C. POST-CLOSURE PLAN

Square D Company is required to prepare a written Post-Closure Plan for the NPCA. The objective of the Post-Closure Plan is to describe the activities which will:

- Maintain the integrity and effectiveness of the asphaltic cap.
- Maintain the groundwater monitoring system and continue monitoring in accordance with the Post-Closure Permit.
- Prevent run-on, control run-off, and control use of the area to prevent erosion or damage to the cover.

The original Post-Closure Plan for the NPCA was submitted to the DTSC in September 1989 and the permit was granted on March 27, 1998. This Post-Closure Plan includes the following changes to the original Post-Closure Plan:

- Change in the Facility boundary to only include the NPCA;
- Proposed replacement of temporary fencing with permanent fencing and an access gate around the NPCA; and
- Proposed installation of an additional groundwater monitoring well.

C.1 HAZARDOUS WASTE MANAGEMENT UNIT APPLICABILITY PER 22 CCR 66264.118

The NPCA regulated units include the following Facility settling basins and operational time periods:

- Process Ponds 1, 2, and 3, which were active from 1973 to 1985
- North and South Settling Ponds, which were active from 1973 to 1983
- Carbon Pond, which was active from 1973 to 1985
- Barium Pond, which was active from 1974 to 1984

The NPCA regulated units were closed in accordance with the Closure Plan submitted to DTSC in May 1988 and implemented in October 1988.

C.1.a Contact Person

The primary contact person for the NPCA is:

Mr. Curt Christensen
Square D Company
1717 Centerpark Road
Lincoln, Nebraska 68512
(402) 421-4537

If the Contact Person name, address, or telephone number are changed, this section will be revised and submitted to the DTSC for inclusion in the Post-Closure Permit.

C.2 PLANNED MONITORING ACTIVITIES

Maintenance activities at the NPCA primarily consist of monthly visual inspections of the site in accordance with the Post-Closure Permit. The inspections are conducted by Mr. Jerry Seaburg, a private contractor for Square D Company. The inspection program was modified in September 2000 to include monthly inspections of the monitoring wells. The site monitoring wells were previously inspected on an annual basis.

Groundwater at the site is sampled and analyzed on an annual basis per the WQSAP. In addition, a new off-site monitoring well (SDB-7) is proposed to be installed to further review downgradient conditions at the NPCA. Installation of this monitoring well is further described in Section O.

C.2.a Monitoring Activities

The NPCA is inspected once per month. The monthly inspection consists of a visual inspection of the site, including a review of the security, asphaltic cap, leachate collection sump, and monitoring wells. The monthly inspection reviews the general condition and integrity of the asphaltic cap, fencing, and monitoring well surface structures, including the surface grout seal and exposed well casing. Any significant damage to the fencing and monitoring wells will be repaired within seven days of the observance. Any identified cracks or erosion of the asphaltic cap will be repaired within 45 days of discovery. No ponding of surface water should be observed on the asphaltic cap.

Results of the monthly site inspections are recorded on the checklist provided in Appendix 4. The results of the monthly inspections are also included in an annual Groundwater Monitoring Report.

Annual groundwater monitoring is conducted to monitor the groundwater quality beneath the NPCA. Monitoring is conducted according to the procedures identified in the WQSAP. The WQSAP has been updated as a part of the Post-Closure Permit Renewal Application and is included in Appendix 5.

The following table summarizes the monitoring activities at the NPCA:

Inspection Type	Frequency	Procedure	Log
Security Control Devices (fences, lights, signs, etc.)	Monthly	Visual Observation	Inspection checklist
Erosion Damage	Monthly	Visual Observation	Inspection checklist
Cover Settlement, Subsidence, and Displacement	Monthly	Visual Observation	Inspection checklist
Integrity of Run-On and Run-Off Control Measures	Monthly	Visual Observation	Inspection checklist
Integrity of Cover Drainage System	Monthly	Visual Observation	Inspection checklist
Depth to Water in Leak Detection Sump, if present	Monthly	Visual Observation	Inspection checklist
Condition of Monitoring Wells	Monthly	Visual Observation	Inspection checklist
Sampling and Analyses of Groundwater	Annual	Per WQSAP	Groundwater Monitoring Report

C.2.b Frequency of Monitoring Activities

The monitoring activities at the NPCA are conducted on a monthly and annual basis.

C.2.c Function of Monitoring Activities

The monitoring activities are conducted to ensure the integrity of the asphaltic cap and to maintain compliance with the Post-Closure Permit requirements.

C.3 PLANNED MAINTENANCE ACTIVITIES

In March 2007, a temporary fence was installed around the southern and southeastern boundaries of the NPCA. A separate work plan will be submitted to replace the temporary fencing with permanently-installed fencing. The two entry points to the NPCA at the southwest and eastern portions of the site will be modified to allow access only by forklift traffic (See Section O).

A further planned upgrade to the site will be the placement of additional asphalt pavement to the access road adjacent to the NPCA (See Section O).

C.3.a Maintenance Activities

Upon approval by DTSC, the temporary fencing will be replaced with permanent fencing and the entry points will be modified. No schedule is in place for this activity at this time.

C.3.b Frequency of Maintenance Activities

Installation of new fencing and the roadway asphalt pavement will be a single event. Additional maintenance of the asphaltic cap, fencing, and the monitoring wells is on an as-needed basis.

C.4 CLOSURE CAP DESIGN DETAILS

The NPCA cap consists of the following layers, as described in Figure C-1:

- 4-inch thick asphaltic top layer
- 3-inch thick Class II base material layer
- 15-inch thick clean washed sand layer
- 30-millimeter thick high density polyethylene (HDPE) synthetic liner (upper moisture barrier)
- 8-inch thick coarse sand layer
- Additional 30-millimeter thick HDPE synthetic liner (lower moisture barrier)
- Compacted native soil

A leachate collection system was installed within the NPCA cap to remove potential water that may collect between the moisture barriers. The system consists of a series of 2-inch diameter slotted polyvinyl chloride (PVC) pipes, arranged in a parallel configuration and spaced approximately 20-feet apart in a

north-south direction across the NPCA cap. The PVC pipes are positioned to collect any water present within the 8-inch thick coarse sand layer between two 30-millimeter thick HDPE synthetic liners (upper and lower moisture barriers). The location of the 2-inch diameter slotted PVC piping within the NPCA cap layers is shown in Figure C-1.

Each 2-inch diameter PVC slotted pipe is connected to a 4-inch diameter PVC header pipe, running perpendicular in the east-west direction across the site. Water within the 4-inch PVC header pipe drains into a leak detection sump (LDS) located at the northeast corner of the NPCA. The LDS consists of a square underground concrete vault, approximately 4-feet wide, 4-feet long, and 4-feet deep. The LDS vault has a metal cover with a manway access to prevent storm water intrusion. The 4-inch diameter PVC header pipe drains directly into the LDS on its south side. The layout of the leachate collection system in the NPCA is shown in Figure C-2.

C.4.a Leachate Collection System and Leak Detection Sump

In 1992, SNR performed a series of tests to identify the possible routes of water infiltration into the NPCA leachate collection system. The tests were conducted to address the following potential routes of infiltration:

- Fractures in the asphaltic cap and breaches in the upper moisture barrier
- Fractures in a local sewer piping that had been installed subsequent to the leachate collection system
- Preferential pathways of subsurface water through existing sewer pipe backfill material and a suspected fracture in the 4-inch diameter PVC header pipe at its lowest point.

Test results pertaining to possible fractures in the asphaltic cap and potential breaches in the moisture barriers were generally inconclusive. Based on the testing and observations, the following general conclusions were made with regard to the NPCA leachate collection system and LDS:

- Water accumulates at a low spot in the 4-inch diameter PVC header pipe at the northeast corner of the NPCA based on a pipeline video inspection.
- The testing did not demonstrate that water was breaching the lower moisture barrier. This conclusion was based on the video inspection and observation of significant volumes of water accumulating and being held within the lower moisture barrier for some period of time.
- The water collected within the lower moisture barrier does not fully drain to the LDS unless water is removed from the LDS. As the water level in the LDS reaches a certain level (approximately 1-foot depth), additional water from the 4-inch diameter PVC header pipe cannot enter the LDS due to a static pressure equilibrium between the components, or perhaps by a siphoning effect between the two.
- The level of water infiltrating into the lower moisture barrier and the LDS appears to coincide with rain events. Thus, the water present in the LDS is more likely a result of storm water intrusion than from a subsurface source.

Additional monitoring activities were conducted in accordance with the LDS Monitoring Program Work Plan dated June 4, 1999, which was developed to comply with NPCA Post-Closure Permit Condition 3.10. The Work Plan was reviewed and approved by the DTSC in a letter dated April 17, 2003, with the request that a tracer be added to the water used for the simulated rain event infiltration testing. The results of the monitoring activities were reported in a URS Technical Memorandum dated October 14, 2003, and a URS Addendum Technical Memorandum, dated April 19, 2004.

On September 25, 2003, the LDS was inspected and observed to have 13.25 inches of standing water. The water was removed from the LDS using a submersible pump until the sump was dry. A total of 137 gallons of water were evacuated from the LDS and discharged to the sanitary sewer. The water was previously sampled in 1993, 1994, 2000, and 2002, Concentrations for each of the detected constituents were below state drinking water standards with the exception for one low detection of antimony in 1993.

The LDS was inspected one week later on October 2, 2003, and an additional 112 gallons of water (11.75 inches) were removed from the LDS. On October 7, 2003, prior to the rainfall simulation test, an additional 16 gallons of water (1.5 inches) were removed from the LDS. No rainfall occurred prior to this pump-out period. The decreasing amount of water removed in the LDS indicates that the quantity of water refilling the LDS is limited, at least during the dry season, otherwise the LDS would have refilled to approximately 1 foot between each pump-out event.

To re-evaluate potential contribution of water in the LDS from the nearby sewer line located approximately 1.5 feet north of the LDS, a water sample was collected during this first pump-out event on September 25, 2003 and analyzed for fecal and total coliform. The data were reported as Most Probable Number per 100 milliliters (MPN/100mL), with total coliform at 240 MPN/100mL and fecal coliform at 8 MPN/100mL. Based on these values, it does not appear that the sewer line is the primary source of water in the LDS, but some minor leakage from the sewer line occurs, and the backfill of the sewer line and the LDS are probably connected.

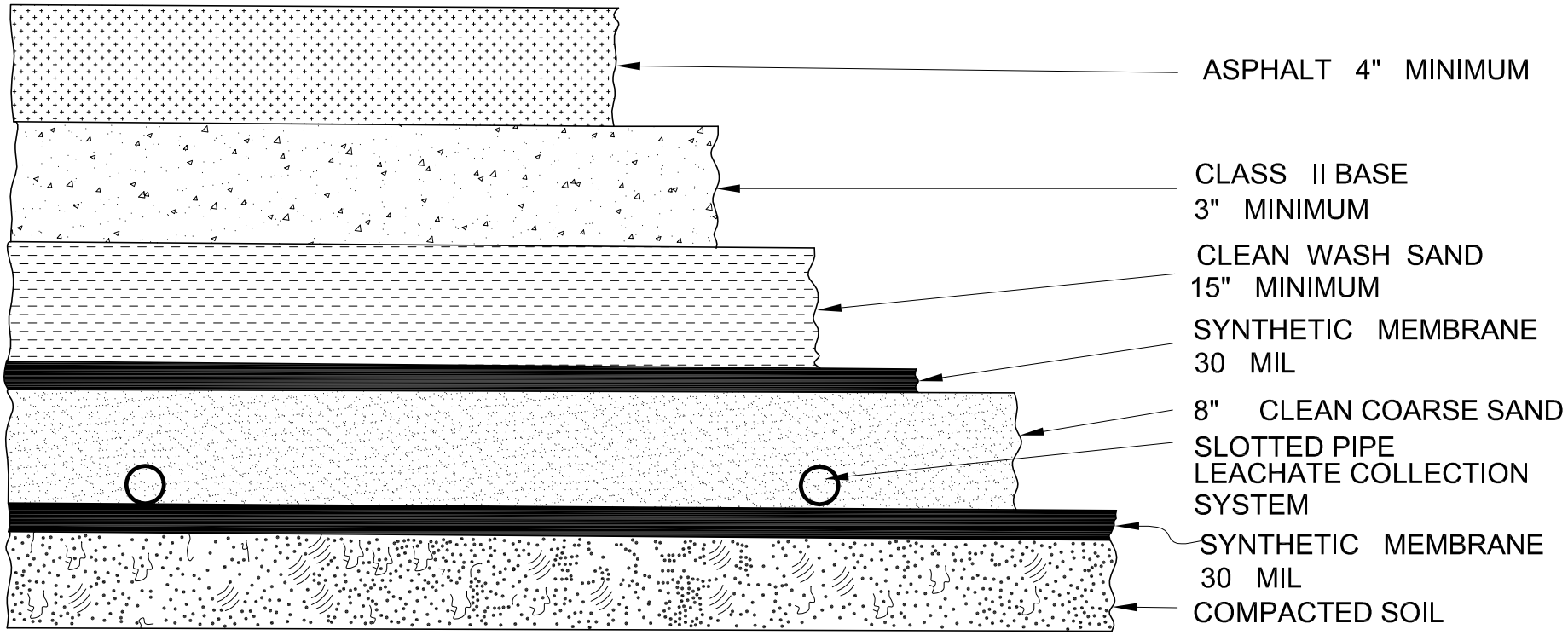
On October 7, 2003, URS simulated a controlled rainfall event on an open dirt area located approximately 3 feet north of the LDS along the north property line. An area approximately 20 feet in length (parallel to the property boundary) and 5 feet in width, nearest the LDS, was bermed with sand bags. Approximately 275 gallons of water mixed with a fluorescein tracer dye was poured to the bermed area, creating standing water that was equivalent to a 4.5-inch rain event. On October 13, 2003, six days following the simulated rain event, the LDS was inspected. The LDS contained approximately 2.8 inches of water, but the flourescein dye was not observed in the water.

To further assess the potential presence of water in the LDS backfill and adjacent unpaved area, two temporary piezometers were installed near the LDS on December 9, 2003. The results of the shallow subsurface monitoring are described in the URS Technical Memorandum, dated April 19, 2004.

Based on the observations, storm water from rain events and/or potable water from site irrigation are considered the most likely sources of the water present in the LDS. Water is assumed to accumulate in the more permeable backfill surrounding the nearby sewer line, LDS, and the PVC header pipe. The presence of fecal coliform in the water also indicates that some minor leakage from the sewer line is present that infiltrates the LDS.

The height of the standing water in the LDS is generally between 9 and 13 inches. This level indicates that a significant contribution of the water is not from water originating above the upper moisture barrier. If water were infiltrating through the upper moisture barrier and collecting in the leachate collection system to flow into the LDS, the water level in the sump would continue to rise because the majority of the upper moisture barrier is at a higher elevation than the LDS.

No modifications to the LDS or associated collection piping are currently recommended.



CAP AND MOISTURE BARRIER PROFILE

Project No.:	Date:	Project:	Figure
29864170	OCTOBER 2007	POST-CLOSURE PERMIT RENEWAL APPLICATION SQUARE D COMPANY NORTH POST-CLOSURE AREA 1060 EAST 3RD STREET BEAUMONT, CALIFORNIA	C-1

DRAWING I:\29864170.07 - Square D Company\September 2007\figure C-1_Cap & Moisture Barrier Profile.dwg

URS

D. SECURITY

Adequate security must be provided at the site per 22 CCR 66264.14 and 66270.14(b)(4). This consists of fences, barriers, warning signs, or other means to control entry into the NPCA.

D.1 SECURITY REQUIREMENTS

D.1.a Waiver and Injury to Intruder

Square D Company is not requesting a waiver. Security measures are described below.

D.1.b Security Procedures and Equipment

The NPCA is located within a security fence, as shown in Figure B-3. Site photographs are provided in Appendix 3. The fence is an artificial barrier that completely surrounds the NPCA to prevent unauthorized entry. An additional 8-inch high asphalt berm inside the fence line further limits vehicle access onto the site.

On the northern and western sides of the NPCA, the fence is constructed of galvanized steel with 3-inch diameter galvanized steel posts set in concrete foundations. The fence is 6 feet high and the posts are set at approximately 50-foot intervals. Three strings of barbed wire are located at the top of the fence. Currently, temporary fencing is set up along the southern and southeastern boundaries of the site. Upon approval of the Post-Closure Permit Renewal Application, the temporary fencing will be replaced with new, permanently installed fencing per a separate work plan provided in Appendix 13. In addition, the temporary gate on the northeastern side of the NPCA will be replaced with a permanent gate that can be locked.

The NPCA has two entry points. Warning notices are posted at the southwest and east gate entry to the NPCA stating, “Trucks Not Permitted.” Additional warning notices are painted on the asphalt cap along the north and south sloped area stating, “Post-Closure Care Area – Unauthorized Personnel Keep Out” in letters that are a minimum of 12-inches high.

The site is also monitored 24 hours per day by a series of security cameras. Once the new permanent fencing and gate are installed, operation of the camera surveillance system may be discontinued since the locked gates will provide controlled access to the site.

D.2 EMERGENCY PREPAREDNESS

Although Square D Company discontinued manufacturing operations and generation of hazardous wastes at the Facility in 1990, a Contingency Plan has been prepared for emergencies related to the NPCA. The Contingency Plan applies to those activities under the direct control of Square D Company and does not apply to the operations preformed by Priority Pallets Company at the NPCA. A copy of the Contingency Plan is provided in Appendix 14.

D.2.a Emergency Equipment

The following emergency equipment will be present during all on-site groundwater monitoring activities:

- First aid kit
- Portable eye wash bath, capable of 15 minutes of flushing
- Air horns for emergency evacuation signals
- Fire extinguisher with a minimum rating 2A; -40BC
- Liquid spill absorbent barriers/pillows and plugging/diking materials
- Flashlights, shovels, and other tools
- Plastic sheeting, minimum 6-mil thickness
- U.S. Department of Transportation approved 55-gallon drums
- Personal protective equipment (hard hats, gloves, safety goggles, etc.)
- Portable cellular telephone
- Containers for placing disposable contaminated materials and clothing

D.2.b Testing and Maintenance of Equipment

The fence and warning signs will be inspected on a monthly basis. Observation of damage caused by vandals, animals, or natural causes will be recorded on the monthly inspection form. Should repairs be required, the report will identify the needed repair and provide space to document that a previously noted deficiency has been repaired. Any intermediate emergency repair measures will also be noted. The inspector will review the following NPCA security features during the inspection:

- Condition of fence posts and support rails
- Condition and coverage of fencing fabric
- Operation of site lighting
- Operation of security cameras (if operational)
- Visibility and condition of warning signs
- Potential tunneling under fencing by animals
- Potential erosion under fencing
- Damage to gates and locks

All emergency equipment used at the NPCA will be cleaned, inspected, and replenished as needed, after each use. Equipment inspection records will be retained.

D.2.c Water and Fire Control

Not applicable. There are no water or fire controls systems at the NPCA.

D.2.d Documentation of Arrangements

The revised Contingency Plan was submitted to the following agencies (addresses provided in the Plan):

- Beaumont Police Department
- Beaumont Fire Department
- California Highway Patrol
- San Gorgonio Pass Memorial Hospital
- Riverside County Fire Department
- County of Riverside

D.2.e Equipment and Power Failure

Once the new permanent fencing and gate are installed, operation of the camera surveillance system may be discontinued since the locked gates will provide controlled access to the site. Thus, if a power failure occurs at the site, controlling entry to the NPCA will not be affected.

E. FINANCIAL RESPONSIBILITY

E.1 COST ESTIMATES

Per 40 CFR 264.144, the owner or operator of a HW management unit must have a detailed written estimate, in current dollars, of the annual cost for post-closure monitoring and maintenance of the NPCA in accordance with the applicable post-closure regulations.

The estimated annual cost for post-closure maintenance of the NPCA is approximately $35,100 in 2007 dollars. These costs include monthly visual inspections of the site, annual groundwater monitoring of the site wells, preparation of an annual report summarizing the groundwater data, and maintenance and repair of the asphalt cap and fencing. The total estimated annual costs for post-closure maintenance of the NPCA are described in Table E-1 and are summarized as follows:

Groundwater Sampling	$11,600
Groundwater Analyses	$4,300
Annual Data Report Preparation	$7,050
Monthly Inspections	$8,500
Maintenance and Repairs	$3,600
Contingency (25%)	$8,800
Annual Estimated Post-Closure Cost	$43,850 (2007 dollars)
Total Estimated Post-Closure Cost	**$526,500 (2007 dollars through Year 2018)**

The Total Estimated Post-Closure Cost is calculated by multiplying the Annual Estimated Post-Closure Cost by the number of years remaining of post-closure care required under 40 CFR 264.117 and considering an annual inflation rate. Post-closure care for a HW management unit subject to the requirements of Sec. Sec. 264.117 through 264.120 must begin after completion of closure of the unit and continue for 30 years after that date. Based on the existing Post Closure Permit, post-closure care is assumed to be terminated in Year 2018. Thus, approximately 10 years remain for post-closure, and this number was used in calculating the Total Estimated Post-Closure Cost.

The cost estimates are based on the following assumptions:

- Unit costs were obtained, where possible, from current actual operating costs and experience, and contractor estimates.
- The unit costs for all post-closure activities are based on the cost of hiring a third party to perform annual maintenance of the NPCA. A third party is someone other than the parent or subsidiary of

the owner or operator. However, it is intended that trained ex-Facility personnel will be used, if available, to conduct the monthly site inspections to maintain continuity in managing the NPCA.

- Groundwater samples will be collected annually from seven monitoring wells at the site over a 2-day period.
- A total of nine groundwater samples will be collected for analyses (i.e., seven wells sampled with one duplicate and one equipment blank).
- The groundwater samples will be analyzed by a California certified analytical laboratory.
- Site inspections are conducted once per month at eight hours per event.
- Asphalt cap repair based on annual repair of a 40-square foot section of the cap, containing minor cracks or erosion.
- Fencing repair based on annual replacement of chain-link material, poles and barb wire over a 50-foot section.
- Costs for asphalt and fencing repair based on 2006 RS Means Building Construction Cost Data.
- Estimates are based on a 4% annual fixed inflation rate over 10 years in 2007 dollars.

Square D Company will adjust the post-closure cost estimate annually for inflation, and/or other factors, in accordance with 40 CFR 264.142(b). Square D Corporation will make this adjustment within sixty (60) days prior to the anniversary date of its closure financial assurance mechanism.

Square D Company will also revise the post-closure cost estimate as necessary in accordance with 40 CFR 264.142(c), within 30 days of any modification of the Post-Closure Plan that results in a change in the costs required to maintain the NPCA.

E.2 FINANCIAL RESPONSIBILITY MECHANISMS

Under 40 CFR 270.14(b)(15) and (16), 264.143, 264.145, 264.197(c)(4) and (c)(5), an owner or operator must establish financial assurance for post-closure care of the NPCA based on the most current post-closure cost estimate. Square D Company has established a Standby Post-Closure Trust Fund Agreement with the Bank of Commerce in Atlanta, Georgia. The Trust Fund is funded with an irrevocable standby letter of credit. The Trust Fund agreement and the irrevocable standby letter of credit are included in Appendix 6.

The wording of the agreement is in compliance to the wording specified in 40 CFR 264.151(a)(1). The amount of the line of credit is $2,466,000, which exceeds the Total Estimated Post-Closure Costs required for the site. The irrevocable standby letter of credit will be renewed annually. The irrevocable standby letter of credit will also be adjusted, if needed, to reflect any changes in the anticipated post-closure costs.

TABLE E-1
ESTIMATED
ANNUAL MAINTENANCE COSTS
North Post-Closure Area
Square D Company
Beaumont, California

TASK	UNITS	RATE	SUBTOTAL	HANDLING	TOTAL
GROUNDWATER SAMPLING					
Preparation - Project Scientist	4	$140	$560		$560
Preparation - Scientist	4	$100	$400		$400
Sampling - Scientist	28	$100	$2,800		$2,800
Sampling Assistance - Senior Scientist	12	$100	$1,200		$1,200
Subsistence/Expenses	1	$120	$120	0.10	$132
URS Vehicle (day)	2	$75	$150		$150
YSI Meter	2	$125	$250	0.10	$275
Water Level Meter	2	$25	$50	0.10	$55
Turbidity Meter	2	$35	$70	0.10	$77
Miscellaneous/H&S	2	$100	$200		$200
West Hazmat Purging (hour)	22	$140	$3,080	0.10	$3,388
Portable Water Trailer	2	$150	$300	0.10	$330
Mob/Demob	1	$300	$300	0.10	$330
Tubing (foot)	1750	$1	$1,400	0.10	$1,540
Perdiem	1	$120	$120	0.10	$132
				SUBTOTAL	$11,569
GROUNDWATER ANALYSES					
TDS by SM 2540C	9	$12	$108	0.10	$119
Hardness by SM 2340C	9	$12	$108	0.10	$119
Conductivity by SM 2510B	9	$10	$90	0.10	$99
Hex Chromium by EPA 218.6	9	$110	$990	0.10	$1,089
Total Cr by EPA 6020	9	$22	$198	0.10	$218
Sb, As, Ba, Ca, Cr, Cu, Mg, Pb, Ni, Zn by 6020 and Hg by 7470A	9	$175	$1,575	0.10	$1,733
Phosphorous by SM 4500 P B/E	9	$50	$450	0.10	$495
Sulfate by EPA 300.0	9	$25	$225	0.10	$248
Alkalinity by SM 2320B	9	$20	$180	0.10	$198
				SUBTOTAL	$4,316
ANNUAL REPORT PREPARATION					
Prinicipal Scientist	10	$160	$1,600		$1,600
Project Scientist	16	$140	$2,240		$2,240
Staff Scientist	28	$72	$2,016		$2,016
Data Validation-Senior Scientist	6	$100	$600		$600
Administrator	6	$65	$390		$390
Reproduction	2	$100	$200		$200
				SUBTOTAL	$7,046
MONTHLY SITE INSPECTIONS					
Staff Scientist	96	$72	$6,912		$6,912
Administrator	24	$65	$1,560		$1,560
				SUBTOTAL	$8,472
MAINTENANCE AND REPAIRS					
Grind and Remove Asphalt Crack Area	Lot	$500	$500		$500
Fill Cracked Areas	Lot	$150	$150		$150
New Asphalt Pavement Placement (sq yard)	40	$30	$1,200		$1,200
Slurry Seal (sq yard)	40	$2	$80		$80
Trucking Surcharge	Lot	$250	$250		$250
Replacement of Chain Link Fencing (foot)	50	$30	$1,500		$1,500
				SUBTOTAL	$3,680

TOTAL ESTIMATED ANNUAL POST CLOSURE COSTS	$35,083
CONTINGENCY (25 PERCENT)	$8,771
NET TOTAL ESTIMATED ANNUAL POST CLOSURE COSTS	**$43,854**

F. INSPECTION AND MAINTENANCE

F.1 CLOSURE STRUCTURES

The following section describes the surface impoundments, previously operated at the Facility that are within the NPCA, and the current inspection and maintenance procedures.

F.1.a List of Wastes in Former Settling Ponds

Process Ponds 1 and 3 were components of the Facility process operations and were not used to manage HW. However, these two process ponds, due to their proximity to the other settling basins, are included in the NPCA.

Process Pond 1

Process Pond 1 was previously used to store excess treated copper plating rinse water for recirculation to the Facility electroplating operations. Treated rinse waters stored in Process Pond 1 could have contained dilute levels of metals at concentrations relatively lower than those listed for Process Pond 2. Process Pond 1 was not used for HW management. The rinse waters were treated and recycled back into the Facility operations.

Process Pond 2

Process Pond 2 was previously used to store wastewater from electroplating operations prior to pumping to the lime neutralization plant. Approximately 20,000 gallons per day of wastewater flowed to Process Pond 2. A typical chemical analysis of this wastewater was as follows:

Copper	1,000 mg/L
Zinc	600 mg/L
Chromium	50 mg/L
Arsenic	35 mg/L
Antimony	10 mg/L
pH	2.0 - 2.5

Process Pond 2 was a HW management unit, as the stored wastewater was treated and disposed under a POTW permit.

Process Pond 3

Process Pond 3 was previously used to store concentrated copper sulfate solutions for chemical adjustment and recirculation to the Facility electroplating operations. Copper sulfate solutions stored in Process Pond 3 had metal concentrations in excess of those listed for Process Pond 2. Process Pond 3 was not used for HW management.

North and South Settling Ponds

The North and South Settling Ponds were used as HW management units for dewatering F006 metal hydroxide sludge generated from the Facility's wastewater treatment operations. Wastewater from electroplating operations was pumped to Process Pond 2 for temporary storage, followed by treatment by the lime neutralization plant, and then pumped to a clarifier for solids separation. The residual waters collected in each pond were decanted, collected, and discharged to the POTW. The collected sludge was discharged to the North or South Settling Ponds. When one pond was full of sludge, slurry flow was diverted to the other. The sludge was allowed to dry over a 6-month period. After drying, the filter cake sludge was removed and sold to Inspiration Copper, a copper smelter in Globe, Arizona. This activity continued until 1983.

Approximately 700 tons per year of metal hydroxide sludge was generated. A typical chemical analysis (dry weight) for the copper hydroxide sludge sent off-site for recycling was as follows:

Copper	14.4 percent
Zinc	8.9 percent
Chromium	110 mg/L
Arsenic	0.2 percent
Antimony	10.1 percent
Lead	55 mg/L

Barium Pond

The Barium Pond was used as a HW management unit to store barium sulfate sludge prior to off-site disposal. The barium sulfate sludge was generated from the treatment of wastewater to remove sulfate to meet a POTW discharge limit. Barium acetate solution was mixed with the wastewater effluent from the lime neutralization plant to form a barium sulfate precipitate. Approximately 70 tons per year of barium sulfate sludge was generated.

A typical chemical analysis for this sludge was as follows:

Copper	0.8 percent
Zinc	0.5 percent
Chromium	53 mg/L
Arsenic	165.6 mg/L
Antimony	95.1 mg/L
Lead	13.3 mg/L

Carbon Pond

The Carbon Pond was used as a HW management unit to store AC and DE sludge generated from adsorption and filtering of plating solutions to remove suspended solids and organics. Approximately 30 tons per year of AC and DE sludge were generated. A typical chemical analysis for this sludge was as follows:

Copper	2.7 percent
Zinc	0.3 percent
Chromium	90 mg/L
Arsenic	440 mg/L
Antimony	0.65 percent
Lead	2.1 percent

F.1.b Certificate of Closure

The surface impoundments were closed in accordance with the Closure Plan submitted to the DTSC on May 20, 1988 and implemented in October 1988. A copy of the Certification of Closure and the DTSC Certification of Acceptance of Closure are included in Appendix 7.

F.2 INSPECTION AND MAINTENANCE PLAN

This section describes the inspections to be conducted during the Post-Closure care period, their frequency, the inspection procedure, and the records that are kept.

F.2.a Inspection Schedule

The NPCA is inspected once per month.

F.2.b Inspection Description

The monthly inspection consists of a visual inspection of the site, including a review of the security, asphaltic cap, leak detection sump, and monitoring wells. The monthly inspection reviews the general condition and integrity of the asphaltic cap, fencing, and monitoring well surface structures, including the surface grout seal and exposed well casing.

Annual groundwater monitoring is conducted to monitor the groundwater quality beneath the NPCA. Monitoring is conducted according to the procedures identified in the WQSAP. The WQSAP is included in Appendix 5.

F.2.c Inspection Checklist

Results of the monthly site inspections are recorded on the checklist provided in Appendix 4. The results of the monthly inspections are also included in an Annual Groundwater Monitoring Report.

F.2.d Inspection Log

The results of the monthly inspections are also included in an Annual Groundwater Monitoring Report.

F.2.e Inspection Remedial Actions

Any significant damage to the fencing and monitoring wells will be repaired within seven days of the observance. Any identified cracks or erosion of the asphaltic cap will be repaired within 60 days of discovery. No ponding of surface water should be observed on the asphaltic cap.

F.2.f Run-off Control

The NPCA generally slopes to the northeast, providing sheet flow drainage. Storm water run-off from the asphalt cap flows into drainage swales that direct storm water off-site to the east.

A majority of the NPCA boundary is also surrounded by an 8-inch high asphalt berm within the fenced perimeter. This control structure is inspected monthly for cracks or damage. Maintenance and repair activities include, but are not limited to, the removal of debris, repair or replacement of the berm, and repair or replacement of cracks in the asphaltic cap.

F.2.g Run-on Control

Significant run-on to the NPCA is not expected as the asphaltic cap is elevated approximately 2 to 3-1/2 feet above the surrounding grade, minimizing the potential for run-on or for erosion damage from surface water run-on.

F.2.h Cap Maintenance

The monthly NPCA inspection includes a visual inspection of the asphaltic cap. Any identified cracks or erosion of the asphaltic cap will be repaired within 60 days of discovery. No ponding of surface water should be observed on the asphaltic cap.

G. MONITORING REQUIREMENTS

G.1 GROUNDWATER MONITORING PLAN

This section provides a brief summary of the WQSAP, updated in October 2007, which is included in Appendix 5.

The objective of the groundwater monitoring program is to:

- Determine if there is evidence for a release of constituents not previously observed in groundwater from the regulated unit
- Assess the nature and extent of the release from the regulated unit, including monitoring for changes in contaminant concentrations/water quality
- Determine if the release from the regulated unit is migrating off-site
- Determine if additional action is required to evaluate changes in groundwater conditions (increase sampling frequency, install new wells, etc.)
- Design a corrective action program to implement remedial measures, if necessary

G.1.a Purpose of Plan

The purpose of the WQSAP is to describe the specific groundwater sampling, analytical, and data evaluation procedures that will be followed for the NPCA. The WQSAP also provides response procedures to be conducted in the event that concentration limits or notification levels specified in the WQSAP and Post-Closure Permit are exceeded.

G.1.b Waste Management History

The NPCA includes seven previous surface impoundments, including the North and South Settling Ponds; Process Ponds 1, 2, and 3; Barium Pond; and the Carbon Pond. See Section F. for additional information regarding the wastes previously stored in each of the surface impoundments.

G.1.c Uppermost Aquifer

The site is situated geographically in the San Gorgonio Pass in an area of relatively low topographic relief, which is bounded to the south by the San Jacinto Mountains and to the north by the San Bernardino Mountains. Groundwater in the San Gorgonio Pass occurs mainly in two distinct alluvial units identified as older and younger alluvium (Boyd, 1971). The older alluvium is comprised of poorly sorted gravel, sand, silt, and clay believed to be Pliocene and Pleistocene age. The younger alluvium consists of angular boulders, cobbles, and sand with lesser amounts of silt and clay. The younger alluvium is Holocene age, generally more permeable, and where saturated, yields water more readily to wells than the older alluvium (Boyd, 1971). However, the younger alluvium is not present at the facility, as mapped by Boyd.

The saturated zone consists mainly of stringers of silty/clayey sand and gravel, embedded in a relatively impermeable fine-grained medium, partially cemented with calcite (Dames & Moore, 1993). Due to the fine-grained and partially-cemented nature of the saturated zone, the groundwater yield is very low and the wells can be bailed dry easily. Groundwater levels rose in most of the wells by up to about 10 feet, indicating a confided condition. Prior to encountering groundwater in the borings, a hard calcite cemented fine-grained zone was observed. This cemented zone seems to act as the confining layer. No perched groundwater zone was encountered in any of the wells installed.

G.1.d Nature and Extent of Plume

The 2006 Annual Groundwater Monitoring Report (URS, 2007), which documents the most recent groundwater sampling event, is included in Appendix 8. Based on the analytical results, there appears to have been a release of metals and salts from the former surface impoundments, specifically total and hexavalent chromium and sulfate. These constituents are being monitored to ensure that they do not exceed the established concentration limits and notification levels.

The hexavalent chromium (Cr^{VI}) concentrations in the wells have remained relatively steady since August 1993 (URS, 2007). In downgradient Well SDB-1, a gradual increase in concentration by about 0.006 mg/L was observed between December 1996 and September 1998 (0.009 to 0.015 mg/L); however, since then, the Cr^{VI} concentration in Well SDB-1 has been very steady (varying by only 0.0002 to 0.003 mg/L). In downgradient Well SDB-4, Cr^{VI} concentrations gradually decreased from 0.015 mg/L in 1995 to about 0.009 in 2003, 2004, and 2006. In downgradient Well SDB-5, Cr^{VI} concentrations fluctuated between 0.007 and 0.013 mg/L between 1994 and 2000, but have remained steady at 0.007 to 0.008 mg/L for the past six years.

The lateral extent of Cr^{VI} impact to groundwater associated with the NPCA is depicted in Figure G-1. In addition to the 2006 Cr^{VI} concentrations, (except for Well Y-7 which is screened at a deeper interval), data obtained in 1997 from Wells Y-1, Y-4, and Y-6, and in 1995 from Wells SDB-2 and SDB-3, were used to delineate the plume. The highest Cr^{VI} concentrations are from Wells SDB-1, SDB-4, and SDB-5, located at the northern edge of the former settling ponds of the NPCA. The concentration attenuates outward in all directions to the background level of approximately 0.003 mg/L. The 2006 Cr^{VI} isoconcentration map is essentially unchanged from the 2005 map, reiterating the consistency of the Cr^{VI} data.

In 2006, sulfate concentrations were similar to the 2005 levels for each of the wells, with slight increases in downgradient Wells SDB-1 and SDB-5, and slight decreases in downgradient Wells SDB-4 and SDB-6B (URS, 2007). Overall, sulfate concentrations have remained relatively constant in most of the wells since April 1993, with only a few fluctuations. Noted trends include a steady increase for Well SDB-1 from 1993 to 1998, with concentrations leveling off between 130 and 170 mg/L over the past nine years. Additionally, sulfate concentrations significantly decreased in Well SDB-5 from 1997 to 2001 (110 to 52 mg/L) and in Well SDB-4 from 2000 to 2003 (170 to 80 mg/L).

The lateral extent of sulfate impact to groundwater associated with the NPCA is depicted in Figure G-2. In addition to the 2006 sulfate concentrations (except for Well Y-7 which is screened at a deeper interval),

data obtained in 1997 from Wells Y-1, Y-4, and Y-6, and in 1995 from Wells SDB-2 and SDB-3, were used to delineate the plume. The highest sulfate concentrations are located along the downgradient (northern) edge of the NPCA in Wells SDB-1 and SDB-4. These relatively high concentrations are divided by a low sulfate concentration at SDB-5 of 39 mg/L. North of Well SDB-4 and the NPCA, sulfate concentrations attenuate to 41 mg/L at Well SDB-6B. The 2006 sulfate isoconcentration map is similar to the 2004 and 2005 maps, with only a slight decrease in the size of the 100 mg/L isoconcentration contour.

G.1.e Analytical Parameters

Three groups of parameters are monitored at the Facility as part of the groundwater monitoring program. These include:

Group (1) – Field Parameters and Groundwater Elevation
Group (2) – Groundwater Monitoring Parameters
Group (3) – Constituents of Concern

These parameters are based on regulatory requirements, as identified in Title 22 Section 66264.98 and 66264.99. The monitoring parameters were developed after considering the following factors:

- Types, quantities, and concentrations of constituents in wastes managed at the regulated units
- The mobility, stability, and persistence of the waste constituents or their reaction products
- The detectability of physical parameters, waste constituents, and reaction products
- The background values and the coefficients of variation of proposed monitoring parameters in the groundwater
- The list of suggested detection monitoring analytes presented in Appendix VI of Title 22 Section 66264
- Existing groundwater chemical analysis data
- Constituents found in closure area soils at elevated concentrations

Group (1) - Field Parameters and Groundwater Elevation

The field parameters to be measured per CCR Title 22 Section 66264.97(e)(13) include:

- Temperature
- Specific conductance (electrical conductivity)
- pH
- Turbidity

In accordance with accepted low-flow sampling procedures described in *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (Puls and Barcelona, 1996), dissolved oxygen (DO) and oxidation-reduction potential (ORP) will also be measured. In the event bailers are used for groundwater sampling due to equipment failure or excessive drawdown, which prevent the use of low-flow methodologies, DO and ORP will not be monitored.

Field parameters will be measured at each monitoring well during purging activities to evaluate when groundwater quality has stabilized and when groundwater sampling should commence. Temperature will be recorded in Celsius degrees (^{o}C), specific conductance in units of micromhos per centimeter (µmhos/cm), pH in standard 0.0 to 14.0 scale units, turbidity in nephelometric turbidity units (NTUs), DO in mg/L, and ORP in millivolts (mV).

Groundwater elevations in site wells and piezometers will be measured to evaluate groundwater flow rate and direction prior to purging and sampling of the groundwater monitoring wells**.**

Group (2) - Groundwater Monitoring Parameters

The groundwater monitoring parameters for which the groundwater samples will be analyzed and the data evaluated include:

- Chromium, Hexavalent (Cr^{VI})
- Chromium, Total
- Hardness
- Specific Conductance
- Sulfate
- Total Dissolved Solids (TDS)

The monitoring parameters include those constituents present in site groundwater at concentrations elevated above background levels that are useful in assessing the extent and mobility of the groundwater contamination.

Sampling and analyses for the monitoring parameters will be conducted on an annual basis. The sampling frequency and the list of monitoring parameters may be modified upon approval from the DTSC. This will be accomplished by submitting a request for modification letter to the DTSC for review and approval prior to implementing the modifications. If DTSC determines that the WQSAP revisions necessitate modification of the Post-Closure Permit, the permit will be modified following the requirements identified in Section 66270.41 of the CCR Title 22, Chapter 20, Article 4.

Groundwater samples will be collected from the wells constituting the approved groundwater monitoring system, which is currently upgradient Well Y-3, lateral downgradient assessment Wells SDB-1, SDB-4, and SDB-5, off-site lateral downgradient assessment Wells SDB-6B and SDB-7 (upon installation), and deeper vertical downgradient assessment Well Y-7.

The monitoring parameters will be reported in units of mg/L, other than specific conductance, which will be reported in μmhos/cm. Evaluation of the groundwater monitoring data will be performed on an annual basis in accordance with the WQSAP.

Group (3) - Groundwater Constituents of Concern

The constituents of concern are those waste constituents that are expected to be in or derived from the waste that was previously stored in the NPCA and to which the requirements of Title 22 Section 66264.93 apply.

Square D Company provided a revised Summary of Operations to DTSC on November 5, 1993. The Summary of Operations provides a description of the facility processes and associated waste products. The material provided in the Summary of Operations provides the basis upon which the constituents of concern were selected.

The constituents of concern for which the groundwater samples at the NPCA are analyzed and the data evaluated include:

- Alkalinty (carbonate)
- Antimony
- Arsenic
- Barium
- Calcium
- Chromium, Hexavalent
- Chromium, Total
- Copper
- Lead
- Magnesium
- Mercury
- Nickel
- Phosphorous
- Specific Conductance
- Sulfate
- TDS
- Zinc

These constituents of concern take into account the waste constituents, reaction products, and hazardous constituents expected to have been in or derived from wastes contained within the NPCA as well as elevated levels of constituents found in the NPCA soils (SNR Company, 1992).

G.1.f Concentration Limits For Point-of-Compliance Wells

If concentrations at lateral downgradient assessment Wells SDB-6B and SDB-7 (when installed) and vertical assessment Well Y-7 exceed the following concentration limits as established by the California Regional Water Quality Control Board, Santa Ana Region (RWQCB-SNA) and DTSC and presented in the Post-Closure Permit, then a further course of action should be taken, as described in Section 10.1.2 of the WQSAP:

Parameter/Constituent	Concentration Limit
Hexavalent Chromium	0.026 mg/L
Total Chromium	0.05 mg/L
Hardness	240 mg/L
Specific Conductance	900 µmhos/cm
Sulfate	75 mg/L
TDS	490 mg/L
Zinc	5 mg/L

The concentrations limits for total chromium, sulfate, TDS, and zinc were established by the RWQCB-SNA using water quality objectives described in their Basin Plan. The concentration limit for hexavalent chromium is based on a calculated site-specific health risk exposure of 1.0E-04 per the DTSC-approved *Development of Site-Specific Groundwater Risk-Based Cleanup Levels for Hexavalent Chromium* (Foster Wheeler Environmental Corporation, 1996). The concentration limit for specific conductance was based on established California drinking water standards (secondary Maximum Contaminant Levels [MCLs]).

In addition, if the following constituents are detected in Wells SDB-6B, SDB-7, and Y-7 and exceeds the following "notification limits," which approach or equal background concentrations (or imported water quality for calcium and magnesium), then Square D Company will notify DTSC of the findings, as described in Section 10.1.2 of the WQSAP:

Parameter/Constituent	Notification Level
Antimony	0.005 mg/L
Arsenic	0.005 mg/L
Barium	0.2 mg/L
Calcium	80 mg/L
Copper	0.005 mg/L
Lead	0.006 mg/L
Magnesium	30 mg/L
Mercury	0.0006 mg/L
Nickel	0.01 mg/L
Phosphorous	1.0 mg/L

G.1.g Notification Levels For Other Monitoring Wells

If concentrations in samples from point-of-compliance Wells SDB-1, SDB-4, or SDB-5, or upgradient Well Y-3 exceed the following "notification levels" established by DTSC, then a further course of action as described in Section 10.2.2 of the WQSAP should be taken:

Parameter/Constituent	Notification Level
Antimony	0.005 mg/L
Arsenic	0.005 mg/L
Barium	0.2 mg/L
Calcium	80 mg/L
Hexavalent Chromium	0.026 mg/L
Total Chromium	0.05 mg/L
Copper	0.005 mg/L
Hardness	300 mg/L
Lead	0.006 mg/L
Magnesium	30 mg/L
Mercury	0.0006 mg/L
Nickel	0.01 mg/L
Phosphorous	1.0 mg/L
Specific Conductance	900 µmhos/cm
Sulfate	250 mg/L
Total Dissolved Solids	660 mg/L
Zinc	5 mg/L

The "notification levels" are based on: 1) approach or equal background concentrations; 2) values established by the RWQCB-SNA using water quality objectives described in their Basin Plan; or 3) values based on established California drinking water standards (primary or secondary MCLs). The concentration limit for hexavalent chromium is based on a calculated site-specific health risk exposure of 1.0E-04 per the DTSC-approved *Development of Site-Specific Groundwater Risk-Based Cleanup Levels for Hexavalent Chromium* (Foster Wheeler Environmental Corporation, 1996).

G.1.h Monitoring Program Description

Monitoring wells comprising the current groundwater monitoring system at the NPCA will be sampled and analyzed for Group 1 and Group 2 parameters on an annual basis, generally during the month of September. Square D Company will notify DTSC of the sampling schedule at least 2 weeks prior to the sampling event. The wells will also be sampled and analyzed for Group 3 parameters (constituents of concern) every 3 years.

The frequencies of analysis for the groundwater at the NPCA will be maintained throughout the Post-Closure care period, unless conditions arise indicating that a different sampling schedule is more appropriate. These conditions may include demonstrated changes (or lack of change) in groundwater flow rate and/or groundwater quality monitoring data.

Following completion of the scheduled groundwater sampling event and associated data review, Square D Company may request to modify the sampling schedule and/or the parameters to be sampled. Square D

Company will submit requested WQSAP modifications to the DTSC for review and approval prior to implementing modifications. If DTSC determines that the WQSAP revisions necessitate modification of the Post-Closure Permit, the permit will be modified following the requirements identified in Section 66270.41 of the CCR Title 22, Chapter 20, Article 4.

In addition to annual sampling, the monitoring wells will be inspected on a monthly basis as part of the NPCA inspection program. For each well, the inspection will make note of the general well location conditions and integrity of the well completion, including surface grout seal. Any significant damage of the wells will be repaired within seven days of observance. Results of the monthly well inspections will be included in the annual Groundwater Monitoring Report. Severe problems (e.g., buried wells) will be reported to DTSC in writing within seven days of discovery.

G.1.i Water Quality Sampling and Analysis Plan

The WQSAP was updated in October 2007. It is provided in Appendix 5.

G.1.j Statistical Evaluation Plan

The evaluation of groundwater monitoring data is described in Section 8.0 of the WQSAP.

G.1.k Monitoring System Operation and Maintenance Plan

See Section C for a description of the NPCA monitoring and maintenance procedures.

G.1.l Summary of Existing Environmental Monitoring Data

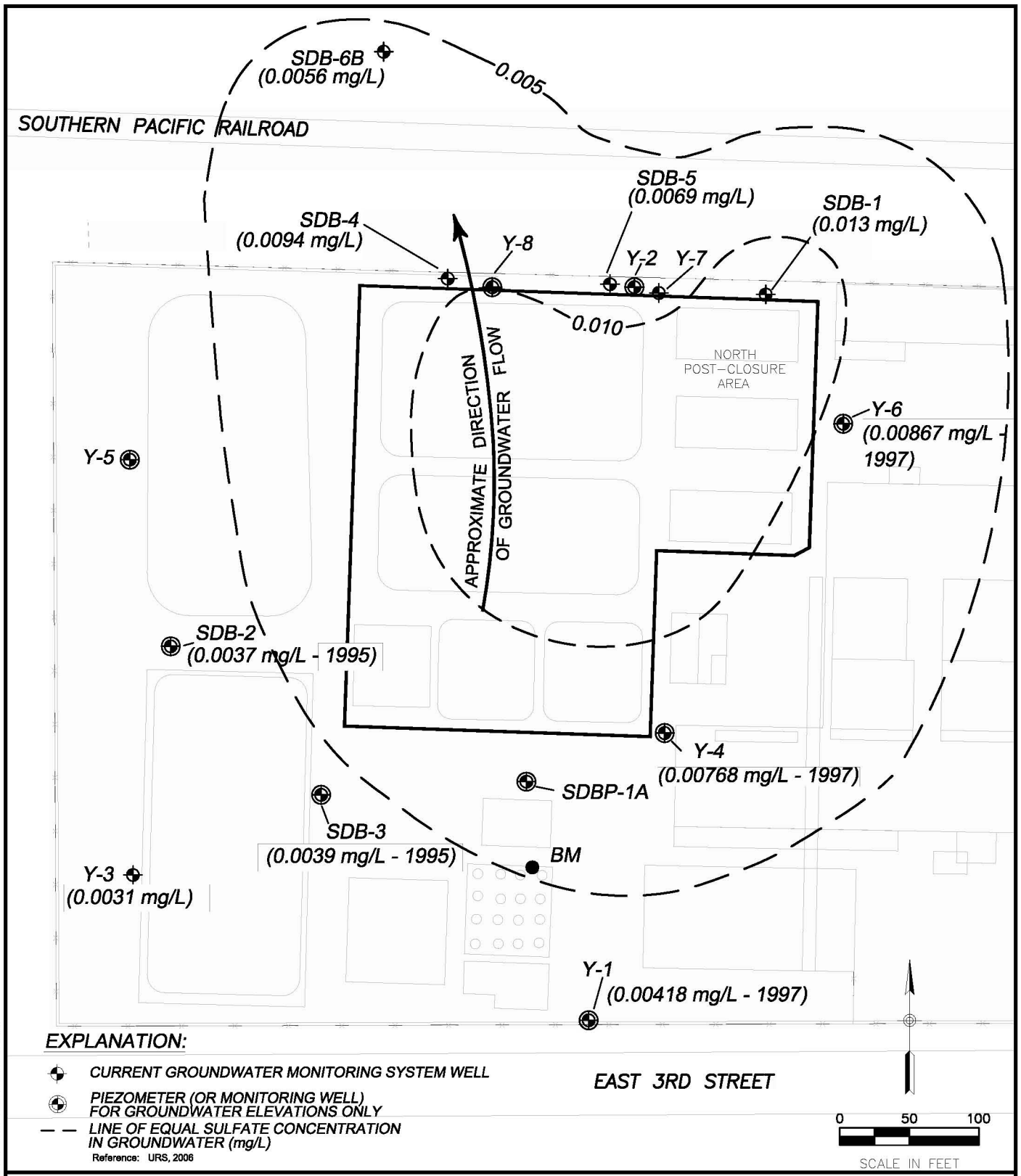
A summary of the existing environmental monitoring data is provided in the 2006 Annual Groundwater Monitoring Report. A copy of the Report is provided in Appendix 8.

G.2 SURFACE MONITORING PLAN

Not applicable. Perennial surface water drainage is not located within several miles of the NPCA.

G.3 VADOSE MONITORING PLAN

Vadose zone (or unsaturated zone) monitoring at the NPCA is considered unnecessary because a release to the site groundwater has already occurred. It is understood that the DTSC reserves the right to require unsaturated zone monitoring if it is determined at a later date that such monitoring may provide additional information necessary to protect human health or the environment.

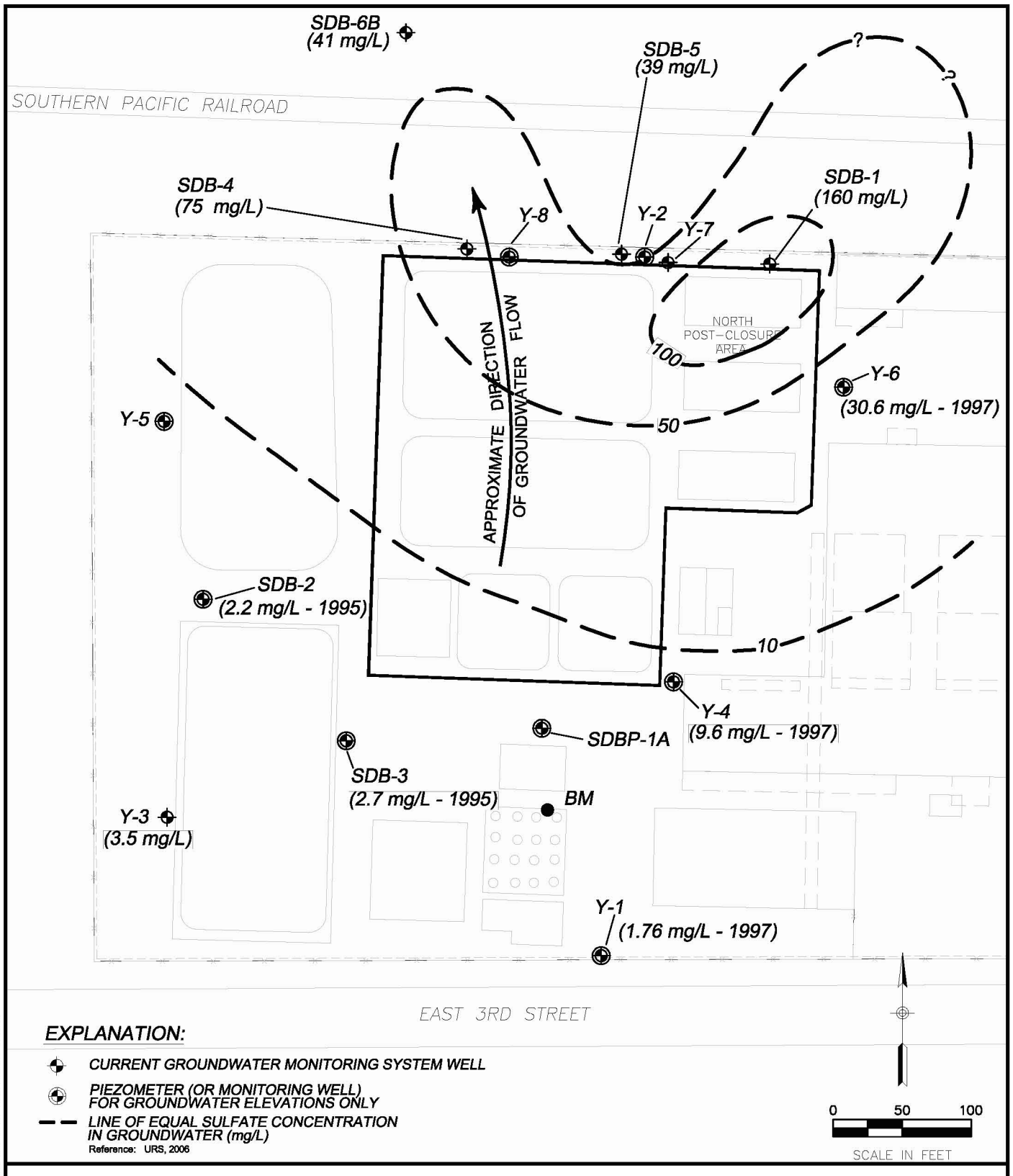


HEXAVALENT CHROMIUM ISOCONCENTRATION MAP

Project No.:	Date:	Project:	Figure
29864170	OCTOBER 2007	POST-CLOSURE PERMIT RENEWAL APPLICATION SQUARE D COMPANY NORTH POST-CLOSURE AREA 1060 EAST 3RD STREET BEAUMONT, CALIFORNIA	G-1

DRAWING I:\29864170.07 - Square D Company\September 2007\figure G-1.dwg

URS



SULFATE ISOCONCENTRATION MAP

Project No.:	Date:	Project:	Figure
29864170	OCTOBER 2007	POST-CLOSURE PERMIT RENEWAL APPLICATION SQUARE D COMPANY NORTH POST-CLOSURE AREA 1060 EAST 3RD STREET BEAUMONT, CALIFORNIA	G-2

URS

DRAWING I:\29864170.07 - Square D Company\September 2007\figure G-2.dwg

H. ENVIRONMENTAL MONITORING & RESPONSE PROGRAMS FOR AIR, SOIL, AND SOIL-PORE GAS

H.1 APPLICABILITY

22 CCR 66264.700(a) states that it, "appl[ies] to owners and operators of permitted facilities that treat, store, recycle or dispose of hazardous waste." The NPCA is not considered to contain any volatile hazardous or non-hazardous constituents of concern; thus, air and soil-pore gas monitoring is not applicable. Requirements for a soil monitoring below the NPCA may be applicable; however, unsaturated zone monitoring is considered unnecessary because a release to the site groundwater has already occurred. It is understood that the DTSC reserves the right to require unsaturated zone monitoring if it is determined at a later date that such monitoring may provide additional information necessary to protect human health or the environment.

I. AIR EMISSION STANDARDS FOR PROCESS VENTS (RCRA SUBPART AA)

I.1 DEFINITION OF PROCESS VENT

As defined in 40 CFR 264.1031 (Subpart AA), a process vent is any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (i.e., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with HW distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations. No such operations previously occurred at the NPCA.

I.2 APPLICABILITY

The federal air emission standards for process vents under RCRA Subpart AA and the equivalent California regulations under Article 27 apply to process vents associated with the distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage RCRA HW, containing organic concentrations of at least 10 parts per million (ppm) by weight. This subsection is not applicable to the NPCA since no process vents or air emission sources were present.

J. AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS (RCRA SUBPART BB)

J.1 GENERAL INFORMATION

The intent of Article 28, Air Emission Standards for Equipment Leaks, is "to ensure that air emission leaks are controlled at new and existing hazardous waste treatment, storage, and disposal facilities." This article only applies to equipment that contains or contacts RCRA HW with organic concentrations of at least 10% by weight. Additionally, Article 28 limits organic emissions from pumps, valves, compressors, sampling connection systems, open-ended valves or lines, pressure-relief devices, flanges, and other connections.

J.1.a Applicability

Article 28 is not applicable to the NPCA since there was no equipment that contained or contacted HW with organic concentrations of at least 10% by weight.

K. AIR EMISSION STANDARDS FOR CONTAINERS, TANKS, AND SURFACE IMPOUNDMENTS (SUBPART CC)

K.1 SUBPART CC AIR EMISSION STANDARDS

The requirements of Article 28.5 apply to owners and operators of all facilities that treat, store, or dispose of HW in tanks, surface impoundments, or containers subject to either Articles 9, 10, or 11, except as 22 CCR 66264.1 and 22 CCR 66264.1080(b) provides otherwise.

K.2 EXEMPT UNITS AND CONDITIONS

As described in 22 CCR 66264.1080(b)(4), the requirements of Article 28.5 do not apply to the following waste management units:

- A surface impoundment in which an owner or operator has stopped adding hazardous waste (except to implement an approved closure plan) and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

The Square D Company permanently closed the Facility in April 1990. No HW was added to the NPCA after April 1990. The Square D Company does not plan to operate the Facility in the future. The NPCA was closed in accordance with an approved Closure Plan, dated May 20, 1988. Therefore, the requirements of Article 28.5 are not applicable to the NPCA.

L. SEISMIC REQUIREMENTS

L.1 MAJOR FAULT ZONES WITHIN THE VICINITY

The greater vicinity around the NPCA is traversed by several fault zones: the San Andreas fault zone-San Bernardino Mountains segment, Banning fault zone, Beaumont Plain fault zone, and San Jacinto fault zone. The Banning and San Andreas faults are right-lateral strike-slip faults of the San Andreas transform system. The San Gorgonio Pass fault zone is a compressional thrust-fault complex. The Beaumont Plain fault complex is an extensional fault zone. The compressional and extensional fault complexes owe their origin and kinematics to complications within the San Andreas transform fault system. Seismic information presented below was extracted from the U.S. Geologic Survey (USGS). Figure L-1 shows the location of the faults within the vicinity of NPCA.

L.1.a San Andreas Fault

The San Andreas fault in the vicinity of the central Transverse Ranges consists of three segments--the Mojave Desert, Coachella Valley, and San Bernardino Mountains. The complex San Bernardino Mountains segment consists of multiple strands that had sequential movement histories. To the northwest and southeast, these strands merge to form the simpler Mojave Desert and Coachella Valley segments. The San Bernardino Mountains segment of the San Andreas fault consists of three paleotectonic strands (the Wilson Creek, Mission Creek, and Mill Creek faults) and a neotectonic strand (the San Bernardino strand). Together, these four strands have generated about 160 kilometers (km) of right-lateral displacement and record the total history of the San Andreas fault since its inception 4 or 5 million years ago.

The Wilson Creek and Mission Creek faults together generated about 130 km of right-lateral displacement during Pliocene and Pleistocene time. The Wilson Creek fault, the older strand, generated about 40 km of displacement before it was deformed into a sinuous trace in the vicinity of the San Bernardino Mountains; this displacement estimate is based on our proposal that the Wilson Creek fault is the offset continuation of the Punchbowl fault in the San Gabriel Mountains—a structure that has about 40 km of right slip documented by other workers.

In Pliocene time, the Wilson Creek strand was succeeded by the Mission Creek strand, which generated the balance of the 130-km displacement before it was deformed and abandoned in late Pleistocene time. The Mill Creek strand subsequently evolved inboard (east) of the locked-up Mission Creek fault and generated about 8 km of right-slip during late Pleistocene time. Ultimately, the Mill Creek strand was abandoned as right-lateral activity shifted to the southwest front of the San Bernardino Mountains, where the neotectonic San Bernardino strand developed. The San Bernardino strand is aligned with the Coachella Valley segment of the Banning fault, but these two neotectonic right-lateral faults are separated by the San Gorgonio Pass fault zone, and it is not clear that they ever formed a single through-going trace between the Coachella and San Bernardino valleys.

L.1.b Beaumont Plain Fault Zone

The Beaumont Plain fault zone is a series of northwest-trending echelon fault scarps that traverse late Quaternary alluvial deposits in the vicinity of Beaumont, California. Most of the scarps face northeast, but one short scarp segment faces southwest. USGS has not documented the style or history of faulting that created these scarps; however, they appear to have formed by normal dip-slip displacements and probably represent an extensional strain field. This interpretation is strengthened by closely spaced northeast- and southwest-facing scarps northeast of Beaumont, which bound a down-dropped block that forms a graben. Similar faults having northwest trends and northeast-facing scarps occur elsewhere in the San Gorgonio Pass region such as scarps that have been referred to the modern trace of the San Andreas fault at Burro Flat and scarps near Oak Glen and Wildwood Canyon. USGS does not understand the kinematics role of these faults, but they may represent a family of related features formed by regional extension.

L.1.c Banning Fault Zone

The Banning fault has had a complex history that includes both left- and right-lateral displacements. During middle Miocene time, the ancestral Banning fault zone may have generated left-lateral displacements that juxtaposed the Peninsular Ranges block against the San Gabriel Mountains block along a regionally extensive fault system that included the Malibu Coast-Santa Monica fault. During late Miocene time, the Banning fault was incorporated into the San Andreas transform system and generated 16 to 25 km of right-lateral displacement. During this period, the Banning probably was the eastward continuation of the San Gabriel fault in the San Gabriel Mountains. The Banning fault was abandoned by the San Andreas system in earliest Pliocene time. In San Gorgonio Pass, the Banning fault has been obscured and reactivated by low-angle quaternary faulting of the San Gorgonio Pass fault zone. In the Coachella Valley, the Banning fault has been reactivated by Quaternary strike-slip faulting related to the San Andreas fault. It has generated about 3 km of right-lateral displacement that largely has been absorbed by convergence within the San Gorgonio Pass fault zone.

L.1.d San Gorgonio Pass Fault

The San Gorgonio Pass fault is comprised of a series of Quaternary reverse, thrust, and wrench faults that extends from the Whitewater area westward to the Calimesa area. This system is associated spatially with the Banning fault, but the evolution of the San Gorgonio Pass fault zone has no relationship kinematically to the paleotectonic Banning fault. The following discussion is based on unpublished mapping still in progress.

The San Gorgonio Pass fault zone has a distinctive zig-zag character caused by repetition of distinctive fault geometry, an L-shaped fault distribution in which the elongate staff of the L is oriented northwestward and the shorter base of the L eastward to northeastward. The east-oriented segments are reverse and thrust faults, with moderately dipping reverse faults in the west half of the fault zone and shallowly dipping thrust faults in the eastern half. The northwest-oriented segments appear to be vertical wrench faults having oblique right-lateral displacements. These segments have approximately the same orientation as active right-lateral faults in the region.

On the east, faults of the San Gorgonio Pass zone first appear a few kilometers west of Whitewater River, where the Coachella Valley segment of the Banning fault splays into multiple north-dipping thrust sheets (Morton and others, 1987). Traced westward, faults of the San Gorgonio Pass zone disappear in the Calimesa area, a region where we identify normal faults of the Crafton Hills horst-and-graben complex and where the San Bernardino strand of the San Andreas fault changes to a more northerly strike. These spatial relations between neotectonic fault complexes having three different kinematic styles (right-lateral strike slip, extension, and contraction) suggest that the fault systems are mechanically interrelated.

Faults of the San Gorgonio Pass zone all are late Quaternary in age. Some faults in the complex may have been active only in late Pleistocene time; others have been active throughout the late Pleistocene and Holocene and have generated ground ruptures as recently as a few thousand years ago (J.C. Tinsley and J.C. Matti, unpubl. trench data, 1986). Faults with confirmed Holocene displacements have been identified only in the eastern part of the San Gorgonio Pass zone between Beaumont and Whitewater. Faults in the western part of the zone between Beaumont and Calimesa appear to have been active only in late Pleistocene time (J.C. Matti and D.M. Morton, unpubl. data). However, future ground ruptures throughout the entire extent of the San Gorgonio Pass fault zone cannot be ruled out.

L.1.e Maximum Considered Earthquake Event

The faults in the vicinity of the NPCA include the San Andreas fault, Beaumont Plain fault zone, Banning fault zone, and San Gorgonio Pass fault. The San Andres fault is considered the dominating fault zone for the NPCA. The other three faults are relatively minor faults compared to the San Andreas fault, but they were noted as potentially active by unpublished reports. However, the State of California has not included them as active faults in the data base and there is no published data for their potential seismicity.

Under a maximum considered earthquake event (MCE), the San Andreas fault is estimated to generate a peak ground acceleration (PGA) of 0.32 g at the NPCA with a maximum earthquake magnitude of 7.4. The PGA is estimated to be 0.59 g for an earthquake event with a return period of 475 years. This level of PGA is higher than that from a MCE, so the relatively higher 0.59 g was used in the analysis of potential dynamic displacement at the NPCA.

The potential seismic displacement at the NPCA for a MCE is as follows.

- Lateral Displacement: The NPCA is relatively flat. The passive pressure coefficient from the soil and the asphaltic cover (lateral resistance) is approximately 3.0 or greater, which is significantly greater than the PGA of 0.59 g. Therefore, there is little to no horizontal displacement of the NPCA under earthquake conditions.
- Vertical Displacement: Liquefaction is not likely for the NPCA because groundwater is at depths below 200 feet bgs.
- Liquefaction Settlement: During a worst case scenario of drainage pipe failures and potential saturation of the subsurface soil, liquefaction-related seismic-induced settlement for a native soil layer over 15 feet below the original surface is calculated to be approximately one inch. Because of the depth of the soil layer, surface manifestation is not expected (see Figure L-2 based on the publication by Ishara, 1985).

- Differential Settlement: Under a MCE, dry sand settlement (dynamic compaction) is estimated to be approximately ¾ inch and will be relatively uniform across the site. Therefore, there is very low probability of differential settlement at the NPCA.
- Surface Damage: Under the asphaltic cover, the NPCA is underlain by about 5 to 9 feet of engineered fill compacted to 90% of relative compaction and an additional 15 feet of non-liquefiable silt. Based on our analyses, liquefaction-induced surface damage is not expected at the NPCA during a MCE.

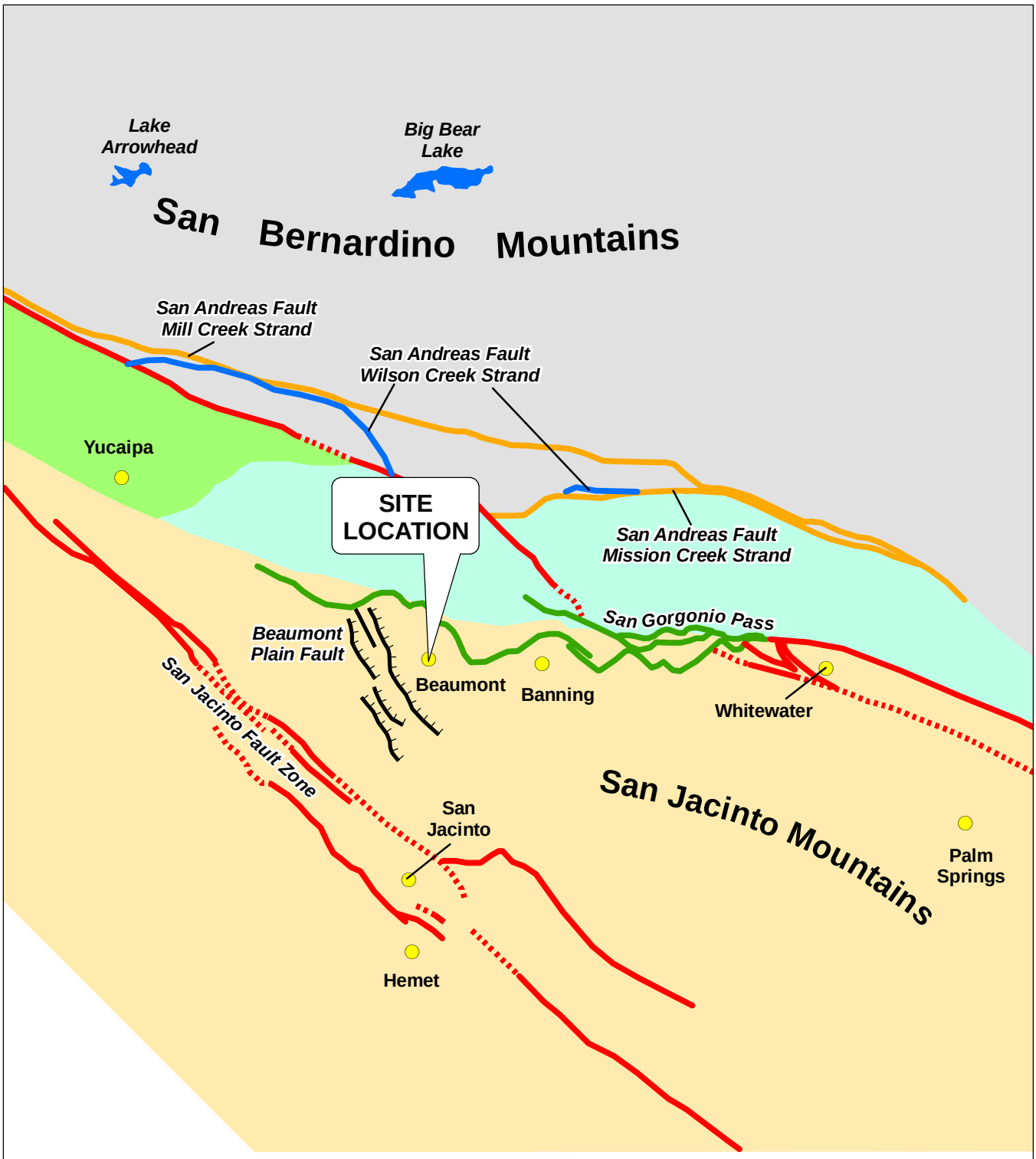
L.2 DEMONSTRATION OF COMPLIANCE WITH SEISMIC STANDARD

The City of Beaumont, California is located within 15 miles, but beyond 10 miles of the San Andreas and San Jacinto fault zones (CDMG, 1998). There are two faults within five miles of the NPCA that were considered potentially active and have displaced Holocene deposits in the North Beaumont Area. These faults are the Banning fault and a minor fault, the Cherry Valley fault (Mittelhauser Corporation, 1985).

Based on the literature review, no faults, which have had displacement in Holocene time, and no lineation, which suggests the presence of a fault within 3,000 feet of the NPCA, are present.

In accordance with Post-Closure Permit requirements, an inspection of the NPCA, including sounding of monitoring wells and determination of total well depth, is required if a 6.0 or greater Richter magnitude earthquake occurs within 50 miles of the Facility or if a 5.0 to 6.0 Richter magnitude earthquake occurs with an epicenter approximately 6 miles of the Facility.

In addition, Square D has prepared a Contingency Plan for the NPCA (Appendix 14). The Contingency Plan describes the procedures to be used to minimize hazards to human health and the environment from any sudden or non-sudden release of hazardous waste or constituents thereof to air, surface waters, and soil, in the event of fire, explosion, vandalism, accidents, or natural phenomena (e.g., earthquake).



REFERENCE: http://scamp.wr.usgs.gov/scamp/graphic/indmap_ie.jpg

0 5 10 Miles

N

LOCAL FAULT AND SEISMICITY MAP

Project No.: 29864170	Date: OCTOBER 2007	Project: SQUARE D COMPANY 1060 EAST 3RD ST., BEAUMONT, CA	Figure L-1

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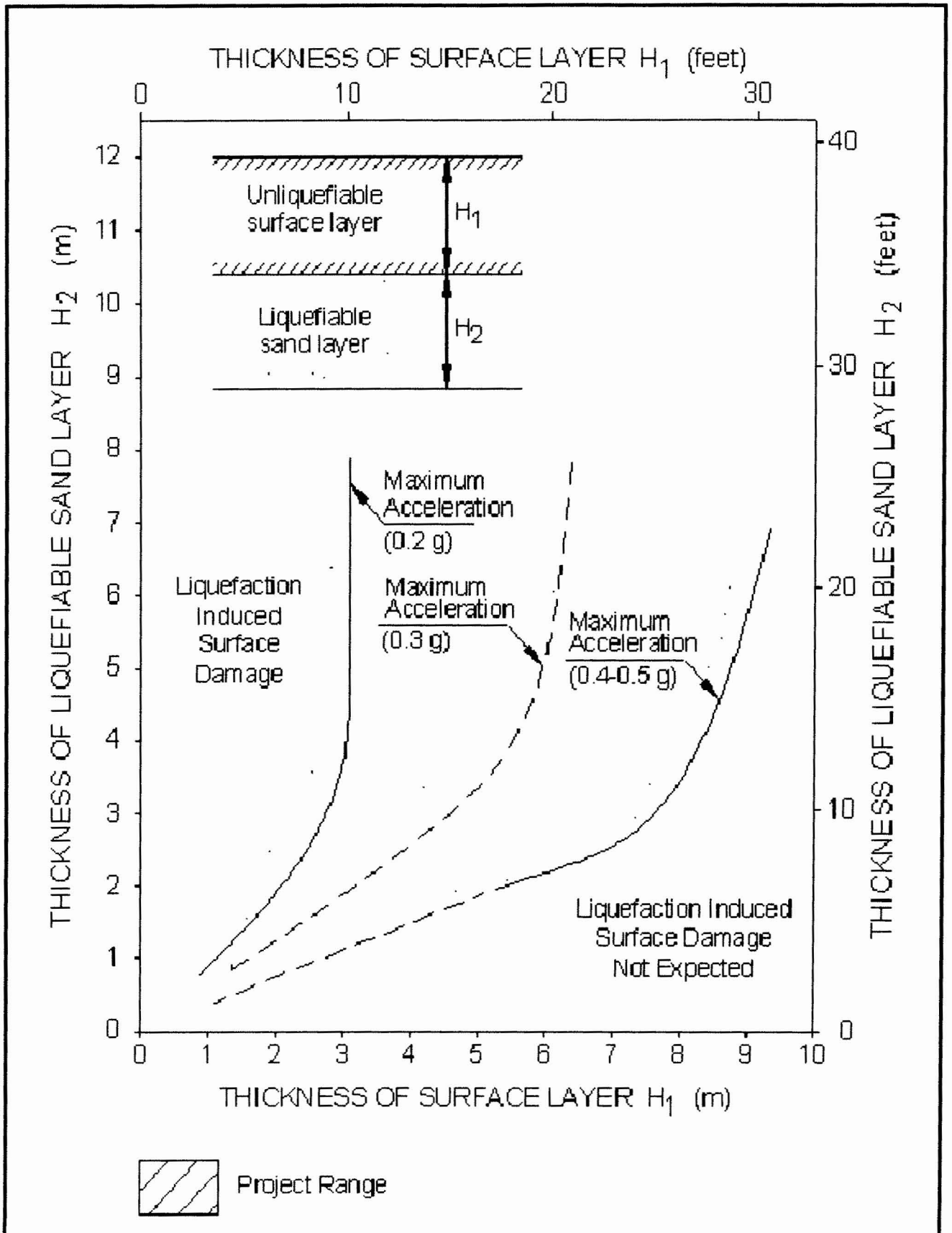

SURFACE MANIFESTATION

Project No.:	Date:	Project:	Figure
29864170	FEBRUARY 2008	NORTH POST-CLOSURE AREA SQUARE D COMPANY 1060 EAST 3RD STREET BEAUMONT, CALIFORNIA	L-2

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M. CORRECTIVE ACTION

M.1 LOCATION ON TOPOGRAPHIC MAP

The location of the NPCA is shown in Figure B-5.

M.2 SOLID WASTE MANAGEMENT UNITS

As defined by RCRA, solid waste management units (SWMU) are discernible units where solid or HW have been placed at any time, or any area where solid wastes have been routinely and systematically released.

The following table lists each SWMU (or surface impoundment) within the NPCA. Information identified in the table includes:

- Type of unit
- Location on topographic map
- General dimensions and structural description
- Dimensions and materials of construction
- Dates of operation
- Wastes placed in unit
- Quantity or volume of wastes.

The description of each SWMU in the NPCA is provided in Table M-1.

M.3 RELEASE FROM SOLID WASTE MANAGEMENT UNITS

Square D Company discontinued manufacturing operations and generation of HW in 1990. However, based on the groundwater monitoring analytical results, there appears to have been a release of metals and salts from the former NPCA surface impoundments, specifically total chromium, hexavalent chromium, and sulfates. These constituents in the groundwater are being monitored annually to ensure that they do not exceed the established concentration limits and notification levels.

M.4 PUBLIC EXPOSURE

No foreseeable releases or exposure is expected from the NPCA as Square D Company discontinued manufacturing operations and generation of HW in 1990.

Furthermore, the asphaltic cap and the moisture barrier were designed to protect the NPCA from infiltration of surficial recharge water for a period of at least 100 years. In addition to the cap and moisture barrier, the leachate collection system was installed to intercept potential infiltration in the event

that the upper membrane of the moisture barrier fails. The collection system is contained and underlain by the lower membrane of the moisture barrier. The placement of the membranes and the collection system insures that the NPCA is protected from infiltration and leaching by surficial fluids for at least 100 years.

M.5 CORRECTIVE ACTION PROGRAM

Square D received a "Corrective Action Completion for Parcels 1 and 2" on June 27, 2000 from the DTSC that modified the HW Post-Closure Permit in a Class III Agency Initiated Permit Modification to reflect corrective action in the completion of a soil remedy. The Corrective Action Completion determination applied only to the soil remedy of Parcel 1, Lot B, and Parcel 2 within the Facility. The finding was based on the soil concentration levels for the constituents of concern being at or below the health based or background levels for industrial use on Parcel 1, Lot B and unrestricted land use on Parcel 2.

Parcel 1, Lot A is the NPCA and is not part of the soil remedy completed for the Square D site. Groundwater releases at the NPCA are continued to be addressed through the Permit.

Table M-1: Characterization of Solid Waste Management Units within the NPCA

Surface Impoundment	General Dimensions and Structural Description	Dimensions and Materials of Construction	Dates of Operation	Wastes Placed in Unit	Quantity or Volume of Wastes
Process Pond 1	90' x 40' x 5'	3 ply Hypalon liner; 60-mil total	1973-1985	Stored excess treated copper plating rinse water for recirculation to the electroplating operations	
Process Pond 2	90' x 40' x 5'	3 ply Hypalon liner; 60-mil total	1970-1985	Stored wastewater from electroplating operations prior to pumping to a tank where lime was added to neutralize the acidic plating solutions and precipitate heavy metals	120,000 gallons
Process Pond 3	90' x 40' x 5'	3 ply Hypalon liner; 60-mil total	1973-1985	Stored concentrated copper sulfate solutions for chemical adjustment and recycling to electroplating operations	
North Settling Pond	195' x 115' x 4'	1 ply, 3" sealed asphalt liner	1973-1983	HW management units for dewatering of F006 metal hydroxide sludge from electroplating waste water treatment	670,000 gallons
South Settling Pond	195' x 75' x 3'	1 ply, 3" sealed asphalt liner	1973-1983	HW management units for dewatering of F006 metal hydroxide sludge from electroplating waste water treatment	43,875 cubic feet
Barium Pond	70' x 70' x 2'	1 ply, 3" sealed asphalt liner	1979-1984	Stored barium sulfate sludge prior to offsite disposal	9,800 cubic feet
Carbon Pond	70' x 70' x 2'	1 ply, 3" sealed asphalt liner	1973-1985	Stored Activated Carbon (AC) and Diatomaceous Earth (DE) sludges generated from adsorption and filtering of plating solutions to remove suspended solids and organics	9,800 cubic feet

N. POTENTIAL REDEVELOPMENT INFORMATION

The NPCA is currently being leased by Priority Pallets Company for temporary storage of wooden pallets. Square D Company does not have any current plans for redevelopment of the NPCA following the Post-Closure care period.

O. ADDITIONAL INFORMATION

In a letter from the DTSC dated March 30, 2007, the following items were requested to be included in the Post-Closure Permit Renewal Application for the NPCA:

1. Disclosure Statement

Pursuant to Health and Safety Code sections 25200.4 and 25112.5, the Facility's owner and operator are required to submit a Disclosure Statement (Form 1365) and subsequent fingerprint/background summary checks. The Disclosure Statement will be submitted under a separate cover to the DTSC by Square D Company.

2. Water Quality Sampling and Analysis Plan

The revised WQSAP is provided in Appendix 5. The work plan for the installation of the proposed off-site downgradient well (SDB-7) is included in Appendix 9.

3. The Use of Post-Closure Cap for Pallet Storage and Forklift Traffic

This reference document is provided in Appendix 10.

4. The use of a Portion of the Post-Closure Cap for Truck Traffic

These referenced documents are provided in Appendix 11 and 12.

5. Post-Closure Cap Security Measures

A work plan for installation of permanent fencing at the NPCA is provided in Appendix 13. A schedule for installation of the permanent fencing has not been determined following the DTSC approval of the fencing specifications. See Section C.2.a for information regarding inspection of the NPCA fencing.

6. Post-Closure Area Land Use Covenant

The DTSC will be drafting the Land Use Covenant for the NPCA to be reviewed and approved by Square D Company. A copy of the Deed Restriction for the NPCA recorded on November 7, 1995 is enclosed as Appendix 15. Due to changes to the Facility boundaries, a Land Use Covenant will be prepared for the NPCA and will be recorded with the County.

7. Post-Closure Care Estimate

A 30-year estimate for post-closure care of the NPCA is provided in Section E, Financial Responsibility.

P. REFERENCES

California Department of Conservation Division of Mines and Geology (CDMG). (1998) *Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada*. International Conference of Building Officials. February.

Dames & Moore. (1992) *Additional Aquifer Characterization Plan Addendum*, December 14.

Dames & Moore. (1993a) *Report – Additional Aquifer Characterization*, August 13.

Dames & Moore. (1993b) *Addendum Report – Additional Aquifer Characterization*, October 28.

Dames & Moore. (1994) *Addendum Report – Slug Test*, February 9.

Mittelhauser Corporation. (1985) *Groundwater Monitoring Plan for Yates Industries, Inc., Beaumont, California*, November.

SNR Company. (1992a) *Additional Aquifer Characterization Plan*, September 8.

SNR Company. (1992b) *Additional Aquifer Characterization Plan Addendum*, December 14.

URS Corporation (URS). (2006) *Report - 2006 Annual Groundwater Monitoring, Former Square D Company Facility, 1060 East Third Street, Beaumont, California, For Square D Company*. February, 2006.