

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

SITE CLEANUP ORDER NUMBER 91-165

SITE CLEANUP REQUIREMENTS AND
RESCISSION OF SCO 90-074 AND SCO 90-121 FOR:

HEXCEL CORPORATION
10 TREVARNO ROAD
LIVERMORE
ALAMEDA COUNTY

HEXCEL CORPORATION AND F&P PROPERTIES
NORTH MINES ROAD
LIVERMORE
ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. **The Responsible Parties** Hexcel Corporation (Hexcel), hereinafter referred to as discharger, operates a composite materials manufacturing facility at 10 Trevarno Road, Livermore, Alameda County (Appendix D, Figure 1). Hexcel has operated at the site since 1968 formulating and reacting plastic resins for coatings and adhesives.

Hexcel and F&P Properties (F&P) are hereinafter referred to as dischargers for the Abandoned Disposal Site, located at the southerly dead end of North Mines Road (Appendix D, Figure 1). Hexcel and its' predecessor company, Coast Manufacturing and Supply previously owned the property from the early 1900s to 1979 and is known as the "between the tracks property" or Abandoned Disposal Site (ADS). The current property owner for the past six years, F&P is named as a discharger because of their ownership of the property. For purposes of this Order, in the event that Hexcel does not comply with the requirements of the ADS sections of this Order, F&P will be required to comply with the ADS sections of this Order.

2. **Site Descriptions** Both sites are located in the Livermore region of the Amador-Livermore Valley, on a gently north-sloping plain broadly bounded by Arroyo Mocho to the southwest, Arroyo Seco to the east and I-580, the Spring Basin and Arroyo Las Positas to the north (Appendix D, Figure 1). Residential development immediately surround the properties to the south. This area was primarily agricultural and grazing lands but is now yielding over to residential and industrial property development.

This Order describes and refers to two separate sites as "Two Operable Units" (OU), the Hexcel Composite Materials Manufacturing Plant (HMP) and the Abandoned Disposal Site (ADS).

3. Site Histories

Hexcel and its predecessor companies have operated at the HMP site continuously since the early 1900s. Beginning in 1911 at the present location of the Hexcel plant, Coast Manufacturing and Supply (CMS) manufactured black powder, detonation cord, blasting caps, and later, CMS expanded its operations in 1948 to manufacture resin coated fabrics. Explosive products were manufactured by CMS until 1967 when Apache Powder Company purchased the black powder interests and related machinery from CMS. CMS was purchased by Hexcel in 1968, who has continued to manufacture coated synthetic fabrics onsite for the aerospace industry.

Methyl ethyl ketone (MEK), acetone, dimethyl formamide, and methylene chloride are used as carriers and reactants for the fabric coating resins. It is these chemicals which are the principal site pollutants. Hexcel was directed in March, 1983 by CAO 83-003 to abate pollution caused by surface spills of these solvent mixtures. Additional work under SCO 90-074 has been requested of Hexcel to further investigate sources of site soil and groundwater pollution.

The area of the ADS has been in use since 1906, when this was used as a borrow site by the Western Pacific and Union Pacific Railroads for construction of the two adjacent and enclosing parallel railroad embankments. Industrial wastes from explosives and fiberglass materials manufacturing had been dumped and burned in the borrow pit area from the 1920s into the mid 1950s, until state air quality regulations prohibited refuse burning and required waste disposal by cut and cover methods. Wastes were then deposited by CMS and Hexcel in the borrow area between the tracks until at least 1971.

A domestic sewage drain field was constructed in 1955 in the southwest quarter of the ADS. Industrial and domestic sewage drained into a series of three eastward cascading evaporation ponds. Sewage flow ranged from between 2,500 gpd in 1958 to 24,000 gpd in the mid 1970s. The Regional Board and Alameda County Flood Control District, Zone 7 were monitoring the leach field area as early as 1959. Sewage disposal continued until 1977, when Hexcel connected the sewage outfall to the municipal sewer system.

Hexcel sold the property which contained the former borrow pit, waste disposal site and sewage drain field to Donald W. and Suzanne T. Smith in March, 1979. The property was sold in 1985 to F&P Properties, the current owners. It is unknown if the Smiths have had any contribution to the site pollution. EPA is conducting a potential responsible party (PRP) search. If it is determined that the Smiths, or any other parties are

found to have been responsible for waste disposal in the ADS, these parties also shall be named as dischargers to this Order.

4. **Regulatory Status** The HMP OU was proposed in June, 1988 to be included on the National Priorities List (NPL). In March, 1991, the ADS OU was determined by EPA counsel (letter dated March 6, 1991) to also be a portion of the NPL site ("Facility") due to the concurrent operation and "... where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located". The RWQCB is lead agency for the OUs and will continue to regulate the dischargers' investigation and remediation work and administer enforcement actions in accordance with CERCLA as amended by SARA (Superfund) based upon the South Bay Multi-Site Cooperative Agreement between EPA and the Board.

Activities conducted at the HMP OU since June, 1988 have been performed pursuant to Superfund guidelines. Hexcel was directed to submit workplans to conduct site environmental investigations pursuant to SCO 90-074, adopted at the May 16, 1990 Board meeting, and SCO 90-121 adopted at the August 15, 1990 Board meeting.

Hexcel has submitted the following documents for both sites which have been deemed acceptable by Board staff; Comprehensive Data Summary, Sampling and Analysis Plan, Health and Safety Plan, RI/FS Work Plan, Baseline Public Health Evaluation Work Plan, Data Validation Package and an outline for preparation and maintenance of the Administrative Record.

Proposals for the RI/FS and Field Sampling and Analysis Plan for the HMP OU were approved in April, 1991 with the Phase I work beginning in May, 1991.

The RI/FS and Field Sampling and Analysis Plan for the ADS OU were approved in July, 1991. Environmental assessment work for the ADS OU began at the end of October, 1991 and will continue until the end of December, 1991.

5. **Hydrogeology** The two OUs are located above the Mocho I Province within the Mocho Groundwater Subbasin in the eastern Livermore Valley (Appendix D, Figure 2). Water-bearing strata are composed of younger Quaternary alluvium of low-to-moderate permeability derived from the underlying Plio-Pleistocene non-marine Livermore Formation (informally Livermore Gravel). Subsurface contacts at the sites between the alluvium and underlying Livermore Formation are described as a paleosol and are also referenced in reports from adjacent offsite groundwater investigations. Outcrops of Livermore Formation rocks are found in the low-lying hills northwest and southeast of the property and forms a northwest-trending low topographic

saddle south of the HMP that forms the boundary between the Mocho I and Mocho II Provinces. The thickness of the Quaternary alluvium ranges from zero at the base of the hills to about 50 feet thick at the center of the Mocho 1 Province, east of the site.

HMP OU The upper 50 feet of sediments is pale buff-yellow plastic silty-clay with zones of secondary porosity comprised of caliche-lined root casts and soil cracks. Four water-bearing zones up to 50 feet below the surface had been described during previous site investigations. The uppermost perched zone 6 to 16 feet below the surface is now dry. The latest investigations have now identified a single saturated zone between 15 and 30 feet deep in three of seven new well locations. The next deeper water-bearing zone identified in one well location is between 30 and 50 feet deep. Low volume water yields in the upper-most zone are from discontinuous sandy-to-gravelly clay and sandy gravel lenses from one to five feet thick. The groundwater gradient in these water-bearing zones trend toward the historically measured gradient, sloping westerly to northwesterly (Appendix D, Figure 3).

ADS OU Two shallow water-bearing zones have been described at the site. A perched zone was encountered beneath the site from 18 to 22 feet deep. The next water-bearing zone is between 20 and 35 feet deep. Aquifer materials of weathered Livermore Formation form discontinuous lenses of clayey silt, sand and gravel, separated by a sandy clay layer between 15 and 30 feet in depth. The groundwater gradient beneath the ADS slopes westerly to northwesterly (Appendix D, Figure 3).

Two other sites adjacent to the ADS OU are known to have halogenated solvent groundwater pollution. They are; 1) Intel Corporation Fab III facility about 300 feet northwest from the west edge of the ADS, and, 2) the former Industrial Ladder facility (Calico Lumber and Supply) about 100 feet to the north of the ADS OU.

6. Soil and Groundwater Investigations

HMP OU Site assessment work first began in mid-1983 after two above-ground multi-gallon solvent spills. Twenty-one soil borings and 14 monitoring wells were eventually constructed between 1983 and 1985 across the site and within the two spill areas.

Phase I of the RI began in May, 1991. The work included a soil-gas survey in 75 locations, 18 continuous core soil borings up to 50 feet deep and installation of seven new groundwater monitoring wells. Phase I work also included a survey and sampling of the existing monitoring well network with initiation of the quarterly groundwater sampling and

analysis, and inspection and sampling of two abandoned onsite deep wells.

Recent work has focussed on further characterizing site pollution and on identifying sources of omnipresent low levels of PCE. During site investigations, petroleum byproducts also were discovered near the location of a previously removed underground fuel oil storage tank. A four inch diameter monitoring well (B 1007) was installed nearby in anticipation of using this as an extraction well.

ADS OU No new data for the disposal site has been generated in the recent past. Work at the ADS has not progressed since completion and approval of the work plan. Site access agreements are completed and site work has begun and will continue through the end of December. This will include locating, proper abandonment and replacement of three damaged groundwater monitoring wells, installation of several additional wells, an area-wide soil-gas survey and several continuously sampled soil borings.

Previous work conducted onsite has been sporadic since late 1985. A preliminary site assessment report was prepared preceding field work proposals with the initial results of field investigations published in December, 1986. A second report summarized the results from the installation of nine groundwater monitoring wells and two soil borings. Additional work was completed in a Phase II report to better understand the site conditions. Further assessment work that included soil borings and some remote geophysical work was conducted for preparation of an EIR for proposed property development by F&P. Assessment work to date has roughly defined the boundaries of the former borrow pit area. Any planned property developments for the immediate future are to be designed around the identified boundaries of the ADS.

7. Soil Pollution

HMP OU Sampling work in the former underground storage tank area has revealed the presence of gasoline and diesel related compounds in sediments at depths of up to 50 feet with the highest concentrations between 30 and 35 feet below the surface. The petroleum hydrocarbon plume is spread over an area 200 by 30 feet. Pollutants include benzene, toluene, ethylbenzene and xylene at soil concentrations as high as 30,900 $\mu\text{g}/\text{kg}$ (total BTEX); 210,000 $\mu\text{g}/\text{kg}$ for unidentified aromatic hydrocarbons; and 101,600 $\mu\text{g}/\text{kg}$ for high boiling point hydrocarbons (HBPH). Petroleum hydrocarbons have commingled with acetone and MEK originating from a solvent loading and mixing area, the "recycle pad", upgradient from the former tank location. This is also in a portion of the plant where new manufacturing facilities have been

constructed. Additional plant expansions are planned which will encompass a portion of the ground surface above the plume area. Supplementary site investigation work is proceeding in the construction area to facilitate this plant expansion.

The soil-gas survey and confirmatory continuous soil boring sampling results show correlations in two areas of the site: areas where previous solvent spills have occurred (Building 19 area), and; the former underground fuel oil storage tank and recycle pad area. Acetone and MEK are compounds identified in both areas and petroleum related compounds are found only in the area of the fuel oil pollution.

Comparisons of results between soil gas and soil boring data at sampling locations across the site are inconclusive for BTEX and chlorinated solvent pollution, particularly for PCE. Follow-up confirmatory soil sampling indicates no pollution exists in sediments or in the groundwater in the areas where these chemicals were previously detected by the soil gas survey.

ADS OU No new site assessment data has been generated from work at the disposal site. Work pursuant to SCO 90-121 and the approved work plans began in mid-October and will continue through the end of December.

The ADS borrow pit is estimated to be a maximum of 20 feet deep. An assortment of industrial and domestic wastes are believed to have been dumped in the ADS. These may include: automobiles, machinery, fiberglass, asbestos, plastics, nitrates, resins, pigments, rags, epoxy, black powder residue, blasting caps, metal barrels, household wastes and road construction wastes. Little work has been performed in the interior portion of the site due to the likelihood of encountering large pieces of waste or contacting explosive wastes. The borrow pit boundaries have been roughly defined by a soil boring program and geophysical survey conducted in 1989 by F&P. Chlorinated VOCs - although seldom investigated or with analyses with unusually high detection limits - had not been detected in samples from the ADS soil borings.

8. Groundwater Pollution

HMP OU Groundwater pollution from the circa 1983 Building 19 spills was confined near wells Hex-10, M-5, and M-3, dispersing in the groundwater to a radius of about 100 feet and maximum depth about 38 feet below the surface. Initial groundwater pollutant concentrations measured from Hex-10 near the spill vicinity were as high as 6,800,000 µg/l for acetone and 12,900,000 µg/l for MEK. Current levels in the former spill area are 6,600 µg/l acetone, 24,000 µg/l MEK and 760 µg/l toluene from monitoring well M-3. A sampling round from

Hex-10 in May, 1989 measured 4 $\mu\text{g/l}$ benzene, the only constituent detected.

Groundwater sampling results from the petroleum contaminated area have shown the water to be polluted with chemicals at the following concentrations: acetone at 94 $\mu\text{g/l}$; benzene at 120 $\mu\text{g/l}$; toluene at 33 $\mu\text{g/l}$; ethylbenzene at 130 $\mu\text{g/l}$; total xylenes at 310 $\mu\text{g/l}$; and total methylbenzenes at 198 $\mu\text{g/l}$.

Sampling results from six new site perimeter and ten existing monitoring wells indicates no groundwater pollution is evident in areas outside of the original spill or near the former underground storage tanks. However, acetone and MEK were detected at concentrations of 67 and 72 $\mu\text{g/l}$, respectively, in HEX-17 in the southeast quadrant of the site. PCE was detected at 74 $\mu\text{g/l}$ only in Hex-14 at the northerly edge of the site.

ADS OU Groundwater pollution has been detected at low levels in several perimeter monitoring wells in the northwest corner of the site. Chemicals found in the groundwater include 1,2-dichloroethane at 23 $\mu\text{g/l}$, benzene at 10 $\mu\text{g/l}$ and lead at 78 $\mu\text{g/l}$. These pollutants are associated with water samples collected from wells nearest to an existing business. Other compounds detected in groundwater, that are below MCLs, include toluene, xylene and carbon tetrachloride

9. Scope of This Order This order contains a schedule for completion of deliverables required by SCO 90-074 and SCO 90-121 for reporting results from the Remedial Investigations, quarterly groundwater sampling and analyses, ecological assessments, site-use studies, treatability studies and Feasibility Studies. These tasks are necessary to develop comprehensive final Remedial Investigation Reports and acceptable Feasibility Studies, Proposed Plans [Remedial Action Plans] and Records of Decision which do not duplicate previous site assessment work. The tasks schedules are designed to facilitate cleanup at two operable units such that obstacles at any one site will not impede cleanup at the other. This order will also provide a substantive technical basis for selecting final cleanup alternatives pursuant to Federal and State requirements.
10. In 1988, the Regional Board adopted resolution #88-63 "Sources of Drinking Water" which defines a groundwater basin as suitable or potentially suitable for domestic or municipal use as that which; 1) has a total dissolved solids (TDS) content of less than 3,000 mg/l, and, 2) has a minimum transmissivity such that one well can pump at least 200 gallons a day. The groundwater basin at the site falls within this category.
11. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986.

The Basin Plan contains water quality objectives and beneficial uses for the Amador-Livermore Valley and contiguous surface and ground waters.

12. The existing and potential beneficial uses of the groundwater underlying and adjacent to the facility include:
 - a. industrial process water supply
 - b. industrial service water supply
 - c. municipal and domestic water supply
 - d. agricultural water supply
13. The existing and potential beneficial uses of Arroyo Mocho and Arroyo Seco as tributaries to Arroyo De la Laguna include:
 - a. groundwater recharge
 - b. recreation
 - c. warm and cold fresh water habitat
 - d. wildlife habitat
 - e. fish migration and spawning
14. The discharger has caused or permitted, and threatens to cause or permit waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.
15. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.
16. The Board has notified the discharger and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the site, and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.
17. The Board, in a public meeting heard and considered all comments pertaining to the Site.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the dischargers shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.

2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.
4. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

B. SPECIFICATIONS

1. Hexcel shall conduct site investigations and monitoring activities as needed to refine current local hydrogeologic data and extent of soil and groundwater pollution at the HMP OU and ADS OU. Monitoring activities shall be in accordance with Provision C.4. and as approved by the Executive Officer. Should monitoring results show evidence of plume migration, additional plume characterization shall be required. Within 60 days of the Executive Officer's determination and actual notice to F&P Properties that Hexcel Corporation has failed to comply with this paragraph for the ADS OU, F&P Properties, as landowners of the ADS OU, shall comply with this specification.
2. The cleanup levels for source-area soils shall be protective of human health and the environment. If it is determined by the Board that polluted soils need to be remediated, the cleanup goal is 1 ppm for total VOCs. This goal may be modified by the Board if the discharger demonstrates with site specific data that higher levels of VOCs in the soil will not threaten the quality of waters of the State and human health and the environment are protected. If levels higher than those set by health-based parameters are proposed, institutional controls shall be considered. If any pollutants are left in the soil, a program of continued groundwater monitoring may be required.
3. Final cleanup levels for polluted groundwater, onsite and offsite, shall be in accordance with the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California". Proposed final cleanup levels shall also be in accordance with all Federal and State Superfund requirements.

4. If groundwater extraction and treatment is considered as an alternative, the feasibility of water reuse, reinjection, and/or disposal to the sanitary sewer must be evaluated. Based on the Regional Board Resolution 88-160, the dischargers shall optimize, with a goal of 100%, the reclamation or reuse of groundwater extracted as a result of cleanup activities. The dischargers shall not be found in violation of this Order if documented factors beyond the discharger's control prevent the discharger from attaining this goal, provided the discharger has made a good faith effort to attain this goal. If reuse or reinjection is part of a proposed alternative, an application for Waste Discharge Requirements may be required. If discharge to waters of the State is part of a proposed alternative, an application for an NPDES permit must be completed and submitted, and must include the evaluation of the feasibility of water reuse, reinjection, and/or disposal to the sanitary sewer.

C. PROVISIONS

1. The discharger shall comply with the Prohibitions and Specifications of this Order in accordance with the following task and time schedule:

TASKS AND COMPLETION DATES

- a. **TASK: REMEDIAL INVESTIGATION REPORT:
HEXCEL MANUFACTURING PLANT OPERABLE UNIT**

Submit a technical report acceptable to the Executive Officer that presents data and results from site assessment work for the Hexcel Manufacturing Plant Operable Unit pursuant to Superfund requirements. The report shall include but not be limited to, results from the soil gas survey, soil boring analytical results and groundwater investigations and may include results from the meteorological study, ecological assessment, land use studies and surface water analysis. The technical report shall also include any proposals for interim remedial actions, and if deemed necessary, an implementation schedule and report submittal date for implemented interim remedial actions.

COMPLETION DATE: December 30, 1991

**b. TASK: REMEDIAL INVESTIGATION REPORT:
ABANDONED DISPOSAL SITE OPERABLE UNIT**

Submit a technical report acceptable to the Executive Officer that presents data and results from site assessment work for the Abandoned Disposal Site Operable Unit pursuant to Superfund requirements. The report shall include but not be limited to, results from the soil gas survey, soil boring analytical results and groundwater investigations and may include results from the meteorological study, ecological assessment, land use studies and surface water analysis. The technical report shall also include any proposals for interim remedial actions, and if deemed necessary, an implementation schedule and report submittal date for implemented interim remedial actions.

COMPLETION DATE: March 31, 1992

**c. TASK: FEASIBILITY STUDY:
HEXCEL MANUFACTURING PLANT AND ABANDONED
DISPOSAL SITE OPERABLE UNITS**

Submit a technical report acceptable to the Executive Officer that contains the necessary elements to evaluate site cleanup alternatives for the Hexcel Manufacturing Plant and Abandoned Disposal Site Operable Units pursuant to Superfund requirements. The report shall include but not be limited to establishing remedial action objectives specifying contaminants of concern, results from treatability studies, various evaluated remedial alternatives, potential exposure pathways, and remediation goals. As a part of the FS report, comprehensive site maps shall be included which contain area-wide plan views of both OUs, all monitoring well locations, piezometric surface map showing both sites, pollutant isoconcentration contours, soil data where applicable and trends of cross-section lines. Final remediation goals will be determined when a final remedy is selected. Remediation goals shall establish acceptable exposure levels that are protective of human health and the environment. The final remedial actions selected shall be based upon evaluation of the alternatives using the nine screening criteria outlined in 40 CFR, §300.430(F)(9)(iii) of the NCP.

COMPLETION DATE: September 30, 1992

**d. TASK: PROPOSED FINAL CLEANUP PLAN:
HEXCEL MANUFACTURING PLANT AND ABANDONED
DISPOSAL SITE OPERABLE UNITS**

Submit a technical report acceptable to the Executive Officer that contains the elements of the proposed final selected remedial actions for the Hexcel Manufacturing Plant Operable Unit. The report shall follow EPA guidance and State Health and Safety Codes for Remedial Action Plans to achieve final cleanup and include a time schedule for implementation.

COMPLETION DATE: 60 days after approval of the final selected remedial actions for these operable units.

2. The submittal of technical reports evaluating immediate, interim and final remedial measures will include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment of each alternative measure. The remedial investigation and feasibility study shall consider the guidance provided by Subpart E of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300), March, 1990; Section 25356.1 (c) of the California Health and Safety Code; US EPA "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA", or any subsequent CERCLA guidance documents with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; and the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California".
3. If the discharger is delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the discharger shall promptly notify the Executive Officer.
4. Technical reports on compliance with this Order shall be submitted to the Board on a quarterly basis according to the schedule below, commencing on October 31, 1991 and covering the previous quarter. Quarterly reports may be combined with other reports when practical. The quarterly reports shall include, but need not be limited to, the following information:

SCHEDULE FOR QUARTERLY REPORT SUBMITTAL

Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Period	Jan-March	April-Jun	July-Sept	Oct-Dec
Due Date	April 30	July 31	October 31	January 31

- a. A summary of work completed since submittal of the previous quarterly report, and any work projected to be completed by the time of the next report,
- b. Results of water quality sampling analysis,
- c. Updated sampling schedule for all onsite wells to be included no later than one quarter after approved changes occur,
- d. Updated water table and piezometric surface maps (quarterly for the first 4 quarters and the second and fourth quarters only thereafter) for all affected water bearing zones monitored and isoconcentration maps for key pollutants in all affected water bearing zones,
- e. Cumulative tabulation of all well construction details, groundwater levels and chemical analyses, and analytical results of quarterly groundwater quality sampling analyses,
- f. A cumulative tabulation of volume of extracted groundwater, estimates of pounds of pollutants removed in groundwater and chemical analyses from all site extraction wells,
- g. Updated well construction details for any additional wells that have been installed during the quarter,
- h. Updated or revised reference diagrams including geologic cross-sections describing hydrogeological setting of the site and appropriately scaled and detailed base maps showing the location of all monitoring wells and extraction wells, and any identifying adjacent culture,
- i. Identification of any potential obstacles which may cause or threaten to cause noncompliance with this Order and what actions are being taken or planned to overcome these obstacles that may result in noncompliance with this Order,

j. In the event of noncompliance with the Provisions and Specifications of this Order, the report shall include written justification for noncompliance and proposed actions to achieve compliance, and

k. The report for the fourth quarter of each calendar year shall contain the data for the quarter and shall serve as a summary report for the calendar year containing a summary tabulation of all data for the preceding year.

5. **ON AN ANNUAL BASIS**, technical reports on the progress of compliance with all requirements of this Order shall be submitted to the Board, commencing with the report due January, 1992, and covering the previous year. Annual reports may include any monitoring reports due concurrently. The progress reports shall include, but need not be limited to, progress on the site investigation and remedial actions, operation of final remedial actions and/or systems, and the feasibility of meeting groundwater and soil cleanup standards.
6. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist, certified engineering geologist or professional engineer.
7. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain Quality Assurance/Quality Control records for Board review.
8. The discharger shall maintain in good working order, and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.
9. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order shall be provided to the following agencies:
 - a. Regional Water Quality Control Board (2 copies, Steve Ritchie and Administrative Record)
 - b. Alameda County Flood Control District, Zone 7
 - c. City of Livermore (John Hines)
 - d. U.S. Environmental Protection Agency, Region IX, H-6-3, (Patti Collins)

10. The discharger shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:
 - a. Entry upon premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Inspection of any monitoring equipment or methodology implemented in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.
11. The discharger shall file a report on any changes in Site occupancy and ownership associated with the facility described in this Order.
12. If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited where it is, or probably will be discharged in or on any waters of the state, the discharger shall report such discharge to this Regional Board, at (415) 464-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-business hours. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to: the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control, and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effect, corrective measures that have been taken or planned, and a schedule of these activities, and persons/agencies notified.
13. This Site Cleanup Order rescinds SCO 90-074 and SCO 90-121.
14. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on November 20, 1991.



Steven R. Ritchie
Executive Officer