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EPA Superfund
Record of Decision:

RSR CORPORATION
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OU 02
DALLAS, TX
05/09/1995

RECORD OF DECISION

RSR CORPORATION SUPERFUND SITE
OPERABLE UNIT NO. 2- DHA PROPERTY
DALLAS, TEXAS

Prepared by:
U.S. Environmental Protection Agency
Region 6
Dallas, Texas

DECLARATION FOR THE RECORD OF DECISION
RSR CORPORATION SUPERFUND SITE
OPERABLE UNIT NO. 2- DHA PROPERTY
DALLAS, TEXAS

Further Action Not Necessary For Protection
And Five-Year Review Is Not Required

SITE NAME AND LOCATION

RSR Corporation Superfund Site, Operable Unit No. 2
Dallas, Dallas County, Texas

STATEMENT OF BASIS AND PURPOSE

The United States Environmental Protection Agency (EPA) presents its decision in this Record of Decision (ROD) that no further action will be required at Operable Unit No. 2 (OU No. 2) of the RSR Corporation Superfund Site (RSR Site). EPA's decision is in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), 42 U.S.C. § 9601 et seq., and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. The decision is based on materials and documents contained in the Administrative Record for OU No. 2 that is available for public review at three repositories, one of which is located near the RSR Site. Specifically, EPA bases this decision on the results of a human health risk assessment conducted by EPA for OU No. 2 and the results of a remedial investigation and the successful completion of certain removal and demolition activities performed by the Dallas Housing Authority (DHA) at OU No. 2 from July 1994 through March 10, 1995.

DESCRIPTION OF THE SELECTED REMEDY/RATIONALE FOR NO FURTHER ACTION

No further action is necessary at OU No. 2 because the demolition and removal activities performed by DHA have permanently eliminated the principle threats to human health and the environment from contamination caused by the historic operation of a lead smelter located adjacent to OU No. 2. DHA conducted these activities as well as the remedial investigation for OU No. 2 under a CERCLA Administrative Order on Consent signed and effective on August 9, 1993. All DHA activities were performed with EPA; oversight and approval.

DHA's demolition and removal action activities at OU No. 2 consisted of removal and offsite disposal of approximately 24,000 cubic yards of lead or arsenic contaminated soils demolition of 167 buildings and offsite disposal of the demolition debris, and removal and offsite disposal of lead contaminated roofs. All contaminated soils and building debris removed from the site were disposed of at permitted offsite facilities authorized to receive such wastes. The demolition and removal action conducted by DHA met the same cleanup standards as EPA used in its emergency removal action performed in the residential and high risk areas of OU No. 1. Therefore, the demolition and removal action conducted by DHA at Operable Unit No. 2 meets EPA's cleanup standards for unrestricted residential use. Detailed information regarding DHA's removal activities is contained in the Administrative Record for OU No. 2.

DECLARATION STATEMENT

The remedial investigation and human health risk assessment show that the removal and demolition activities conducted by DHA at OU No. 2 of the RSR Site provide overall protection of human health and the environment and compliance with Federal and State requirements that are legally applicable or relevant and appropriate for sites contaminated with lead and arsenic. The removal and demolition action has addressed all concerns associated with the high concentrations of lead and arsenic at OU No. 2 and has provided for unrestricted residential use. The removal of contaminants to health-based levels has negated the need for a feasibility study of remedial action alternatives for OU No. 2. Therefore, consistent with CERCLA and the NCP, I have determined that based on the results of the investigations and studies and the successful completion of the demolition and removal action, no further action will be necessary at OU No. 2 of the RSR Site to ensure protection of human health and the environment.

Because hazardous substances will not remain onsite above health-based levels, five-year reviews are not necessary for OU No. 2 of the RSR Site.

SIGNATURE AND SUPPORT AGENCY ACCEPTANCE OF THE REMEDY

The State of Texas, through the Texas Natural Resource Conservation Commission (TNRCC), concurs with EPA's decision that no further action is necessary at OU No. 2 of the RSR Site.

EPA has determined that DHA's response action at OU No. 2 of the RSR Site is complete.

<IMG SRC 0695096>

A. Stanley Regional Meiburg Date
Deputy Regional Administrator
U.S. EPA - Region 6

RSR CORPORATION SUPERFUND SITE
OPERABLE UNIT NO. 2- DHA PROPERTY
DALLAS, TEXAS

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DECISION SUMMARY
RSR CORPORATION SUPERFUND SITE, OPERABLE UNIT NO. 2
RECORD OF DECISION

I. SITE NAME, LOCATION, AND DESCRIPTION

EPA is addressing the release or threat of release of hazardous substances at the RSR Corporation Superfund Site (RSR Site) under the authority provided in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9601 et seq. (also known as Superfund) and consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. The RSR Site is located in west Dallas, Texas and encompasses an area approximately 13.6 square miles in size (Figure 1). The RSR Site is very diverse and includes large single and multi-family residential neighborhoods, multi-family public housing areas and some industrial, commercial and retail establishments. Contamination at the RSP Cite reportedly originated from the operation of a secondary lead smelter facility located in the heart of west Dallas for approximately 50 years. Specifically, contamination of the RSR Site resulted from the fallout of historical air emissions from the RSR smelter stack, from the use by residents of lead slag and battery casing chips as fill material in residential driveways and yards and from the disposal of smelter wastes in several disposal areas including two areas operated as local municipal landfills.

In order to expedite Superfund response actions at this large site, especially with regard to the residential areas, EPA divided the RSR Site into five Operable Units (OUs), Figure 1:

- OU No. 1 - Residential Property
- OU No. 2 - Dallas Housing Authority (DHA) Property
- OU No. 3 - Slag Piles
- OU No. 4 - Smelter Facility
- OU No. 5 -Other Industrial Property Associated with the Smelter

Operable Unit No. 2 (OU No. 2) is an area owned and operated by the Dallas Housing Authority (DHA) which encompasses approximately 460 acres within the RSR Site. The OU No. 2 site is bounded by Westmoreland Road to the west, Hampton Road to the east, Canada Drive and the West Fork of the Trinity River to the north and Singleton Boulevard to the south. OU No. 2 includes primarily public multi-family housing, schools, parks, recreation facilities, and a day care center.

This Record of Decision (ROD) addresses only OU No. 2 (DHA Property). Since OU No. 1 and OU No. 2 involve residential and high risk areas, RODs for OU No. 1 and OU No. 2 are being issued concurrently. However, The RODs will be published as separate reports. Proposed Plans outlining recommended Superfund response actions for the other OUs at the RSR Site will be released in 1995.

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Because OU Nos. 1 and 2 are residential and high risk areas with similar characteristics, EPA performed some of its investigation activities concurrently for OU No. 1 and OU No. 2. In addition, some of the information generated for both OUs during the concurrent studies have been compiled and presented in documents applicable to both OUs. These materials are included in the Administrative Record for OU No. 2.

II. SITE HISTORY AND ENFORCEMENT ACTIVITIES

The source of contamination at the RSR Site resulted from secondary lead smelting (lead recycling, primarily automobile batteries) operations that were conducted from the early 1930s until 1984 at a facility located near the center of the RSR Site. An extensive review of available historical information concerning the smelter's operation indicates that from approximately 1934 until 1971, the lead smelting facility was owned and/or operated by Murph Metals, Inc. or its predecessors. In 1971, RSR Corporation acquired the lead smelting operation and established Murph Metals as an operating subsidiary. The smelter continued to operate under the RSR Corporation until March 1984 when a Federal Trade Commission divestiture order resulted in the acquisition of the smelter in May 1984 by the current owner, Murmur Corporation. In 1983, the City of Dallas declined to renew the smelter's operating permit.

This decision was based on the smelter's historic operational practices and changes in the City's zoning ordinance restrictions. As a result, the smelter closed in 1984 and has not operated since that time.

The smelter facility currently consists of two properties separated by Westmoreland Road. The smelter building, stack and other associated buildings, which are no longer in use, are situated on one property (OU No. 4), while disassembled battery wrecking building and abandoned disposal areas exist on the property across Westmoreland Road (OU No. 5). Currently, Murmur Corporation is conducting the only active site operations, which consist of a lead manufacturing and fabricating facility producing lead shot and lead sheets for hospital x-ray rooms.

As a result of a lawsuit brought by the City of Dallas and the Texas Air Control Board against RSR Corporation in 1983, RSR by court order was required to take corrective measures at the smelter, which included installation of stack emission controls and better control of fugitive emissions. RSR Corporation also was required to fund a cleanup of the residential community within one half mile of the smelter. The cleanup funded by RSR from 1984 through 1985 was directed by a court appointed Special Master and required the removal of soils in residential areas that exceeded approximately 1,000 ppm lead concentration. These soils were removed to a depth of 6 inches, replaced with clean fill, and covered by sod. Contaminated soils from public play arenas and day care centers were removed to a depth of 12 inches, 18 inches for gardens, and replaced with washed sand or clean soil. In addition, clean soil was placed on areas without adequate grass cover within a half mile of the smelter. The cleanup action conducted from 1984 through 1985 exceeded recommendations made by the Centers for Disease Control (CDC) and was considered a protective and appropriate action at that time. The CDC blood lead level of concern at that time was 30 micrograms per deciliter (µg/dL).

Based on available studies and scientific information, in 1989 EPA set interim soil cleanup levels for residential properties at 500 to 1,000 ppm lead concentrations. EPA's Office of Emergency and Remedial Response and Office of Waste Programs Enforcement considered these levels protective for direct contact in residential settings. However, in 1991 the CDC lowered the blood lead level of concern from 30 µg/dL to 10 µg/dL (CDC, 1991, Preventing Lead Poisoning in Children).

Concerns about lead contamination in the west Dallas area re-emerged in 1991 when the Texas Natural Resource Conservation Commission (TNRCC, formerly the Texas Water Commission) began receiving complaints from area residents about residual slag piles and battery chips allegedly originating from the former RSR Corporation facility. TNRCC requested that EPA re-evaluate the cleanup activities directed by the Special Master in the mid-1980s with funds provided by the RSR Corporation.

EPA began soil sampling in west Dallas in 1991 to determine the presence of soil contamination from the RSR smelter. Results indicated that areas previously cleaned under the direction of the Special Master using funds from RSR Corporation (1984-1985) were not recontaminated and did not require further cleanup, but that contamination existed in other areas near the smelter and in areas where battery chips were used as fill. Consequently, EPA initiated an emergency removal action from October 1991 through June 1994 (discussed in more detail below) in the residential and high risk areas consisting of removal and offsite disposal of soils and debris contaminated in excess of the removal action cleanup levels. Likewise, DHA conducted a demolition and removal action from July 1994 through March 10, 1995, using the same cleanup levels as were used for OU No. 1.

On May 10, 1993, EPA proposed to add the RSR Site to the National Priorities List (NPL) of Superfund sites (58 Fed. Reg. 27, 507, May 10, 1993). The proposed listing was based solely on the soil exposure pathway of the primary chemicals of concern, lead, arsenic, and cadmium.

ADMINISTRATIVE ORDER ON CONSENT

On August 9, 1993, EPA entered into a Superfund Administrative Order on Consent (AOC), Docket No. 6-21-93, with DHA, under which DHA agreed to conduct a remedial investigation and feasibility study (RI/FS) and, in addition, to conduct demolition and removal actions at OU No. 2. DHA has completed the remedial investigation and the demolition and removal activities required under the AOC. The demolition and removal activities were performed in an uninhabited residential area of OU No. 2 known at George Loving Place.

Under the AOC, DHA was required to perform the removal action in the same manner and in accordance with the removal action performed by EPA at the residential areas in OU No. 1 (completed by EPA in June 1994). In accordance with this requirement DHA excavated and removed all contaminated soils with concentrations equal to or in excess of 500 parts per million (ppm) lead, 20 ppm arsenic or 30 ppm cadmium, and disposed of those soils in appropriate and permitted offsite landfills. In addition, DHA demolished 157 buildings using methods approved by EPA to prevent public exposure to contaminants that may have been contained in the building materials. DHA's demolition and removal actions were performed with the oversight and approval of EPA. TNRCC also provided oversight support, and DHA coordinated and received approval from TNRCC for the disposal of materials to offsite facilities.

III. HIGHLIGHTS OF COMMUNITY PARTICIPATION

Public participation activities for OU No. 2 have been satisfied as required in CERCLA Section 113(k), 42 U.S.C. § 9613(k), and Section 117, 42 U.S.C. § 9617. The Remedial Investigation Report, baseline Human Health Risk Assessment Report and the Proposed Plan for OU No. 2 of the RSR Site were released to the public on November 18, 1994. These documents as well as other documents and information EPA relied on in recommending that no further action is necessary at OU No. 2 were made part of the Administrative Record File for the RSR Site on or before November 18, 1994. The Administrative Record File has been available to the public in three repositories; the West Dallas Public Library located at the RSR Site, the EPA Region 6 library in Dallas and the TNRCC library in Austin, Texas. The notice of the availability of the Proposed Plan and the Administrative Record File was published in The Dallas Morning News on November 14, 1994. The public comment period was held from November 18, 1994 through January 18, 1995. A Public meeting was held on December 1, 1994 to receive public comments from the community. In addition, legal and technical representatives from EPA participated in a radio talk show on January 15, 1995, to receive public comments and answer questions from citizens. Responses to all comments received during the public comment period are included in the Responsiveness Summary, which is included as Appendix A to this ROD.

This ROD presents EPA's decision that no further action is required at OU No. 2 of the RSR Site in Dallas, Texas for protection of human health and the environment in accordance with CERCLA and consistent with the NCP. This decision is based on the Administrative Record for OU No. 2.

IV. SCOPE AND ROLE OF OPERABLE UNITS

To prioritize investigations, enforcement actions, and removal or remedial actions at the RSR Site, EPA separated the RSR Site into five (5) OUs as described in Section I. OU No. 2 is the public housing area owned by DHA, which has been addressed under the CERCLA AOC. Based on the results of the remedial investigation (RI) conducted by DHA, the home study and human health risk assessment (HHRA) conducted by EPA, and DHA's demolition and removal action, EPA has determined that long-term remedial objectives have been achieved for OU No. 2. Therefore, no further action is necessary at OU No. 2 of the RSR Site to protect human health and the environment. The demolition and removal action implemented by DHA to address smelter-related contamination will be the final response action for OU No. 2.

OU No. 1 consists of the private residential areas of west Dallas that were the subject of EPA's emergency removal action. In addition to the removal action, EPA conducted a RI and an HHRA at OU No. 1 to determine the extent of contamination and long-term cleanup goals for OU No. 1. EPA's decision that no further action is necessary at OU No. 1 is being issued concurrent with this ROD for OU No. 2.

OUs 4 and 5, the smelter facilities, and OU 3, the smelter waste disposal areas, are currently being investigated by EPA. EPA anticipates releasing the results of its RIs as well as Proposed Plans recommending response actions for these OUs in the near future.

V. SITE CHARACTERISTICS

Soils

Soils in OU No. 2 provide the most likely exposure pathway of site contaminants. This is due to soil contamination from the RSR smelting operations and air deposition of metal particles, primarily lead and arsenic, in the downwind area. Although the smelting operations resulted in

soil contamination, the lead and arsenic materials bonded to the alkaline site soil particles and the contamination generally remained at the surface with little to no movement due to the type of soils present.

The soil survey of Dallas County, Texas issued by the USDA Soil Conservation Service (SCS), identified the Trinity-Frio soils as the major soil type at the RSR Site. Trinity soils are floodplain soils, poorly drained, clayey, with low permeability and high water capacity. Because they are primarily found in flat, low-lying areas, runoff and the potential for these soils to erode is minimal. Trinity-Frio soils are found over most of the northern half of the RSR Site.

Two soil types of upland soils are found in the southern portion of the RSR Site. Ferris-Heiden soils are clayey soils which have developed extensively on gently sloping to steeply sloping surfaces. These soils have low permeability and high water capacity due to their clay content. Eddy-Stephen-Austin soils are very shallow to moderately deep soils which have developed on gently sloping to moderately steep surfaces. These soils are more loamy, and therefore have higher permeability and lower water capacity than the Ferris-Heiden soils.

Houston Black soils, deep clayey soils developed on flat upland surfaces, are found near the center of the RSR Site. These soils have low permeability, high water capacity, and average erosion potential. In addition, deeply developed, loamy to sandy Bastsil soils are found along old stream terraces, on nearly level to sloping surfaces in a few locations at the RSR Site, primarily along the Trinity River and its tributaries.

Geology

The RSR Site is located on the margin between the Blackland Prairie and the Eastern Cross Timbers physiographic provinces. The RSR Site topography is characterized by low, flat to gently undulating surfaces. A majority of the RSR Site is located on a floodplain terrace of the Trinity River. The northern edges of the RSR Site are bounded by the Trinity River levee. The Trinity River levee system provides protection to the RSR Site and the City of Dallas from the 100 year flood.

The RSR Site is underlain primarily by Quaternary alluvial deposits. Below the RSR smelter facility (located in the center of the RSR Site), these deposits vary in thickness from a few feet in the southeast corner to over 30 feet in the northwest corner. In addition, fluvial terrace deposits are located in the southwestern portion of the RSR Site, and the Austin chalk and Eagle Ford shale are exposed in the uplands on the southern side of the RSR Site, primarily south of Interstate 30.

Hydrogeology

In north-central Texas, the two most important water-bearing stratigraphic units are the Woodbine Group, a minor aquifer, and the Trinity Group, a major aquifer. Both aquifers provide municipal, domestic, industrial, and some irrigation supplies to the north-central portion of the state. However, water for Dallas residents is provided from the City of Dallas system, which draws its water from surface reservoirs. Lake Lewisville is the primary reservoir and is located approximately 20 miles north of RSR Site. Water from this reservoir is provided via the Bachman Water Treatment Plant.

The Woodbine Aquifer is of Upper Cretaceous age and is composed of sand and sandstone. Ground water flow within the Woodbine is generally to the east. Within the RSR Site, the depth to the Woodbine from the ground surface is approximately 200 to 250 feet.

The Trinity Group Aquifer is encountered at greater depth than the Woodbine and other geologic units present in the RSR Site. Within the RSR Site, the depth to the Trinity Aquifer from the ground surface is approximately 1,300 to 1,500 feet to the Paluxy formation and approximately 2,500 feet to the Twin Mountain Formation.

Surface Water

The Trinity River and its tributaries are the only major surface water bodies in the vicinity of OU No. 2. The West Fork flows east-northeast from Grand Prairie and parallels the RSR Site (500

to 1,000 feet from the western edge) before joining the Elm Fork to form the main channel. From the confluence of the West and Elm Forks, the Trinity River flows east and then south, paralleling the RSR Site, approximately 1500 feet north of the northern and eastern boundaries. A surface drainage channel that flows through the western portion of the RSR Site empties into the Old West Fork channel, which joins the Trinity River at a pumping station between Westmoreland and Hampton Roads. An additional surface drainage channel in the eastern part of OU No. 1 travels along the Missouri Pacific rail lines and joins the Trinity River approximately 1/4 mile south east of Sylvan Avenue. Fishtrap Lake, Kidd Springs Lake, and Lake Cliff Lake also are located within the RSR Site.

VI. SUMMARY OF SITE RISKS

To evaluate the nature and extent of contamination at OU No. 2 a RI was conducted by DHA pursuant to the terms of the AOC and with EPA oversight and approval. In addition, EPA conducted a baseline human health risk assessment (HHRA! using data collected in EPA's home study of environmental media in homes in OU No. 1 as well as homes in the inhabited portion of OU No. 2. The home investigation consisted of sampling of several media inside and outside of each home. The home investigation consisted of collecting samples of; indoor dust, tap water, indoor and outdoor paint, and soil. This information was used in the HHRA process to determine the potential risks to human health from smelter contamination. The results of the RI and the HHRA show that the demolition and removal activities performed by DHA at OU No. 2 and the cleanup levels implemented in these activities achieve overall long-term protection of human health and the environment at OU No. 2.

DHA,s Demolition and Removal Action

Pursuant to the AOC, DHA submitted and EPA approved demolition and removal action workplans, sampling and analyses, and quality assurance and quality control plans. DHA's demolition and removal action was conducted from July 1994 through March 10, 1995 at the George Loving Place area of the OU No. 2 site. DHA established a 50 by 50-foot sampling grid throughout the demolition and removal area to determine the in-place concentration levels for lead, arsenic, and cadmium. This was done do determine which soil areas (soil grids) would require removals based on the soil cleanup action levels of 500 ppm lead, 20 ppm arsenic, or 30 ppm cadmium that EPA established in the residential areas of OU No. 1. Once the demolition of building, sidewalks, and streets had been completed, DHA conducted sampling in this same grid to determine if additional areas required soil removals because of contamination caused by or during the demolition activities. As part of EPA's oversight of DHA's demolition and removal action, EPA collected split confirmation soil samples which were analyzed at the Corps of Engineer Southwestern Division Laboratory for independent results.

Pursuant to the AOC, DHA completed demolition of 167 buildings and excavation of approximately 24,000 cubic yards of site soils contaminated above the removal action levels of 500 ppm lead, 20 ppm arsenic, or 30 ppm cadmium. Demolition debris and excavated materials were then disposed of offsite at hazardous and non-hazardous permitted landfill facilities.

To monitor air emissions and prevent releases of site contaminants to the surrounding areas and provide protection to site workers during the demolition and removal action, DHA established an air monitoring and air sampling program to determine short-term releases. Most of the soil materials excavated consisted of clays and grass/clay mixture and no air emissions above health-based levels were recorded. During the demolition and removal action, engineering controls (such as wetting) were used to minimize any potential releases of air emissions at elevated levels. Storm water control measures were also used to prevent offsite runoff of contaminated material.

EPA conducted regular oversight activities to ensure that the demolition and removal action was conducted in accordance with the AOC and the workplans approved by EPA. Additionally EPA collected random confirmation soil samples from excavated areas to ensure that no contamination remained above removal cleanup levels before the areas were backfilled with clean soil.

DHA completed the demolition and removal action on March 10, 1995. EPA has reviewed DHA's Supplementary Report to the Final Closure Report for George Loving Place of the DHA site and has evaluated the final confirmation sampling. Based on DHA's results and EPA's own confirmation sampling, EPA has determined that DHA has successfully completed the demolition and removal

action activities to address RSR Site contamination as required under the AOC.

The only remaining field activities include final grading activities, hydroseeding to promote grass growth for erosion control, and demobilization of construction and support equipment from the site. DHA's demolition and removal action activities and EPA's oversight and confirmation sampling results are presented in documents included in the Administrative Record for OU No. 2.

Current and Future Health Risks

To determine current and future risks to human health from smelter-related contamination, EPA conducted an HHRA for OU No. 2. Detailed information about the procedures of the study and the results are contained in the Baseline Human Health Risk Assessment Report for OU No. 2 which is included in the Administrative Record for OU No. 2.

A human health risk assessment is a procedure which uses a combination of facts and assumptions to estimate the potential for adverse effects on human health from exposure to contaminants found at a site. Risks are determined by evaluating known chemical exposure limits and actual chemical concentrations at a site. The actual concentrations are compared to the exposure to a concentration known to have an adverse impact. Conservative assumptions are used in calculating risks that weigh in favor of protecting human health.

Carcinogenic risks are expressed in terms of the chance of developing cancer after a lifetime of exposure to the contaminants. The national risk, or probability, that an individual may develop some form of cancer from everyday sources, over a 70-year life span is estimated at one-in-four. This one-in-four probability is considered the "natural incidence" of cancer in the United States. To protect human health, the EPA has set the range from one in ten thousand to one in one million (1x10-4 to 1x10-6) lifetime excess cancer incidents as the acceptable risk range. A risk of one in one million means that one person out of one million people could develop cancer as a result of a lifetime exposure to the site contaminants. However, since risk is a probability, the actual risk could also be zero.

Noncarcinogenic risks are determined by calculating the Hazard Index (HI) which is established by determining the threshold level of a contaminant that is safe to human health. If the HI equals or exceeds one (1), there may be concern for potential non-cancer effects from lifetime exposure to the site contaminants.

EPA commenced the HHRA process for OU No. 2 by evaluating the current site risk, also called the baseline risk, posed to human health. The current site risks for OU No. 2 were calculated based on the potential exposure to site contaminants based on the characteristics of the population and type of contamination at OU No. 2. OU No. 2 is currently zoned primarily for multi-family residential uses, and the probable future land use for the site was considered to be residential.

Because historical operations of the RSR smelter facility resulted in stack emissions causing the deposit of smelter-related contaminants within OU No. 2, EPA considered metals to be the primary contaminants of concern in OU No. 2. After applying the exposure and toxicity assessment screening steps, the following metals were retained as Target Analyte Metals (TAMs for the HHRA: lead, cobalt, copper, manganese, and zinc. Of these TAMs, lead and arsenic were detected in the highest concentration in OU No. 2.

The TAMs associated with the inhabited area of OU No. 2, other than lead, are not classified by EPA as carcinogens. Therefore, excess lifetime cancer risks cannot be quantified as a result of exposure at OU No. 2, and potential cancer effects for these metals are not discussed further. Because the TAMs are noncarcinogenic, risks from exposure to the TAMs, other than lead, were assessed by calculating the HIs.

Based on the current population and land use within OU No. 2, one exposure scenario, residential (adults and children), was identified for evaluation in the HHRA. Residents could be exposed to TAMs in soil within OU No. 2 through incidental ingestion of soil, inhalation of airborne soil particulates, and dermal contact with soil. Two routes of exposure, ingestion and inhalation, were quantitatively evaluated in the HHRA. Dermal exposure was not evaluated quantitatively in the HHRA because no metals with available human data to estimate an absorption

factor were identified as primary contaminants and the dermal exposure route is not considered to be a significant exposure pathway.

Risks associated with exposure to lead were determined by evaluating exposure to the most sensitive popular on in OU No. 2, children between the ages of 6 months to 6 years. Blood lead data was collected from a random group of children. In addition, the exposure scenario for children in OU No. 2 was evaluated using the integrated Exposure Uptake Biokinetic (IEUBK) model, (EPA version 0.99d, Feb. 1994), which examined concentrations of lead at specific exposure points in and around the home, whenever possible, and default values for other sources of lead exposure.

Occupied Portion Of OU 2

Exposure to Metals Other than Lead in Surface Soil - Residential

The residential exposure scenario for OU No. 2 assumed that a resident would come into contact with contaminated soil containing site-related TAMs on a daily (350 days) frequency for 30 years. Potential routes of exposure to soil include inadvertent ingestion and inhalation of airborne particulates.

The estimated total noncancer HIs for the TAMs, other than lead, were significantly less than one (< 1) for children and adults in OU No. 2. A noncancer HI less than 1 indicates a low probability of adverse health effects resulting from exposure to the site TAMs under the assumed exposure conditions.

Exposure to Lead in Environmental Media - Residential

Residential exposure to lead was evaluated using the IEUBK model, which uses site-specific or default concentrations of lead in environmental media (such as soil, dust, water, air, paint, and diet) to estimate blood lead levels in children. Adult exposure to lead is addressed based on exposure in the workplace.

Risk no children from exposure to lead in soil within OU No. 2 was evaluated by comparing the blood lead distributions estimated using the IEUBK model to the level of concern of 10 µg/dL established by the CDC (CDC, 1991). Results of the IEUBK model predict a mean blood lead level of 1.7 µg/dL for children living within OU No. 2 based on the random sample population. The model did not predict any blood lead values greater than 10 µg/dL for any child in OU No. 2. The modelled mean blood level of 1.7 µg/dL was lower than the measured mean blood level of 4.8 µg/dL. The model predicted no (0%) children with blood lead values greater than 10 µg/dL while the measured value was 5 percent (5%). Many factors contribute to the differences between modelled and measured blood lead levels including uncertainty associated with environmental and blood lead data, the IEUBK default parameters, and the full contribution of leaded paint to the input parameters.

The CDC has identified actions that should be taken when a child's blood lead content reaches certain levels. Based on the blood lead results, none of the children from OU No. 2 would be recommended for medical evaluation and/or intervention under the CDC standards.

The results of this evaluation should that no further soil removal action is necessary in OU No. 2 based on residential risk of exposure to RSR-related contaminants.

Residential Soil Lead Cleanup Level

The IEUBK model also was used to determine a site-specific cleanup level for lead in soil for OU No. 2. The IEUBK model considered the lead concentrations measured in air, drinking water, and dust in the area no calculate a soil lead cleanup level. The IEUBK model is designed to provide a soil lead level calculation that will limit exposure to lead in soil such that no more than 5% of the children population exceeds the 10 µg/dL blood lead level (the CDC blood lead level of concern). The IEUBK model calculated a soil cleanup level of 640 ppm lead for the residential areas of OU No. 2. DHA completed a demolition and removal action at OU No. 2 pursuant to the AOC and workplans approved by EPA. Even though the EPA's HHRA found that 640 ppm is a safe soil lead level, DHA conducted the removal action based on the more stringent 500 ppm lead level applied by EPA at the private residential areas of OU No. 1. The 500 ppm lead action level was

applied at all residential areas of OU No. 2, including the uninhabited areas of George Loving Place designated for future residential use after completion of the demolition and removal action.

DHA Human Health Evaluation

DHA also conducted a supplemental health evaluation for OU No. 2 in order to address specific contaminants identified in the RI at OU No. 2. This assessment included arsenic, cadmium and lead, in the demolition and removal area of George Loving Place and the VOCs and semi-volatile organic compounds identified in a former disposal ("fill") area at OU No. 2. Although materials in he fill area do not appear to be related to the RSR smelter, DHA conducted a human health assessment to evaluate the potential risks to human health and the environment from the contaminants found in the fill materials. One metal and seven of the organic compounds were present at reasonable maximum exposure (RME) concentrations that could pose a threat to human health. Cleanup levels for soils were developed for the range of acceptable cancer target risks of 1 x 10-6 to 1 x 10-4. The levels for the eight carcinogenic constituents ranged up to 13 ppm for the semi-volatile organic compounds and up to 52 ppm for arsenic. The actual concentration of these contaminants present in the fill area do not exceed the health-based cleanup levels and therefore do not pose a threat to human health. DHA's supplemental human health assessment did not identify organic constituents of concern in the fill areas.

Although DHA's health evaluation indicates that an arsenic cleanup level higher than the removal action level of 20 ppm would be protective of human health, DHA implemented its' demolition and removal action using the 20 ppm arsenic standard.

Impacts to the Environment

in addition to the assessment of risks to humans, EPA performed an Ecological Risk Assessment (ERA) for OUs No. 1 and 2, which is a separate report available in the Administrative Record for OU No. 2. As part of the ERA, a field survey was conducted from March 24, 1994 through April 2, 1994, within OUs No. 1 and 2 at the RSR Site to address data needs. Samples were collected from the 13.6 square mile RSR Site study area as well as from a reference area where no smelter-related contamination was present. The following information was gathered during this field effort:

- Species surveys of terrestrial and aquatic receptors
- Identification of critical habitat
- Collection of abiotic media (surface water and sediment) samples
- Collection of water quality parameters for characterization of the aquatic ecosystems

This information, along with data collected from previous investigations conducted at OU No. 1 and OU No. 2, and information collected from various state and local resource agencies (Dallas Nature Center and Texas Parks and Wildlife Department) were used to complete the ERA. Threatened and endangered species identified through the Texas Parks and Wildlife Department have not been observed or expected within the site boundaries.

The quantitative screening level ERA conducted with the above information indicated potential ecological effects to aquatic and terrestrial organisms in the drainage areas. The Bernal Street drainage area had the highest potential risk to aquatic and terrestrial organisms. The source of the contaminants identified in the surface water and sediments could not be determined. This drainage area receives runoff from numerous sources, both commercial and residential, that could be contributing to the elevated levels of contaminants. The screening level ERA indicated that further evaluation in the form of a definitive ERA may be warranted for surface water and sediments in the drainage areas. However, the screening level ERA indicated no significant ecological risk to target mammal receptors, terrestrial invertebrates or plants from surface soils. The screening level ERA indicated that soils did not present a significant risk to the environment. A definitive ERA of the drainage areas will be conducted as part of the remedial investigation for the RSR OU No. 3 site.

VII. EVALUATION CRITERIA

EPA's decision is that no further action is necessary to protect human health and the environment at OU No. 2. This decision is based on the results of the investigations and studies summarized in Section VI and presented in detail in documents contained in the Administrative Record.

EPA determines that DHA's demolition and removal activities have addressed the contaminated soil and building materials that were present au OU No. 2 by the removal of site contaminants and offsite disposal at permitted landfill facilities. Although removal actions do not have to achieve all of the goals of remedial actions, EPA finds that DHA's demolition and removal action has met long-term remedial goals for OU No. 2. EPA evaluates its decision for no further action pursuant to the following remedial criteria:

1. Overall Protection of Human Health and the Environment

No further action is necessary, at OU No. 2 because DHA's demolition and removal action achieved overall protection of human health and the environment. DHA's demolition and removal action eliminated the ingestion, inhalation, and direct contact pathways and provided permanent protection of human health and the environment by the removal and offsite disposal of contaminated soils and building materials from OU No. 2. Because the site contamination was removed and the smelter is no longer in operation, the potential for future releases of or exposure to contaminants, re-contamination at hazardous levels, and future air emissions from contaminated soils and building materials have been eliminated. DHA's demolition and removal action offers protection of human health and the environment by permanently removing contaminants from OU No. 2 to levels demonstrated to be protective of human heath and the environment.

2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

ARARs are federal and state requirements that should be considered or complied with in the performance of a selected response action. For example, hazardous material to be excavated and disposed off-site would have to be treated using the best demonstrated available technology (BDAT) to meet the RCRA Land Disposal Restrictions (LDRs) prior to landfill disposal. Since EPA's decision is that no further action is necessary, this criterion is not applicable except in regard to the demolition and removal action. DHA's demolition, removal, and disposal of RCRA hazardous and non-hazardous materials from OU No. 2 (DHA) met Federal and State ARARs. RCRA non-hazardous soils were excavated and transported to State permitted disposal facilities. RCRA hazardous materials were removed offsite for treatment prior to disposal at permitted facilities.

3. Long-term Effectiveness and Permanence

Further action is not warranted because DHA's demolition and removal action has provided long-term effectiveness and permanence by permanently removing the contaminated soils and building materials from OU No. 2 to a level demonstrated as protective of human health and the environment. Since the RSR smelter facility ceased operations in 1984, re-contamination of remediated areas is not expected to occur. Therefore, based on the results of the extensive site-specific studies and investigations at OU No. 2, long-term effectiveness and permanence has been achieved through the demolition and removal action without the need for additional response actions.

4. Reduction of Toxicity, Mobility or Volume Through Treatment

DHA's demolition and removal action has reduced the toxicity, mobility and volume of contaminants at OU No. 2 to a level that is protective of human health and the environment and further action is not necessary. At remediated locations, DHA's demolition and removal action reduced the toxicity, mobility, and volume of the contaminated materials at OU No. 2 by removal and offsite disposal eliminating the inhalation and ingestion exposure pathways for children and adults in OU No. 2. In addition, RCRA hazardous materials were treated prior to disposal, which reduced the toxicity and mobility of these materials at the disposal site. Non-hazardous materials did not require treatment prior to disposal. However, this action reduced the mobility of these materials by disposal at offsite facilities permitted to handle this type of wastes.

5. Short-Term Effectiveness

Since no further action is necessary, short-term risks are not present. During DHA's demolition and removal activities no short-term risks were encountered. An air monitoring program was implemented at the site to monitor potential exposure of the surrounding community and site workers to contaminated materials, and no air emissions above health-based levels were recorded. During the demolition and removal action, engineering controls (such as wetting) were used to minimize any potential for air emissions at elevated levels. Windrows were constructed around the site to maintain rain runoff with the site boundaries. Water runoff within the site was then diverted to holding ponds located at the site to prevent potential contamination from moving offsite. There were no adverse impacts from transporting excavated material to offsite landfill facilities.

6. Implementability

This criterion is not applicable to the no further action decision.

7. Cost

This criterion is not applicable to the no further action decision.

8. State Acceptance

The TNRCC has been consulted and has provided technical support throughout the RI process and demolition and removal action. TNRCC has reviewed and commented on the Proposed Plans for OU No. 2. Disposal of site materials to offsite permitted facilities was coordinated through TNRCC. The State of Texas concurs with EPA's decision for no further action at OU No. 2.

9. Community Acceptance

Community comments are an important consideration in the final decision for the site and EPA has carefully considered all public comments in making this decision. The public comment period for EPA's recommendations concerning OU No. 2 was from November 18, 1995 to January 18, 1995. During the comment period, EPA held a public meeting on December 1, 1994, and participated in a radio call-in talk show to answer questions and to receive verbal and written public comments. Other written comments were received during the comment period.

Generally, the public approved of the demolition and removal action conducted at OU No. 2. The main criticism centered around the cleanup action level for lead of 500 ppm established for the removal action. The public wanted to lower the residential cleanup level for lead to 250 ppm, but did not provide a rationale or any scientific reasons for this number. No risk analyses were presented to justify lowering of the cleanup level for lead.

On the contrary, all of the studies conducted by or under the direction of EPA at OU No. 2 show that 640 ppm lead in soil is a cleanup level that is fully protective of human health and the environment assuming residential use of the site and frequent exposure to soils. Nevertheless, DHA removed all soils found to contain more than 500 ppm lead. The studies show that the average soil lead concentration in the residential areas at OU No. 2 is 50 ppm and that elevated blood lead levels in children do not correlate to the residual amounts of lead in soils in OU No. 2. Therefore, there are no indications that lowering the soil lead levels further would result in a decrease in blood lead levels.

Additional public comments and responses are included in the Responsiveness Summary which accompanies this ROD.

VIII. STATUTORY AUTHORITY FINDINGS AND CONCLUSIONS OF LAW

Pursuant to CERCLA, studies are conducted at NPL sites to characterize the nature and extent of contamination associated with The source and to determine the most feasible cleanup approaches. At OU No. 2 of the RSR Site, EPA and DHA have conducted site investigations to determine the nature and extent of RSR contamination. EPA conducted a human health risk assessment to determine safe cleanup levels for smelter contaminants based on the characteristics and circumstances unique to OU No. 2. In addition, under a CERCLA AOC, DHA conducted a demolition

and removal action to address contaminated soils and buildings within OU No. 2.

Based on the results of the extensive site-specific investigations and studies, and EPA's finding that the demolition and removal action has been successfully completed, EPA determines that no further response action is necessary at OU No. 2 to protect human health and the environment. Because hazardous substances will not remain onsite above health-based levels, five year reviews are not necessary for OU No. 2 of the RSR Site.

The no further action decision presented in this ROD applies only to OU No. 2. The ROD documenting EPA's decision for OU No. 2 will be presented to the public at the same time as the ROD for OU No. 1. Studies and proposals to address contamination at the other Ous at the RSR Site are being conducted separately and results and recommendations for response actions will be issued within the coming months.

IX. DOCUMENTATION OF NO SIGNIFICANT CHANGE

The Proposed Plan for OU No. 2 of the RSR Site was released for public review and comments from November 18, 1994, through January 18, 1995. The Proposed Plan recommended, that once DHA completed the demolition and removal action at OU No. 2, no further action would be required at OU No. 2 to address smelter contamination. DHA completed the demolition and removal action on March 10, 1995, which EPA has subsequently reviewed and approved. EPA has carefully considered all written comments submitted during the public comment period. Based on consideration of these comments and the successful completion of DHA's demolition are removal action, EPA has determined that no significant change to its original proposal of no further action is necessary.

APPENDIX A
RESPONSIVENESS SUMMARY
RSR CORPORATION SUPERFUND SITE
OPERABLE UNITS NO. 1 AND NO. 2
DALLAS, DALLAS COUNTY, TEXAS

INTRODUCTION

The United States Environmental Protection Agency (EPA) has prepared this Responsiveness Summary for the RSR Corporation Superfund Site (RSR Site), as part of the process for making final remedial action decisions for Operable Unit No. 1 (OU No. 1) and No. 2 (OU No. 2). This Responsiveness Summary documents, for the Administrative Record, public comments and issues raised during the public comment period on EPA's recommendations presented in two Proposed Plans for residential areas of the RSR Site and provides EPA's responses to those comments. EPA's actual decisions for OU Nos. 1 and 2 are detailed in the Record of Decision (ROD) for OU No. 1 and the ROD for OU No. 2. Pursuant to Section 117 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9617, EPA has considered all comments received during the public comment period in making the final decisions contained in the RODs for OU No. 1 and OU No. 2.

The comments for both OU No. 1 and OU No. 2 are presented together in this Responsiveness Summary because the public comment period and public meetings for EPA's proposals for these OUs were held concurrently and many comments received may apply to both OUs.

OVERVIEW OF PUBLIC COMMENT PERIOD

EPA issued its Proposed Plans detailing remedial action recommendations for OU Nos. 1 and 2 for public review and comment on November 18, 1994. Documents and information EPA relied on in making its recommendations in the Proposed Plans were made available to the public on or before November 18 1994 in three Administrative Record File locations, including the West Branch of the Dallas Public Library located at the RSR Site. Initially, EPA provided thirty days for public comment. However at the request of a citizen EPA extended the comment period an additional thirty days, and the comment period closed on January 18 1995. EPA held a public meeting to receive comments and answer questions on December 1, 1994, at the Thomas Edison Middle School located at 2940 Singleton Boulevard in west Dallas, Texas. In addition, on January 15, 1995, technical and legal representatives from EPA participated in a radio talk show public meeting on KGBS Radio in Dallas, Texas to receive comments and answer questions from Dallas citizens. All written comments as well as the transcripts of verbal comments received during the public comment period are included in the Administrative Records for OU No. 1 and OU No. 2 and are available at the three Administrative Record repositories.

COMMENTS AND ISSUES RAISED DURING THE COMMENT PERIOD

1. Public Meeting, December 1, 1994, Thomas Edison Junior High School Auditorium

Ms. Barbara Mallory, Dallas City Council

Comment: EPA has not lived up to it's responsibilities if, after all of the time that has been spent in west Dallas for a cleanup effort, there is still a chance that children living near the RSR Site still run the risk of being contaminated at a rate four times higher than other children throughout the City.

Response: Lead contamination risks to west Dallas children are not four times higher than other areas of the City. This is a common misunderstanding of statistics presented in an article in the Dallas Morninq News. The fact is their children in west Dallas have average blood lead levels about the same as children in other parts of Dallas. EPA's actions have removed all significant RSR Superfund site contamination from residential soils; remaining sources of lead contamination come from sources other than the smelter facility.

Mr. Luis Sepulveda, President
West Dallas Coalition for Environmental Justice.

Comment: We can't even talk to the Head Director (Region 6).

Response: This is not true. Jane Saginaw, the Regional Administrator for EPA Region 6, has met with Mr. Sepulveda regarding other environmental issues. She has recused herself from RSR matters due to a potential conflict of interest from her litigation involvement at the site before she was appointed Regional Administrator. Several offers have been made to Mr. Sepulveda to meet with the Regional officials who have been delegated the responsibility for decision-making for the RSR Site.

Comment: We have tested before you dig and after you dig and lead is still there.

Response: There is no information to support this claim. Despite repeated requests by EPA, data has not been submitted to substantiate this theory. EPA collected thousands of samples from over 1,000 residential locations both before and after removal of soils. These data show that lead concentrations in soils are now at safe level and that recontamination of the cleaned areas is not occurring. The extensive data collected by EPA are available for public review in the three RSR information repositories.

Comment: EPA should have temporarily relocated people while residential properties were being cleaned up.

Response: EPA disagrees. When cleaning up a private residential property, it is best for the owner to be nearby to ensure that the job was done to their full satisfaction. Precautions, including wetting down of excavated soils, were taken to ensure that lead contaminated dust was not kicked up and air pollution monitors were continuously operated to verify that no problem was being created during the activities.

Comment: EPA should have cleaned up the inside of homes.

Response: EPA disagrees. The studies conducted by EPA and reviewed by health authorities at the Federal, State, and local levels showed that household dust presented no significant risk of lead contamination.

Comment: EPA let the Dallas Housing Authority, cleanup their properties without supervision: the dust from their demolition work is ".. everywhere...".

Response: This is not true. The Dallas Housing Authority (DHA) conducted its cleanup under EPA oversight through an Administrative Order on Consent. Actions were taken to prevent air pollution. Several layers of Oversight were in place to ensure that the cleanup was conducted according to the approved workplans. Oversight of the construction contractors was conducted by EPA, EPA's contractor, TNRCC, DHA, and DHA's contractor. Extensive engineering controls were used to control dust emissions like wetting of the buildings prior to and during demolition to prevent dispersion of dust. Air monitors were placed around the construction area to verify that contaminated dust was not being generated during the demolition activities. No air violations were recorded during these activities.

Comment: My parents are concerned that they are being exposed to high levels of lead in their home.

Response: EPA has not been allowed to confirm if there is a problem. EPA has requested, but has been refused access to sample this property. However, sampling of properties in the vicinity of this home have not indicated elevated lead levels.

Comment: EPA has not kept the West Dallas Coalition informed about what's been going on.

Response: This opinion is without basis; EPA has conducted a vigorous outreach effort. Since the proposed addition of the RSR site to the National Priorities List in May, 1993, EPA has held six open house meetings and two public meetings. The West Dallas Coalition accepted invitations to participation the workshops but then failed to attend. EPA has sent every person on the RSR Site mailing list of almost 1,000 people, including members of this group, several fact sheets and notifications about the site. EPA also established a community outreach field office at the West Dallas Multi-Purpose Center that could be easily accessed by citizens to obtain site information.

Comment: Despite requests, EPA has yet to make public EPA's environmental equity report.

Response: EPA is not preparing an "environmental equity report" specific to the RSR Site. All of EPA's RSR studies, as well as the studies by the City of Dallas, the Texas Department of Health, and the Agency for Toxic Substances and Disease Registry have been made available to the public for review and comment at three locations, including the West Branch of the Dallas Public Library located at 2332 Singleton Blvd.

Citizen's Comments at the Public Meeting

Comment: Why are only the kids tested for lead and not the grownups? Grown folks need to be tested too.

Response: The reason only children 6 years old and younger were tested as part of the in-home study is because children are most sensitive to lead levels in the environment. By addressing lead contamination in the environment that is affecting children, then other age groups also would be protected. Older children not tested and adults can have their blood tested for lead by their personal physician or at the City's health clinic located at the West Dallas Multi-Purpose Center at 2828 Fishtrap Road.

Comment: EPA doesn't talk to "poor people".

Response: This perception is not based upon the record of EPA's actions. EPA has gone to lengths to fully inform and involve interested members of the community regardless of their economic status and to provide the residents access to all other relevant government organizations. Since June 1993, EPA has held six open house meetings in west Dallas to answer questions from the community and to provide information regarding the site and other lead issues. These open house meetings were attended by EPA, City of Dallas Department of Health and Human Services, the Texas Natural Resource Conservation Commission, the Agency for Toxic Substances and Disease Registry, the Texas Department of Health, and the Dallas Housing Authority, all making themselves available to answer questions from any person in the community. EPA has also conducted meetings with several community groups to further listen to their concerns and answer questions. In addition, EPA has provided to the community telephone numbers of the staff persons on the EPA RSR Team so that people can call directly to ask questions and obtain information.

Comment: EPA needs to tear down the lead smelter.

Response: A proposal regarding the lead smelter facility will be released in the spring of 1995 for public comment. One of the alternatives being considered is to demolish the lead smelter facilities. EPA chose to give highest priority to developing proposals for residential areas of west Dallas since this is where children are most likely to be exposed to lead.

Comment: I strongly oppose the decision of the Environmental Protection Agency to remove the Superfund status from the neighborhoods in west Dallas.

Response: EPA is not proposing to change the Superfund designation for west Dallas. EPA also is not leaving west Dallas. EPA is stating that the cleanup in the private residential locations and public housing area is complete. However, plans have not been completed for the smelter facility, former processing area, and slag piles. Plans for these sites will be released to the public for comment in the near future.

Comment: EPA's cleanup efforts in west Dallas deserve more money.

Response: The amount of money that can be spent at a Superfund site is not a predetermined or arbitrary figure, but is based on the amount needed to study and correct hazardous waste problems. At the RSR Site, cleanup efforts and studies have cost EPA some $16 million dollars to date. Additionally, the Dallas Housing Authority has spent approximately $10 million in demolition of 167 public building and removal of contaminated soils. Additional funds will be made available as needed to correct remaining environmental problems associated with the site.

Comment: The alarming conditions that originally caused the west Dallas neighborhoods to qualify for emergency Superfund status have not been fully addressed. That emergency status was warranted because of extremely high levels of pollution.

Response: The emergency status was addressed by EPA by conducting removal action cleanups under the Superfund program at 420 residential and high risk areas with RSR-related contamination. Additionally, EPA, TNRCC, and the City of Dallas conducted comprehensive inspections of 6,800 properties, collected soil samples at over 1,000 homes, and collected soil, dust, paint, water, and blood samples at 350 residences. Results of these studies indicate that RSR lead contamination has been addressed. These studies further show that the removal action cleanup levels for lead provide long-term protection to the community. There are of course other health and contamination issues in west Dallas; that is why EPA and 11 other Federal, State, and local organizations have joined together to address these issues by forming the Dallas Area Lead Steering Group. Members of this group collaborated to write a "Citizen's Guide to Lead Issues". The Guide provides answers to some of the most commonly asked questions regarding urban lead contamination and summaries of local services that are available.

Comment: Even though the government replaced the contaminated driveway and garage at my mother's house, the cleanup was incomplete since it did not include cleaning the inside of the house nor did it include removal of lead that may have washed under the house.

Response: EPA disagrees. The cleanup removed the RSR lead contamination to which humans can be impacted by exposure; the evidence collected in comprehensive household tests showed that lead contained in indoor dust does not present a public health risk in west Dallas. When contaminated materials were removed from residential areas, EPA took protective measures and monitored air quality to ensure that pollution was not spread.

Comment: The government is responsible for lowering the value of my house and making it unsalable.

Response: EPA strongly disagrees; in fact, the Superfund cleanup has the opposite impact. Residential housing was placed adjacent to pollution sources before local government restricted land use and before pollution laws were developed. EPA's actions have removed the specter of RSR contamination from all of the residential properties in West Dallas that were part of the survey, testing, and cleanup effort.

Comment: You said the soil was cleaned. If the soil was cleaned adequately, why is it being redone?

Response: This rumor is simply incorrect; the soil cleanup is not being redone. The properties cleaned up in the 1990s are not the same as the ones cleaned up in the 1980s. When EPA began its cleanup in the 1990s, all residential properties previously cleaned were re-sampled. None required additional cleanup.

Comment: Is it true that the blood lead level in at least one of the children participating in the RSR home study dropped after the child left west Dallas? [Concern that residency in West Dallas, by itself, increases exposure to lead pollution]

Response: There is no evidence that moving from west Dallas will reduce blood lead levels. In fact, other parts of Dallas have higher incidences of elevated blood lead levels due to the myriad of sources of the substance in the urban environment. The City of Dallas is conducting follow up testing of the children that participated in the home study, had elevated blood lead levels, and continue to reside in the area. Some of the children were no longer being tracked because either their blood lead levels were now below the level of concern of 10 μg/dL or they had moved out of study area. The blood lead levels have decreased in some of the children that remain in west Dallas.

Comment: Why did EPA wait until November 1994, to propose the removal of barrels of contamination from the smelter when cleanup activities had been going on in residential areas for two years?

Response: Formal access to all portions of the RSR facility for sampling and identification of the highly contaminated wastes was not granted until May 1994. The delay in gaining access was believed acceptable since EPA's initial priority was to cleanup the areas where people live. Although these barrels have high contamination levels, they are located in a secure location away from public contact.

Comment: Is west Dallas as safe from environmental lead contamination as suburbs such as Richardson, Carrollton, Addison and Plano?

Response: Yes, although soil lead contamination data from these areas is not available as extensive as it for west Dallas. EPA's RSR home studies showed that there was no correlation between soil lead levels and elevated blood lead levels in west Dallas. Blood lead levels in west Dallas are comparable to, and are often lower than, other areas of the City.

Comment: Since EPA only sampled or cleaned up in certain areas of the community, how can the public be assured that the total RSR pollution problem has been found and fixed?

Response: All residential areas of west Dallas, approximately 6,800 properties, were inspected by the State to determine if they had smelter-related contamination. The homes that had suspected lead contamination or used battery chips as fill material were tested. In the air deposition area, all homes where access was granted also were sampled. This resulted in over 1,000 residential locations throughout west Dallas being tested for lead contamination. Therefore, EPA is confident that all residential properties in west Dallas that participated in this effort are now free of RSR lead contamination.

Comment: My children are sick and our doctor does not know what is wrong with them. They have sudden blackouts they stay up for extended periods of time, and they have nose bleeds. We have lived in west Dallas for 20 years and fear that we have been exposed to pollution. Could EPA tell us the answer to the medical situation or where we could get help for them?

Response: In addition to your family doctor, diagnosis of health problems can be obtained from the City's clinic in west Dallas and from the Parkland Hospital at the following addresses:

- West Dallas Multipurpose Center
  2828 Fishtrap Road, (214) 670-7152

- Martin Luther King, Jr. Family Health Center
  2922 Martin Luther King Jr. Blvd., (214) 426-2686

- Los Barrios Unidos Community Clinic UHI
  3316 Sylvan Avenue, (214) 651-8739

- Parkland Memorial Hospital
  5201 Harry Hines Blvd., (214) 637-1861

Additional information regarding lead contamination and health services is contained in the "Citizen's Guide to Lead Issues" available from EPA at:

- US Environmental Protection Agency
  1445 Ross Avenue, (214) 665-6584

- West Dallas Multipurpose Center
  2828 Fishtrap Road, (214) 670-7152

- Dallas Public Library- West Branch
  2332 Singleton Blvd., (214) 670-6445

Mr. Otis Fagan, Sr., President
Friendship Homeowners Association for Environmental Justice

Comment: Poor health conditions exist in our community because of the lead-related environmental epidemic; presently the soil removal base limit, the method and model will not reduce exposure in the community to a level needed to aid the community in health recovery.

Response: The RSR smelter has been only one of many sources of lead in the urban environment in west Dallas. EPA's Superfund cleanup efforts resulted in the removal of the RSR-related lead from residential areas. Compared to a rational average of 8.9%, 8% of west Dallas children currently have elevated blood lead levels. Further reductions of lead in

residential areas must be obtained through community education and other programs.

Comment: We are asking EPA and ATSDR to buy out and relocate residents in the most polluted area. The area in question is near the DHA property that is presently granted relocation and reconstruction.

Response: The Superfund law does not authorize EPA to buy properties that can be successfully cleaned up. Relocation of persons and reconstruction of buildings were not required at the DHA property. These actions were undertaken by DHA based on the poor conditions of the buildings in the contaminated areas. Some of buildings had been valued for as much as 10 years and were structurally unsafe.

Mr. Jim Schermbeck, Jobs and Environment Campaign

Comment: EPA should try to eliminate all sources of lead exposure one by one in the west Dallas community. This means cleaning up the soil to 250 ppm instead of 500 ppm, cleaning the contaminated dust out of homes, sponsoring lead paint removal programs in the area, address on-going sources of lead pollution which continue to deposit lead on west Dallas ground and try to get to the bottom of the mystery of recontamination.

Response: EPA agrees that broader action than is possible under the Superfund law or from a single agency like EPA is needed. Responses to specific suggestions are summarized below:

- cleanup soils below 500 ppm- Comprehensive studies conducted by EPA, the State of Texas Department of Health, the ATSDR, and the City of Dallas all conclude that there is no benefit to cleaning up soils below 500 ppm. Results further show that the average soil lead levels in west Dallas are less than 120 ppm and that of the children with elevated blood levels, almost 90% live in homes with soil lead levels less than 250 ppm.

- cleanup house dust- EPA, ATSDR, and the City of Dallas studies found there was no public health threat from house dust containing lead. The studies further show that there is no correlation between the blood lead levels of children in west Dallas and the actual soil or dust lead levels in their homes.

- sponsor lead paint removal programs- EPA will endorse applications by the City of Dallas Housing Department to obtain lead abatement grants from the Department of Housing and Urban Development. EPA has already recommended to HUD that Superfund sites with lead (lead paint) not related to the source (smelter) should receive priority in being awarded funds for lead abatement.

- address ongoing sources of lead- Through the use of grants, EPA provides funds to the City of Dallas and TNRCC to carry out environmental programs that seek to control ongoing sources of lead and other contaminants. EPA has also joined with 11 other federal, state, and local agencies to form the Dallas Area Steering Group to provide citizen information about various lead issues.

- regarding the "mystery" of lead recontamination- There is no evidence that a mystery exists:

    - all residential areas cleaned up in the 1980s were resampled and found to be clean.

    - soils in front of the Boy's and Girls Club were found to have lead contamination; it is discussed below.

Comment: Why did the Boy's and Girl's Club have to be cleaned up three times?

Response: Different areas of the Boy's and Girl's Club were cleaned at different times. EPA believes that any recontamination may have resulted from roofing activities conducted after the initial cleanup of the 1980s. There are no indications that recontamination resulted from the smelter facility since it stopped operations in 1984. High volume air monitors located on the roof of the Boy's and Girl's Club have not recorded any ambient air violations since 1984.

Comment: Why are there higher blood lead levels in the community, even after the cleanups?

Response: The lead levels are not higher. The current blood lead levels in the community immediately downwind of the smelter are much lower than in the 1980s when the first cleanup occurred. In the community immediately downwind of the smelter, the average blood lead level in the 1980's was 20.1 µg/dL compared to the current average of 7.0 µg/dL. In the 1980s, 91.5% of the children had blood lead 1 levels above 10 µg/dL compared to the current number of 18.9%; 29.2% had blood lead levels above 20 µg/dL in the 1980s compared to zero today; and 10.5% had blood lead levels above 30 µg/dL in the 1980s compared to zero today. Clearly the closing down of the smelter facility, eliminating lead gasoline, and the soil cleanups have had a significant effect in lowering the blood levels in the community. As with urban communities across the country, many sources contribute to elevated blood lead levels in children.

Comment: The EPA should not consider declaring success in west Dallas while there are blood lead levels that are more than twice as high as the rest of Dallas.

Response: Information available from the City of Dallas and Texas Department of Health show that some areas of Dallas have higher blood levels than in west Dallas and several areas have comparable levels. As indicated in the above response, blood lead levels in west Dallas have in fact significantly decreased since the early 1980s.

Comment: The government needs to provide full health care to residents of west Dallas exposed to lead over the years.

Response: Health care is already provided by a number of different federal and local agencies. Information about testing and treatment options related to lead is provided in the Dallas Area Citizen's Guide to Lead. EPA's role under the law is to cleanup environmental sources of contamination which may cause health problems. EPA has fulfilled this role in the residential areas.

Comment: EPA should raze the smelter and replace it with facilities to help the community.

Response: Proposed decisions regarding the smelter will be separately released for comment; the current Superfund law authorizes EPA to remove contamination threats but not spend trust fund monies to redevelop properties.

2. Public Meeting, KGBS Talk Radio (AM 1190), January 15, 1995.

Comment: Why did EPA people wear frightening 'space suits' when cleaning up properties where residents have lived for years and wear normal clothing?

Response: EPA cleanup staff are required, at a minimum, to wear white Tyvek coveralls because they work at a wide variety of sites around the State and the country. The need to have these people wear protective dress is similar to the requirement that firemen wear protective clothing, even if responding to a false alarm.

Comment: EPA created the Superfund problem in west Dallas and should pay for its cleanup rather than create more taxes for local citizens.

Response: EPA neither created the lead contamination in west Dallas nor are local taxes being imposed to fund the cleanup. Lead contamination originated from the RSR smelter operations beginning before there were land use or pollution laws. EPA has paid for all of the cleanup and studies from a national trust fund. EPA will seek reimbursement of the money it spent from responsible parties for the site and not from the citizens that were affected by RSR contamination.

Comment: What's the cleanup costing?

Response: The total that EPA has spent to, date is approximately $16 million dollars. About $12 million was spent directly in the cleanup of private residential properties and about $4 million has been spent in studies. In addition, the Dallas Housing Authority has spent approximately $10 million in demolition of 167 public buildings and removal of contaminated soils.

Comment: How many children were actually tested and show lead in their systems?

Response: Three hundred-thirty three (333) children from west Dallas were tested in EPA's home sampling program for the RSR Site; 29 children (8%) had blood lead levels elevated above 10 µg/dL and only one exceeded 20 µg/dL. This is about 10% less than is usually encountered since the national average for urban areas is 8.9% above the 10 µg/dL level.

In addition. The City of Dallas has had a lead testing program in the west Dallas clinic (the West Dallas Multi-Purpose Center) since the early 1980s. The City has tested thousands of children not only from west Dallas, but also from other areas in the City.

Comment: EPA should have cleaned up lead contamination from under the houses.

Response: EPA disagrees; the cleanup was conducted to remove RSR lead contamination from probable pathways of exposure.

Comment: What does EPA propose to do about smelter slag buried on RSR Site property across the railroad tracks west of Westmoreland Avenue?

Response: EPA is currently conducting studies of this area and will propose alternatives for public comment to address this potential problem in the near future.

Comment: Will EPA dismantle the smelter stack and smelter buildings?

Response: EPA will propose alternatives for public comment for this potential problem in the Spring of 1995.

Comment: Is EPA doing anything under the Superfund program about the other lead smelters that used to operate in Dallas (e.g. the 'Dixie Smelter' or 'Dixie Iron'?).

Response: Only the RSR smelter has been proposed for addition to the Superfund list of hazardous sites. At one time, there were three secondary lead smelters operating in Dallas: the Dixie, NL and RSR companies. The Dixie and NL smelters were located close to each other in east Oak Cliff. These two smelters were smaller than RSR and created less pollution. In the early 1980s, when RSR's first cleanup occurred, soils around these facilities were also cleaned up. Followup studies are being conducted by the former owners under State enforcement authority.

Comment: Blood lead levels can indicate recent exposure but how can you measure buildup of lead in the central nervous system and body and the health impacts?

Response: When lead enters the body, it is first carried in the blood. While in the blood, lead can affect the central nervous system and brain. Children are especially sensitive to lead because their central nervous systems are still developing. In the long term, lead is either excreted from the body or absorbed into the bone. As long as the lead is stored in the bone, it produces no adverse heath effects such as damage to the central nervous system. Damage to the central nervous system from lead can be permanent; however, lead does not "build up" in the central nervous system.

Comment: It seems to me that many people living in west Dallas are losing limbs to diabetes. Does exposure to lead increase susceptibility to diseases like diabetes?

Response: Health scientists are not aware of any data to connect lead contamination with diabetes. Studies have documented damage to the central nervous system and kidneys from exposure to lead.

Comment: Please describe the upcoming lead regulations as they pertain to real estate.

Response: The real estate lead disclosure rule is scheduled to be finalized around August or September 1995. Under this rule, home owners are not required to test their home for lead-based paint. However, before finalizing a contract to sell a pre-1978 home, the seller or their agent would have to disclose all known information regarding lead-based paint and

lead-based paint hazards in the home. In addition, they would have to afford the purchaser a 10-day period to finance and conduct an inspection or risk assessment of lead-based paint hazards. The seller or agent will have to provide the prospective purchaser an EPA pamphlet on lead hazards. This pamphlet is scheduled to be available in April or May 1995. The disclosure portion of the lead rule will also apply to landlords of multi-housing buildings. However the tenant will not be afforded the opportunity to test the building for lead-based paint.

Comment: Why didn't EPA sample the inside of home that had yards cleaned up?

Response: During the cleanup of 420 homes, sample were not collected from inside the homes. However, as part of the random home study remedial investigation, soil, indoor dust, tap water, and indoor and outdoor paint samples were collected from over 300 homes in west Dallas, including some homes where soil removals had been conducted. The studies showed no correlation between dust and high blood lead levels showing that cleanup inside homes was not needed.

Comment: We are surrounded by dump saw dust, slag and battery chips three or four blocks from I'm sitting now. And on that hill dust is continually blowing, and I know you got a monitor across the street from my house up there. And dust is continually blowing. They're wondering there it's coming from. It's coming from the slag piles. It's the dust that's still being exposed in this area.

Response: Air quality tests show the air to be free of lead in west Dallas. Several high volume air pollution monitors have been located near the smelter for years, and none have shown elevated lead readings since the smelter ceased operations in 1984. Homes located across the street from the smelter that were cleaned in 1984-1985 were re-sampled in 1992 to determine if recontamination was occurring. Results show that recontamination was not occurring at these homes.

Comment: Why does the Boys Club keep getting contaminated?

Response: It is not clear that any recontamination occurred at the Boys and Girls Club. Records of the initial cleanup conducted in the 1980s do not specify if the lawn in front of this facility was replaced. When EPA sampled the lawn in 1992, high levels of lead were found (and soils were promptly replaced). One of several air pollution monitors is located at the Boys and Girls Club. No elevated lead readings have been recorded at this monitor since the smelter closed in 1984. EPA believes that the contamination may have been caused by the replacement of the flat roof after the cleanup was conducted which could have resulted in recontamination of previously clean areas. Sampling of flat roofs from DHA buildings close to the smelter show high lead levels in the tar and gravel roofing material. EPA therefore believes that the high lead readings in 1992 were due to either the area never having been cleaned up in the 1980s or from roofing materials that were dumped over the side of the building.

Comment: It doesn't make sense that EPA would demolish abandoned public housing buildings because their roofs are contaminated with lead but leave standing private residential homes located across the street the same distance from the smelter.

Response: EPA is not demolishing public housing buildings because of lead contamination: evidence shows that tar in the flat roofs of the public buildings retained lead dust but the sloped roofs generally did not. The buildings in the Dallas Housing Authority are being demolished by the Department of Housing and Urban Development (not EPA) as part of their plans for renovation of public housing. EPA did oversee this operation to ensure that lead contamination was properly corrected when demolition occurred. During demolition, 20 of 167 building's flat tar roofs (nearest the smelter) were found to have lead contamination. It is evident that dust from the smelter settled on, and became imbedded in the tar on the flat roof surfaces. Because of the composition and sloping roofs of private homes, it appears that lead contaminated dust was not retained in this type of roof and was probably washed away by rain.

Comment: How much pollution is being created by the "lead smelter" located on the former RSR facility.

Response: The Murmur Corporation has an active operation that is not a smelter and does not create detectable levels of lead air pollution. Murmur melts lead to manufacture sheets for

x-ray rooms. Air pollution monitors across the street from Murmur have not detected any lead pollution from the facility. In 1993, the company estimated that less than 100 pounds of lead per year was emitted to the environment (air, water, soil, etcetera) from its processes. Murmur reported this to EPA in a "Toxic Release Inventory" report under the category of environmental losses between 11 and 500 pounds per year, although the actual amounts are much less than 500 pounds.

Comment: Wouldn't operation of the Murmur facility add to existing contamination? Could that be a part of the recontamination of the Boys' Club since it is located acros the street from it?

Response: There are no indications that melting operations at the Murmur facility are resulting in lead contamination of the surrounding community.

Comment: Was lead contamination found on the grounds of the nearby Edison middle school?

Response: No, the grounds of the Thomas Edison school were sampled but found to have lead concentrations below 500 ppm.

Comment: What health care followup has EPA or U.S. Public Health Service provided to children who tested high for lead in the 1980s?

Response: The City of Dallas Health Department (not the EPA nor the Public Health Service) is responsible for followup of west Dallas children with elevated blood lead levels. Following national guidelines published by the Centers for Disease Control, the City Health Department:

- Recommends followup testing for children with blood lead levels between 10 µg/dL and 15 µg/dL;
- For children with blood lead levels between 15 µg/dL and 20 µg/dL, the City conducts home sampling to try and identify lead sources; and
- For children with blood lead levels over 20 µg/dL, the City refers children to physicians for medical evaluation.

Comment: In the early 1980s over 90% of the children in west Dallas had elevated blood lead levels, what care and treatment was given to them?

Response: By today's standards, 91.5% of children living near the smelter in the 1980s had elevated blood lead levels. However, only 10% exceeded the standards of that time of 30 µg/dL. The Centers for Disease Control lowered the national guidelines to 10 µg/dL in 1991. Regardless of the guideline in effect, the City of Dallas has provided testing and health consultation follow-ups to all children with elevated blood lead levels.

Comment: The public needs to know that wet mopping with a high phosphate detergent is effective in control of lead contaminated dust. Also, more information regarding lead abatement can be obtained by dialing 1-800-LEADFYI.

Response: EPA agrees and additional information regarding actions people can take to minimize exposure to lead is available from various agencies listed in the "Citizen's Guide to Lead Issues" which is available to the pubic.

Comment: It is now January 15, 1995; why haven't I received the written response to the questions that I raised at the December 1, 1994 Public Meeting?

Response: To respond to public requests for more time, EPA extended the public comment period for 30 days to January 18, 1995. This Responsiveness Summary contains responses to all questions and comments received during the comment period, including those of this commentor.

Comment: All of the literature published by EPA is confusing to me, where can I get straight answers to my questions?

Response: In order to respond to this concern, EPA established a walk-in information office in the West Dallas Community Center, held 6 Open House informal meetings with the community

during the study period, and has published names and telephone numbers of responsible people to respond to inquiries on a one-to-one basis.

Comment: How can the community be assured that the EPA cleanup was thorough and complete when some properties were cleaned while others nearby were not? It seems that cleanup was done on a random basis.

Response: EPA's cleanups have been conducted based on contamination levels and not on a random basis. In the air deposition area, all homes were sampled, and those that exceeded the removal action cleanup levels were cleaned. In the rest of west Dallas, the cleanup was based on homes that had used battery chip materials as fill for driveways and exceeded the cleanup levels. The battery chip locations were scattered throughout west Dallas and appeared random. This is due to the fact that only some of the homeowners in the area used these materials for fill purposes. TNRCC surveyed 6,800 properties in the west Dallas area to identify battery chip fill locations. Where battery chip fill locations were identified, soil samples were collected for laboratory analyses to verify if the fill areas were contaminated above the removal action cleanup levels. As a result, EPA conducted cleanups in 420 homes and play areas in west Dallas. The facts are that significant actions have been taken in west Dallas and EPA is continuing its work by next addressing the smelter facilities and slag piles.

Comment: When the Dallas Housing Authority demolished the abandoned public housing buildings, pollution drifted across the street into the inhabited single family residential area.

Response: Contamination did not spread to the residential areas during DHA's demolition and removal action. Under EPA oversight, the Housing Authority employed pollution control measures during demolition to prevent offsite contamination. In addition, an extensive air pollution monitoring program was used to confirm that the control measures were effective and pollution was not released to the surrounding areas.

Comment: Why didn't EPA just buy out all contaminated houses instead of cleaning them up?

Response: Buyouts were not authorized under the Superfund law because the removal of RSR contaminated soils effectively corrected the environmental problem.

3. December 14, 1994 Resolution by the Dallas City Council.

Comment: EPA should continue to review all aspects of lead contamination near the RSR site and implement solutions to elevated blood lead levels in children, regardless of source.

Response: EPA will continue to do its part under a variety of statutory authorities to reduce the risks of environmental lead contamination throughout Dallas and the rest of the country. However, neither EPA nor other federal agencies have the authority or responsibility under federal law to act unilaterally to address all possible sources of lead contamination. Local authorities, such as the City of Dallas (which is responsible for zoning, lead testing, and other measures), must join with other agencies at County State and Federal levels to find and solve remaining lead contamination problems.

Comment: EPA should continue cleaning up lead contamination from the residential areas until the causes of, and solutions to, elevated blood lead levels are found.

Response: Independent studies by the City of Dallas Health Department and the State Health Department agree with EPA's assessment that further cleanup of RSR lead in soils will not benefit public health. Nine out of ten households where children have elevated blood lead levels also have soil lead levels from all sources less than 250 ppm, which is half of EPA's Removal cleanup goal of 500 ppm. Instead, the City's study points to a wide variety of other causes of elevated lead levels in children. EPA agrees with, and has implemented, the idea of cleaning up RSR lead concurrent with lead contamination studies. The initial Removal Action soil clean up goal of 500 ppm for smelter related lead contamination has been achieved in all participating single and multiple family residential areas of west Dallas. Concurrent studies by EPA show that the 500 ppm goal exceeded the level needed to protect human health. Instead of soil lead contamination, the City's own studies point to other potential causes such as leaded house paint and occupational exposure from workers to the household.

Comment: EPA should conduct new studies to determine the causes of continued elevated blood lead levels in children who live in the high air dispersion and eastern low air dispersion areas of west Dallas, and then take additional needed actions.

Response: While elevated blood lead levels (> 10 µg/dl) have dropped dramatically in the past decade from 91.5% of children near RSR in 1983 to 8.0% in all of West Dallas in the 1990's) EPA is concerned that elevated blood lead levels continue to affect many Dallas area children. The studies already completed show where joint actions, rather than more studies, between Federal, State, and local authorities can further reduce lead as a health threat. EPA stands ready to do all in its authority to work with the City and other agencies to eliminate lead as a public health threat.

The studies prepared by the City show no relationship between remaining soil lead concentrations and blood lead levels. Instead, they point to other potential sources of lead. For example, in the high air dispersion area near RSR there were 10 children living in 6 households with elevated blood lead levels (reported as 18.9% of this neighborhood); only one of these homes had soil lead levels exceeding the removal action cleanup level and a removal action was subsequently conducted. In Oak Cliff, there were 4 children in 4 households with elevated blood levels (4% of neighborhood). The data collected by the City shows:

HOUSEHOLDS NEAR RSR	HOUSEHOLDS IN OAK CLIFF	POSSIBLE LEAD POLLUTION SOURCE
5 OF 6	1 OF 4	Member of household has occupational exposure to lead but does not have/use cleanup facilities before returning home.
4 of 6	2 of 4	Eating utensils (glazed ceramics, pewter, copper).
3 of 6	2 of 4	Live in a house with a wooden exterior that was repainted, sanded or chemically stripped within the last year

Because the numbers of affected households are small, and because the reason for any one person's elevated lead level cannot be directly proven, the above associations can only point to general problems.

Comment: EPA should conduct new studies to determine the causes of continued elevated blood lead levels in children who live in east Oak Cliff near the former Dixie Lead Smelter, and then take additional needed actions.

Response: Causes of elevated blood lead levels at some houses in Oak Cliff which have not been influenced by smelter emissions are discussed in the previous response. Contamination that may be associated with the former Dixie Lead Smelter is being assessed by the Texas Natural Resource Conservation Commission through the State of Texas Resource Conservation and Recovery Act program.

Comment: EPA should pursue all necessary options to require the cleanup of residential properties in west Dallas where the owners previously refused access to EPA for testing or cleanup.

Response: Out of 6,800 properties surveyed by the State for EPA in west Dallas, owners of 30 did not allow EPA access for sampling or, if needed, remediation. Those residents that refused initial requests for sampling were allowed several opportunities to participate. It is EPA's policy not to force citizens to allow the government to sample private residential property or require cleanup even if needed.

Comment: EPA should require the cleanup of the RSR Smelter as soon as possible.

Response: EPA agrees. Proposed cleanup options will be released for public review and comment in the near future.

Comment: EPA should decide the best public health solution to slag piles as soon as possible.

Response: EPA agrees. Proposed cleanup options will be released for public review and comment in the near future.

Comment: EPA should guarantee funding for the removal of additional lead contamination that may be discovered in the future.

Response: Under the Superfund law, EPA has the funds, authority, and responsibility to protect public health and the environment from significant hazardous waste threats. To the extent that Congress continues this statute, EPA will continue to respond to these problems.

Comment: EPA should provide, or assist in obtaining, funding for the city of Dallas to address other sources of lead pollution which may be affecting the health of the City's children.

Response: EPA currently provides grants to support the City's air pollution program. EPA does not have statutory authority to issue grants for programs such as lead paint abatement; however, EPA is willing to add its endorsement to grant applications by the City to other agencies that deal with these programs.

4. From Yvonne Davis, State Representative District 111, letter dated December 21, 1994.

Comment: It is my understanding that tests continue to show higher than normal lead readings for the citizens of west Dallas, particularly children under the age of six.

Response: This view is not quite accurate. There is no "normal" blood lead level for humans. Scientific studies show that EPA has eliminated RSR-related lead contamination from the residential areas of west Dallas. However, these same studies indicate that there are other sources of lead in west Dallas that may be contributing to the elevated blood lead levels in children. To address other lead sources, EPA has joined with 11 other Federal, State, and local organizations to form the Dallas Area Lead Steering Group. Members of this group collaborated to write a "Citizen's Guide to Lead Issues". The Guide provides answers to some of the most commonly asked questions regarding urban lead contamination and summaries of local services that are available.

Comment: I am respectfully requesting your consideration in continuing your cleanup efforts in the west Dallas area.

Response: EPA will continue to do its part to eliminate lead as a public health or environmental problem. RSR lead contamination at the smelter facility, the industrial areas, in land fills and in the groundwater will be evaluated and cleaned up by EPA, if necessary. The public will be fully involved in these decisions. In addition, EPA will join with other Federal, State, and local agencies to address the other sources of lead that exist in the urban environment.

5. From Dr. James L. Carter, University of Texas at Dallas- Lead in West Dallas Soils Study, Letter dated December 8, 1994.

Comment: Preliminary results of an on-going geochemical study of the vertical distribution of lead in west Dallas, Texas clay-rich soils reveal that considerable volumes of soil with lead levels equal to or greater than 500 ppm remain even after remediation efforts.

Response: EPA does not agree. Samples collected by the UTD researchers were collected in the Summer of 1992, just as EPA's Emergency Response Branch was starting its full-scale removal action in the residential areas of west Dallas and a full two years before the removal action was completed. Samples collected by the UTD researchers are not representative of soil lead levels in the residential areas and were not collected to determine human health risks but rather to determine if methods used to track metals through the natural environment could also

be used to track smelter pollution. On the research study report, four of the most highly contaminated soil borings are described as: These cores are not part of the original, undisturbed soil profile because they contain pieces of nails, concrete, and limestone, things widely used in construction activities. Thus the lead content with depth does not indicate systematic behavior as in the case of the undisturbed soil profiles. Additionally, nearly all of the soil samples with elevated soil lead levels were collected along and next to two major roadways, Singleton Blvd. and Westmoreland Road where soils are most likely impacted by leaded gasoline. Use of these results to draw lead concentration isopleths that supposedly represent lead contamination in the residential areas is unscientific and presents misleading information to the community.

Comment: Twenty-nine percent of soil cores from previously remediated areas reveal surface recontamination with cx lead values exceeding 500 ppm.

Response: This statement is without factual basis. EPA has learned that the UTD researchers did not know exactly where previous cleanup occurred. Instead, UTD researchers erroneously assumed that any disturbed sample of soil had been previously remediated. EPA conducted a site visit with Dr. Carter in January 1995. EPA was shown 26 UTD soil core sites. Of the 26 soil sample sites, 24 locations were found to have never been remediated by EPA since they were located along and next to roadways instead of residential yards, play areas, and schools. Of the two remaining UTD samples, one had no significant contamination regardless of depth and the other had been collected from a location the Dallas Housing Authority had scheduled but not yet cleaned up.

Comment: The isopleth lead data suggest that as much as 100,000 cubic meters (120,000 cubic yards) of soil, to a depth exceeding 30 cm (1 foot) nearest the smelter, will have to be removed to reduce levels to less that 500 ppm, at the cm-scale.

Response: This statement is without factual basis. UTD's own reports indicate that the data obtained is not representative of the residential areas. Most of UTD's samples were collected next to major roads and 85% of the UTD samples with lead concentrations above 500 ppm were from "disturbed" soil borings containing construction debris (e.g. nails, concrete, limestone). None of the UTD samples were collected from residential yards where children could be exposed to lead contamination. The limited number and locations of the samples collected for the UTD study are not representative of the isopleth areas used to estimate the volume of soil contaminated with lead levels above 500 ppm.

6. From PEACE Environmental, letter dated January 17, 1995.

Comment: Those residential areas where access for initial sampling were denied should be revisited and sampled.

Response: A small number of property owners refused EPA access to their properties for sampling or cleanup. Each was given several opportunities (including letters, and home visits). EPA believes that it gave full opportunity for participation to these homeowners. EPA will not enter and sample a residential property by force and has pursued all options to gain voluntary access.

Comment: EPA contractors should conduct a reinspection of the excavated residential areas to ensure proper maintenance.

Response: It is the homeowner's responsibility to properly maintain their yards. Prior to backfilling an excavated area with clean fill, confirmatory sampling was conducted to ensure that remaining soil lead levels were below 500 ppm. Therefore, maintenance of excavated residential areas is not a requirement for health reasons or to prevent exposure to lead at unsafe levels.

Comment: EPA should make funds available for training west Dallas residents on current environmental awareness issues.

Response: EPA is working with other Federal, State, and local agencies to provide information to residents of west Dallas and has published a booklet outlining the roles and responsibilities of these agencies related to lead issues. EPA will continue to work with these

agencies to provide information to residents throughout Dallas on lead and environmental issues. EPA conducted several open house meetings this past year where EPA and other agencies were available to answer environmental questions on a one-to-one basis. EPA will continue to conduct these meetings to keep the citizens informed about site activities and answer questions related to overall environmental issues. Also, one of the purposes of the Technical Assistance Grant, awarded to PEACE Environmental, is to inform the citizens of issues related to the Superfund site.

7. From Reverend Conley, New Waverly Baptist Church, Letter dated January 17, 1995.

Comment: The soil lead action levels should be lowered to 250 ppm to ensure the safety of west Dallas residents.

Response: There is no increased safety or health benefit from a 250 ppm cleanup level. Extensive studies by EPA, ATSDR, City of Dallas, and TDH show that 500 ppm is fully protective for humans at residential areas where frequent exposure to soils occurs. This conclusion was based on information specific to the RSR Site residential areas. The current average residential soil lead levels in west Dallas are less than 120 ppm. Ninety percent (90%) of the children with elevated blood lead levels already reside in homes where soil lead levels are below 250 ppm. Finally, EPA and the City of Dallas risk assessments show no connection between blood lead levels and soil lead levels under 500 ppm. Lowering the soil lead levels will not provide additional benefit in lowering the blood lead levels in children.

Comment: EPA should give people the option of being bought out.

Response: Buyouts are not authorized under the Superfund law because EPA has successfully cleaned up RSR-related contamination at residential properties.

Comment: EPA should inform the residents of the current amount of lead emission at the operating Murmur Corporation lead manufacturing facility.

Response: This information is available to the public through the Toxic Release Inventory (TRI) System published every year and available at the public library. Murmur Corporation is listed as releasing 500 pounds of lead emissions per year in the TRI because the reporting category is from 11 pounds to 500 pounds and the TRI report lists the maximum amount of 500 pounds. However, Murmur believes that actual lead emissions are less than 100 pounds per year. Currently emissions occur mainly at the plant within the Murmur facility. No stacks are used to release emissions into the environment or surrounding community. Operations at the facility consist of melting lead and are not smelting operations as with the former RSR facility. The melted lead is processed into lead sheets for x-ray rooms. The lead melting furnaces are equipped with filters and scrubbers to collect lead air emissions. High volume air samplers located downwind across the street at the Boys and Girls Club and six blocks away at the Emila Earhart Elementary School are monitoring operations at this facility. In addition, the City of Dallas air monitoring division conducts random air sampling at the facility on a quarterly basis. No ambient air emissions standards have been violated since the RSR smelter closed in 1984.

Comment: EPA should establish within the vicinity of Pinacle Park, a community based environmental health clinic and environmental training/information center for west Dallas residents who cannot read and understand the currently available information in the library.

Response: The City of Dallas already operates a health clinic in west Dallas. Frequent informal public meetings have been provided and will continue to be provided to inform all residents, regardless of reading ability, of site progress.

Comment: EPA should declare west Dallas, especially along Singleton Boulevard, an "Environmental Safe Zone".

Response: EPA has made residential areas of west Dallas included in Operable Units 1 and 2 environmentally safe. Plans for the industrial areas will be proposed for public review and comment in the near future.

8. From Sierra Club, Lone Star Chapter. (Note: Summarized below are EPA's responses to the Sierra Club in a letter dated January 19, 1995).

Comment: New scientific evidence suggests unsafe west Dallas soil levels continue to exist. The Sierra Club expressed concern that "new scientific evidence" from University of Texas at Dallas (UTD) researchers would reveal that EPA has misled residents regarding the thoroughness of cleanup.

Response: EPA disagrees. The UTD study does not show scientific evidence that unsafe levels of soil lead remain in the residential areas of west Dallas. Soil samples collected under the UTD study were not located at residential locations. In the UTD study, soil samples were not collected to determine the maximum exposure to children or human health risks from lead exposure as EPA studies did. The UTD samples are not representative of soil conditions in the residential areas of west Dallas. They represent conditions along two major streets (Singleton and Westmoreland) and other side streets, most likely impacted by leaded gasoline, where the majority of the UTD study samples were collected. The UTD study shows that samples were collected from only 33 locations over a one mile radius of the smelter facility. Within this same area, EPA collected thousands of samples from over 1,000 different locations.

Comment: Averaging of soil samples is not science in the public interest -- produces artifacts! Three concerns were expressed regarding the accuracy of the EPA sampling approach:

(1) EPA missed "hot spots" of lead contamination by averaging four composite soil samples per yard; spots with high lead concentrations would be "diluted" by being averaged with samples from spots with low lead concentration. The average concentration found per yard is an "artifact" of the averaging process.

(2) EPA did net sample deeper than 3 inches and missed deeper "hot spots" of lead contamination.

(3) EPA's approach was "less refined" than UTD's and grossly under-reports the amount of lead in west Dallas. A December 4, 1994, Dallas Morning News article was cited as support for this assessment. The article reported that UTD researchers found that 33 percent of their soil samples exceeded 500 parts per million (ppm) compared to only 1.5 percent of the EPA samples.

Response: Each of these contentions are inaccurate and contradicted by the EPA sampling protocols made available for public review and comment. Responses to each of the above concerns are:

(1) EPA's composite sampling approach provides a statistically accurate measure of human exposure to lead in residential soils. The UTD samples were taken to determine if mining techniques could track smelter pollution. The EPA approach did not hide contamination nor did it produce "artifacts". Separate sets of five to eight (rather than four) composite samples were taken from the front yard, from the back yard, and from children's play area(s). Each set of samples was combined to more accurately reflect the day to day accumulated exposure that a resident would encounter. Any area that exceeded the Removal Action Level was cleaned up. The Sierra Club's concern that averaging five samples might miss a "hot spot" or underestimate exposure was considered by EPA before general sampling was begun. The Sierra Club does not have an understanding of how lead contamination was deposited as a result of air emissions originating from the smelter stack. An intensive pilot study sampling campaign was conducted at 7 residential properties in the air deposition area and other parts of west Dallas to determine sampling protocols for the comprehensive home study. Statistical analysis of samples collected and individually analyzed from 2-foot intervals showed that the 5 to 8 sample composite approach would not miss any "hot spot" and that this approach would accurately reflect residential exposure patterns.

In the contaminated battery chip areas (where sharp variations in lead concentration were expected and encountered), initial sampling was conducted at 10 foot intervals using field portable equipment, krieging analyses were performed to delineate areas for cleanup, and laboratory samples were collected in the contaminated areas. After cleanup, the perimeters of cleaned areas received intensive confirmatory sampling to

ensure that all contamination had been removed.

Examples of potential problems which may diminish the accuracy of the UTD study, or its relevance to the Superfund program, include:

- Small UTD sample size: UTD researchers collected between 30 to 50 samples (compared to some 7,000 samples by EPA); variations in UTD data have little significance to residential locations of west Dallas in general. None of the UTD samples were collected from inhabited residential areas.

- other sources of lead: UTD researchers may have measured lead from a variety of sources other than the RSR smelter. Many of the samples showing high lead levels were collected from between curbs and sidewalks of busy City streets and therefore could reflect leaded gasoline auto exhaust. Other high lead samples appear to have been collected from areas of "disturbed" soils or commercial operations (e.g. a former gasoline station, a bus stop, or metal fabricating business). The UTD study even states that four soil samples taken from the vicinity of the smelter that show the highest lead levels "are not part of the original, undisturbed soil profile because they contain pieces of nails, concrete, and limestone, things widely used in construction activities. Thus the lead content with depth does not indicate systematic behavior as in the case of the "undisturbed" soil profiles."

(2) EPA routinely sampled deeper than 3 inches. In the air deposition area, initial samples for RSR lead contamination were taken from the top 3 inches of soil to accurately reflect human exposure. When surface soils required cleanup, the top 6 inches of soils were removed and then the next 3 inches were sampled. If contamination was found at this level, another 6 inches of soil was removed and the process was repeated. Lead in residential soils in the air deposition area was usually confined to the surface of soils. There were only a few instances where lower sampling indicated that additional excavation was needed.

In the battery chip areas, contamination usually extended deeper than 6 inches due to the way that battery chips had been used for fill. Sampling and excavation often occurred to depths of 24 inches or more.

EPA's reports are statistically accurate descriptions of residential area lead contamination; the UTD results referenced by the Dallas Morning News are not. In the same December 4,1994, Dallas Morning News article that you referenced, UTD professor Dr. Carter indicated that his studies were not representative of residential area contamination. A simple comparison between the percentage of samples exceeding 500 parts per million of lead is not accurate or meaningful due to the many differences in scope, sample size, and purposes discussed above. Moreover, EPA's information received scientific peer review prior to its release for public comment. Some of the UTD data has yet to receive peer review or be published.

Comment: Disproportionate lead cleanups: Cedar Park, Texas vs west Dallas. The Sierra Club expressed concern that in 1990, the Texas Air Control Board (now the Texas Natural Resource Conservation Commission or "TNRCC") had proposed a lead cleanup goal of 100 ppm for residential soils in this non-minority community while EPA was proposing levels 5 times higher in the predominantly minority community of west Dallas.

Response: The Sierra Club's concerns appear to be based upon a misunderstanding. Disproportionate cleanup goals were not proposed by the State at Cedar Park nor EPA at west Dallas. Lead contamination of soils in Cedar Park resulted from sandblasting of paint from a municipal water supply tank. The Texas Air Control Board proposed a goal of 500 ppm of lead in soils based upon the same type of guidelines EPA utilized to set 500 ppm as a Removal Action Level in west Dallas. The City of Cedar Park, which owned the water tower, wanted cleanup to the 100 ppm level as an extra safety precaution in the absence of a human health risk assessment. The State agreed to allow cleanup below 500 ppm as proposed by the City on a case by case basis. At the RSR site, a scientific human health risk assessment has been conducted that shows that the 500 ppm Removal Action level already provides a margin of safety. The City of Dallas is currently reviewing all federal reports to formulate their position regarding clean

up goals for the site. It is important to note, however, that technical studies by the City of Dallas eliminate contaminated soil as a significant lead source but do identify a host of other urban lead sources other than RSR.

EPA is committed to ensuring that poor and minority communities such as west Dallas do not suffer disproportionate environmental insult. For this reason, we have dedicated the resources to the RSR site necessary to conduct a prompt and thorough cleanup effort while simultaneously conducting a world class environmental evaluation. The suggestion that disadvantaged segments of society would receive lower priority or less consideration by EPA does not square with the agency's track record.

9. From Dallas West Interdenominational Ministerial Alliance-letters dated November 17, 1994 and December 9, 1994.

Comment: Concern that EPA is leaving the west Dallas area and that the lead cleanup is not completed.

Response: The Ministerial Alliance's concerns are based on incomplete information published in the Dallas Morning News. EPA is not leaving west Dallas; in addition to a continued presence under a variety of other authorities, EPA is continuing its Superfund studies for the RSR smelter and industrial facilities, slag piles, and groundwater. EPA has completed the cleanup in the residential areas of west Dallas.

Comment: Concern that elevated lead levels remain in west Dallas leaving children at risk from remaining lead contamination.

Response: EPA has eliminated RSR lead contamination as a public health threat in residential areas of west Dallas.

Other sources of lead may continue to contribute to the elevated blood lead levels in children. To address these other sources, EPA has joined with 11 other Federal, State, and local organizations to form the Dallas Area Lead Steering Group. Members of this group collaborated to write a "Citizen's Guide to Lead Issues". The Guide provides answers to some of the most commonly asked questions regarding urban lead contamination and summaries of local services that are available.

10. From Disposal Safety Incorporated, letter dated December 19, 1994.

Comment: The model (IEUBK) EPA uses to predict blood-lead levels in children does not accurately match the measured blood-lead levels in children from OU 1 and 2.

Response: EPA uses the Integrated Exposure Uptake Biokinetic Model (IEUBK) as a predictive tool for estimating changes in blood lead as exposures to lead are modified. The model is also a tool to make predictions about the levels of lead in media (soil lead) that might be expected to impact human health. The model examined site specific data on lead in children's blood, soil, dust, water and air lead concentrations. A default value for lead from diet was also used. If differences exist between predicted and measured blood lead levels, another source of lead exposure may be involved. For example, ingestion of lead from paint chips, or hobbies or lead inadvertently brought into the home from occupational exposure are not directly reflected in the model.

Comment: Because the IEUBK model significantly underestimates children's blood-lead levels around the RSR site, it will give incorrect results when used to calculate "safe" levels of lead in soil.

Response: EPA disagrees. The safety of the soil cleanup goals predicted by the model was independently confirmed by statistical analysis of blood and environmental lead data by several different health authorities other than EPA. The IEUBK model simulations for the RSR Site predicted a "safe" soil lead level for lead from the RSR Site.

Comment: To compensate for the inadequacy of the IEUBK model, EPA should lower the lead-in-soil cleanup levels in OU 1 and 2.

Response: As discussed in the previous two responses, EPA disagrees based upon: the intended use of the model, the other sources of lead that are not fully reflected by IEUEK, and the statistical validation of the soil lead action level. It should also be pointed out that an additional margin of safety resulted from EPA's cleanup efforts. The calculated lead cleanup level for OU 1 was 540 parts per million (ppm) and 640 ppm for OU 2. The actual cleanup levels implemented at both OUs 1 and 2 was 500 ppm lead. Finally, 9 out of 10 households having children with elevated blood lead levels also have soil lead levels of 250 ppm or less.

Comment: Antimony and arsenic concentrations in soil are correlated to lead levels, indicating that the RSR smelter was the source of all three.

Response: EPA agrees that in the air deposition area, arsenic levels can be correlated to the lead levels found.

Comment: If cleanup levels are adjusted in OU 2, the same cleanup levels would need to be considered for OU 1, especially in the residential area closest to the smelter (Subarea 1). The 500 ppm lead isopleth (and its 99% confidence interval) shown in Figure 2-11 of the RI for OU 2 extends into OU 1, so lead levels in the 300 to 400 range should be expected. Further remediation in OU 1 may therefore be necessary.

Response: EPA disagrees for the reasons stated in previous responses. In addition, the 500 ppm lead isopleth in Figure 2-11 of the RI for OU 2 does not extend into the residential areas of OU 1. The isopleth is correctly terminated within the OU 2 site because it is based only on samples collected from OU 2. It cannot be assumed that these concentrations extend into the residential areas because many of the residential yards in OU 1 have been cleaned up and significant concentrations of lead no longer exist in the residential areas as a result of EPA's cleanup. EPA's home study and removal action in OU 1 have resulted in sampling being conducted in nearly every home in the residential air deposition area and results do not indicate soil lead concentrations above 500 ppm. In fact, soil concentrations average less than 120 ppm total lead.

Comment: During the EPA Soil Survey and Removal (Phase II), which lasted form January 1993 to June 1994, 202 residences which were contaminated with slag or battery chips were remediated (RI, OU 1, p.3-16). A total of 301 soil samples were collected to verify the effectiveness of the removal. Cleanup standards of 500 ppm lead and 20 ppm arsenic (50 ppm in the subsurface) were used. The 301 verification samples ranged from below detection limit (BDL) to 480 lead (average 437), and BDL to 38 ppm arsenic (average 17 ppm).

Given the level of accuracy in the analytical methods used for lead and arsenic (EPA SW-846 method 6010) which is generally ± 25%, the levels of lead and arsenic left behind after this removal may not meet the criteria of 500 ppm lead and 50 ppm arsenic. Twenty-five percent below 500 is 375 ppm, and 25% below 50 is 37.5. Thus the average lead level after remediation (437 ppm) may in fact be statistically indistinguishable from 500 ppm. The same is true of the highest reported arsenic level (38 ppm).

Response: EPA disagrees. EPA's Phase II removal action was conducted from June 1993 through June 1994. SW846 Method 6010 "Inductively Coupled Plasma Atomic Emission Spectroscopy" has a quantification limit for lead and arsenic of 10 and 5 mg\kg or ppm, respectively. These quantification limits are adequate to determine if the human health criteria are being met at the site. These are very stringent test methods used for testing chemical compounds under very high quality assurance and quality control protocols. The comment did not suggest that more accurate or better testing methods were available. The accuracy of the laboratory results are considered in the test analyses and in the conservative modeling programs. As stated in the comment, the remaining lead and arsenic levels, after the removal action, are statistically lower than the action levels of 500 ppm lead and 50 ppm arsenic. Therefore, the cleanup criteria are being met.

11. From Madres Del Este De Los Angeles (Mothers from east Los Angeles), letter dated December 14, 1994.

Comment: This group urges EPA to resume investigations as well as the cleanup effort on the continuing lead contamination in west Dallas because the City of Dallas and the federal Agency for Toxic Substances and Disease Registry recently released a report showing ongoing lead

emissions still exist, primarily in the downwind neighborhoods.

Response: The EPA and the City of Dallas and ATSDR reports conclude that additional cleanup of RSR soil lead contamination is not needed.

Comment: The subject of the report was the neighborhoods' children. The evidence is there, the high lead levels in children, the Boy's Club on Singleton, the RSR smelter. Why isn't the EPA doing something to help these children?

Response: EPA has and will continue to use all of the tools available to it to eliminate lead as a public health threat for all children.

12. The following public comments were specific to the RSR Operable Unit No. 2- Dallas Housing Authority property.

Petition from residents of west Dallas.

Comment: We cannot understand why EPA has decided that hundreds of children in the public housing project should be exposed to two-and-a-half times more of the poisonous metal arsenic than those who live in single-family houses. All of us join in demanding that EPA immediately cleanup arsenic in all contaminated areas of west Dallas to the same level-- 20 parts per million.

Response: The public housing project, Operable Unit No. 2, has been cleaned by the Dallas Housing Authority under supervision by EPA, to the same cleanup levels as private residential areas. Cleanup levels at the public housing project and private residences consist of; 500 parts per million (ppm) lead, 20 ppm arsenic, or 50 ppm cadmium.

Comment: We also demand testing of our soil for other toxic substances from the smelter, especially antimony.

Response: As part of the in-home study conducted throughout west Dallas, including the public housing project, EPA also analyzed soil, dust, and tap water samples for 21 different metals. These included lead, arsenic, cadmium and antimony. Antimony was not detected above 20 ppm and was therefore not considered a contaminant of concern. EPA confirmation testing at OU No. 2 has included antimony. Antimony results have not exceeded the detection limit of 15 ppm.