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EPA Superfund
Record of Decision:

JACKS CREEK/SITKIN SMELTING & REFINING, INC.
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MAITLAND, PA
09/30/1997

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RECORD OF DECISION
JACK CREEK/SITKIN SMELTING & REFINING INC. SITE

SITE NAME AND LOCATION

Jacks Creek/Sitkin Smelting & Refining Inc. Site
Village of Maitland
Mifflin County, Pennysylvania

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for the Jacks Creek/Sitkin Smelting & Refining Inc. Site (Site) in the village of Maitland, Mifflin County, Pennsylvania, developed and chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. °° 9601 et seq., and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. This decision is based on the Administrative Record file for this Site.

The Commonwealth of Pennyslvania, Department of Environmental Protection has concurred with the selected remedy.

ASSESSMENT OF THE SITE

Pursuant to duly delegated authority, I hereby determine, pursuant to Section 106 of CERCLA, 42 U.S.C. ° 9606, that actual or threatened releases of hazardous substances from this Site, as specified in Section II Summary of Site Risks, if not addressed by implementing the response action selected in this Record of Decision (ROD), may present an imminent and substantial endangerment to the public health, welfare, or the environment.

DESCRIPTION OF THE REMEDY

The selected remedy is a permanent remedy for cleanup of the entire Site. The selected remedy includes the following components:

Soils with lead concentrations above 40,000 parts per million (ppm), which are the principal threat wastes, shall be excavated and treated at an offsite hazardous waste treatment facility using a chemical stabilization process.

Waste pile materials and soils with lead concentrations between 1,000 and 40,000 ppm lead shall be excavated and then consolidated onsite. Sediments from depositional areas of Jacks Creek exceeding 110 ppm lead in the immediate vicinity of the Site shall be removed from the creek by vacuum dredging, and then consolidated with the waste piles and contaminated soils.

The consolidated soils, waste materials and sediments shall be covered with a layer of crushed limestone, and then covered with a multi-layer cap.

All excavated areas shall be covered with clean fill to the original grade and then all of these areas, except for the scrap yard shall be revegetated.

The existing onsite wetlands, which in total are approximately one-fifth of an acre in size, will be recreated in an onsite location. Fish consumption advisories will be posted along portions of Jacks Creek.

Buildings that are structurally unsound shall be demolished.

Long-term monitoring of the ground and surface water, as well as the fish and benthos in Jacks Creek, shall be done as part of the operation and maintainence of the Site.

Deed restrictions shall also be placed on a portion of the Site to restrict use of the capped area, and to limit other areas of the Site to industrial activities.

STATUTORY DETERMINATIONS

Pursuant to duly delegated authority, I hereby determine that the selected remedy is protective of human health and environment, complies with Federal and State requirements that legally are applicable or relevant

and appropriate requirements (ARAR) to the remedial action, and is cost effective. The remedy satisfies the statutory preference for remedial actions in which treatment that reduces toxicity, mobility, or volume is a principal element. Finally, it is determined that this remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable. See Section 121(b) and (d) of CERCLA, 42 U.S.C. º 9621(b) and (d).

Because this remedy will result in hazardous substances remaining onsite above health-based levels, a review will be conducted every five years after commencement of remedial action in accordance with Section 121(C) of CERCLA, 42 U.S.C. º 9621(c), to ensure that human health and the environment continue to be adequately protected by the remedy.

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RECORD OF DECISION
JACKS CREEK/SITKIN SMELTING & REFINING INC. SITE
DECISION SUMMARY

I. SITE NAME, DESCRIPTION AND LOCATION

A. Site Name and Location

The approximately 105-acre Jacks Creek/Sitkin Smelting & Refining Inc. Site is located in the village of Maitland in a rural farming area of Mifflin County, Pennsylvania as shown on the Site Location map (Figure 1). The Site lies about five miles east of the Borough of Lewistown near the geographical center of the Commonwealth of Pennsylvania and is located at the border of Decatur and Derry Townships.

Land use at the Site is commercial/industrial and adjacent properties include residential land use. A total of 13 buildings are present on the Site, many of which are in a dilapidated condition. The Site contains two separate waste piles, the Ball Mill Tailings Pile and the Aluminum Dross Pile as well as seven lagoons. Several of the onsite buildings also contain waste or scrap materials. A railroad track runs northeast-southwest through the central portion of the Site. The Site is centered at 40!38'35" latitude and 77!28'34" longitude.

B. Site History

The prior owner of the property, Sitkin Smelting Company (Sitkin), operated at the Site from 1958 until 1977, smelting non-ferrous (non-iron) metals. Sitkin's main products from the smelting operation were several types of brass and bronze ingots. These ingots were produced by heating and refining scrap metal at high temperatures in onsite furnaces. Brass is an alloy of primarily copper and zinc, whereas bronze is an alloy of primarily copper and tin. Sitkin also operated a metal recycling operation that included aluminum, copper, and lead. Transformers and lead batteries were broken onsite and recycled for their lead content. Sitkin also contained a Preciosu Metals Building where precious metals (gold, platinum, etc.) were reclaimed from used products. See Figure 2 for the precious Metals Building's location.

Sitkin closed in 1977 when it declared bankruptcy. There has been no smelting or refining activity onsite since 1977. Joseph Krentzman and Sons, Inc. (Krentzman) currently operated onsite. Krentzman utilizes about half of the 105-acre Site for a scrap metal and aluminum recycling business employing approximately 85 people.

A preliminary Assessment was done at the Site4 in March 1984, and a Site Investigation was performed in October 1985. The Site was proposed for inclusion on the National Priorities List (NCP) in June 1988, with final listing in Cotober 1989. A preliminary Potentially Responsible Party (PRP) search was completed in December 1989, however a more extensive PRP search was completed in March 1994. Numerous removal actions have taken place on the Jacks Creek Site beginning in 1990.

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Several of the removal actions were designed as interim measures to both limit erosion of contaminated soils into Jacks Creek and to restrict site access. Erosion control measures included construction of diking, installation of riprap in runoff channels, and an attempt to revegetate floodplain areas with soil-stabilizing grasses in May 1991. To limit the contaminants reaching Jacks Creek, a temporary cap was installed on the Ball Mill Tailings Pile, and several onsite lagoons were partially drained. An eight-foot high chain-link fence was installed around the eastern portion of the Site.

Materials were removed from the Site on several occasions as part of additional removal actions. Drums and other containers of bulk chemicals were over-packed, removed from the Precious Metals Building, and then disposed of at an offsite treatment facility. An investigation and cleanup of onsite radioactive telegraph/teletype machine static eliminators was also conducted. This equipment was removed from piles of telegraph machinery, and shipped offsite to a disposal facility. These removal actions were completed in January 1992. EPA mobilized again in December 1994 to make extensive repairs to the temporary cap on the Ball Mill Tailings Pile because it ripped during a thunderstorm containing high winds. In addition, several of the onsite berms, which were installed to control erosion into Jacks Creek, needed to be enlarged and reinforced.

Between 1990 and 1993, Gannett Fleming (Gannett) conducted a Remedial Investigation/Feasibility Study (RI/FS) under the direction of EPA to identify the types, quantities, and locations of contaminants and also to develp ways of addressing the contamination problems. As part of the RI, a number of samples, including air, water, soil, waste and even fish samples, were collected from the different areas of the Site. An inventory of the Site and its building was done, and a number of drums and a single vat containing soil-like materials were found in various locations across the Site. These drums and the vat were also sampled as part of the RI in order to determine if any contained high concentrations of hazardous substances.

In order to evaluate the extent of ground water contamination, Gannett installed and sampled nine onsite monitoring wells in the overburden or shallow aquifer. The depth to ground water in these shallow wells varied from 5 to 31 feet. Gannett also installed and sampled six onsite monitoring wells in the deeper bedrock aquifer. In addition, Gannett installed four offsite wells, three shallow wells and one bedrock well. Two of these offsite shallow wells were installed in the American Viscose property. The remaining offsite shallow well and the only offsite deep well were installed in the FMC Landfill property. All nineteen of these monitoring wells were sampled on three separate occasions. A total of six residential wells in the vicinity of the Site were also sampled during the RI.

A limited amount of additional offsite sampling, such as sampling the contaminated sediments, benthic invertibrates and fish of Jacks Creek, was also done during the RI. Fish sampling was performed using an electroshocker. In general, the stunned fish were identified, enumerated, measured and released. However, a total of 36 fish were retained for tissue analysis.

A wetlands identification and delineation was also conducted as part of the RI field work. Two small wetlands areas, of 7,500 square feet and 600 square feet were identified on the Site. The two wetlands areas combined as emrgent, temporarily flooded wetlands.

The Final RI report was produced by EPA in August 1993 and the Final FS report was produced in November 1993. in 1994, a number of the PRPs at this Site formed a group called the Jacks Creek PRP Group. They hired Parsons Engineering Science, Inc. (Parsons) to examine other cleanup alternatives for the Site. After this analysis, Parsons porduced an Addendum Feasibility Study in March 1995, which describes a variety of cleanup options at the Site. the Jacks Creek PRP Group also contracted Parsons to do modeling and leaching studies at the Jacks Creek Site. The field work for this study occurred in July 1995, and the Modeling and Leachability Report was submitted to the EPA in October 1995. In April 1996, EPA sampled four residential wells near the Site to assure that the ground water was still safe to drink in the nearby private wells.

The Jacks Creek PRP Group subsequently hired Alliance Environmental Services, Inc. (Alliance) to do additional ground water sampling of the existing monitoring wells at this Site. Alliance did the ground water sampling in June 1998, and submitted the results in August 1996. The PRP Group then hired Environ International Corporation (Environ) to do additional ground water modeling based on the most recent round of ground water sampling. Environ did this additional ground water modeling, and submitted its results in October 1996. All of these reports are part of the Administrative Record for the Site.

C. Highlights of Community Participation

In complying with Sections 113(k) and 117(a) of CERCLA, 42 U.S.C. °° 9613(k) and 9617(e), EPA performed the activities set forth in this Section. The RI/FS and Proposed Plan for the Jacks Creek Site were released to the public in February 1997. The documents were made available to the public in the local information and Administrative Record repository at the Mifflin County Library, 123 North Wayne Street, Lewistown, Pennsylvania and at EPA Region III offices. the notice of availability for these documents was published in the Lewistown Sentinel on February 27, 1997. A public comment period was held from February 27, 1997 through March 28, 1997. this comment period was extended until April 28, 1997 based on a written request received by EPA.

A public meeting was held on March 20, 1997 at the east Derry Elementary School. At this meeting, representatives from EPA and the Pennsylvania Department of Environmental Protection (PADEP) answered questions about the Site, and the remedial alternatives under consideration. Response to the comments received during this period are included in the Responsiveness Summary, which is Part VII of the ROD. This decision document presents the selected remedial action for the site chosen in accordance with CERCLA and the NCP. This decision is based on the Administrative Record file for this Site.

D. Site Characteristics

The Site lies within a deep valley in the Appalachian Mountain Section of the Valley and Ridge Physiographic Province. the mountains form a prominent northeast-southwest alignment of succesive narrow, steep-sided ridges and valleys. Jacks Creek flows in a southwesterly direction down the valley meandering closer to the northern ridge. Surface water from the Site drains northward to Jacks Creek, a tributary of the Juniata River. The creek is approximately 20 feet wide and 2 to 3 feet deep on average as it passes the Site. A portion of the Site, approximately 24 acres, lies in the 100-year floodplain of Jacks Creek. Jacks Creek is classified by the PADEP as having protected water uses for maintenance and/or propagation of cold water fish and additional flora and fauna which are indigenous to a cold water habitat. Sport fisherman utilize the stream for fishing throughout the year, especially downstream from the Site.

Geologic units in the area include both unconsolidated material and bedrock. The unconsolidated material consists of both soils and underlying saprolite. Saprolite is unconsolidated to semiconsolidated material resulting from chemical weathering of the parent rock. The subsurface at the Site can be divided into three hydrogeologic units: a perched water table of limited areal extent, an overburden aquifer unit, and a bedrock aquifer unit. The perched aquifer lies under and within the Ball Mill Tailings Pile. Water from this perched unit exhibits very distinct characteristics.

General climatic conditions at the Site are characterized by a humid continental climate. The average annual precipitation at Lewistown, Pennsylvania is 37.86 inches. A number of areas of stressed or dead vegetation are present onsite, and there are also several areas completely devoid of vegetation.

E. Nature and extent of Contamination

Based on the findings of the RI, the following areas and/or media have been found to be contaminated on the Site:

- Soils and lagoon sludges
- Waste piles
- Drums/vat
- Battery casings
- Scrap metal
- Buildings
- Ground water
- Jacks Creek

Soils and Sludges: Site surface soils were found to be contaminated with heavy metals including antimony, cadmium, copper, lead, selenium, silver and zinc, and organic contaminants including polychlorinated biphenyls (PCBs) and dioxins. Subsurface soil samples, collected from depths of six to 25 feet, showed that concentrations of copper, lead, and zinc are dramatically reduced with depth. Lead levels as high as 159,000 ppm were detected in onsite surface soils and large areas of the Site are consistently above 10,000 ppm. Sludge samples were collected from lagoons and ponded collection areas onsite. Copper, lead, and zinc were found in several lagoon sludges at high concentrations. Onsite ponded areas found to contain high concentrations of heavy metals. The regulatory limit for lead in the Toxic Characteristic Leaching Procedure (TCLP) samples was exceeded in four out of five lagoons and for cadmium in two out of five lagoons. The TCLP is a laboratory method that is used to determine the mobility of both organic and inorganic constituents present in liquid, solid and multi-phase wastes. In addition, TCLP limits were exceeded for cadmium in two other sludge samples.

Waste Piles: The Ball Mill Tailings Pile is the largest waste pile at the Site containing approximately 140,000 tons of brass dross fines. It contains high levels of heavy metals including barium, beryllium, antimony, cadmium, cobalt, copper, lead, nickel, silver, sodium, and zinc. TCLP extracts from the pile show that cadmium and zinc are leaching above regulatory levels. The Aluminum Dross Pile contauins high levels of aluminum, antimony, cadmium, chromium, copper, lead, nickel, silver, and zinc. TCLP analysis indicated lead exceeded the regultory limit of 5 micrograms per milliliter (g/ml).

Drums/Vat: Drum/vat contents are mostly soils, but several drums were found to contain elevated levels of antimony, beryllium, lead, silver, zinc, and cyanide. Some drum samples exceeded TCLP regulatory limits for cadmium and lead. Several drums and the vat were found to contain sludges which had elevated levels of cyanide.

Battery Casings: The former Sitkin battery breaking operation was the source of the battery casing piles observed on the surface over much of the Site. Used lead-acid batteries were brought to the Site and cracked open at the battery breaking shed where the sulfuric acid was recovered and the lead plates inside were removed for recovery at the lead smelter. The remaining plastic casings were then crushed, mixed with soil and are still stockpiled in several onsite areas.

Scrap Metal: Krentzman's active scrap metal operation includes both ferrous and aluminum reclamation, as well other metals and alloys. Various types of scrap metal are brought to Krentzman by truck or rail. The scrap is then sorted and stockpiled mainly west of the old smelter building. Some of the largest scrap, including railroad tankers and boxcars, is dismantled with a cutting torch before being stockpiled. Some of the scrap steel, including I-beams, pipes, and steel plates are stockpiled just east of the old smelter building.

Buildings: Building materials sampled included fugitive dust, porous materials, wipe samples, and indoor air samples. Results of analysis of TCLP extracts from porous building materials exceeded regulatory limits for lead and cadmium for some samples. Asbestos was also found in insulating materials in one building. Heavy metals, PCBs and cyanide were detected in wire samples from several buildings.

Ground water: Ground waster analyses performed for the Jacks Creek Site included analysis of water from residential sources, shallow wells, deep wells, and of the perched leachate from beneath the Ball Mill Tailings Pile. Low concentrations of some metals were detected in residential water samples. Shallow wells had elevated levels of total metals including aluminum, antimony, arsenic, beryllium, chromium, cobalt, copper, iron, lead, manganese, nickel, vanadium, and zonc. Some shallow wells also had slightly elevated levels of dissolved metals including cadmium, cobalt, copper, iron, lead, manganese, nickel, and selenium. In addition, elevated levels of copper, lead, manganese, and zinc were found in the dissolved samples from some deep wells onsite. Very high concentrations of heavy metals were found in the perched leachate from beneath the Ball Mill Tailings Pile. Lead was detected as high as 91,500 g/L in the total samples, while the dissolved fraction contained 630 g/L of lead. In the most recent round of ground water sampling, which occurred in the Spring of 1996, no containment was detected above the Maximum Containment Level (MCL) in any of the wells sampled. The MCL is the maximum permissible level for a contaminant in water which is delivered to any user of a public water system.

Jacks Creek: Media analyzed from Jacks Creek included surface water, sediments, and fish tissue. All surface water samples from Jacks Creek were relatively free of organic and inorganic contamination. Sediments collected from Jacks Creek, its tributaries, and flood plains were found to contain heavy metals, such as copper, lead and zinc, PCBs, and some poly-aromatic hydrocarbons (PAHs). PCBs and pesticides, such as dieldrin were detected in sediments from Jacks Creek adjacent to the Site and at much lower concentrations downstream. Fish tissue analysis for fish from Jacks Creek showed elevated levels of metals both in fish fillets and in whole-body samples. PCB concentrations increased in samples from fish collected adjacent to the Site as compared to samples from fish collected upstream and downstream.

II. SUMMARY OF SITE RISKS

Following the Remedial Investigation, analyses were conducted to estimate the human health and environmental hazards that could result if contamination at the Site was not remediated. These analyses are commonly referred to as a Risk Assessment and identify existing and future risks that could occur if conditions at the Site do not change. The objectives of the Risk Assessment are to define the actual or potential risks to human health and the environment resulting from the presence of contamination in various media and to provide the basis for determining appropriate remedial measures for these media in the Feasibilty Study.

The Risk Assessment for the Site is complex because of the variety of contaminants, the number of contaminated media, the potential for contaminant migration, and the number and location of potentially exposed populations. The Baseline Human Health Risk Assessment (BLRA) evaluated human health risks and the Ecological Risk Assessment (ERA) evaluated environmental impacts from the Site.

Baseline Human Health Risk Assessment: The BLRA assesses the toxicity, or degree of hazard, posed by contaminants related to the Site and involves describing the routes by which humans could come into contact with these substances. The BLRA is composed of the following four steps:

1. Identification of Chemicals of Potential Concern
2. Exposure Assessment

3. Toxicity Evaluation
4. Risk Characterization

The purpose of the first step, identification of chemicals of potential concern, is to identify the contaminants at the Site to which exposure may occur. The exposure assessment step identifies exposure routes and population characteristics for receptors exposed to contaminants at the Site, or contaminants migrating from the Site. The purpose of the toxicity evaluation step is to identify which contaminants present at the Site pose a risk to human health and at what level such exposure may be harmful. The final step, risk characterization, combines the information of the previous three steps to quantitatively and qualitatively evaluate site-specific risks. Separate calculations are made for those substances that can cause cancer (carcinogenic), and for those that can cause non-carcinogenic, but adverse, health effects. For example, a compound could have an adverse impact on liver or kidney function with causing cancer.

In general, a number of heavy metals, PCBs, and dioxin are the contaminants of concern at the Site. Volatile organics and pesticides were also detected in various media, however, the concentrations of these constituents were only slightly elevated above background concentrations. Based on the results of the Remedial Investigation, the primary contaminants associated with potential human health risk at the Site include:

- inorganic elements (aluminum, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc);
- pesticides (alpha and gamma Chlordane); and
- dioxins and PCBs.

Some of the contaminants present onsite are greater threat to human health than others. Four of the most significant contaminants at this Site, in terms of human health impacts, are copper, lead, mercury and PCBs. A brief toxicity profile on each of these substances is included below.

Copper is a reddish-brown metal which occurs free or in ores. It is insoluble in water but soluble in acid. Metallic copper is used as a conductor of electricity and in all gauges of wire for circuitry, soil, high conductivity tubes, etc. Copper is used in many important alloys such as brass and bronze. Copper is ised in insecticides, fungicides, catalysts, analytical reagents and paints. Acute exposure to copper salts may cause eye and skin irritation. Acute industrial exposure to copper may occur as a result of fumes generated during welding copper-containing metals. This type of exposure may cause upper respiratory tract and stomach irritation. Chronic exposure to copper rarely occurs except in individuals with Wilson's disease. This is a genetic condition where abnormal amounts of copper are absorbed and stored by the body. Chronic exposure to copper may result in anemia. Copper is not classifiable as to human carcinogenicity.

Lead is heavy metal that exists in one of three oxidation states, 0, +2, and +4. Occupational exposure to lead dust and fumes can occur during mining, refining, smelting, and welding. Children exhibiting pica (placing of non-food items in the mouth) as well as children exhibiting normal hand-mouth activities exposed to lead based chips, lead bearing dusts on environmental surfaces, or to soils contaminated with lead may be exposed to lead hazards that may result in elevated blood lead levels. Some of these effects, particularly changes in the levels of certain blood enzymes and in aspects of children's neurobehavioral development, may occur at blood lead levels so low as to be essentially without a threshold. Developmental toxicity having effects upon growth, IQ, and hearing may occur at blood lead levels at or below 10 ug/dL. Lead has been classified as a Group B2 probable human carcinogen. Oral exposure to lead salts primarily phosphates and acetates, has caused kidney tumors in laboratory animals.

Mercury is a silver-white, heavy liquid metal that is slightly volatile at ambient temperatures. Mercury can occur in the environment in either the organic (usually methyl) or inorganic (metallic) form. Mercury compounds are used as preservatives, disinfects, fungicides, and germicides. Additionally, mercury is used in the plating, dyeing, textile and pharmaceutical industries. In humans, prenatal exposure to methyl mercury has been associated with brain damage. Other major target organs for organic mercury compounds in humans are the central and peripheral nervous systems and the kidney. In animals, toxicity effects also occur in the liver, heart, gonads, pancreas, and gastrointestinal tract. Experimental studies involving laboratory animals indicate that both organic and inorganic forms of mercury are toxic to embryos.

Polychlorinated biphenyls (PCBs) are complex mixtures of the products of the chlorination of biphenyl. The mixtures contain isomers of chlorobiphenyls with different chlorine content. PCBs may contain other chlorinated mixtures, e.g., chlorinated naphthalenes and chlorinated dibenzofurans. PCBs are stable and nonflammable. They are used chiefly in

insulation for electric cables and wires. PCBs are persistent in the environment and bioaccumulate in food chains, with possible adverse effects on animals and man. Prolonged skin contact may cause the formation of chloracne which is characterized by blackheads, fat-containing cysts and pustules. Irritation of eyes, nose and throat may also occur. Systemic toxic effects are dependent upon the degree of chlorination of the biphenyls. Short and long-term exposure may cause liver damage. PCBs may cause embryo toxicity leading to stillbirth. Some PCBs are carcinogenic in animals. The EPA has classified PCBs as Group B2 probable human carcinogens. Oral exposure to PCBs has been shown to cause liver tumors in laboratory animals.

The purpose of the exposure assessment is to evaluate the potential for human exposure to hazardous chemicals present at the Site or mitigating from the Site. In the exposure assessment, potentially exposed individuals were identified and the magnitude or degree of exposure was estimated. The following groups of individuals could be exposed to Site contaminants either currently and/or in the future and were evaluated in the BLRA:

- Current or future scrap yard employees or nearby residents accidentally eating or breathing contaminated dusts from onsite soils, buildings or waste piles;
- Adults or children eating contaminated fish from Jacks Creek;
- Trespassers coming in direct contact with contaminated soils or wastes.

Individuals could potentially be exposed to Site contaminants in various ways. The exposure routes evaluated in the risk assessment include:

- accidently breathing or eating contaminated dust from the onsite soils;
- placing objects such as hands contaminated with Site soil and sediment in the mouth; and
- eating fish from the river.

Different combinations of the above routes of exposure were considered for various group of individuals that could be exposed to Site contaminants. Table 1 shows the most significant risk scenarios and summarizes the total risk levels from all appropriate exposure routes calculated for each group of individuals. The total risk levels are all marked with an asterisk (*) because they also include a number of less significant risk scenarios that are not listed in Table 1. As Table 1 indicates, a number of these groups of individuals could be exposed to unacceptable health risks if Site contamination is not addressed and no restrictions are placed on future use of the Site. Actual or threatened releases of hazardous substances from this Site, if not addressed by EPA's selected remedy may present a current or potential threat to human health or welfare.

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes acceptable levels of carcingenic risk for Superfund sites ranging from one excess cancer case per 10,000 epople exposed to one excess cancer case per one million people exposed. This translates to a risk range of between one in 10,000 and one in one million additional cancer cases in an exposed population. Expressed as scientific notation, this risk range is between 1.0E-04 and 1.0E-06. Remedial action is warranted at a site when the calculated cancer risk level exceeds 1.0E-04. However, since EPA's cleanup goal is generally to reduce the risk to 1.0E-06 or less, EPA also may take action where risk is between 1.0E-04 and 1.0E-06.

The NCP also states that sites should not pose a health threat due to a non-carcinogenic, but otherwise hazardous, chemicals. EPA defines a non-carcinogenic threat by the ratio of the contaminant concentration that a person may encounter at the Site to the established safe concentration. If the ratio, which is called the Hazard Index (HI), exceeds one (1.0), there may be concern for the potential non-carcinogenic health effects associated with exposure to that chemical. The HI identifies the potential for the most sensitive individuals to be adversely affected by the non-carcinogenic effects of chemicals. As a rule, the greater the value of the HI above 1.0, the greater the level of concern. This Site certainly presents a non-carcinogenic risk to human health with numerous HI's well above the 1.0 threshold from a number of different exposure routes.

Table 1
Human Health Risks at the Site

Group of Individuals	Cancer Risk	Hazard Index
Scrap yard employee ingesting onsite soils	2E-03	6.2
Scrap yard employee ingesting dust from the smelter building	5E-05	12.7
Scrap yard employee ingesting Ball Mill Tailings Pile	8E-05	1.4
Scrap yard employee having sking contact with contaminated soils	7E-04	0.03
*Total Risk to Scrap Yard Employee	3E-03	26
Ingesting onsite soils (Child resident)	5E-05	0.7
Ingesting onsite soils (Adult resident)	3E-05	0.3
Eating fish (Child resident)	4E-04	34
Eating fish (Adult resident)	9E-04	14
Skin contact with soils (Adult resident)	2E-05	0.01
Skin contact with soils (Child resident)	7E-05	0.01
*Total Risk to resident (Adult)	9.5E-04	19
*Total Risk to resident (Child)	5.2E-04	58

Ecological Risk Assessment: EPA also evaluated the ecological risks associated with the Site. A number of media found on the Site pose an environmental risk based on ecological assessments performed during the RI. Concentrations of some chemicals including beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc, alpha-chlordane, gamma-chlordane, and PCBs exceeded relevant toxicity criteria in the surface water and sediments of onsite tributaries or in Jacks Creek. These contaminants are also found in the onsite soils and/or the waste piles, which may be serving as sources for the contamination found in the sediments of Jacks Creek. Contaminants at the Site have the potential to migrate offsite in fugitive dust, ground water, or via surface runoff.

Environmental receptors of the potential hazards posed by the Site include: onsite terrestrial vegetation, herbivores feeding on onsite vegatation, the aquatic biota (including the fish) of Jacks Creek, especially in the vicinity of the Site and its onsite tributaries, and transient wildfire, such as birds, that occasionally use these habitats. Environmental receptors would also include resident wildlife, including birds, that would bathe in and drink from contaminated ponded water on the Site, ingest contaminated grit, and feed on contaminated earthworms and vegetation. High levels of the organic contaminants are having an impact on the benthic invetebrates living in the sediments near the Site. Elevated levels of these same compounds in surface soils are impacting the terrestrial vegetation throughout the Site. Large areas of the Site are completely devoid of vegetation. in other locations, vegetational growth appears stunted, yellowed and diseased.

III. DESCRIPTION OF ALTERNATIVES

The Feasibility Study (FS) discusses a total of seven alternatives evaluated for the Site. The Addendum Feasibility Study (AFS), which was written by Parsons for the PRP Group, discusses a total of eleven other cleanup alternatives for the Site. This Record of Decision includes a "No Action" alternative required by the NCP and five alternatives that are protective of human health and the environment, achieve state and federal regulatory requirements, and best achieve the cleanup goals for the Site. Three of these alternatives are from the FS, and two othere are from the AFS. The FS and the AFS may be found in the Administrative Record for the Site.

Capital costs consist of direct (Construction) and indirect (non-construction and overhead) costs. Direct costs include expenditures for the equipment, labor, and materials necessary to install remedial actions. Operations and Maintenance costs are costs resulting from activities conducted at a site after a remedial action to ensure that the cleanup is functioning properly. Present worth costs are sued to evaluate expenditures that occur over different time periods by discounting all future costs to a common base year, ususally the current year. Time to implement is the estimated implementation time to construct a remedial action.

Alternative 1:	No Action
Capital Cost:	$0
Operation and Maintenance (O&M) Cost	$0
Present Worth Cost:	$0
Time to Implement:	0

The NCP requires that EPA consider a "No Action" alternative for every Superfund site to establish a baseline or reference point against which each of the remedial action alternatives are compared. In the event that the other identified alternatives do no offer substantial benefits, the No Action alternative may be considered a feasible approach. This alternative leaves the Site undisturbed and all current and potential future risks would remain.

Alternative 2:	Consolidated of Contaminated Material and Capping
Capital Cost:	$8,800,000
O&M Cost:	$ 82,000
Total Present Worth Cost:	$9,800,000
Time Implement:	9 to 12 months

This alternative is based on Alternative 2-A2 in the AFS and includes the following components:

Consolidation: Material in the two wastes piles would be flattened and consolidated with the following: soils in the flood plainn exceeding 500 ppm lead; sediments from Jack Creek exceeding 500 ppm lead; site soils outside the floodplain exceeding 3,000 ppm lead; and the battery casings remaining onsite. The consolidation area would be located in a portion of the

Site which is already contaminated with site-related contaminants. Buildings in area requiring excavation or to be capped would be demolished and the building debris would also be consolidated with the waste pile materials.

Multi-layer Cap: The flattened waste piles and consolidated materials would be first covered with a two-inch layer of cruched limestone and then covered with a multi-layer cap consisting of a barrier layer, a drainage layer and a seeded topsoil layer. The barrier layer would be composed of a high-density polyethylene (HDPE) geomembrane. A six-inch sand drainage layer would be placed on top of the geomembrane. A one-foot layer of protective soils, and six-inches of topsoil would be placed on top of the drainage layer. The topsoil layer would then be seeded in order to vegetate the entire consolidation area.

Backfilling: Excavated areas would be restored with clean fill to the original grade and then seeded in order to revegetate all excavated areas except for the scrap yard. Stormwater controls: Stormwater controls would be installed to divert stormwater away from the entire capped area.

Maintenance: Long-term maintenance of the multi-layer cap and the stormwater controls would be conducted to ensure proper functioning of these components.

Alternative 3:	Excavation and Offsite Treatment and Disposal of Soils Exceeding 40,000 ppm lead; Consolidation and Capping of Remaining Material above 1,000 ppm lead
Capital Cost:	$10,335,000
O&M Cost	$164,000
Total Present Worth Cost	$12,500,000
Time to Implement	9 - 12 months

This alternative was developed by EPA after completion of the FS and the AFS. It includes the following components:

Offsite Treatment: Soils with lead concentrations above 40,000 ppm, which are the principal threat wastes, would be excavated and treated at an offsite hazardous waste treatment facility using a chemical stabilization process. An estimate of the volume of principal threat wastes is 14,500 tons.

Consolidation: Site waste pile materials and soils between 1,000 and 40,000 ppm lead would be consolidated in the unused portion of the Site in an area already contaminated with site-related contaminants. This consolidation includes soils located within the onsite lagoons which are often described as lagoon sludges. Sediment from depositional areas of Jacks Creek exceeding 110 ppm lead in the immediate vicinity of the Site would be removed by vacuum dredging and also consolidated with the contaminated soils and waste pile material. The consolidation pile would be located outside the floodplain area of the Site, and would be on the portion of the Site that is not currently used.

Multi-layer Cap: The consolidated waste pile materials, soils, and sediments would be covered with a multi-layer cap as described in Alternative 2 above.

Backfilling & Wetlands Replacement: Excavated areas would be restored with clean fill to the original grade on the entire Site and the unused portion of the Site would be revegetated. Existing onsite wetlands which are destroyed during the excavation activities will be replaced in an onsite location.

Soil Cover: Onsite areas in the floodplain that are no wooded and have lead levels below 1,000 ppm lead would also be covered with 18 inches of clean soil and seeded. The total area of this soil cover is estimated to be approximately four acres in size.

Buildings: Buildings onsite that are structurally unsound would be demolished. Debris from demolition would be disposed offsite. The abandoned buildings remaining onsite would be secured by installation of doors and locks.

Drums/Vat Disposal: The drums and the vat would be collected and then transported offsite for proper disposal.

Institutional Controls: Deed restrictions would be placed on the Site to restrict use of the capped area, limit use of the other areas of the Site to industrial activities, and prevent use of ground water from the Site.

Fencing: An eight-foot high fence would be constructed on the northern side of the active scrap yard in order to completely fence the Site on all sides.

Storm water controls: Strom water controls would be installed to divert stormwater away from the capped area.

Monitoring: Long-term monitoring of ground and surface water, as well as the fish and benthos in Jacks Creek, would also be conducted.

Fish Consumption Advisories: Fish consumption advisories would be posted along Jacks Creek near the Site.

Maintenance: Long-term maintenance of the multi-layer cap, soil cover, stormwater controls, and fence would be conducted to ensure proper functioning of these components.
Five-year Reviews: Because contamination will remain onsite at concentrations that could pose a threat to human health and the environment, a review of Site conditions would be require every five years to ensure that the remedy is adequately protecting human health and the environment.

Alternative 4:	Onsite Chemical Fixation of Material with over 10,000 ppm lead; Consolidation and Capping of Treated and Untreated Material; and Institutional Controls
Capital Cost:	$26,000,000
O&M Cost:	$ 177,000
Total Present Worth Cost:	$28,000,000
Time to Implement:	24 to 28 months

This alternative is based upon Alternative 3A in the AFS with slight modifications by EPA. It includes the following components:

Onsite Treatment: Soils and waste material with lead concentrations above 10,000 ppm would be excavated and treated onsite using a chemical fixation process. The estimated volume of soil and waste requiring treatment is approximately 240,000 tons.

Consolidation: Treated material would be consolidated with soils from the Site with lead concentrations between 1,000 and 10,000 ppm. Sediments from depositional areas of Jacks Creek exceeding 110 ppm of lead would also be consolidated with the treated material.

The remaining features includingthe multi-layer cap over the consolidated material backfilling buildings, institutional controls, fencing, stromwater controls, monitoring, fishing advisories, maintenance, and five-year reviews would be the same as those described for Alternative 3.

Alternative 5:	Onsite Chemical Fixation of Material with over 1,000 ppm lead; Consolidation and Capping of Treated Material and Sediment; and Institutional Controls
Capital Cost:	$36,000,000
Annual O&M Cost:	$ 165,000
Total Present Worth Cost:	$38,000,000
Time to Implement:	24 to 30 months

This alternative is based on Alternative 4 in the FS and includes the following components:

Onsite Treatment: Soils and waste material having lead concentrations above 1,000 ppm would be excavated and treated onsite using a chemical fixation process. The estimated volume of soils and waste requiring treatment is 670,000 tons.

Consolidation: The treated material would be consolidated in the unused portion of the Site and covered with a soil cover.

The remaining features of this alternative including the deed restrictions, fence construction, building demolition advisories, maintenance, five-year reviews and long-term monitoring shall be the same as those described for Alternative 3.

Alternative 6:	Onsite Chemical Fixation of Material with over 1,000 ppm lead; Offsite Disposal of Treated Material and Sediment

Capital Cost:	$111,000,000
Annual O&M Cost:	$165,000
Total Present Worth Cost:	$113,000,000
Time To Implement:	24 to 28 months

This alternative is based on Alternative 5 in the FS and includes the following components:

Onsite Treatment: Soils and waste material having lead concentrations above 1,000 ppm would be excavated and treated onsite using a chemical fixation process. The estimated volume of soils and waste requiring treatment is 670,000 tons.

Offsite Disposal: The treated material would be disposed offsite at a sold waste/municipal landfill.

The remaining features of this alternative including the deed restrictions, fence construction, building demolition, fishing advisories, and long-term monitoring would be the same as those described for Alternative 3.

IV. COMPARATIVE EVALUATION OF ALTERNATIVES

Each of the six (6) remedial alternatives summarized in this ROD has been evaluated with respect to the nine(9) evaluation criteria set forth in the NCP, 40 C.F.R. Section 300.430(e)(9). These nine criteria can be categorized into three groups: threshold criteria, primary balancing criteria, and modifying criteria. A description of the evaluation criteria is presented below:

Threshold Criteria:

1. Overall Protection of Human Health and the Environmental addresses whether a remedy provides adequate protection and describes how risks are eliminated, reduced, or controlled.
2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) addresses whether a remedy will meet all of the applicable, or relevant and appropriate requirements of environmental statutes.

Primary Balancing Criteria:

3. Long-term Effectiveness refers to the ability of a remedy to maintain reliable protection of human health and the environment over time once cleanup goals are achieved.
4. Reduction of Toxicity, Mobility, or Volume through Treatment addresses the degree to which alternatives employ recycling or treatment that reduces toxicity, mobility, or volume of containments.
5. Short-term Effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posted during the construction and implementation period until cleanup goals are achieved.
6. Implementability addresses the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
7. Cost includes estimated capital, operation and maintenance costs, and present worth costs.

Modifying Criteria:

8. State Acceptance indicates whether, based on its review of backup documents and the ROD, the State concurs with, opposes, or has no comment on the Selected Alternative.
9. Community Acceptance will be assessed in the Record of Decision following a review of public comments received on the Proposed Plan and supporting documents included in the Administrative Record.

1. Overall Protection of Human Health and the Environment

A primary requirement of CERCLA is that the selected remedial alternative be protective of human health and the environment. A remedy is protective if it reduces current and potential risks to human health and the environment to acceptable levels. Alternative 1 (No Action) would not effectively reduce the risk to human health and the environment at the Site. This alternative would no adequately reduce exposure to containment present at the Site and would not control migration of containments from the Site. Both current and potential future users of the Site would be expected to unacceptable human health risks as indicated previously in Table 1 of this ROD. In addition, adverse ecological impacts would continue unabated at the Site. Because this alternative does not meet the threshold criteria of protection of human health and the

environment, it will not be considered further in this analysis.

The remaining alternatives are all protective of human health and the environment. alternative 2 reduces the potential for exposure to Site contaminants by consolidating and capping the contaminated material. alternatives 3-5 also reduce the potential for exposure by consolidating and capping the contamination. These alternatives also require that varying amounts of contamination be treated prior to capping which further reduces the potential for exposure. Alternative 3 uses treatment in an efficient manner by limiting treatment to the principal threat soils. Alternative 6 reduces the potential for exposure by treating and removing all the contaminated material from the Site.

2. Compliance with Acceptance or Relevant and Appropriate Requirements (ARARS) 1

Any cleanup alternative considered by EPA must comply with all applicable or relevant

1 Under Section 121(d) of CERCLA, 42 U.S.C. º 9621 (d), and EPA guidance, remedial actions at CERCLA sites must attain legally applicable or relevant and appropriate federal and promulgated state environmental standards, requirements, criteria and limitations which are collectively referred to as "ARARs", unless such ARARs are waived under Section 121(d)(4) of CERCLA, 42 U.S.C. º 9621(d)(4). and appropriate federal and state environmental requirements. Applicable requirements are those substantive environmental standards, requirements, criteria, or limitations promulgated under federal or state law that are legally applicable to the remedial action to be implemented at the Site. Relevant and appropriate requirements while not being directly applicable, address problems or situations sufficiently similar to those encountered at the Site that their use is well-suited to the particular site. Alternative 2, 3, 4, 5 and 6 would comply with the following ARARs as appropriate:

Chemical-Specific ARARs

Ground Water: Under the implementing regulations of the Federal Safe Drinking Water Act, 40 C.F.R. ºº 141.61 and 141.62, standards for acceptable concentrations of contaminants in drinking water, called Maximum Contaminant Levels (MCLs), are established for public water supplies. The long-term monitoring program for alternatives 2, 3, 4, 5 and 6 includes monitoring private drinking water wells that could be potentially impacted by migration of contaminated ground water from the Site.

Soil/Sediment: The Commonwealth of Pennsylvania has identified Act 2 as an ARAR, and regulations issued pursuant to this Act establish a cleanup level of 1,000 ppm lead for this Site.

Surface Water: Water quality standards, promulgated pursuant to the Pennsylvania Clean Streams Law, have been established for acceptable concentrations of contaminants in State waters and are set forth in 25 pa. Code Chapter 93.1, 93.2, 93.3, 93.4, 93.7, 93.8a. the surface water regulations in 25 Pa. Code Chapter 250.406(c) established the standards for environmental remediations in Pennsylvania. the long-term monitoring program for Alternatives 2, 3, 4, 5 and 6 include monitoring of surface water at the Site, including monitoring Jacks Creek, to ensure that surface water is not adversely impacted by migration of contaminants from the Site.

Action-Specific ARARs

Multilayer Cap and Sting Requirements: 25 Pa. Code Chapter 264 regarding the closure of landfills are relevant and appropriate to the covering or capping of the landfilled industrial waste materials in Alternatives 2, 3, 4 and 5. Relevant provisions include 25 Pa. Code ºº 264.11(a), 264.117(e), 264.302(a)(6) and 264.310(1), (4), (5) and (6)(I), (v), and (vi). The requirements of 25 Pa. Code 269.22, 23, 25, and 42 are relevant and appropriate with respect to the siting of the consolidation area.

Liner: 25 Pa. Code º 264.302(a)(1)-(5), to the extent that it concerns requirements for liners, has been identified as a relevant and appropriate regulation. However, these requirements are being waived pursuant to the equivelent standard of performance waiver set forth in Section 121(d)(4)(D) of CERCLA, 42 U.S.C. º 121(d)(4)(D). The installation of the limestone blanket beneath the cap and the existence of Site-specific conditions, such as the existence of a sub-surface clay layer and the depth of the ground water, provide an equivalent standard of performance with respect to the liner requirements.

Excavation: Erosion control set forth in 25 Pa. Code Sections 102.1-5, 102.11-13, 102.21-24, are applicable to earth-moving activities associated with the multi-layer cap to be

installed in Alternatives 2, 3, 4 and 5. Storm water management measures in 32 p.S. Sections 680.11 and 680.13 are applicable to eath-moving activities during the remdiation. In addtion, dust suppression is required under 25 Pa. Code Sections 123.1 and 123.2 for these earth-moving activities.

Hazardous Waste Generation: Alternatives 3,4,5 and 6 may result in the generation of wastes that would be regulated under current hazardous wste regulations. Any hazardous waste generated must be handled consistent with the requirements of 25 Pa. Code Part 262.10-13 262.20, 262.22, 262.23, 262.30, 262.33, 262.34, 262.40-43, 262.46. With respect to transporting of hazardous wastes, it must be done consistent with 25 Pa. Code Part 263.10, 263.11, 263.13, and 263.20-22. Also with respect to storage of generated hazardous wastes under Alternatives 4 and 5, 25 Pa. Code ºº 264.171-178, 264.179(3), and 264.190-199 are relevant and appropriate.

3. Reduction of Toxicity, Mobility, or Volume through Treatment

Section 121(b) of CERCLA, 42 U.S.C. º 9621(b), establishes a preference for remedial actions which include treatment that permanently and significantly reduces the toxicity, mobility, or volume of contaminants. Alternatives 2 does not reduce the toxicity, mobility or volume through treatment. Alternative 3 entails "hot spot" treatment of highly contaminated waste through offsite stabilization, so a reduction in toxicity, mobility and volume of the onsite contaminants would occur. Alternatives 4, 5 and 6 treat larger volumes of waste and contaminated soils and, therefore, achieve increasing reductions in the toxicity and mobility of Site contaminants. The chemical fixation process slightly increases the volume of a waste during the treatment process. Therefore, both Alternative 4 and 5 would increas the volume of waste onsite.

4. Implementability

This criterion is associated with implementing the cleanup technologies associated with each alternative, including the ability and time necessary to obtain required permits and approvals, the availability of services and materials, and the reliability and effectiveness of monitoring. The installation of a multi-layer cap in Alternatives 2, 3, 4, 5 and 6 utilizes well-known construction methods. Necessary services and materials are readily available.

The chemical fixation technology used in Alternatives 4, 5 and 6 is more complicated to implement than the multi-layer cap alone. Additional sampling and bench scale laboratory treatability studies would be performed during the remedial design to determine the type and amount of reagent required to adequately stablize the waste material. Because the wastes were deposited at various times over many years, and because of their different characteristics. chemical fixation may require the use of a variety of binding materials specific to each type of waste.

Excavation of the highly contaminated waste described in Alternative 3 is a straightforward process. As with the other alternatives, additional sampling and waste characterization will be necessary to determine the location of concentrated wastes to be excavated and the appropriate landfill(s) for disposal. Because of the volume of waste involved, transportation costs could increase if appropriate landfill facilities with capacity for the waste can only be located at a significantly distance from the Site.

5. Short-Term Effectiveness

Alternatives 2, 3, 4, 5 and 6 could pose an increased short-term health risk to onsite construction workers and/or trespassers during earth-moving activities to construct the multi-layer cap. These activities have the potential to release inorganic contaminants that may be present in the soil or waste material. Alternative 4, 5 and 6 have potential for somewhat higher short-term health risks because the onsite chemical fixation process requires mixing contaminated waste with the binding agents and a greater release of contaminants could occur. In all cases, however, these short-term risks would be minimized using standard safety measures.

6. Long-term Effectiveness and Permanence

Alternatives 2, 3, 4 and 5 provide a permanent and effective long-term remedy by requiring regular and continuing maintenance of the multi-layer cap. The construction of the impermeable cap would eliminate the risk associated with the direct contact with contaminants at the Site and would reduce mobility of ground water contaminants. The stormwater controls should reduce the amount of erosion of site-related contaminants into Jacks Creek. The degree of long-term effectiveness and permanence increases with Alternatives 3, 4, 5 and 6. Under Alternative 3, the most highly contaminated soils would be removed from the Site and would not be capped onsite. By immobilizing the conatminants through treatment, Alternatives 4 and 5

rely less on continued maintenance of the multi-layer cap to achieve long-term effectiveness and permanence. Similarly, Alternative 6 completely removes the soils and wastes from the Site, thereby eliminating the possibly of any future risks at the Site from these wastes and further increasing the long-term effectiveness and permanence. The long-term monitoring program would evaluate the ongoing effectiveness and permanence of all of the alternatives.

7. Cost

Evaluation of costs of each alternative generally includes the calculation of direct and indirect capital costs qand the O&M costs, both calculated on a present worth basis. The total present worth cost of Alternatives 2, 3, 4, 5 and 6 has been calculated for comparative purposes and is presented in Table 2 below. Direct capital costs include costs of construction, equipment, building and services, and waste disposal. Indirect capital costs include engineering expenses, start-up and shutdown, and contingency allowances. O&M costs include labor and material; chemicals, energy, and fuel; administrative costs and purchased services; monitoring costs; costs for periodic site review (every five years); and insurance, taxes, and license costs. For cost estimation purposes, a period of 30 years has been used for O&M. In reality, maintenance of a multi-layer cap would be expected to continue indefinately. The actual cost for each alternative is expected to be in a range from 50 percent (50%) highere than the costs estimated to 30 percent (30%) lowere than the costs estimated. Using these ranges, a $10 million cost estimate for an entire cleanup in a ROD could vary from $ 7-15 million by the time the cleanup is actually completed.

Table 2
Estimated Cost of Alternatives

Alternative	Total Present Worth Cost
2	$9,800,000
3	$12,500,000
4	$28,000,000
5	$38,000,000
6	$113,000,000

8. State Acceptance

The Commonwealth of Pennsylvania has concurred with this ROD. PADEP has reviewed all the supporting documents and provided support to EPA throughout the entire Superfund process at this Site.

9. Community Acceptance

Community acceptance of the preferred alternative is discussed in Section VII, the Responsiveness Summary Section of this ROD. In general, the community is supportive of EPA's selected remedy, and would like to see it implemented as soon as practicable.

V. DESCRIPTION OF THE SELCTED REMEDY

Based on the comparison of the nine evaluation criteria for each of the alternatives in this Proposed Plan, EPA's preferred alternative is Alternative 3: Excavation and Offsite Disposal of Material with over 40,000 ppm lead; Consolidation and Capping of Remaining Material above 1,000 ppm lead. Soils with lead concentrations above 40,000 ppm, which are the principal threat wastes, will be excavated and treated at an offsite hazardous waste treatment facility using a chemical stabilization process. Site waste pile materials and soils having lead concentrations between 1,000 and 40,000 will be consolidated in the unused portion of the Site. Sediment from depositional areas of Jacks Creek in the immediate vicinity of the Site exceeding 110 ppm lead will be removed by vacuum dredging and also consolidated with the contaminated soils and waste pile materials. The consolidation area will be covered with multi-layer cap.

Excavated areas will be restored with clean fill to the original grade and revegetated. Existing wetlands that are destroyed during the excavation will be replaced with onsite wetlands areas of equivalent size. Onsite areas in the floodplain that are not wooded and have lead levels below 1,000 ppm lead will also be covered with 18 inches of clean soil and seeded Buildings onsite that are structurally unsound will be demolished. Demolition debris will be disposed offsite. The abandoned buildings remaining onsite will be properly secured with locks and doors. Onsite drums will be transported offsite for disposal. An eight-foot fence will be constructed on the northern side of the active scrap yard. Storm water controls will be installed to divert storm water from the capped area. Deed restrictions will be placed on a portion of the Site to restrict use of the capped area. Fish consumption advisories will be posted along Jacks Creek near the Site. Long-term monitoring of ground and surface water, as well as the fish and benthos in Jacks Creek, will also be conducted. Long-term maintenance of the multi-layer cap, soil cover, strom water controls, and fence will also be conducted to ensure proper functioning of the constructed remedy.

Alternative 3 meets the threshold criteria of overall protection to human health and the environment and compliance with ARARs. In considering the balancing criteria, EPA believes Alternative 3 can be readily implemented, achieves long-term effectiveness and permanence at a reasonable cost, minimizes the short-term impacts, and effectively reduces the toxicity, mobility and volume of Site contaminants through both engineering controls and treatment. Alternative 3 is the most effective of all the alternatives considered in the ROD.

Performance Standards for the Selected Remedy

Based upon consideration of the requirements of CERCLA, the detailed analysis of the alternatives using the nine criteria, and public comments, EPA has determined that Alternative 3

is the most appropriate remedy for this Site. Each of the components of the selected remedy and the required performance standard(s) for that component are listed below:

A. Multi-layer Cap Performance Standards

The multi-layer cap shall achieve the following:

1. The multi-layer cap shall cover the entire consolidation area that is created from the relocation of the waste piles, contaminated soils and sediments. The exact size and location of the consolidation area shall be determined during the Remedial Design.

2. The multi-layer cap shall be designed to adequately protect Site users, including scrap yard employees, from being exposed to site contaminants that pose an unacceptable risk to human health.

3. The multi-layer cap shall be designed to have a permeability of 10-7 cm/sec or less in order to minimize infiltration of water through the waste and soils and into the ground water.

4. The multi-layer cap shall be designed, constructed and maintained in accordance with the relevant provision of 25 Pa. Code °° 264.117(a), 264.117(e), 264.302(a)(6) and 264.310(1), (4), (5) and (6)(I), (v), and (vi).

5. the multi-layer shall be designed and constructed to function with minimum maintenance, to minimize water and air erosion of the cover into surface water, and to accommodated settling so that the integrity of the cover is maintained.

6. A two-inch layer of crushed limestone shall be placed over the entire consolidation area, prior- to the placement of the multi-layer cap.

7. The multi-layer cap shall consist of the following components: a barrier layer consisting of a HDPE geomembrane, a six-inch sand drainage layer, a one-foot layer of protective soils, and a six-inch layer of topsoil.

8. The multi-layer cap and the backfilled areas of the Site shall be revegetated and the vegetation maintained in such a way as to provide habitat for indigenous and migratory terrestrial resources to the maximum extent practicable. Portions of the existing scrap yard which are excavated shall be backfilled but not revegetated. The exact type of seed used in revegetating the excavated areas shall be determined during Remedial Design.

B. Soil Excavation Performance Standards

1. All soils that exceed the terrestrial cleanup level of 1,000 ppm lead shall be performed during the Remedial Design to determine the full extent of contamination. Sampling and Analysis shall also be perfomed after excavation has been completed to confirm that cleanup levels set forth in the performance standards have been achieved.

2. The excavation in the active scrap yard shall be performed in a manner which disrupts the ongoing scrap yard activities as little as possible.

C. Transportation and Offsite Disposal of Highly-Contaminated Soils

1. Transportation of hazardous wastes from the Site shall be performed in accordance with 25 Pa. Code Part 263.10, 263.11, 263.13, and 263.20-22.

2. Wastes shall be disposed of in accordance with all the applicable statutes and regulations including, but not limited to, regulations governing offsite disposal found at 40 C.F.R. º 300.440.

D. Storm Water Control System

1. The storm water control system shall be designed and constructed in order to prevent storm water from infiltrating the multi-layer cap the the greatest practicable.

E. Fish Consumption Advisories

1. Warning signs shall be posted along Jacks Creek to warn potential fisherman against eating fish. These signs shall be properly maintained as long as the fish in Jacks Creek are found to have levels of contaminants that can cause adverse human health effects. The exact wording of these signs shall be agreed upon during the Remedial Design by PADEP and EPA.

F. Building Demolition, Decontamination and Disposal

1. Onsite buildings which are structurally unsound as to be a physical hazard to remediation workers shall be demolished as part of this component of the cleanup. The decision to demolish or secure the onsite buildings shall be made during the Remedial Design.

2. The demolition debris shall be steam cleaned and properly disposed offsite in a municipal landfill.

3. Buildings remaining onsite shall be secured with doors and locks in an appropriate manner to prevent entry by trespassers.

G. Collection and Disposal of Drums/Vat

1. The drums and the vat shall be collected and transported to an appropriate facility for disposal.

H. Vacuum Dredging of the Jacks Creek Sediments

1. Sediments from depositional areas of Jacks Creek in the immediate vicinity of the Site and containing lead of 110 ppm or greater shall be vacuum dredged and then placed in the onsite consolidation area. The exact location and extent of the vacuum dredging shall be determined during Remedial Design.

I. Soil Cover in Non-Forested Areas within the 100-year Floodplain

1. In the non-forested floodplain areas which are below 1000 ppm, a total of 18 inches of soil shall be placed on to the existing surface. This soil cover includes 12 inches of protective soils, and then 6 inches of topsoil. These areas, which are estimated to be a total of 4 acres in size, shall then be graded and seeded. The exact size and location of these areas will be determined during Remedial Design.

J. Monitoring of Surface Water, Ground Water, Sediments and Biota

1. Long-term monitoring of the ground water, and surface water of Jacks Creek shall occur once every six months after the remedy has been completed. These samples shall be evaluated by comparison to the Maximum Contaminant Levels (MCLs) for site-related contaminants.

2. Long-term monitoring of the fish, benthos, and sediments of Jacks Creek shall also occur once every six months after the remedy has been completed.

K. Backfilling Excavated Areas

1. All excavated areas outside of the scrap yard will be backfilled with clean soil to the original grade. The top four inches of the fill shall be topsoil in order to support the revegetation of all excavated areas.

L. Wetlands Replacement

1. All wetlands areas that are destroyed during the excavation of contaminated soils shall be replaced by the creation of onsite wetlands in accordance with 25 Pa. Code Part 105.20a. The exact size and location of these wetlands areas shall be determined during the Remedial Design.

M. Operation and Maintenance

1. The multi-layer cap, the fence, and the fishing advisory signs shall be properly maintained during the operation and maintenance phase of the cleanup process.

N. Institutional Controls

1. The fence shall be a chain-link fence, eight feet in height, and shall be installed on the north side of the scrap yard in order to limited site access to the greatest extent practicable. The fence shall be installed in a manner that allows access to the railroad track that is located in this portion of the site.

2. Deed restrictions shall be developed and submitted to EPA for approval. Once approved these deed restrictions shall be placed in the deed to the Site by filing said restrictions with the Recorder of Deeds of Mifflin County, PA.

3. The deed restrictions shall prohibit excavation or disturbance of any portion of the multi-layer cap.

4. The deed restictions shall prohibit the installation of new onsite wells for use for domestic purposes, including drinking water.

5. The deed restrictions shall be designed to allow for beneficial use of the property, providing that the beneficial use would not pose a risk to human health or the environment. The deed restrictions would prohibit the building of residential construction on the Site.

6. The deed restrictions shall be valid and binding in the Townships, County and the Commonwealth in which the Site is located. The continued need for these restrictions shall be re-evaluated during the five-year reviews which are conducted under CERCLA Section 121(c), 42 U.S.C. º 9621(c).

VI. STATUTORY DETERMINATIONS

The EPA's primary responsibility at Superfund sites is to implement remedial actions that are protected of human health and the environment. Section 121 of CERCLA, 42 U.S.C. º 9621, also establishes several other statutory requirements and preferences. The selected remedy must be cost effective and utilize a permanent solution to the maximum extent practicable. The selected remedial action must comply with all applicable or relevant and appropriate requirements set forth by State and Federal environmental statutes and regulations, unless a waiver is justified. Finally, CERCLA sets forth a statutory preference for remedial actions that permanently reduce the toxicity, mobility, and volume of the site-related wastes. The following sections discuss how the selected remedy meets the statutory requirements and preferences set forth in Section 121 of CERCLA.

Protection of Human Health and the Environment

The risk assessment identified future exposure to contaminated ground water as the most significant exposure pathway in terms of its potential impact on human health. The risk assessment also showed that the site has a relatively high volume (85,000 tons) of low toxicity waste. The remedial measures included in the preferred remedy shall impede further migration of waste or contaminated soils from the landfill. The selected remedy would also protect human health by eliminating direct contact with the site soils through access restrictions and placement of a multilayer cap system. The selected remedy also protects the environment by reducing contaminant migration into the unnamed stream. Additionally, implementation of this alternative is not expected to result in any adverse short-term risks or cross-media impacts

Cleanup Levels

A number of different cleanup levels have been developed for this Site. Lead is a ubiquitous contaminant at the Site, and therefore it was sued as the indicator compound for the other Site contaminants. The cleanup level for lead in the sediments of Jacks Creek, an environmentally-sensitive area, is 110 ppm. This cleanup level in the sediments is derived from a 1990 study by E.R. Long and L.G. Morgan entitled "The Potential for Biological Effects of Sediments-sorbed Contaminants Tested in the National Status and Trends Program". In the terrestrial portion of the Site, the level at which soils will be consolidated is 1,000 ppm lead. This is an industrial site so the upper portion of the 500-1000 ppm range for lead in soils was used at this Site. A cleanup goal of 1000 ppm lead is also approximately the midpoint of the protective range of 750 to 1750 ppm lead from EPA's adult lead model. This adult lead model was published in December 1996, and is entitled "Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil". In addition, the commonwealth of Pennsylvania has identified the Pennsylvania Land Recycling Act as an ARAR, and regulations issued pursuant to this Act establish a cleanup of 1000 ppm lead for this Site.

The level requiring treatment in the Preferred Alternative is 40,000 ppm lead, which is two orders of magnitude above 400 ppm lead, the residential screening level. The residential screening level is a level which allows for unrestricted use and unlimited exposure. At this Site, soils containing 40,000 ppm lead or greater are considered principal threat wastes requiring treatment.

Compliance with Applicable or Relevant and Appropriate Requirements

The selected remedial action will comply with all ARARs. The ARARs specific to the selected remedy are presented below. Except where specifically noted, the site-specific limitations to the following ARARs will be identified in the remedial design phase.

Chemical-Specific ARARS

Ground Water: Under the implementing regulations of the federal Safe Drinking Water Act, 40 C.F.R. °° 141.61, and 141.62, standards for acceptable concentrations of contaminants in drinking water, called Maximum Contaminant Levals (MCLs), are established for public water supplies. The long-term monitoring program for Alternative 3, includes monitoring private drinking water wells that could be potentially impacted by migration of contaminated ground water from the Site.

Soil/Sediments: The Commonwealth of Pennsylvania has identified Act 2 as an ARAR, and regulations issued pursuant to this Act establish a cleanup level of 1000 ppm lead.

Surface Water: Water quality standards, promulgated pursuant to the Pennsylvania Clean Streams Law, have been established for acceptable concentrations of contaminants in State waters and are set forth in 25 Pa. Code Chapter 93.1, 93.2, 93.3, 94.4, 93.6, 93.7, and 93.8a. The surface water regulations in 25 Pa. Code Chapter 250.406(C) established the standards for environmental remediations in Pennsylvania. The long-term monitoring program for Alternative 3 includes monitoring of surface water at the Site, including monitoring Jacks Creek, to ensure that surface water is not adversely impacted by migration of contaminants from the Site.

Action-Specific ARARs

Multi-Layer Cap and Siting Requirments: 25 Pa. Code Chapter 264 regarding the closure of landfills are relevant and appropriate to the covering or capping of the landfilled industrial waste materials in Alternatives 3. Relevant provisions include 25 Pa. Code °° 264.117(a), 264.117(e), 264.302(a)(6) and 264.310(1), (4), (5) and (6)(I), (v), and (vi). The requirements of 25 Pa. Code 269.22, 23, 25, and 42 are relevant and appropriate with respect to the siting of the consolidation area.

Liner: 25 Pa. Code ° 264.302(a)(1)-(5), to the extent that it concerns requirements for liners, has been identified as a relevant and appropriate regulation. However, these requirements are being waived pursuant to the equivalent standard of performance waiver set forth in Section 121(d)(4)(D) of CERCLA, 42 U.S.C. ° 121(d)(4)(D). The installation of the limestone blanket beneath the cap and the existence of Site-Specific conditions such as the existence of a sub-surface clay layer and the depth of the ground water, provide an equivalant standard of performance with respect to the liner requirements.

Waste Piles/Landfill: Alternative 3 requires the movement and consolidation of onsite waste piles and contaminated soils. 25 Pa. Code ° 264.251(a)(f)(g) and (n) are relevant and appropriate to this aspect of the remediation. Also 25 Pa. Code ° 264.301 (4-9), (14) and (15) are relevant and appropriate with respect to the design of the landfill.

Excavation: Erosion control measures set forth in 25 Pa. Code Sections 102.1-5, 102.11-13, 102.21-24, are applicable to earth moving activities associated with the multi-layer cap to be installed in Alternative 3. Storm water management measures in 32 P.S. Sections 680.11 and 680.13 are applicable to earth-moving activities during the remdiation. In addition, dust suppression is required under 25 Pa. Code Sections 123.1 and 123.2 for these earthmoving activities.

Hazardous Waste Generation: Alternative 3 may result in the generation of wastes that would be regulated under current hazardous waste regulations. Any hazardous waste generated must be handled consistent with the requirements of 25 Pa. Code ° 261.10-13, 262.20, 262.22, 262.23, 262.30, 262.33, 262.34, 262.40-43, 262.46. With respect to transporting of hazardous wastes, it must be done consistent with 25 Pa. Code ° 263.10, 263.11, 263.13, and 263.20-22. Also with respect to storage of generated hazardous wastes under Alternative 3, 25 Pa. Code °° 264.171-178, 264.179(3), and 264.190-199 are relevant and appropriate.

Location-Specific ARARs

Wetlands Replacement (25 Pa. Code 105.17, 105.20a, 105.46 and 105.46(a). This regulation is applicable to the replacement of wetlands areas destroyed during the excavation of contaminated soils.

Floodplain Management (25 Pa Code 106.1, 106.2, 106.23, and 106.32). This regulation is applicable to the floodplain management during onsite construction activities.

Siting (25 Pa Code 269.1, 269.22, 269.23, 269.42) These regulations are applicable with

respect to the siting of the landfill on an appropriate portion of the Site property.

To Be Considered

1. Pennsylvania's Lands Recycling Technical Manual - This document can be helpful in understanding the standards established for environmental remediations conducted in Pennsylvania.

2. Soil Erosion and Sedimentation Control Manual - This document can be used to interpret the regulations regarding erosion and sedimentation control during construction activities.

3. Design Criteria for Wetlands Replacement, Division of River and Wetlands Conservation, P.O. Box 8761, Harrisburg, PA 17105-8671. These criteria can be useful in designing a wetlands replacement project.

Cost Effectiveness

The selected remedy is cost effective because it has been determined to be the best balance between cost and protection of human health, welfare and the environment. The selected remedy has excellent short-term effectiveness proportional to its cost. The estimated capital cost for this alternative is $10,335,000 with a net present worth cost including 30 years of operation and maintenance of $12,500,000. Table 3, on the next page, list the capital costs for each component of the selected remedy. The selected remedy provides a level of protection of human health comparable to that provided by the other remedies, but at a significantly reduced cost. Although other remedies may be more effective in the long-term, the site-related risks do not justify the additional capital expenditure.

Utilization of Permanent Solutions to the Maximum Extent Practicable

The EPA has determined that the selected remedy represents the maximum extent to which permanent treatment technologies can be utilized in a cost effectivew manner for the site. Of those alternatives that are protective of human health and the environment and comply with

Components of the Selected Remedy Alternative 3	Capital Cost ($)
1. Deed Restrictions	1,000
2. Fence Construction	67,000
3. Disposal of Drums/vats	35,000
4. Demolition/Securing Buildings	422,000
5. Monitoring ground & surface water	10,000
6. Posting fish consumption advisories	10,000
7. Excavation/offsite disposal of soils>40,000 ppm lead	2,500,000
8. Consolidation of soils, wastes & sediments	1,300,000
9. Multi-layer capping of consolidation pile	2,500,000
10. Capping floodplain soils<1,000 ppm lead	220,000
11. Backfilling excavated areas & wetlands replacement	3,270,000
TOTAL CAPITAL COST	10,335,000

ARARs, the EPA has determined that the selected remedy provides the best balance in terms of short-term effectiveness; implementability; cost; reduction in toxicity, mobility, and volume; and long-term effectiveness.

The selected remedy does no offer as high a degree of long-term effectiveness as the offsite disposal of all wastes, however; it will significantly reduce the risks to human health posed by the site soils. EPA has determined that the use of more costly treatment technologies at the site are not justifiable. Because all the remedial alternatives, with the exception of Alternatives 1, offer a comparable level of protection of human health and the environment, the EPA has selected Alternative 3, which can be implemented quickly; will have little or no adverse effects on the surrounding community; and will cost considerably less than the other alternatives.

Preference for Treatment as a Principal Element

The statutory preference for remdial alternatives that employ treatment as the principal element has been met by the treatment of principal threat waste at an offsite treatment facility. Although several of the other remedies, such as Alternative 5, employ even more treatment of waste, the EPA has determined that Alternative 3, can be implemented more quickly and cost effectively than the other alternatives while still providing an adequate level of protection to human health and the environment.

Documentation of Significant Changes

The preferred alternative originally identified in the Proposed Plan is also the alternative selected in ROD. There have been no significant changes made to the selected remedy in the time period between the issuance of the Proposed Plan on February 27, 1997 and the signing of the ROD approximately six months later. However, a minor change to the selected remedy was made. The onsite wetlands areas, which are approximately one-fifth of an acre in size, will be recreated onsite as part of the selected remedy. This component of the selected remedy was not part of the preferred alternative in the Proposed Plan.

RESPONSIVENESS SUMMARY
FOR THE
RECORD OF DECISION
JACKS CREEK/SITKIN SMELTING & REFINING INC. SUPERFUND SITE
MAITLAND, MIFFLIN COUNTY, PENNSYLVANIA

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RESPONSIVENESS SUMMARY
JACKS CREEK/SITKIN SMELTING & REFINING INC.
SUPERFUND SITE
MAITLAND, MIFFLIN COUNTY, PENNSYLVANIA

This community relations responsiveness summary is divided into the folowing sections:

Overview: A summary of the EPA's selected proposed remedy for the Site.

Background: A brief history of community interest and concerns raised during remedial planning at the Site.

Comments and Responses: A summary of the commentors' major issues and concerns and EPA's responses to those issues and concerns. Commentors may include local homeowners, businesses, the municipality, and potentially responsible parties (PRPs).

OVERVIEW

EPA completed two studies in August 1993 and November 1993. The first study, called a Remedial Investigation (RI), identified the types and amounts of contamination at the Site. The second study, called a Feasibility Study (FS), further evaluated the information in the RI and outlined possible cleanup methods. As a result of the RI activities, EPA discovered heavy metals, including antimony, cadmium, lead, and mercury, in the soils, waste piles, ground water, surface water, and sediment at the Site.

To address the contamination at the Site, EPA issued the Proposed Remedial Action Plan (Proposed Plan) on February 27, 1997. The Proposed Plan outlined the cleanup alternatives described in the FS Report and discussed in detail EPA's preferred cleanup alternative. Before issuing the Proposed Plan, EPA compared the proposed cleanup methods to a series of evaluation criteria. These criteria serve as cleanup standards for all Superfund sites. EPA's preferred method is the best combination of the evaluation criteria listed below.

Threshold criteria
- Overall protection of human health and the environment
- Compliance with applicable or relevant and appropriate requirements (ARARs)

Balancing criteria
- Long-term effectiveness and performance
- Reduction of toxicity, mobility, or volume through treatment
- Short-term effectiveness
- Ability to implement
- Cost

Modifying criteria
- State acceptance
- Community acceptance

After considering state and community acceptance of the preferred alternative, EPA officially documented its selected alternative in the Record of Decision. EPA's selected alternative staisfies the criteria for remedy slection and meets all the cleanup objectives for the Site. As outlined in this Record of Decision, EPA's selected alternative - Excavation and Offsite Treatment and Disposal of Soils Exceeding 40,000 Parts Per Million (ppm) Lead; Consolidation and Capping of Remaining Materials Above 1,000 ppm Lead - includes the following measures to address the contamination at the Site:

1. Excavation, transportation, and offist treatment of soils with lead concentrations above 40,000 ppm.
2. Consolidation of soils and waste piles with lead concentrations between 1,000 and 40,000 ppm.
3. Vacuum dredging to remove sediment with lead concentrations exceeding 110 ppm from Jacks Creek, and onsite consolidation.
4. Placement of a multi-layer cap on the consolidated area.
5. Restore excavated areas with clean soil and revegetate.
6. Restore onsite wetlands areas.
7. Demolish the dilapidated onsite buildings.
8. Offsite disposal of drums/vat.

9. Place deed restrictions on a portion of the Site.
10 Construct an eight-foot high fence on the unfenced portion of the scrap yard.
11. Install strom water controls.
12. Conduct long-term monitoring of ground and surface water.
13. Post fish consumption advisories.
14. Conduct long-term operation and maintenance after cleanup is completed.

BACKGROUND

To announce the availability of and obtain public on the Proposed Plan, EPA held a public comment period from February 27, 1997, to March 29, 1997. On March 20, 1997, EPA held a public meeting to provide citizens with information about the Site and the proposed cleanup methods. The public meetings also provided an opportunity for citizens to ask questions about or comment on the Site and the proposed cleanup methods. EPA announced the public comment period and public meeting in a newspaper display advertisement placed in the February 27, 1997, edition of the Lewistown Sentinel. EPA also announced the public comment period and meeting in a four-page fact sheet, sent to those parties on EPA's site mailing list. The fact sheet also summarized the Proposed Remedial Action Plan.

Community interest in the Site has been relatively low throughout its entire history. Employees to Krentzman are concerned about their jobs, and want Krentzman to remain in business in its present location. There are however fishermen in the community who are concerned about the contamination of the fish in Jacks Creek.

COMMENTS AND RESPONSES: SUMMARY OF COMMENTORS' MAJOR ISSUES AND CONCERNS AND EPA RESPONSES

This section provides a summary of the commentors' major issues and concerns and EPA responses to the issues and concerns. The comments on the proposed remedy were received at the public meeting on March 20,1997, or by mail during the public comment period.

Concerns and questions presented in this section are placed into the following five categories:

A. Comments received from the public.

B. Comments of Kirkpatrick & Lockhart on behalf of the Jacks Creek PRP Group.

C. Comments of Eckert, Seamans, Cherin & Mellott on behalf of the Jacks Creek De Minimis Parties.

D. Comments of McNees, Wallace & Nurick on behalf of Joe Krentzman & Son, Inc.

E. Comments of the Pennsylvania Department of Environmental Protection.

The questions, comments, and responses are summarized below.

A. Comments received from the public

Comments received at the March 20,1997, public meeting, or by mail, are grouped into the following seven categories:

1. Extension of the Public Comment Period,
2. Health Monitoring,
3. Soil Contamination,
4. Treatment and Disposal of Soils,
5. Ground Water Contamination,
6. Fishing Advisories, and
7. PRPs.

1. Extenstion of the Public Comment Period

(a.) The PRP group requested, in writing, an extension of the public comment period for an additional thirty days.

EPA Response: EPA granted this request and extended the public comment period from March 29, 1997 to April 28, 1997.

2. Health Monitoring

(a.) A citizen asked whether there is any health monitoring and health and safety training of current and former employees who worked at the Site.

EPA Response: There has been no health monitoring of former employees. Present employees do attend a monthly safety meeting which focuses on preventing injuries during scrap yard operations. Employees do not wear face masks or respirators, and could be exposed to hazardous substances in airborne dusts while working in the scrap yard.

3. Soil Contamination

(a.) A citizen asked about the safe level of lead concentrations at the Site.

EPA Response: What EPA considers to be safe levels of lead contamination vary depending on where the lead concentrations are located on the Site and the closeness of the nearby residences. EPA cleans up residential areas to a more stringent level than industrial areas. The cleanup level for the Site is 1,000 ppm lead, except for the sediments of Jacks Creek. Any soils with a lead level above 1,000 ppm will be consolidated and placed beneath a multi-layer cap. The Commonwealth of Pennsylvania has identified the Pennsylvania Land and Recycling Act as an ARAR and regulations issued pursuant to this Act also establish a cleanup level of 1,000 ppm lead for this Site. The soils with lead levels above 40,000 ppm lead, which are the principal threat wastes at this Site, will be excavated and then treated at an offsite location. The cleanup level in the Jacks Creek sediments in 110 ppm, which is based on the potential impact of lead on the creek environment.

(b.) A citizen asked whether Site soils contaminated with PCBs will be cleaned.

EPA Response: Soils or sediments contaminated with PCBs will be consolidated along with the rest of the contaminated soils and sediments at the Site. Lead is used as an indicator compound in determining the levels of cleanup for all the contaminants in the soil because lead is the most widespread contaminant on the Site. PCBs were detected at elevated levels in only a few discrete onsite areas.

4. Treatment and Disposal of Contaminate Soils

(a.) A citizen asked whether EPA is considering chemical fixation as an alternative for treating the contaminated soils.

EPA Response: This process is included in a number of the cleanup alternatives in the Proposed Plan and the ROD. The process of chemical fixation mixes contaminated materials with other substances to ensure that the contamination stays in the soils and will not leach to the surrounding environment. Chemical fixation is a feasible way to treat the waste onsite and this option is included in the onsite treatment alternatives, Alternatives 4, 5, and 6. Chemical fixation will be used at an offsite location to treat the highly-contaminated soils in EPA's selected alternative (Alternative 3).

(b.) A citizen asked how EPA will treat soils contaminated with chemicals other than lead.

EPA Response: The onsite soils are contaminated with a number of different contaminants. Lead is the compound which is being used as the indicator compound of site contamination. Soils or waste piles which contain lead levels of 1000 ppm or greater will be consolidated and capped but not treated offsite. The highly-contaminated soils, containing lead levels of 40,000 ppm or greater, will be excavated and treated offsite. The chemical fixation process is not specific to lead and is effective on a number of metals present in onsite soils. This process will be performed at an offsite treatment facility as part of the EPA's selected remedy.

(c.) A citizen inquired as to the location of the treatment and disposal site for the soils with lead concentrations above 40,000 ppm.

EPA Response: Gannett Fleming, EPA's contractor who performed the RI/FS, asked Clean Harbors, Inc., an environmental company specializing in remdiation, to develop a realistic cost estimate for offsite transportation and disposal of the soils

with lead concentrations above 40,000 ppm. Clean Harbors calculated the unit cost of $140 per ton for transportation, treatment and disposal of the soils without selecting a specific disposal location for the waste. There are several potential treatment and disposal facilities relatively close to the Site, and the actual disposal of the onsite wastes is still a number of years in the future.

(d.) A citizen asked why an offsite facility would be a better place to deposit the contaminated soils.

EPA Response: Offsite facilities are permanently existing disposal facilities where contaminated soils may be treated, stabilized, and placed into a lined storage area. Transporting and disposing wastes offsite is generally faster, less expensive and more effective than constructing, testing and then utilizing a newly-built onsite treatment facility.

(e.) A citizen asked whether EPA could treat the contaminated waste onsite.

EPA Response: EPA considered onsite treatment of contaminated soils as one of the alternatives in the Proposed plan. It is possible to treat the waste onsite but it would be more difficult than treating it offsite. EPA determined that only the heavily-contaminated waste should be treated offsite. Offsite treatment is more cost effective than onsite treatment.

(f.) The same citizen asked whether EPA has considered reclaiming the material from the contaminated soils.

EPA Response: EPA considered reclaiming or recycling the metals from the contaminated soils and waste piles as part of the FS. The metal levels in the contaminated materials at the Site are not high enough to make this process feasible or economically viable. The levels of zinc, cadmium and other metals in the waste piles would have to be much higher in order for recycling to be a feasible treatment alternative.

5. Ground Water Contamination

(a.) a resident inquired about the effects of the Site on ground water the area.

EPA Response: As part of the remedial investigation activities, EPA placed numerous monitoring wells onsite to study the ground water in both the shallow and the deep aquifer. Samples from the monitoring wells show the levels of contaminants in the ground water beneath the Site to be below the maximum contaminant levels (MCLs). The MCLs, which are described in 40 C.F.R. °° 141.61 and 141.62, are the maximum permissible level of a contaminant in water which is delivered to any user of a public water system. The ground water beneath the Site does contain some contaminants, but the levels are not high enough to presently be a threat to human health.

6. Fishing Advisories

(a.) a citizen inquired about the possibility of fish contaminated with PCBs downstream from the Site and asked why EPA is not posting fishing advisories along the entire length of Jacks Creek. The citizen commented that because the contaminated fish near the Site could migrate, advisories should be posted all the way to the Juniata River.

EPA Response: The Pennsylvania Department of Environmental Protection (PADEP) is in agreement with EPA that fish consumption advisories should be posted on Jacks Creek in the vicinity of the Site. This will be done as one component of the selected remedy. PADEP also agrees that the signs should be taken down after the fish are no longer a threat to human health if eaten. The fish downstream from the Site were not found to be contaminated in sampling done during the RI. Therefored the fish consumption advisories will only be posted in the immediate vicinity of the Site, and only until the fish are no longer found to contaminated during periodic sampling.

7. PRPs

(a.) A citizen asked whether someone is a PRP if they owned property on or around the Site, but never contributed to the contamination of the Site. The citizen

used the railroad track running through the Site as an example.

EPA Response: Under the Comprehensive Environmental Response, Compensation and Liability Act, as amended, (CERCLA), all present owners of site property at the time of disposal are PRPs. Owners of nearby or adjacent properties are not PRPs.

(b.) A citizen inquired about the number of PRPs for the Site, and asked how many are still in business.

EPA Response: EPA believes that approximately 300 PRPs for the Site are still in business. The PRPs are distinguished into different groups depending on their level of involvement and how much waste they sent to the Site. These groups are the owner of the Site, de maximus parties, and de minimis parties. The Site also has a large number of PRPs who contributed waste to the Site but are no longer in business.

(c.) A citizen asked if EPA has attributed a percentage of responsibility to each of the PRPs and whether this information is available to the public.

EPA Response: EPA examined all of the Site's former records and performed volumetric analysis to estimate the amount and types of waste for which each of the PRPs is responsible. This information is available to the public in the Administrative Record File at the Mifflin County Library. The Administrative Record File is an official collection of reports, correspondence, and other documents that reflect EPA's process of selecting the cleanup plan for the Site. Residents also may write the Freedom of Information Officer for this information, or Garth Connor, the EPA's Remedial Project Manager for the Site.

(d.) A citizen asked how Krentzman's operations at the Site will be affected during the cleanup process, and whether Krentzman will be restricted from using the cleaned portions of the Site in the future.

EPA Response: The cleanup at the Site will be planned so that Krentzman's operation will affected as little as possible. Krentzman's business will not be closed during any part of the cleanup. However, Krentzman's employees may be restricted from accessing certain portions of the property during critical parts of the cleanup process. After the cleanup is completed, deed restrictions will be placed on the property which will restrict certain actions, such as the drilling of drinking water wells, from occurring onsite.

B. Comments of Kirkpatrick & Lockhart LLP on behalf of the Jacks Creek PRP Group

In a 21-page document dated April 24, 1997, Kirkpatrick & Lockhart LLP (Kirkpatrick) commented on the Proposed Plan on behalf of the Jacks Creek PRP Group. The document included the following twelve categories of specific legal and technical comments regarding the Proposed Plan:

1. Site Description,
2. Nature and Extent of Contamination Description Issues,
3. Description of Risks,
4. Identification of "Principal Threat" Material,
5. Appropriate Remedy for Higher-Concentration Lead Soils,
6. Consolidation and Capping of Piles and Contaminated Soils,
7. Consolidation Action Level for Lead,
8. Remediation of Floodplain Soils,
9. Sediment Removal from Jacks Creek,
10. Management of Building Demolition Materials,
11. Cost Estimates, and
12. ARAR Issues.

The specific legal and technical comments are summarized on the following pages.

1. Site Description

(a.) Kirkpatrick requested that it noted that the Site is currently zoned for industrial use and hosts an active and ongoing recycling operation. Immediately to the west of the Site

are the American Viscose and FMC Landfill properties. Both the American Viscose and FMC properties are significant potential sources of concern to Jacks Creek and the surrounding environment. As the challenges of the Site are addressed, joint efforts must be made throughout the area to provide the full level of hoped-for benefit to Jacks Creek.

EPA Response: The adjoining properties contain hazardous substances which potentially could impact human health and the environment. EPA and PADEP staff will monitor the condition of the adjoining properties to ensure that hazardous substances are not being release to the Site or the surrounding environment from these offsite sources.

(b.) Kirkpatrick understands that the present Krentzman operations go beyond the "metal scrap yard and aluminum recycling" activities named on page 2 of the Proposed Plan. In the design of ongoing monitoring and review programs, any issues arising from active operations should not be confused with the performance of the remedy being applied to the problems created by Sitkin's former operations.

EPA Response: EPA understands that there is an active scrap yard onsite which potentially could have an impact on human health and the environment in the future. EPA is also hopeful that the scrap yard will still be in business on a portion of the Site even after the cleanup has been completed. After the cleanup is completed, there will be a number of restrictions placed on the property deed which will prevent the onsite business from engaging in activities which would be potentially harmful to the constructed remedy, or its operation and maintenance.

2. Nature and Extent of Contamination Description Issues

(a.) The Proposed Plan lists several classes of chemicals in describing organic contamination at the Site. The Proposed Plan should disclose that these findings are limited to certain areas on the Site which have relatively low levels of the contaminants.

EPA Response: There are organic substances at the Site, such as PCBs, which are significant onsite contaminants. The PCBs found in fish tissue potentially could impact human health. However, it is true that inorganics, such as heavy metals are the most significant contaminants at the Site and that lead is the most widespread of these contaminants.

(b.) The Proposed Plan contains inconsistencies regarding the condition of the waters. Page 8 of the Proposed Plan states "All surface water samples from Jacks Creek were relatively free of organic and inorganic contaminations." However, page 7, sentence 1, implies the surface waters are contaminated. The data shows that the surface waters are not affected by contamination from the Site.

EPA Response: Although some of the sediments and a number of the fish of Jacks Creek were found to be contaminated, the actual surface waters in Jacks Creek generally were free of site contamination. The water in Jacks Creek flows fairly rapidly downstream. Contaminants present in this water would generally be dispersed and diluted by the natural flushing action of the creek. Site contaminants were found to be present in several smaller, slower-moving tributaries of Jacks Creek running across the Site.

(c.) The Proposed Paln describes the Site's ground water as contaminated, but both the remedial investigation study and the most recent sampling indicate that the aquifer is not affectd by concentrations of contaminants above safe drinking water levels. The Proposed Plan's discussion of contaminants found in private wells may mislead readers into believing that such constituents came from the Site. The data indicates that water beneath the Site does not flow toward area private wells. Relatively low lead concentrations previously found in some private wells in the area were apparently associated with lead leaching from household plumbing.

EPA Response: The ground water at the Site has been sampled four times in recent years. Although several wells were found to contain contaminants above a Maximum Contaminant Level (MCL) in a particular round of sampling, no well has had samples consistently above an MCL for any contaminant. In the most recent sampling, no contaminant in any of the wells was found to be above MCLs. The contamination in the soils and waste piles are significantly more of a threat to human health and the environment than the contamination in the ground water.

(d.) The sampling data shows that there is no significant ground water contamination on or around the Site. None of the ground water samples collected by the PRPs in the latest

round of sampling contained lead above the detection limits. The most abundant contaminants of concern in the Ball Mill Tailing Pile and Aluminum Dross Pile were found in ground water, in either the shallow or deep wells above the established detection limits. The sampling indicated that there is a vertically upward flow of ground water within the saturation zone, inhibiting the vertical migration of those low concentrations of metals detected in some of the shallow wells at the site. Another study showed that following implementation of a multi-layer cap remedy, lead concentrations in ground water immediately beneath the affected contaminated areas would be negligible. The model predicts that regardless of source concentrations, lead from the source areas would not reach the saturated zone within the 100-year time period following implementation of a cap remedy.

EPA Response: The selected remedy calls for continuous monitoring of the ground water. The ground water contamination at the Site currently does not warrant treatment of any kind. Future monitoring of the ground and surface water near the Site will ensure that the contamination levels are not increasing to dangerous levels.

(e.) The ecological risk assessment in the Proposed Plan describes the soil on the Site as lacking vegetation or showing stunted vegetation. Because much of the area of the Site is currently being used and will likely continue to be utilized as an active scrap yard, the focus should be on preventing the on-going generation of sediment from contaminated areas from entering the floodplain or Jacks Creek.

EPA Response: Surface runoff is a serious source of contamination to the sediments of Jacks Creek. The lack of begetation on certain portions of the Site increases the amount of surface runoff reach Jacks Creek and its sediments. A large portion of the Site, including the entire consolidation area will be revegetated after the cleanup is completed. This action should greatly reduce the amount of surface runoff reach Jacks Creek.

3. Description of Risks

(a.) Pages 9 and 10 of the Proposed Plan describe the results of the baseline risk assessment, which indicats that lead is a primary contaminant associated with the derived risk. Lead was not evaluated quantitatively in the risk assessment.

EPA Response: Lead does not have a threshold value so it cannot be included in the Hazard Index calculation with other metals in the non-carinogenic portion of a Risk Assessment at any site. Lead also does not have a slope factor so it can't be included in the carcinogenic risk calculation at any Site. Hoever, the recently-developed adult lead model for industrial sites was used for this Site, as described in the Proposed Plan, so the potential impacts of lead were evaluated for this Site.

(b.) The description of chemicals and pathways and the derived cancer risks and hazard index values provided in the Proposed Plan are misleading. Data collected indicates that PCBs and pesticides are not widespread at the Site. These contaminants were found elevated only in very isolated areas of the Site.

EPA Response: Although the organic compounds are localized and are not widespread, several of the contaminants are significant in certain aspects of the risk assessment. For example, PCBs are a significant contaminant in fish tissue. The Hazard Index is 14 for adults, well above the 1.0 threshold level, for people consuming the fish in Jacks Creek on a regular basis. PCBs are a significant contaminant at this Site.

4. Identification of "Principal Threat" Material

(a.) The justification for calling soils at the Site with concentrations of 40,000 ppm of lead a "principal threat" is not well supported in the Proposed Plan. The only explanation offered by EPA is a statement on page 11 of the Proposed Plan that the 40,000 ppm lead treatment level is "exactly two orders of magnitude above the 400 ppm residential screening level."

EPA Response: As stated in the Preamble to the NCP "EPA expects that treatment will be the preferred means by which to address the principal threat wastes posed by a site wherever practicable. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur." Soils containing 40,000 ppm lead or greater have significant concentrations of highly toxic materials. The justification for the 40,000 ppm lead treatment level is that it is exactly two orders of magnitude above the residential screening level of 400 ppm lead. The residential screening

level is a level which would allow for unrestricted use and unlimited exposure. Therefore the screening level number is the correct number to use in developing a principal threat number.

(b.) The arbitrary reference to residential action levels is not a basis for defining principal threat material. The Site is clearly an industrial site, with expectations of future industrial use. The risk against which the "principal threat" must be measured is the risk posed under the existing and anticipated site use scenario.

EPA Response: The portion of the NCP that discusses principal threat refers to high concentrations of toxic compounds (e.g., several orders of magnitude above levels that allow for unrestricted use and unlimited exposure). The principal threat level should not be calculated as two orders of magnitude above an industrial use setting because that is a restricted use that would not allow for unlimited exposure.

(c.) EPA guidance emphasizes the mobility of "principal threat" material. The lead in soil and onsite pile materials has not leached to any significant degree. The lead contaminated soils can be readily contained in a consolidation/capping remedy without further treatment.

EPA Response: Mobility is one of several concepts to be considered in the principal threat guidance. High concentrations of highly toxic materials is another description used for principal threat wastes. Concentrations as high as 16% lead were found at the Site. This level of contamination is too high to adequately protect human health and the environment utilizing consolidation and capping without any treatment.

(d.) The base line risk assessment at the Site shows risk ranges for most exposure scenarios and pathways of 10 -4. Notably, those risk analyzed result from contaminants other than lead.

EPA Response: Lead is ubiquitous at this Site and is therefore used an an indicator of site contamination. There are many other contaminants at the Site which also contribute to the risk at the Site. Because lead was used as the indicator compound does not mean that it is the only contaminant onsite that EPA feels is thretening human health or the environment. Lead does not have a threshold level, as safe exposure level, so it can not be included in the calculation of a Hazard Index. The Hazard Index is a ratio, the contaminant concentration that a person can be exposed to at a site divided by the safe exposure level for that same contaminant. A compound without any safe exposure level would not have a denominator in the ratio, so there can't be a Hazard Index for that compound.

5. Appropriate Remedy for Higher-Concentration Lead Soils

(a.) Potential risks posed by soils containing elevated concentrations of lead can be addressed effectively through an onsite capping remedy.

EPA Response: The vast majority of soils can be effectively addressed though an onsite capping remedy. However, EPA feels that there are principal threat wastes onsite which should be excavated and then treated onsite.

(b.) There will be no real reduction in risk provided by transporting certain soils to an offsite treatment facility and the Proposed Plan fails to provide any evidence that the marginal benefit of such treatment justifies the accompanying costs and risks. The remedy in Alternative 2 is fully protective. EPA's own plan indicates that both Alternative 2 and 3 meet the National Contingency Plan (NCP) criteria.

EPA Response: The NCP creates an obligation to remove or treat principal threat wastes. By removing the principal threat wastes, the entire remedy is more protective because the worst of the onsite contamination has been removed from the Site.

(c.) The Proposed Plan fails to recognize the risks of transporting the contaminated materials for offsite treatment and disposal. Based on EPA's estimate of 14,000 tons of lead-contaminated soil, 725 truckloads of materials would have to be transported through the community to the offsite facility. Based on distances to the two nearest offsite facilities and published highway accident risk statistics, an estimated 1.0 - 1.4 accidents likely will result, with esimated casualties of between 0.23 and 0.34. The PRPs estimate the volume of soil to be much higher than EPA's estimate, increasing the likelihood of accidents.

EPA Response: Gannett Fleming did a very conservative estimate, including a large safety

factor, of the amount of soil onsite containing 40,000 ppm lead or greater. The amount of solid which will actually be transported offsite during the Remedial Action is most likely less than that conservative estimate. This means that there will be fewer truckloads of soil and the odds of an accident happening are much lower than the above calculation. The risk to human health of moving this relatively small amount of soil is very low and should not be exaggerated.

(d.) Considering the added risk and EPA's estimate of at least $2.7 million in additional costs, the PRPs question whether there are any marginal benefits to excavating and taking the contaminated soils offsite. The PRPs estimate the cost to be an additional $8-10 million.

EPA Response: Getting the worst of the contamination offsite is a cost effective remedy. EPA estimated that cost to be approximately $2,500,000 which assumes that there are approximately 14,500 tons of soils containing 40,000 ppm lead or greater. If this is an overestimate of the highly-contaminated soils onsite, then the cost of that component of the remedy would actually be lower than the EPA estimate.

(e.) The PRPs have concerns regarding the possibility of becoming involved in another Superfund or waste site in the future. If the PRPs perform the remedy, they do not want to become "arrangers" for treatment or disposal at another facility that may have a mixture of existing or future problems.

EPA Response: The highly-contaminated soils, which are being treated and disposed of offsite, are the only principal threat wastes onsite. These principal threat wastes need to be taken offsite in order to make the remedy protective of human health and the environment. The offsite treatment and disposal in a permitted hazardous waste treatment facility should alleviate the concern regarding the possibility of involvement at a future waste site.

(f.) The basis for EPA's estimate of the volume of "principal threat" material is notably sparse. The Proposed Plan assumes a volume of 14,500 tons of such material and the volume estimate becomes the basis of the subsequent cost evaluation (and presumably the basis of the decision that this approach is feasible and potentially cost-effective). However, EPA has very limited sampling data on which to base any volume estimates. Only six samples from the remedial investigation and feasibility study activities showed concentrations of lead greater than 40,000 ppm. If EPA's estimates of these volumes are not accurate, the cost, risks, and feasibility considerations for this "treatment" element will be greatly altered.

EPA Response: Gannett Fleming did a very conservative estimate for EPA of the amount of principal threat waste onsite. The amount of highly-contaminated soils onsite could easily be closer to 5000 tons than 14,500 tons. The price is a real price from an environmental services company for what they would actually charge to do that component of the remedy.

(g) EPA has not evaluated whether the commercial hazardous waste treatment facilities in Pennsylvania can take the material involved. Restrictions placed on the incoming materials to these facilities may prevent the acceptance of contaminated soils containing a combination of constituents. Thus, there is no assurance that offsite treatment is a feasible option in this situation.

EPA Response: This is not true. The cost estimate was for commercial waste treatment facilities accepting the waste from the Site in Pennsylvania.

(h.) The Proposed Plan does not indicate how one would determine the area of materials with lead concentrations greater than 40,000 ppm. What sampling (on what grid, frequency, and test methods) will be required before and during the waste pile and soil excavation process?

EPA Response: The exact parameters of the sampling methodology will be determined during the Remedial Design portion of the remedial process.

(I.) Are the costs of sampling to find and classify material with lead concentrations greater than 40,000 ppm included in EPA's cost analysis?

EPA Response: Yes. The cost estimates main components are the excavation, transport and disposal of the wastes. However, the cost estimate also includes a 20% additional cost, a total of $408,560, for contingencies and oversight. The soil sampling required would be a relatively minor contingency because much of the soil classification has already been done as a result of the soil sampling during the RI. Some additional sampling would be required to insure that cleanup goals are being met, but it would also be a relatively small cost.

(j.) Are those costs, and the time delays consumed in efforts to identify this material, justified by the minimal benefits to be gained?

EPA Response: Since the worst of the waste is being treated offsite, the entire remedy becomes more protective of human health and the environment.

(k.) EPA's assumption that certain sampling and analytical techniques will be used (specifically XRF) should be stated in the Proposed Plan, since the methods used for outlining the "hot spot" areas may affect significantly the final cost and implementation time of the selected remedy.

EPA Response: At this time, EPA is not certain which techniques will be used. This decision will be made during the Remedial Design. XRF was sued by EPA's removal program at this Site and it work fairly well in defining an extent of contamination on the eastern end of the Site.

6. Consolidation and Capping of Pile Material and Contaminated Soils

(a.) The proposed form of cap described in the Proposed Plan appears to be a cap with a single barrier layer. The PRPs emphasize that the consolidation of all onsite materials under a "composite" cap, using a combination of two barrier layers, appears to be the most protective and cost-effective approach for this site. If, and only if, EPA determines that all materials can stay onsite without treatment, the PRPs would support upgrading the cap to a composite design.

EPA Response: The installation of a second barrier layer is not cost effective on a consolidation area of this size.

7. Consolidation Action Level for Lead

(a.) Alternative 3 recommends an action level of 1,000 ppm of lead concentrations in upland soils. EPA does not provide a reference for the cited 500-1,000 pm range, but appears to be relying on early EPA guidance (OSWER Directive #9355.4-02, September 1989). This 1989 guidance recommended a soil cleanup level of 500-1,000 ppm for protection of human health at residential CERCLA sites. EPA appears to be extrapolating residential cleanup levels to an industrial site. As stated in the cited guidance document, the guidance is based on a recommendation of the Centers for Disease Control which focuses on protecting children in residential settings. The Proposed Plan's attempt to borrow an outdated range, intended for assessing childhood exposures to lead, and apply it to an adult population in an industrial setting is improper and unsupportable.

EPA Response: In past years, EPA had utilized the recommended cleanup level for lead (Pb) of 500-1,000 ppm and had traditionally used the high end of 1,000 ppm as the cleanup level for Pb for industrial land use. While the new EPA guidance (Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities, OSWER Directive #9355.4-12) recommends a screening level for Pb in residential soil of 400 ppm, the use of 1,000 ppm as the cleanup level for the Site (an industrial property) represents a protective level as indicated by the Adult Pb Model developed by the TRW (EPA, 1996). By focusing on fetal protection for a pregnant employee, the new Adult Pb Model can be used to calculate an industrial cleanup level. The protective range developed from this model is between 750 ppm and 1,750 ppm, with a midpoint of approximately 1,250 ppm. This supports the use of 1,000 pm as a soil Pb cleanup level at the Site. In addition, the Commonwealth of Pennsylvania has identified the Pennsylvania Land Recycling Act as an ARAR, and regulations issued pursuant to this Act establish a lead cleanup level of 1,000 ppm for this Site.

(b.) The Proposed Plan cites an interim model recently produced for assessing adult exposures to lead which was used by the Technical Review Workshop (TRW) for lead. Borrowing from this report, the Proposed Plan states that the cleanup goal of 1,000 ppm is "approximately the midpoint of the protective range" (750 to 1,750 ppm). Without a thorough evaluation of the assumptions used in the example presented by the TRW, or any indication that those assumptions are applicable to this Site, the happenstance of the cleanup goal being approximately the midpoint of the "protective range" is not adequate justification for its adoption at this Site.

EPA Response: The Administrative Record describes the exact calculations EPA used at this Site to calculate a lead (Pb) cleanup level utilizing the model developed by the

Technical Review Workgroup. A deteailed discussion the TRW's Adult Pb Model is presented in the December 1996 report entitled, " Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Asssociated with Adult Exposures to Lead in Soil," (EPA, 1996). A copy of this report is enclosed for your reference. The report describes the basic algorithms that are used in the methodology and provides a set of default parameter values that can be used in cases where high quality data are not available to support site-specific estimates. The rationale supporting each parameter default is provided in the Appendix of the report.

(c.) The TRW's example model output of 1,750 ppm was developed based on a default lead absorption factor of 12 percent. If alternative absorption factors in the range of eight percent, cited in the literature, are used, the model output would change from 1,750 ppm to 2,600 ppm. The form of lead present is not very soluble and is unlikely to be as bioavailable as suggested by a 12 percent absorption factor.

EPA Response: The use of a soil lead (Pb) absorption factor of 12 percent is consistent with the Adult Pb methodology (EPA, 1996; pp. A15-A19) developed by the TRW (see EPA Response to Item 7b). This default value is based on a weight of evidence determination from the best available experimental estimates of the bioavailability of soluble Pb in adult humans, and the relative bioavailability of soil Pb compared to soluble Pb. EPA recognizes the sensitivity of the cleanup level to the absorption factor used in the Adult Pb Model. Indeed, the model was designed to accommodate the use of high-quality site-specific data to define this and other parameter values (EPA, 1996; pp. A-19). In the absence of persuasive evidence to adjust the bioavailability factor on a site-specific basis, the TRW recommends a default estimate of 12 percent. Use of the Adult Pb methodology results in a cleanup level of Pb at the midpoint of approximately 1,000 ppm. The midpoint is justifiable and preferred over the more conservative estimate of 750 ppm or the less conservative estimate of 1,750 ppm.

(d.) On behalf of the PRPs, ENVIRON applied the same model used by the TRW in the report "Risk Evaluation of Areas Outside of Proposed Cap and Development of Action Level for Lead" to develop the cleanup level of 2,500 ppm. The memorandum provided to the PRPs from EPA criticizing ENVIRON's report is not well founded. While the ENVIROn evaluation uses a different absorption factor than the TRW default of 12 percent, EPA did not offer any technical discussion or justification as to why an assumed 12 percent absorption factor is appropriate.

EPA Response: The use of a soil lead absorption factor of 12 percent is consistent with the Adult Pb methodology (EPA, 1996, pp. A15-A19) developed by the TRW. As discussed in EPA responses to 7b and 7c above, default values are indicated in the absence of high-quality site-specific data.

e.) Use of an absorption factor in the range of 8 to 12 percent results in the ENVIRON-calculated cleanup levels in the range of 1,700 ppm to 2,500 ppm. These are both substantially higher than the 1,000 ppm value arbitrarily reflected in the Proposed Plan. The PRPs believe that the selected action level should be in the range of 2,000 ppm.

EPA Response: The PRPs incorrectly applied the Adult Lead (Pb) Model developed by the TRW (EPA, 1996). There were errors in the algorithm used for the calculation of the cleanup level. Many exposure parameters were changed, which resulted in a cleanup level for Pb of 2,500 ppm. The most significant exposure parameter that was changed is the soil Pb absorption factor (see EPA responses to 7b-7d, above). If the mathematical errors are corrected and the appropriate absorption factor is used (12 percent, not 8 percent), the PRP's model predicts a cleanup level for Pb of 1,444 ppm, which is within the range recommended by the TRW of 750 to 1,750 ppm.

8. Remediation of Floodplain Soils

(a.) Excavating soils in the wooded areas may be difficult and might cause greater disturbance of natural resources than the benefits to be derived from such effort. If, during design, it is found that there are areas on the "margin" of the 1,000 ppm level, the PRPs question whether the benefit provided by removing this soil would be worth the accompanying disturbance of the woods, with the increase in erosion potential.

EPA Response: EPA generally agrees with this analysis. In the main wooded area on the Site, lead levels are well below 1000 ppm lead. This area, in the northeast corner of the Site, will be left undisturbed. However, there are other areas onsite with lead levels well

above 1000 ppm lead that are wooded to some extent. These areas will be excavated, and then revegetated.

(b.) The PRPs request that the four acre area with less than 1,000 ppm contamination, that is contemplated for covering, be specifically identified now with a map to be included in the Record of Decision.

EPA Response: The exact size and location of this non-forested floodplain area will be determined during Remedial Design. However, it should be pointed out that only about 24 of the 105 acres onsite is located in the floodplain. The covered area has to be non-forested floodplain area with lead levels below 1000 ppm lead.

(c.) The Proposed Plan raises a concern with respect to whether the suggested method of placing additional soils in the floodplain will comply with ARARs. Such an alteration of the floodplain cross-section and profile would presumably be governed by the Pennsylvania Flooplain Management Act and associated implementing ordinaces, which restrict placement of fill in floodplain area where the effect would be to restrict flood flow or raise floo water elevations.

EPA Response: The relatively small area of floodplain soils which will be covered with eighteen-inches of fill material as part of the remedy at this Site would not have a significant impact on either flood flows or flood water elevations.

(d.) The placement of additional soil in the floodplain raises a concern regarding the potential for furture erosion and maintenance. It appears that the area is subject to periodic serious flooding with high velocity flows. Under these circumstances, it may be very difficult to maintain a consistent 18 inch fill cover over native soils, particularly in areas nearest the stream.

EPA Response: The fill material in these areas will be compacted, graded and revegetated as part of the selected remedy. These revegetated areas should be resistant to erosion, and not require much maintenance in future years.

9. Sediment Removal from Jacks Creek

a.) The Group requests that the sediment areas requiring removal be identified in the Record of Decision.

EPA Response: Sediments above 110 ppm lead that are in depositional areas in close proximity to the Site will require removal. The exact locations and amounts will be determined during the Remedial Design.

10. Management of Building Demolition Materials

(a.) The Proposed Plan should allow the option for debris generated from the demolition of onsite buildings, including the Precious Metal Building and certain other affected structures, to be consolidated with the contaminated soil and pile materials placed under the cap. There is some probability that some or all of the materials in question will be contaminated and would not be accepted for disposal at a typical demolition/construction landfill without expensive "decontamination."

EPA Response: The selected remedy includes offsite disposal of the building debris. This debris will not be placed in the consolidation area because of engineering concerns.

11. Cost Estimates

(a.) According to an October 30, 1996, memorandum from Gannett Fleming, Inc. to EPA, the volume of soils exceeding the 40,000 mg/kg total lead limit was estimated at approximately 2 acres, or 14,500 tons. Parsons believes the volume fo soils exceeding the 40,000 mg/kg action level to be approximately 24,800 tons of soil, an affected area of 3.55 acres. It has been Parsons' experience at a variety of sites that lead contamination in soils tends to be very "spott" in occurrence and relatively cursory sampling will typically yield an initial number of "hot spots" which underestimate the existence of other "hot spots" in the general area. Depending on the level of investigative scrutiny applied to these areas, the amount of soil found to exceed a given action limit could be significantly higher than EPA's initial estimates.

EPA Response: Gannett Fleming added a large safety factor in calculating the amount of highly-contaminated soils. having a large safety factor in the calculations means that Gannett Fleming may have over-estimated the amount of soils having 40,000 ppm lead or greater. The amount of these soils is probably less than the 14,500 tons Gannett Fleming estimated, and therefore the cost of that component is probably an overestimate of cost of that component of the remedy.

(b.) Gannett Fleming has estimated a cost of $2.5 million for excavation and disposal based on a unit cost of $140 per ton - a value which allegedly is based on an informal quote from Clean Harbors. The specifics are not included in Gannett Fleming's submittal to EPA and it is difficult to ascertain the assumptions used in this estimate. Also, the cost of treatment does not seem to be included in the Gannett Fleming cost estimate. The PRPs are concerned that management of this material could cost more than the $2.5 million estimated.

EPA Response: The estimate from Clean Harbors was not an informal quote, it was a real price for performing the transportation, treatment and disposal of the highly-contaminated soils at the time it was given. It was also a price for the actual soils onsite, and the site's contaminants were described to Clean Harbors. Obviously, the price could be different by the time of the actual cleanup several years from now. In several years, there could be a tremendous excess of landfill space, and the price for disposal could drop substantially. On the other hand, a number of landfills could close in the next few years and the demand for landfill space and thus the price for disposal could rise. The price could also stay the same in the next few years, which would mean the price would still be the same at the time of the actual cleanup. It is all conjecture at this point as to whether the price will go up, go down or stay the same. The price from Clean Harbors is based on a total waste volume of 14,500 tons which was estimated by Gannett Fleming and includes a significant safety factor.

(c.) The cost of sampling and classifying lead levels on the Site does not appear to be included in EPA's cost estimate.

EPA Response: Most of the contamintated soils are already classified as a result of the extensive soil sampling conducted by Gannett Fleming during the RI. The sampling required during the cleanup would be sampling to insure that soil cleanup goals are being met. This is relatively minor, inexpensive and is 10% contingency and oversight expense included in the cost of this component of selected remedy.

(d.) In reviewing Gannett Fleming's estimated costs for Alternatives 2 and 3, Parsons found a number of arithmetic errors and a few questionable assumptions in the evaluation of capping costs. For example, Gannett Fleming appears not to have included any "expansion" or "fluffing" factor with respect to those soils that are to be excavated and consolidated. Gannett Fleming also appears to have assumed use of a smaller capping area with a higher total elevation compared to the configuration used by Parson. EPA should closely review these calculations before including any final estimated cost figures in the Record of Decision.

EPA Response: Gannett Fleming anticipated that the consolidation pile would be compacted with a bulldozer which or minimize or even eliminate the need for a fluffing or expansion factor. The expansion of the consolidated soils would be minimal under these conditions.

(e.) In the cost estimates reflected in the Proposed Plan, Gannett Fleming did not appear to allocate any costs for site preparation, such as erosion control, utility relocation, work plans, bonds, and many other items. Parsons' previously submitted cost estimates allocated approximately $0.8 million for site preparation.

EPA Response: Clearing and grubbing which is part of site preparation are allocated as cost items in developing a total cost for the cleanup. Erosion control is also included as a separate cost item. Preparation of work plans is also included, but is considered to be part of the engineering costs of the selected remedy. Bonds and utility relocation are easily covered by the contingency costs which are included in the costs of the selected remedy.

(f.) The cost estimate for Alternative 2 of the Proposed Plan does not specify the removal of drums from the site, deed and access restrictions, or provisions for 5-year reviews. For Alternative 3, the Proposed Plan's estimates only allocate $1,000 for deed and access restrictions and budgets no costs for 5-year reviews. Parsons has included these items within its revised cost estimate.

EPA Response: Alternative 2 and Alternative 3 are more thoroughly described in the Record of Decision than they were in the Proposed Plan. The minor components, such as

deed restrictions, of all these alternatives are more clearly delineated in the Record of Decision.

(g.) For building demolition and disposal, the Parsons and Gannett Fleming cost estimates are similar with the exception of the Precious Metals and Smelter Buildings. Gannett Fleming has used an estimate that is much lower than the unit cost estimate used for other buildings. The net effect is that the Parsons estimate for this item is $0.3 million higher than the Gannett Fleming estimate.

EPA Response: The unit cost of demolition and disposal was the same for all the buildings onsite. Gannett Fleming used Means Cost Estimate Guide in order to calculate these costs on a cost per cubic foot basis.

(h.) The cost estimates prepared by Parsons' in the Addendum Feasibility Study utilized 1995 costs. In updating these estimates, Parsons has added a yearly inflation rate of 3 percent to adjust costs for general industry tasks, such as fence construction, trailer rental, etc. In addition, a one percent yearly inflation rate was used to adjust line item costs typically associated with the environmental remediation industry, such as remedial work requiring 40-hour trained personnel, engineering consulting activities, etc.

EPA Response: The costs described above are relatively minor, and are easily covered by the engineering costs which is added to many of the components of the selected remedy.

(I.) The costs estimated for capping are dependent on the size of the area to be capped. Gannett Fleming assumed the capped area would be 22 acres in size. The Parsons estimates were based on two scenarios - 26 acres and 36 acres. This balance between the acreage for consolidating and capping is an important design issue.

EPA Response: EPA used Gannett Fleming's cost estimates in the Proposed Plan and the ROD. The exact size and locationi of the consolidation area will be determined during the Remedial Design.

(j.) The $1 million Operation & Maintenance (O&M) cost value for Alternative 2, as shown on page 12 of the Proposed Plan is incorrect. The $1 million figure is a 30-year present worth rather than an annual present worth.

EPA Response: $82,000 is the correct amount for one year, which is a total of $1 million for a 30-year period. The Proposed Plan contained the 30-year figure, the ROD lists Alternative 2, and all the other alternatives with the one-year O & M cost. Both figures are correct, but are for different time periods.

(k.) It appears that the Proposed Plan's O&M cost estimates used for the various scenarios are not consistent in their assumptions. The Gannett Fleming cost estimates for annual O&M costs on Alternatives 3-6 assume that ground water, surface water, creek sediment, and creek biota would be monitored every six months, resulting in an annual cost of $150,000. The earlier Parson's cost estimates (and the Plan's estimate for Alternative 2) assume ground water would be monitored annually and the other media would be monitored only once during the initial sampling, resulting in a much lower annual cost.

EPA Response: Twice a year is the appropriate frequency of sampling for this Site during O & M. The monitoring of biota will have to continue indefinitely in order to determine when to take the fishing advisories signs down, and also to ensure that the remedy continues to protective of the nearby environment.

(l.) Contingencies, design, and oversight costs estimated by Gannett Fleming tend to be between 5 and 10 percent lower than what is typically experienced at Superfund sites and what was utilized by Parsons.

EPA Response: Gannett Fleming did the cost estimates properly, and in accordance with standard engineering practices. There is not set rule for adding an exact percentage to a cost figure as a contingency cost. This decision is a best professional judgement decision, and therefore can vary in different circumstances. Gannett Fleming added contingency costs of from 5-10%, and EPA agrees with their decision. Parsons tended to focus on worst-case scenarios rather than actual expected costs of the various components of the remedy.

(m.) Parson's cost estimates, based on conservative assumptions, indicate significantly higher costs for both Alternative 2 and Alternative 3. Notably, the cost of Alternative 3 is between $8 to $10 million more than Alternative 2, with a substantial contingency

dependent upon the the volume and cost of material requiring treatment.

EPA Response: Gannett Fleming's cost estimates are sound and are as accurate as possible at this stage of the remedial process. It is important to realize that, at this stage of the cleanup process, neither Parson's nor Gannett Fleming cost estimate can have a high degree of accuracy in predicting actual costs of any component of the remedy in future years. For example, in making an estimate of the cost of any component of the remedy, such as the multi-layer cap, there are so many unknown variables. We don't know the year the cleanup will take place, the number of companies interested in bidding on the work, or even the exact amount of cap materials needed for the consolidation pile. Some of the components of the selected remedy will cost less than what is estimated in the ROD, and some of the components will cost more than what is estimated in the ROD.

(n.) The final Plan must reflect realistic cost estimates, which take into full account the contingencies of the proposed work. All anticipated costs must be included in such estimates, with a consistent and complete recognition of contingencies, in order to provide a basis for a reasoned comparison between alternatives.

EPA Response: The cost estimates in this ROD are realistic. EPA feels that the costs are as accurate as possible at this stage of the remedial process. In general, the actual costs of any cleanup in future years may vary greatly from the cost estimates in the ROD. As stated in the Proposed Plan and the ROD, the actual cost for each alternative is expected to be in a range from 50% higher than the costs estimated to 30% lower than the costs estimated.

12. ARAR Issues

(a.) The Proposed Plan suggests that certain state hazardous waste facility citing requirements, contained in 25 Pa. Code °°269.22 23, 25, and 42 are ARARs regarding siting of the consolidation area. The Group submits that these siting criteria are not legally applicable in this situation. The Pennsylvania siting criteria are applicable to siting of new facilities. In this case, the remediation involves consolidation and capping of existing materials on the Site prior to adoption of the Pennsylvania facility siting criteria. However, the group would agree that the consolidation area should be placed out of the 100-year floodplain and should avoid wetlands.

EPA Response: These regulation are ARARs in this ROD. The consolidation area must be out of the floodplain, and should be on the abandoned portion of the Site so as not to interfere with scrap yard operations. Even if these regulations are not applicable, they could be relevant and appropriate.

(b.) The group supports the decision that liner requirements are either not applicable or should be waived in this situation.

EPA Response: EPA believes these regulations are an ARAR, but the regulations are being waived in this instance.

(c.) No mention is made in the Proposed Plan of the fact that the proposed excavation and offsite treatment and disposal of certain materials called for under Alternative 3 would be subject to Federal land ban regulations and the Plan contains no analysis of the impact of those standards on the cost and implementability of this option. In this regard, concern must be expressed regarding the impact of the Universal Treatment Standards on soils which may contain a mix of constituents, including not only lead and certain other metals, but also some other chemicals, such as organics. Unfortunately, virtually none of the authorized commercial hazardous waste treatment facilities in Pennsylvania permitted to treat inorganic materials have the capability of handling those materials if they contain more than de minimis concentrations of organics.

EPA Response: Gannett Fleming fully described the constituents and contamination levels of the waste at the Site in obtaining the price for transportation, treatment and disposal. Clean Harbors developed a price for that particular waste.

B. Comments of Eckert, Seamans, Cherin & Mellott on behalf of the Jacks Creek De Minimis Parties

In a one page letter dated April 28, 1997, Eckert, Seamans, Cherin & Mellott commented on behalf of the Jacks Creek De Minimis Settlement Participation Agreement Parties. The De Minimis Parties join in and support the "Jacks Creek PRP Group

Comments on Proposed Remedial Action Plan Jacks Creek Superfund Site," dated April 24, 1997.

C. Comments of McNees, Wallace & Nurick on behalf of Joe Krentzman & Son, Inc.

In a three page letter dated March 27, 1997, McNees, Wallace & Nurick commented on behalf of the owner of the Site property, Joe Krentzman & Son, Inc. (Krentzman).

(1.) The remedy should be designed in such a way that it minimizes to the fullest extent possible the disruption of Krentzman's ongoing operations at the Site. No remedy should be selected which interferes with Krentsman's ability to continue operating at the Site. Moving operations completely off the Site would destroy Krentman as an ongoing concern.

EPA Response: EPA agrees and feels the remedy can and should be implemented with as little impact as possible to the onsite business.

(2.) If Krentzman is forced into bankruptcy as a result of the clean-up process, there will be a server disruption to the local community. Dozens of employees depend upon Krentzman for their livelihood. Krentzman also provides a needed and environmentally sound service to the community by recycling scrap materials that would otherwise take up valuable disposal resources and cause the depletion of scarce natural resources. Krentzman's operations are not threatening the environment or neighbors and should be allowed to continue in an isolated rural setting, away from population centers.

EPA Response: EPA agrees and also believes that Krentzman can remain in business onsite during and after the onsite cleanup.

3.) The Proposed Plan states that certain site soils and waste piles will be consolidated on the "unused portion of the Site." The plan does not specify where a cap will be placed on the consolidated materials, nor how the placement of the cap will limit Krentzman's operations.

EPA Response: The exact size and location of the consolidated area must be outside of the floodplain areas and on the portion of the property not currently used.

(4.) The Proposed Plan discusses backfilling excavated areas to "original grade" without defining that term, and refers to "revegetation," which may be inappropriate for some or all areas of an industrial facility.

EPA Response: The scrap yard will not be revegetated, although, much of the area will be remediated and then backfilled with clean soil.

(5.) There is no discussion of how Krentzman's operations will be restricted, if at all, on areas where clean soils will be placed.

EPA Response: Krentzman's operations will not restricted on backfilled areas. There will be restrictions in the consolidation area after the multi-layer cap is in place.

(6.) The Proposed Plan references the demolition of onsite buildings, but Krentzman uses several buildings at the facility for its ongoing operations. These buildings are an integral part of Krentzman's operations and cannot be demolished, at least without replacement.

EPA Response: Onsite buildings will be demolished, however, none of the buildings which Krentman currently uses will be demolished.

(7.) The Proposed Plan notes that an eight-foot high fence will be constructed on the northern side of the active scrap yard. Such a fence must be placed so as to not interfere with scrap yard operations, such as the unloading of railroad cars, which is performed in the general vicinity.

EPA Response: The fence will be built so that it does not interfere with railroad operations. During the Remedial Design portion of the cleanup process, all of these factors will be taken into consideration in designing the fence.

(8.) The plan references stormwater controls related to capped areas but does not discuss how those controls would be integrated into ongoing operational controls.

EPA Response: There will be only one capped area onsite after the cleanup. This area will be located on the unused portion of the Site and will not interfere with the onsite business.

The stormwater controls also will be located on the unused portion of the Site and will not interfere with the ongoing business. The purpose of the storm water controls is to keep storm water from getting on to the consolidated area.

D. Comments of the Pennsylvania Department of Environmental Protection

In a three page letter dated April 25, 1997, the Pennsylvania Department of Environmental Protection commented on the Proposed Plan for the Site. The Department remarked that their comments on the draft Proposed Plan for the Site, as stated in a letter dated February 25, 1997, have not been incorporated into the final Proposed Plan. Concerns presented in this section were placed into the following categories:

1. Comments Specific to Alternative 3
2. Action-Specific ARARs

1. Comments Specific to Alternative 3

(a.) A description of cap materials needs to be given for the Multi-layer Cap Section. For a hazardous waste landfill, 25 PA Code, Chapter 263, Appendix E, Table 3 lists the Minimum Liner Design and Performance Standards which must be included as an ARAR.

EPA Response: A description of the different layers of the cap is included in the ROD on page 14. The cap is a multi-layer cap consisting of a number of different layers. First the waste will be covered with a two-inch layer of crushed limeston. The barrier layer, which is a layer of high-density polyethylene (HDPE), is placed down, then is covered with a six-inch sand drainage layer. This is covered with 12 inches of protective soils, and six inches of topsoil.

(b.) What is to be done with the wooded areas where soil levels of lead may be greater than 1,000 ppm?

EPA Response: The large forested area on the northern side of the Site is well below 1000 ppm lead, and will be left alone. However, there are several smaller woooded areas on other portions of the Site which do contain lead above 1,000 ppm. These areas would be excavated, consolidated with the other materials, an capped. All onsite soils with lead concentrations above 1,000 ppm and below 40,000 ppm would be consolidated in this manner. Clean soils then would be placed and seeded in these areas.

(c.) It can be inferred that wetlands which occur in the floodplain also will be covered with 18 inches of clean soil, eliminating much of the wetlands area. It is the Department's position that, if necessary, the wetland areas be excavated and restored with clean soil to the original grade and revegetated. Additional wetlands can be created as an aid in soil and erosion control.

EPA Response: There are two small wetland areas located onsite which combined are less than 0.20 acres. Both of these areas contain lead above 1000 ppm. These areas will be excavated, covered with clean soil and recreated as part of the selected remedy. Although there are other floodplain areas which will be covered with 18 inches of topsoil, these other floodplain areas are not wetlands.

(d.) Buildings on the Site that are contaminated cannot simply be disposed offsite unless the debris is characterized and, based on the characterization, is sent to a hazardous waste or residual waste landfill. Wastes generated from the cleaning of the buildings should be characterized, handled appropriately, and sent to an appropriate facility.

EPA Response: During the actual cleanup, the building debris will be handled in exactly this manner as part of the selected remedy.

(e.) There is no section in Alternative 3 that summaarizes activities regarding ground water. On page 8 of the proposed plan, a perched leachate area is listed beneath the Ball Mill Tailings Pile. This paragraph also states that this water is very contaminated with heavy metals. Since contamination is present and this leachate will be disturbed during earth moving activities, ground water disturbance and containment must be addressed.

EPA Response: Although the ground water is not being treated in the selected remedy, the ground water is being monitored. The water within the Ball Mill Tailings Pile will be contained when the pile is in the process of being consolidated.

(f.) EPA should provide a figure showing the proposed location of the capped area.

EPA Response: The exact size and location of the consolidation area will be determined during the Remedial Design. Figures and drawings showing the proposed loacation and other details of the consolidation area will be included in the Remedial Design documents.

(g.) Jacks Creek and the ara adjacent to the creek's floodplain are under the jurisdiction of the Department's Bureau of Dams, Waterways and Wetland Section. ARARs from 25 PA Code, Chapter 105, must be met. Chapter 105.13 pertains to the process of obtaining a permit for activities involving a floodplain. Although a permit is not required the basic requirements of such must be fulfilled. Additional ARARs pertaining to areas adjacent to the Creek include 25 PA Code, Chapter 105.17 and 105.18 (wetland regulations) and 25 PA Code, Chapters 105.261 and 105.271 (design criteria for modification of fills, levees, floodwalls, and streambank retaining devices).

EPA Response: Relevant portions of Chapter 105 are included in the ARARs section of this Record of Decision. Existing wetlands will be recreated as part of the selected remedy.

(h.) The protection of properties and waters including aquatic life also is an ARAR for this site. The Fish and Boat Code Act of October 16, 1980, P.L. 996, as amended, and 30 PA Code Sections 2502 and 1504 must be included as an ARAR.

EPA Response: EPA does not recognize this regulation as an ARAR.

2. Action-Specific ARARs

(a.) The control of storm water runoff during actions that disturb land, such as grading or excavating, must meet construction criteria consistent with the county watershed management plan and the Storm Water Management Act, Act of October 4, 1978, P.L. 864, No. 167, as amended, 32 P.S. Sections 680.1-680.17.

EPA Response: Relevant portions of this regulation are included in the ARARs section of the ROD.

(b.) Postclosure care and use of property are addressed under 25 PA Code, Chapter 264.117. This is an ARAR for the capped area. As the remedy calls for a hazardous waste landfill, 25 PA Code, Chapter 264.310, which also pertains to closure, is an ARAR. Specifically, 264.310 subsection (6)(iv) requires maintaining and monitoring the ground water monitoring system and complying with all other applicable requirements of Subchapter F (relating to ground water monitoring).

EPA Response: Relevant provisions of both 264.117 and 264.310 are included in the ARARs portion of this ROD on page 18.

(c.) The Department continues to assert the Pennsylvania Land Recycling Act as an ARAR, including the standards set forth in the Pennsylvania Land Recycling Technical Manual, Appendix B.

EPA Response: Provisions of regulations issued pursuant to the Pennsylvania Land Recycling Act have been identified as ARARs by EPA where deemed necessary.

<IMG SRC 97987D>

Pennsylvania Department of Environmental Protection
One Ararat Boulevard
Harrisburg, PA 17110-9333

September 29,1997

717-540-5012
Southcentral Regional Office FAX 717-657-4446

Mr. Abraham Ferdas, Acting Director 3HW00
Hazardous Waste Management Division
US EPA, Region III
841 Chestnut Street
Philadelphia, PA 19107-4431

Re: Record of Decision (ROD)
Jack's Creek Superfund Site
Decatur and Derry Townships
Mifflin County, PA

Dear Mr. Ferdas:

The Record of Decision (ROD) for the Jack's Creek Superfund Site, Decatur and Derry Townships, Mifflin county, was received September 25, 1997, with an additional amendment received September 29, 1997. It has been reviwed by the Department of Environmental Protection (DEP).

The selected remedy for this site consists of the following major components:

Soils with lead concentrations above 40,000 parts per million (ppm) which are the principal threat wastes, shall be excavated and treated at an off-site hazardous waste treatment facility using a chemical stabilization process.

Soils and waste pile materials with lead concentrations between 1,000 and 40,000 ppm lead shall be excavated and then consolidated on-site. Sediments from depositional areas of Jack's Creek exceeding 110 ppm lead in the immediate vicinity of the Site shall be removed from the creek by vacuum dredging, and then consolidated with the waste piles and contaminated soils.

The consolidated soils, waste materials and sediments shall be covered with a layer of crushed limestone, and then covered with a multi-layer cap.

All excavated areas shall be covered with clean fill to the original grade and then revegetated. All of the areas, except for the scrap yard shall be revegetated.

The existing on-site wetlands, which combined are approximately 1/5 of an acre in size, will be recreated in an on-site location.

Buildings that are structurally unsound shall be demolished.

Long-term monitoring of the ground and surface water, as well as the fish and benthos in Jack's Creek, shall be done as part of the operation and maintenance of the Site.

Deed restrictions would also be placed on a portion of the Site to restrict use of the capped area, and to limit other areas of the Site to industrial activities.

DEP herby concurs with EPA's proposed remedy with the following conditions:

- EPA will assure that DEP is provided an opportunity to fully participate in any negotiations with responsible parties.

- DEP will be given the opportunity to review and comment on documents and concur with decisions related to the design and implementation of the remedial action, to assure complaince with Pennsylvania's Applicable or Relevant and Appropriate Requirements (ARARs).

- DEP's posture is that its design standards are ARARs pursuant to SARA Section 121, and we will reserve our right to enforce those design standards.

- DEP reserves its right and responsibility to take independent enforcement actions pursuant to state law.

- This concurrence with the eselected remedial action is not intended to provide any assurances pursuant to SARA Section 104(c)(3).

- Public comment and the issurance of an Explanation of Significant Differences (ESD) must occur before any modification of the ROD.

Thank you for the opportunity to comment on this EPA Record of Decision. If you have any questions regarding this matter, please contact me at 717-541-7969.

<IMG SRC 97087E)

Karen Bassett
Acting Regional Director