



United States
Environmental Protection
Agency

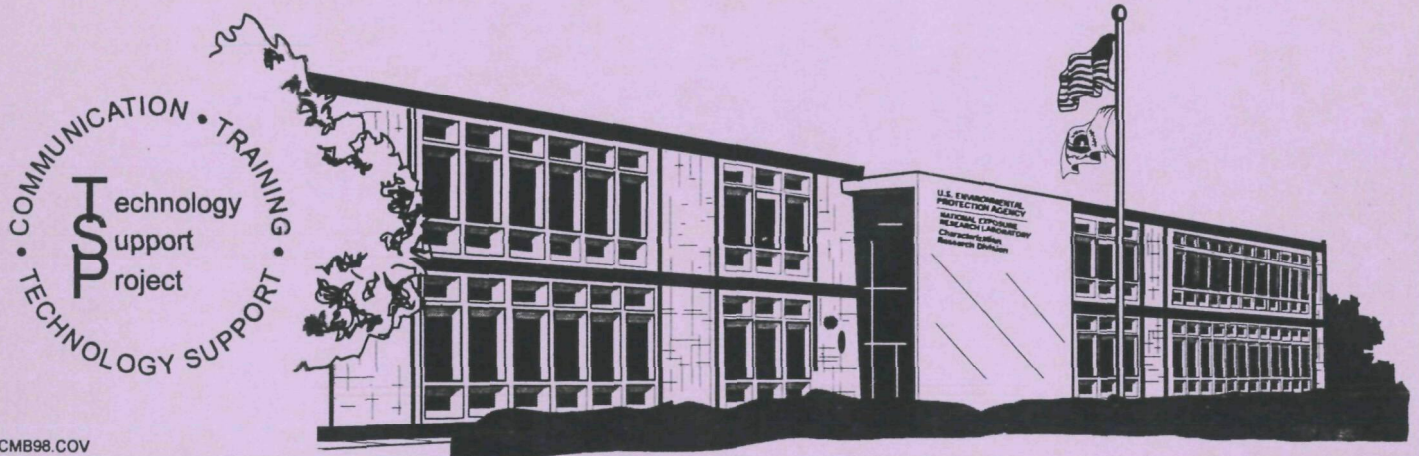
Office of Research and Development
National Exposure Research Laboratory
Environmental Sciences Division
P. O. Box 93478
Las Vegas, NV 89193-3478

March 1998

National Exposure Research Laboratory Environmental Sciences Division Superfund Technology Support Project

Technology Support Center for Monitoring and Site Characterization FY98 Second Quarter Report

January - March 1998





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL EXPOSURE RESEARCH LABORATORY
P.O. BOX 93478 • LAS VEGAS, NV 89193-3478

APR 17 1998

OFFICE OF
RESEARCH AND DEVELOPMENT

MEMORANDUM

SUBJECT: National Exposure Research Laboratory
Environmental Sciences Division
FY98 Second Quarter Report

FROM: Kenneth W. Brown, Director, Technology Support Center (TSC)
Characterization and Monitoring Branch, ESD

TO: Richard Steimle, Project Manager (5102W)
Superfund Technology Support Project

Attached is the FY98 Second Quarter Report pertaining to the activities of the Environmental Sciences Division-Las Vegas, (ESD) Technology Support Center, (TSC). This quarterly report includes the months of January, February and March of 1998. The total Superfund resources spent for those projects identified in the attached report were \$219,506 TSC and \$14,800 PC&B.

As we have discussed, the resources utilized for the Environmental Data Quality Assessment Integration Project \$44,087 (see page32) are provided by OSWER's ERT. As such, they are not included in the "Total TSC Superfund Resources" previously identified.

The following Superfund projects were completed during the Second Quarter of FY98 and are, therefore, deleted from this quarterly report: Naval Construction Battalion, Western Sand and Gravel, Koppers Co. Inc., (Region III), Naval Surface Warfare Center-White Oak, Cannelton Industries, Detroit Waste Combustion, New Orleans Brownfields, Longhorn Army Ammunition Plant, Marine Corps Air Station Yuma and Verdese Carter Park.

The TSC did not receive any RCRA Corrective Action Resources during this quarter. As such, no RCRA Technical Support requests were addressed.

If you have any questions about this report, please give me a call at (702) 798-2270.

Attachment

cc: Jay M. Messer, ESD-LV
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SUPERFUND

REGION 1

- **Project Name:** Camp Edwards Impact Area (Otis AFB)
Site: Massachusetts Military Reservation SF Site
Site ID:

Type Lead:

Requested by: Jane Dolan (617) 573-9698

Lead Scientist: Alan Crockett (208) 526-1574

Start Date: April 1997

Expected Completion Date: October 1997

Revised Completion Date: July 1998

Estimated Budget: \$18,000.

Revised Budget:

Major Contaminants: Explosives

Total Expenditures: \$9,675 PC&B: \$400

Total FY98 Exp: \$800 PC&B: \$0

Total 2nd. Qtr. Exp: \$500 PC&B: \$0

The Regional Remedial Project Manager (RPM) requested that the Environmental Sciences Division-Las Vegas (ESD) Technology Support Center (TSC) provide assistance in evaluating a proposed protocol for soil sample collection and analyses.

The Massachusetts Military Reservation (MMR) is a 22,000 acre facility located on Cape Cod, Massachusetts. The MMR has been used since the 1950's for the training of military personnel. Currently, the MMR includes Camp Edwards, where the Massachusetts Army National Guard and other National Guard units conduct annual and weekend training. About 14,000 acres of Camp Edwards contains the Training Range, where small-arms and large-arms firing ranges are located and maneuvers take place, and the Impact Area, where artillery and mortar fire lands. This area (soils and groundwater) is contaminated with explosive type contaminants.

The TSC reviewed the provided sampling/monitoring/analytical suggested approaches. Appropriate comments and suggestions were provided to the Region. The TSC participated in a meeting with the PRP's, RPM and Regional staff. The TSC reviewed and provided comments pertaining to the proposed background sampling effort. Additional support is anticipated.

- **Project Name:** Savage Well (OK Tool)
Site: Savage Municipal Water Supply SF Site
Site ID:

Type-Lead:

Requested by: Richard Goehlert (617) 573-5742

Lead Scientist: Michael Shook (208) 526-6945, Ken Moore (208) 526-8810

Start Date: March 1997

Expected Completion Date: May 1998

Revised Completion Date: December 1998

Estimated Budget: \$75,000

Revised Budget: \$

Total Expenditures: \$4,660 PC&B: \$500

Total FY98 Exps: \$1,300 PC&B: \$500

Major Contaminants: Organics, Metals

Total 2nd. Qtr. Exps:\$1,000 PC&B: \$500

The Savage Well site covers about 30 acres west of the center of Milford, NH and consists of a municipal well and the underlying aquifer, the water-bearing layer of rock and gravel from which the Town of Milford gets its water. The Savage Municipal Well site operated from 1960 to 1983, during which time it supplied 40% to 45% of Milford's water. The remainder of the water came from the Keyes and Kokko Wells. During Savage's years of operation, several metal industries opened plants near the well, along the Souhegan River. Investigators at the site identified the source of contaminants, which also were present in water samples taken at the nearby industries.

The groundwater is contaminated with volatile organic compounds (VOCs), including trichloroethylene (TCE) and vinyl chloride and heavy metals, including lead, chromium, and mercury. The soil is contaminated with VOCs. The stream on site is contaminated with VOCs and lead.

The RPM has requested assistance in identifying innovative technologies to better assess the mass and location of contaminants (dual tracer techniques) and then to participate in the removal ("chemically enhanced remediation at neutral buoyancy") of DNAPL's at this site. TSC associated scientists prepared a project outline and cost estimate titled "Surfactant-Enhances Aquifer Remediation of PCE at Neutral Buoyancy, O. K. Tool Site, Milford, New Hampshire." Additional review of site documents and coordination of contaminant characterization approaches with Regional personnel were completed. A pilot project for Surfactant Enhanced Aquifer for Remediation was started and the field work is anticipated to begin in April.

REGION 2

- Project Name: Ciba
Site: Ciba-Geigy SF Site
Site ID:

Type Lead:

Requested by: Romona Pezzella (212) 637-4385

Lead Scientist: A. K. Singh (702) 435-3731

Start Date: December 1997

Expected Completion Date: July 1998

Revised Completion Date:

Estimated Budget: \$10,000.

Revised Budget:

Major Contaminants: Organics

Total Expenditures:\$3,140 PC&B: \$600

Total FY98 Exp: \$3,140 PC&B: \$600

Total 2nd. Qtr. Exp:\$3,140 PC&B:\$ 600

The Remedial Project Manager (RPM) requested that the Environmental Sciences Division-Las Vegas (ESD) Technology Support Center (TSC) provide assistance in reviewing statistical approaches that are being utilized by the PRP to assess Ciba-Geigy data for site characterization and remedial purposes.

This 1,400-acre site includes 320 acres of developed area and the remaining wooded area. The manufacturing facility which has operated since 1952 is composed of numerous buildings, an industrial waste water treatment plant, and a lined reservoir for emergency storage of treated and untreated waste water. Chemicals have been disposed of on-site in a number of locations, including a 5.2-acre drum disposal area, a 3.9 acre lime sludge disposal area used for disposal of inorganic wastes, a 12-acre filter cake disposal area which received sludge from the waste water treatment, 8.5 acres of backfilled lagoons, and a calcium sulphate disposal area. In 1978, the drum and lime sludge disposal areas were closed, as was the filter cake disposal area. Currently, contaminants are present in leaking drums, waste sludge, soil, and groundwater, Groundwater contamination is migrating from these inactive disposal sites toward the river. The primary contaminants of concern addressed in

this operable unit affecting the groundwater are VOCs including benzene, PCE, TCE, and toluene; and metals including arsenic and chromium. A review of the geostatistical approach that will be implemented at the site was completed. The TSC also attended a meeting with the Region and PRP's.

The TSC is currently waiting for the Region to provide the site data.

- Project Name: Goose
Site: Goose Farms SF Site
Site ID:

Type Lead:
Requested by: Farnaz Saghafi (212) 637-4408
Lead Scientist: Joe Donnelly (702) 897-3387

Start Date: September 1997
Expected Completion Date: January 1998
Revised Completion Date: May 1998

Estimated Budget: \$12,000.
Revised Budget:
Major Contaminants: Perchlorate

Total Expenditures: \$8,608 PC&B: \$3,500
Total FY98 Exp: \$8,608 PC&B: \$2,000
Total 2nd. Qtr. Exp: \$1,590 PC&B: \$500

The RPM requested that the ESD-LV TSC provide assistance in analyzing groundwater samples for perchlorate.

The 1 ½-acre Goose Farms site located near New Egypt, New Jersey was used as a hazardous waste disposal area from the mid-1940s to the mid-1970s by a manufacturer of polysulfide rubber and solid rocket fuel propellant. The majority of wastes were dumped into a pit dug through fine sand. Waste chemicals from laboratories, drums, and bulk liquids were dumped into the pit. In 1978, the New Jersey Department of Environmental Protection (NJDEP) found that a contaminant plume that originated in the waste pit area had migrated north toward a nearby stream. Soil was also found to contain volatile organic compounds (VOCs). This site is within 2 miles of 3 other NPL sites. Samples were collected and sent to the TSC for analysis. The TSC analyzed the samples and submitted the report titled "Perchlorate Analysis for Goose Farms" to the Region. The TSC participated in a number of discussions with the Region pertaining to the analytical results.

- Reich
Site: Reich Farms SF Site
Site ID:

Type-Lead: State
Requested By: Jon Gorin (212) 637-4361
Lead Scientist: Wayne Sovocool (702) 798-2212, Joe Donnelly (702) 897-3387

Start Date: October 1996
Expected Completion Date: April 1997
Revised Completion Date: May 1998

Estimated Budget: \$27,000
Revised Budget: \$58,000
Major Contaminants: Organics

Total Exps: \$57,223 PC&B: \$15,300
Total FY98 Exp: \$22,852 PC&B: \$1,800
Total 2nd. Qtr. Exp: \$6,906 PC&B: \$500

The Reich Farm site is an open, relatively flat, sandy area covering approximately 3 acres in Dover Township. The site is surrounded by commercial facilities and wooded areas. During a 5 month period in 1971, the site was leased from the Reich Farm owners by an independent waste hauler and used illegally for the disposal of drums containing organic solvents, still bottoms, and residues from the manufacturing of organic chemicals, plastics and resins. In December 1971, the owners of the property discovered approximately 4,500 drums containing wastes on a portion of the land that they had rented out. These drums bore labels indicating that they belonged to the Union Carbide Corporation. Trenches where wastes were believed to have been dumped were also found. From 1972 to 1974 drums, trench waste, and contaminated soils were removed from the site by Union Carbide. In addition, contaminated private wells were closed and a zoning ordinance was passed preventing further groundwater use in the area.

The TSC was requested to help identify organic compounds found in groundwater samples. These compounds are believed to have migrated from the Reich Farm site. Samples were sent to ESD and analyzed by ESD research chemists. The identity of the compound(s) were determined. A report titled "Technical Report: Reich Farm Superfund Site Identification of Styrene-Acrylonitrile Adducts Found in Groundwater" was provided to the Region. A report by three ESD-LV scientists titled "Mass Peak Profiling from Selected-Ion-Recording Data and a Profile Generation Model: Powerful New Tools for Identifying Environmental Contaminants" was written and submitted for publication. Additional spectra was received for an analytical evaluation. A question regarding the process involved in the identification of the styrene-acrylonitrile trimmers was answered. A second unknown compound found in site extracts was identified by mass spectral interpretation and a review of analytical method procedures. Also, data were received for additional unknown contaminants found in groundwater near the site. These data were reviewed, mass spectra were interpreted, and the patent literature was search. Interpretations leading to structural identity and the preparation of a report titled "Reich Farm Superfund Site Further Study of Contaminants Found in Ground Water" was provided to the Region.

REGION 3

- Project Name: Aberdeen
Site: Aberdeen Proving Ground SF Site
Site ID:

Type Lead:
Requested By: Steven R. Hirsh (215) 566-3352
Lead Scientist: Al Crockett (208) 526-1574

Start Date: September 1997
Expected Completion Date: July 1998
Revised Completion Date:

Estimated Budget: \$10,000.
Revised Budget:\$
Major Contaminants: Organics

Total Expenditures:\$3,400
Total FY98 Expenditures:\$2,400
Total 2nd. Qtr. Expenditures:\$2000

The Regional RPM requested that the ESD-LV TSC provide assistance in evaluating the use of a passive method (the Gore Sorber) for sampling organic contaminants in monitoring wells.

The Aberdeen Proving Ground (APG) occupies 79,000 acres of land and water near the head of the Chesapeake Bay. The APG consists of two areas that are listed separately on the NPL; the Edgewood area is 13,000 acres and includes Gunpowder Neck, Pooles Island, Carroll Island and Grace's Quarters. The Edgewood area was used for the development and testing of chemical agent munitions. From 1917 to the present, the Edgewood area conducted chemical research programs, manufactured chemical agents, and tested, stored, and disposed of toxic materials. The Edgewood area has large areas of land and water and numerous buildings, which are contaminated or suspected of being contaminated. Virtually every land portion of the area is reportedly

contaminated or potentially contaminated. Substances disposed of in the area include significant quantities of napalm, white phosphorous and chemical agents.

The TSC reviewed site information and data. A TSC report that provides suggestions and recommendations as to the use of the Gore Sorber to characterize site groundwater contamination was provided to the Region. The information provided to the Region was titled "Evaluation of Passive Water Sampling Demonstration at the Aberdeen Proving Ground". The TSC reviewed additional information and data and provided comments and recommendations to the Region.

- **Project Name:** Allegany
Site: Allegany Ballistics Laboratory (ABL) SF Site
Site ID:

Type Lead:
Requested by: Bruce Beach (215) 566-3364
Lead Scientist: A. K. Singh (702) 435-3731

Start Date: August 1997
Expected Completion Date: February 1998
Revised Completion Date: May 1998

Estimated Budget: \$10,000
Revised Budget:
Major Contaminants: Inorganics

Total Expenditures: \$2,300
Total FY98 Expenditures: \$1,300
Total 2nd. Qtr. Expenditures: \$1,000

The RPM requested that the ESD-LV TSC provide assistance in assessing statistical approaches that were utilized by the PRP's to identify background soil concentrations.

Allegany Ballistics Laboratory (ABL) is located in Mineral County, West Virginia. ABL occupies 1,628 acres and is situated on the flood plain of the North Branch of the Potomac River, along the West Virginia-Maryland state border. Surrounding land use is primarily agricultural with some forestry. The facility has been in operation since 1942, primarily for the research, development, and testing of solid propellants and motors for rockets, ammunition, and armaments for the Navy. Operations at ABL have generated a variety of explosive and solid wastes that were disposed of in on-site disposal areas. From 1970 to 1981, some of the waste was stored in a drum storage area. Waste disposal and handling practices at the facility have resulted in several source areas of concern.

The TSC reviewed the site data and the PRP's statistical approaches. A letter report with comments and recommendations was provided to the RPM. The TSC received site data and completed some statistical calculations for the Region. A report titled "Upper Confidence Limits for Arsenic, Cyanide, Mercury, and Lead Computed from Allegany Ballistics Laboratory (ABL) Superfund Site Data" was provided to the Region.

- **Project Name:** Buckingham
Site: Buckingham County Landfill S. F. Site
Site ID:

Type Lead:
Requested by: Melissa Whittington (215) 566-3235
Lead Scientist: Anita Singh (702) 897-3234

Start Date: March 1998
Expected Completion Date: July 1998

Revised Completion Date:

Estimated Budget: \$15,000
Revised Budget: \$
Major Contaminants: Organics

Total Expenditures: \$0
Total FY98 Expenditures: \$0
Total 2nd. Qtr. Expenditures: \$0

The Buckingham County Landfill encompasses approximately 8 acres, including a 1-acre hazardous waste site and a 7-acre solid waste landfill. The site is situated on 175 acres of wooded land. Love's Container Service operated an unlicensed landfill from 1962 until February 1972. In November 1972, the Virginia State Board of Health (VSBH) issued a permit to the facility to dispose of municipal waste. In 1977, the solid waste landfill operation was closed and covered to the satisfaction of VSBH; however, the facility received interim Status as a hazardous waste disposal facility. Subsequently, the facility accepted approximately 1,250 drums of used organic solvents and flammable liquids and solids. These wastes were poured into a clay-lined evaporation trench. After the liquids were poured into the trench, the empty barrels were buried in a separate trench. The solid residue remaining after the liquids had evaporated was then dug out and emptied into hazardous waste trenches.

A Record of Decision (ROD) was signed for this site in September 1994 which called for construction of a RCRA cap over the hazardous waste portion of the site and long-term groundwater monitoring. At the time, EPA favored excavation and offsite treatment of the waste but overwhelming public opinion swayed the final remedy selection. The ROD has a contingency built in that requires excavation if there is an MCL exceedance at a point of compliance well.

The responsible party's contractor (Parsons Engineering-Science) completed an extensive groundwater investigation in June of 1997. The purpose of this investigation was to determine the most optimal locations and depths for the compliance wells. The ROD indicates that: if there is an MCL exceedance at a compliance well, the well where the exceedance occurred must be resampled to confirm the level of contamination in that well is in fact above the MCL. Parsons has provided information to outline their proposed procedure to confirm such an exceedance. The focus of the TSC review will be: (1) To determine if the proposed statistical analysis complies with the listed EPA guidances; (2) To determine if the proposed approach will confirm the exceedance; and (3) to provide EPA Region III with recommendations regarding approval/disapproval of the suggested approach.

The TSC is currently reviewing the provided information.

- Project Name: Defense Supply Center
Site: Defense General Supply Center SF Site
Site ID:

Type Lead:
Requested By: Jack Potosnak (215) 566-3362
Lead Scientist: David Faulder (208) 626-0674

Start Date: October 1997
Expected Completion Date: March 1998
Revised Completion Date:

Estimated Budget: \$12,000
Revised Budget:
Major Contaminants: Volatiles

Total Expenditures: \$4,700
Total FY98 Expenditures: \$4,700
Total 2nd. Qtr. Expenditures: \$500

The Remedial Project Manager (RPM) requested that the Environmental Sciences Division-Las Vegas (ESD) Technology Support Center (TSC) provide assistance in reviewing a proposed pilot testing of a density driven convection technology. The RPM is particularly interested in the proposed fluorometric analysis, well construction, piezometer spacing and the proposed length of the test period.

The location for the pilot study is located in the southern portion of DGSC in an area that originates just east of the location of an above-ground fuel oil storage tank and extends approximately 1,000 feet to the east of the tank. This site comprises an area used for fire training exercises where obsolete and unserviceable waste chemicals were burned from the mid-1960s until the late 1970s. Three separate unlined pits were probably used for fire training purposes. Flammable liquid chemicals and petroleum products were dumped into the pits, ignited and then extinguished during the training exercises. Petroleum oils, lubricating oils, solvents, pesticides, and herbicides may have been burned at the site.

The TSC reviewed the work task proposal and provided the RPM a report that contained suggestions and recommendations for improving this effort. Additional support is anticipated.

- Project Name: Old City
Site: Old City of York Landfill SF Site
Site ID:

Type Lead:
Requested by: John Banks (215) 566-3214
Lead Scientist: Bob Gerlach (202) 897-3293

Start Date: November 1997
Expected Completion Date: June 1998
Revised Completion Date:

Estimated Budget: \$15,000
Revised Budget:
Major Contaminants: Organics

Total Expenditures:\$3,571
Total FY98 Exp: \$3,571
Total 2nd. Qtr. Exp:\$761

The Remedial Project Manager (RPM) requested that the Environmental Sciences Division-Las Vegas (ESD) Technology Support Center (TSC) provide assistance in evaluating the statistical procedures that were used in evaluating groundwater data relative to the stated clean-up goals.

The 178-acre Old City of York site landfill was owned and operated by the City of York from 1961 to 1975. Industrial wastes were reportedly disposed of on the site. In 1981, EPA and State investigation found that the landfill was contaminating groundwater in the area with volatile organic compounds (VOCs). They also discovered that contaminated liquids were leaching from the site into the nearby Codorus Creek, which is used for fishing and other recreational activities. Local wells were contaminated, and the State advised affected residents to find other sources of drinking water or to treat well water before consuming it. The surrounding area is rural and residential.

The TSC was provided with the following data/information:
-Three Month Pump & Treat Performance Evaluation Report dated January 1997.
-Six Month Pump & Treat Performance Evaluation Report dated May 1997.
-Waste Management Inc.'s response, dated 11/7/97, to EPA's comments on the three and six month performance evaluation report.

The Region was particularly interested in the following:
(1) An opinion regarding whether there is a sufficient data set to perform a statistical evaluation; and

- (2) An opinion on the appropriateness of the statistical technique utilized. If the technique utilized is not appropriate, perform the statistical analyses with a detailed explanation of the statistical approach used.

Following a review of the provided information, the TSC provided the Region with a report titled "Statistical Evaluation of Groundwater Relative to Clean-up Goals". Discussions with the RPM pertaining to the provided report were completed.

- **Project Name:** Revere Chemical
Site: Revere Chemical Company SF Site
Site ID:

Type Lead:

Requested by: Ruth Scharr (215) 566-3191

Lead Scientist: Anita Singh (702) 897-3422

Start Date: January 1997

Expected Completion Date: September 1997

Revised Completion Date: March 1998

Estimated Budget: \$15,000

Revised Budget:

Major Contaminants: Inorganics

Total Expenditures: \$18,430

Total FY 98 Expenditures: \$4,915

Total 2nd. Qtr. Expenditures: \$4,765

The 111-acre Revere Chemical Company facility, located near Nockamixon, PA, was an acid, metal, and plating waste processing operation also suspected of accepting organic solvent waste. While the plant operated, wastes containing chromic acid, copper sulfate, and other heavy metals, as well as sulfuric acid and ammonia were stored on-site in unlined earthen lagoons. A U.S. District Court ordered the facility to close in 1969 for causing contamination of a tributary of Rapp Creek. The company abandoned full and empty drums, waste-filled lagoons, and piles of solid waste. In 1970, the Pennsylvania Dept. Of Health (DOH) treated and removed 3 million gallons of liquid wastes.

In order to identify where chromium represents a non-carcinogenic risk that exceeds a hazard index of 1.0, a chromium speciation quantitative speciation sampling and data analysis program was developed for this site. Data was obtained from 20 sampling locations, and the samples were analyzed for total and hexavalent chromium. From the data, a statistical evaluation was performed to determine chromium speciation.

The TSC was requested to review and to provide comments on the statistical approach used to assess the chromium speciation results. A report titled "Review of Chromium Speciation Program at Revere Chemical Site Nockamixon Township, Eastern Pennsylvania" was provided to the Region. Additional data assessments were completed as the PRP's have responded to the TSC's initial report. The TSC provided the RPM a report that addressed the PRP's comments and concerns. The PRP's have again responded to TSC's recommendations. The TSC is reviewing the PRP's response and provided the report titled "Review of the Procedure Proposed in December 17, 1997 Report by the Target Total Chromium, Revere Chemical Site Nockamixon Township, Pennsylvania".

- **Project Name:** Spring Valley
Site: Spring Valley Washington, D. C. Army Munitions S. F. Site
Site ID:

Type Lead:

Requested By: Drew Lausch (215) 566-3359, Linda Watson (215) 566-3116

Lead Scientist: Anita Singh (702) 897-3234

Start Date: January 1998

Expected Completion Date: September 1998

Revised Completion Date:

Estimated Budget: \$30,000

Revised Budget: \$

Major Contaminants: Inorganics

Total Expenditures: \$20,207

Total FY98 Expenditures: \$20,207

Total 2nd. Qtr. Expenditures: \$20,207

As part of a Remedial Investigation conducted at this Washington, D. C. Spring Valley Site, the ASIC collected soil samples at background locations and at a number of points-of-interest (POI's) sites. The COE's sampling effort was intended to determine whether, and to what extent, contamination had resulted from past Department of Defense (DOD)-related activities. EPA Region III concurred with the conclusions presented in the final RI report, which included COE's sampling analytical results for all POIs and a corresponding human health risk assessment.

In 1996, a resident in the community hired a contractor to perform landscaping activities on his property. The contractors were overcome by noxious fumes and rushed to a nearby hospital. This incident prompted further investigation in which arsenic was found at 1200ppm near the property. As a result of this incident, the D.C. government is questioning the selection of contaminants of concern (COCs) used on background statistical analysis and the subsequent risk assessment performed by Parsons Engineering Science, Inc.

To determine if the appropriate statistical analysis and conclusions were made regarding the background analysis, the Region requested that the statistical analysis, performed by Parsons, be assessed to determine if the appropriate analysis was performed. The Region also requested assistance in determining if the appropriate COC's were selected or eliminated based on the background statistical analysis. In addition, EPA split samples were taken during this investigation. The Region requested that appropriate statistical analysis to be performed by the TSC on the EPA data, as well as determine the COC's based on EPA split data samples.

The TSC received available data and is currently evaluating the statistical tests that were previously completed.

- Project Name: Tybouts
Site: Tybouts Corner Landfill SF Site
Site ID:

Type Lead:

Requested by: Kate Lose (215) 566-3240

Lead Scientist: Larry Hull (208) 526-1355

Start Date: September 1997

Expected Completion Date: January 1998

Revised Completion Date: April 1998

Estimated Budget: \$10,000

Revised Budget:

Major Contaminants: Organics

Total Expenditures: \$4,000

Total FY98 Expenditures: \$2,000

Total 2nd. Qtr. Expenditures: \$1,500

The Regional RPM requested that the ESD-LV TSC provide assistance in reviewing a work plan that was implemented by the PRP's to determine sources of sub-surface(s) combustible gases.

Tybouts Corner Landfill was constructed in a sand and gravel pit located in northern Delaware, 10 miles west of the Delaware River. The main landfill area is about 47 acres and is located near the confluence of Pigeon Run Creek and Red Lion Creek. The fill ranges from 5 to 40 feet thick. Between 1968 and 1971, this privately owned landfill accepted both municipal and industrial wastes, including volatile organic compounds (VOCs) and various other organic and inorganic chemicals. Tybout's Corner was built without a clay liner or other impervious material below the fill, and no clay cap was placed on top of the fill after it was abandoned. Previous EPA studies have revealed that two shallow aquifers beneath the site are contaminated with the above-mentioned chemicals. About 42 homes and facilities surround the entire landfill property and most of these have wells that draw from the aquifers contaminated by the site.

After gases were detected outside the landfill, the PRP's did a limited field survey, to identify the extent of the combustible gas migration and confirmed that the gases were located along nearby homes. Immediately, 38 vents connected to three blowers were installed adjacent to the landfill. The vents/blowers were successful in pulling back the gas plume with the exception of one area. The TSC reviewed the PRP's work plan and provided the RPM with suggestions and recommendations as to additional monitoring requirements. Additional review comments were provided to the Region pertaining to the "Tybouts Corner Landfill Gas Migration Report".

- Project Name: Woodlawn
Site: Woodlawn Landfill SF Site
Site ID:

Type Lead:

Requested by: Debra Rossi (215) 566-3228

Lead Scientist: A. K. Singh (702) 435-3731

Start Date: September 1997

Expected Completion Date: January 1998

Revised Completion Date: July 1998

Estimated Budget: \$8,000

Revised Budget:

Major Contaminants: Inorganics/Organics

Total Expenditures:\$5,535

Total FY98 Expenditures:\$4,242

Total 2nd. Qtr. Expenditures:\$2,113

The RPM requested that the ESD-LV TSC provide assistance in reviewing on and off-site data to determine background concentrations of arsenic and manganese in groundwater.

The Woodlawn County Landfill site covers approximately 37 acres in Cecil County, Maryland. The property was a privately owned sand and gravel quarry before it was purchased by the County in 1960. The County owned and operated the site as a municipal landfill from 1960 until 1978 when the State issued an order that prohibited the County from placing additional municipal wastes into the landfill. During operation of the landfill, two large quarrying pits were filled with agricultural, municipal and industrial wastes. State records document the disposal of polyvinyl chloride (PVC) sludge at the site by the Firestone Tire & Rubber Company (Firestone). The PVC sludge, which contained residual vinyl chloride, was initially disposed of into three segregated disposal cells. In 1978, the county began operating a municipal waste transfer station at the site.

The TSC participated in a conference call with the RPM and Geraghty and Miller staff pertaining to statistical approaches that could be utilized to characterize site data. TSC personnel provided statistical assistance in determining background levels of inorganic contaminants. The PRP's have responded to initial TSC recommendations. The TSC reviewed the PRP's comments and provided the Region with background and on-site data tables. The Region had a number of questions pertaining to the data tables and a possible spatial display of the data. The TSC is currently addressing these questions.

REGION 4

- Project Name: Buckeye
Site: Buckeye Florida S. F. Site
Site ID:

Type-Lead:
Requested by: Nardina Turner (404) 562-8650
Lead Scientist: Joe Donnelly (702) 897-3387

Start Date: February 1998
Expected Completion Date: July 1998
Revised Completion Date:

Estimated Budget: \$10,000
Revised Budget: \$
Major Contaminants: Dioxin

Total Expenditures: \$2,293 PC&B: \$500
Total FY98 Exps: \$2,293 PC&B:\$500
Total 2nd. Qtr. Exps: \$2,293 PC&B:\$500

The Region is interested in utilizing a field screening method using the P450 Reporter Gore System (RGS) to measure dioxin levels at the Buckeye site. Because of the uncertainty associated with the data obtained from this screening method the Region requested the TSC to evaluate available data and the technical literature to determine if this method would provide adequate data for site characterization purposes.

The TSC evaluated available information and data and provided the Region with a report that identifies the advantages and limitations associated with this measurement approach.

- Project Name: Koppers
Site: Koppers Co. Inc. S. F. Site
Site ID:

Type Lead:
Requested by: Craig Zeller (404) 562-8827
Lead Scientist: A. K. Singh (702) 435-3731

Start Date: February 1998
Expected Completion Date: October 1998
Revised Completion Date:

Estimated Budget: \$12,000
Revised Budget: \$
Major Contaminants: Organics

Total Expenditures: \$1,500
Total FY98 Expenditures: \$1,500
Total 2nd. Qtr. Expenditures: \$1,500

Koppers Co. Inc., operated milling, wood-preserving, and pole storage facility in the Charleston Heights District of Charleston, Charleston County, South Carolina, during 1925-78. The 127-acre site is in a mixed industrial/residential area. It is bordered on the west by Ashley River, and on the north and south by industrial facilities. Approximately 94,00 people live within 4 miles of the site.

Sources of hazardous substances on the site include a pit where timbers were soaked in creosote wood preservative, the "drip pad area" where the timbers were stored, and a bermed area that received contaminated sediment from canal dredging on the site. Southern Dredging Co. Leased part of the site in 1978 after wood-preserving operations had stopped. In 1984, the company dredged a canal from the Ashley River, intersecting a waste disposal area. Dredged materials were placed in the bermed area.

The Region has requested TSC assistance in reviewing the approach that the PRP's plan to take in identifying the levels and extent of soil contaminants for remediation. The decisions that will be made pertaining to the levels and the distribution of soil contaminants will be based upon a number of data assessment (statistical) tests.

The TSC participated in a planning meeting with the Region and PRP's. The PRP's are currently preparing work plans and data assessment approaches that will be reviewed by TSC personnel.

- **Project Name:** Stauffer
Site: Stauffer Chemical Co. (Tarpon Springs) S. F. Site
Site ID:

Type Lead:
Requested by: John Blanchard (404) 562-8934
Lead Scientist: Dick Smith (208) 526-9896

Start Date: January 1998
Expected Completion Date: July 1998
Revised Completion Date:

Estimated Budget: \$12,000	Total Expenditures: \$6,500
Revised Budget: \$	Total FY98 Expenditures: \$6,500
Major Contaminants: Phosphorous Slag	Total 2nd. Qtr. Expenditures: \$6,500

Stauffer Chemical Company is located in an industrial area between Anclote Boulevard and the Anclote River in Tarpon Springs, Pinellas County, Florida, about 1.6 miles east of the Gulf of Mexico. Stauffer purchased the 160-acre facility from Victor Chemical Works in 1960. The facility's ownership has changed several times; it is currently owned by Stauffer Management Company.

From 1950 to 1981, the facility manufactured elemental phosphorous ore. The processed ore was shipped off-site to be used primarily for production of agriculture pesticides, food-grade phosphates, and flame retardants.

The Region requested information and/or approaches that could be implemented which would identify an association between offsite radioactive slag materials developed as a by-product of elemental phosphorous at the Stauffer Chemical site. It appears to be "common knowledge" within the community that the slag materials at the site were given to local contractors and homeowners, but the Region has not been able to obtain specific/legally defensible records or manifests to document these activities. Further, no one has come forward to attest to transporting the slag from the site to any given location.

The TSC reviewed available site data and provided information to the Region pertaining to the identification (fingerprinting) of phosphate processing wastes. Additional support is anticipated.

- **Project Name:** Taylor
Site: Taylor Road Landfill S. F. Site
Site ID:

Type-Lead:
Requested by: Randa Chichakli (404) 562-8928
Lead Scientist: Max Engelhardt (208) 526-2100

Start Date: March 1998
Expected Completion Date: August 1998
Revised Completion Date:

Estimated Budget: \$15,000
Revised Budget: \$
Major Contaminants: Organics/Metals

Total Expenditures: \$800
Total FY98 Expenditures: \$800
Total 2nd. Qtr. Expenditures: \$800

The Taylor Road Landfill site consists of 40 acres. It is next to two other municipal landfills. The Department of Transportation (DOT) Borrow Pit landfill and the Hillsborough Heights Landfill. These three landfills occupy a total of 200 acres. The Taylor Road Landfill operated from 1975 to 1980, and the DOT Borrow Pit Landfill and Hillsborough Heights Landfill both operated from 1980 to 1984. The three landfills were used for the disposal of municipal refuse, but unknown quantities of industrial wastes may have been dumped at the site as well. Private wells in the area are contaminated with volatile organic compounds (VOCs) including benzene and vinyl chloride and heavy metals including lead from the former waste disposal activities at the site. Consuming contaminated groundwater and dairy products poses a health hazard.

The Region has selected natural attenuation with contingent corrective actions if necessary, as the remedial remedy. The Region is concerned about assessing site data in determining if the natural attenuation remedy is working. The TSC was requested to assess and review the proposed trend analysis that is being prepared by the PRP's. This review is in process.

- **Project Name:** Tennessee Products (TP) Superfund Site
Site: Tennessee Products SF Site
Site ID:

Type Lead:
Requested By: Nestor Young (404) 562-8781
Lead Scientist: Bill Brumley/Joe Donnelly (702) 897-3387

Start Date: January 1996
Expected Completion Date: September 1996
Revised Completion Date: April 1998

Estimated Budget: \$20,000
Revised Budget:
Major Contaminants: PAH's

Total Expends:\$18,727 PC&B:\$7,100
Total FY98 Exp:\$0 PC&B\$1,000
Total 2nd. Qtr Expends.\$0 PC&B \$500

The Tennessee Products (TP) Site, located in south Chattanooga, TN consists of a former coke production facility, its associated uncontrolled coal tar disposal areas, and approximately 2.5 miles of sediments in Chattanooga Creek that are all contaminated primarily with polycyclic aromatic hydrocarbons (PAHs). The site was placed on the National Priorities List (NPL) in January of 1994 based on an EPA multi-media study of Chattanooga Creek and on a Health Advisory issued by the Agency for Toxic Substances and Disease Registry (ATSDR) in 1993 concerning contact with the coal tar deposits.

The ESD TSC participated in a contaminant migration study being performed by the Velsicol Chemical Corporation under a RCRA order for their facility which is located adjacent to the TP Site. There are three springs on the TP Site which will be monitored as part of a dye trace study. The dyes will be used to document the movement (flow) of groundwater. The TSC analyzed water and dye receptors collected from TP site locations. The results from the initial analysis of samples were provided to the Region in a report titled "Dye Tracer Study Analyses from Tennessee Products Superfund Site". The Final Report titled "Technical Report's Tennessee Products NPL Site Dye Tracer Study Analyses" was prepared and provided to the Region. Additional explanation of the analytical methods utilized and the data obtained were provided to the Region. The TSC will review the data from the split samples analyzed by the RCRA facility.

REGION 5

- **Project Name:** Dutch Boy
Site: Dutch Boy SF Site
Site ID:

Type Lead:

Requested by: Diane Spencer (312) 886-5867

Lead Scientist: Greg Raab (702) 798-3221 Bill Cole (702) 897-3226

Start Date: July 1997

Expected Completion Date: December 1997

Revised Completion Date: March 1998

Estimated Budget: \$25,000

Revised Budget:

Major Contaminants: Inorganics

Total Expenditures: \$26,883

Total FY98 Expenditures: \$18,009

Total 2nd. Qtr. Expenditures: \$1,557

The Regional On-Scene Coordinator (OSC) requested that the ESD-LV TSC provide assistance in determining if previous sampling/monitoring efforts have adequately characterized on-site and off-site contamination.

The site is classified as an environmental justice site, with a large, middle-economic class, minority population. This property, as well as surrounding properties, which total approximately 120 acres, is located within Chicago's largest Brownfields redevelopment area.

The Dutch Boy site consists of an approximately 5 acre empty lot located at 12000 to 12054 South Peoria Street and 901 and 935 West 120th Street in Chicago. The site is located in a primarily industrial area and includes concrete loading docks, concrete paved surfaces, and two railroad spurs which are located in areas with exposed soil and vegetation. The site is bounded by the Illinois Central Gulf Railroad tracks to the south, an empty lot (previously International Harvester/Navistar operations) to the west, 120th Street to the north, and South Peoria Street to the east.

The TSC reviewed available site data and provided an initial report to the OSC titled "Preliminary Review of the Draft Extent of Contamination Survey Dutch Boy Site, Chicago, Illinois". A sampling/monitoring approach to adequately characterize off-site contamination was provided to the OSC in the First Qtr. of FY98. Discussions with the OSC pertaining to the sampling/monitoring approach were completed.

REGION 6

- **Project Name:** Texarkana
Site: Texarkana Wood Preserving SF Site
Site ID:

Type-Lead:

Requested by: Glenn Celerier (214) 665-8523 Earl Hendrick (214) 665-8519

Lead Scientist: A. K. Singh (702) 435-3731, Ron Arnett (208) 526-8005, Bill Cole (702) 897-3226

Start Date: July 1996

Expected Completion Date: February 1997

Revised Completion Date: August 1998

Estimated Budget: \$12,000
Revised Budget:\$130,000
Major Contaminants: Organics

Total Exps.:\$106,608 PC&B:\$600
Total FY98 Exps:\$39,971 PC&B:\$600
Total 2nd. Qtr.Exps:\$19,164 PC&B:\$600

The Region VI Remedial Project Manager (RPM) requested that the TSC provide assistance in statistical and sampling issues related to characterizing site contaminants.

The 25-acre Texarkana Wood Preserving Company site, located in Bowie County, Texas, is an abandoned wood-treating facility that operated under various owners from 1909 to 1984. When the site was placed on the NPL in 1985, approximately 793,000 gallons of hazardous waste were stored in pressure vessels, steel tanks, retention ponds, surge tanks, and three evaporation ponds. All units were heavily contaminated with creosote and pentachlorophenol (PCP) used in the treatment process, as well as several by-products. The TSC evaluated previously collected data. The TSC utilized geostatistics for assisting the Region in identifying the geographical distribution of site contaminants. The TSC evaluated monitoring data and attended a meeting in Texarkana. The TSC participated in numerous conference calls with the RPM and has provided soil contamination maps of site contaminants. The TSC was also involved with modeling the groundwater plume. A meeting with the RPM, State of Texas personnel and TSC staff at ESD-LV to discuss monitoring design approaches was completed.

The focus of this project has been the specific data needs for upcoming groundwater and soil sampling and identification of alternative conceptual models and modeling approaches. A meeting was held in Houston, Texas with the Texas Natural Resource Conservation Commission (TNRCC), EPA Region 6, Roy F. Weston, Inc., and the TSC. The sampling and data gathering recommendations presented in the INEEL Groundwater Modeling Approach and Data Requirements memorandum of August 20, 1997 were accepted and specific sampling locations identified. A set of alternative conceptual models and analysis scenarios proposed by the TNRCC were considered at the meeting. Those that included pump and treat were removed from consideration at the suggestion of EPA Region 6. All other conceptual models are amenable to analysis by the INEEL GWSCREEN code, but some of the scenarios include diversion of flow and a more realistic flow model (such as the USGS MODFLOW model) will be applied. The TSC reviewed a number of revisions of the draft and final sampling plans. The TSC is participating in the assessment of sampling/monitoring data.

REGION 7

- Project Name: Big River
Site: Big River Mine Tailing SF Site
Site ID:

Type Lead:

Requested by: Jack Generaux (913) 551-7690, Dave Drake (913) 551-7626

Lead Scientist: Mike Abbott (208) 526-8596

Start Date: April 1997

Expected Completion Date: October 1997

Revised Completion Date: June 1998

Estimated Budget: \$30,000
Revised Budget:\$80,000
Major Contaminants: Inorganics

Total Expenditures: \$69,165
Total FY98 Expenditures: \$36,130
Total 2nd. Qtr. Expenditures:\$16,880

The Big River Mine Tailings site in Desolge, St. Francois County, Missouri, was used for disposal of lead mine tailings during 1929-58. The site a former mining region about 70 miles south of St. Louis is often referred to as the "Old Lead Belt". The region (approximately 110 square miles) contains numerous tailings ponds and piles.

St. Joe Minerals Corporation operated the site, disposed lead, cadmium, and zinc- inch mine tailings over approximately 600 acres in a rural areas bordered on three sides by Big River. In 1972, the company donated 502 acres of the land to St. Francois County, which then leased the land to St. Francois County Environmental Corp. (SFCEC). Since 1973, SFCEC has operated a sanitary landfill on approximately 60 acres of the southern section of the tailings pile.

EPA learned of the site in 1977, when an estimated 50,000 cubic yards of tailings slumped into the Big River during a heavy rain. After the collapse, the Missouri Department of Conservation detected elevated lead levels in bottom-feeding fish and advised local residents.

The RPM requested the TSC to evaluate and identify air deposition of lead-containing particulates in the vicinity of mine waste piles. The deposition of particulates were modeled to determine if additional sampling is required to characterize lead contamination. In addition, samples from this site will be analyzed to determine the amount of total and bioavailable lead for risk assessment purposes.

Source emission modeling was completed for 34 chat pile and tailings flat sources utilizing over six years of hourly wind data. These emission rates accounted for source-specific particle size, surface roughness, pile height, and lead concentration. Air dispersion modeling using the Fugitive Dust Model has been completed for all sources over a coarse receptor grid of the entire 225 km² region. All deposition modeling has been completed and the report "Air Dispersion Modeling of Mine Waste in the Southeast Missouri Old Lead Belt" was given to the Region. The report is currently being reviewed by the Region and the Agency for Toxic Substances and Disease Registry.

- **Project Name:** Cherokee County Kansas
Site: Cherokee SF Site
Site ID:

Type-Lead: Fund

Requested by: David P. Williams (913) 551-5030

Lead Scientist: Bill Cole (702) 897-3226 Jan Kilduff (702) 897-7200

Start Date: July 1995

Expected Completion Date: March 1996

Revised Completion Date: October 1998

Estimated Budget: \$10,000

Revised Budget: \$45,000

Major Contaminants: Heavy Metals

Total Expends: \$23,303 **PC&B:** \$4,800

Total FY98 Exp. \$13,986 **PC&B:** \$800

Total 2nd. Qtr Exp. \$5,388 **PC&B:** \$500

The Cherokee County site is a mining area covering about 110 square miles. It is part of a larger area sometimes called the Tri-State Mining District, which encompasses Cherokee County in Kansas, Jasper County in Missouri, and Ottawa County in Oklahoma. One hundred years of widespread lead and zinc mining created piles of mine tailings, covering 4000 acres in southeastern Cherokee County alone. The mine tailings containing lead, zinc, and cadmium, have leached into the shallow groundwater. Runoff from the waste piles also has moved contaminants into nearby streams. The Regional OSC requested the use of ESD TSC's X-Ray Fluorescence technology and equipment to measure site contaminants. The ESD TSC is continuing to support this effort. The RPM requested special analytical support. The TSC continued to analyze a number of samples collected from this site to determine the amount of total and bioavailable lead for risk assessment purposes. A preliminary data report was provided to the RPM. The TSC also reviewed the "In Vitro Analytical Method" and provided comments to the Region. The TSC is getting ready to participate in the "Vitro Bioaccessibility Method Validation Study." This study will be completed during the third quarter of FY98.

- **Project Name:** Newton County
Site:Newton County SF Site
Site ID:

Type Lead:

Requested by: Dave Drake (913) 551-7626, Jack Generaux (913) 551-7690

Lead Scientist: Jan Kilduff (702) 897-7200

Start Date: April 1997

Expected Completion Date: October 1997

Revised Completion Date: June 1998

Estimated Budget: \$30,000

Revised Budget:

Major Contaminants: Inorganics

Total Expnds: \$3,200 **PC&B:**\$1,300

Total FY98 Expnds.\$200 **PC&B:**\$700

Total 2nd. Qtr. Exp:\$0 **PC&B:**\$300

This mining belt site, covers 6,400 acres, and is considered part of the Tri-State Mining District of Missouri, Kansas and Oklahoma. Two other sites in the district, Cherokee County in Kansas, and Tar Creek in Oklahoma, were places on the NPL in 1983. Lead and zinc ores, as well as some cadmium ores, were mined from 1848 to the late 1960's. The site is honeycombed with underground workings, pits, shafts, (open, closed and collapsed), mine tailings, waste piles, and ponds holding tailing waters. An estimated 10 million tons of wastes or tailings are on the site.

The TSC has been requested to analyze a number of samples collected from this site to identify the total and bioavailable lead fraction. This data will be used by Regional Risk Assessors. The TSC will analyze a number of samples from this site for total lead concentration after the vitro bioaccessability method validation study is completed. Following the analysis, a report of the results will be provided to the Region.

- **Project Name:** Oronogo-Duenweg
Site:Oronogo-Duenweg SF Site
Site ID:

Type-Lead: Fund

Requested by: David P. Williams (913) 551-5030

Lead Scientist: Bill Cole (702) 897-3226

Start Date: July 1995

Expected Completion Date: March 1996

Revised Completion Date:July 1998

Estimated Budget: \$10,000

Revised Budget: \$

Major Contaminants: Heavy Metals

Total Expenditures:\$4,428 **PC&B:**\$3,200

Total FY98 Exp:\$100 **PC&B:**\$600

Total 2nd. Qtr Exp: \$0 **PC&B:**\$300

The Oronogo-Duenweg Mining Belt site, which covers 6,400 acres, is considered part of the Tri-State Mining District of Missouri, Kansas, and Oklahoma. Two other sites in the district, Cherokee County in Kansas, and Tar Creek in Oklahoma, were placed on the NPL in 1983. Lead and zinc ores, as well as some cadmium ores, were mined from 1848 to the late 1960's. The site is honeycombed with underground workings, pits, shafts, (open, closed, and collapsed), mine tailings, waste piles, and ponds holding tailing waters. An estimated 10 million tons of wastes or tailings are on the site.

The OSC has requested the assistance of the ESD TSC to provide FPXRF support in characterizing soils for heavy metal contamination. The ESD TSC is providing this support by the loan of a FPXRF unit. In addition, the TSC has been requested to analyze a number of samples collected from this site to identify the total and bioavailable lead fraction(s). This data will be used by Regional Risk Assessors. The TSC will analyze a number of samples from this site for total lead concentrations after the Vitro Bioaccessibility Validation Study is completed. A report of these results will be provided to the Region.

REGION 8

There are no sites in Region 8 at this time.

REGION 9

- Project Name: Nelson
Site:Eagle Mill SF Site
Site ID:

Type Lead:

Requested By: Dan Shane (415) 744-2286

Lead Scientist:Jan Kilduff (702) 897-3220

Start Date: October 1997

Expected Completion Date: March 1998

Revised Completion Date:April 1998

Estimated Budget: \$30,000

Revised Budget:

Major Contaminants: Mercury

Total Expenditures:\$32,990

Total FY98 Expenditures: \$32,990

Total 2nd. Qtr. Expenditures:\$2,244

The On-Scene Coordinator (OSC) requested that the ESD-LV TSC provide assistance in analyzing soils for mercury contamination.

The site located on lands administered by BLM is about five miles southeast of the community of Nelson, Nevada. The site is about five miles from the Lake Mead National Recreation Area and five miles from the Colorado River (now Lake Mohave). The site is in a remote area of high desert with various cactus and creosote bush. It is in the El Dorado Mountain Range where there is a tributary of the Colorado River. Aztec Road transects Eagle Wash and leads to Nelson's Landing and Capital Camp Mine. A primitive fishing and camping site is located at Nelson Cove at the end of Aztec Road.

On July 23, 1997, the Nevada Department of Environmental Protection (NVDEP) requested EPA assistance in the mitigation of a mercury spill at the Eagle 1 Mill Site. According to NVDEP, metallic mercury was observed within the Eagle Wash on the north side of the mill building. In addition to the mercury spill, several containers of unknown chemicals were stored inside and around the building.

The TSC provided personnel to assist in the on-site sampling effort and analyzed all samples for mercury contaminants. The TSC provided the OSC with a report that identified the analytical results obtained. A number of discussions pertaining to the analytical data was completed.

- Project Name: Frontier
Site:Frontier Fertilizer SF Site
Site ID:

Type-Lead:

Requested by: Stephen Remaley (415) 744-1496

Lead Scientist: Suji Kumar (702) 897-3385

Start Date: February 1997

Expected Completion Date: October 1997

Revised Completion Date: July 1998

Estimated Budget: \$15,000

Revised Budget \$50,000

Major Contaminants: Organics

Total Expenditures: \$47,326

Total FY98 Expenditures: \$20,830

Total 2nd. Qtr. Expenditures: \$3,866

Frontier Fertilizer is a 13-acre site located near the eastern boundary of the City of Davis in Yolo County, California. The Barber and Rowland Co. operated a pesticide and fertilizer distribution facility on the site from 1972 to 1982. Operations consisted of delivering pesticides, herbicides, and non-bulk chemicals in cans, drums, and other containers. Currently, the site is used as a maintenance yard for agricultural equipment. Both the Barber and Rowland and Frontier Fertilizer companies used a former disposal basin, approximately 4,000 cubic feet in volume to dispose of unused pesticides and fertilizers.

Surface and subsurface soils in the area of the former disposal basin are contaminated with 1,2-dibromoethane (EDB), 1,2-dichloropropane (1,2-DCP), 1,2-dibromo-3-chloropropane (DBCP), disulfuron, ethyl parathion, Treflan, and Eptam. EDB, 1,2-DCP, and DBCP were also found in groundwater samples collected from on-site and off-site monitoring wells.

Samples from this site were apparently sent to a laboratory known as AnLab Analytical. The EPA is conducting an investigation of this laboratory for allegedly providing false statements and/or false data. The Regional TPO has requested the TSC to perform an audit of AnLab's generated data. The initial audit of site data was completed. The report titled "Technical Assessment of Magnetic Tape Data for Analytical Work Performed by AnLab Analytical Laboratory" was provided to the Region. Additional data tapes were received and are currently being audited. An EPA IG requested testimony by LMSG Data Auditors. The written testimony was provided to the IG. Additional testimony was provided during this quarter. In addition, final audit reports were provided to the IG and the Region.

- Project Name: McFarland
Site: McFarland SF Site
Site ID:

Type Lead

Requested by: Steve Remaley (415) 744-1496 Mike Mahoney (415) 744-1495

Lead Scientist: Suji Kumar (702) 897-3385 Joe Donnelly (702) 897-3387

Start Date: September 1997

Expected Completion Date: January 1998

Revised Completion Date: June 1998

Estimated Budget: \$16,000

Revised Budget: \$

Major Contaminants: Inorganics/Organics

Total Expenditures: \$18,431

Total FY98 Expenditures: \$17,204

Total 2nd. Qtr. Expenditures: \$8,690

The Technical Project Officer (TPO) requested that the ESD-LV TSC provide assistance in reviewing GC/MS data from samples collected at the McFarland SF Site.

McFarland is a small, mostly latino, agricultural town about 25 miles north of Bakersfield, California. The town is surrounded by fields of crops such as cotton, kiwi, grapes and almonds. In 1984, local and state agencies identified and confirmed a childhood cancer cluster in McFarland. Between 1975-1989 14 children under the age of eighteen were diagnosed with 11 different types of cancer including leukemia, brain, liver and bone cancer. Since the last investigation, CA DHS has confirmed 7 additional childhood cancer cases, which makes the cancer rate twice the normal rate over the past 21 years in McFarland. California DHS led an investigation of the cancer cluster which included an epidemiological study, soil sampling and drinking water well sampling, review of air data from a UC Davis Research Project, health exams for 1700 children and a four county study on childhood cancer to determine if cancer rates in agricultural communities were higher than in urban areas.

The TSC received the data for auditing from the TPO. The TSC completed the audit and provided the Region with a report titled "Review of Electronic and Hardcopy Data for McFarland Superfund Site Samples". The Regional Project Officer requested that the TSC provide information pertaining to the analysis of ethylenebisdithiocarbamate analytical methods. Information about the analysis of these contaminants were provided to the Region.

Project Name: MEW Site
Site: Middlefield-Ellis-Whisman SF Site
Site ID:

Type Lead:
Requested by: Loren Henning (415) 744-2243
Lead Scientist: A. K. Singh (702) 435-3731, Bob Gerlach (702) 897-3293

Start Date: June 1997
Expected Completion Date: September 1997
Revised Completion Date: July 1998

Estimated Budget: \$6,000	Total Expenditures: \$6,340
Revised Budget: \$10,000	Total FY98 Expenditures: \$3,320
Major Contaminants: Organic	Total 2nd. Qtr. Expenditures: \$2,520

The Region RPM requested that the ESD-LV TSC provide assistance in reviewing an Operation and Maintenance Plan (O&M).

The MEW Regional site encompasses approximately eight square miles of mostly industrial property located south of the San Francisco Bay in Mountain View, California. The site is known as MEW which describes the streets that make up the boundaries of the site. Eleven companies, including three NPL sites (Fairchild, Intel and Raytheon) and eight other facilities, are subject to EPA enforcement as part of the MEW group. The MEW Regional site encompasses the entire groundwater plume and includes Fairchild/Schlumberger, Raytheon, Intel, General Instrument Corporation, Siltec, NEC, Sobrato, Spectrace, Union Carbide, Tracor, National Semiconductor, Moffett Federal Air Field, and NASA Ames Research Center.

The TSC reviewed the O & M Plan and provided comments and suggestions to the RPM. Technical discussions with Regional personnel occurred. The TSC was requested to review and provide comments pertaining to the Confirmatory Soil Sampling Plan of the Draft Operation and Maintenance Plan". This review was completed and a report titled "Review of Confirmatory Soil Sampling Plan Section of Operation and Maintenance Plan - MEW Superfund Site" was provided to the Region.

Project Name: Montrose
Site: Montrose Chemical Corporation SF Site
Site ID:

Type Lead:

Requested by: Bruni Davila (415) 744-2364

Lead Scientist: A. K. Singh (702) 435-3731 Bob Gerlach (702) 897-3293

Start Date: November 1997

Expected Completion Date: October 1998

Revised Completion Date:

Estimated Budget: \$15,000

Revised Budget: \$25,000

Major Contaminants: DDT

Total Exps: \$13,571 **PC&B:** \$1,000

Total FY98 Exps: \$13,571 **PC&B:** \$1,000

Total 2nd. Qtr. Exps: \$8,097 **PC&B:** \$1,000

The RPM requested that the ESD-LV TSC provide assistance in developing a sampling/monitoring design to characterize DDT contamination in local residential areas.

The 13-acre Montrose Chemical Corp. Site was the location of a plant that manufactured the pesticide DDT from 1947 until 1982. Operations included formulation, grinding, packaging, and distribution of the pesticide. Various locations across the site were used for storage of either DDT or waste products. The area used as a settling and recycling pond for process wastes was completely unlined until 1970, when it was lined with concrete. In 1985, Montrose regraded and paved the site with asphalt to reduce the further migration of contaminants until final cleanup at the site. Approximately 3,000 people live or work within 1/4 mile of the site. The two upper aquifers are contaminated, but neither is used as a source of drinking water. Storm water flows from the site into the Normandie Avenue Ditch, to the Kenwood Drain, to Torrance Lateral, Dominquez Channel, Consolidated Slip, and finally into Los Angeles Harbor. Soils, surface water, and groundwater are contaminated with DDT and volatile organic compounds (VOCs).

The TSC evaluated available contaminant data and attended a planning meeting with California State, USCDC Region and private citizens. The TSC has provided the Region with a suggested sampling/monitoring approach that could be implemented to characterize soil DDT contamination. The sampling/monitoring approach was reviewed by a number of involved parties. The TSC is currently responding to the reviewers comments.

- **Project Name:** Newmark
Site: Newmark Groundwater Contamination SF Site
Site ID:

Type Lead:

Requested By: Steve Remaley (415 744--1496

Lead Scientist: Suji Kumar (702) 897-3385

Start Date: October 1997

Expected Completion Date: March 1998

Revised Completion Date: June 1998

Estimated Budget: \$15,000

Revised Budget:

Major Contaminants: Organics

Total Expenditures: \$9,237

Total FY98 Expenditures: \$9,237

Total 2nd. Qtr. Expenditures: \$456

The RPM requested that the ESD-LV TSC provide assistance in evaluating laboratory data from samples collected from the Newmark Site.

The Newmark Groundwater Contamination site covers a portion of the contaminated area of an essential groundwater aquifer underlying the City of San Bernardino. Groundwater contamination from other sources in the Bunker Hill Basin Aquifer, such as Norton Air Force Base to the south and Camp Ono/Muscoy to the southwest, are not considered parts of this site. Although the disposal occurred in the late 1950's through the mid-1960's, the problem was not discovered until a water supply monitoring program was instituted in 1980. A plume of chlorinated solvents, tetrachloroethylene (PCE), and trichloroethylene (TCE) closed 13 water supply wells with a 4-mile radius of the site.

The TSC evaluated GC/MS data produced by Intertek Testing Services Environmental Laboratories. Hard copies of the data backed up by magnetic tape was provided to the TSC. However, these tapes were inadequate. The TSC is waiting for the delivery of additional tapes.

- Project Name: Perchlorate
Site: Perchlorate L.V. SF Site
Site ID:

Type Lead:
Requested by: Kevin Mayer (415) 744-2248
Lead Scientist: Joe Donnelly (702) 897-3387

Start Date: August 1997
Expected Completion Date: December 1997
Revised Completion Date: April 1998

Estimated Budget: \$18,000
Revised Budget: \$65,000
Major Contaminants: Perchlorate

Total Exp.\$60,855 PC&B:\$5,900
Total FY98 Exp:\$47,218 PC&B:\$4,500
Total 2nd. Qtr.Exp.\$33,066 PC&B:\$2,000

The Regional Project Manager requested that the ESD-LV TSC provide assistance in critically reviewing the California DHS analytical protocol for detection of perchlorate to the 4 ppb detection limit. This Ion Chromatographic method has been instrumental in discovering perchlorate in groundwater and surface water supplies in California, Arizona and Nevada. It is important to establish the reliability of this method to detect perchlorate in the 4 to 18 ppb provisional reference dose range. This evaluation will also consider the effects of high dissolved solid concentrations typically present in both the groundwater and surface water of the arid southwest.

This contaminant may pose a health risk as drinking water in the Las Vegas Valley contains perchlorate. The levels are within the 18 parts per billion protective guideline accepted as safe by California health officials. Perchlorate is found in such compounds as ammonium perchlorate, which has been manufactured at two locations near Henderson, Nevada. Perchlorate is not regulated by the Federal Safe Drinking Water Act.

A report titled "Interim Technical Report Review of Methodology for the Analysis of Perchlorate in Water" was provided to the Region. In addition, the report titled "Interim Technical Report Methods and Quality Assurance for the Analysis of Perchlorate in Water" was completed. Due to the costs associated with this effort the TSC is not going to conduct a multi-laboratory methods performance, sample holding time, and preservation studies under this specific project.

- Project Name: QPC
Site:Quality Printed Circuit SF Site
Site ID:

Type-Lead:

Requested by: Nancy Riveland-Har (415-744-2371, Stan Smucker (415) 744-2311
Lead Scientist: Anita Singh (702) 897-3234

Start Date: January 1997
Expected Completion Date: September 1997
Revised Completion Date: July 1998

Estimated Budget: \$15,000
Revised Budget: \$45,000
Major Contaminants: Organics/Inorganics

Total Expenditures: \$36,802
Total FY98 Expenditures: \$9,667
Total 2nd. Qtr Expenditures: \$7,222

This Phoenix, Arizona site is comprised of approximately 1000 homes which were impacted by smoke from a 1992 fire of the QPC facility, a circuit board manufacturer. This fire burned for approximately 8-12 hours with the smoke plume blowing directly east and northeast of the facility. Subsequent to the fire, health effects believed to be a direct result of this fire occurred. Based on these concerns, EPA will sample various homes in the community. The issue is to establish an appropriate number of homes to be sampled. The Region wanted the TSC's assistance in determining how many homes should be sampled in the upcoming investigation. Sampling for dioxin, metals, acid anions, semi-volatiles and particulates was conducted. In addition, soil, indoor/outdoor air, air ducts (vents), evaporative cooler pads and house dust samples were collected.

Following an assessment of available data the TSC provided the Region with a statistically valid approach for sampling the affected areas. Samples were collected and analyzed. The TSC provided assessment of the sampling/monitoring data. The report titled "Statistical Analysis for Anions, Metals, PAH's and Dioxins Phase I Sampling, QPC Site, Phoenix, Arizona" was provided to the Region. Additional data assessments will be completed by the TSC and the report "Statistical Analysis for Anions, Metals, and PAH's Phase II Sampling, QPC Site, Phoenix, Arizona, March, 1998" was provided to the Region. A Summary Fact Sheet of the Statistical Analysis-Phase I and Phase II Sampling QPC Site, Phoenix, Arizona will be written and provided to the Region.

Project Name: San Fernando Valley Basin (SFV)
Site: San Fernando SF Site
Site ID:

Type-Lead
Requested by: Duane James (415) 744-2253
Lead Scientist: A. K. Singh (702) 435-3731

Start Date: October 1994
Expected Completion Date: September 1995
Revised Completion Date: April 1998

Estimated Budget: \$5,000
Revised Budget: \$
Major Contaminants: Organics

Total Exp. \$4,000	PC&B: \$1,600
Total FY98 Exp. \$1,500	PC&B: \$500
Total 2nd. Qtr. Exp. \$0	PC&B: \$0

Four sites within the San Fernando Valley (SFV) are currently on the National Priority List (NPL): North Hollywood, Crystal Springs, Pollock, and Verdugo. Currently EPA is managing the four areas as one large site referred to as the SFV Superfund Site. This site includes the four NPL sites and adjacent areas where groundwater contamination is known or presumed to have migrated. There are currently a total of 87 RI monitoring wells located inland adjacent to the four NPL sites. Three of the shallow water table wells are screened in bedrock and do not have pumps installed. Trichloroethylene (TCE) and tetrachloroethylene (PCE) data were used to separate the 84 RI wells into two categories: those recommended to be sampled quarterly, and

those recommended to be sampled annually. All 84 of the RI wells were originally included in the annual monitoring program. Of these 84 wells, 41 historically have concentrations of TCE and/or PCE in excess of federal and state maximum contaminant levels (MCLs) were placed into the quarterly monitoring program.

The Region is concerned with both PCE and TCE as contaminants in the groundwater. It has been suggested that kriging using plume maps might be a good way to access changes in contaminant concentrations over time. In addition, the Region is interested in any other means of characterizing migration of the contaminant plumes or changes in contaminant concentrations over time.

The ESD-LV TSC reviewed the provided data and identified a number of data assessment methods that could be used to assess contaminant behavior over time. The TSC provided some additional recommendations to the RPM. The TSC provided suggestions and comments pertaining to available data assessment techniques and methods to the Region. Additional support is anticipated.

REGION 10

- **Project Name:** Fort Lewis
Site:Fort Lewis East Gate Expanded SF Site
Site ID:

Type-Lead:

Requested by: Marcia Knadle (206) 553-1641

Lead Scientist: Larry Hull (208) 526-1922

Start Date: November 1997

Expected Completion Date: April 1998

Revised Completion Date:

Estimated Budget:\$10,000

Revised Budget: \$

Major Contaminants: Organics

Total Expenditures: \$2,500

Total FY98 Expenditures: \$2,500

Total 2nd. Qtr. Expenditures: \$500

The Regional Hydrogeologist requested that the ESD TSC provide assistance in evaluating the soil gas sampling effort that was conducted on a portion of this site.

The Fort Lewis site occupies approximately 650 acres of the Fort Lewis military reservation. The Logistics Center is an industrial complex comprised of warehouses, motor pools, maintenance facilities, and an equipment disposal yard. It was built in the early 1940s, and is used for storing supplies and providing maintenance of military equipment and vehicles. The primary contaminant, trichloroethylene (TCE) is a common industrial and commercial solvent and degreaser and was used for maintenance activities until the mid 1970's. The waste TCE, which was often combined with waste oil, was disposed of at several areas within the Center.

The DRMO Yard is used currently as a general-use temporary storage area. Stored materials include equipment containing residual polychlorinated biphenyls (PCBs). In the past, unknown quantities of stored materials included drums containing waste TCE and equipment containing PCBs.

A number of questions pertaining to soil gas data evaluation, sampling locations relative to the contaminant groundwater plume location and specific sampling methods were of interest to the Region. The TSC evaluated the provided data and furnished some suggestions and recommendations to the Region to enhance the soil gas monitoring effort. Additional support is anticipated.

Project Name: OESER

Site: OESER SF Site
Site ID:

Type-Lead:

Requested by: Beth Sheldrake (206) 553-0220 Margaret Justus (206) 553-2138
Lead Scientist: Joe Donnelly (702) 897-3387 Bill Brumley (702) 798-2684

Start Date: April 1997
Expected Completion Date: September 1997
Revised Completion Date: July 1998

Estimated Budget: \$35,000
Revised Budget: \$48,000
Major Contaminants: PAH's

Total Exp. \$34,625 PC&B:\$5,100
Total FY98 Exp.\$8,354 PC&B \$1,000
Ttl 2nd. Qtr. Exp.\$8,154 PC&B:\$0

The OSC requested that the ESD TSC provide assistance in fingerprinting PAH's for determining creosote-bases versus oil based contaminants.

The OESER site is an operating wood treatment facility located in Bellingham, Washington. The facility has been in operation since 1940, and over the years has treated utility poles with creosote and pentachlorophenol. PAH's have been detected in soils on and in the vicinity of the site. The levels of these contaminants may be sufficiently high to require risk management action. At issue is whether the contaminants are creosote or diesel fuel related. For example, oil contaminants have been reported in the vicinity; in addition, urban activity could be responsible for the presence of the elevated levels of PAH's.

The TSC analyzed samples from the OESER site and provided an interim report to the OSC. Following some additional analysis and data assessment. The final report titled "OESER Superfund Site Differentiation of Creosote and Oil Contamination in Soil and Groundwater Samples" was submitted to the Region. The RPM requested assistance in reviewing past site characterization sampling and monitoring efforts. Following the review the RPM requested the TSC to design an off-site effort that would adequately characterize soil dioxin contamination. The sampling/monitoring design is in process.

Project Name: Oregon Fir
Site: Oregon Fir Supply SF Site
Site ID:

Type Lead:

Requested by: Chip Humphrey (503) 326-2678
Lead Scientist: Brian Schumacher (702) 798-2242

Start Date: August 1997
Expected Completion Date: January 1998
Revised Completion Date: June 1998

Estimated Budget: \$20,000
Revised Budget:
Major Contaminants: Organics, VOC's

Total Exp. \$20,000 PC&B: \$6,000
Total FY98 Exp.\$0 PC&B: \$4,000
Total 2nd. Qtr.Exp.\$0 PC&B:\$2,000

The Regional RPM requested that the ESD-LV TSC provide assistance in characterizing volatile organic contaminants on this site. The Oregon Fir Supply is located in Portland's Development Commissions former Holman Redevelopment Area. The site is also located in the western portion of the wellhead protection area for the City of Portland's backup water supply well field. Historically, the site has been occupied by a heavy

construction company, a solvent drum recycler, a pharmaceutical testing laboratory, and more recently by airline service companies. Both chlorinated solvents and petroleum hydrocarbons have been detected in soil and groundwater across the site. The areas of contamination appear to be related to at least two discrete sources, including an acid neutralization sump and a solvent drum storage area. There is about 10 feet of silty sandy soil above the water table with varying concentrations of solvents and petroleum hydrocarbons.

Soil samples were collected and analyzed for soil VOC's. A preliminary report identifying the analytical results was submitted to the RPM and to the Oregon Department of Environmental Quality. A report titled "The Effect of the Sample Volume on the Precision and Bias of Soil VOC Measurements" was provided to the Region. Additional contaminant characterization reports are in process.

SUPERFUND SHORT-TERM REQUESTS

- Project Name: Short Term Requests
Site: Short Term Requests
Site ID:

Type-Lead:
Requested by: See Below
Lead Scientist: TSC/ESD Staff Scientists

Start Date: October 1997
Expected Completion Date: September 1998
Revised Completion Date:

Estimated Budget: \$40,000
Revised Budget: \$200,000
Major Contaminants: Variable

Total Expenditures \$19,216 PC&B:\$5,000
Total FY98 Exp.\$19,216 PC&B:\$5,000
Ttl 2nd. Qtr. Exp.\$15,000 PC&B:\$3,000

TSC requests that can be completed within a 60-hour period. The ESD is requested to provide quick-turn-around support. Projects may include:

- Emergency Response - on-site field measurements, such as geophysics, soil gas, and XRF.
- Emergency Response - Laboratory support, such as the analysis of chemical and radiological contaminants.
- Review of reports and work plans, sampling/monitoring protocols, and analytical protocols and approaches.
- Review of techniques and methods used on site assessment.
- Providing expert testimony and/or contributing to the validity and authenticity of data used in cost recovery cases.

SUMMARY OF SUPERFUND SHORT TERM REQUESTS

REGION/ STATE	DATE	SITE	REQUESTOR	TELEPHONE NUMBER	NATURE OF REQUEST
D.C.	2/6		D. Menkle	(202) 226-4771	Sampling

9	2/19		S. Dean	(415) 744-2391	RAD Analysis
5	2/18		R. Boyce	(312) 886-4740	VOC Sampling
1	3/26	Savage Well	D. Goehert	(617) 573-5742	Site Visit
1	1/8	Savage Well	S. Mangion	(617) 573-9658	Site Visit
9	1/14		S. Remaley	(415) 744-1496	Lab Closure
3	1/14	Metcoa	G. Lapsley	(215) 566-3279	Sampling
INEEL	1/9		J. Wade	(208) 526-6876	TSP Meeting
7	1/9		S. Marques	(913) 551-7131	TSP
3	1/21	Woodlawn	D. Rossi	(215) 566-3030	Data Assesment
6	1/21		D. Vanlandingham	(214) 665-2254	Perchlorate
INEEL	1/16		J. Barnes	(208) 526-0756	Sampling
LMSG	1/7		J. Baker	(702) 897-3253	WA's
6	1/7	Texarkana	F. Duke	(703) 792-8440	Sampling
5	1/6	Dutch Boy	D. Spencer	(312) 886-5868	Sampling
ORD	1/6		E. Weber	(706) 355-8224	Explosives
4	1/6		M. Morris	(423) 574-0559	Sampling
3	1/9		R. Conlin	(409) 690-9280	Issue Paper
INEEL	1/30		B. Snelling	(208) 526-5497	TSP
9	1/29		W. Praskins	(415) 744-2256	Sampling
3	1/5	Revere	R. Schaar	(215) 566-3191	Sampling
7	1/15		B. Mourningham	(913) 551-7913	Analysis
3	2/25	Revere	R. Schaar	(215) 566-3191	Sampling
9	2/19	Montorse	B. Davila	(415) 744-2364	Monitoring
9	3/31		S. Remaley	(415) 744-1496	Data Audit
OSWER	3/31		D. Bell	(301) 812-1632	Range Rule
10	3/27		R. Fuentes	(206) 553-1599	G.W. Sampling
9	3/27		S. Henley	(415) 744-1754	GIS Data Base
8	3/20	Big River	M. Goldade	(303) 292-4142	Lead Analysis
INEEL	1/16		B. Breckenridge	(208) 526-0756	DOE Visit
INEEL	2/20	Big River	M. Abbott	(208) 526-8596	Modeling

LMSG	2/23	Montrose	D. Delaney	(702) 897-3220	GIS
9	2/11		S. Hogan	(415) 744-2334	Sampling
4	2/10	Staffer	J. Blanchard	(404) 562-8934	Analysis
INEEL	2/19	Savage Well	K. Moore	(208) 526-8816	Sampling
4	2/9		B. Jackson	(404) 562-8925	Tech Support
Idaho	1/16		T. Weigold		TSP Meeting
LMSG	2/9		J. Kilduff	(702) 897-3230	Analysis
5	1/16	Crab Orchard	A. Holoska	(312) 886-7503	Tech Support
3	1/14		B. Pasquini	(215) 566-3326	Tech Support
3	1/13	Ciba-Geigy	R. Pezzella	(212) 637-4385	Sampling
7	2/27	Cherokee	D. Drake	(913) 527-7626	Analysis
9	2/25		S. Remaley	(415) 744-1496	Data Audit
4	2/18		K. Sexton	(423) 483-9870	Soil Sampling
INEEL	3/25		M. Engelhardt	(208) 526-5647	Issue Paper
9	1/14	Brown & Bryant	D. Warner	(415) 398-7000	Geo Physics
10	3/12		R. Fuentes	(206) 553-1599	Sampling
VA	3/12		E. Poziomek	(757) 440-4005	Issue Paper
10	3/9		J. Schweiss	(206) 553-1690	Issue Paper
9	3/5	Montrose	B. Davila	(415) 744-5364	Monitoring
6	3/12	Texarkana	F. Duke	(512) 239-2443	Data Assessment
3	3/13	Buckingham	M. Whittington	(215) 566-3235	Data Assessment
4	3/16		D. McNellis	(919) 541-6387	Sampling
9	3/23		C. Lichen	(415) 981-2811	Analysis
5	2/10		T. Prendiville	(312) 886-5122	Analysis
6	1/30		L. Price	(214) 665-6744	Issue Paper
INEEL	2/10		R. Lee	(208) 526-0120	GIS

SUPERFUND REMOTE SENSING SHORT TERM REQUESTS

- **Project Name:** Remote Sensing
Site: Superfund Short Term Remote Sensing Technical Support
Site ID:

Type Lead:

Requested by: See below

Lead Scientist: TSC Staff Scientists

Start Date: October 1997

Expected Completion Date: September 1998

Revised Completion Date:

Estimated Budget: \$5,000

Revised Budget: \$

Major Contaminants:

Total Expenditures:\$400 PC&B:\$500

Total FY98 Exp. \$400 PC&B: \$500

Total 2nd. Qtr. Exp:\$200 PC&B:\$0

TSC Remote Sensing requests that can be completed within a 60 hour period. The ESD TSC is requested to provide Remote Sensing support that requires a quick-turn-around-time. Projects that may be addressed within this 60 hour time frame include:

- The use of Geographic Information Systems (GIS) for site characterization.
- Providing plots of geostatistical related data for site characterization.
- Review of RI/FS reports and work plans, pertaining to the use of multi-spectral scanner, remote sensing and GIS technologies.
- Review of identification and technological techniques and methods used in remote sensing site assessment.
- Providing expert testimony, coordinating and/or contributing to the validity and authenticity of "remote sensing" data used in cost recovery cases.

REGION	DATE	SITE	REQUESTOR	TELEPHONE NUMBER	NATURE OF REQUEST
9	3/18		S. Henley	(415) 744-1754	GIS
D.C.	3/20		D. Wolf	(202) 260-3075	GIS
ORD	3/20		T. Slonecker	(703) 648-4289	GIS
7	1/16		V. Dann	(913) 551-7247	GIS
D.C.	1/16		E. Partington	(202) 260-3106	GIS

ISSUE PAPER/ISSUES

ISSUE PAPERS

- Project Name: Statistical Issue Paper

Site: The Lognormal Distribution in Environmental Applications

Site ID:

Type-Lead:

Requested By: Kenneth W. Brown

Lead Scientist: A. K. Singh (702) 435-3731, Max Engelhardt (208) 526-2100

Start Date: July 1996

Expected Completion Date: July 1997

Revised Completion Date: March 1998

Estimated Budget: \$5,000

Total Expenditures: \$27,926 PC&B: \$1,100

Revised Budget: \$

Total FY98 Expenditures: \$0 PC&B: \$700

Major Contaminants:

Total 2nd. Qtr. Expenditures: \$0 PC&B: \$0

Contaminant concentration data from Superfund sites often appear to follow a skewed probability distribution. The lognormal distribution is frequently used to model positively skewed contaminant concentration distributions. The H-statistic based upper confidence limit (UCL) for the arithmetic mean of a lognormal population is recommended by the U.S. EPA guidance documents, and is widely used to make remediation decisions at Superfund sites. Recent work in environmental statistics literature, however, has cast some doubts about the performance of the H-statistic based formula and the UCL of the arithmetic mean of a lognormal population. This issue paper is mainly concerned with the problem of computation of the UCL when the contaminant concentration distribution appears to be highly skewed. The issue of using the coefficient of variation (CV) in environmental data analysis is also addressed.

The TSC manager requested this issue paper as a result of past statistical technical support projects that have indicated problems with some recommended statistical data assessment procedures and techniques. The statistical issues addressed are directly related to ESD TSC projects in which Dr. A. K. Singh has been the technical lead. This issue paper will provide guidance in assessing site data for characterizing and remediation contaminants. The Issue Paper was written and approved as an ORD Project Report.

- Project Name: Explosives in Water

Site: Field Sampling and Selecting On-Site Analytical Methods for Explosives in Water

Site ID:

Type Lead:

Requested by: Federal Facilities Forum

Lead Scientist: Alan Crockett (208) 526-1574, Harry Craig (503) 326-3689, Tom Jenkins

Start Date: July 1997

Expected Completion Date: July 1998

Revised Completion Date:

Estimated Budget: \$30,000

Total Expenditures: \$18,755

Revised Budget: \$

Total FY98 Expenditures: \$18,255

Major Contaminants: Explosives

Total 2nd. Qtr. Expenditures: \$6,036

The Federal Facilities Forum requested the ESD to prepare an Issue Paper addressing the current "State of Technology" with regards to "On-Site Analytical Methods" for identifying explosive contaminants in water. In addition, this issue paper will discuss appropriate sampling/monitoring approaches that may be implemented to characterize these types of contaminants.

PURPOSE AND SCOPE

Evaluating sites potentially contaminated with explosives is necessary to carry out EPA, Department of Defense, and U. S. Department of Energy policies on site characterization and remediation under the Superfund, Resource Conservation Recovery Act, Installation Restoration, Base Closure, and formerly used defense site environmental programs. Facilities that may be contaminated with explosives include active and former manufacturing plants, ordnance works, Army ammunition plants, Naval ordnance plants, Army depots, Naval ammunition depots, Army and Navy Proving Grounds and burning grounds.

This issue paper will provide guidance to Remedial Managers for the use of on-site methods to measure explosives.

The outline for this paper is as follows:

- Explosives Compounds of Interest, Frequency of Detection
- EPA Office of Drinking Water Health Advisory Levels
- Holding Time Study for Explosives in Groundwater and Surface Water
- Water Methods Available (colormetric, immunoassay, biosensors)
- Detection Limits
- Interference/Cross Reactivity with Secondary Target Analytes
- Description of the SW-846 Method 8330, High and Low Level for Water
- Accuracy Comparisons of On-Site Methods with Method 8330
- Safety Concepts for Well Drilling in Areas Potentially Containing Unexploded Ordnance
- Well Casing Material Compatibility Data for Explosives in Groundwater
- Treatment Technologies for Explosives in Water
- Advantages, Disadvantages of On-Site Methods
- Table on Cost, ease of use, training, suppliers, etc.
- References

- Project Name: Statistical Issue Paper (Technology Support Center)

Site: Lognormal Kriging in Superfund Site Characterization

Site ID:

Type Lead:

Requested by: Kenneth W. Brown

Lead Scientist: A. K. Singh (702) 435-3731

Start Date: April 1998

Expected Completion Date: October 1998

Revised Completion Date: October 1998

Estimated Budget: \$18,000

Revised Budget: \$

Major Contaminants:

Total Expenditures: \$0

Total FY98 Expenditures: \$0

Total 2nd. Qtr. Expenditures: \$0

Contaminant concentration data collected from different sampling locations of a Superfund site typically has a skewed distribution, and is log-transformed before performing kriging for site characterization. The estimates obtained from kriging are then back-transformed to get estimates of contaminant concentration at the site. The formula for this back-transformation depends not only on the estimated concentration in the log-scale, but also its estimation error. As a result, the back-transformed estimates, in some situations, turn out to be orders of magnitude higher than the maximum observed

concentration at the site. A similar result is obtained in computing the H-statistic based upper confidence limit (UCL) of the arithmetic mean of the contaminant concentration distribution, when the data distribution is modeled by the log-normal probability function. The problems with using the H-statistic based formula for computing UCL were addressed in an earlier issue paper. This issue paper will use unconditional simulation and conditional simulation with data from Superfund sites to evaluate the method of lognormal kriging, and its performance will be compared to some robust kriging procedures. The software packages SCOUT and GEO-EAS will be used in comparative kriging procedures.

ISSUE

- Project Name: Environmental Data Quality
Site: Environmental Data Quality Assessment Integration
Site ID:

Type Lead:

Requested by: Bill Coakley (908) 906-6921

Lead Scientist: Gary Robertson (702) 798-2215

Start Date: April 1997

Expected Completion Date: April 1998

Revised Completion Date: September 1998

Estimated Budget: \$300,000

Revised Budget: \$

Major Contaminants: Organics/Inorganics

Total Exp: \$193,135 PC&B: \$7,000

Ttl FY98 Exp: \$99,893 PC&B: \$4,000

Ttl 2nd. Qtr. Exp. \$44,087 PC&B: \$2,000

One mission of the National Exposure Research Laboratories (NERL), ESD-LV TSC is to provide Superfund Technical Support to Regional Offices and other EPA Technical Support Centers upon request through the TSC for Monitoring and Site Characterization. Many of these requests deal with special data audits and data assessments. This contributes to ESD-LV's contaminant measurement efforts from the standpoint of improving data quality, sampling, analytical and quality assurance techniques that are used to produce data for contaminant characterization and exposure assessment purposes. The Superfund Program's Emergency Response Team (ERT) is a TSC that provides technical support for emergency response actions and for site characterization technologies and quality assurance to On-Scene-Coordinators (OSCs) at numerous Superfund sites across the Regions.

The ERT TSC is participating with the ESD-LV TSC in a technical support effort to integrate and implement various QA parameters in site characterization data collection and data assessment processes. This effort will be used to support ERT and the ESD-LV TSC's projects at many sites such as Fort Ord, Hunters Point and the Marine Corps Air Station Yuma. ESD-LV has in place an Intra-Agency Funding Agreement with the Technology Innovation Office (TIO) of the Office of Solid Waste and Emergency Response (OSWER) to provide Superfund technical support to OSWER and Regional Offices. The initial prototype of this data integration/assessment was developed and demonstrated to the EPA Project Officers. Additional interim reports were prepared. The ERT Project Officer (Bill Coakley) attended a number of progress briefings and demonstrations.

COORDINATION PROJECT OVERSITE

- **Project Name: Superfund Coordination**
Site: Superfund Coordination
Site ID:

Type-Lead:

Requested by: Ken Brown

Lead Scientist: Alan Crockett (208)526-1574, LMSG Bill Cole (702) 897-3226

Start Date: October 1997

Expected Completion Date: September 1998

Revised Completion Date:

Estimated Budget: \$10,000

Revised Budget: \$

Major Contaminants: N/A

Total Expenditures:\$13,780

Total FY98 Expenditures:\$13,780

Total 2nd. Qtr. Expenditures:\$12,728

This project provides for Superfund coordination and management of requests received by the Technology Support Center and implemented when assigned to the off-site contractor. Activities include preparation of reports and tracking of projects, and documenting costs.

TECHNOLOGY TRANSFER

Project Name: Superfund Technology Transfer
Site: Superfund Technology Transfer
Site ID:

Type-Lead:
Requested by: Director TSC
Lead Scientist: Clare Gerlach (702)897-3321

Start Date: October 1997
Expected Completion Date: September 1998
Revised Completion Date:

Estimated Budget: \$15,000
Revised Budget: \$35,000
Major Contaminants:

Total Expenditures:\$12,465
Total FY98 Expenditures:\$12,465
Total 2nd. Qtr. Expenditures:\$10,663

One of the objectives of the TSC is to identify and make available ESD measurement technologies that are applicable for characterizing contaminants. Documenting the adequacy of these technologies, the application and their identity requires the development of case studies, fact sheets, demonstrations and workshops.