secrets here. Contact this Dept for trade secret filing instructions. If EPCRA, follow EPA procedures
COMMON NAME: Diesel, #2	EHS* ☐ YES X NO
CAS# n/a	EHS = Extremely Hazardous Substance (Appdx B) *If EHS is "YES", all amounts MUST be in pounds

HAZARDOUS MATERIAL TYPE *(Check one item only)*: ☐ a. PURE X b. MIXTURE ☐ c. WASTE | RADIOACTIVE? Yes ☐ No X | CURIES

PHYSICAL STATE *(Check one item only)*: ☐ a. SOLID X b. LIQUID ☐ c. GAS ☐ d. DUST | SIZE OF LARGEST CONTAINER: 55 gallons

FED HAZARD CATEGORIES: ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH X e. CHRONIC HEALTH

AVERAGE AMOUNT	MAXIMUM AMOUNT	ANNUAL WASTE AMOUNT	STATE WASTE CODE
200	220	N/A	

UNITS* *(Check one item only)*: X a. GALLONS ☐ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS ☐ E. OTHER: | DAYS ON SITE: 365

STORAGE CONTAINER *(Check all that apply)*:
☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☐ d. STEEL DRUM
X e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO
☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER
☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON
☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE: X a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE: X a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

%WT	COMPOSITION (LIST ALL COMPONENTS, HAZARDOUS FIRST)	EHS	CAS #
1.		☐ YES ☐ NO	
2.		☐ YES ☐ NO	
3.		☐ YES ☐ NO	
4.		☐ YES ☐ NO	
5.		☐ YES ☐ NO	

If more hazardous components are present at greater than 1% by weight if non-carcinogenic or 0.1% by weight if carcinogenic, attach additional sheets

NOTES *(Trade names/synonyms or other information relevant to the substances listed)*

If EPCRA, Owner/Operator please sign this page

Date: March 1, 2004

CUPA
San Bernardino County Fire Department • Hazardous Materials Division
620 South "E" Street, San Bernardino, CA 92415-0153 • PHONE: (909) 386-8401 FAX: (909) 386-8460

SECTION IV: BUSINESS EMERGENCY CONTINGENCY PLAN MAPS

Submit three (3) maps:

- ☐ X **Area Map** - location of facility in relation to community (Attachment 1)
- ☐ X **Site Map** - overview of facility and its immediate surroundings (Attachment 1)
- ☐ X **Facility Map(s)** - floor plan of facility, locations of hazardous materials, emergency equipment, building details. (Attachment 1)

AREA MAP - Provide a map showing entire area around the facility and property. The purpose of the area map is to identify primary and alternate routes to the facility and to see where in a community the facility is located. Be sure to identify location of the facility on map. (i.e. Thomas Brother's Guide map page or equivalent may be used). Information provided **must** be to a legible scale on an 8 1/2 x 11" sheet of paper.

NOTE: The following Sections require that you prepare a map of your facility and site location. A blank grid map has been provided for this purpose. You **must** use a grid system and use the map symbols provided. If you add additional symbol items on the map, provide an explanation of those symbols on the legend sheet area.

If your facility is very large and you cannot adequately fit the required items on the map forms provided, you may submit a series of maps. For example, enlarge a quadrant area on a main grid map and submit detail maps for a grid group. If you have difficulty with map preparation, contact this office for further assistance. The facility and the site map may be combined into one map **only** if you can provide all the required items in a legible scale on the sheets provided. These maps provide vital emergency information to emergency responders, and therefore it is important that you take the time to make them readable and accurate.

SITE MAP - The business site map is an aerial overview of your facility. Complete this map on the sheet provided to a legible scale. The purpose of the site map is to provide the geographic context of the buildings, access points, and surrounding properties and streets around a facility. Below is a list of items that **must** be included on the drawing: -scale of map (i.e., 1" = 100 ft.)

- ☐ Site orientation (north, south, etc.)
- ☐ The names of all roads on all sides of the facility
- ☐ The location of your facility
- ☐ Property lines and adjacent property names on all sides of the property.
- ☐ Exit/entry routes (i.e., gates, driveways, etc.)
- ☐ Schools, hospitals, extended care facilities within 1000 feet of your facility.
- ☐ Fences or barriers on the site
- ☐ Location of any rail transportation sites (i.e., railroad tracks or spurs)

FACILITY MAP - The facility map is a drawing of the **FLOOR PLAN** of your establishment. Complete this map on the sheet provided to a legible scale. The purpose of the facility map is to locate inventoried hazardous materials (by item number), emergency equipment, and facility features that must be considered in responding to a fire or potential release of hazardous materials. Below is a list of items that **must** be included on the drawing:

- ☐ Scale of map (i.e., 1" = 100 ft.)
- ☐ Site orientation (north, south, etc.)
- ☐ Identify each hazardous material handling, use, or storage area by showing number of the material as identified by item # from your material or waste inventory forms & summary. If the materials are too numerous to indicate on the map grid area, then provide a sequential letter (i.e., A, B, etc.) on the map where the items are located and list item # in the **"Notes"** area provided (i.e., A= #1,2,3,4,7, 9, 10, etc.).
- ☐ Identify location of emergency response equipment such as fire suppression equipment, protective clothing, etc.
- ☐ Identify any hazardous waste treatment units
- ☐ Identify exits, evacuation routes, doors, and wall separations
- ☐ Identify interior and exterior electrical, gas, water and any other emergency shut-off valves.
- ☐ Identify emergency alarm locations, and first aid equipment locations
- ☐ Identify location of material safety data sheets and business emergency plan
- ☐ Identify location of all floor drains
- ☐ Identify location of sewer and storm drains on or around facility site
- ☐ Identify location of parking and loading areas
- ☐ Identify location of evacuation staging areas
- ☐ Identify location of above and below ground storage tanks. Identify contents by inventory item # and indicate amount stored in tank (i.e., 10 pounds, 500 gallons.)

Use the symbols on the following key to locate features on the site and facility maps. If you add additional symbol items on the map, provide an explanation of those symbols on the legend sheet area.

KEY TO BUSINESS EMERGENCY/CONTINGENCY PLAN MAP SYMBOLS

— N — REFERENCE TO NORTH

INCLUDE ALL ADJACENT STREETS BY NAME

DRIVEWAY/GATE

DOORS

ERE EMERGENCY RESPONSE EQUIPMENT

EVACUATION ROUTE

E/S EVACUATION/STAGING AREA

FENCE/BARRIERS

FA FIRE ALARM

FIRST AID

(F) FIRE HOSE

F FIRE EXTINGUISHER

FIRE HYDRANT

FLOOR DRAIN

MSDS BEP MATERIAL SAFETY DATA SHEETS & BUSINESS EMERGENCY PLAN

RAILROAD TRACKS

(S) SEWER

STORM DRAIN

UTILITY CONNECTIONS/SHUTOFFS

E ELECTRIC METER

(E) ELECTRIC SHUTOFF

G GAS METER

(G) GAS SHUTOFF

(P) PUMP SHUTOFF

(W) WATER MAIN LINE GATE VALVE

STORAGE TANKS

ABOVE GROUND TANK

UNDERGROUND TANK

HAZARDOUS WASTE TREATMENT FACILITIES MUST LOCATE TREATMENT UNIT (S) ON MAP.

ADDITIONAL SYMBOLS:

Symbol	Description	Symbol	Description

Response Procedures for Spills

This procedure describes the actions to be taken in the event of spill or release of hazardous material (i.e., extracted groundwater or generator fuel).

A. First Employee at the Scene

1. Observe from a safe distance
2. Identify hazards
3. Restrict access to the spill area
4. Call for assistance. Provide the Facility Emergency Coordinator or Supervisor with the following information:
   A. Your name and telephone number
   B. Any injuries
   C. Location and type of spill
   D. Source and cause of spill, if known
   E. Fire or explosion risk
   F. Actions to be taken to stop/contain the release
   G. Notify emergency spill response contractor/fire department if needed
5. If safe to enter area, attend to any injured. Administer first aid if you have been trained and certified. Call an ambulance or paramedic.
6. If safe to do so, stop the source of the discharge (e.g., shut valve). Note: If material is unknown, can cause immediate hazards to life or health, is producing fumes, vapors, etc., never enter the area without the proper PPE and support persons.
   This may involve:

- Shutting off equipment or pumps;
- Plugging a hole in operating equipment or a tank
- Righting an overturned container or piece of operating equipment.

Simultaneously pursue containment of the discharge with the following containment techniques:

- For relatively small spills, apply absorbent to the surface of the spill, enough to absorb the liquid.
- For larger spills, construct earthen dikes or ditches around the spill to prevent the discharge from flowing off-site or into waterways.

7. Remain at the scene to prevent other people or vehicles from entering the emergency area until relieved by the Facility Emergency Coordinator.

B. Initial Emergency Coordinator Action

1. The Facility Emergency Coordinator or the exempt supervisor/department on-call supervisor must gather as much information as possible to assess the magnitude and severity of the spill in order to initiate appropriate actions. This may involve telephone calls to operations or maintenance personnel who may have seen the spill or to office personnel who can assist in collection of resources such as Material Safety Data Sheets.
2. The Facility Emergency Coordinator or the exempt supervisor/department on-call supervisor then goes to the scene of the spill to initiate an appropriate response plan.

C. Response Plan Developed and Implemented

1. Identify if any injuries have occurred and that proper actions have been taken.
2. Assess the possible hazard to human health, property, or the environment.
   a. Isolate spill from human or vehicular contact. (Use cones, stanchions, and tape; post signs.) Order all personnel not involved with the cleanup operations to leave the area.
   b. If the emergency threatens human health, activate alarms or communications systems to notify all persons for evacuation.
   c. If the emergency threatens human health outside the facility boundaries and local areas mush be evacuated, notify the state Office of Emergency Services (OES) and the local emergency assistance organizations.
   An immediate verbal report of any release or threatened release which poses a present or potential danger to human health and safety, property or the environment must be reported to the city or county agency and the OES.
   The verbal notification should include the following information:
   - Name and telephone number of person reporting release
   - Name and address of the facility
   - Time and type of incident
   - Location of the release
   - Hazardous material and estimate of the quantity
   - Extent of injuries
   - Potential hazards (if known)

d. Arrange to have an emergency response contractor or Safety Health and Claims representative conduct air monitoring to determine Permissible Exposure Level (PEL) and Threshold Limit Value (TLV) if necessary.

e. Stop processes or operations where necessary. Continue to monitor for leaks, pressure buildup, gas generation or release, ruptures in pipes or valves.

f. Isolate affected containers equipment.

g. Remove non-affected, potentially hazardous materials.

3. Identify what material is involved.

a. The Facility Emergency Coordinator or Environmental Specialist will make notification to the following agencies as appropriate:

National Response Center	800-424-8802
State Office of Emergency Services	800-852-7550
EPA Region IX (only notify if spill Contains 50 ppm PCB or greater, or One pound or more PCBs by weight)	415-744-2000
Local Regional Water Quality Control Board	760-241-6583
Any additional local agencies where The facility has previously agreed to Provide notification	

The local Environmental Specialist will also assist in making external notification for any spills that enter or threaten to enter surface or groundwater or onto any grazing land or edible crops.

Property owners/residents should be notified of the spill and the cleanup activities that the company will be doing

b. Oil Spills (i.e., Diesel fuel for generators):

a. Cleanup

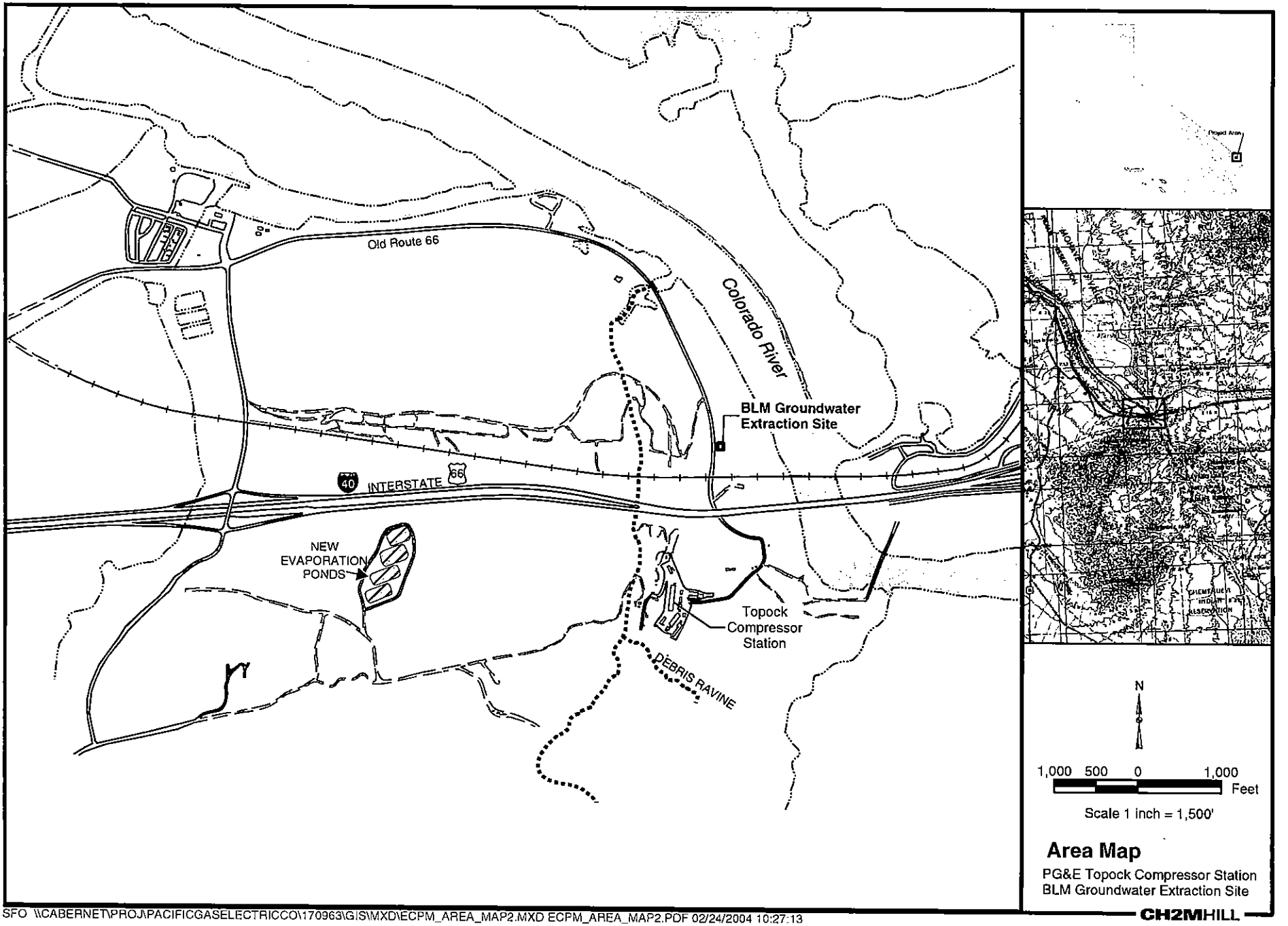
1. Cleanup shall be completed as soon as practicable, but should be initiated within 49 hours of notification.
2. Use absorbent material to collect freestanding liquids for deposit in approved containers.
3. Remove soil and vegetation to clean up all visible traces of liquid and deposit in approved containers.
4. Double wash/rinse all solid surfaces such as walls, sidewalks, streets, cars, etc., capturing waste liquid with absorbents for deposit in approved containers.
5. Manage all cleanup material and debris as state hazardous waste.
6. Post cleanup sampling is not required. However, local agencies may request additional sampling.

c. Documentation:

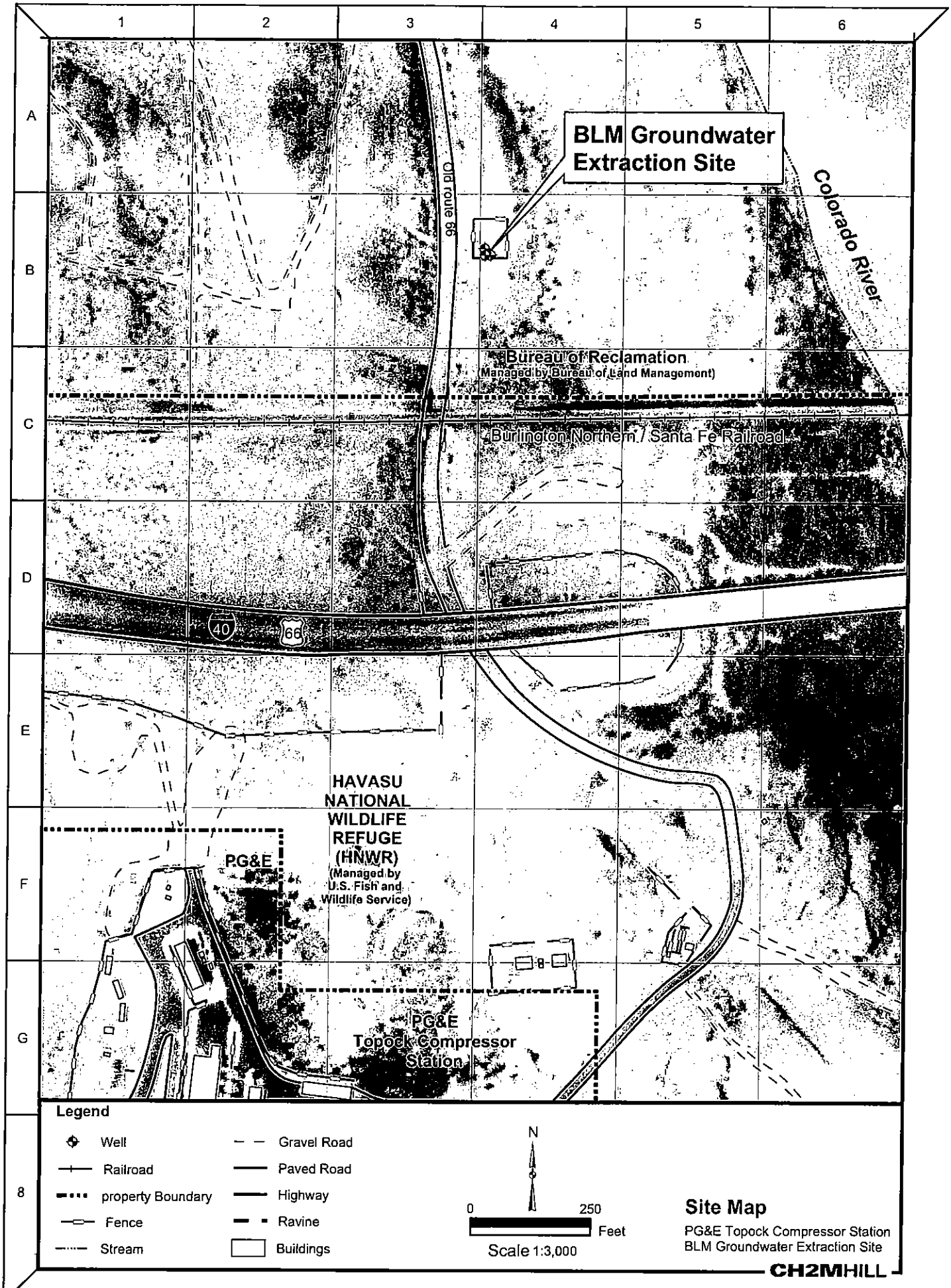
Records and test reports shall be retained at each local headquarters for a minimum of five years (after five years records should be archived). It is suggested that this documentation be retained in a file by site address. Documentation that should be retained includes copies of PCB/oil spill or Leak Report (Form 62-3685), site diagrams, laboratory test reports, emergency job estimates, accident report forms, and hazardous waste manifests.

d. Transportation

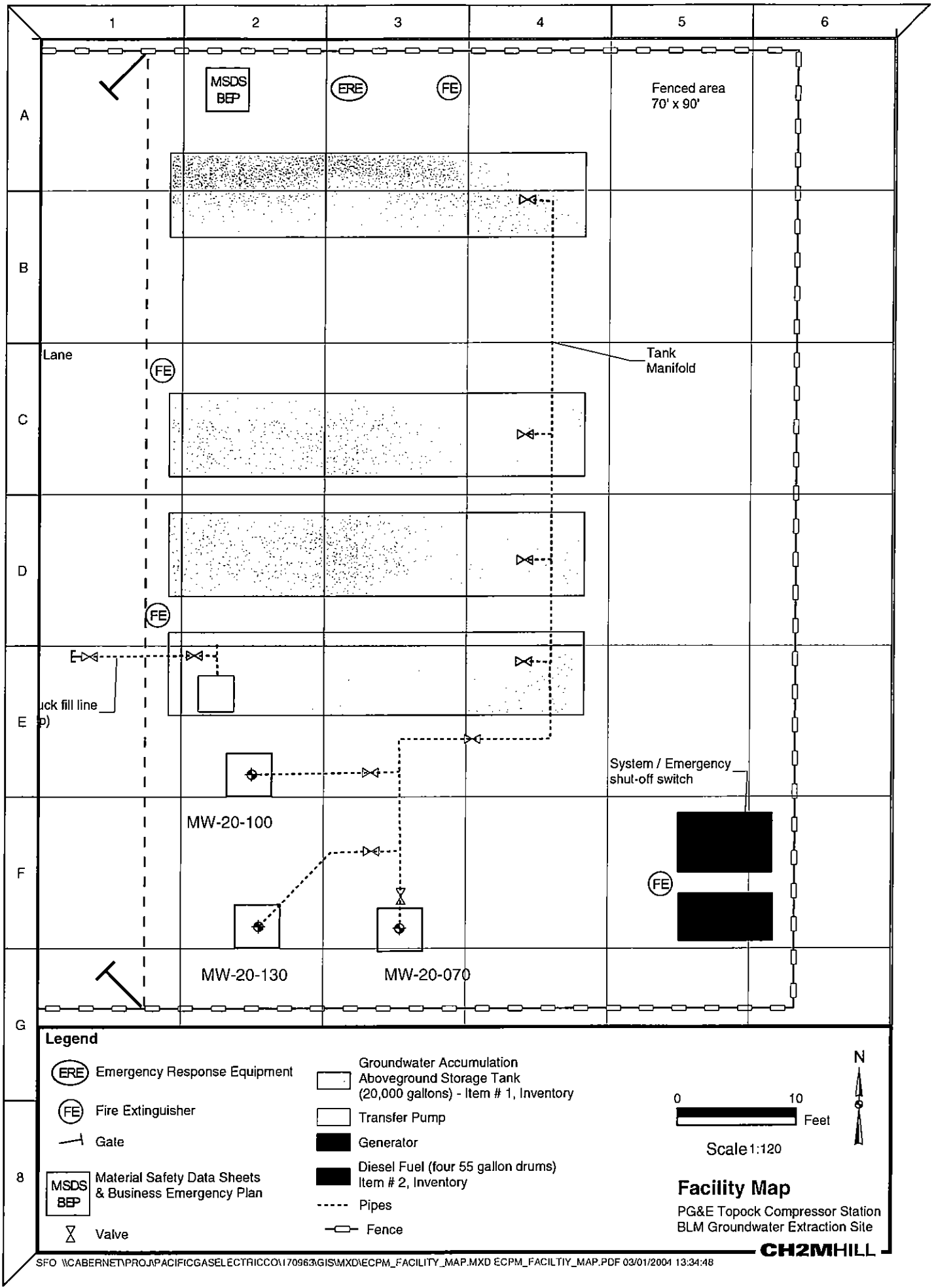
8. Waste oil is considered a hazardous waste in California and is subject to all hazardous waste transportation requirements.



SFO \\CABERNET\PROJ\PACIFICGASELECTRICCO\170963\GIS\MXD\ECPM_AREA_MAP2.MXD ECPM_AREA_MAP2.PDF 02/24/2004 10:27:13



SFO \\CABERNET\PROJ\PACIFICGASELECTRICCO\170963\GIS\MXD\ECPM_SITE_MAP.MXD ECPM_SITE_MAP.PDF 02/24/2004 11:41:55


1
2
3
4
5
6
A
B
C
D
E
F
G
8
MSDS
BEP
ERE
FE
Fenced area
70' x 90'
Lane
Tank
Manifold
uck fill line
p)
System / Emergency
shut-off switch
MW-20-100
MW-20-130
MW-20-070
Legend
Emergency Response Equipment
Fire Extinguisher
Gate
Material Safety Data Sheets
& Business Emergency Plan
Valve
Groundwater Accumulation
Aboveground Storage Tank
(20,000 gallons) - Item # 1, Inventory
Transfer Pump
Generator
Diesel Fuel (four 55 gallon drums)
Item # 2, Inventory
Pipes
Fence
0
10
Feet
Scale 1:120
N
Facility Map
PG&E Topock Compressor Station
BLM Groundwater Extraction Site
CH2MHILL
SFO \\CABERNET\PROJ\PACIFICGASELECTRICCO\170963\GIS\MXD\ECPM_FACILITY_MAP.MXD ECPM_FACILTIY_MAP.PDF 03/01/2004 13:34:48

Appendix D
Liquid Transfer Procedure

APPENDIX D

Liquid Transfer Procedure

A. Transferring Liquid from Tanks to Tanker Truck

1. Position truck to allow for easy connection of the liquid transfer hose without kinking the hose and without hanging the hose in an unsupported condition.

2. Chock the tanker wheels to prevent drive-away without disconnecting the hose.

3. Verify the tanker is empty or has sufficient capacity for the liquid to be added.

4. Post a fire extinguisher nearby in case it is needed.

5. Connect the liquid transfer hose to the tanker truck. Place a drip pan under the connection point.

6. Open the pump suction valve(s) between the pump and the liquid to be transferred.

7. Start the liquid transfer pump with the pump discharge valve closed.

8. Slowly open the discharge valve, pressurizing the liquid transfer hose. Open the valve fully. Check for leaks.

9. Slowly open the inlet valve to the tanker truck and allow liquid to begin transferring. Fully open the valve.

10. Monitor the liquid level in the truck to prevent overfilling. DO NOT LEAVE THE FILLING OPERATION UNATTENDED.

11. When the truck is full, close the inlet valve to the truck to stop the flow.

12. Close the discharge valve for the transfer pump. Shut off the transfer pump.

13. Vent the pressure in the transfer hose by opening the pump discharge valve a little, then close the valve again.

14. Close the suction valve(s) between the pump and tank(s).

15. Disconnect the discharge hose from the truck and secure the end from dripping or leaking. Place a drip pan under the hose if possible.

16. Unchock the truck wheels and help direct the truck safely from the transfer point.

B. Transferring Fuel from Drums to Portable Generator

*** ALL FUEL TRANSFERS MUST BE MADE WITH THE GENERATOR SHUT OFF***

1. Shut off well pumps and equipment drawing power from the generator.

2. Disconnect power generator from electrical load.

3. Shut down generator following posted equipment procedure.

4. Station a fire extinguisher nearby for easy access if needed.

5. Extinguish any sources of ignition or remove them from well outside the generator area.

6. Assure fuel drums are bonded or grounded with a ground wire connected to a grounding rod.

7. Slowly open the bung of the drum to be used as a fuel source. Carefully vent accumulated pressure before fully opening the bung.

8. Open the drum vent plug is so equipped.

9. Insert the manual transfer pump into the bung hole and secure in place.

10. Place the pump discharge hose into the generator fuel tank fill port. Secure hose from pulling or falling out.

11. Begin transfer of fuel. Only fill the tank to the established fill line or just below the top of the tank. DO NOT fill the tank fill tube with fuel.

12. Closely monitor the generator fuel tank and the discharge hose during filling to assure that no fuel is spilling or leaking.

13. When filling is complete, remove the discharge hose from the fill tube and secure the end. Replace the cap on the end of the hose if so equipped. Replace the fill cap on the generator fuel tank. Replace the vent cap on the drum (if equipped).

14. Clean up any spills or drips in the area.

15. Restart the generator following the posted startup procedure.

Appendix E
Site Inspection Form

APPENDIX E

Site Inspection Form

Topock Remediation Site Inspection Form

Name of Inspector: _____ **Inspection Date:**_____

Signature of Inspector: _____

Item	Conditions to Check	Acceptable?	Comments
Tank System			
Tank	• No evidence of leaks, cracks, damage, deterioration, or wear • Tanks vented to atmosphere • Overflow line open	☐Yes ☐No	
Liquid level	• Note the liquid level in each tank	T-1: T-2: T-3: T-4:	
Piping	• No evidence of leaks, cracks, damage, deterioration, or wear • Piping adequately supported and not subject to bending or vibration damage	☐Yes ☐No	
Secondary containment	• No evidence of liquid collected in the containment area • No evidence of liquid collecting in piping containment • Containment in good condition. No evidence of holes or cracks in the liner. • No path available for discharge of collected liquid outside of containment	☐Yes ☐No	
Pumps	• Pumps operating correctly without leaks or unusual noises or vibration; pressure gauges read normal • High/low level shut-off operational	☐Yes ☐No	
Truck loading area	• Drip pans available • Connection hose stowed to prevent drips or leaks • Valve for truck loading line kept closed when not loading	☐Yes ☐No	
Portable Generator			
Equipment operation	• Equipment operating normally with no unusual noises or vibration • Operating instruments indicate normal operating ranges	☐Yes ☐No	
Fuel supply	• Fuel supply in generator tank at an adequate level • Spare fuel drums kept closed • Drums in good condition with no evidence of significant damage or leaks • Drums labeled with their contents • Manual fuel transfer pump kept in bucket to contain drips when not in use • Grounding/bonding wire attached to drums • Drums on containment pallet. Pallet free of collected liquids	☐Yes ☐No	

Item	Conditions to Check	Acceptable?	Comments
Emergency Equipment			
Spill equipment	• Spill kit complete; any materials used from the kit have been replaced • Equipment in good condition and ready for use • Kit available for immediate use and not obstructed	☐Yes ☐No	
Communications	• Communication radios or cell phones operational and fully charged • Any emergency alarms or horns available for use and operational	☐Yes ☐No	
Fire extinguishers	• Extinguishers fully charged and ready for use. Tagged with a recent inspection • Extinguishers available and not obstructed; place where they will not be knocked over; keep out of summer sun when possible	☐Yes ☐No	
Safety shower and eyewash	• Equipment available and unobstructed • Shower and eyewash operational • Water supply adequate for extended eye flushing • Water supply and piping protected from the sun to prevent generation of scalding water in system	☐Yes ☐No	
First-aid supplies	• Supplies complete; used supplied have been replaced • Kit easily available for use	☐Yes ☐No	
Security and Safety			
Fences and gates	• Fences and gates in good condition; kept closed and locked when the site is not attended • Gates open fully for easy clearance by trucks	☐Yes ☐No	
Signs	• Signs posted on the fence: -No Trespassing -No Smoking -In Case of Emergency, Contact... -Danger Hazardous Waste Area...	☐Yes ☐No	
Valves	• Any valves that control drainage of collected liquid in the secondary containment area are locked closed	☐Yes ☐No	
Pump controls	• Truck loading pump controls secured when not loading • All pump controls secured when site not attended	☐Yes ☐No	
Ladders	• Ladders in good condition • Ladders secured and locked when not being used	☐Yes ☐No	
Tools	• Tools in good condition • Tools secured when not in use	☐Yes ☐No	

Describe any problems or potential problems found during the inspection: _____

_____

_____

_____

_____

Describe any corrective actions taken to address problems: _____

_____

_____

_____

_____

Appendix F
Mitigation Measures for Biological, Cultural, and Paleontological Resources

APPENDIX F

Mitigation Measures for Biological, Cultural, and Paleontological Resources

1. The Mojave population of the desert tortoise is federally protected as a threatened species under the Endangered Species Act of 1973 and is protected by California State Law. Prohibited actions include capture, handling, harassing, collecting, injuring, or destroying animals or their burrows. Any sightings of desert tortoise must be immediately reported to the BLM Lake Havasu Field Office Wildlife Biologist.

2. All personnel are to report any sightings of desert tortoise, bighorn sheep, other wildlife species and federally-listed migratory birds (such as bald eagle, brown pelican, etc.) to the BLM Lake Havasu Field Office Wildlife Biologist.

3. If a desert tortoise is endangered by any activity, that activity will cease until the desert tortoise moves out of harm's way on its own accord. A desert tortoise that needs to be handled to prevent injury or death must be handled by a certified/qualified handler only.

4. All native riparian plant species (e.g., cactus, ocotillo, mesquite, Palo Verde, etc.) will be avoided at all times. Sensitive state species of plants can be trimmed but not removed.

5. All construction trash and/or debris will be removed.

6. All vehicles must stay on the existing and approved routes. No vehicles are authorized to drive in the existing washes.

7. PG&E will immediately notify the BLM Lake Havasu Field Manager (or designated representative) of any cultural resources (prehistoric/historic sites or objects) and/or paleontological resources (fossils) encountered during permitted operations and maintain the integrity of such resources pending subsequent investigation. All operations in the immediate area of the discovery must be suspended until written authorization from BLM to proceed is issued. An evaluation of the discovery shall be made by a qualified archaeologist or paleontologist to determine appropriate actions to prevent the loss of significant cultural or scientifically important paleontological values.

8. Actions that result in impacts to archaeological or historical resources are subject to the provisions of the Archaeological Resources Protection Act of 1979, as amended, and the Federal Land Policy and Management Act of 1976.

Part III: Health and Safety Plan

CH2M HILL HEALTH AND SAFETY PLAN

This Health and Safety Plan (HSP) will be kept on the site during field activities and will be reviewed as necessary. The plan will be amended or revised as project activities or conditions change or when supplemental information becomes available. The plan adopts, by reference, the Standards of Practice (SOPs) in the CH2M HILL *Corporate Health and Safety Program, Program and Training Manual,* as appropriate. In addition, this plan adopts procedures provided in project-specific Work Plans. The Site Safety Coordinator (SSC) is to be familiar with these SOPs and the contents of this plan. CH2M HILL's personnel and subcontractors must sign Attachment 1.

Project Information and Description

PROJECT NO(s): Initial Project #168525.TP; GW Monitoring # 170963.TG; Interim Measures, drilling, and testing #184004.PS.

CLIENT: Pacific Gas & Electric Co.

PROJECT/SITE NAME: Topock Site Remediation, PG&E Topock Gas Compressor Station

SITE ADDRESS: 15 miles southeast of Needles, California (eastern San Bernardino County)

CH2M HILL PROJECT MANAGER/TASK LEADS(S):

Terri Herson (Project Manager)
Paul Bertucci/Tina Girard (groundwater monitoring task)
Mathew Johns (interim measure tasks)
David Thomas (drilling/testing)

CH2M HILL OFFICE: Oakland (San Francisco), California

DATE HEALTH AND SAFETY PLAN PREPARED: Rev. 1 - 11/20/2001
Rev. 2 - 10/28/2003
Rev. 3 – 03/01/2004

DATE(S) OF SITE WORK: Project startup in November 2001 (site visit/observe other samplers); ongoing groundwater and surface water sampling; drilling of exploratory boring/well in November 2003; interim corrective measures scheduled for 2004;

SITE ACCESS: Active PG&E gas compressor facility, requires sign-in & safety orientation: most sampling locations and wells are on federal (BLM) land.

SITE SIZE: approximately 1/2-mile square study area

SITE TOPOGRAPHY: high desert, hills & dry wash/alluvial terrain

PREVAILING WEATHER: dry; very hot during summer

SITE DESCRIPTION AND HISTORY: Active natural gas compressor facility which was subject of a RCRA Facility Investigation (RFI) in 1997-99 to investigate extent of chromium-impacts to soil and groundwater resulting from past wastewater disposal. The RFI Report and ongoing groundwater monitoring will be used to define correction measures and remediation alternatives. Interim corrective measures are planned in 2004 to collect additional site data and initiate hydraulic control of the groundwater plume. Current surface conditions pose no critical or immediate risk to human health or environment.

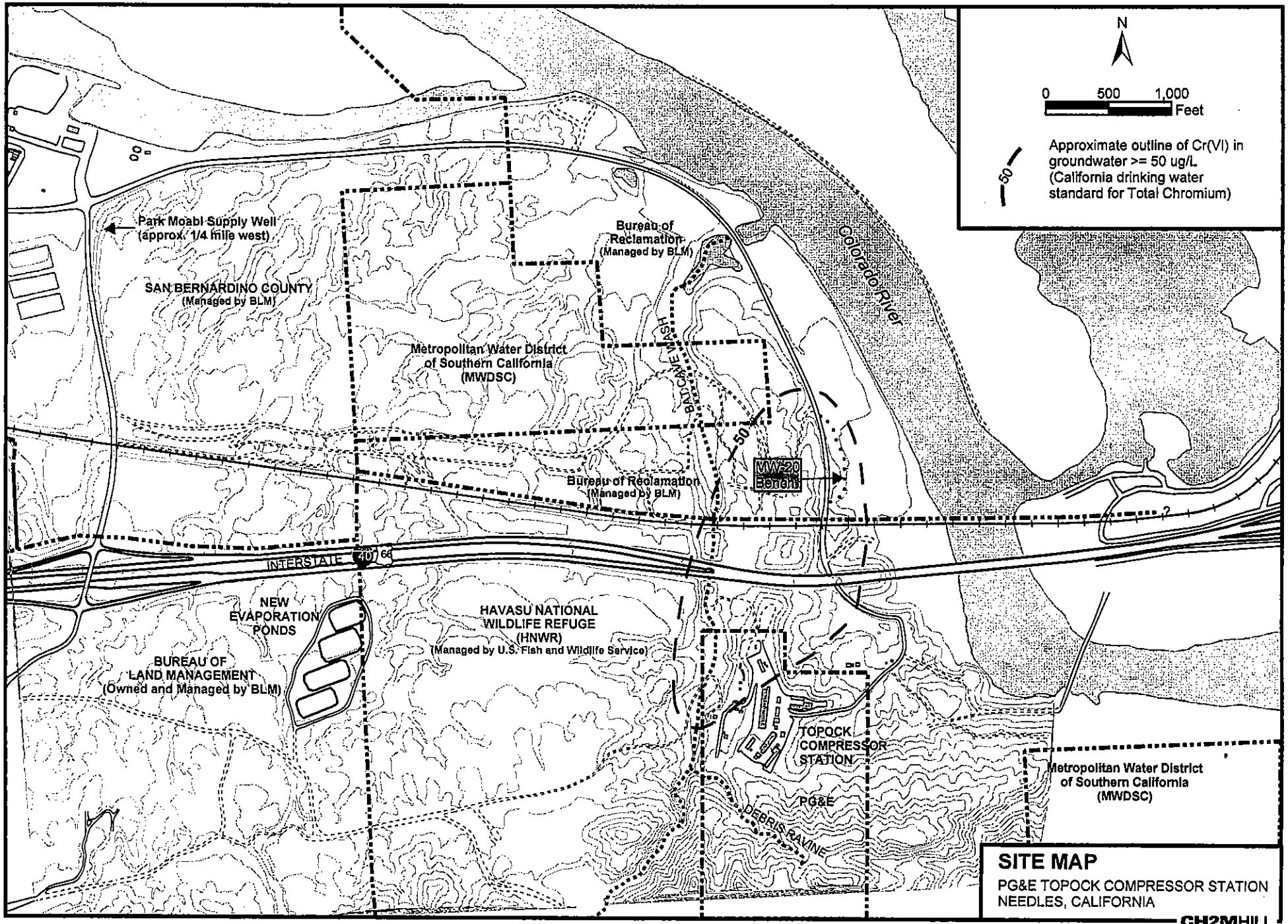
DESCRIPTION OF SPECIFIC TASKS TO BE PERFORMED:
Field activities scheduled for 2004 include the following tasks:

1. Groundwater Monitoring Program: Includes water level monitoring and groundwater and surface water sample collection, shipment for analysis of water samples, sampling equipment and decontamination, purge water handling and management for PG&E disposal.

2. Interim Measures (site investigation activities): Includes drilling, monitoring well and extraction well installation, geophysics, and hydraulic testing.

3. Interim Measures (groundwater extraction system): Includes installation and operation and maintenance (O&M) of a groundwater extraction system at the MW-20 bench. Installation activities include siting equipment (e.g., tanks, secondary containment, piping, and temporary power) provided by PG&E subcontractor. O&M activities include system monitoring, water sampling (for mass removal and waste profiling), coordinating truck filling operations, and routine system maintenance. Extracted groundwater is scheduled for offsite treatment and disposal until onsite treatment and disposal facilities are permitted and/or installed.

4. Development and testing of additional monitoring wells.



SFO \\CADERNET\PROJ\PACIFICGASELECTRICCO\170063\GIS\MXD\HSP_SITE MAP.MXD HSP_SITEMAP.PDF 03/01/2004 13:56:47

Table of Contents

1 Tasks to be Performed Under this Plan

1.1 Description of Tasks

(Reference Field Project Start-up Form)

Refer to project documents (i.e., Work Plan) for detailed task information. A health and safety risk analysis (Section 1.2) has been performed for each task and is incorporated in this plan through task-specific hazard controls and requirements for monitoring and protection. Tasks other than those listed below require an approved amendment or revision to this plan before tasks begin. Refer to Section 8.2 for procedures related to "clean" tasks that do not involve hazardous waste operations and emergency response (Hazwoper).

1.1.1 Hazwoper-Regulated Tasks

- **Groundwater monitoring**
- **Surface water sampling**
- **Monitoring well drilling/installation**
- **Investigation-derived waste (drum) sampling and disposal**
- **O&M of groundwater extraction system at MW-20 bench**

1.1.2 Non-Hazwoper-Regulated Tasks

Under specific circumstances, the training and medical monitoring requirements of federal or state Hazwoper regulations are not applicable. It must be demonstrated that the tasks can be performed without the possibility of exposure in order to use non-Hazwoper-trained personnel. **Prior approval from the Health and Safety Manager (HSM) is required before these tasks are conducted on regulated hazardous waste sites.**

TASKS	CONTROLS
• Installation of groundwater extraction system at MW-20 bench (e.g., siting tanks, piping, instrumentation and controls, and temporary power.	• Brief on hazards, limits of access, and emergency procedures • Post contaminant areas as appropriate (refer to Section 8.2 for details) • Sample and monitor as appropriate (refer to Section 5.0)

1.2 Task Hazard Analysis

(Refer to Section 2 for hazard controls)

POTENTIAL HAZARDS	TASKS				
	Drilling	Groundwater monitoring, aquifer testing	O&M of pumping system	Surface water and sediment sampling from the shore or water	IDW drum sampling and disposal
Flying debris/objects	X	X		X	X
Noise > 85dBA	X	X	X		
Electrical	X		X		
Suspended loads	X				
Buried utilities, drums, tanks	X				
Slip, trip, fall	X	X	X	X	X
Back injury	X	X	X	X	X
Confined space entry			X		
Trenches / excavations					
Visible lightning	X	X	X	X	X
Vehicle traffic	X	X	X		
Elevated work areas/falls			X	X	
Fires			X	X	X
Entanglement	X				
Drilling	X				
Heavy equipment			X		
Working near water				X	
Working from boat					
IDW Drum Sampling					X

2 Hazard Controls

This section describes safe work practices and control measures used to reduce or eliminate potential hazards. These practices and controls are to be implemented by the party in control of either the site or the particular hazard. CH2M HILL employees and subcontractors must remain aware of the hazards affecting them regardless of who is responsible for controlling the hazards. CH2M HILL employees and subcontractors who do not understand any of these provisions should contact the SSC for clarification.

In addition to the controls specified in this section, Project-Activity Self-Assessment Checklists are contained in Attachment 5. These checklists are to be used to assess the adequacy of CH2M HILL and subcontractor site-specific safety requirements. The objective of the self-assessment process is to identify gaps in project safety performance, and prompt for corrective actions in addressing these gaps. Self-assessment checklists should be completed early in the project, when tasks or conditions change, or when otherwise specified by the HSM. The self-assessment checklists, including documented corrective actions, should be made part of the permanent project records, and be promptly submitted to the HSM.

Project-specific frequency for completing self-assessments

- Complete self assessment checklist every two weeks for drilling activities.
- Complete self assessment checklist every week for groundwater extraction system activities.

2.1 Project-Specific Hazards

2.1.1 Lockout/Tagout

- Do not work on equipment when the unexpected operation could result in injury, unless lockout/tagout procedures are implemented.
- Staff working under a lockout/tagout procedure must complete the CH2M HILL Lockout/Tagout training course. Project-specific training may also be required on site-specific lockout/tagout procedures.
- Standard lockout/tagout procedures include the following six steps:
  - notify all personnel in the affected area of the lockout/tagout,
  - shut down the equipment using normal operating controls,
  - isolate all energy sources,
  - apply individual lock and tag to each energy isolating device,
  - relieve or restrain all potentially hazardous stored or residual energy, and
  - verify that isolation and de-energization of the equipment has been accomplished. Once verified that the equipment is at the zero energy state, work may begin.
- All safe guards must be put back in place, all affected personnel notified that lockout/tagout has been removed, and controls positioned in the safe mode prior to lockout/tagout removal.
- Do not remove another person's lock or tag.

2.1.2 Working Above or Near Water

- Fall protection should be provided to prevent personnel from falling into water. Where fall protection systems are not provided and the danger of drowning exists, U.S. Coast Guard-approved personal flotation devices (PFDs), or life jacket, shall be worn.
- Inspect PFDs prior to use. Do not use defective PFDs.
- A life-saving skiff must be provided for emergency rescue.
- A minimum of one ring buoy with 90 feet of 3/8-inch solid-braid polypropylene (or equal) rope must be provided for emergency rescue.
- Use sampling and other equipment according to the manufacturers' instructions.

2.1.3 Drilling

(Reference CH2M HILL SOP HS-35, *Drilling*)

- Only authorized personnel are permitted to operate drill rigs.
- Stay clear of areas surrounding drill rigs during every startup.
- Stay clear of the rotating augers and other rotating components of drill rigs.
- Stay as clear as possible of all hoisting operations. Loads shall not be hoisted overhead of personnel.
- Do not wear loose-fitting clothing or other items such as rings or watches that could get caught in moving parts. Long hair should be restrained.
- If equipment becomes electrically energized, personnel shall be instructed not to touch any part of the equipment or attempt to touch any person who may be in contact with the electrical current. The utility company or appropriate party shall be contacted to have line de-energized prior to approaching the equipment.
- Smoking around drilling operations is prohibited.

2.1.4 Exposure to Public Vehicular Traffic

The following precautions must be taken when working around traffic, and in or near an area where traffic controls have been established by a contractor.

- Exercise caution when exiting traveled way or parking along street – avoid sudden stops, use flashers, etc.
- Park in a manner that will allow for safe exit from vehicle, and where practicable, park vehicle so that it can serve as a barrier.
- All staff working adjacent to traveled way or within work area must wear reflective/high-visibility safety vests.
- Eye protection should be worn to protect from flying debris.
- Remain aware of factors that influence traffic related hazards and required controls – sun glare, rain, wind, flash flooding, limited sight-distance, hills, curves, guardrails, width of shoulder (i.e., breakdown lane), etc.
- Always remain aware of an escape route – behind an established barrier, parked vehicle, guardrail, etc.
- Always pay attention to moving traffic – never assume drivers are looking out for you.
- Work as far from traveled way as possible to avoid creating confusion for drivers.
- When workers must face away from traffic, a "buddy system" should be used, where one worker is looking towards traffic.
- When working on highway projects, obtain a copy of the contractor's traffic control plan.
- Work area should be protected by a physical barrier – such as a K-rail or Jersey barrier.
- Review traffic control devices to ensure that they are adequate to protect your work area. Traffic control devices should: 1) convey a clear meaning, 2) command respect of road users, and 3) give adequate time for proper traffic response. The adequacy of these devices are dependent on limited sight distance, proximity to ramps or intersections, restrictive width, duration of job, and traffic volume, speed, and proximity.
- Either a barrier or shadow vehicle should be positioned a considerable distance ahead of the work area. The vehicle should be equipped with a flashing arrow sign and truck-mounted crash cushion (TMCC). All vehicles within 40 feet of traffic should have an orange flashing hazard light atop the vehicle.
- Except on highways, flaggers should be used when 1) two-way traffic is reduced to using one common lane, 2) driver visibility is impaired or limited, 3) project vehicles enter or exit traffic in an unexpected manner, or 4) the use of a flagger enhances established traffic warning systems.
- Lookouts should be used when physical barriers are not available or practical. The lookout continually watches approaching traffic for signs of erratic driver behavior and warns workers. Vehicles should be parked at least 40 feet away from the work zone and traffic. Minimize the amount of time that you will have your back to oncoming traffic.

2.1.5 IDW Drum Sampling

Personnel are permitted to handle and/or sample drums containing investigation-derived waste (IDW) only; handling or sampling other drums requires a plan revision or amendment approved by the CH2M HILL HSM. The following control measures will be taken when sampling drums containing IDW:

- Minimize transportation of drums.
- Sample only labeled drums or drums known to contain IDW.

- Use caution when sampling bulging or swollen drums. Relieve pressure slowly.
- If drums contain, or potentially contain, flammable materials, use non-sparking tools to open.
- Picks, chisels, and firearms may not be used to open drums.
- Reseal bung holes or plugs whenever possible.
- Avoid mixing incompatible drum contents.
- Sample drums without leaning over the drum opening.
- Transfer the content of drums using a method that minimizes contact with material.
- PPE and air monitoring requirements specified in Sections 4 and 5 must address IDW drum sampling.
- Spill-containment procedures specified in Section 7 must be appropriate for the material to be handled.

2.1.6 Sunburn Prevention

Most people enjoy spending time outdoors, but too much time in the sun can cause problems later. Excessive sun exposure can cause your skin to age prematurely, become "leathery," wrinkled, and in some cases, may cause skin cancer. People with fair skin, freckles and red or blond hair are most at risk but even those who tan easily need to be careful. Avoid being outside from 10 a.m. to 3 p.m. when the sun's rays are the strongest. When this is not possible, wear protective clothing such as long sleeves and a full rim hard hat to cover your neck, ears and face. Use a sun screen with a sun protection factor of at least 15, and reapply it often since perspiration can dilute it's protective effects. Also, take precautions on cloudy days because even though the sun intensity seems diminished, 70 to 80% of the suns rays are still coming through the clouds. Some medications can also make you more sun sensitive so check with your doctor.

2.1.7 ATV Safety

- Use of ATV's is a high hazard risk and only approved staff may operate.
- All staff will be required to review Attachment 7 and receive basic use training.
- ATV's shall be used in accordance of manufacturers specifications.
- Required PPE shall be worn at all times.

2.1.8 Field Vehicle Safety

- Parking at pullouts must be done with care. Leave room for vehicles belonging to contractors to easily pullout in case of emergency. Do not block any vehicles in. If this is necessary, leave keys in ignition.
- Right of Way on site roads. Those traveling uphill always have the right of way if there is no room to pass. Vehicle traveling downhill, must backup to the nearest pullout.
- Field vehicles are to carry emergency equipment as specified in section 9.2.
- Correct PPE should be available for each person riding in a field vehicle.
- 4WD is required for site access in certain areas. Only those familiar with use of OFF Highway 4WD vehicles should drive.
- Do not park or drive over dry brush, as this may be ignited by a hot exhaust system.
- Do not attempt to drive on pitched steeply angled roadways or trails.
- Do not attempt to cross fast flowing stream beds or flash flood channels without knowing weather conditions or storm warnings.
- Seatbelts are to be worn at all times.
- Only rented 4WD vehicles with extra damage waiver insurance shall be used. Enterprise Rental provides this, check with contracts about other CH2M HILL preferred rental agencies. Special rate codes must be used to rent.

2.1.9 Earthmoving Equipment (Reference CH2M HILL SOP HS-27, *Earthmoving Equipment*)

- Only authorized personnel are permitted to operate earthmoving equipment.
- Maintain safe distance from operating equipment and stay alert of equipment movement. Avoid positioning between fixed objects and operating equipment and equipment pinch points, remain outside of the equipment swing and turning radius. Pay attention to backup alarms, but not rely on them for protection. Never turn your back on operating equipment.

- Approach operating equipment only after receiving the operator's attention. The operator shall acknowledge your presence and stop movement of the equipment. Caution shall be used when standing next to idle equipment; when equipment is placed in gear it can lurch forward or backward. Never approach operating equipment from the side or rear where the operator's vision is compromised.
- When required to work in proximity to operating equipment, wear high-visibility vests to increase visibility to equipment operators. For work performed after daylight hours, vests shall be made of reflective material or include a reflective stripe or panel.
- Do not ride on earthmoving equipment unless it is specifically designed to accommodate passengers. Only ride in seats that are provided for transportation and that are equipped with seat belts.
- Stay as clear as possible of all hoisting operations. Loads shall not be hoisted overhead of personnel.
- Earthmoving equipment shall not be used to lift or lower personnel.
- If equipment becomes electrically energized, personnel shall be instructed not to touch any part of the equipment or attempt to touch any person who may be in contact with the electrical current. The utility company or appropriate party shall be contacted to have line de-energized prior to approaching the equipment.

2.1.10 Confined Space Entry

(Reference CH2M HILL SOP HS-17, *Confined Space Entry*)

The following requirements must be met prior to confined space entry:

- Confined space entrants, attendants, and entry supervisors must complete the CH2M HILL 8-Hour Confined Space Entry training.
- A Confined Space Entry Permit (CSEP), Alternative Procedure Certificate (APC), or Nonpermit Certificate (NPC) must be completed and posted near the space entrance point for review.
- Each confined space entrant and attendant must attend a preentry briefing conducted by the entry supervisor.
- Each confined space entrant and attendant must verify that the entry supervisor has authorized entry and that all permit or certificate requirements have been satisfied.
- Only individuals listed on the Authorization/Accountability Log are permitted to enter the space.
- Each confined space entrant and attendant must verify that atmospheric monitoring has been conducted at the frequency specified on the permit or certificate and that monitoring results are documented and within acceptable safe levels.

The following requirements must be met during confined space entry:

- Communication must be maintained between the attendant and entrants to enable the attendant to monitor entrant status.
- Entrants must use equipment specified on the permit or certificate accordingly.
- All permit or certificate requirements must be followed.
- Entrants must evacuate the space upon orders of the attendant or entry supervisor, when an alarm is sounded, or when a prohibited condition or dangerous situation is recognized.
- Entrants and attendants must inform the entry supervisor of any hazards confronted or created in the space or any problems encountered during entry.

2.2 General Hazards

2.2.1 General Practices and Housekeeping

(Reference CH2M HILL SOP HS-20, *General Practices*)

- Site work should be performed during daylight hours whenever possible. Work conducted during hours of darkness require enough illumination intensity to read a newspaper without difficulty.
- Good housekeeping must be maintained at all times in all project work areas.
- Common paths of travel should be established and kept free from the accumulation of materials.
- Keep access to aisles, exits, ladders, stairways, scaffolding, and emergency equipment free from obstructions.
- Provide slip-resistant surfaces, ropes, and/or other devices to be used.
- Specific areas should be designated for the proper storage of materials.

- Tools, equipment, materials, and supplies shall be stored in an orderly manner.
- As work progresses, scrap and unessential materials must be neatly stored or removed from the work area.
- Containers should be provided for collecting trash and other debris and shall be removed at regular intervals.
- All spills shall be quickly cleaned up. Oil and grease shall be cleaned from walking and working surfaces.

2.2.2 Hazard Communication

(Reference CH2M HILL SOP HS-05, *Hazard Communication)*

The SSC is to perform the following:

- Complete an inventory of chemicals brought on site by CH2M HILL or others using Attachment 2.
- Confirm that an inventory of chemicals brought on site by CH2M HILL or others is available.
- Request or confirm locations of Material Safety Data Sheets (MSDSs) from the client, contractors, and subcontractors for chemicals to which CH2M HILL employees potentially are exposed.
- Before or as the chemicals arrive on site, obtain an MSDS for each hazardous chemical.
- Label chemical containers with the identity of the chemical and with hazard warnings, and store properly.
- Give employees required chemical-specific HAZCOM training using Attachment 3.
- Store all materials properly, giving consideration to compatibility, quantity limits, secondary containment, fire prevention, and environmental conditions.

2.2.3 Shipping and Transportation of Chemical Products

(Reference CH2M HILL's *Procedures for Shipping and Transporting Dangerous Goods)*

Chemicals brought to the site might be defined as hazardous materials by the U.S. Department of Transportation (DOT). All staff who ship the materials or transport them by road must receive CH2M HILL training in shipping dangerous goods. All hazardous materials that are shipped (e.g., via Federal Express) or are transported by road must be properly identified, labeled, packed, and documented by trained staff. Contact the HSM or the Equipment Coordinator for additional information.

2.2.4 Lifting

(Reference CH2M HILL SOP HS-29, *Lifting*)

- Proper lifting techniques must be used when lifting any object.
  - Plan storage and staging to minimize lifting or carrying distances.
  - Split heavy loads into smaller loads.
  - Use mechanical lifting aids whenever possible.
  - Have someone assist with the lift – especially for heavy or awkward loads.
  - Make sure the path of travel is clear prior to the lift.

2.2.5 Fire Prevention

(Reference CH2M HILL SOP HS-22, *Fire Prevention*)

- Fire extinguishers shall be provided so that the travel distance from any work area to the nearest extinguisher is less than 100 feet. When 5 gallons or more of a flammable or combustible liquid is being used, an extinguisher must be within 50 feet. Extinguishers must:
  - be maintained in a fully charged and operable condition,
  - be visually inspected each month, and
  - undergo a maintenance check each year.
- The area in front of extinguishers must be kept clear.
- Post "Exit" signs over exiting doors, and post "Fire Extinguisher" signs over extinguisher locations.
- Combustible materials stored outside should be at least 10 feet from any building.
- Solvent waste and oily rags must be kept in a fire resistant, covered container until removed from the site.
- Flammable/combustible liquids must be kept in approved containers, and must be stored in an approved storage cabinet.

2.2.6 Electrical

(Reference CH2M HILL SOP HS-23, *Electrical*)

- Only qualified personnel are permitted to work on unprotected energized electrical systems.
- Only authorized personnel are permitted to enter high-voltage areas.
- Do not tamper with electrical wiring and equipment unless qualified to do so. All electrical wiring and equipment must be considered energized until lockout/tagout procedures are implemented.
- Inspect electrical equipment, power tools, and extension cords for damage prior to use. Do not use defective electrical equipment, remove from service.
- All temporary wiring, including extension cords and electrical power tools, must have ground fault circuit interrupters (GFCIs) installed.
- Extension cords must be:
  - equipped with third-wire grounding.
  - covered, elevated, or protected from damage when passing through work areas.
  - protected from pinching if routed through doorways.
  - not fastened with staples, hung from nails, or suspended with wire.
- Electrical power tools and equipment must be effectively grounded or double-insulated UL approved.
- Operate and maintain electric power tools and equipment according to manufacturers' instructions.
- Maintain safe clearance distances between overhead power lines and any electrical conducting material unless the power lines have been de-energized and grounded, or where insulating barriers have been installed to prevent physical contact. Maintain at least 10 feet from overhead power lines for voltages of 50 kV or less, and 10 feet plus ½ inch for every 1 kV over 50 kV.
- Temporary lights shall not be suspended by their electric cord unless designed for suspension. Lights shall be protected from accidental contact or breakage.
- Protect all electrical equipment, tools, switches, and outlets from environmental elements.

2.2.7 Heat Stress

(Reference CH2M HILL SOP HS-09, *Heat and Cold Stress*)

- Drink 16 ounces of water before beginning work. Disposable cups and water maintained at 50°F to 60°F should be available. Under severe conditions, drink 1 to 2 cups every 20 minutes, for a total of 1 to 2 gallons per day. Do not use alcohol in place of water or other nonalcoholic fluids. Decrease your intake of coffee and caffeinated soft drinks during working hours.
- Acclimate yourself by slowly increasing workloads (e.g., do not begin with extremely demanding activities).
- Use cooling devices, such as cooling vests, to aid natural body ventilation. These devices add weight, so their use should be balanced against efficiency.
- Use mobile showers or hose-down facilities to reduce body temperature and cool protective clothing.
- Conduct field activities in the early morning or evening and rotate shifts of workers, if possible.
- Avoid direct sun whenever possible, which can decrease physical efficiency and increase the probability of heat stress. Take regular breaks in a cool, shaded area. Use a wide-brim hat or an umbrella when working under direct sun for extended periods.
- Provide adequate shelter/shade to protect personnel against radiant heat (sun, flames, hot metal).
- Maintain good hygiene standards by frequently changing clothing and showering.
- Observe one another for signs of heat stress. Persons who experience signs of heat syncope, heat rash, or heat cramps should consult the SSC/DSC to avoid progression of heat-related illness.

SYMPTOMS AND TREATMENT OF HEAT STRESS					
	Heat Syncope	Heat Rash	Heat Cramps	Heat Exhaustion	Heat Stroke
Signs and Symptoms	Sluggishness or fainting while standing erect or immobile in heat.	Profuse tiny raised red blister-like vesicles on affected areas, along with prickling sensations	Painful spasms in muscles used during work (arms, legs, or abdomen); onset	Fatigue, nausea, headache, giddiness; skin clammy and moist; complexion pale, muddy, or flushed; may faint on standing; rapid thready	Red, hot, dry skin; dizziness; confusion; rapid breathing and pulse; high oral

SYMPTOMS AND TREATMENT OF HEAT STRESS					
		during heat exposure.	during or after work hours.	pulse and low blood pressure; oral temperature normal or low	temperature.
Treatment	Remove to cooler area. Rest lying down. Increase fluid intake. Recovery usually is prompt and complete.	Use mild drying lotions and powders, and keep skin clean for drying skin and preventing infection.	Remove to cooler area. Rest lying down. Increase fluid intake.	Remove to cooler area. Rest lying down, with head in low position. Administer fluids by mouth. Seek medical attention.	Cool rapidly by soaking in cool– but not cold–water. Call ambulance, and get medical attention immediately!

Monitoring Heat Stress

These procedures should be considered when the ambient air temperature exceeds 70°F, the relative humidity is high (>50 percent), or when workers exhibit symptoms of heat stress.
The heart rate (HR) should be measured by the radial pulse for 30 seconds, as early as possible in the resting period. The HR at the beginning of the rest period should not exceed 100 beats/minute, or 20 beats/minute above resting pulse. If the HR is higher, the next work period should be shortened by 33 percent, while the length of the rest period stays the same. If the pulse rate still exceeds 100 beats/minute at the beginning of the next rest period, the work cycle should be further shortened by 33 percent. The procedure is continued until the rate is maintained below 100 beats/minute, or 20 beats/minute above resting pulse.

2.2.8 Cold Stress

(Reference CH2M HILL SOP HS-09, *Heat and Cold Stress*)

- Be aware of the symptoms of cold-related disorders, and wear proper, layered clothing for the anticipated fieldwork. Appropriate rain gear is a must in cool weather.
- Consider monitoring the work conditions and adjusting the work schedule using guidelines developed by the U.S. Army (wind-chill index) and the National Safety Council (NSC).
- Wind-Chill Index is used to estimate the combined effect of wind and low air temperatures on exposed skin. The wind-chill index does not take into account the body part that is exposed, the level of activity, or the amount or type of clothing worn. For those reasons, it should only be used as a guideline to warn workers when they are in a situation that can cause cold-related illnesses.
- NSC Guidelines for Work and Warm-Up Schedules can be used with the wind-chill index to estimate work and warm-up schedules for fieldwork. The guidelines are not absolute; workers should be monitored for symptoms of cold-related illnesses. If symptoms are not observed, the work duration can be increased.
- Persons who experience initial signs of immersion foot, frostbite, hypothermia should consult the SSC/DSC to avoid progression of cold-related illness.
- Observe one another for initial signs of cold-related disorders.
- Obtain and review weather forecast – be aware of predicted weather systems along with sudden drops in temperature, increase in winds, and precipitation.

SYMPTOMS AND TREATMENT OF COLD STRESS			
	Immersion (Trench) Foot	**Frostbite**	**Hypothermia**
Signs and Symptoms	Feet discolored and painful; infection and swelling present.	Blanched, white, waxy skin, but tissue resilient; tissue cold and pale.	Shivering, apathy, sleepiness; rapid drop in body temperature; glassy stare; slow pulse; slow respiration.
Treatment	Seek medical treatment immediately.	Remove victim to a warm place. Re-warm area quickly in warm–but **not** hot–water. Have victim	Remove victim to a warm place. Have victim drink warm fluids, but

		drink warm fluids, but **not** coffee or alcohol. Do not break blisters. Elevate the injured area, and get medical attention.	**not** coffee or alcohol. Get medical attention.

2.2.9 Compressed Gas Cylinders

- Valve caps must be in place when cylinders are transported, moved, or stored.
- Cylinder valves must be closed when cylinders are not being used and when cylinders are being moved.
- Cylinders must be secured in an upright position at all times.
- Cylinders must be shielded from welding and cutting operations and positioned to avoid being struck or knocked over; contacting electrical circuits; or exposed to extreme heat sources.
- Cylinders must be secured on a cradle, basket, or pallet when hoisted; they may not be hoisted by choker slings.

2.3 Biological Hazards and Controls

2.3.1 Snakes

Snakes typically are found in underbrush and tall grassy areas. If you encounter a snake, stay calm and look around; there may be other snakes. Turn around and walk away on the same path you used to approach the area. If a person is bitten by a snake, wash and immobilize the injured area, keeping it lower than the heart if possible. Seek medical attention immediately. **DO NOT** apply ice, cut the wound, or apply a tourniquet. Try to identify the type of snake by noting color, size, patterns, and markings.

2.3.2 Bees and Other Stinging Insects

Bee and other stinging insects may be encountered almost anywhere and may present a serious hazard, particularly to people who are allergic. Watch for and avoid nests. Keep exposed skin to a minimum. Carry a kit if you have had allergic reactions in the past, and inform the SSC and/or buddy. If a stinger is present, remove it carefully with tweezers. Wash and disinfect the wound, cover it, and apply ice. Watch for allergic reaction; seek medical attention if a reaction develops.

2.3.3 Bloodborne Pathogens

(Reference CH2M HILL SOP HS-36, *Bloodborne Pathogens*)

Exposure to bloodborne pathogens may occur when rendering first aid or CPR, or when coming into contact with landfill waste or waste streams containing potentially infectious material. Exposure controls and personal protective equipment (PPE) are required as specified in CH2M HILL SOP HS-36, *Bloodborne Pathogens*. Hepatitis B vaccination must be offered before the person participates in a task where exposure is a possibility.

2.3.4 Scorpion Weed

Scorpion weed has been found on the project site and needs to be avoided by project personnel. Scorpion weed has purple flowers and has the potential to cause a skin rash when contacted. The following text provides information to project personnel about this plant species.

GENERAL MORPHOLOGY: This plant is an herbaceous plant species that has a cyme raceme (curled flower stem with multiple flowers) and alternate leaves.

FLOWER COLOR: Purple

LOCATION WHERE PLANTS MAY OCCUR: Predominantly along the side of a wash or along the Colorado River bank.

REQUIRED COORDINATION: As it may be difficult to identify the plants present on the project site, they will need to be identified on the project site to all field personnel prior to site work.

IF SKIN IS CONTACTED WITH PLANT:

When skin is directly contacted by *Phacelia sp.*, sap or hairs from the plant will attached to the skin. Once affected, you will begin to feel a tingling sensation and your skin may develop red bumps or turn brown. Do not touch this area of your skin because you may spread the hairs/sap of the plant to new areas on your skin. This would cause other areas to be infected. You have two types of methods to assist in removing the hairs. In all cases, please get the appropriate medical attention.

1. **Where water is available**: Place area of skin under large volume of flowing water. You can look to see if hairs are removed from the water flow. When confident that the hairs/sap have been removed you can wash area with soap. It is suggested that you place soap directly on area without touching it first, and keep under flowing water until removed. You can repeat as often as necessary. When confident that hairs have been removed from the area, you can rub the area with soap with a paper towel or rag.

2. **Where water is not available**: If you are in an area where water is not available, you can place tape over the area contacted an pull off quickly. This will assist in removing the hairs. Repeat as often as necessary. An additional method would be to cover area with hand cream or other viscous liquid and shave. This will remove the plant hairs as well as your natural hair from your skin. A razor is usually included in a snake bite kit. Please dispose of razor after use. You can rinse the area with any type of liquid (soda, juice) if water is not available if sap is present on your skin. Follow #1 above when water is available.

WHEN CLOTHING/GEAR IS CONTACTED WITH PLANT:

Remove clothing without touching area that was contacted with plant. Store in a plastic bag until you can wash them. When washing, do not include other clothing items in the load. If a large area is affected in the clothing, you may want to wash it more than once to ensure that all plant materials have been removed.

Wash all gear with soap and water if contacted plant. Electronic equipment will have to be wiped with a dry towel, as water will damage the equipment. Be careful to ensure that all field equipment is clean, as people using the equipment on a later date could become infected.

2.4 Radiological Hazards and Controls

Refer to CH2M HILL's *Corporate Health and Safety Program, Program and Training Manual,* and *Corporate Health and Safety Program, Radiation Protection Program Manual,* for standards of practice in contaminated areas.

Hazards	Controls
None Known	None Required

2.5 Contaminants of Concern

(Refer to Project Files for more detailed contaminant information)

Contaminant	Location and Maximum[a] Concentration (ppm)	Exposure Limit[b]	IDLH[c]	Symptoms and Effects of Exposure	PIP[d] (eV)
Chromium (as Cr(II) & Cr(III))	GW: 13.2 (MW-20/70) SB: 74.9 (4', RR Debris site) SS: 2,100 (disposal area) SW: not detected	0.5 mg/m^3	25	Irritated eyes, sensitization dermatitis, histologic fibrosis of lungs	NA
Chromium (hexavalent)	GW: 12.9 (MW-20/70) SB: 15.4 (4, RR Debris site) SS: 53.0 (disposal area) SW: not detected	0.01 mg/m^3	15 Ca	Irritated respiratory system, nasal septum perforation, liver and kidney damage, leucytosis, leupen, monocytosis, eosinophilla, eye injury, conjunctivitis, skin ulcer, sensitization dermatitis	NA

Footnotes:

[a] Specify sample-designation and media: SB (Soil Boring), A (Air), D (Drums), GW (Groundwater), L (Lagoon), TK (Tank), SS (Surface Soil), SL (Sludge), SW (Surface Water). Results expressed in parts per million (ppm).

[b] Appropriate value of PEL, REL, or TLV listed.

[c] IDLH = immediately dangerous to life and health (units are the same as specified "Exposure Limit" units for that contaminant); NL = No limit found in reference materials; CA = Potential occupational carcinogen.

[d] PIP = photoionization potential; NA = Not applicable; UK = Unknown.

2.6 Potential Routes of Exposure

Dermal: Contact with contaminated media. This route of exposure is minimized through proper use of PPE, as specified in Section 4.	**Inhalation:** Vapors and contaminated particulates. This route of exposure is minimized through proper respiratory protection and monitoring, as specified in Sections 4 and 5, respectively.	**Other:** Inadvertent ingestion of contaminated media. This route should not present a concern if good hygiene practices are followed (e.g., wash hands and face before drinking or smoking).

3 Project Organization and Personnel

3.1 CH2M HILL Employee Medical Surveillance and Training

(Reference CH2M HILL SOPs HS-01, *Medical Surveillance,* and HS-02, *Health and Safety Training)*

The employees listed below are enrolled in the CH2M HILL Comprehensive Health and Safety Program and meet state and federal hazardous waste operations requirements for 40-hour initial training, 3-day on-the-job experience, and 8-hour annual refresher training. Employees designated "SSC" have completed a 12-hour site safety coordinator course, and have documented requisite field experience. An SSC with a level designation (D, C, B) equal to or greater than the level of protection being used must be present during all tasks performed in exclusion or decontamination zones. Employees designated "FA-CPR" are currently certified by the American Red Cross, or equivalent, in first aid and CPR. At least one FA-CPR designated employee must be present during all tasks performed in exclusion or decontamination zones. The employees listed below are currently active in a medical surveillance program that meets state and federal regulatory requirements for hazardous waste operations. Certain tasks (e.g., confined-space entry) and contaminants (e.g., lead) may require additional training and medical monitoring.

Pregnant employees are to be informed of and are to follow the procedures in CH2M HILL's SOP HS-04, *Reproduction Protection*, including obtaining a physician's statement of the employee's ability to perform hazardous activities before being assigned fieldwork.

Employee Name	Office	Responsibility	SSC/FA-CPR
David Thomas	SFO	Task/Field Manager (Drilling); SSC	Level C, SSC, FA/CPR
Vikas Mathur	SCO	Field sampler, FTL, SSC	Level C, SSC; FA/CPR
Gary Bissonnette	SCO	Field member	Level C
Tina Girard	SFO	GMP task mgr., field support	Level D
Martin Barackman	RDD	Field team	Level D (exp. 2/29/04)
Zach Miller	SDO	Field team	Level C, SSC, FA/CPR
Matt Johns	DEN	Field task mgr.	Level C, SSC, FA/CPR
Jim McWade	CVO	Site Supervisor, SSC during groundwater extraction system installation	No entry allowed to exclusion zone
Paul Bertucci	SFO	Project Manager (GMP)	No entry allowed to exclusion zone

3.2 Field Team Chain of Command and Communication Procedures

3.2.1 Client

Contact Name: Yvonne Meeks, PG&E Project Manager
Phone: (805) 546-5243
Facility Contact Name: Margie Fergerson, Topock Facility Site Environ. Manager
Phone: (760) 326-5524

3.2.2 CH2M HILL

Project Manager: Terri Herson/SFO, (510) 587-7597
Task Manager/SSC (Drilling): David Thomas/SFO, (510) 587-7529
Task Manager (groundwater program): Tina Girard/ SFO, (510) 587-7586
Task Manager (interim measures: Mathew Johns/DEN, (720) 286-5406
Health and Safety Manager: Rick Cavil/SJC, (408) 436-4829

Field Team Leader/SSC (GMP): Vikas Mathur / SCO (groundwater program) David Thomas/SFO (interim corrective measures and system operation), Jim McWade/CVO (groundwater extraction system set-up).
Site Safety Coordinator: Vikas Mathur/ SCO and David Thomas/SFO
The SSC is responsible for contacting the Field Team Leader and Project Manager. In general, the Project Manager will contact the client. The Health and Safety Manager should be contacted as appropriate.

3.2.3 CH2M HILL Subcontractors

(Reference CH2M HILL SOP HS-55, *Subcontractor, Contractor, and Owner*)

Strongarm Environmental Field Services, Norwalk, CA will provide two field sampling technicians and field vehicles/equipment to perform routine groundwater sampling under the direction of CH2M HILL.

WDC Exploration and Wells, Montclair, CA, will conduct drilling and well construction/development tasks.

Randy Wallis Well Service, Barstow, CA will provide on-call services including well and pump maintenance and repair of the existing groundwater monitoring and extraction wells at the Topock site.

The subcontractors listed above are covered by this HSP and must be provided a copy of this plan. However, this plan does not address hazards associated with the tasks and equipment that the subcontractor has expertise in (e.g., drilling, excavation work, electrical). Subcontractors are responsible for the health and safety procedures specific to their work, and are required to submit these procedures to CH2M HILL for review before the start of field work. Subcontractors must comply with the established health and safety plan(s). The CH2M HILL SSC should verify that subcontractor employee training, medical clearance, and fit test records are current and must monitor and enforce compliance with the established plan(s). CH2M HILL's oversight does not relieve subcontractors of their responsibility for effective implementation and compliance with the established plan(s).

CH2M HILL should continuously endeavor to observe subcontractors' safety performance. This endeavor should be reasonable, and include observing for hazards or unsafe practices that are both readily observable and occur in common work areas. CH2M HILL is not responsible for exhaustive observation for hazards and unsafe practices. In addition to this level of observation, the SSC is responsible for confirming CH2M HILL subcontractor performance against both the subcontractor's safety plan and applicable self-assessment checklists. Self-assessment checklists contained in Attachment 5 are to be used by the SSC to review subcontractor performance.

Health and safety related communications with CH2M HILL subcontractors should be conducted as follows:

- Brief subcontractors on the provisions of this plan, and require them to sign the Employee Signoff Form included in Attachment 1.
- Request subcontractor(s) to brief the project team on the hazards and precautions related to their work.
- When apparent non-compliance/unsafe conditions or practices are observed, notify the subcontractor safety representative and require corrective action – the subcontractor is responsible for determining and implementing necessary controls and corrective actions.
- When repeat non-compliance/unsafe conditions are observed, notify the subcontractor safety representative and stop affected work until adequate corrective measures are implemented.
- When an apparent imminent danger exists, immediately remove all affected CH2M HILL employees and subcontractors, notify subcontractor safety representative, and stop affected work until adequate corrective measures are implemented. Notify the Project Manager and HSM as appropriate.
- Document all oral health and safety related communications in project field logbook, daily reports, or other records.

4 Personal Protective Equipment (PPE)

(Reference CH2M HILL SOP HS-07, *Personal Protective Equipment*, HS-08, *Respiratory Protection*)

PPE Specifications [a]

Task	Level	Body	Head	Respirator [b]
General site entry Surveying Observation of material loading for offsite disposal Oversight of remediation and construction	D	Work clothes; steel-toe, leather work boots; work glove.	Hardhat [c] Safety glasses Ear protection [d]	None required
Surface water sampling Aquifer testing Sediment sampling	Modified D	Work clothes or cotton coveralls **Boots:** Steel-toe, chemical-resistant boots OR steel-toe, leather work boots with outer rubber boot covers **Gloves:** Inner surgical-style nitrile & outer chemical-resistant nitrile gloves.	Hardhat [c] Safety glasses Ear protection [d]	None required
Groundwater sampling Drilling Investigation-derived waste (drum) sampling and disposal	Modified D	**Coveralls:** Uncoated Tyvek® **Boots:** Steel-toe, chemical-resistant boots OR steel-toe, leather work boots with outer rubber boot covers **Gloves:** Inner surgical-style nitrile & outer chemical-resistant nitrile gloves.	Hardhat [c] Splash shield [c] Safety glasses Ear protection [d]	None required.
Groundwater extraction system site set-up and general inspections	D	Work clothes; steel-toe, leather work boots; work glove.	Hardhat [c] Safety glasses Ear protection [d]	None required
Groundwater extraction system O&M	Modified D	**Coveralls:** Uncoated Tyvek® **Boots:** Steel-toe, chemical-resistant boots OR steel-toe, leather work boots with outer rubber boot covers **Gloves:** Inner surgical-style nitrile & outer chemical-resistant nitrile gloves.	Hardhat [c] Splash shield [c] Safety glasses Ear protection [d]	None required.

Reasons for Upgrading or Downgrading Level of Protection

Upgrade[f]	Downgrade
• Request from individual performing tasks. • Change in work tasks that will increase contact or potential contact with hazardous materials. • Occurrence or likely occurrence of gas or vapor emission. • Known or suspected presence of dermal hazards. • Instrument action levels (Section 5) exceeded.	• New information indicating that situation is less hazardous than originally thought. • Change in site conditions that decreases the hazard. • Change in work task that will reduce contact with hazardous materials.

[a] Modifications are as indicated. CH2M HILL will provide PPE only to CH2M HILL employees.

[b] No facial hair that would interfere with respirator fit is permitted.

[c] Hardhat and splash-shield areas are to be determined by the SSC.

[d] Ear protection should be worn when conversations cannot be held at distances of 3 feet or less without shouting.

[e] Cartridge change-out schedule is at least every 8 hours (or one work day), except if relative humidity is > 85%, or if organic vapor measurements are > midpoint of Level C range (refer to Section 5)--then at least every 4 hours. If encountered conditions are different than those anticipated in this HSP, contact the HSM.

[f] Performing a task that requires an upgrade to a higher level of protection (e.g., Level D to Level C) is permitted only when the PPE requirements have been approved by the HSM, and an SSC qualified at that level is present.

5 Air Monitoring/Sampling

(Reference CH2M HILL SOP HS-06, *Air Monitoring)*

5.1 Air Monitoring Specifications

Air monitoring is not required since there is a very low potential for personal exposure during planned site activities. The primary pathway for exposure to chromium is via inhalation of chromium-containing dust, so as long as dust is controlled, there should be no exposure. If work changes or if dust is generated during work activities, then the HSM must be notified so that air monitoring and PPE can be further evaluated.

6 Decontamination

(Reference CH2M HILL SOP HS-13, *Decontamination*)

The SSC must establish and monitor the decontamination procedures and their effectiveness. Decontamination procedures found to be ineffective will be modified by the SSC. The SSC must ensure that procedures are established for disposing of materials generated on the site.

6.1 Decontamination Specifications

Personnel

- Boot wash/rinse
- Glove wash/rinse
- Outer-glove removal
- Body-suit removal
- Inner-glove removal
- Respirator removal
- Hand wash/rinse
- Face wash/rinse
- Shower ASAP
- Dispose of PPE in municipal trash, or contain for disposal
- Dispose of personnel rinse water to facility or sanitary sewer, or contain for offsite disposal

Sample Equipment

- Wash/rinse equipment
- Solvent-rinse equipment
- Contain solvent waste for offsite disposal

Heavy Equipment

- Power wash
- Steam clean
- Dispose of equipment rinse water to facility or sanitary sewer, or contain for offsite disposal

6.2 Diagram of Personnel-Decontamination Line

No eating, drinking, or smoking is permitted in contaminated areas and in exclusion or decontamination zones. The SSC should establish areas for eating, drinking, and smoking. Contact lenses are not permitted in exclusion or decontamination zones.

Figure 6-1 illustrates a conceptual establishment of work zones, including the decontamination line. Work zones are to be modified by the SSC to accommodate task-specific requirements.

7 Spill-Containment Procedures

Sorbent material will be maintained in the support zone. Incidental spills will be contained with sorbent and disposed of properly. Additional spill-containment procedures are provided in project-specific work plans.

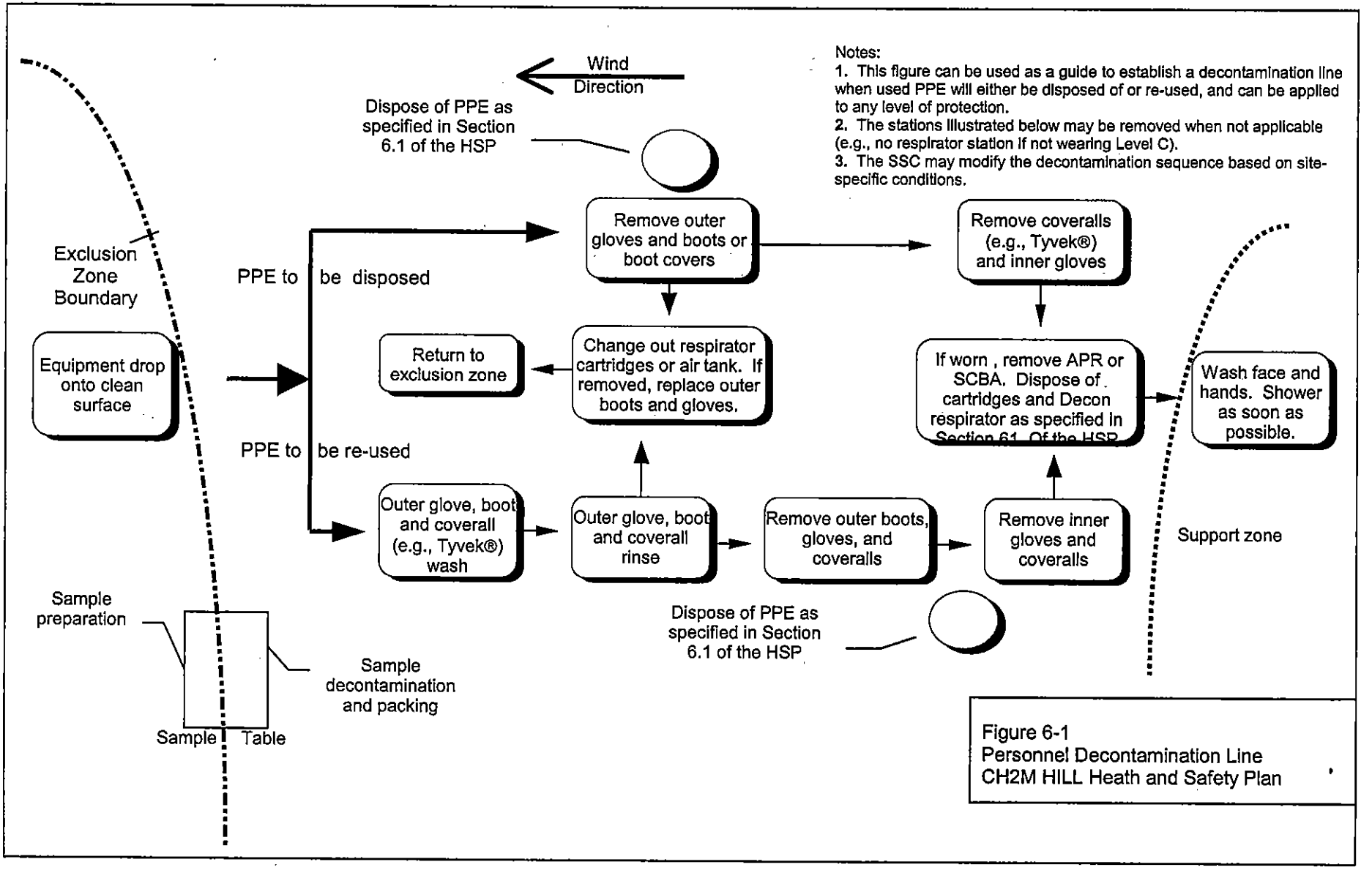


Figure 6-1
Personnel Decontamination Line
CH2M HILL Heath and Safety Plan

8 Site-Control Plan

8.1 Site-Control Procedures

(Reference CH2M HILL SOP HS-11, *Site Control)*

- The SSC will conduct a site safety briefing (see below) before starting field activities or as tasks and site conditions change.
- Topics for briefing on site safety: general discussion of Health and Safety Plan, site-specific hazards, locations of work zones, PPE requirements, equipment, special procedures, emergencies.
- The SSC records attendance at safety briefings in a logbook and documents the topics discussed.
- Post the OSHA job-site poster in a central and conspicuous location in accordance with CH2M HILL SOP HS-71, *OSHA Postings*.
- Establish support, decontamination, and exclusion zones. Delineate with flags or cones as appropriate. Support zone should be upwind of the site. Use access control at entry and exit from each work zone.
- Establish onsite communication consisting of the following:
  - Line-of-sight and hand signals
  - Air horn
  - Two-way radio or cellular telephone if available
- Establish offsite communication.
- Establish and maintain the "buddy system."
- Initial air monitoring is conducted by the SSC in appropriate level of protection.
- The SCC is to conduct periodic inspections of work practices to determine the effectiveness of this plan – refer to Sections 2 and 3. Deficiencies are to be noted, reported to the HSM, and corrected.

8.2 Hazwoper Compliance Plan

(Reference CH2M HILL SOP HS-19, *Site-Specific Written Safety Plans)*

Certain parts of the site work are covered by state or federal Hazwoper standards and therefore require training and medical monitoring. Anticipated Hazwoper tasks (Section 1.1.1) might occur consecutively or concurrently with respect to non-Hazwoper tasks. This section outlines procedures to be followed when approved activities specified in Section 1.1.2 do not require 24- or 40-hour training. Non-Hazwoper-trained personnel also must be trained in accordance with all other state and federal OSHA requirements.

- In many cases, air sampling, in addition to real-time monitoring, must confirm that there is no exposure to gases or vapors before non-Hazwoper-trained personnel are allowed on the site, or while non-Hazwoper-trained staff are working in proximity to Hazwoper activities. Other data (e.g., soil) also must document that there is no potential for exposure. The HSM must approve the interpretation of these data. Refer to subsections 2.5 and 5.3 for contaminant data and air sampling requirements, respectively.
- When non-Hazwoper-trained personnel are at risk of exposure, the SSC must post the exclusion zone and inform non-Hazwoper-trained personnel of the:
  - nature of the existing contamination and its locations
  - limitations of their access
  - emergency action plan for the site
- Periodic air monitoring with direct-reading instruments conducted during regulated tasks also should be used to ensure that non-Hazwoper-trained personnel (e.g., in an adjacent area) are not exposed to airborne contaminants.
- When exposure is possible, non-Hazwoper-trained personnel must be removed from the site until it can be demonstrated that there is no longer a potential for exposure to health and safety hazards.
- Remediation treatment system start-ups: Once a treatment system begins to pump and/or treat contaminated media, the site is, for the purposes of applying the Hazwoper standard, considered a treatment, storage, and disposal facility (TSDF). Therefore, once the system begins operation, only Hazwoper-trained personnel (minimum of 24 hour of training) will be permitted to enter the site. All non-Hazwoper-trained personnel must not enter the TSDF area of the site.

9 Emergency Response Plan

(Reference CH2M HILL, SOP HS-12, *Emergency Response*)

This emergency response plan covers the planned sampling, drilling, and investigation activities for the site. A project-specific Emergency Response Plan has been prepared for operation of the groundwater extraction system.

9.1 Pre-Emergency Planning

The SSC performs the applicable pre-emergency planning tasks before starting field activities and coordinates emergency response with CH2M HILL onsite parties, the facility, and local emergency-service providers as appropriate.

- Review the facility emergency and contingency plans where applicable.
- Determine what onsite communication equipment is available (e.g., two-way radio, air horn).
- Determine what offsite communication equipment is needed (e.g., nearest telephone, cell phone).
- Confirm and post emergency telephone numbers, evacuation routes, assembly areas, and route to hospital; communicate the information to onsite personnel.
- Field Trailers: Post "Exit" signs above exit doors, and post "Fire Extinguisher" signs above locations of extinguishers. Keep areas near exits and extinguishers clear.
- Review changed site conditions, onsite operations, and personnel availability in relation to emergency response procedures.
- Where appropriate and acceptable to the client, inform emergency room and ambulance and emergency response teams of anticipated types of site emergencies.
- Designate one vehicle as the emergency vehicle; place hospital directions and map inside; keep keys in ignition during field activities.
- Inventory and check site emergency equipment, supplies, and potable water.
- Communicate emergency procedures for personnel injury, exposures, fires, explosions, and releases.
- Rehearse the emergency response plan before site activities begin, including driving route to hospital.
- Brief new workers on the emergency response plan.

The SSC will evaluate emergency response actions and initiate appropriate follow-up actions.

9.2 Emergency Equipment and Supplies

The SSC should mark the locations of emergency equipment on the site map and post the map.

Emergency Equipment and Supplies	Location
20 LB (or two 10-lb) fire extinguisher (A, B, and C classes)	Support Zone/Heavy Equipment
First aid kit	Support Zone/Field Vehicle
Eye Wash	Support & Decon Zone/Field Vehicle
Potable water	Support & Decon Zone/Field Vehicle
Bloodborne-pathogen kit	Support Zone/Field Vehicle
Additional equipment (specify):	Cell phone or radio

9.3 Incident Response

In fires, explosions, or chemical releases, actions to be taken include the following:

- Shut down CH2M HILL operations and evacuate the immediate work area.
- Notify appropriate response personnel.
- Account for personnel at the designated assembly area(s).
- Assess the need for site evacuation, and evacuate the site as warranted.

Instead of implementing a work-area evacuation, note that small fires or spills posing minimal safety or health hazards may be controlled.

9.4 Emergency Medical Treatment

The procedures listed below may also be applied to non-emergency incidents. Injuries and illnesses (including overexposure to contaminants) must be reported to Human Resources. If there is doubt about whether medical treatment is necessary, or if the injured person is reluctant to accept medical treatment, contact the CH2M HILL medical consultant. During non-emergencies, follow these procedures as appropriate.

- Notify appropriate emergency response authorities listed in Section 9.8 (e.g., 911).
- The SCC will assume charge during a medical emergency until the ambulance arrives or until the injured person is admitted to the emergency room.
- Prevent further injury.
- Initiate first aid and CPR where feasible.
- Get medical attention immediately.
- Perform decontamination where feasible; lifesaving and first aid or medical treatment take priority.
- Make certain that the injured person is accompanied to the emergency room.
- When contacting the medical consultant, state that the situation is a CH2M HILL matter, and give your name and telephone number, the name of the injured person, the extent of the injury or exposure, and the name and location of the medical facility where the injured person was taken.
- Report incident as outlined in Section 9.7.

9.5 Evacuation

- Evacuation routes and assembly areas (and alternative routes and assembly areas) are specified on the site map.
- Evacuation route(s) and assembly area(s) will be designated by the SSC before work begins.
- Personnel will assemble at the assembly area(s) upon hearing the emergency signal for evacuation.
- The SSC and a "buddy" will remain on the site after the site has been evacuated (if safe) to assist local responders and advise them of the nature and location of the incident.
- The SSC will account for all personnel in the onsite assembly area.
- A designated person will account for personnel at alternate assembly area(s).
- The SSC will write up the incident as soon as possible after it occurs and submit a report to the Corporate Director of Health and Safety.

9.6 Evacuation Signals

Signal	Meaning
Grasping throat with hand	Emergency-help me.
Thumbs up	OK; understood.
Grasping buddy's wrist	Leave area now.
Continuous sounding of horn	Emergency; leave site now.

9.7 Incident Notification and Reporting

- Upon any project incident (fire, spill, injury, near miss, death, etc.), immediately notify the PM and HSM. Call emergency beeper number if HSM is unavailable.
- For CH2M HILL work-related injuries or illnesses, contact and help Human Resources administrator complete an Incident Report Form (IRF). IRF must be completed within 24 hours of incident.
- For CH2M HILL subcontractor incidents, complete the Subcontractor Accident/Illness Report Form and submit to the HSM.
- Notify and submit reports to client as required in contract.

10 Approval

This site-specific Health and Safety Plan has been written for use by CH2M HILL only. CH2M HILL claims no responsibility for its use by others unless that use has been specified and defined in project or contract documents. The plan is written for the specific site conditions, purposes, dates, and personnel specified and must be amended if those conditions change.

10.1 Original Plan

Written By: Paul Bertucci **Date: 11/20/2001**

Approved By: Trish Danby/SAC **Date: November 20, 2001**

10.2 Revisions

Revisions Made By:	**Vikas Mathur/SCO**	**Date:**	**June 7, 2002**
	David Thomas/SFO	**Date:**	**October 28, 2003**
Revisions Made By:	**Matthew Johns/DEN**	**Date:**	**February 27, 2004**
	David Thomas/SFO		

Revisions to Plan: O&M operations hazards, task descriptions, ATV safety(section 2.1.7 and attachment 7), staff update, Section 2.1 replaced, sections 2.1.8-9 added, section 9.2 revised,

---

Revisions Approved By: Rick Cavil/SJC **Date:06/10/2002**

Revisions Approved By: Trish Danby/SAC **Date:10/28/2003**

Revisions Approved By: Rick Cavil/SJC **Date: 03/01/2004**

---

11 Attachments

Attachment 1: **Employee Signoff Form – Field Safety Instructions**
Attachment 2: **Project-Specific Chemical Product Hazard Communication Form**
Attachment 3: **Chemical-Specific Training Form**
Attachment 4: **Emergency Contacts**
Attachment 5: **Project Activity Self-Assessment Checklists**
Attachment 6: **Applicable Material Safety Data Sheets**
Attachment 7: **ATV Safety**

CH2MHILL

EMPLOYEE SIGNOFF FORM

Health and Safety Plan

- The CH2M HILL project employees and subcontractors listed below have been provided with a copy of this HSP, have read and understood it, and agree to abide by its provisions.

Project Name: Topock Site Remediation **Project Number:**

EMPLOYEE NAME (Please print)	EMPLOYEE SIGNATURE	COMPANY	DATE

Project-Specific Chemical Product Hazard Communication Form

This form must be completed prior to performing activities that expose personnel to hazardous chemicals products. Upon completion of this form, the SSC shall verify that training is provided on the hazards associated with these chemicals and the control measures to be used to prevent exposure to CH2M HILL and subcontractor personnel. Labeling and MSDS systems will also be explained.

Project Name: Topock Site Remediation **Project Number:**

MSDSs will be maintained at the following location(s):

Hazardous Chemical Products Inventory

Chemical	Quantity	Location	MSDS Available	Container labels	
				Identity	Hazard
Methane	1 liter, compressed	Support Zone			
Isobutylene	1 liter, compressed	Support Zone			
Pentane	1 liter, compressed	Support Zone			
Hydrochloric acid	< 500 ml	Support Zone / sample bottles			
Nitric acid	< 500 ml	Support Zone / sample bottles			
Sulfuric Acid	< 500 ml	Support Zone / sample bottles			
Sodium hydroxide	< 500 ml	Support Zone / sample bottles			
Methanol	< 1 Gallon	Support/Decon Zones			
Hexane	< 1 Gallon	Support/Decon Zones			
pH buffers	< 500 ml	Support Zone			
MSA Sanitizer	< 1 liter	Support/Decon Zones			
Alconox/Liquinox	< 1liter	Support/Decon Zones			

Refer to SOP HS-05 *Hazard Communication* for more detailed information.

CH2MHILL

CHEMICAL-SPECIFIC TRAINING FORM

Location:	Project # :
HCC:	Trainer:

TRAINING PARTICIPANTS:

NAME	SIGNATURE	NAME	SIGNATURE

REGULATED PRODUCTS/TASKS COVERED BY THIS TRAINING:

The HCC shall use the product MSDS to provide the following information concerning each of the products listed above.

☐ Physical and health hazards

☐ Control measures that can be used to provide protection (including appropriate work practices, emergency procedures, and personal protective equipment to be used)

☐ Methods and observations used to detect the presence or release of the regulated product in the workplace (including periodic monitoring, continuous monitoring devices, visual appearance or odor of regulated product when being released, etc.)

Training participants shall have the opportunity to ask questions concerning these products and, upon completion of this training, will understand the product hazards and appropriate control measures available for their protection.

Copies of MSDSs, chemical inventories, and CH2M HILL's written hazard communication program shall be made available for employee review in the facility/project hazard communication file.

Emergency Contacts – Attachment 4

24-hour CH2M HILL Emergency Beeper – 888/444-1226

Medical Emergency – 911
Colorado River Medical Center
1401 Bailey Ave.
Needles, CA 92363
(760) 326-4531
Ambulance (760) 326-5299

CH2M HILL Medical Consultant
Health Resources
Dr. Jerry H. Berke, M.D., M.P.H.
600 West Cummings Park, Suite 3400
Woburn, MA 01801-6350
1-781-938-4653 1-800-350-4511
(After hours calls will be returned within 20 minutes)

Fire/Spill Emergency – 911
Fire Dept. Emergency (760) 326-2211
Needles Fire Department (760) 326-2833

Corporate Director Health and Safety
Name: David McCormack/SEA
Phone: 425/453-5005
24-hour emergency beeper: 888-444-1226

Security & Police – 911
Highway Patrol (760) 326-9200
Needles Sheriff (760) 326-9200

Regional Health and Safety Program Manager (RHSPM)
Name: Trish Danby / SAC
Phone: 916/920-0212 ext. 287

Designated Safety Coordinator (DSC)
Name: Vikas Mathur / SCO
Phone: (714) 429-2000 cell (714) 791-2697

Regional Human Resources Department
Name: Lisa Covey/SAC
Phone: 916/920-0212 ext. 253

Project Manager
Name: Terri Herson/ SFO
Phone: (510) 587-7597

Corporate Human Resources Department
Name: Pete Hannan/COR
Phone: 303/771-0900

Federal Express Dangerous Goods Shipping
Phone: 800/238-5355
CH2M HILL Emergency Number for Shipping Dangerous Goods
Phone: 800/255-3924

Worker's Compensation:
Contact Regional HR dept. to have form completed or contact Julie Zimmerman after hours: 303/664-3304

Automobile Accidents:
Rental: Carol Dietz/COR 303/713-2757
CH2M HILL owned vehicle:
Zurich Insurance Co. 800/987-3373

Contact the Project Manager. Generally, the Project Manager will contact relevant government agencies.

Facility Alarms: per PG&E facility safety program **Evacuation Assembly Area(s):** per PG&E facility manager

Facility/Site Evacuation Route(s): per PG&E facility safety program

Hospital Name/Address:
Colorado River Medical Center
1401 Bailey Avenue, Needles , CA

Hospital Phone #: (760) 326-4531

Directions to Hospital

Include written directions here, and attach or post a highlighted map if needed.

Exit facility & drive northwest approximately 10 miles on Interstate Highway 40 west to Needles.
Take the "J" Street exit & turn left onto "J Street.
Go several blocks & turn left onto Bailey Ave.
The Hospital is on the left after the park.

CH2M HILL HEALTH AND SAFETY PLAN

Attachment 5

Project Activity Self-Assessment Checklists

CH2MHILL

H&S Self-Assessment Checklist - DRILLING

This checklist shall be used by CH2M HILL personnel **only** and shall be completed at the frequency specified in the project's HSP/FSI.

This checklist is to be used at locations where: 1) CH2M HILL employees are potentially exposed to hazards associated with drilling operations (complete Sections 1 and 3), and/or 2) CH2M HILL oversight of a drilling subcontractor is required (complete entire checklist).

SSC/DSC may consult with drilling subcontractors when completing this checklist, but shall not direct the means and methods of drilling operations nor direct the details of corrective actions. Drilling subcontractors shall determine how to correct deficiencies and we must carefully rely on their expertise. Items considered to be imminently dangerous (possibility of serious injury or death) shall be corrected immediately or all exposed personnel shall be removed from the hazard until corrected.

Completed checklists shall be sent to the health and safety manager for review.

Project Name: _____ Project No.: _____

Location: _____ PM: _____

Auditor: _____ Title: _____ Date: _____

This specific checklist has been completed to:

☐ Evaluate CH2M HILL employee exposures to drilling hazards
☐ Evaluate a CH2M HILL subcontractor's compliance with drilling H&S requirements
Subcontractors Name: _____

- Check "Yes" if an assessment item is complete/correct.
- Check "No" if an item is incomplete/deficient. Deficiencies shall be brought to the immediate attention of the drilling subcontractor. Section 3 must be completed for all items checked "No."
- Check "N/A" if an item is not applicable.
- Check "N/O" if an item is applicable but was not observed during the assessment.

Numbers in parentheses indicate where a description of this assessment item can be found in Standard of Practice HS-35.

SECTION 1	Yes	No	N/A	N/O
PERSONNEL SAFE WORK PRACTICES (3.1)				
1. Only authorized personnel operating drill rig	☐	☐	☐	☐
2. Personnel cleared during rig startup	☐	☐	☐	☐
3. Personnel clear of rotating parts	☐	☐	☐	☐
4. Personnel not positioned under hoisted loads	☐	☐	☐	☐
5. Loose clothing and jewelry removed	☐	☐	☐	☐
6. Personnel instructed not to approach equipment that has become electrically energized	☐	☐	☐	☐
7. Smoking is prohibited around drilling operation	☐	☐	☐	☐
8. Personnel wearing appropriate PPE, per HSP/FSI	☐	☐	☐	☐

SECTION 2	Yes	No	N/A	N/O
GENERAL (3.2.1)				
9. Daily safety briefing/meeting conducted with crew	☐	☐	☐	☐
10. Daily inspection of drill rig and equipment conducted before use	☐	☐	☐	☐
DRILL RIG PLACEMENT (3.2.2)				
11. Location of underground utilities identified	☐	☐	☐	☐
12. Safe clearance distance maintained from overhead powerlines	☐	☐	☐	☐
13. Drilling pad established, when necessary	☐	☐	☐	☐
14. Drill rig leveled and stabilized	☐	☐	☐	☐
DRILL RIG TRAVEL (3.2.3)				
15. Rig shut down and mast lowered and secured prior to rig movement	☐	☐	☐	☐
16. Tools and equipment secured prior to rig movement	☐	☐	☐	☐
17. Only personnel seated in cab are riding on rig during movement	☐	☐	☐	☐
18. Safe clearance distance maintained while traveling under overhead powerlines	☐	☐	☐	☐
19. Backup alarm or spotter used when backing rig	☐	☐	☐	☐
DRILL RIG OPERATION (3.2.4)				
20. Kill switch clearly identified and operational	☐	☐	☐	☐
21. All machine guards are in place	☐	☐	☐	☐
22. Rig ropes not wrapped around body parts	☐	☐	☐	☐
23. Pressurized lines and hoses secured from whipping hazards	☐	☐	☐	☐
24. Drill operation stopped during inclement weather	☐	☐	☐	☐
25. Air monitoring conducted per HSP/FSI for hazardous atmospheres	☐	☐	☐	☐
26. Rig placed in neutral when operator not at controls	☐	☐	☐	☐
DRILL RIG MAINTENANCE (3.2.5)				
27. Defective components repaired immediately	☐	☐	☐	☐
28. Lockout/tagout procedures used prior to maintenance	☐	☐	☐	☐
29. Cathead in clean, sound condition	☐	☐	☐	☐
30. Drill rig ropes in clean, sound condition	☐	☐	☐	☐
31. Fall protection used for fall exposures of 6 feet or greater	☐	☐	☐	☐
32. Rig in neutral and augers stopped rotating before cleaning	☐	☐	☐	☐
33. Good housekeeping maintained on and around rig	☐	☐	☐	☐
DRILLING AT HAZARDOUS WASTE SITES (3.2.6)				
34. Waste disposed of according to HSP	☐	☐	☐	☐
35. Appropriate decontamination procedures being followed, per HSP	☐	☐	☐	☐

SECTION 3

Complete this section for all items checked "No" in Sections 1 or 2. Deficient items must be corrected in a timely manner.

Item #	Corrective Action Planned/Taken	Date Corrected

CH2MHILL

H&S Self-Assessment Checklist: CONFINED-SPACE ENTRY

This checklist is provided as a method of verifying compliance with the OSHA confined-space entry standard. It shall be used at locations where CH2M HILL employees enter confined spaces, or are required to perform oversight of subcontractor personnel entering confined spaces, or both.

CH2M HILL staff shall not direct the means and methods of subcontractor confined space operations nor direct the details of corrective actions. The subcontractor must determine how to correct deficiencies and CH2M HILL staff must carefully rely on their expertise. Items considered to be imminently dangerous (possibility of serious injury or death) must be corrected immediately or all exposed personnel must be removed from the hazard until corrected.

Completed checklists must be sent to the appropriate regional health and safety program manager for review.

Project Name: _____ Project No.: _____
Location: _____ PM: _____
Auditor: _____ Title: _____ Date: _____

This specific checklist has been completed to (check only one of the boxes below):

☐ Evaluate CH2M HILL compliance with its confined-space entry program (SOP HS-17)
☐ Evaluate a CH2M HILL subcontractor's compliance with its confined-space entry program
Subcontractor's Name: _____

- Check "Yes" if an assessment item is complete or correct.
- Check "No" if an item is incomplete or deficient. Section 2 must be completed for all items checked "No."
- Check "N/A" if an item is not applicable.
- Check "N/O" if an item is applicable but was not observed during the assessment.

Numbers in parentheses indicate where a description of this assessment item can be found in Standard of Practice HS-17.

SECTION 1	Yes	No	N/A	N/O
CONFINED SPACE EVALUATION (6.1)				
1. Personnel informed of location and hazards of existing confined spaces (danger signs, verbal)	☐	☐	☐	☐
2. Determination made that work can not be completed without entering the confined space	☐	☐	☐	☐
3. Information obtained regarding the space (blue prints, potential hazards, energy sources)	☐	☐	☐	☐
4. Spaces classified as permit-required, alternative procedure, or nonpermit confined spaces	☐	☐	☐	☐
TRAINING (6.2)				
5. Entrants, Attendants, and Entry Supervisor have completed confined-space entry training	☐	☐	☐	☐
6. Employees performing lockout/tagout procedures have completed LOTO training	☐	☐	☐	☐
7. Employees required to wear respirators have completed respiratory protection training	☐	☐	☐	☐
CONFINED-SPACE ENTRY (6.3)				
8. Completed permit or certificate posted at space entrance	☐	☐	☐	☐
9. Preentry briefing conducted	☐	☐	☐	☐
10. Entrants/Attendants verify that entry supervisor has authorized entry	☐	☐	☐	☐
11. Entrants/Attendants verify that all requirements of the permit or certificate have been satisfied	☐	☐	☐	☐
12. Atmospheric monitoring is conducted at frequency provided on the permit or certificate	☐	☐	☐	☐
13. Entry not permitted if an atmospheric hazard is detected above acceptable safe levels	☐	☐	☐	☐
14. Entrants evacuate space upon orders of the attendant or entry supervisor, when an alarm is sounded, or when a prohibited condition or dangerous situation is recognized	☐	☐	☐	☐
15. Entrants/Attendant informs entry supervisor of hazards confronted or created in the space or any problems encountered during entry.	☐	☐	☐	☐
16. Entry supervisor informs the owner of such issues in item 16 above	☐	☐	☐	☐

SECTION 1 (continued)	Yes	No	N/A	N/O
ENTRY UNDER A CONFINED-SPACE ENTRY PERMIT (CSEP) (6.4)				
17. CSEP completed by entry supervisor	☐	☐	☐	☐
18. All expected hazards listed	☐	☐	☐	☐
19. Entry supervisor and Attendant assigned	☐	☐	☐	☐
20. Communication methods established between entrants and the attendant (6.7.1)	☐	☐	☐	☐
21. Cleaning requirements identified (6.7.2)	☐	☐	☐	☐
22. Isolation requirements identified (6.7.3)	☐	☐	☐	☐
23. Ventilation requirements identified (6.7.4)	☐	☐	☐	☐
24. Protective equipment requirements identified (6.7.5)	☐	☐	☐	☐
25. Rescue equipment requirements identified (6.7.6)	☐	☐	☐	☐
26. Other requirements identified (6.7.7)	☐	☐	☐	☐
27. Rescue and emergency procedures identified (6.8)	☐	☐	☐	☐
28. Atmospheric monitoring requirements identified	☐	☐	☐	☐
29. HS&E manager approve use by signing (CH2M HILL CSEP only)	☐	☐	☐	☐
30. Entry supervisor authorized entry by signing	☐	☐	☐	☐
31. Authorized entrants have completed CSE training and attended preentry briefing	☐	☐	☐	☐
32. Only authorized entrants permitted to enter the space	☐	☐	☐	☐
33. Entry supervisor sign the CSEP indicating its cancellation	☐	☐	☐	☐
34. Problems encountered during the entry listed	☐	☐	☐	☐
ENTRY UNDER AN ALTERNATIVE PROCEDURE CERTIFICATE (APC) (6.5)				
35. APC completed by entry supervisor	☐	☐	☐	☐
36. All expected atmospheric hazards listed	☐	☐	☐	☐
37. Entry supervisor and Attendant assigned	☐	☐	☐	☐
38. Entry supervisor verifies that nonatmospheric hazards do not exist	☐	☐	☐	☐
39. Communication methods established between entrants and the attendant	☐	☐	☐	☐
40. Covers removed safely	☐	☐	☐	☐
41. Openings guarded from both fall hazards and from objects entering the space	☐	☐	☐	☐
42. Continuous forced-air ventilation positioned to ventilate the immediate areas where employees are working and continue until they have left the space	☐	☐	☐	☐
43. Ventilation from a clean source of air	☐	☐	☐	☐
44. Atmospheric monitoring requirements identified	☐	☐	☐	☐
45. Entry supervisor authorize entry by signing	☐	☐	☐	☐
46. Authorized entrants have completed CSE training and attended preentry briefing	☐	☐	☐	☐
47. Only authorized entrants permitted to enter the space	☐	☐	☐	☐
48. Entry supervisor sign the APC indicating its cancellation	☐	☐	☐	☐
49. Problems encountered during the entry listed	☐	☐	☐	☐
ENTRY UNDER A NONPERMIT CERTIFICATE (NPC) (6.6)				
50. NPC completed by entry supervisor	☐	☐	☐	☐
51. Entry supervisor assigned	☐	☐	☐	☐
52. Attendant or buddy assigned	☐	☐	☐	☐
53. Buddy remains in the space with the entrant	☐	☐	☐	☐
54. Entry supervisor verifies nonatmospheric hazards do not exist	☐	☐	☐	☐
55. Communication methods established between entrants and attendant or buddy	☐	☐	☐	☐
56. Entrants informed to exit the space immediately if hazards are observed	☐	☐	☐	☐
57. Atmospheric monitoring requirements identified	☐	☐	☐	☐
58. Entry supervisor authorizes entry by signing	☐	☐	☐	☐
59. Authorized entrants have completed CSE training and attended preentry briefing	☐	☐	☐	☐
60. Only authorized entrants permitted to enter the space	☐	☐	☐	☐
61. Entry supervisor shall sign the NPC indicating its cancellation	☐	☐	☐	☐
62. Problems encountered during the entry shall be listed	☐	☐	☐	☐

SECTION 1 (continued)	Yes	No	N/A	N/O
RESCUE (6.8)				
63. Entrants wearing body harness with attached retrieval line (lifeline)	☐	☐	☐	☐
64. Other end of lifeline attached to retrieval device (when required) or fixed point outside space	☐	☐	☐	☐
65. Mechanical retrieval device positioned at access point for vertical-type spaces > 5 feet deep	☐	☐	☐	☐
66. Rescue team established	☐	☐	☐	☐
67. Team members have completed confined-space entry training	☐	☐	☐	☐
68. Team members informed of the hazards that they may confront during rescue operations	☐	☐	☐	☐
69. PPE & rescue equipment necessary to conduct safe entry-rescue provided & readily available	☐	☐	☐	☐
70. Team members trained on rescue duties and proper use of PPE and rescue equipment	☐	☐	☐	☐
71. All team members trained in first aid & CPR, at least one member holding a current certification	☐	☐	☐	☐
72. Team has made simulated rescue from a space of similar configuration within last 12 months	☐	☐	☐	☐
73. Communication established & tested between the team & entrants, and emergency provider	☐	☐	☐	☐
74. Local emergency medical provider notified in advance of entries into PRCS	☐	☐	☐	☐
ATMOSPHERIC MONITORING (6.9)				
75. Qualified individual conducts atmospheric monitoring	☐	☐	☐	☐
76. Monitoring results documented on permit or certificate	☐	☐	☐	☐
77. Entrants do not enter until all monitoring requirements are completed	☐	☐	☐	☐
78. Monitoring equipment calibrated prior to use	☐	☐	☐	☐
79. Monitoring conducted for oxygen, flammability, and toxic air contaminants	☐	☐	☐	☐
80. Monitoring conducted bottom to top at five foot intervals	☐	☐	☐	☐
PREENTRY BRIEFING (6.10)				
81. Entry supervisor conducts the briefing and discusses the follow items:	☐	☐	☐	☐
82. Explanation of the work to be performed and limitations	☐	☐	☐	☐
83. Explanation of actual and potential hazards, including the possible behavioral effects and signs, symptoms, and consequences of exposure	☐	☐	☐	☐
84. Review of the control measure and atmospheric monitoring requirements, as specified on permit or certificate	☐	☐	☐	☐
85. Review of entrant and attendant responsibilities	☐	☐	☐	☐

SECTION 2

Complete this section for all items checked "No" in Section 1. Deficient items must be corrected in a timely manner.

Item #	Corrective Action Planned or Taken	Date Corrected

Auditor: ______________________ Project Manager: ______________________

CH2M HILL HEALTH AND SAFETY PLAN

Attachment 6

Applicable Material Safety Data Sheets

CH2M HILL HEALTH AND SAFETY PLAN

Attachment 7

ATV SAFETY

ATVs

All terrain vehicles (ATVs) will generally be operated in accordance with the Contractor's requirements.

- ATVs are special use vehicles with a light engine or electric motor, other than construction equipment, not intended and/or allowed for highway use. ATVs ***do not*** have seat belts or ***do not*** have substantial roll protection (i.e., ROPS, FOPS, steel roll-cage, etc.)

Procedures for ATVs:

ATVs shall not be operated on site unless their use has been justified and approved by the Health and Safety Manager (HSM) and the onsite Designated Safety Coordinator (DSC).

ATVs with fewer than four wheels are not allowed on site.

Operators shall be trained by a competent person or certified by the manufacture prior to receiving revocable authorization to operating ATVs on site. ATVs shall be operated in accordance with the operating manual.

Training will consist of these instructions, audio-visual aids, hands-on training by a competent person, and a demonstration of basic skills. All individuals are required meet all training aspects before ATV use.

ATVs shall remain on flat surfaces at all times and shall not be operated on slopes steeper than a 20% grade.

Daily inspections of vehicles for safety and maintenance will be required. See the onsite DSC for further guidance or use checklists provided.

Operators and passengers on ATVs shall wear:

- wear safety glasses, goggles, or face-shield at all times when moving
- leather boots or shoes
- a ***PROPERLY FITTED*** DOT/ANSI/SNELL approved helmet

ATV Safety

- Speed ***is not*** to exceed 20 mph.
- Make sure the engine is turned OFF before dismounting the vehicle. (tip: put vehicle into neutral before turning engine off).
- Avoid driving over any extremely obstacles (i.e. wood/logs, fences, boulders, etc).
- Remember to shift weight, to inside when turning, forward when going uphill, and back when going down hill. Reduce speed when necessary.
- Watch for pedestrians and other vehicles.
- Only drive during daylight hours.
- Do not carry passengers.
- Do not exceed recommend payload.
- When using trailers, watch your turning radius.
- Slow down before coming to a stop.
- Shut engine down prior to refueling.
- Each driver will have a valid drivers license.
- ATV's must have adequate wheel guarding.

- Absolutely no horseplay or stunting will be tolerated while operating ATV's.
- Stay seated at all times while ATV is in motion.
- Avoid changes gears when throttle is depressed completely. It's best to quickly let up on the throttle before changing gears, and then going back after the gear has switched.
- Report any damage or injuries immediately, and report any hazardous condition that could cause these, including horseplay.
- Keep both hands on the bars when in motion.

CH2M HILL requires that riders read this information as part of the training before using ATVs on this project, and sign-off on the Health and Safety Plan/IIPP (Attachment 1) to show they understand and will comply. All questions should be posed to the Health and Safety Manager and onsite DSC.