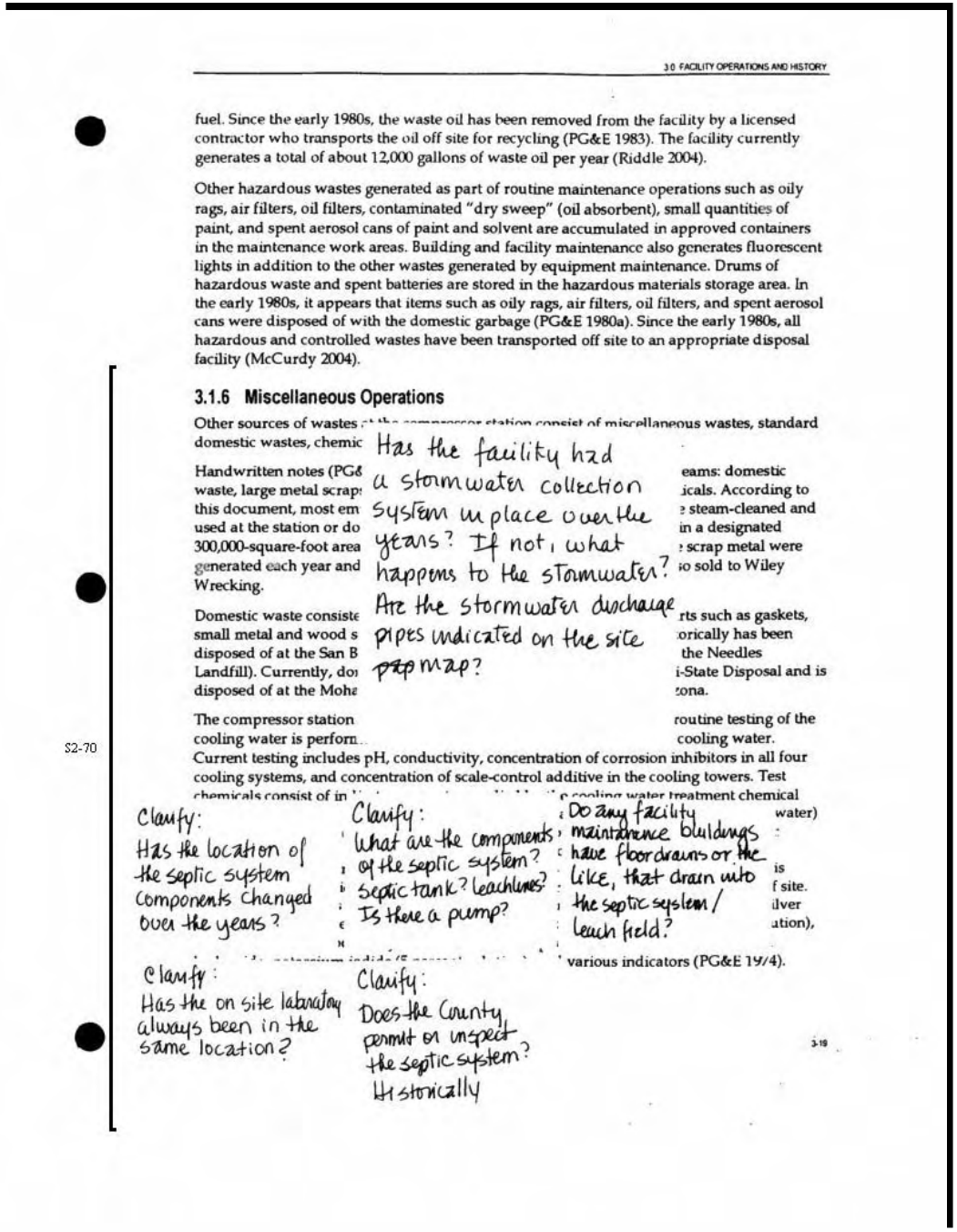

3.0 FACILITY OPERATIONS AND HISTORY

fuel. Since the early 1980s, the waste oil has been removed from the facility by a licensed contractor who transports the oil off site for recycling (PG&E 1983). The facility currently generates a total of about 12,000 gallons of waste oil per year (Riddle 2004).

Other hazardous wastes generated as part of routine maintenance operations such as oily rags, air filters, oil filters, contaminated "dry sweep" (oil absorbent), small quantities of paint, and spent aerosol cans of paint and solvent are accumulated in approved containers in the maintenance work areas. Building and facility maintenance also generates fluorescent lights in addition to the other wastes generated by equipment maintenance. Drums of hazardous waste and spent batteries are stored in the hazardous materials storage area. In the early 1980s, it appears that items such as oily rags, air filters, oil filters, and spent aerosol cans were disposed of with the domestic garbage (PG&E 1980a). Since the early 1980s, all hazardous and controlled wastes have been transported off site to an appropriate disposal facility (McCurdy 2004).

3.1.6 Miscellaneous Operations

Other sources of wastes at the compressor station consist of miscellaneous wastes, standard domestic wastes, chemic

Has the facility had a stormwater collection system in place over the years? If not, what happens to the stormwater? Are the stormwater discharge pipes indicated on the site map?

Handwritten notes (PG& waste, large metal scrap this document, most em used at the station or do 300,000-square-foot area generated each year and Wrecking.

eams: domestic icals. According to steam-cleaned and in a designated scrap metal were io sold to Wiley

Domestic waste consiste small metal and wood s disposed of at the San B Landfill). Currently, do disposed of at the Moha

rts such as gaskets, orically has been the Needles i-State Disposal and is zona.

The compressor station cooling water is perform

routine testing of the cooling water.

S2-70

Current testing includes pH, conductivity, concentration of corrosion inhibitors in all four cooling systems, and concentration of scale-control additive in the cooling towers. Test chemicals consist of in

cooling water treatment chemical water)

Clarify: Has the location of the septic system components changed over the years?

Clarify: What are the components of the septic system? Septic tank? Leachlines? Is there a pump?

Do any facility maintenance buildings have floor drains or the like, that drain into the septic system / leach field?

is f site. ilver ation),

various indicators (PG&E 1974).

Clarify: Has the on site laboratory always been in the same location?

Clarify: Does the County permit or inspect the septic system? Historically

3-19

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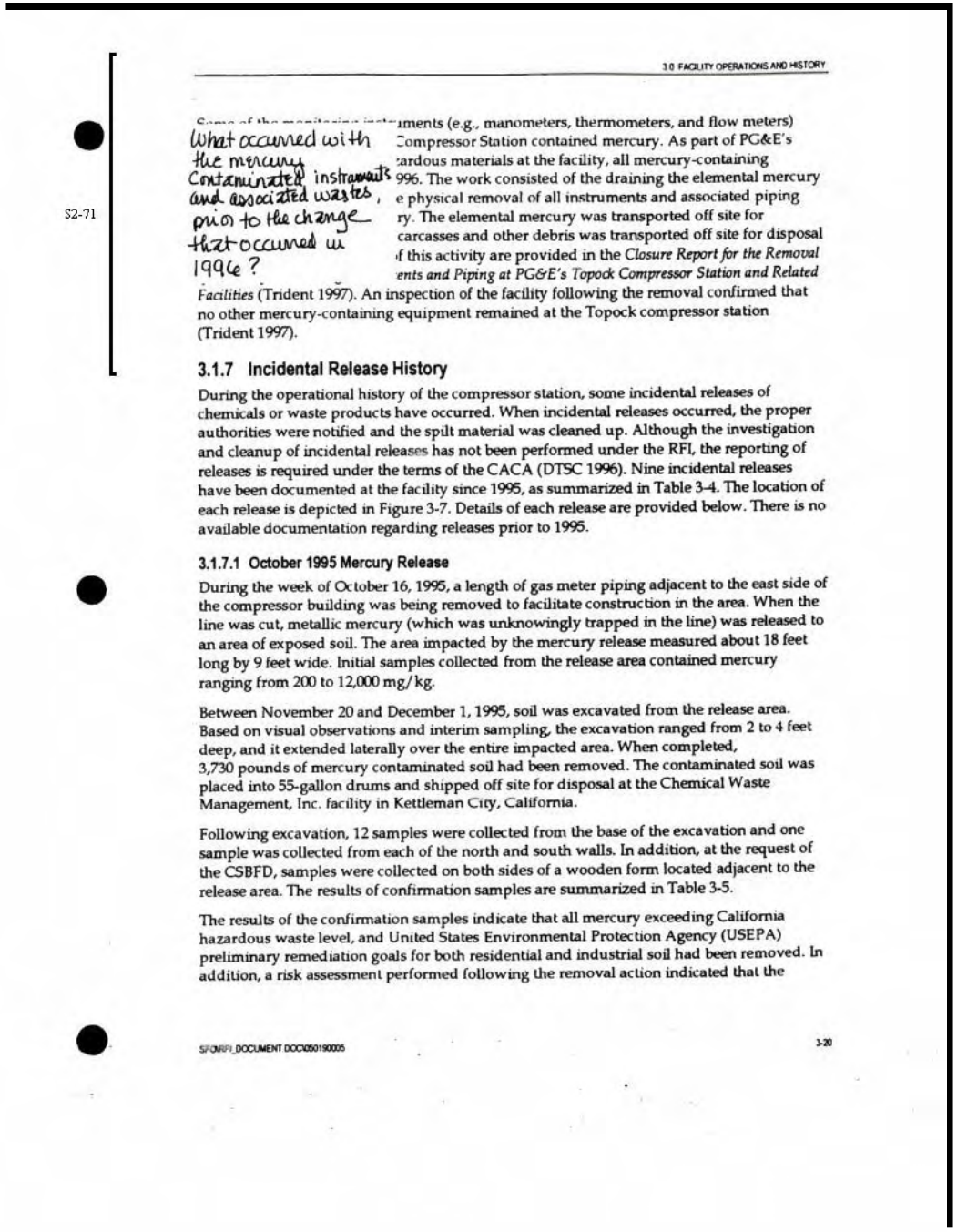
Response to Comment S2-70(RS_101805_24)

DTSC RESPONSE: PG&E shall clarify in the text that there is no central stormwater collection system for the compressor station. Stormwater is directed off the facility through numerous culverts to surrounding drainages including Bat Cave Wash, the Debris Ravine, and the East Ravine. All of the surrounding drainages either have, or will be investigated for potential impacts associated with the compressor station. Including stormwater culverts on the facility map is unnecessary.

PG&E shall provide additional available information on the septic system will be provided in the final RFI/RI report.

PG&E RESPONSE: The text in Section 3.1.6 has been clarified with respect to the stormwater run-off process.

The septic system for the site laboratory apparently consists of a septic tank and leachfield. Domestic waste from the Auxiliary Building also drains to this system. The best-available information indicates that the laboratory has been in the same location. The text was revised to clarify this (Section 3.1.6 and Section 4.2.14).



What occurred with the mercury contaminated instruments and associated wastes, prior to the change that occurred in 1996?

S2-71

...iments (e.g., manometers, thermometers, and flow meters) Compressor Station contained mercury. As part of PG&E's ...ardous materials at the facility, all mercury-containing 996. The work consisted of the draining the elemental mercury e physical removal of all instruments and associated piping ry. The elemental mercury was transported off site for carcasses and other debris was transported off site for disposal f this activity are provided in the *Closure Report for the Removal ents and Piping at PG&E's Topock Compressor Station and Related Facilities* (Trident 1997). An inspection of the facility following the removal confirmed that no other mercury-containing equipment remained at the Topock compressor station (Trident 1997).

3.1.7 Incidental Release History

During the operational history of the compressor station, some incidental releases of chemicals or waste products have occurred. When incidental releases occurred, the proper authorities were notified and the spilt material was cleaned up. Although the investigation and cleanup of incidental releases has not been performed under the RFI, the reporting of releases is required under the terms of the CACA (DTSC 1996). Nine incidental releases have been documented at the facility since 1995, as summarized in Table 3-4. The location of each release is depicted in Figure 3-7. Details of each release are provided below. There is no available documentation regarding releases prior to 1995.

3.1.7.1 October 1995 Mercury Release

During the week of October 16, 1995, a length of gas meter piping adjacent to the east side of the compressor building was being removed to facilitate construction in the area. When the line was cut, metallic mercury (which was unknowingly trapped in the line) was released to an area of exposed soil. The area impacted by the mercury release measured about 18 feet long by 9 feet wide. Initial samples collected from the release area contained mercury ranging from 200 to 12,000 mg/kg.

Between November 20 and December 1, 1995, soil was excavated from the release area. Based on visual observations and interim sampling, the excavation ranged from 2 to 4 feet deep, and it extended laterally over the entire impacted area. When completed, 3,730 pounds of mercury contaminated soil had been removed. The contaminated soil was placed into 55-gallon drums and shipped off site for disposal at the Chemical Waste Management, Inc. facility in Kettleman City, California.

Following excavation, 12 samples were collected from the base of the excavation and one sample was collected from each of the north and south walls. In addition, at the request of the CSBFD, samples were collected on both sides of a wooden form located adjacent to the release area. The results of confirmation samples are summarized in Table 3-5.

The results of the confirmation samples indicate that all mercury exceeding California hazardous waste level, and United States Environmental Protection Agency (USEPA) preliminary remediation goals for both residential and industrial soil had been removed. In addition, a risk assessment performed following the removal action indicated that the

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Response to Comment S2-71(RS_101805_25)

DTSC RESPONSE: PG&E has already performed a significant historical information search and have compiled sufficient chemical usage and waste disposal information to support the identification of potentially affected areas and contaminants of concern, and the development of conceptual site models. However, PG&E shall make a reasonable attempt to obtain the additional requested information. See also the response to Comment S2-1.

PG&E RESPONSE: A new subsection, Section 3.1.7, was added to the text to summarize available information pertaining to mercury-related instruments and handling at the facility.

S2-72

"In addition, a risk assessment performed following the removal action indicated..."

Citation/ Reference needed.

residual concentrations of mercury that remained did not pose an unacceptable treat to human health

i the remediation effort were reported to the CSBFD in 1996
isly indicated, all mercury-containing instrumentation was
in 1996 (Trident 1997). All mercury debris removed from the
ff site for disposal at the Chemical Waste Management, Inc. facility
nia.

Tower Water Release

On Sunday, June 30, 1996, approximately 200 gallons of water from the lower basin of Cooling Tower A overflowed (PG&E 1996b). The overflow entered a facility drain that discharges to Bat Cave Wash. The portion of the wash that was affected by the spill was reportedly on PG&E property.

The overflow was caused by a failure of one of the cooling tower basin level controllers. Scale build-up on the float mechanism of the controller caused it to stick in the "fill" position. As a result, the makeup water line continuously filled the basin until it overflowed. Upon discovering the problem, the facility operator manually closed the makeup water line to stop the overflow. Water from the tower was then pumped to the evaporation ponds to achieve adequate freeboard in the basin.

At the time of the release, cooling water in the tower was non-hazardous and contained phosphate-based corrosion inhibitors. Analysis of cooling samples collected prior to the release indicated an electrical conductivity of 9,000 micromhos and a pH of 7. The conductivity of the released water was thought to be lower due to dilution with the makeup water.

The RWQCB was notified of the release on Monday, July 1, 1996. Surface soil that was contacted by the overflow adjacent to the cooling tower basin and in Bat Cave Wash was removed (PG&E 1996b). Enhanced inspection and maintenance schedules were implemented to avoid recurrence of this incident.

3.1.7.3 August 1998 Cooling Tower Water Release

On August 4, 1998, during a routine daily facility inspection, an operator observed process water being released from Cooling Tower A. The majority of the water flowed onto the soil adjacent to the cooling tower. A small volume of water flowed down the side of the hill into the Bat Cave Wash area. The total release volume was estimated at about 500 gallons. The cooling tower water contained low concentrations of a non-hazardous, phosphate-based corrosion inhibitor. All of the water released evaporated rapidly due to the high summertime temperature. The RWQCB was notified of the incident in a report dated August 11, 1998 (PG&E 1998).

The cause of the release was determined to be a fouled screen associated with a drain return line. The screen was cleaned and the tower was restored to normal operating conditions.

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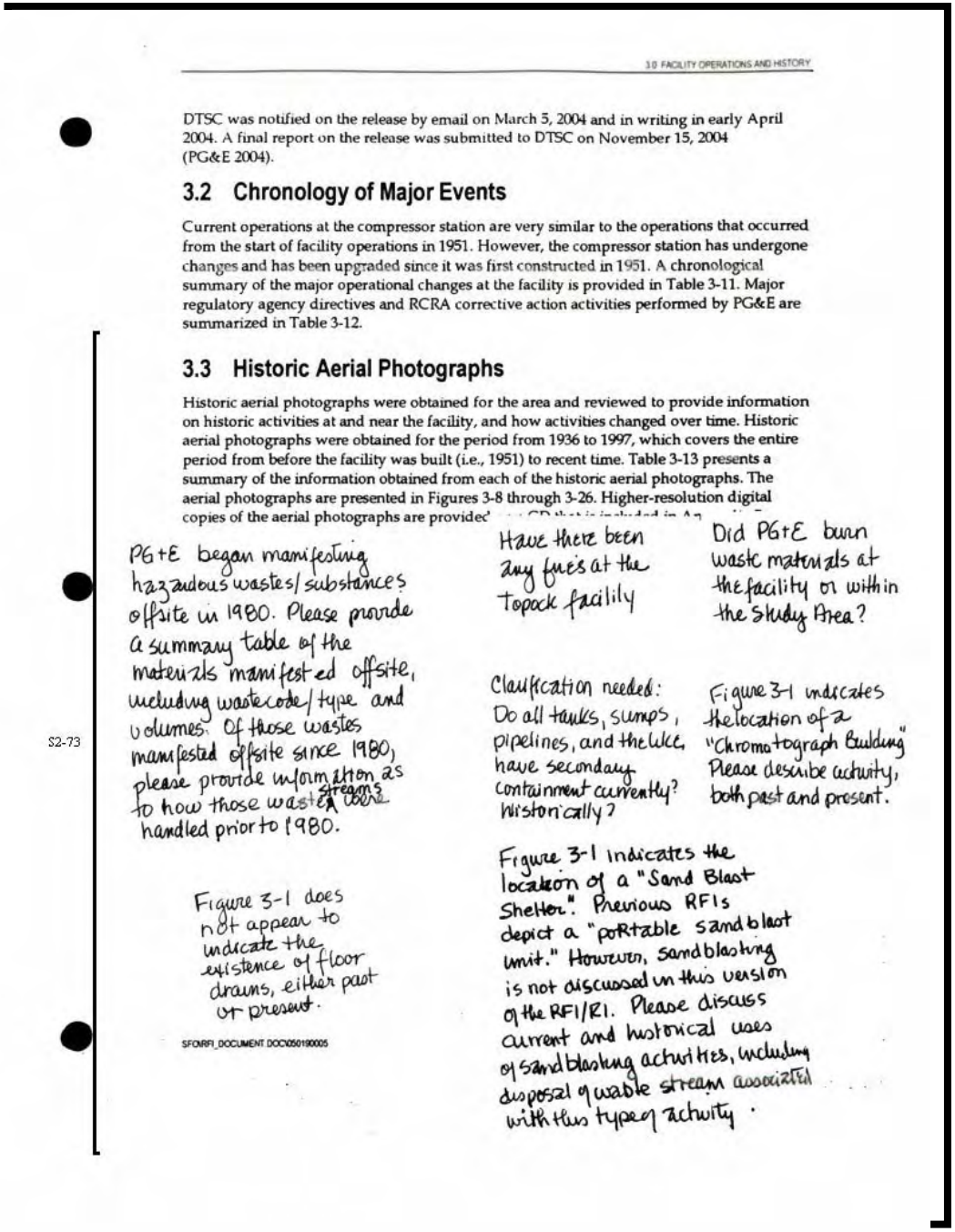
Response to Comment S2-72(RS_101805_27)

DTSC RESPONSE: PG&E shall provide the citation as requested.

PG&E RESPONSE: The citation was added to the text in Section 3.1.7.



3.0 FACILITY OPERATIONS AND HISTORY

DTSC was notified on the release by email on March 5, 2004 and in writing in early April 2004. A final report on the release was submitted to DTSC on November 15, 2004 (PG&E 2004).

3.2 Chronology of Major Events

Current operations at the compressor station are very similar to the operations that occurred from the start of facility operations in 1951. However, the compressor station has undergone changes and has been upgraded since it was first constructed in 1951. A chronological summary of the major operational changes at the facility is provided in Table 3-11. Major regulatory agency directives and RCRA corrective action activities performed by PG&E are summarized in Table 3-12.

3.3 Historic Aerial Photographs

Historic aerial photographs were obtained for the area and reviewed to provide information on historic activities at and near the facility, and how activities changed over time. Historic aerial photographs were obtained for the period from 1936 to 1997, which covers the entire period from before the facility was built (i.e., 1951) to recent time. Table 3-13 presents a summary of the information obtained from each of the historic aerial photographs. The aerial photographs are presented in Figures 3-8 through 3-26. Higher-resolution digital copies of the aerial photographs are provided

PG+E began manifesting hazardous wastes/substances offsite in 1980. Please provide a summary table of the materials manifested offsite, including waste code/type and volumes. Of those wastes manifested offsite since 1980, please provide information as to how those waste streams were handled prior to 1980.

S2-73

Have there been any fires at the Topock facility

Did PG+E burn waste materials at the facility or within the Study Area?

Clarification needed: Do all tanks, sumps, pipelines, and the like, have secondary containment currently? Historically?

Figure 3-1 indicates the location of a "Chromatograph Building" Please describe activity, both past and present.

Figure 3-1 does not appear to indicate the existence of floor drains, either past or present.

Figure 3-1 indicates the location of a "Sand Blast Shelter". Previous RFIs depict a "portable sandblast unit." However, sandblasting is not discussed in this version of the RFI/RI. Please discuss current and historical uses of sandblasting activities, including disposal of waste stream associated with this type of activity.

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Response to Comment S2-73(RS_101805_26)

DTSC RESPONSE: PG&E has already performed a significant historical information search and have compiled sufficient chemical usage and waste disposal information to support the identification of potentially affected areas and contaminants of concern, and the development of conceptual site models. However, PG&E shall make a reasonable attempt to obtain the additional requested information. See also the response to Comment S2-1.

PG&E RESPONSE: There is no record or information regarding any fires or waste burning at the facility. The status of secondary containment for each of the units varies; for example, most stormwater pipelines do not have secondary containment. Secondary containment was installed over a period of years.

The Chromatograph Building houses chromatographs that monitor the composition of the natural gas at the facility. Chromatographs replaced the earlier mercury-filled meters located within the meter building. No chemicals were used at the chromatograph building.

A figure has been added depicting the industrial floor drain locations, and a new AOC (AOC 20), has been added to address the industrial floor drains. Figure 4-3 depicts the industrial floor drains, a description of the new AOC is provided in Section 4.2.17, and AOC 20 has also been added to Tables 4-2 and Section 5.3.

All available information regarding waste handling practices prior to 1980 has been provided in the text previously. The level of effort required to obtain and

tabulate all hazardous waste manifests was not deemed a reasonable effort given the value of the information that could be derived from that effort. The sandblast shelter has been added as an AOC, AOC 16 (Section 4.2.1.). Very limited information is available regarding the operations at this unit.

It is unknown whether or not PG&E burned waste at the facility.

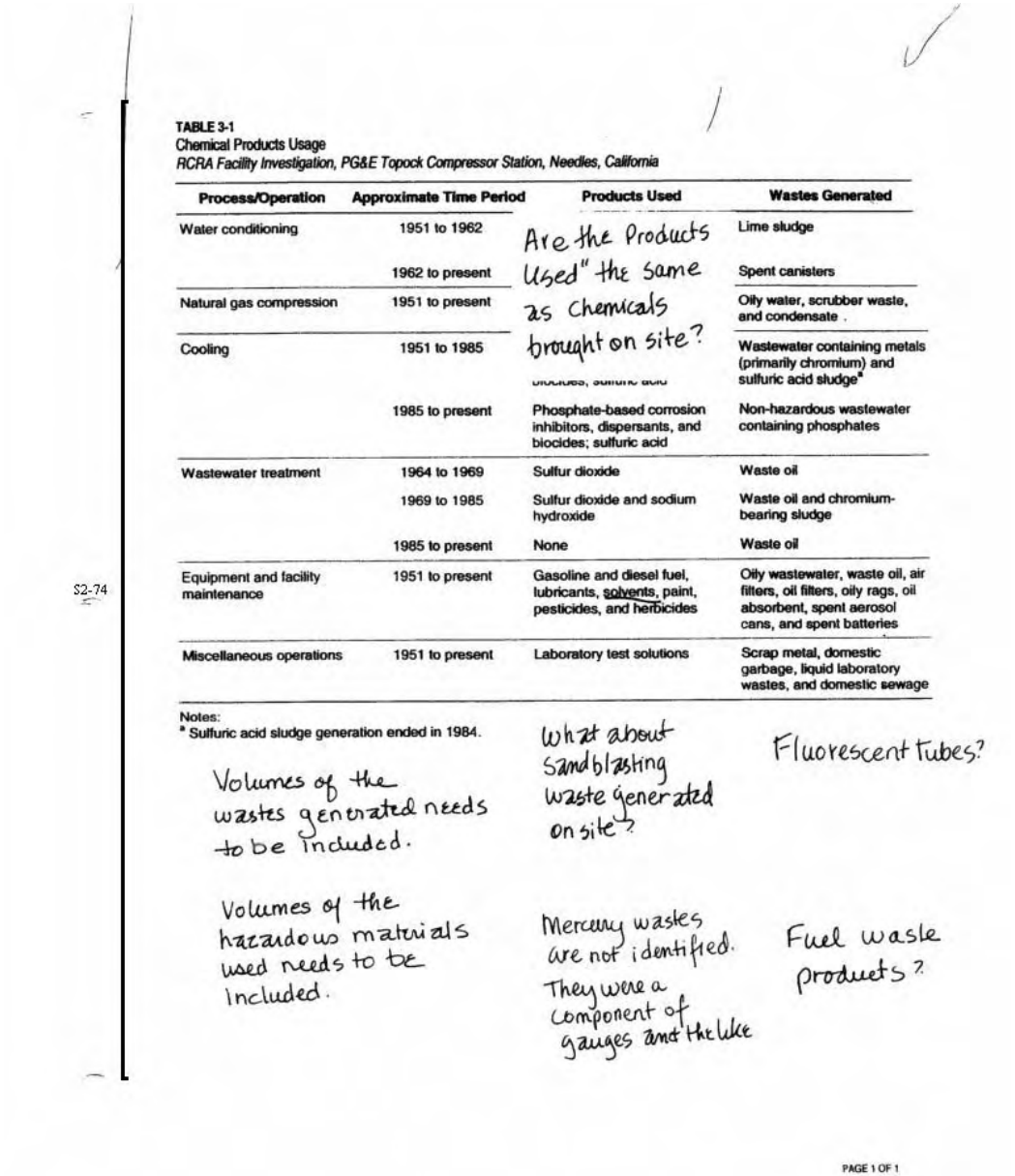

TABLE 3-1
Chemical Products Usage
RCRA Facility Investigation, PG&E Topock Compressor Station, Needles, California

Process/Operation	Approximate Time Period	Products Used	Wastes Generated
Water conditioning	1951 to 1962		Lime sludge
	1962 to present		Spent canisters
Natural gas compression	1951 to present		Oily water, scrubber waste, and condensate
Cooling	1951 to 1985	[illegible]	Wastewater containing metals (primarily chromium) and sulfuric acid sludge[a]
	1985 to present	Phosphate-based corrosion inhibitors, dispersants, and biocides; sulfuric acid	Non-hazardous wastewater containing phosphates
Wastewater treatment	1964 to 1969	Sulfur dioxide	Waste oil
	1969 to 1985	Sulfur dioxide and sodium hydroxide	Waste oil and chromium-bearing sludge
	1985 to present	None	Waste oil
Equipment and facility maintenance	1951 to present	Gasoline and diesel fuel, lubricants, solvents, paint, pesticides, and herbicides	Oily wastewater, waste oil, air filters, oil filters, oily rags, oil absorbent, spent aerosol cans, and spent batteries
Miscellaneous operations	1951 to present	Laboratory test solutions	Scrap metal, domestic garbage, liquid laboratory wastes, and domestic sewage

Notes:
[a] Sulfuric acid sludge generation ended in 1984.

S2-74

Are the Products Used" the same as chemicals brought on site?

What about sandblasting waste generated on site?

Fluorescent Tubes?

Volumes of the wastes generated needs to be included.

Volumes of the hazardous materials used needs to be included.

Mercury wastes are not identified. They were a component of gauges and the like

Fuel waste products?

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Response to Comment S2-74(RS_101805_28)

DTSC RESPONSE: PG&E has already performed a significant historical information search and have compiled sufficient chemical usage and waste disposal information to support the identification of potentially affected areas and contaminants of concern, and the development of conceptual site models. However, PG&E shall make a reasonable attempt to obtain the additional requested information. See also the response to Comment S2-1.

PG&E RESPONSE: The limited information available regarding volumes of waste generated is discussed in the text throughout Section 3.0. There is no information on the disposition of used sandblast sand. Information on the disposal of mercury-containing waste was added to Section 3.1.7. There are no known fuel waste products; the disposal of pipeline liquids and waste oil is described in Sections 3.1.2.2 and 3.1.5.2.

A reference to mercury has been added to the table. Although fluorescent tubes require special disposal, they are considered a routine domestic waste and, as such, have not been addressed separately.

TABLE 3-2
Waste Generation and Management
RCRA Facility Investigation, PG&E Topock Compressor Station, Needles, California

Process/Operation	Products Used	Wastes Generated	Approximate Time Period	Treated On Site?	Disposition
Water conditioning	Soda ash, lime, and sodium aluminate	Lime sludge	1951 to 1962	No	Exa disp Deb
	Self-contained canisters	Spent canisters	1962 to present	NA	Ren
Natural gas compression	Odorants (TBM and THT)	Oily water	1951 to 1970	Yes	Bat
			1970 to 1973	Yes	Injec
			1973 to 1989	Yes	Single-lined evaporation ponds
			1989 to present	Yes	Double-lined evaporation ponds
	Lubricants	Scrubber waste	1951 to 1970	NA	Collected in Waste Oil Storage tank
		Condensate	1951 to present	No	If PCB concentrations are below 5 ppm, collected in Waste Oil Storage tank. If PCB concentration exceeds 5 ppm, transported offsite as PCB waste.
Cooling	Chromium-based corrosion inhibitors, dispersants, and biocides: sulfuric acid	Wastewater containing	1951 to 1984	No	
				Yes	
				Yes	
				Yes	
	...rosion ..., and			No	
				No	
				No	

Please provide volumes for amounts disposed.

See Sulfuric acid, Sulfuric acid sludge, unknown to 1984

See Condensate, 1951 to present and disposition

Page 3-12 states that "the use of the Poly Floc II and ferric sulfate was discontinued sometime after 1974." Based on this, how can it be stated on this table that cooling water was treated from 1974-1985?

Disposition states that the sludge was transported to Class I disposal.

Designation of Class I disposal sites began in? Clarify dates and how waste was handled prior

Were PCB regulations in place in 1951? Was condensate tested for PCBs in the 1950's? Please clarify.

S2-75

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Response to Comment S2-75(RS_101805_19)

DTSC RESPONSE: PG&E shall expand Table 3-2 and revised with available information. PG&E has already performed a significant historical information search and have compiled sufficient chemical usage and waste disposal information to support the identification of potentially affected areas and contaminants of concern, and the development of conceptual site models. However, PG&E shall make a reasonable attempt to obtain the additional requested information. See also the response to Comment S2-1.

PG&E RESPONSE: No information is available regarding the disposal of sulfuric acid sludge prior to 1980. Additional information has been added to the table to clarify that testing for PCBs began in 1981, and information has been added to the text to document that PCBS were not of concern at Topock prior to 1998 (Section 3.1.2.2). Poly-Floc II was not a cooling water treatment. It was used only to enhance the removal of precipitated sludge from the treated cooling water prior to injection.

TABLE 3-2
Waste Generation and Management
RCRA Facility Investigation, PG&E Topock Compressor Station, Needles, California

Process/Operation	Products Used	Wastes Generated	Approximate Time Period	Treated On Site?	Disposition
Wastewater treatment	None	Waste oil	1951 to present	No	Collected in Waste Oil Storage tank. Possibly used in early years on roads for dust control. Reused (power plant fuel) offsite starting in 1975. Since the early 1980s, waste oil has been transported off site for recycling.
	Sulfur dioxide and sodium hydroxide	Chromium-bearing sludge	1969 to 1983	No	Needles Landfill [c]
			1984 to 1985	No	Transported offsite for Class I disposal
		Oily water	1951 to 1970	Yes	
Equipment and facility maintenance	Gasoline and diesel fuel, lubricants, solvents, paint pesticides, and herbicides			Yes	
				Yes	
				Yes	
				No	
				NA	
				NA	
		Spent batteries	1951 to present	NA	Transported off site by contractor/manufacturer

See "oily water", 1951 to 1970

How was oily water "treated" before being disposed of in Bat Cave Wash in 1951?

See "condensate", page 1 of 3, Table 3-2

Prior to PCB regulations/requirements, was condensate contaminated with PCBs placed in waste oil storage tank? Was this used on roads for dust control?

S2-76

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<u>Response to Comment S2-76(RS_101805_20)</u>

DTSC RESPONSE: PG&E shall expand Table 3-2 and revised with available information. PG&E has already performed a significant historical information search and have compiled sufficient chemical usage and waste disposal information to support the identification of potentially affected areas and contaminants of concern, and the development of conceptual site models. However, PG&E shall make a reasonable attempt to obtain the additional requested information. See also the response to Comment S2-1.

PG&E RESPONSE: Oily water has always been treated in an oil/water separator. PCBs were not of concern at Topock until 1998; thus, they would not have been present in the waste oil that may have been used on station roads. See also comment response to comment S2-75 above.

S2-77

TABLE 3-2
Waste Generation and Management
RCRA Facility Investigation, PG&E Topock Compressor Station, Needles, California

Process/Operation	Products Used	Wastes Generated	Approximate Time Period	Treated On Site?	Disposition
Miscellaneous operations	Laboratory test solutions	Scrap metal	1951 to present	NA	Transported off site for recycling
		Domestic garbage	1951 to present	NA	Needles Landfill
		Laboratory test solutions	1951 to present	Yes [d]	Leach field
		Domestic sewage	1951 to present	Yes [d]	Leach field

Notes:
[a] Some disposal to Bat Cave Wash may have occurred between May 1970 and September 1971 when injection well PGE-08 was offline for maintenance or repairs.
[b] Some disposal to Pond 1 occurred during the September 1971 to August 1973 time period when injection well PGE-08 was offline for maintenance or repairs.
[c] The first batch of chromium-bearing sludge may have been disposed of on site.
[d] Treated via a septic tank.
NA = not applicable.

See "Laboratory test solutions," 1951 to present, "treated" in septic tank? Clarification needed.

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<u>Response to Comment S2-77(RS_101805_21)</u>

DTSC RESPONSE: PG&E shall expand Table 3-2 and revised with available information. PG&E has already performed a significant historical information search and have compiled sufficient chemical usage and waste disposal information to support the identification of potentially affected areas and contaminants of concern, and the development of conceptual site models. However, PG&E shall make a reasonable attempt to obtain the additional requested information. See also the response to Comment S2-1.

PG&E RESPONSE: The table has been revised to indicate that laboratory test solutions were discharged into the septic tank and were not treated. The text has also been clarified.

S2-78

TABLE 3-12
Chronology of Major Regulatory Agency Directives and RCRA Corrective Action Activities
RCRA Facility Investigation, PG&E Topock Compressor Station, Needles, California

Date	Event
August 14, 1969	RWQCB adopts Resolution 69-25 requiring PG&E to cease discharging industrial wastewater containing hexavalent chromium by infiltration to Bat Cave Wash.
November 6, 1970	PG&E submits a Report of Waste Discharge to the RWQCB for disposal of industrial wastewater from cooling tower operations into single-lined evaporation pond #1.
December 10, 1970	RWQCB adopts Resolution 70-72 regulating the discharge of treated wastewater into single-lined evaporation pond #1.
December 10, 1970	RWQCB adopts Resolution No. 70-73, regulati Please include Resolution 70-72 , sludge at an approved offsite facility (Needles Dump).
September 11, 1975	RWQCB rescinds Resolution No. 70-72 and ad in the References single-lined evaporation ponds (SWMU 10; Old Evapc RWQCB issued a revised Board Order No. 75-! requirement from 2 feet to 1 foot. Also, the Boa wastewater to the Colorado River or to any cha addition, the Board Order specified that chemic In or evaporation of process wastewater shall be [illegible] approved to receive these wastes.
August 18, 1980	As required by RCRA, PG&E files a Notification of Hazardous Waste Activity Form with the USEPA for the two-step wastewater treatment system, which included the chromic hydroxide sludge drying beds.
November 17, 1980	PG&E submits a RCRA Part A application to the DTSC covering all hazardous waste management facilities at the compressor station (i.e., the former two-step wastewater treatment system and the four former single-lined evaporation ponds).
April 6, 1981	An Interim Status Document, which outlines the requirements for operation of the Topock Compressor Station as a RCRA hazardous waste facility (USEPA ID No. CAT080011729), is issued by the DTSC to PG&E.
June 9, 1981	PG&E files a Notification of Hazardous Waste Site with USEPA Region 9, pursuant to Section 103 (c) of CERCLA.
March 11, 1983	RWQCB adopts Order 83-29 that rescinds Order 69-25.
December 15, 1982	Pursuant to a request from DTSC, PG&E submits an Operation Plan for the hazardous waste facilities covered by the Interim Status Document.
May 8, 1985	USEPA Region 9 requests that PG&E prepare a Part B Permit Application for the waste treatment units at Topock Compressor Station. After a review of applicable regulations affecting the operation of the hazardous waste management facilities, PG&E submits a notice to the USEPA on September 6 of its intent to decommission and close these facilities (including the four old evaporation ponds).
October 2, 1985	The RWQCB adopts Board Order No. 85-99 for the four for Please include ponds, which superseded Board Order No. 75-52. Order No Board Order No. the chromate-based cooling tower water treatment process 85-99 in the Phosphate-based inhibitors are in use today. References
November 7, 1985	PG&E submits a Closure Plan (dated October 28, 1985) to I and RWQCB. This Closure Plan covered closure of all haza facilities at Topock identified in the Part A RCRA permit app wastewater treatment system (Phase 1 and 2 closure) and t evaporation ponds (Phase 3 Closure).

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Response to Comment S2-78(RS_101805_18)

DTSC RESPONSE: PG&E shall include all RWQCB Resolutions in Table 3-12 in the references.

PG&E RESPONSE: The four resolutions (70-72, 85-99, 88-30, and 98-050) have been included in the references.

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TABLE 3-12
Chronology of Major Regulatory Agency Directives and RCRA Corrective Action Activities
RCRA Facility Investigation, PG&E Topock Compressor Station, Needles, California

Date	Event
August 14, 1986	PG&E submits a revised Closure Plan for hazardous waste management facilities at Topock identified in the Part A RCRA permit application.
May 19, 1987	The RWQCB determines that PG&E Topock Compressor Station's old evaporation ponds were not subject to regulation under the California Toxic Pits Control Act.
June 26 and July 10, 1987	The Closure Plan (and subsequent revisions) for closure of the hazardous waste management facilities at Topock identified in the Part A RCRA permit application (the two-step wastewater treatment system and the four single-lined evaporation ponds) is approved by USEPA Region 9 (June 26) and DTSC (July 10).
July 7, 1987	DTSC, RWQCB, and USEPA approve the Closure Plan for the hazardous waste facilities (PG&E receives notification of approval on September 7, 1987).
August 1987	USEPA completes an RFA for the Topock Compressor Station. The RFA identified 13 SWMUs (Units 4.1 through 4.13) through records review, data evaluation, interviews, and a visual site inspection.
January 27, 1988	RWQCB rescinds Board Order No. 85-99 and adopts Board Order No. 88-30, which is revised on March 23, 1988. Revised Order No. 88-30 allows discharge to four Class II surface impoundments.
March 9, 1988	DTSC issued a Stipulation and Order on January 27, 1988 which set forth the agreement reached between DTSC and would trigger upgrading the groundwater monitoring syster evaporation ponds and settling the alleged monitoring defic
November, 1988	PG&E began closure activities of hazardous waste manag identified in the Part A RCRA permit application. Closure a two-step wastewater treatment system consisting of the ch precipitation tank, process pump tank, transfer sump, slud piping were completed in 1990 (Phases 1 and 2). Closure of the four single-lined evaporation ponds could not proceed until new surface impoundments were constructed to replace the old evaporation ponds and the waste had dried sufficiently.
September, 1989	DTSC issues a Report of Violation. This report listed essentially the same groundwater monitoring violations settled by the Stipulation and Order issued March 9, 1988.
July 23, 1990	PG&E submits a Closure Certification Report for clean closure of the facilities in Phases 1 and 2 (the two-step wastewater treatment system) to DTSC, USEPA, and RWQCB.
February 25, 1991	DTSC issues a Corrective Action Order listing the same alleged violations as contained in the previous Report of Violations and the Stipulation and Order.
September to November 1993	PG&E conducts closure construction work at the four former single-lined evaporation ponds.
December 31, 1993	PG&E submits the *Closure Certification Report for the Old Evaporation Ponds* dated December 27, 1993 to DTSC and the RWQCB.
November to December 1994	In response to regulatory agency concerns, additional site excavation work at the four former single-lined evaporation ponds area is conducted.
May 11, 1995	The RWQCB approves the clean closure of the four former single-lined evaporative ponds.
June 26, 1995	The DTSC approves clean closure of the former two-step wastewater treatment system and the four former single-lined evaporation ponds (the former hazardous waste management facilities) and considers these waste management units clean closed.

Please Include Board Order No. 88-30 in the References

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TABLE 3-12
Chronology of Major Regulatory Agency Directives and RCRA Corrective Action Activities
RCRA Facility Investigation, PG&E Topock Compressor Station, Needles, California

Date	Event
August 3, 1995	DTSC submits a letter to PG&E requesting that a Corrective Action Program be conducted at the site.
February 26,1996	PG&E and the DTSC enter into a CACA, whereby PG&E agreed to address past waste discharges at the Bat Cave Wash project site and to conduct an RFI and implement corrective action, if warranted. The CACA identifies 10 SWMUs (SWMU 1 through SWMU 10) and three AOCs (AOC 1 through AOC 3) at the Topock Compressor Station. Eight of the SWMUs identified in the CACA were also identified as SWMUs in the RFA. However, four SWMUs identified in the RFA were not included in the CACA; the CACA combined two of the RFA SWMUs into one SWMU; and the CACA listed two additional SWMUs and three additional AOCs that were not identified in the RFA.
July 2, 1996	DTSC acknowledges the receipt of the Current Conditions Report, RFI work plan, Health and Safety Plan, and Public Involvement Plan.
December 19, 1996	DTSC approves the RFI work plan, Current Conditions Report, and the Health and Safety Plan.
January 12, 1998	PG&E receives, from DTSC, the RFA prepared by A.T. Kearney (August 1987).
February 19, 1998	DTSC approves the RFI work plan amendment per comments given in a February 11, 1996 DTSC memorandum prepared by the Geological Support Unit of DTSC.
May 14, 1998	RWQCB rescinds Order No. 88-30 and adopts Order No. 98-050 regulating the Class II ponds. The Class II ponds are currently regulated ul
April 17, 2000	PG&E submits the Draft RFI Report to DTSC.
October 12, 2000	PG&E submits a work plan for additional soils samp 35 10 potentially-impacted areas associated with the T ired investigation. The areas were identified through a r interviews with knowledgeable employees, a review eld reconnaissance within and around the compressor
January 4, 2001	DTSC issues a letter to PG&E indicating that the 1(d in PG&E's October 12, 2000 work plan are considered AOCs under the RCRA corrective action process.
December 2002	PG&E submits the Draft Corrective Measures Study Work Plan.
June 24, 2003	DTSC approves the Draft Corrective Measure Study Work Plan.
August 11, 2003	DTSC is established as the lead agency for the Topock project at a meeting of the Cal/USEPA Site Designation Committee.
August 2003	DTSC requests that PG&E install a pilot groundwater extraction and treatment system and that the CWG, with representatives from regional, state, and federal agencies, be rechartered.
January 22, 2004	DTSC directs PG&E to prepare immediately an Interim Measures Work Plan to mitigate Cr(VI) detected in monitoring wells near the Colorado River and monitor six monitoring wells along the river floodplain weekly.
February 2004	PG&E submits revised Draft RFI Report to DTSC.
February 9, 2004	DTSC directs PG&E to begin pumping, transport and disposal of groundwater from existing monitoring wells at the MW-20 cluster and monthly surface water sampling at six locations (Interim Measure No. 2).

Please include Order No. 98-050 in the References

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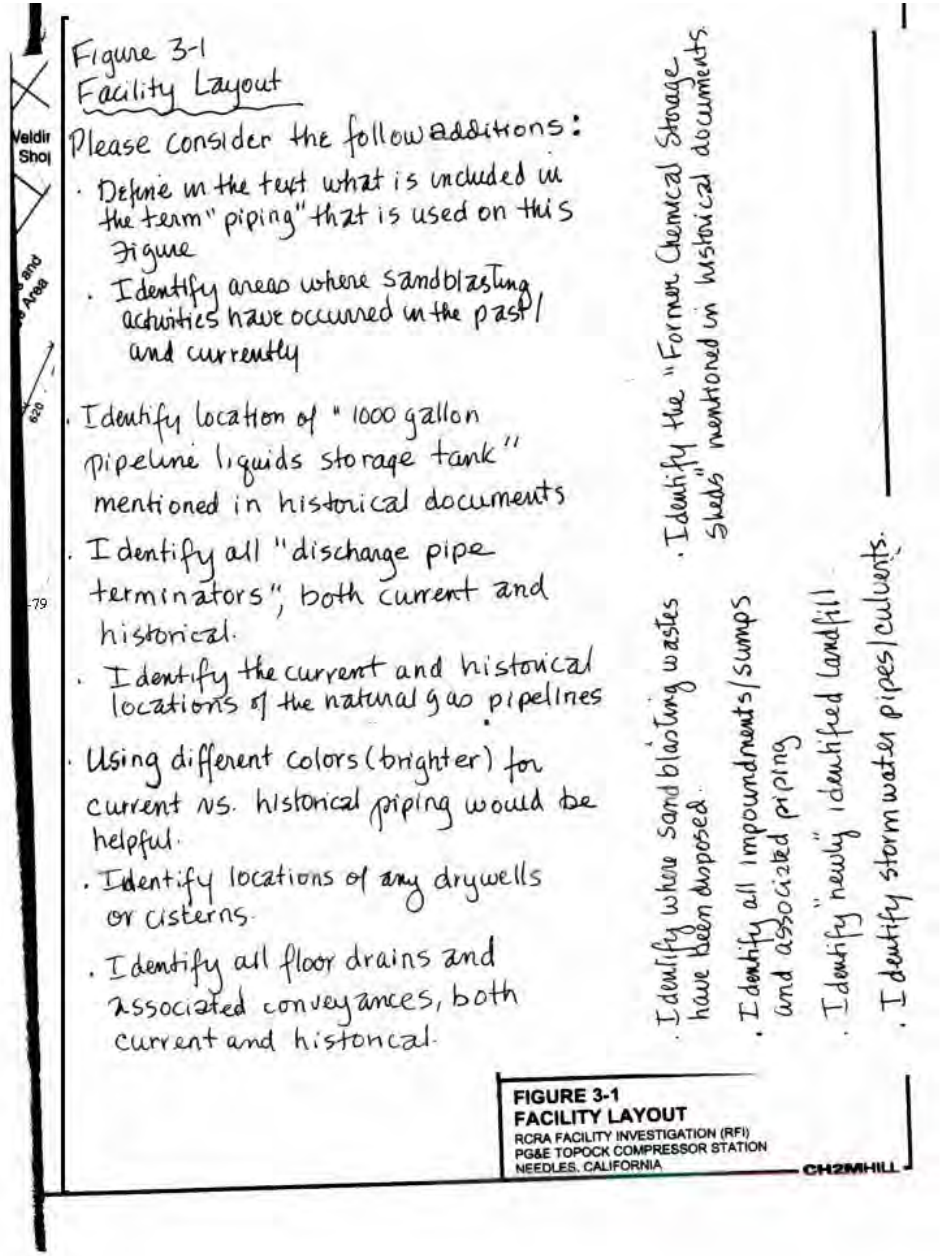
=FOXFI_DOCUMENT DOC050190005 PAGE 3 OF 4



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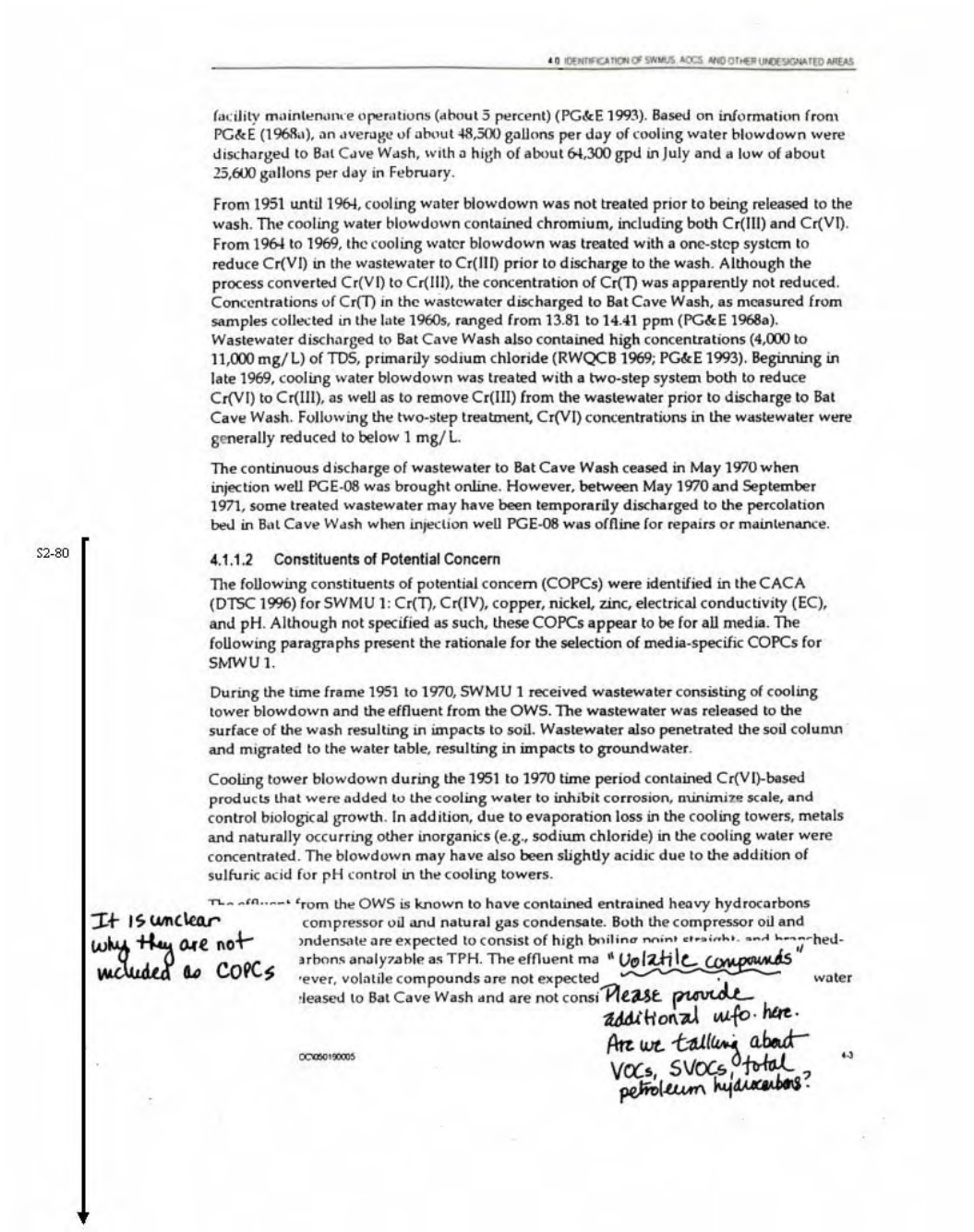
Response to Comment S2-79(RS_101805_22)

DTSC RESPONSE: PG&E shall add additional available information to Figure 3-1 as available. PG&E has already performed a significant historical information search and have compiled sufficient chemical usage and waste disposal information to support the identification of potentially affected areas and contaminants of concern, and the development of conceptual site models. However, PG&E shall make a reasonable attempt to obtain the additional requested information. See also the response to Comment S2-1.

PG&E RESPONSE: No changes have been made to Figure 3-1. The only known information regarding sandblasting activities is at the Sandblast Shelter. No information is available regarding sandblast waste disposal. The Pipeline Liquids Tank can not be called out in Figure 3-1 because it is located along the northeast edge of the site (significantly east of the area covered by this figure). The tank has been called out in Figure 4-1.

PG&E is unable to identify discharge pipe terminators because the information is not available. A schematic of the wastewater treatment system piping is provided in Figure 4-2. No cisterns or dry wells were identified. As discussed earlier, floor drains have not been added to this figure because they are generally known to discharge to the oily water treatment system. The former chemical storage sheds are located within AOCs 5, 6, and 19 (see Figure 4-1). All sumps are shown on Figure 3-1, impoundments at the site are limited to the Old Evaporation Ponds (SWMU 10), and the new Class II Evaporation Ponds (both sets of ponds are outside of the area covered by this figure). SWMU 10 is shown in Figure 4-1. We are not familiar with any newly-identified landfill.



4.0 IDENTIFICATION OF SWMUS, AOCS, AND OTHER UNDESIGNATED AREAS

facility maintenance operations (about 5 percent) (PG&E 1993). Based on information from PG&E (1968a), an average of about 48,500 gallons per day of cooling water blowdown were discharged to Bat Cave Wash, with a high of about 64,300 gpd in July and a low of about 25,600 gallons per day in February.

From 1951 until 1964, cooling water blowdown was not treated prior to being released to the wash. The cooling water blowdown contained chromium, including both Cr(III) and Cr(VI). From 1964 to 1969, the cooling water blowdown was treated with a one-step system to reduce Cr(VI) in the wastewater to Cr(III) prior to discharge to the wash. Although the process converted Cr(VI) to Cr(III), the concentration of Cr(T) was apparently not reduced. Concentrations of Cr(T) in the wastewater discharged to Bat Cave Wash, as measured from samples collected in the late 1960s, ranged from 13.81 to 14.41 ppm (PG&E 1968a). Wastewater discharged to Bat Cave Wash also contained high concentrations (4,000 to 11,000 mg/L) of TDS, primarily sodium chloride (RWQCB 1969; PG&E 1993). Beginning in late 1969, cooling water blowdown was treated with a two-step system both to reduce Cr(VI) to Cr(III), as well as to remove Cr(III) from the wastewater prior to discharge to Bat Cave Wash. Following the two-step treatment, Cr(VI) concentrations in the wastewater were generally reduced to below 1 mg/L.

The continuous discharge of wastewater to Bat Cave Wash ceased in May 1970 when injection well PGE-08 was brought online. However, between May 1970 and September 1971, some treated wastewater may have been temporarily discharged to the percolation bed in Bat Cave Wash when injection well PGE-08 was offline for repairs or maintenance.

S2-80

4.1.1.2 Constituents of Potential Concern

The following constituents of potential concern (COPCs) were identified in the CACA (DTSC 1996) for SWMU 1: Cr(T), Cr(IV), copper, nickel, zinc, electrical conductivity (EC), and pH. Although not specified as such, these COPCs appear to be for all media. The following paragraphs present the rationale for the selection of media-specific COPCs for SMWU 1.

During the time frame 1951 to 1970, SWMU 1 received wastewater consisting of cooling tower blowdown and the effluent from the OWS. The wastewater was released to the surface of the wash resulting in impacts to soil. Wastewater also penetrated the soil column and migrated to the water table, resulting in impacts to groundwater.

Cooling tower blowdown during the 1951 to 1970 time period contained Cr(VI)-based products that were added to the cooling water to inhibit corrosion, minimize scale, and control biological growth. In addition, due to evaporation loss in the cooling towers, metals and naturally occurring other inorganics (e.g., sodium chloride) in the cooling water were concentrated. The blowdown may have also been slightly acidic due to the addition of sulfuric acid for pH control in the cooling towers.

The effluent from the OWS is known to have contained entrained heavy hydrocarbons compressor oil and natural gas condensate. Both the compressor oil and ondensate are expected to consist of high boiling point straight- and branched-arbons analyzable as TPH. The effluent ma "Volatile compounds" water ever, volatile compounds are not expected released to Bat Cave Wash and are not consi

It is unclear why they are not included as COPCs

Please provide additional info. here. Are we talking about VOCs, SVOCs, total petroleum hydrocarbons?

OCX050190005

4-3

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Response to Comment S2-80(RS_101805_30)

DTSC RESPONSE: PG&E shall provide additional information on COPCs associated with the oil/water separator as requested.

PG&E RESPONSE: There are no records of any significant solvent (steam cleaning was used for large equipment, solvent use was incidental). Furthermore, solvents (VOCs) are not included as COPC because they would have volatilized immediately due to high temperatures and would not be present in the subsurface after so many years. However, TPH and PAHs may be present at low concentrations. The text in Section 4.0 has been revised to include these COPCs, where applicable.

Samples were tested for VOCs, PCBs, and Title 22 metals. The text was revised to reflect this information.

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S2-80

In 1985 and 1986, samples were collected from facility makeup water, cooling water blowdown, treated wastewater (including both cooling water blowdown and oily water), ...e precipitation tank, and water and solids samples from the ...own and Caldwell 1985a-b, 1986). Based on these data, metals of ..., Cr(VI), copper, lead, nickel, and zinc.

Were these samples also tested for VOCs, PCBs and mercury?

..., COPCs for soil with SWMU 1 consist of Cr(T), Cr(VI), copper, lead, ...H. COPCs for groundwater associated with SWMU 1 consist of ...ead, nickel, zinc, EC, pH, and TPH.

...active Injection Well (PGE-08)

Inactive injection well PGE-08 is located within the facility fenceline in the lower yard on the western side of the compressor station (Figure 4-1).

4.1.2.1 Description and History

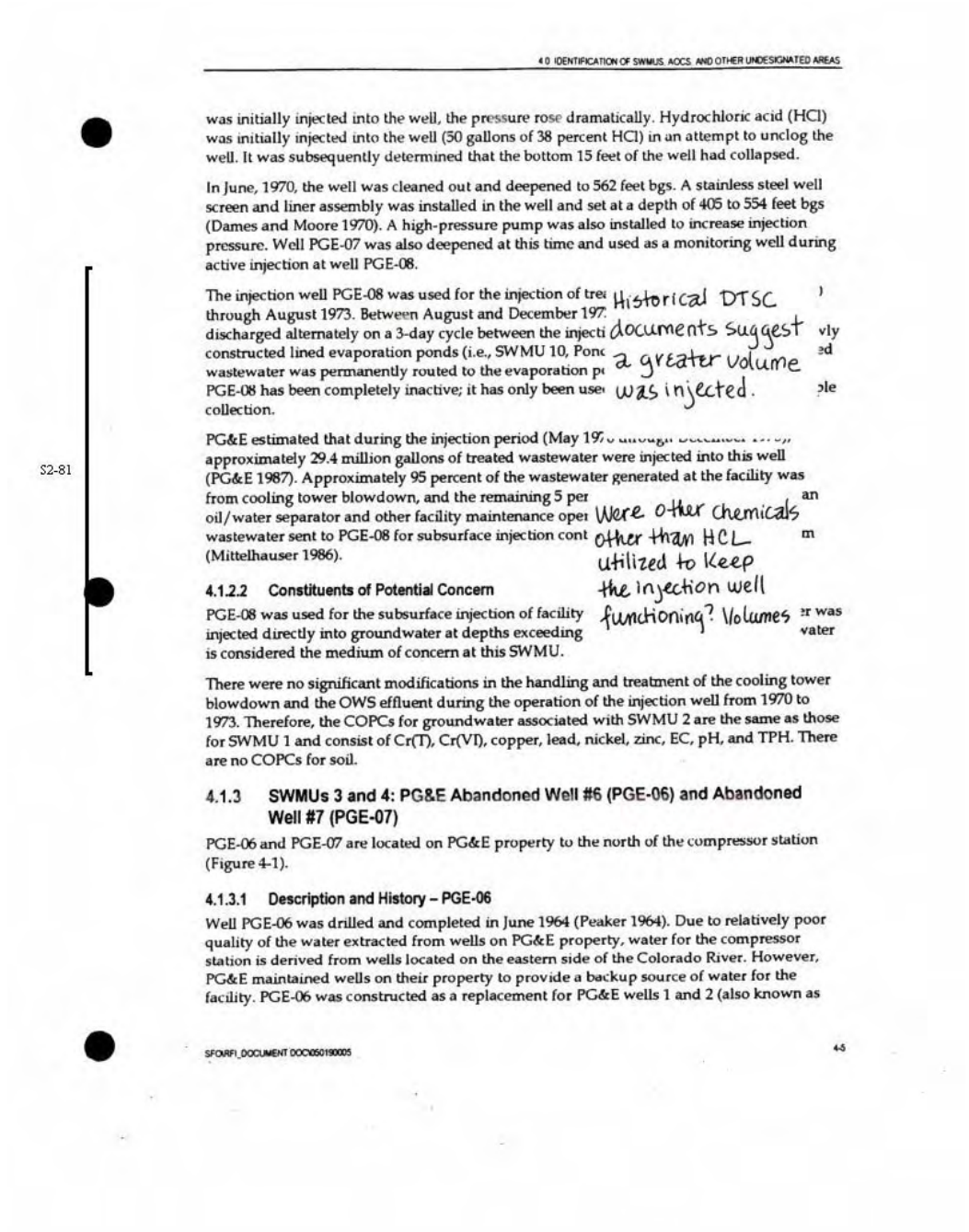
Inactive injection well PGE-08 was installed in 1969 to facilitate underground injection of treated wastewater generated during facility operations. The original boring for the well extended to approximately 530 feet bgs (Dames and Moore 1969).[10] Unconsolidated sediments were encountered in the boring to a depth of about 175 feet bgs, and below 175 feet, the boring penetrated hard, fractured crystalline bedrock (Dames and Moore 1969). The original well was cased with 6-inch-diameter solid steel casing to a depth of 405 feet bgs, with the remainder of the borehole in the fractured bedrock being left uncased. Yield tests on the well provided short-term flow rates ranging from 20 to 31 gpm, and a long-term flow rate of about 26 gpm, with a calculated transmissivity of 10,000 gallons per day per foot (gpd/ft) (Dames and Moore 1969). This is equivalent to a hydraulic conductivity of 3.8×10^{-3} centimeters per second (cm/sec) using the open hole length of 125 feet (E&E 2004).

During drilling of the borehole, water level measurements were consistently around 138 feet bgs, indicating that the fractured bedrock network was thorough and that there were no isolated, confined water-bearing zones (Dames and Moore 1969). Water quality data collected following completion of the well indicated that a distinct stratification was present at about 280 feet bgs (Dames and Moore 1969). Above 280 feet bgs, brackish water was present with TDS values ranging from 3,500 to 8,900 ppm. Below 280 feet bgs, water was saline, with TDS values ranging from 11,000 to 14,000 ppm.

Following testing, 2-7/8-inch-diameter tubing was placed inside the well casing and anchored to the bottom of the casing with a packer (Dames and Moore 1969). The annulus between the casing and the tubing was to be filled with a non-corrosive fluid (diesel fuel was suggested, but it is unknown what, if any, fluid was actually used) (Dames and Moore 1969). The design allowed for the injection of wastewater into the lower section of the well through the tubing.

PGE-08 remained unused for approximately one year after it was completed. On or about April 1, 1970, freshwater was injected into the well for testing purposes. Injection of treated wastewater began on May 30, 1970 (Dames and Moore 1970). Several days after wastewater

[10] The Dames and Moore report (1969) lists the total depth of the boring in various places at 530, 540, and 548 feet bgs. The electric log included in the report lists a driller's report of 530 feet, but a logged depth of 525 feet bgs.



was initially injected into the well, the pressure rose dramatically. Hydrochloric acid (HCl) was initially injected into the well (50 gallons of 38 percent HCl) in an attempt to unclog the well. It was subsequently determined that the bottom 15 feet of the well had collapsed.

In June, 1970, the well was cleaned out and deepened to 562 feet bgs. A stainless steel well screen and liner assembly was installed in the well and set at a depth of 405 to 554 feet bgs (Dames and Moore 1970). A high-pressure pump was also installed to increase injection pressure. Well PGE-07 was also deepened at this time and used as a monitoring well during active injection at well PGE-08.

The injection well PGE-08 was used for the injection of trea
through August 1973. Between August and December 197
discharged alternately on a 3-day cycle between the injecti
constructed lined evaporation ponds (i.e., SWMU 10, Ponc
wastewater was permanently routed to the evaporation pc
PGE-08 has been completely inactive; it has only been use
collection.

Historical DTSC documents suggest a greater volume was injected.

S2-81

PG&E estimated that during the injection period (May 197
approximately 29.4 million gallons of treated wastewater were injected into this well (PG&E 1987). Approximately 95 percent of the wastewater generated at the facility was from cooling tower blowdown, and the remaining 5 per
oil/water separator and other facility maintenance oper
wastewater sent to PGE-08 for subsurface injection cont
(Mittelhauser 1986).

Were other chemicals other than HCL utilized to keep the injection well functioning? Volumes

4.1.2.2 Constituents of Potential Concern

PGE-08 was used for the subsurface injection of facility
injected directly into groundwater at depths exceeding
is considered the medium of concern at this SWMU.

There were no significant modifications in the handling and treatment of the cooling tower blowdown and the OWS effluent during the operation of the injection well from 1970 to 1973. Therefore, the COPCs for groundwater associated with SWMU 2 are the same as those for SWMU 1 and consist of Cr(T), Cr(VI), copper, lead, nickel, zinc, EC, pH, and TPH. There are no COPCs for soil.

4.1.3 SWMUs 3 and 4: PG&E Abandoned Well #6 (PGE-06) and Abandoned Well #7 (PGE-07)

PGE-06 and PGE-07 are located on PG&E property to the north of the compressor station (Figure 4-1).

4.1.3.1 Description and History – PGE-06

Well PGE-06 was drilled and completed in June 1964 (Peaker 1964). Due to relatively poor quality of the water extracted from wells on PG&E property, water for the compressor station is derived from wells located on the eastern side of the Colorado River. However, PG&E maintained wells on their property to provide a backup source of water for the facility. PGE-06 was constructed as a replacement for PG&E wells 1 and 2 (also known as

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Response to Comment S2-81(RS_101805_31)

DTSC RESPONSE: PG&E shall clarify the estimated volume of wastewater discharged to PGE-08. Different sources appear to indicate different volumes; therefore, it may be necessary to provide an estimated range.

Comment Noted. PG&E is not required to address this comment at this time. A discussion of the chemicals used in association with the injection well are discussed in Section 3.1.4.1.

PG&E RESPONSE: The volume of wastewater injected has been clarified (Section 4.1.2), and new information regarding a possible one-time treatment of the well with sulfuric acid has been added.

4.1.4 SWMU 5 – Sludge Drying Beds

The former sludge drying beds were located within the facility fenceline in the southern part of the lower yard (Figures 4-1 and 4-

Clarification needed:
Are the "sludge drying beds" the same as the "waste piles" that are mentioned in historical regulatory documents.

4.1.4.1 Description and History

S2-82

The sludge drying beds were constructed
station. The two sludge drying beds were
bed was approximately 20 feet wide by 50
the upper end at grade level and the lowe
floors of both beds were constructed of 8-i
to the Transfer Sump (SWMU 9) to facilita

The drying beds were used from 1951 unt
by a water conditioning process used at th
photographs from the mid-1950s, the dryi
also present just south of the sludge dryin
similar are present in those photographs a
Section 4.3.1) and what is now called the D
that some of the dehydrated lime sludge n
the 1951 to 1962 time frame.

From 1964 through 1969, a treatment pond constructed within one of the beds was used to treat chromium-bearing wastewater (PG&E 1968a). Wastewater was allowed to flow through the pond and was injected with sulfur dioxide to reduce Cr(VI) to Cr(III) prior to discharge.

From 1969 through October 1985, the drying beds were used to dehydrate chromic hydroxide sludge generated by the two-step wastewater treatment system (SWMUs 6 through 9) prior to disposal. The chromate hydroxide sludge discharged into the drying beds was found to contain 37,500 mg/kg Cr(T) and 4 mg/kg Cr(VI) (Mittelhauser 1986). The volume of chromic hydroxide sludge disposed of offsite was about 15,000 gallons per year (PG&E 1984b).

A 1970 letter (PG&E 1970) indicates that PG&E was planning on burying the initial batch of sludge on or near the compressor station; however, there is no documentation to confirm whether this occurred. RWQCB Order 70-73 was issued on December 10, 1970 (RWQCB 1970), and it appears that the chromium hydroxide sludge was disposed of at Needles Landfill from that time until 1983. Disposal of the chromium sludge at Needles Landfill was discontinued by 1984. From January 1984 to May 1985, the dried sludge was transported off site to an approved Class I hazardous waste facility (PG&E 1984b).

Use of both sludge drying beds ceased in October 1985. Closure of the drying beds was initiated in December 1988, and most of the beds were removed by February 1989 (Mittelhauser 1990a). In 1995, DTSC issued a closure certification acceptance letter for this unit (DTSC 1995). Additional details on the closure of the sludge drying beds is presented in Section 6.0.

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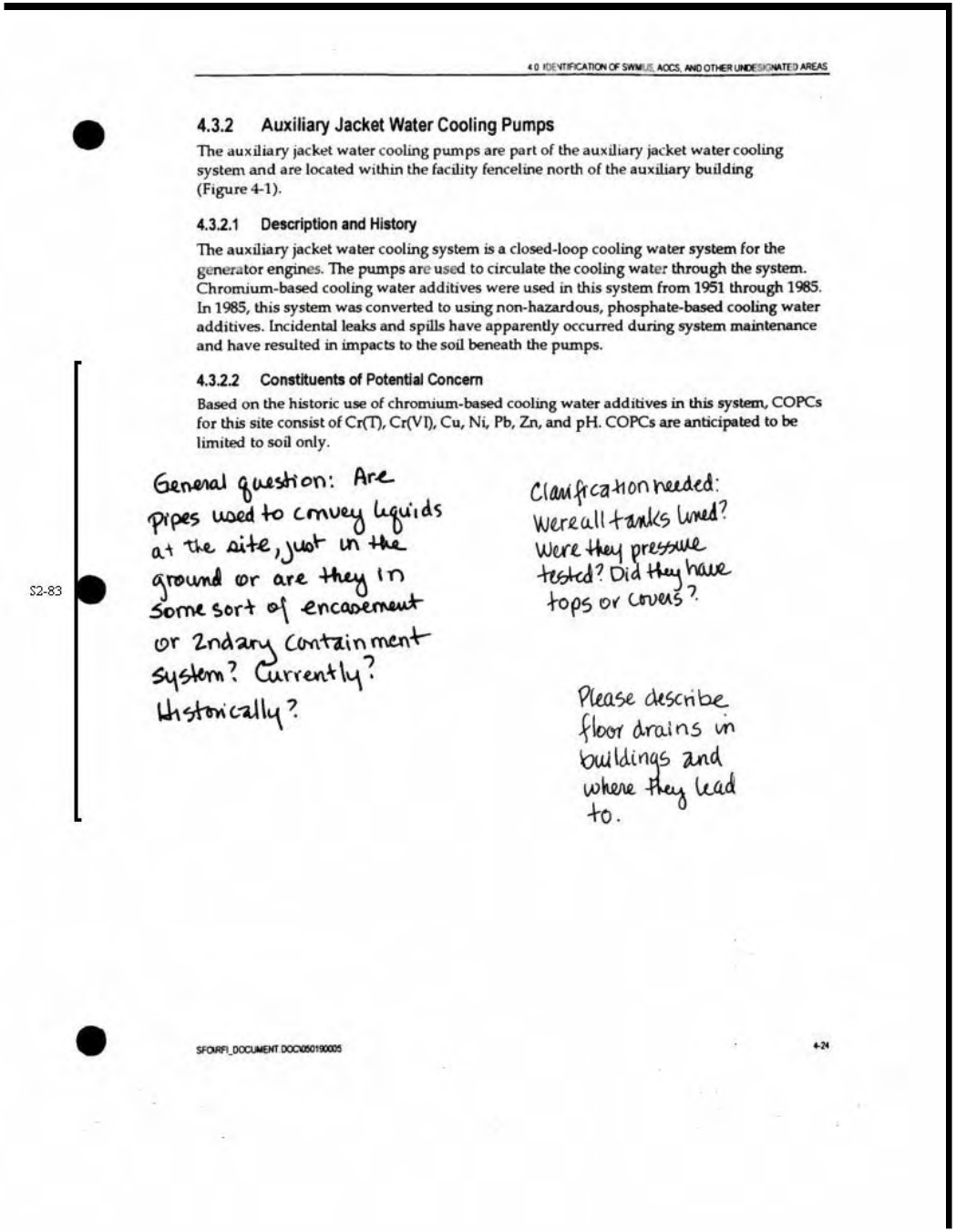
Response to Comment S2-82(RS_101805_32)

DTSC RESPONSE: Comment Noted. PG&E is not required to address this comment at this time. Since no citation for where the term "waste piles" is used. PG&E is not able to make an assessment whether the terms refer to the same or separate features.

PG&E RESPONSE: No response required.



4.0 IDENTIFICATION OF SWMUS, AOCS, AND OTHER UNDESIGNATED AREAS

4.3.2 Auxiliary Jacket Water Cooling Pumps

The auxiliary jacket water cooling pumps are part of the auxiliary jacket water cooling system and are located within the facility fenceline north of the auxiliary building (Figure 4-1).

4.3.2.1 Description and History

The auxiliary jacket water cooling system is a closed-loop cooling water system for the generator engines. The pumps are used to circulate the cooling water through the system. Chromium-based cooling water additives were used in this system from 1951 through 1985. In 1985, this system was converted to using non-hazardous, phosphate-based cooling water additives. Incidental leaks and spills have apparently occurred during system maintenance and have resulted in impacts to the soil beneath the pumps.

4.3.2.2 Constituents of Potential Concern

Based on the historic use of chromium-based cooling water additives in this system, COPCs for this site consist of Cr(T), Cr(VI), Cu, Ni, Pb, Zn, and pH. COPCs are anticipated to be limited to soil only.

S2-83

General question: Are pipes used to convey liquids at the site, just in the ground or are they in some sort of encasement or 2ndary containment system? Currently? Historically?

Clarification needed: Were all tanks lined? Were they pressure tested? Did they have tops or covers?

Please describe floor drains in buildings and where they lead to.

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4-24

Letter - S2 : Document Id - TOPOCK-MWD_00001

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Response to Comment S2-83(RS_101805_33)

DTSC RESPONSE: PG&E has already performed a significant historical information search and have compiled sufficient chemical usage and waste disposal information to support the identification of potentially affected areas and contaminants of concern, and the development of conceptual site models. However, PG&E shall make a reasonable attempt to obtain the additional requested information. See also the response to Comment S2-1.

PG&E RESPONSE: Pipelines at the site typically do not have secondary containment. It is unknown whether the tanks were lined. No changes have been made to the text in response to these two comments. As noted earlier, floor drains within the compressor building are known to generally discharge to the oily water treatment system. This information was included in the text in Section 3.0.

S2-84

The closed SWMU's (prior to RFI/RI) need to be re-evaluated based on current guidance and regulatory requirements to ensure that the closed units meet current regular standards for both state and federal requirements.

6.0 SWMUs Closed Prior to the RFI

ıe clean closure of six former hazardous waste
ge Drying Beds (SWMU 5), Chromate Reduction
7), Process Pump Tank (SWMU 8), Transfer
onds (SWMU 10). PG&E has also completed
stem that consisted of the oil/water holding
ortable waste oil storage tank (Unit 4.5). Details
ovided below.

Management Facilities

cilities at the compressor station consisted of
ıe old evaporation ponds, and the
ities was performed in three phases (Phases 1
vember 1993 in general accordance with the
ent Facilities at the Topock Compressor Station
(Mittelhauser 1986), which was reviewed and approved by DTSC (Mittelhauser 1990a; Trident 1993).

Complete details on the closure of these facilities are presented the documents entitled *Phases 1 and 2 Closure Certification Report, Hazardous Waste Management Facilities* (Mittelhauser 1990a), *Closure Certification Report for the Wastewater Evaporation Ponds* (Trident 1993), and *Closure Certification Report Addendum for the Wastewater Evaporation Ponds* (Trident 1995). These reports include a complete description of all closure activities and contain all data from disposal characterization sampling, disposal manifesting information, and ultimate disposal locations. A closure certification acceptance letter that included all six former hazardous waste management facilities was issued by DTSC on June 26, 1995 (DTSC 1995). The RWQCB also issued a closure acceptance letter for the old evaporation ponds (SWMU 10) on May 11, 1995 (RWQCB 1995).

A summary of the closure activities for these facilities is provided below. This section presents data only for the final confirmatory samples (i.e., representative of final site conditions). Material that was determined to be hazardous waste was transported off site for disposal at the Chemical Waste Management, Inc. Class I Landfill in Kettleman, California. Material that was determined to be non-hazardous was either disposed of off site at a San Bernardino County Class III Landfill (near Barstow), or was used at the facility as fill material.

6.1.1 SWMU 5 (Units 4.12 and 4.13) – Sludge Drying Beds

The two sludge drying beds were formerly located directly adjacent to one another in the southern part of the lower yard (Figure 6-1). Each bed was approximately 20 feet wide by 50 feet long, and the walls and floors of both beds were constructed of 8-inch-thick concrete.

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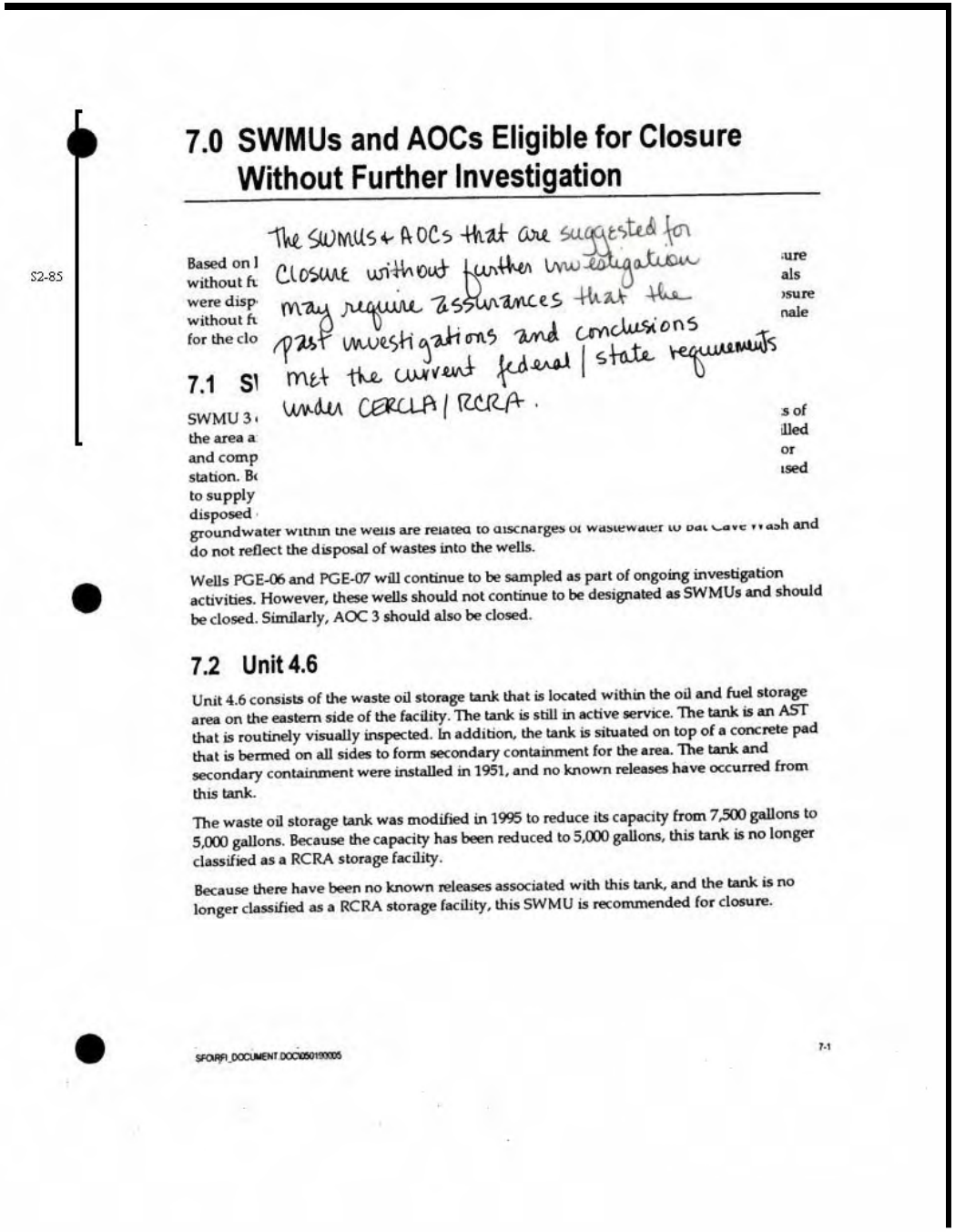
Response to Comment S2-84(RS_110105_72)

DTSC RESPONSE: Comment Noted. PG&E is not required to address this comment at this time. SWMUs that were previously closed were closed in accordance with Work Plans that were reviewed and approved by DTSC and/or the RWQCB. In addition, DTSC and /or the RWQCB reviewed and approved the post-closure reports for these sites and issued letters of approval. As indicated in the cover letter to these comments, DTSC has identified certain closed SWMUs that will be further investigated under the RFI/RI Soil Data Gaps Workplan.

PG&E RESPONSE: No response required.



S2-85

7.0 SWMUs and AOCs Eligible for Closure Without Further Investigation

The SWMUs & AOCs that are suggested for closure without further investigation may require assurances that the past investigations and conclusions met the current federal / state requirements under CERCLA / RCRA.

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7.1 SI

SWMU 3
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groundwater within the wells are related to discharges of wastewater to Bat Cave Wash and do not reflect the disposal of wastes into the wells.

Wells PGE-06 and PGE-07 will continue to be sampled as part of ongoing investigation activities. However, these wells should not continue to be designated as SWMUs and should be closed. Similarly, AOC 3 should also be closed.

7.2 Unit 4.6

Unit 4.6 consists of the waste oil storage tank that is located within the oil and fuel storage area on the eastern side of the facility. The tank is still in active service. The tank is an AST that is routinely visually inspected. In addition, the tank is situated on top of a concrete pad that is bermed on all sides to form secondary containment for the area. The tank and secondary containment were installed in 1951, and no known releases have occurred from this tank.

The waste oil storage tank was modified in 1995 to reduce its capacity from 7,500 gallons to 5,000 gallons. Because the capacity has been reduced to 5,000 gallons, this tank is no longer classified as a RCRA storage facility.

Because there have been no known releases associated with this tank, and the tank is no longer classified as a RCRA storage facility, this SWMU is recommended for closure.

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Response to Comment S2-85(RS_110105_74)

DTSC RESPONSE: Comment Noted. PG&E is not required to address this comment at this time. SWMUs that were previously closed were closed in accordance with Work Plans that were reviewed and approved by DTSC and/or the RWQCB. In addition, DTSC and /or the RWQCB reviewed and approved the post-closure reports for these sites and issued letters of approval. As indicated in the cover letter to these comments, DTSC has identified certain closed SWMUs that will be further investigated under the RFI/RI Soil Data Gaps Workplan.

PG&E RESPONSE: No response required.

COMMENTER: Department of Toxic Substances Control

S4-37 37. Page 3-1, Section 3.1. Include a separate subsection that discusses the mercury pressure switches and mercury-containing gas flow meters that were historically used by the facility. The discussion should address the locations where the devices were used, any historical releases associated with the devices, historical disposal practices for the devices, and the mercury closure process. Currently portions of this discussion are buried in Section 3.1.7.1 (October 1995 Mercury Release).

DTSC RESPONSE: The use of mercury-containing devices supported several operations; therefore, a discussion of these devices was provided under "Miscellaneous Operations". PG&E shall revise and expand Section 3.1.5 (Miscellaneous Operations) to provide the requested information on mercury-containing devices.

PG&E RESPONSE: A new section, Section 3.1.7 has been added to the text to discuss mercury-related equipment that was used at the facility.

COMMENTER: Department of Toxic Substances Control

S4-38 38. Page 3-1, Section 3.1. Include a section that discusses lead-containing devices or products that were historically used by the facility.

DTSC RESPONSE: Because the use of these devices is not an operation by itself, it should not be listed separately in Section 3.1. Lead-acid batteries were the only lead containing devices identified at the compressor station. PG&E shall revise Section 3.1.5 to provide a more detailed discussion of battery use and disposal.

PG&E RESPONSE: Section 3.1 discusses facility operations. Lead-acid batteries were the only lead-containing devices identified at the compressor station. Battery use and disposal is discussed in Section 3.1.5. The only other potential source of lead at the facility was associated with sandblasting operations. The limited available information on sandblasting has been incorporated into Section 3.1.5.

COMMENTER: Department of Toxic Substances Control

S4-39 39. Page 3-2, Section 3.1.1.1. As appropriate, please cross reference the well numbers cited in this section with the well numbers used in the PG&E Groundwater Background Study. For example, are Topock wells No. 2a and No. 3 the same as wells Topock-2 and Topock-3 from the Groundwater Background Study?

DTSC RESPONSE: PG&E shall cross-reference the wells between the RFI/RI Report and the Background Study as requested.

PG&E RESPONSE: Cross-referencing of the wells between the RFI/RI Report and the Background Study will be presented in Volume 2 of the RFI. A footnote has been added to Section 3.1.1 to clarify that Topock Well No. 2a is a replacement for the original Topock Well No. 2, and that current studies refer to Topock Well No. 2a as Topock-2 and Topock Well No. 3 as Topock-3.

COMMENTER: Department of Toxic Substances Control

S4-40

40. Page 3-3, Section 3.1.1.2. The discussion of the disposal practices for lime sludge generated by the Permutit water conditioning process seems incomplete. The discussion should acknowledge that all disposal practices for this sludge are not known. For example, the white, chromium-containing material that appears in the Interstate 40 road cut above Bat Cave Wash could be lime sludge from the Permutit process. This material is not associated with any other identified solid waste management units (SWMUs) or areas of concern (AOCs).

DTSC RESPONSE: PG&E shall revise the discussion in Section 3.1.1.2 to acknowledge that all disposal practices for the lime sludge are not known.

PG&E RESPONSE: The discussion in Section 3.1.1.2 was revised to include additional information on lime softener sludge disposal obtained from former employees. The referenced location appears to be part of the Railroad Debris Site, and lime softener sludge is known to have been sprayed at the Railroad Debris Site for disposal. There is no other reported or known disposal location for the lime softener sludge. The RFI simply indicates that a portion of the sludge was likely disposed of at the Railroad Debris Site, thereby allowing for the possibility that other locations were also used.

COMMENTER: Department of Toxic Substances Control

S4-41

41. Page 3-7, Section 3.1.3.6. Is there a potential for water loss through the cooling tower foundation (e.g., concrete joints, unsealed concrete)? Please discuss the condition of the concrete foundations when the cooling towers were replaced. Was there evidence of leakage through the concrete?

DTSC RESPONSE: PG&E shall evaluate the potential for water loss through the cooling tower foundations and add these findings to Section 3.1.3.6.

PG&E RESPONSE: The new cooling towers are set into the lower concrete basins (hot basins) of the old cooling towers. These basins appear to be in excellent condition. There is no information to suggest that leakage occurred through the basins. However, any potential

leakage through the hot basins would be identified as part of the investigation of AOCs 5 and 6.

COMMENTER: Department of Toxic Substances Control

S4-42 42. Page 3-14, Section 3.1.4.4, second paragraph, first sentence. It seems too definitive to state that all discharges to Bat Cave Wash ceased in 1970 when the injection well came on line. The first paragraph on Page 3-15 states that wastewater may have been discharged to Bat Cave Wash between May 1970 and September 1971 when the injection well was off-line for repairs.

DTSC RESPONSE: PG&E shall revise the discussion in Section 3.1.4.4 to clarify that some discharge to Bat Cave Wash may have occurred after 1970.

PG&E RESPONSE: The discussion in Section 3.1.4.4 was revised to clarify that some discharge to Bat Cave Wash may have occurred after 1970. The sixth paragraph under Section 3.1.4.4 was revised to state that, from May 1970 to September 1971, some wastewater may have been temporarily discharged to the percolation bed in Bat Cave Wash when injection well PGE-08 was offline for repairs or maintenance.

COMMENTER: Department of Toxic Substances Control

S4-43 43. Page 3-20, Section 3.1.7. This section seems incomplete because the earliest release discussed in the RFI Report occurred in October 1995.

DTSC RESPONSE: PG&E shall make reasonable efforts to determine that there are no written records of releases that occurred prior to 1995. PG&E shall add additional clarification in the introduction to Section 3.1.7 that acknowledges that releases may have occurred prior to 1995, but that no available documentation was found for these potential releases.

PG&E RESPONSE: Specific documentation regarding spills that occurred prior to 1995 does not exist. A new subsection was added to the text, Section 3.1.8.1, to discuss available information regarding spills prior to 1995. This spill information is based on information that was gathered during employee interviews.

COMMENTER: Department of Toxic Substances Control

S4-44

44. Page 4-2, Section 4.1.1, first sentence. It seems too definitive to state that all discharges to Bat Cave Wash ceased in 1970 when the injection well came on line. The last paragraph of Section 4.1.1.1 states that wastewater may have been discharged to Bat Cave Wash between May 1970 and September 1971 when the injection well was off-line for repairs.

DTSC RESPONSE: PG&E shall revise the discussion in Section 4.1.1 to clarify that some discharge to Bat Cave Wash may have occurred after 1970.

PG&E RESPONSE: The sentence was revised to read "From 1951, when the compressor station first began operation, until 1970, when injection well PGE-08 went into operation, wastewater generated at the facility was discharged to Bat Cave Wash." The last paragraph in section 4.1.1.1 states that the "…**continuous** discharge ceased in 1970. However, between May 1970 and September 1971 (when Pond 1 of the Old Evaporation Ponds was completed), some treated wastewater may have been temporarily discharged to the percolation bed in Bat Cave Wash when injection well PGE-08 was offline for repairs or maintenance."

COMMENTER: Department of Toxic Substances Control

S4-45

45. Page 4-5, Section 4.1.2.2. The constituents of concern (COC) list for SWMU 2 (PGE-08, injection well) is incomplete because it does not reflect constituents contained in the wastewater from all facility processes. The list does not reflect waste streams from the oil/water separator or facility maintenance. The list does not include all metals of concern for the facility (e.g., molybdenum).

DTSC RESPONSE: PG&E shall determine if the groundwater COC list should include – parameters identified in wastewater streams from the facility oil/water separator and maintenance. PG&E shall determine if the list includes all metals of concern for the facility, including metals that may have been present in known or suspected cooling tower additives. PG&E shall provide additional explanation as to why various metals and wastewater stream constituents were not identified as COCs. In addition, PG&E shall summarize available wastewater effluent data that support the COCs identified for SWMU 2.

PG&E RESPONSE: The list includes groundwater COPCs identified from all wastewater streams at the facility. While TPH was treated (TPH samples by Brown and Caldwell showed 3 ppm TPH for effluent released from the oil/water separator) and diluted (the oil/water separator effluent comprised only 5 percent of the discharge to the injection well), TPH is identified as a COPC for groundwater at SWMU 2. Molybdenum was not identified as a COPC because there was no evidence to suggest that molybdenum was present in the cooling water additives prior to 1986 (the closed-loop cooling systems were converted to non-hazardous molybdate-based system when the cooling towers were converted to the non-hazardous phosphate-based system). In addition, samples of wastewater effluent from 1985 and 1986 did not contain elevated levels of molybdenum.

COMMENTER: Department of Toxic Substances Control

S4-46

46. Page 4-6, Section 4.1.3.1, second full paragraph. This paragraph describes the results of initial testing of well PGE-06 (in 1964) that indicated the presence of "chromates" at a concentration of 32.5 parts per million. Please provide further discussion of this analytical result.

DTSC RESPONSE: PG&E shall provide additional details (if available) on the reported chromate result for PGE-06. At a minimum, PG&E shall clarify why the chromate result is not directly comparable to hexavalent chromium results currently reported for site groundwater.

PG&E RESPONSE: No additional information regarding this result is available (the laboratory conducted a standard water analysis plus chromate). Chromate analysis measures the concentration of CrO_4, which is an indirect evaluation of the Cr(VI) concentration. The concentration is not directly comparable to current Cr(VI) analyses. There are no other chromate results for this time period other than those already included in the text. No additional information was uncovered during the additional file review conducted in response to this comment.

COMMENTER: Department of Toxic Substances Control

S4-47

47. Page 4-6, Section 4.1.3.2, last paragraph. Please refer the reader to the section of the RFI Report that describes the responses observed in well PGE-07 during injection in well PGE-08.

DTSC RESPONSE: PG&E shall present the testing of well PGE-08 and any response seen in PGE-07 in Volume 2 of the RFI/RI Report. PG&E shall add a footnote to this section that refers the reader to Volume 2 for additional information on this subject.

PG&E RESPONSE: The testing of well PGE-08 and the response seen in PGE-07 will be presented in Volume 2 of the RFI/RI Report. A footnote was added to Section 4.1.3.2 referring the reader to Volume 2 for additional information on this subject.

COMMENTER: Department of Toxic Substances Control

S4-48

48. Page 4-20, Section 4.2.7.1. The historical discussion of East Ravine should address the two ditches observed in the 1955 aerial historical photograph that, apparently, could have been used to convey facility wastewater to the ravine. These ditches are discussed in Table 3-12.

DTSC RESPONSE: PG&E shall revise the text in Section 4.2.7.1 to include a discussion of the two drainage channels that run from the compressor station into the East Ravine (as shown in the 1955 aerial photograph and discussed in Table 3-13). PG&E shall provide further clarification if these channels facilitate the drainage of surface water (i.e., Stormwater) from the facility or if there is evidence to suggest that these drainages were used to convey facility wastewater to the East Ravine.

PG&E RESPONSE: The text in Section 4.2.7.1 was revised to include a discussion of the two small erosion channels that run from the compressor station into the East Ravine (as shown in the 1955 aerial photograph and discussed in Table 3-13). The two erosion channels are not drainage ditches. There is no evidence to indicate that these drainages were used to convey facility wastewater to the East Ravine. There are no wastewater facilities near the erosion channels in the 1955 aerial photo. Table 3-12 (now Table 3-18) was corrected to reflect the nature of the two small channels.

COMMENTER: Department of Toxic Substances Control

S4-49

49. Page 4-21, Section 4.2.7.1. The Revised RFI Report should discuss the potential for water impounded in the ravine to move eastward via shallow subgrade flow, via groundwater flow, and through the culvert downstream of subarea L3. The Phase 2 Soil RFI Workplan should include contingencies for further investigation east of subarea L3. The COC list for the East Ravine seems incomplete if the wastewater from the facility was historically discharged to the ravine.

DTSC RESPONSE: PG&E shall evaluate the potential movement of surface water in the East Ravine and add to the text in Section 4.2.7.1 and other report sections, as appropriate. PG&E shall take this information into consideration during the design of future sampling efforts for this AOC. PG&E shall evaluate if facility wastewater (i.e., cooling water or oily wastewater) was historically discharged to the East Ravine.

PG&E RESPONSE: Information on the potential movement of surface water was added to the RFI. Further evaluation of potential water movement patterns will be included in the Soil Sampling Work Plan, as appropriate. Stormwater runoff was discharged to the East Ravine, but there does not appear to have been any deliberate discharge of facility wastewater to the East Ravine. Only incidental releases of wastewater to the East Ravine have been reported by former employees. This information is reflected in Sections 3 and 4 of RFI Volume 1.

Subsurface flow in the East Ravine will be discussed as part of the conceptual model in Volume 2 of the RFI/RI (Groundwater) using existing data and the site conceptual model. Evaluation of leaching to groundwater from SWMUs will be included in Volume 3 of the RFI/RI (Soil).

DOCUMENT REVIEW AND COMMENT RESOLUTION SHEET

Document Title	**PG&E Topock Compressor Station Draft RCRA Facility Investigation and Remedial Investigation Report**	**Document Date/Revision**	**February 2005**
Reviewer, Organization, and Phone Number	**Department of Interior: BLM, BOR, FWS, and USGS**	**Review Criteria**	**Full**
		Date Comments Due	**June 30, 2005**

Comment No./ Location	Agency	Comment	Comment Response	Type[a]
VOLUME 1 - BACKGROUND				
1. General Comment	FWS	For all volumes (i.e., acres, square feet, etc.) discussed in the report provide a literature citation and ensure the citation is listed in the References section.	When units of measure presented in the report were derived from literature sources, those sources were referenced.	M
2. Acronyms	FWS	Include PRG, Preliminary Action Goals	The acronym for "Preliminary Remediation Goal" has been added to the acronyms list.	M
3. Page ES-3 Section ES.2	BOR	Third paragraph: Consider revising the following sentence, "The stage of the Colorado River varies both daily and seasonally in response to upstream dam discharges regulated **for resource management and electricity production,**" to read as "….upstream dam discharges regulated **to meet water and power delivery obligations**." The same comment applies to Page 2-18, Section 2.5.4.1, third paragraph.	The text in Section 2.5.3.1 has been changed as requested.	S
4. Page ES-4 Section ES.3	BLM	First full paragraph, "The four, Class II double-lined ponds are still in use…, Colorado River Region." Revise the above sentence to read, "The four, Class II double-lined ponds, *on BLM property*, are still in use…"	The text in Section 3.1.4.4 has been added as requested.	M

Comment No./ Location	Agency	Comment	Comment Response	Type[a]
5. Page ES-4 Section ES.4	BLM	Why is the septic tank, associated with the lab site that has been in place since 1951, not identified as an SWMU? An AOC map and a SWMU map should be included in this section.	The septic tank and associated leach system have been added as an AOC (AOC 17). The text in the Executive Summary has been revised to reflect the changes in AOCs. The Executive Summary refers the reader to Figure 4-1; duplicating the SWMU/AOC figure is not necessary.	M
6. Page ES-8 Section ES.9.1	BLM	Second paragraph: "*SWMU1/AOC1 is located just outside the facility fence line; therefore, potential human receptors consist of industrial workers and recreational users for soil and recreational swimmers and anglers for sediment*." This sentence is unclear, revise as follows: "SWMU1/AOC1 is located just inside the facility fence line; therefore, potential human receptors include industrial workers and recreational users for soil pathways, and recreational swimmers and anglers for sediment pathways."	CSMs will be presented in RFI/RI Volumes 2 and 3. References to exposure pathways have been deleted from Volume 1.	S
7. Page ES-9 Section ES.9.1	BLM	First paragraph: "No TPH has been performed, additional investigation for the COPC in soil is recommended. No further action is recommended for the sediment media at SWMU 1/AOC 1." Without this information how can we decide if this will be or is an issue. Additional TPH sampling will be conducted and make that information available.	TPH has been added as a COPC for SWMU 1 and AOC 1. Samples from these units will be analyzed for TPH if TPH is present in soil at the compressor station, lower yard. The sampling plan will address the most appropriate strategy for evaluating TPH for this unit and other units where TPH may be a COPC. The sampling plan will also address the need for additional sampling for Bat Cave Wash.	M

Comment No./ Location	Agency	Comment	Comment Response	Type[a]
8. Page ES-9 Section ES.9.3	BLM	ES.9.3 discusses the fact that "further investigation is not warranted." Buried asbestos is always an issue and should be addressed further.	There is very little soil cover within the Debris Ravine, and materials were disposed of onto the ground surface in this area; therefore, buried asbestos is unlikely. Asbestos present in the Debris Ravine is most likely mixed with other surface debris, which can be visually delineated. However, as discussed in Section 4.2.1.2, asbestos has been identified as COPC for this unit. The proposed approach for addressing potential contaminants in the Debris Ravine will be defined in the soil sampling work plan.	M
9. Page ES-11 Section ES.9.6	BLM	First sentence: "Although the source of the release is unknown, it is probably related to the incidental release of a small volume of Chromium bearing material." The report states it is unknown when the release occurred but then relates it to an incidental release. Explain in the text what details exist to make this relation (e.g., date, year, volume of release).	The release is identified as incidental because of the small area affected. Additional information has been obtained regarding the potential source of the chromium detected, and that information is described in Section 4.2.6.	M
10. Page ES-12 Section ES.9.8	BLM	First paragraph, second sentence: Modify the following statement, "…residential land use in this area is unlikely and ecological receptors are not expected to be present," to read instead: "…residential land use in this area is unlikely. Ecological receptors may also **be** present."	CSMs will be presented in RFI/RI Volumes 2 and 3. All references to exposure pathways have been deleted from Volume 1.	M
		SECTION 1.0		
11. Page 1-4 Section 1.2.1	BLM	Fourth paragraph: "*Due to space and treatment capacity limitations, and landowner lease arrangement (existing IM activities occur on property owned by the BLM...*" The closing paran is missing at the end of this sentence. Additionally, consider deleting the text "the landowner lease arrangement" from the sentence.	The section has been updated to reflect the current status of the interim measures at Topock.	M
12. Page 1-2 Section 1.1.2	BLM	First paragraph: add the United States Fish and Wildlife Service (USFWS) to the list of agencies in the last sentence of this paragraph. Delete the last paragraph.	The text was revised as requested.	M

Comment No./ Location	Agency	Comment	Comment Response	Type[a]
13. Figure 1-2	BLM	The Refuge boundaries are incorrect on this figure. Correct the figure.	The boundaries on the figure have been corrected.	M
14. Page 1-5 Section 1.2.2	BOR	First paragraph: In response to the following statement, "Corrective measure alternatives for groundwater ***to be evaluated in the CMS will likely include*** monitored natural attenuation…" The Remedial Investigation/Feasibility Study (RI/FS), (40 CFR 300.430) characterizes the site and evaluates various alternatives for cleanup. The RI is the collection of sufficient, detailed information to characterize site conditions, the nature and extent of contamination, evaluate the risks posed by the site, assess the performance of options for remediation, and make an informed risk management decision. This RCRA Facility Investigation Report does not evaluate the risks posed by the site (it only details complete and incomplete exposure pathways to receptors), assess the performance of options for remediation, or make an informed risk management decision. The next draft should include discussions of these topics.	The text was revised as requested. Table 1-1 has been added that discusses the CERCLA requirements as they pertain to this document. Risk assessment requirements of CERCLA will be submitted separately from the RFI/RI.	
15. Page 1-6 Section 1.4.1	BLM	Use all acronyms or write them all out for members of the CWG. BLM = US DOI BLM BOR = US DOI BOR USFWS = US DOI FWS	Per prior discussions with DTSC and the federal agencies, details of the public participation program have been removed from the RFI/RI and the text instead refers the reader to DTSC's Public Participation Plan.	M

Comment No./ Location	Agency	Comment	Comment Response	Type[a]
16. Page 1-8 Section 1.4.6	BLM	First paragraph: Revise the sentence "Additionally, government-to-government consultations were conducted…" to read as follows, "Additionally, government-to-government formal coordination and consultations were conducted…" Delete the name Torres-Martinez Desert Cahuilla from this same sentence. Modify the last sentence of this paragraph to read as follows, "…and participate in government-to-government information sharing as requested by the Lake Havasu Field Office of the BLM."	Per prior discussions with DTSC and the federal agencies, details of the public participation program have been removed from the RFI/RI and the text instead refers the reader to DTSC's Public Participation Plan.	M
		SECTION 2.0		
17. Section 2.0 General Comment	BLM	Because of the manner in which data are presented in this RFI, the reviewer must search for a table(s) and Appendices to validate any conclusion made in the RFI, and too often the data cannot easily be found. This re-occurring problem impedes the clarity of the RFI. This problem needs to be remedied in future versions of the RFI report. Additional inconsistencies relevant to this comment: According to Table 2-4, seven borings encountered the basal unit (Tsu) that include MW-20-130, MW-24B, MW-38D, MW-40D, TW-1, TW-2D, and TW-2S. - Appendix A4, Figure A4-2 presents well TW-2. It is unclear if this log is relevant to either well TW-2S or TW2D. - the resistivity and conductivity geophysical logs for MW-20-130 are so poor a footnote should be provided explaining their condition - Figure A4-4 presents a geophysical log for MW-38 and MW-40. It is unclear if this is actually well MW-38D and MW-40D.	Section 2.0 of Volume 1 has been streamlined to provide only a summary of the physical setting. Detailed discussion and data presentation regarding soil and groundwater conditions at the Topock Compressor Station will be provided in Volumes 2 (Groundwater) and 3 (Soil) of the RFI. Due to the volume of data being presented in the RFI report, summarizing the data into tables and placing more detailed information into appendices is and will be required to keep the document from becoming overly large and difficult to read. An attempt to make the copious data more readily accessible to the reviewer will be made in Volumes 2 and 3.	M

Comment No./ Location	Agency	Comment	Comment Response	Type[a]
57. Page 2-22 Section 2.6	FWS	First full paragraph: The Havasu National Wildlife Refuge encompasses the Mohave and **La Paz** counties in Arizona, not Yuma county as provided in text. Revise the sentence to reflect the correct county. The acreage of the HNWR is 37,505. Provide the literature citation, and ensure the citation is listed in the References section.	The text in Section 2.6 has been revised as to correct the reference to La Paz county. The RFI/RI indicates that the refuge is 37,515 acres, as stated in the following reference: http://library.fws.gov/Refuges/havasu.pdf	M
58. Page 2-26 Section 2.8.2	FWS	Third paragraph, second sentence: Provide the following literature citation to support this sentence. (McLeod et al. 2005), McLeod, M.A., T.J. Koronkiewicz, B.T. Brown, and S.W. Carothers. 2005. Southwestern Willow Flycatcher surveys, demography, and ecology along the lower Colorado River and tributaries, 2004. Annual report submitted to U.S. Bureau of Reclamation, Boulder City, NV, by SWCA Environmental Consultants, Flagstaff, AZ. 155 pp.	The text in Section 2.8.2 has been revised as requested.	M
59. Page 2-27 Section 2.8.3	FWS	Fourth paragraph: Restate the sentence to read "*The listed threatened or endangered…include the endangered (federal) bonytail ~~chub~~…*" The bonytail chub if often referred to as the bonytail.	The text in Section 2.8.3 has been clarified to include threatened and endangered	M
		SECTION 3		
60. Page 3-18 Section 3.1.5.2	BLM	Last paragraph: "…the oil may have been sprayed on facility roads for dust control…" The need for sampling on the road should be addressed?	AOC 13 has been designated to address unpaved areas on the compressor station. TPH has been identified as COPC for AOC 13. The sampling program required to address unpaved areas on the compressor station will be described in the soil sampling work plan.	S
61. Page 3-19 Section 3.1.6	BLM	"Other sources of wastes at the compressor station consist of miscellaneous wastes, standard domestic…" Delete the word "standard" from the sentence.	The word "standard" has been deleted from Section 3.1.6.	S

Comment No./ Location	Agency	Comment	Comment Response	Type[a]
62. Page 3-20 Section 3.1.6	BLM	First paragraph: Please include when the lab was put into place on the PG&E facility. For example, "in 1951 PG&E included a lab site at this facility."	There is no direct information on when the laboratory was first put into service. However, the plant would have needed to test their cooling treatment processes from the start of operations, which suggests that that laboratory has been in use since the inception of the facility. The text was revised accordingly in Section 3.1.5.1.	M
63. Page 3-20 Section 3.1.7	BLM	How many prior to 1995…see Casey Padgett's comments.	Specific documentation regarding spills that occurred prior to 1995 does not exist. Section 3.1.8.1 was added to the text to discuss spills prior to 1995. The spill information is based on information that was gathered during employee interviews.	
64. Page 3-20 Section 3.1.7.2	BLM	Are there any documented/suspected releases prior to 1995?	Specific documentation regarding spills that occurred prior to 1995 does not exist. Section 3.1.8.1 was added to the text to discuss spills prior to 1995. The spill information is based on information that was gathered during employee interviews.	
65. Page 3-20 Section 3.1.7.2	BLM	Were the clean up of the incidental releases approved by the regulatory agencies? If yes, then the RFI should state this fact.	Information regarding regulatory approval of the various clean up actions has been added to Section 3. Information on all spill cleanup actions has been provided to the appropriate regulatory agencies.	M
66. Page 3-20 Section 3.1.7.2	BLM	Last paragraph: Were any confirmation samples collected from the clean up activities? If yes, then add a statement in the text regarding the confirmation samples.	A sentence has been added to Section 3.1.8.3 to state that confirmation samples were not collected for the June 1996 cooling tower water release.	M
67. Page 3-22 Section 3.1.7.4	BLM	Third paragraph: Was this approved by the RWQCB? If yes, then the RFI should state this fact.	Section 3.1.8.5 was revised to state that while the results of the cleanup of the December 2000 wastewater release were provided to the Water Board, no response was received from that agency.	M

Comment No./ Location	Agency	Comment	Comment Response	Type[a]
68. Page 3-25 Section 3.1.7.9	BLM	Fourth paragraph: Was another sample collected and analyzed for the correct TPH range? A statement should be added to the text stating whether or not another sample was/was not collected.	Section 3.1.8.10 was revised to state that no additional samples were collected and analyzed for TPH as motor oil for the March 2004 scrubber pipeline liquids release.	M
69. Table 3-5	BLM	It would be useful to provide the regulatory criteria on the table to which the results were compared to show that acceptable levels remain.	Regulatory criteria have been included in all the tables providing spill data in Section 3.	S
70. Table 3-6 and Table 3-8	BLM	Why are only the PRGs for Cr (T) and Cr (IV), Cu, Ni, and Pb listed and none of the others?	PRGs have been listed for all compounds in all the tables providing spill data in Section 3.	S
71. Table 3-7	BLM	It would be useful to list the regulatory criteria on the table.	The regulatory criteria were added to the table (which is now Table 3-8).	S
		SECTION 4		
72. Page 4-11 Section 4.1.9	BLM	Which old evaporation ponds are being referenced here, the unlined percolation beds or the unlined evaporation ponds? Both should be discussed here. Percolation beds were in place from 1951 to 1970.	SWMU 10 consists of the former single-lined evaporation ponds. The former unlined percolation bed in Bat Cave Wash has been designated as SWMU 1 and is discussed separately in Section 4.1.1. Because these are distinctly different units with different regulatory status and designations, discussing them together is not appropriate.	M
73. Page 4-16 Section 4.1.15.1	BLM	When will the extent of this area be defined? Is it to be included in the subsequent effort?	There is no history of releases to the area surrounding the former injection well; therefore, further assessment and delineation of this area is not warranted. DTSC has agreed that further investigation of this area is not required.	S
74. Page 4-17 Section 4.2.2.1	BLM	Former Chemical Shed: Were any confirmation samples collected from the excavation of the soil? The RFI should state whether or not samples were collected.	No confirmation samples were collected for Cooling Tower A; the text in Section 4.2.2.1 has been revised to indicate this. The area is, however, recommended for further sampling as part of AOC 5. Samples were collected for the former chemical shed at Cooling Tower B.	M

Comment No./ Location	Agency	Comment	Comment Response	Type[a]
		SECTION 5 – No Comments		
		SECTION 6		
75. Page 6-1 Section 6.1	USGS	Third paragraph, first sentence: Change "presented the" to "presented in the."	The text was revised.	E
76. Page 6-8 Section 6.1.7	USGS	Second paragraph: It appears the number "181,00" is typo error. Correct the typo to either 181,000 or 18,100, whichever is appropriate.	The correct value is 181,000 square feet; The number has been corrected in the text in Section 5.1.4.	E
77. Table 6-2	BLM	Sample CRT-4_05: Although the concentrations were all below the regulatory criteria, there seems to be a difference in the concentration of the metals in the sample compared to the other samples on the table. Could this possibility represent a difference in the lithology and therefore the natural metal concentration of the sample media? The RFI should provide possible explanations.	The difference in concentrations (if any) is slight. Please note that there are differences in concentrations between the primary CRT-5_05 sample and the associated field duplicate sample. Slight differences in concentration could be related to many factors, including inherent uncertainties in the laboratory analysis. Without additional information, any further explanation would be purely speculative.	M
78. Table 6-4	BLM	The RFI should explain how the confirmation samples for the EV ponds were located. Was it a random or judgmental method?	The comment should have referred to Table 6-8 (now Table 5-3). The revised text is provided in Section 5.1.4.2. Locations for the confirmation samples were selected based upon the *Closure Plan for the Hazardous Waste Management Facilities at the Topock Compressor Station* (Mittelhauser 1986) that was reviewed and approved by DTSC. Samples were initially collected on a grid. Additional confirmation samples were collected in a purposeful manner. The text in Section 5.1.4.2 was revised to include this information.	M
79. Table 6-7	BLM	Sample PF-6: **Explain h**ow it is possible to have more trivalent Cr than total Cr in the sample.	The Cr(III) values reported for samples PF-6 and PH-7 were calculated values (i.e., Cr(T) minus Cr(VI) values) generated based on a duplicate sample; however, the data were not presented correctly. Table 5-11 (former Table 6-7) has been revised to correct this error.	M

Comment No./ Location	Agency	Comment	Comment Response	Type[a]
80. Table 6-9	BLM	It would be useful to have the regulatory criteria listed on the table as for the other table in the section.	The report did not use regulatory criteria for decision-making but instead relied on a comparison of upgradient versus downgradient concentrations.	S
		SECTION 7.0 – No Comments		
		SECTION 8.0 – No Comments		
179. General Comment	DOI	Add the following language to the end of the first paragraph: The United States Department of the Interior is the lead Federal agency, on land under its jurisdiction, custody, or control, and is responsible for oversight of response actions being conducted by PG&E pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Portions of the site where hazardous substances from the Topock compressor station have come to be located are on or under land managed by the Department's Bureau of Land Management, Fish and Wildlife Service, or Bureau of Reclamation.	The recommended language has been added to the third paragraph in Section 1.0:	M

Comment No./ Location	Agency	Comment	Comment Response	Type[a]
180. General Comment ES-1	DOI	Replace the second paragraph with the following language: Prior RCRA facility investigation (RFI) activities at the Topock facility have been performed under the RCRA corrective action process pursuant to a Corrective Action Consent Agreement entered by PG&E and DTSC. Pursuant to an Administrative Consent Agreement entered by PG&E and the Department of the Interior, PG&E has agreed to conduct a CERCLA Remedial Investigation and Feasibility Study (RI/FS). This Draft Report has been prepared to fulfill the requirements of both an RFI Report under RCRA and an RI Report under CERCLA. Terms defined under RCRA that are used in this Draft Report and that correspond to terms defined under CERCLA are intended to be construed to include the CERCLA term. In particular, solid waste management units (SWMUs) and areas of concern (AOCs) identified in this Draft Report shall be construed to be facilities where a release or threatened release of a hazardous substance has occurred, as defined under CERCLA. Additional requirements pertaining to a CERCLA RI Report, if not addressed adequately in this Draft Report, will be addressed in future documents.	The following language has been added to the third paragraph in Section 1: "In July 2005, PG&E and the Federal Agencies entered into an Administrative consent Agreement to implement response actions at the site as set forth in the National Oil and Hazardous Substance Pollution contingency Plan." The following language has been added to the fourth paragraph in Section 1.0: "This document contains the site background and history of the Topock Compressor Station in support of the RCRA Facility Investigation (RFI) and the CERCLA Remedial Investigation (RI) . . ." The following language has been added to Section 1.5: "Terms defined under RCRA that are used in this report and that correspond to terms defined under CERCLA are intended to be construed to include the CERCLA term. In particular, SWMUs and AOCs identified in this report shall be construed to be facilities where a release or threatened release of a hazardous substance has occurred, as defined under CERCLA." Also, Table 1-1 has been added that discusses the CERCLA requirements as they pertain to this document.	M

Comment No./ Location	Agency	Comment	Comment Response	Type[a]
181. Page ES-8 Section ES-8.2	DOI	Delete the first sentence of Section ES.8.2 and replace it with the following: Pursuant to a Consent Agreement entered by PG&E and the Department of the Interior, PG&E has agreed to satisfy the requirements for a CERCLA RI/FS, including the identification and evaluation of applicable or relevant and appropriate requirements (ARARs).	The following language has been added to the Executive Summary: "Investigative and remedial activities at the Topock site are being performed under . . .the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) pursuant to an Administrative Consent Agreement between PG&E and the Department of Interior (DOI)" Also "Other requirements of the RCRA Corrective Action and CERCLA processes such as the identification of applicable or relevant and appropriate requirements (ARARs) . . .will be addressed in future documents."	M