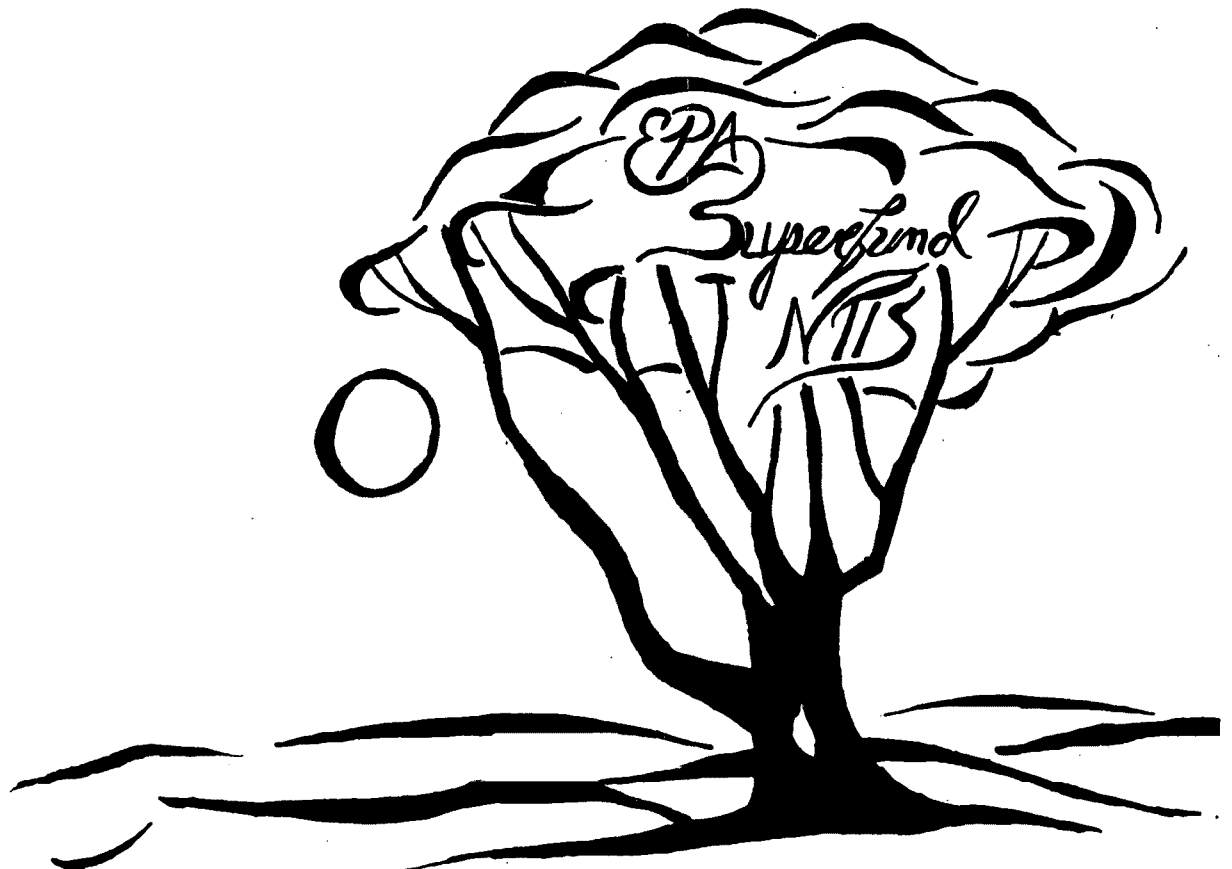


PB94-964418
EPA/ROD/R08-94/085
October 1994

EPA Superfund Record of Decision:

**Williams Pipe Line Disposal Pit
Superfund Site, Sioux Falls, SD,
9/29/1994**



RECORD OF DECISION

WILLIAMS PIPE LINE DISPOSAL PIT SUPERFUND SITE

SIOUX FALLS, SOUTH DAKOTA

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
DENVER, COLORADO**

DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

Williams Pipe Line Disposal Pit Superfund Site
Sioux Falls, South Dakota

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for the Williams Pipe Line Disposal Pit Superfund Site (Site) in Sioux Falls, South Dakota. The remedy was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), (collectively called Superfund), 42 U.S.C. Section 9601 et seq., and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. This decision is based on the administrative record for this Site.

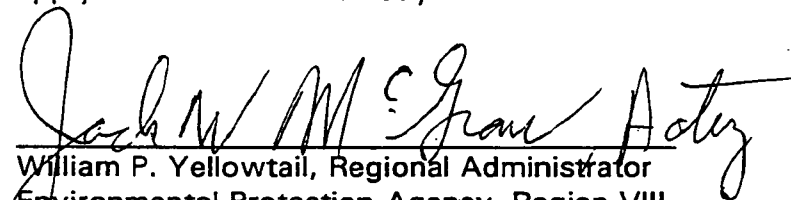
The State of South Dakota, as represented by the Department of Environment and Natural Resources (DENR), has worked together with EPA on cleanup studies for this Site. The concurrence of the State of South Dakota has not been received but is expected. A copy of the letter from the State will be included as an attachment to the Decision Summary.

DESCRIPTION OF THE SELECTED REMEDY

EPA has decided that No Action is necessary to address the Superfund contamination at the Site. A minimum of two years of quarterly groundwater monitoring will be performed to verify that unacceptable exposure will not occur in the future. This decision applies only to the Superfund Site.

DECLARATION

EPA has determined that no further action is necessary at this Superfund Site to protect human health and the environment and its response at the Site is complete. DENR is addressing groundwater petroleum contamination, which is exempt from regulation under CERCLA. Therefore, the Site now qualifies for inclusion on the Construction Completion List. The five-year review provision of CERCLA does not apply to a No Action remedy.


William P. Yellowtail, Regional Administrator
Environmental Protection Agency, Region VIII

9/29/94
Date

**DECISION SUMMARY FOR THE RECORD OF DECISION
WILLIAMS PIPE LINE DISPOSAL PIT SUPERFUND SITE
SIOUX FALLS, SOUTH DAKOTA**

SEPTEMBER 1994

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
DENVER, COLORADO**

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RESPONSIVENESS SUMMARY

**DECISION SUMMARY FOR THE RECORD OF DECISION
WILLIAMS PIPE LINE DISPOSAL PIT SUPERFUND SITE
SIOUX FALLS, SOUTH DAKOTA**

I. SITE NAME, LOCATION, AND DESCRIPTION

The Williams Pipe Line Disposal Pit Superfund Site (Site) is located at the Williams Pipe Line 12th Street Terminal (Terminal) at the intersection of 12th Street and Marion Road (Figure 1) in northwest Sioux Falls, South Dakota. The Site consists of a disposal pit, commonly called the "burn pond," and contamination originating from it. The burn pond is a small, unlined pit, about 40 feet in diameter and 7-feet deep that is located in the northeast corner of the Terminal. With the exception of the burn pond and tank berms, which are man-made alterations, the Site and the surrounding 12th Street Terminal are essentially flat, with only a very slight slope to the south toward Skunk Creek and to the east toward the Big Sioux River (Figure 1).

The Williams Pipe Line Terminal is located in a growing urban area. Land use around the Terminal is primarily commercial and industrial, with some residential use. The entire 52-acre Williams Pipe Line Terminal contains 42 above ground petroleum fuel storage tanks, a fuel loading rack, garages, an administration building, and other support structures (Figure 2). The property is surrounded by a 6-foot chain link fence with 24-hour access to only authorized personnel. The current zoning and anticipated future use is industrial.

In the Sioux Falls area, groundwater in shallow unconsolidated glacial materials represents a significant source of water supply. Most municipal wells for the City of Sioux Falls draw water from the glacial deposits, with some wells drawing water indirectly from the Big Sioux River. Numerous residences and businesses also derive their water supply from wells completed in the glacial deposits.

II. SITE HISTORY AND ENFORCEMENT ACTIVITIES

The 12th Street Terminal was constructed by the Great Lakes Pipeline Company in the early 1940s. Before its construction, the area consisted of undeveloped, agricultural land. The Great Lakes Pipeline operated the 12th Street Terminal from 1945 until March 1966, when the Terminal was purchased by Williams Pipe Line Company. Bulk quantities of liquid fertilizers as well as petroleum products were

stored and conveyed at the Terminal until 1988. Currently, the Williams Pipe Line Terminal is used to transport and store a variety of petroleum products including fuel oil, diesel fuel, unleaded gasoline, aviation gasoline, and jet fuel. Tanks and pipe racks at the Terminal are used to convey petroleum fuel to the loading rack where delivery vehicles are filled. The burn pond was constructed in 1945 and used until 1987 to collect storm water runoff, often contaminated with spilled petroleum, from various areas of the Terminal. The pond also may have been used to dispose of petroleum-related and other Terminal wastes. Petroleum products accumulating on the pond surface were periodically ignited and burned off (hence the name, burn pond). The pond no longer receives Terminal drainage, although some surface water collects in the pond following rain or snowstorms.

The environmental investigations at the Williams Pipe Line Terminal are regulated under both Federal and State authorities. Petroleum releases throughout the entire Williams Pipe Line Terminal are regulated by the South Dakota Department of Environment and Natural Resources (DENR).

Many of the early efforts, beginning in the 1980s, were investigations performed under State authority and directed at investigating the nature and extent of contamination from petroleum releases, such as leaks or spills, throughout the Terminal. In November 1988, Williams Pipe Line Company signed a Settlement Agreement with the State of South Dakota and the City of Sioux Falls for investigation and clean up of hydrocarbon (petroleum) spills throughout the Terminal.

Releases and potential releases of hazardous substances from the burn pond area within the Terminal are addressed by federal law (CERCLA/SARA). The U.S. Environmental Protection Agency (EPA) is responsible for overseeing the proper implementation of CERCLA/SARA regulations. Petroleum products are generally excluded from regulation under CERCLA/SARA.

In March and November 1987, EPA conducted investigations that identified Site-related chemicals, including some CERCLA hazardous substances, in the soil and groundwater near the burn pond. Based on these results, the Site was placed on EPA's National Priorities List in 1990. On January 14, 1991, EPA sent Williams Pipe Line Company and The Williams Companies Incorporated a special notice under CERCLA Section 122(e). This initiated the negotiation process for conducting the

investigation of the Site. It was determined through negotiations that Williams Pipe Line Company was the owner of the property and independent of Williams Companies Incorporated.

In 1991, Williams Pipe Line signed a legal agreement, titled an Administrative Order on Consent, to conduct a CERCLA remedial investigation (RI) and (focussed) feasibility study (FS). The purpose of the remedial investigation, which was conducted in two phases from 1991 to 1993, was to more fully investigate the nature and extent of hazardous substance contamination in the burn pond area. Possible contaminants of concern identified in the burn pond area soils and/or groundwater included volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals, pesticides, and polychlorinated biphenyls (PCBs).

In 1994, Williams Pipe Line completed an evaluation (the focussed FS) of several management practices for addressing the Superfund contamination. The focussed FS provides more detail about the costs of monitoring and describes the current stipulations for groundwater access on and near the Williams Pipe Line Terminal.

III. HIGHLIGHTS OF COMMUNITY PARTICIPATION

EPA conducted interviews with local officials and residents during March 1991 to assess community concerns about the Williams Pipe Line Site. A community relations plan outlining a program to address community concerns and keep citizens informed about and involved in remedial activities was distributed in June 1992. Also in June 1992, EPA issued a fact sheet updating the community regarding ongoing investigations at the Site. The same month, EPA established an administrative record that was available for public review at the Sioux Falls Public Library in Sioux Falls, South Dakota; the State of South Dakota Library in Pierre, South Dakota; and the EPA Superfund Records Center in Denver, Colorado. EPA also established a repository for Site information at the Sioux Falls Public Library, pursuant to CERCLA Section 113. In June 1994, EPA issued a fact sheet briefly summarizing the results of previous investigations, the results of the Baseline Risk Assessment, and upcoming opportunities for community involvement.

EPA's Proposed Plan for remedial action at the Site was issued in fact-sheet format in July 1994. The Proposed Plan fact sheet summarized the Site history and background, the results of the Remedial Investigation, the results of the Baseline Risk Assessment, the description of the preferred remedial alternative, and information about the public meeting and comment period. On July 24, 1994, an announcement was published in the *Argus Leader* newspaper to inform the community that a public meeting would be held by EPA. In early August, Williams Pipe Line Company issued a press release that also provided information about the public meeting.

From July 25 to August 24, 1994, EPA offered a 30-day public comment period to accept public comment on the Proposed Plan and Remedial Investigation, or receive new information. EPA held a public meeting at Hayward School Gymnasium in Sioux Falls on August 16, 1994, to discuss the results of the Remedial Investigation, present the Proposed Plan, and accept oral comments. A transcript of the meeting is available in the administrative record. Comments from the meeting attendees, and EPA's response to these comments are included in the Responsiveness Summary. No written comments were received during the public comment period.

IV. SCOPE AND ROLE OF RESPONSE ACTION WITHIN SITE STRATEGY

The selected alternative for the Williams Pipe Line Superfund Disposal Pit Site is "No Action with Groundwater Monitoring." No construction activities are associated with the "No Action" alternative. Two years of groundwater monitoring near the Site will be undertaken to confirm that no unacceptable exposures due to arsenic migrating offsite may occur in the future.

This "No Action" alternative pertains only to the Superfund work. It is not a determination that no action is warranted under other regulations and statutes, including State authorities. In choosing this alternative, EPA assumes that the work to clean up petroleum-contaminated groundwater at the Terminal will continue under State authority.

EPA believes the "No Action with Groundwater Monitoring" alternative sufficiently addresses Superfund health risk concerns for two major reasons. First, exposure to contaminants for which the potential risks exceed the acceptable levels is highly unlikely. Second, much of the estimated risk is attributed to petroleum constituents,

and the petroleum groundwater contamination is being addressed by DENR under South Dakota's Chapter 34A-2, Water Pollution Control Laws. Health risk for petroleum should be adequately addressed under the State authority.

As noted in the "Summary of Site Risk" section, a potential risk might exist if someone were to drink the unfiltered groundwater that contained high levels of arsenic. Arsenic analysis of unfiltered water samples is referred to as total arsenic. Risk evaluations generally consider the Federal drinking water standard, which utilize unfiltered groundwater analysis. The assumption is that unfiltered groundwater samples will contain small particles that could flow with the groundwater but not larger sediment particles. However, this was not the situation for the samples collected during the RI.

The groundwater data collected during the RI indicate that the filtered water, which would contain dissolved arsenic, more closely represents the potential concentrations that may be found in drinking water near the Site. The sampling data showed that large amounts of sediments from subsurface materials surrounding the monitoring wells were collected with the groundwater samples, probably due to the sampling method. The unfiltered water analyses performed on these samples included sedimentary particles in addition to the small particles that might flow with groundwater. At the high sediment content found in the samples, groundwater would not be drinkable. The filtered water analysis filters out large particles, including the sedimentary particles containing arsenic, but includes arsenic dissolved in the water. Dissolved arsenic was not only below the drinking water standard, it was not found in any of the offsite filtered groundwater samples. Thus, there is no potential exposure or risk from dissolved arsenic when drinking this groundwater. Nor is there any feasible likelihood of future exposure or risk due to the operation of the existing groundwater recovery system that is explained below. Groundwater monitoring is proposed as part of the "No Action" alternative to confirm that arsenic at unacceptable levels is not present in groundwater that might be used for drinking.

Additionally, DENR is continuing oversight of Williams Pipe Line's cleanup of petroleum contamination in the groundwater at the Terminal. The health risks from petroleum (mostly benzene) contamination in the groundwater at the Site will be addressed through State DENR authorities. A groundwater recovery and treatment system, including components near the burn pond, is being operated under the State

Settlement Agreement. Data collected under the RI and State investigation indicate that the groundwater recovery system is preventing the contamination, including arsenic contamination, from moving further offsite. The proposed groundwater monitoring is expected to confirm this finding.

Groundwater recovery system components near the burn pond include one recovery well (RW-5), interception trenches 1 and 2, and the eastside treatment building. The system captures the groundwater that might otherwise move under the Terminal boundaries. The groundwater is treated prior to being discharged to the city sanitary sewer system. Discharge requirements are controlled through a permit by the City of Sioux Falls. Williams Pipe Line has also applied for a direct discharge permit with the State. If approved, it will allow discharge of the treated water directly into Skunk Creek under the specific requirements, which include contaminant concentration limits. Thus, it does not appear that further work to clean up the CERCLA hazardous substances would provide additional benefits.

South Dakota State regulations, (reference Chapter 74:03:30, Above Ground Storage Tanks), require that before the Terminal is permanently closed, soil and groundwater contamination must be cleaned up. Therefore, before the property could be used for residences, the contamination that might present a risk to residents would need to be addressed. Additionally, the current industrial zoning would need to be changed.

The proposal in no way limits the State's authority under its laws. In fact, EPA's decision is partly based on the fact the cleanup of the petroleum contamination under State authorities will continue and access to the Site and groundwater underneath the Terminal will continue to be controlled.

EPA has authority to revisit a "No Action" remedy. This could occur if future conditions indicate that an unacceptable risk to human health or the environment would result from exposure to hazardous substances at the Site. Additionally, if the groundwater monitoring leads to a different conclusion than presented here, EPA would review its decision.

V. SITE CHARACTERISTICS

1. Climate and Meteorology

Minnehaha County, South Dakota lies in a climatic section of the United States termed the Humid Continental Warm Summer Climate, characterized by wide annual ranges in temperature, hot wet summers, and cold dry winters. The average annual precipitation for Sioux Falls is 24.12 inches, with spring and summer being the seasons of maximum rainfall. Average annual snowfall is 32 inches. The average daily temperature is 45.3 degrees Fahrenheit (°F). The coldest month is January, with an average daily temperature of 12.4 °F, and the warmest month is July, with an average daily temperature of 74.0 °F. The average wind speed and direction is 11 mph from the south/southeast in the summer, and 12 mph from the north and northwest during the fall and winter.

2. Surface Water Hydrology

The principal surface water features in the area are the Big Sioux River and its tributary, Skunk Creek. The Site is located about two miles northwest of the confluence of the two streams. Two rock quarries located about 1.25 miles northeast of the Site expose the groundwater table as surface water. Small intermittent drainages also discharge surface runoff to storm sewers, the Big Sioux River, and Skunk Creek.

Surface water runoff at the Site is a direct result of precipitation. Surface water in the vicinity of the burn pond drains to the southeast by way of a small drainage ditch located less than 100 feet southwest of the burn pond. The ultimate fate of storm water runoff from both offsite (outside the Terminal boundaries) and onsite (within the Terminal boundaries) sources near the burn pond is discharge to the City storm water drain along Marion Road. Some precipitation and storm water runoff may accumulate in the burn pond.

3. Geology

Regional surficial geology is characterized by deposits of glacial and glacial-fluvial origin. These outwash deposits, composed of silt, sand, and gravel, are generally 20-to-35 feet thick. Thicker deposits (55-to-80 feet thick) of coarse sand and gravel occur beneath the flood plain of Skunk Creek. Basal till deposits of clay and sandy, silty clay, 6- to 48-feet thick, underlie the thicker outwash (sand and gravel) deposits. The basal till deposits become thinner to nonexistent in the alluvial valley of Skunk Creek. The Precambrian Sioux Quartzite bedrock occurs in the immediate area of the burn pond at depths of 38 to 70 feet below land surface in the area.

At the Site, the glacial deposits are divided into two units. Unit 1 (Figure 3) is composed of poorly sorted outwash deposits, and is further subdivided into two subunits based on differing grain size and hydrogeologic properties. Unit 1A consists of more permeable sand and gravel deposits; Unit 1B consists of less permeable silts and clays. The outwash deposits are poorly sorted and Units 1A and 1B often are interbedded, transect each other, and exhibit a cut and fill relationship. Unit 2, which underlies Unit 1, is a basal till deposit of unsorted sands, gravels, and boulders in a clay and silt matrix. The basal till is 9 to 18 feet thick in the immediate vicinity of the burn pond. The glacial deposits are underlain by Unit 3, Sioux Quartzite and remnant Cretaceous bedrock. The bedrock is approximately 50-feet deep in the immediate vicinity of the burn pond. The Site geology is illustrated in Figure 3, which is an east-west geologic cross-section passing through the burn pond Site.

4. Hydrogeology

In the Sioux Falls area, the glacial outwash deposits represent a significant source of water supply. The City of Sioux Falls obtains much of its drinking water supply from municipal wells drawing groundwater from the outwash and indirectly from the Big Sioux River. In addition, numerous Sioux Falls businesses and residences derive their water supply from wells drawing water from the outwash deposits.

Groundwater is recharged from precipitation that infiltrates vertically into the ground. Groundwater within the outwash deposits moves horizontally toward surface-water bodies located at topographically lower elevations. Regional groundwater flow directions are east toward the Big Sioux River and south toward Skunk Creek.

Groundwater flow within the outwash deposits in the burn pond area is to a large degree influenced by the existing groundwater recovery systems (RW-5 and interception trenches 1 and 2). Groundwater flow in the eastern half of the Terminal area is from the center of the Terminal toward the northeast, east, and southeast. Groundwater flow in the immediate vicinity of the burn pond is toward the northeast. Groundwater levels and flow directions in the outwash deposits are illustrated in Figure 4, which shows groundwater conditions in October 1993. Groundwater flow in the basal till (Unit 2) east of the burn pond is toward the southeast. The average groundwater flow velocity in the outwash deposits (Unit 1A), before the operation of recovery well RW-5 and interception trenches 1 and 2, was approximately 320 feet per year and generally to the southeast across the Site. The groundwater flow velocity in the basal till is estimated to be 0.2 foot per year.

Operations of interception trenches 1 and 2 and RW-5 have lowered groundwater levels along the eastern side of the Terminal by as much as 15.5 feet. As a result of pumping, groundwater flow northeast of the Site has been reversed and groundwater gradients downgradient of the recovery systems have become less steep. The effective groundwater capture area of RW-5 includes groundwater beneath the burn pond. As a result of regional groundwater flow gradients, the effective capture area of RW-5 extends no more than 150 feet downgradient of the recovery well. The effective capture area of the trenches includes areas of the Site south of the burn pond. As a result of regional groundwater flow gradients, the effective downgradient capture area of the trench system is approximately 5 to 10 feet.

RW-5 and the northern end of trench 1 have overlapping zones of influence. Individual sumps along trenches 1 and 2 also overlap. Stagnation points or groundwater divides occur between individual pumping centers. Weak hydraulic gradients occur across sections of the trenches and between the north end of trench 1 and RW-5.

RW-5, trench 2, and most of trench 1 fully penetrate the coarse-grained materials of Unit 1A. Only the north end of trench 1 does not fully penetrate the Unit 1A materials. Local water-level gradients indicate that groundwater flow in Unit 1A below the north end of the trench is influenced by recovery system operations, although the possibility of slight underflow of groundwater beneath the north end of trench 1 exists.

5. Land Use and Demography

The Terminal is currently zoned industrial. The area surrounding the Site is zoned industrial and commercial. There are houses northeast of the Site along Marion Road and north of 9th street. Residential areas also exist south of the 12th Street commercial strip. A draft City Planning and Building Services land use map for the year 2015 shows the Terminal as industrial with the surrounding area remaining light industrial and commercial.

A number of private wells exist in the area surrounding the Site but most of these are not in use or abandoned. Most of the wells near the Site that are designated in use are on commercial property. The City of Sioux Falls draws most of its water from wells located 3 miles northeast of the Site. An additional city well is located about 1.5 miles southeast of the Site along Skunk Creek.

Human receptors who might be potentially exposed to Site contaminants include onsite workers, and area residents and workers. "Area", in this context, refers to residential and industrial properties located adjacent to the 12th Street Terminal. Future populations that could potentially be exposed to Site contaminants include onsite residents (if the site were to be developed for residential use) and children trespassing on the property. The environmental assessment concluded that no real threat to area wildlife exists due to very limited exposure of wildlife to hazardous substances.

6. Results of the Remedial Investigation

RI Phase I. The nature and extent of contamination in and around the burn pond was evaluated during the Phase I RI. The analytical results confirm that the burn pond was a source of past releases of contamination to the environment.

Soils within the burn pond contained elevated levels of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and total petroleum hydrocarbons (TPH), which are common constituents of petroleum products or combustion by-products. Except for benzene, surface soils did not contain VOCs. Surface soils did contain elevated SVOCs associated with petroleum, primarily within 10 feet of the edge of the burn pond. VOCs and SVOCs are generally found in the subsurface soils

within 30 feet of the burn pond, and extend to depths of approximately 25 feet below ground surface, the approximate depth of the water table at the time of sampling.

Low concentrations of pesticides (insecticides) and PCBs were detected in shallow soils. Pesticides were not detected at depths greater than 5 feet, and PCBs were not detected at depths greater than 15 feet. Herbicides were detected in both Site soils and background soils. Several metals were detected in soils within and adjacent to the burn pond at concentrations potentially in slight excess of background ranges.

Table 1 provides a summary of concentrations of Site contaminants detected in surface soils during the Phase I RI. Table 2 provides a similar summary for subsurface soils.

Spills or leaks of petroleum products are known to have occurred at several places within the Terminal. Free-phase petroleum product has been detected on the water table in the vicinity of the burn pond in thicknesses of less than one foot. The thickness and areal extent of free product has gradually decreased since 1987, primarily due to operation of recovery well RW-5. At the completion of the Phase I RI, measurable free product was no longer present beneath the burn pond, although free product was still being recovered at RW-5.

VOCs and SVOCs with petroleum hydrocarbons have been detected in groundwater at the Site. With the exception of benzene in monitoring wells northeast of RW-5 and 1,2-dichloroethane (1,2-DCA) in a monitoring well east of trench 1, Site-related organic compounds were not detected at offsite monitoring points beyond the control of the active recovery systems. Pesticides have not been detected in groundwater since 1988, shortly after groundwater recovery operations began in the vicinity of the burn pond. The active recovery systems appear to have reduced the extent of petroleum hydrocarbons and indirectly reduced pesticide concentrations in the groundwater.

Inorganic compounds and metals have been detected in groundwater beneath or near the burn pond at concentrations in excess of drinking water standards. Arsenic was the only metal detected in filtered groundwater samples in excess of drinking water standards. Nitrate concentrations were elevated in groundwater north of the burn pond, and the distribution of elevated nitrates suggests a possible offsite source.

Elevated nitrate concentrations have also been detected along the southern Terminal property boundary where nitrate fertilizer was once contained in Terminal storage tanks. Nitrates are being addressed under the State clean up since not associated with the Superfund Site.

RI Phase II. The existing recovery systems have been successful in removing contaminants from the groundwater. As of 1992, RW-5 had recovered approximately 15,000 gallons of free-phase petroleum; seven pounds of dissolved petroleum constituents; 4,100 pounds of nitrate; and 7,000 pounds of ammonia. The recovery trenches have recovered approximately 18,000 gallons of free-phase petroleum; 65 pounds of dissolved petroleum constituents; 1,400 pounds of nitrate; and 6,500 pounds of ammonia.

Groundwater in the vicinity of the burn pond area still contains VOCs and SVOCs associated with petroleum hydrocarbons. The distribution of dissolved compounds detected during Phase II investigations was consistent with the distribution detected in previous years, although the areal extent of benzene northeast of RW-5 and 1,2-DCA east of trench 1 appears to have been reduced between 1992 and 1993. Table 3 provides a summary of chemical concentrations for compounds detected in groundwater samples collected during the Phase I RI, Phase II RI, and previous investigations.

Total (unfiltered) arsenic concentrations detected by Phase I and Phase II sampling (Table 4) are believed to be primarily due to the presence of arsenic complexes on particulates in unfiltered groundwater samples. Dissolved concentrations of arsenic were, however, detected in Phase II samples collected from nine monitoring wells (Table 5). Dissolved (filtered) arsenic was detected in monitoring wells onsite but was not detected in any offsite monitoring wells. Three of the onsite wells contained dissolved arsenic concentrations in excess of the drinking water standard (50 micrograms per liter). The locations of wells listed in the tables are shown in Figures 4 and 5.

The source of the arsenic contamination is unclear since it is unknown what contaminants may have been discharged to the burn pond. Much of the arsenic can be attributed to background or naturally occurring levels. Wells sampled as background wells during Phase II did not contain dissolved (filtered) arsenic but several showed elevated levels of total (unfiltered) arsenic.

Groundwater samples collected at the interception trenches and RW-5 contained Site-related organic compounds and arsenic. Coupled with the fact that water quality samples from wells downgradient of the recovery systems did not contain Site-related chemicals, this supports the conclusion that RW-5 and trench 1 are effective in containing and recovering chemicals of concern from the groundwater.

VI. SUMMARY OF SITE RISKS

A Base Line Risk Assessment (BRA) was performed to estimate the probability and magnitude of potential adverse human health and environmental effects from exposure to hazardous substances associated with the Site. The public health risk assessment followed a four step process:

- 1) contaminant identification, which identified those hazardous substances of potential health concern;
- 2) exposure assessment, which identified actual or potential exposure pathways (routes where people contact the chemicals), characterized the potentially exposed populations, and determined the extent of possible exposure;
- 3) toxicity assessment, which considered the types and magnitude of adverse health effects associated with varying amounts of the hazardous substances of concern; and
- 4) risk characterization, which integrated the three previous steps to summarize the actual current and future potential and risk posed by exposure to hazardous substances at the Site.

EPA prepared the BRA in October 1993. An addendum to the Baseline Risk Assessment was prepared in May 1994. The addendum included analytical results from additional groundwater samples collected during the Phase II RI work. The Baseline Risk Assessment used the Site data and the process explained above to

estimate potential cancer and non-cancer risks to humans from exposure to hazardous substances at the Site in the absence of any cleanup work.

Contaminants of concern identified in the BRA and BRA Addendum are listed in Table 6. The BRA evaluated potential exposure pathways by which people may come in contact with hazardous substances from the Site. For each pathway evaluated, an average and reasonable maximum exposure (RME) estimate was calculated. The RME represents the maximum exposure that could reasonably be expected to occur for a given exposure pathway at the Site.

Major pathways evaluated in the Baseline Risk Assessment include: 1) both onsite and offsite groundwater used as drinking water; 2) inhalation of windblown dust; and 3) incidental soil ingestion. Groundwater is the primary contaminant pathway for possible exposure from the Site hazardous substances.

Current and future populations that potentially could be exposed to contaminants that were evaluated in the Baseline Risk Assessment included: 1) onsite workers; 2) area residents; and 3) area workers. "Area" refers to residents and workers on nearby properties. Additional future populations that potentially could be exposed to contamination evaluated in the Baseline Risk Assessment include onsite residents and children trespassing on the property.

Under Superfund regulations, cancer and non-cancer risks are considered at Superfund sites. For cancer, resulting risk estimates are expressed in scientific notations as a probability (e.g. 1×10^{-6} for 1/1,000,000). The risk indicates an individual's lifetime chance of developing cancer as a result of exposure to Site related contaminants over 30 years, 350 days a year. EPA generally considers estimated cancer risks from Site contamination that fall below the range of one additional chance in ten thousand to one additional chance in a million (1×10^{-4} to 1×10^{-6}) of developing cancer as acceptable. This risk is in addition to the normal (larger) overall cancer rate for the general population. The range is used to allow for management and site-specific considerations that are still protective of public health. Current EPA practice considers cancer risk to be additive when assessing exposure to a mixture of hazardous substances.

For non-cancer risk, a comparison of acceptable background and/or safe levels of chemicals to Site contamination is made. This comparison is called a hazard quotient. If the hazard quotient is less than or equal to one, it is considered acceptable for health protection. A hazard quotient of one or less represents a level of exposure that would not harm the most sensitive person over a 30-year period of exposure. The hazard quotient associated with each contaminant is added for each pathway.

Both the cancer and non-cancer risk estimates are generally conservative. This means that any uncertainty in the risk estimates is offset by the protective safety factors used in the Baseline Risk Assessment. Toxicity and exposure values are used to calculate the risk to protect sensitive individuals under the maximum exposure possible (RME). This provides for suitable public health protectiveness for all people.

Human Health Risks

Based on the BRA, Site carcinogenic and noncarcinogenic risks are below or within EPA's acceptable cancer risk range and the acceptable hazard quotient, except for two scenarios explained below. Tables 7 and 8 summarize those chemical-specific and total pathway carcinogenic (cancer) risks that exceed one additional chance in ten thousand of developing cancer, and the noncarcinogenic hazard quotients that exceed one. Exposure to contaminants of concern through other pathways did not present unacceptable risks.

The two exceptions noted above are a hypothetical resident living onsite, and an area resident drinking unfiltered groundwater that includes total arsenic. The potential onsite resident risk is due to drinking groundwater or a child incidentally eating small amounts of burn pond soils. As explained in the following paragraphs, there is no apparent current or likely future exposure under these scenarios. Since no completed exposure pathways exist, there is no health risk.

The onsite resident scenario conservatively assumes someone is living onsite and drinking the groundwater at current contamination levels for a period of 30 years, or is a child who incidentally eats burn pond soil. The potential cancer risk for the resident is based primarily on exposure to benzene and arsenic (total or dissolved) in the groundwater. Benzene is a hazardous substance and a common constituent of petroleum. At high levels and/or long-term exposure benzene can cause leukemia, a

type of cancer. Exposure to high levels of arsenic may lead to skin disorders or skin cancer. The risk to a child living onsite who might eat soils is caused mainly by benzo(a)pyrene, a SVOC associated with petroleum.

Currently, no residents live onsite, the Terminal is fenced, and access is restricted; so there is no exposure to groundwater contaminated with arsenic and, thus, no risk. The contaminated groundwater is prevented from moving offsite by the groundwater recovery system which is operated under direction of DENR. The system is being operated to capture and treat the groundwater contaminated with petroleum constituents, including benzene and benzo(a)pyrene. The groundwater that includes the high levels of arsenic is also being captured by this system, thus preventing the contamination from moving to the area east of the Terminal. As the petroleum groundwater contamination is cleaned up as required by the State, the arsenic groundwater contamination will also be cleaned up. The State may also address the petroleum contamination in the burn pond soil under its Settlement Agreement with Williams Pipe Line.

Under the second exception, some risk to area residents would exist under the current land-use scenario if people were drinking unfiltered groundwater contaminated with (total) arsenic. However, groundwater sampling data showed that no exposure should occur. Private drinking wells are generally constructed to remove sediment from groundwater. The RI groundwater samples that contained high total arsenic levels also contained high amounts of sediments and would be unfit to drink. Dissolved arsenic levels, that potentially would be found in filtered groundwater samples, were determined to more closely represent what might be found in drinking water. No dissolved arsenic was found in the offsite groundwater, so no exposure to this contaminant exists for area residents potentially drinking the groundwater. Additionally, most area residents are connected to the city water supply system.

Environmental Risk

The environmental assessment determined that no real threat to area wildlife exists due to very limited exposure of wildlife to hazardous substances. Additionally, there is a very small likelihood that any Site impacts should have any significant population-wide effects.

VII. DESCRIPTION OF THE NO ACTION ALTERNATIVE

EPA has determined based on the results of the RI, BRA, and considering Site specific conditions, that No Action is needed for remediation of the groundwater at the Williams Pipe Line Disposal Pit Superfund Site. There are no construction activities associated with the No Action decision. However, monitoring will be performed to verify the conclusions that are based on the RI data.

At a minimum, two years of monitoring on a quarterly basis will be performed to confirm that no unacceptable exposures will likely occur in the future. The groundwater monitoring should confirm that no unacceptable levels of arsenic are migrating from underneath the Williams Pipe Line Terminal to areas near the Terminal. A number of existing monitoring wells are located on and near the Site (see Figure 5). A subset of the wells on or near the Site will be selected as the groundwater monitoring points. The cost of the monitoring for two years is estimated at \$35,000.

This determination applies only to the Superfund Site and associated contamination. It is not a determination that no action is warranted under other regulations and statutes, including State authorities. Petroleum related contaminants (including benzene) are being investigated and cleaned up under State authorities.

VIII. EXPLANATION OF SIGNIFICANT CHANGES

EPA distributed a Proposed Plan (preferred alternative) for remediation of the Site in July 1994. The Proposed Plan described EPA's decision to pursue no further action with one to two years of groundwater monitoring at the Williams Pipe Line Disposal Pit Superfund Site. No significant changes have been made to the No Action with Groundwater Monitoring decision described in the Proposed Plan. However, the Selected Remedy specifies that at a minimum, two years of quarterly groundwater monitoring is required.

FIGURES

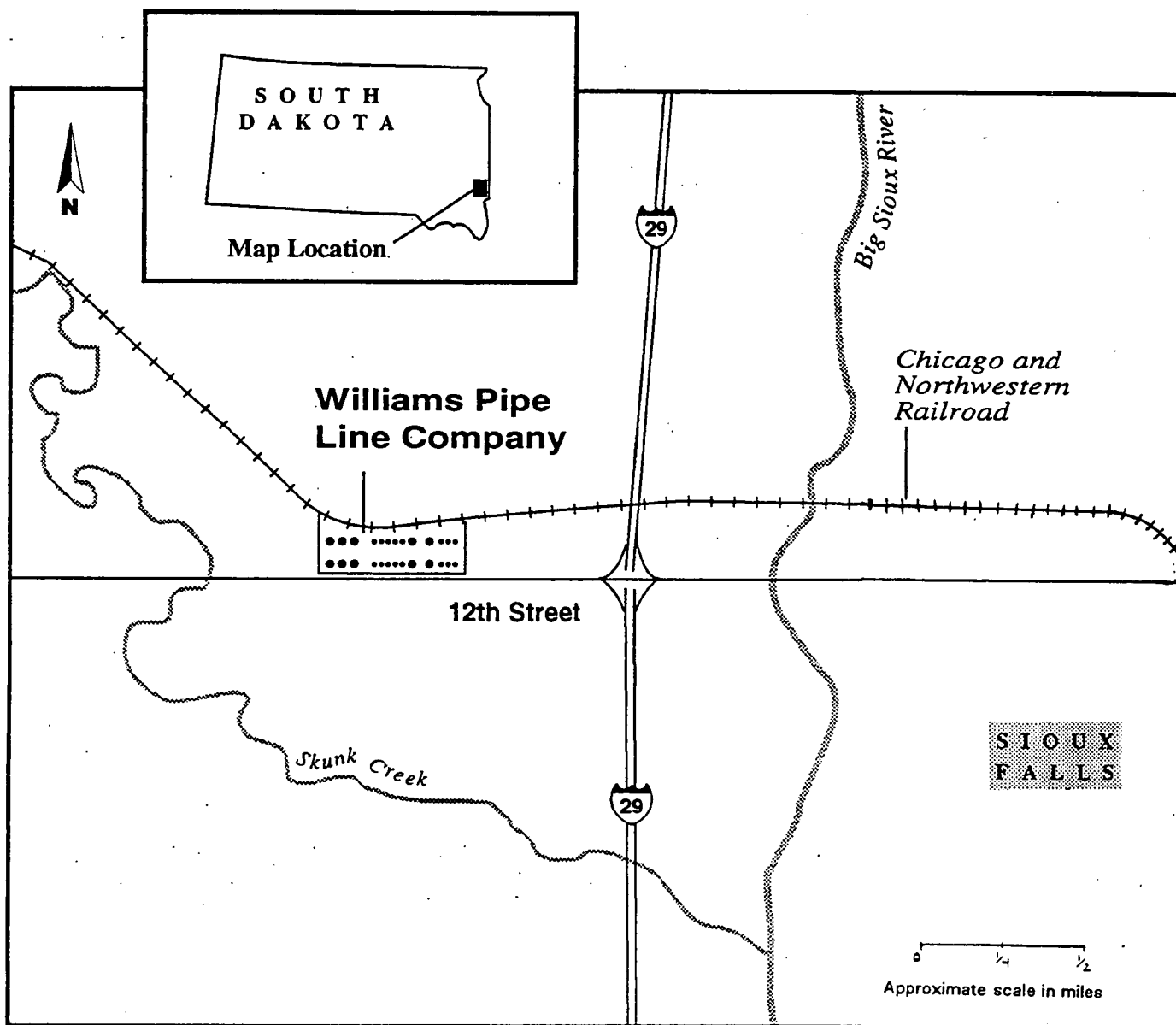


Figure 1: Location of Williams Pipe Line Company
12th Street Terminal

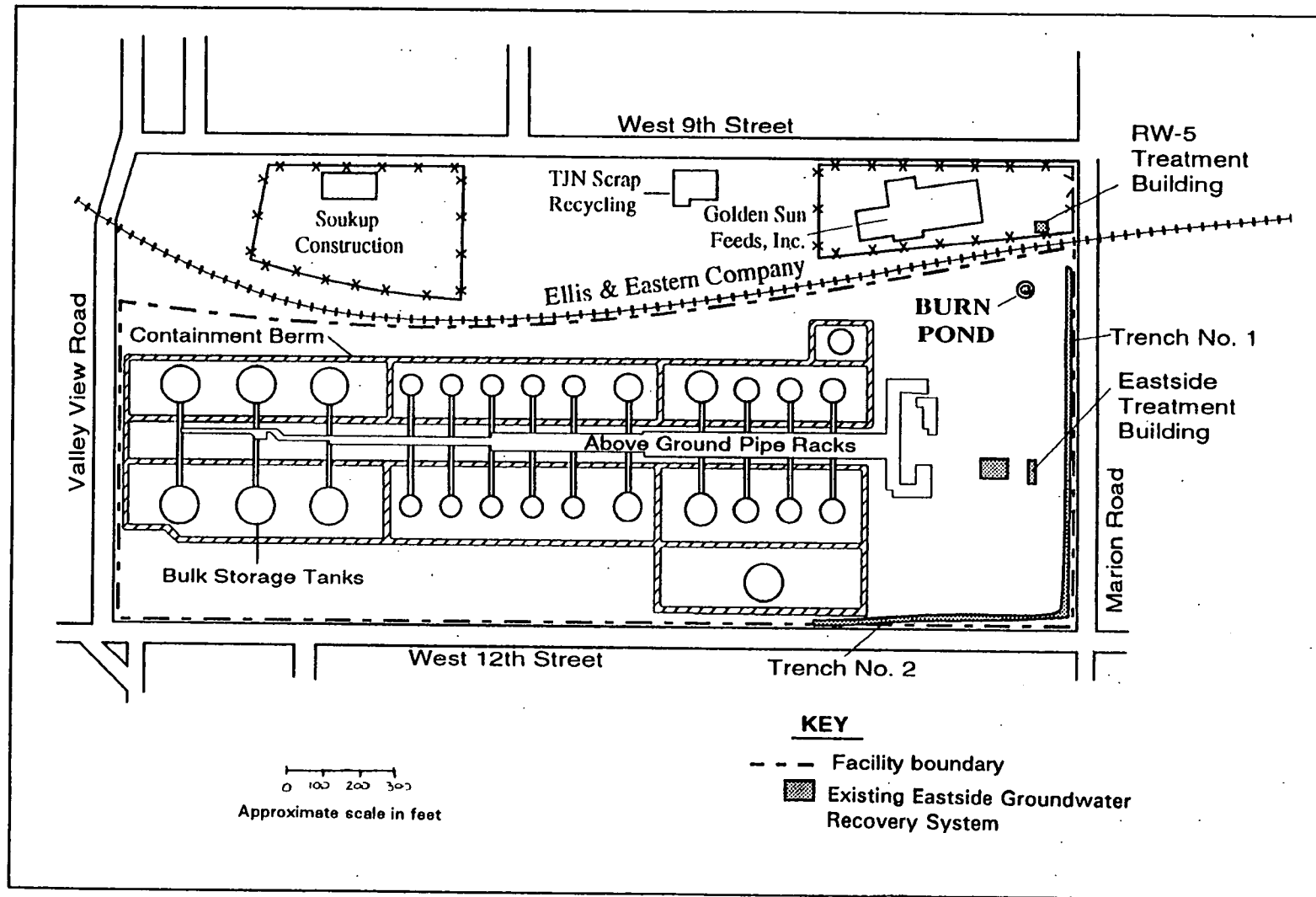
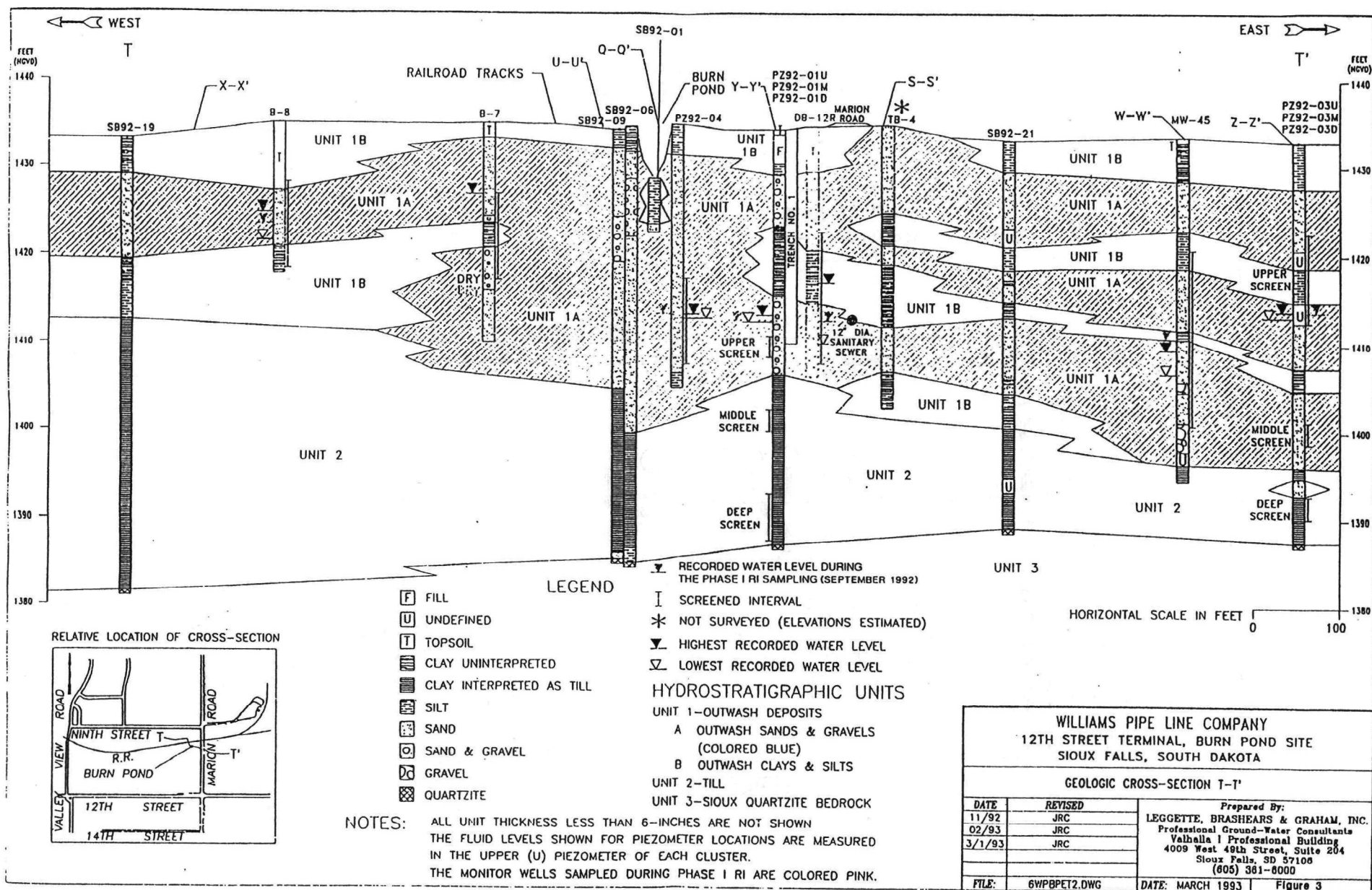


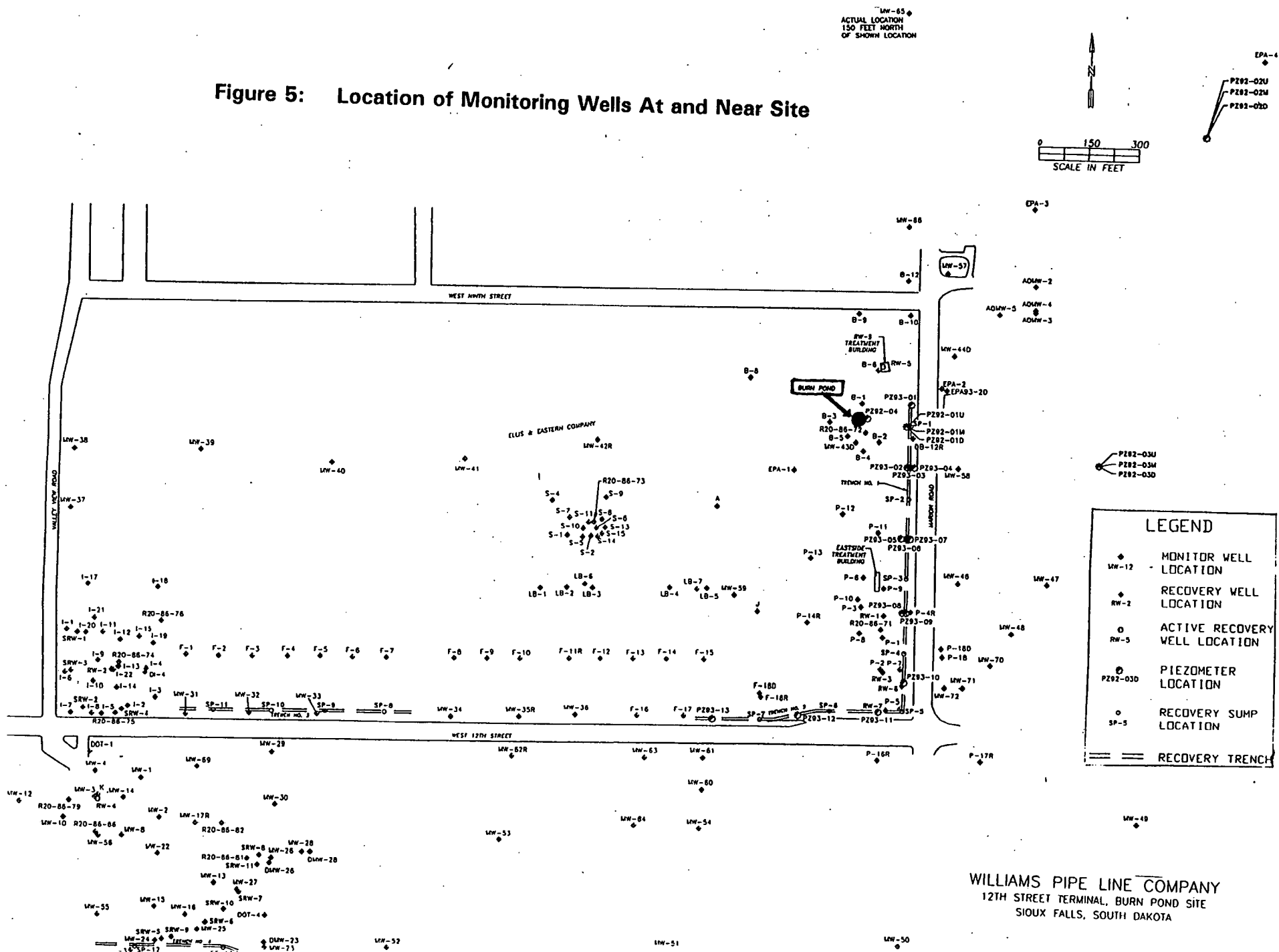
Figure 2: Williams Pipe Line 12th Street Terminal Features



Source: Williams Pipe Line 12th Street Terminal, Burn Pond Site, Sioux Falls, South Dakota Site Characterization Summary, Vol. II

Figure 3: Geologic Cross-section Near Burn Pond

Figure 5: Location of Monitoring Wells At and Near Site



TABLES

TABLE 1
(Page 1 of 3)
WILLIAMS PIPE LINE COMPANY 12TH ST TERMINAL
BURN POND SUPERFUND SITE

Summary of Concentrations of Site Contaminants Detected in Surface Soils During Phase I RI
(Results in milligrams/kilogram)

	Previous C of C	Background Number of Detections	Surface Soils (n = 2) Minimum Concen- tration	Average Concen- tration	Maximum Concen- tration	Location of Maximum Detection	Burn Pond Surface Soils (n = 5) Number of Detections	Minimum Concen- tration	Average Concen- tration	Maximum Concen- tration	Location of Maximum Detection	Surface Soils Outside Burn Pond (n = 16) Number of Detections	Minimum Concen- tration	Average Concen- tration	Maximum Concen- tration	Location of Maximum Detection
VOLATILE COMPOUNDS																
Methylene Chloride	N		ND		ND		1	0.31 J	0.31	0.31 J	SS-01, 0" - 6"	2	0.016	0.02	0.024	SB-10, 0" - 6"
Acetone	N		ND		ND			ND		ND		1	0.028 J	0.028	0.028 J	SB-13, 0" - 6"
Carbon Disulfide	N		ND		ND			ND		ND			ND		ND	
1,1-Dichloroethene			ND		ND			ND		ND			ND		ND	
trans-1,2-Dichloroethene			ND		ND			ND		ND			ND		ND	
2-Butanone	N		ND		ND		1	0.081 J	0.081	0.081 J	SS-04, 0" - 6"		ND		ND	
Vinyl acetate			ND		ND			ND		ND			ND		ND	
1,1,1-Trichloroethane			ND		ND			ND		ND			ND		ND	
Bromodichloromethane			ND		ND			ND		ND			ND		ND	
1,2-Dichloropropane			ND		ND			ND		ND			ND		ND	
cis-1,3-Dichloropropene			ND		ND			ND		ND			ND		ND	
Trichloroethene	N		ND		ND			ND		ND			ND		ND	
1,1,2-Trichloroethane			ND		ND			ND		ND			ND		ND	
Benzene	N		ND		ND		1	0.83	0.83	0.83	SS-01, 0" - 6"	1	0.19 J	0.19	0.19 J	SB-06, 0" - 6"
Bromoform			ND		ND			ND		ND			ND		ND	
4-Methyl-2-Pentanone			ND		ND		1	0.32 J	0.32	0.32 J	SS-01, 0" - 6"		ND		ND	
2-Hexanone			ND		ND			ND		ND			ND		ND	
Tetrachlorethene			ND		ND			ND		ND			ND		ND	
Toluene	N		ND		ND		1	26	26	26	SS-01, 0" - 6"		ND		ND	
Chlorobenzene	N		ND		ND			ND		ND			ND		ND	
Ethylbenzene	N		ND		ND		1	0.34 J	0.34	0.34 J	SS-01, 0" - 6"		ND		ND	
Styrene			ND		ND			ND		ND			ND		ND	
Xylene (Total)	N		ND		ND		1	0.43 J	0.43	0.43 J	SS-01, 0" - 6"		ND		ND	
trans-1,4-Dichloro-2-butene			ND		ND			ND		ND			ND		ND	
Ethyl methacrylate			ND		ND			ND		ND			ND		ND	
1,2,3-Trichloropropane			ND		ND			ND		ND			ND		ND	
Ethanol			ND		ND			ND		ND			ND		ND	
SEMIVOLATILE COMPOUNDS																
Phenol	N		ND		ND			ND		ND			ND		ND	
4-Methylphenol	N		ND		ND		1	13	13	13	SS-01, 0" - 6"		ND		ND	
Naphthalene	N		ND		ND			ND		ND		3	0.041 J	0.18	0.42 J	SB-07, 0" - 6"
4-Chloro-3-methylphenol			ND		ND		1	0.67 J	0.67	0.67 J	SS-01, 0" - 6"		ND		ND	
2-Methylnaphthalene	N	1	0.12 J	0.12	0.12 J	SS-13, 0" - 6"	1	1.1 J	1.1	1.1 J	SS-01, 0" - 6"	2	0.048	0.074	0.12 J	SB-07, 0" - 6"
Acenaphthene	N		ND		ND			ND		ND		3	0.11 J	0.21	0.37 J	SB-07, 0" - 6"
Dibenzofuran	N		ND		ND			ND		ND		2	0.041 J	0.13	0.22 J	SB-07, 0" - 6"
2,4-Dinitrotoluene			ND		ND			ND		ND			ND		ND	
Diethylphthalate			ND		ND			ND		ND		1	2.6	2.6	2.6	SS-11, 0" - 6"
Fluorene	N		ND		ND			ND		ND		2	0.12 J	0.22	0.32 J	SB-07, 0" - 6"
N-Nitrosodiphenylamine (1)			ND		ND			ND		ND			ND		ND	
Phenanthrene	N		ND		ND		2	0.87 J	1.6	2.4 J	SS-04, 0" - 6"	11	0.057 J	0.54	2.7 J	SB-07, 0" - 6"
Anthracene	N		ND		ND		5	0.50 J	0.74	1.4 J	SS-04, 0" - 6"	7	0.046 J	0.21	0.64 J	SB-07, 0" - 6"
Di-n-butylphthalate			ND		ND			ND		ND			ND		ND	
Fluoranthene	N	1	0.067 J	0.067	0.067 J	SS-12, 0" - 6"	2	0.57 J	1.6	2.6 J	SS-04, 0" - 6"	14	0.045 J	0.65	3.1	SB-07, 0" - 6"
Pyrene	N	1	0.10 J	0.10	0.10 J	SS-12, 0" - 6"	5	0.52 J	1.4	2.6 J	SS-04, 0" - 6"	14	0.043 J	0.53	2.4 J	SB-07, 0" - 6"

TABLE 1
(Page 2 of 3)
WILLIAMS PIPE LINE COMPANY 12TH ST TERMINAL
BURN POND SUPERFUND SITE

Summary of Concentrations of Site Contaminants Detected in Surface Soils During Phase I RI
(Results in milligrams/kilogram)

	Previous C of C	Background Surface Soils (n = 2)					Burn Pond Surface Soils (n = 5)					Surface Soils Outside Burn Pond (n = 18)				
		Number of Detections	Minimum Concen- tration	Average Concen- tration	Maximum Concen- tration	Location of Maximum Detection	Number of Detections	Minimum Concen- tration	Average Concen- tration	Maximum Concen- tration	Location of Maximum Detection	Number of Detections	Minimum Concen- tration	Average Concen- tration	Maximum Concen- tration	Location of Maximum Detection
Benzo(a)anthracene		1	0.072 J	0.72	0.072 J	SS-12, 0' - 6'	1	1.0 J	1.0	1.0 J	SS-04, 0' - 6'	12	0.043 J	0.37	1.5 J	SB-07, 0' - 6'
Chrysene	Y	1	0.11 J	0.11	0.11 J	SS-12, 0' - 6'	1	1.1 J	1.1	1.1 J	SS-04, 0' - 6'	13	0.039 J	0.27	1.3 J	SB-07, 0' - 6'
bis(2-Ethylhexyl)phthalate	Y	1	0.13 J	0.13	0.13 J	SS-12, 0' - 6'	1	0.79 J	0.79	0.79 J	SS-01, 0' - 6'	8	0.051 J	0.20	0.46 J	SB-07, 0' - 6'
Benzo(b)fluoranthene	Y	1	0.11 J	0.11	0.11 J	SS-12, 0' - 6'	1	0.53 J	0.53	0.53 J	SS-04, 0' - 6'	11	0.058 J	0.38	1.3 J	SB-07, 0' - 6'
Benzo(k)fluoranthene	Y	1	0.10 J	0.10	0.10 J	SS-12, 0' - 6'	1	0.63 J	0.63	0.63 J	SS-04, 0' - 6'	11	0.061 J	0.29	1.2	SB-07, 0' - 6'
Benzo(a)pyrene	Y	1	0.090 J	0.090	0.090 J	SS-12, 0' - 6'	1	0.63 J	0.63	0.63 J	SS-04, 0' - 6'	12	0.038 J	0.35	1.4	SB-07, 0' - 6'
Indeno(1,2,3-cd)pyrene	Y	1	0.072 J	0.072	0.072 J	SS-12, 0' - 6'		ND		ND		6	0.059 J	0.22	0.73	SB-07, 0' - 6'
Dibenz(a,h)anthracene			ND		ND			ND		ND		1	0.33 J	0.33	0.33 J	SB-07, 0' - 6'
Benzo(g,h,i)perylene		1	0.10 J	0.10	0.10 J	SS-12, 0' - 6'		ND		ND		7	0.059 J	0.28	0.74	SB-08, 0' - 6'
7,12-Dimethylbenzo(a)anthracene			ND		ND			ND		ND			ND		ND	
Diphenylamine			ND		ND			ND		ND			ND		ND	
PESTICIDE/AROCLOL COMPOUNDS																
Heptachlor epoxide	Y	1	0.0011 J	0.0011	0.0011 J	SS-13, 0' - 6'		ND		ND		2	0.00074 J	0.0074	0.014 J	SB-11, 0' - 6'
Dieldrin	N	1	0.0031 J	0.0031	0.0031 J	SS-13, 0' - 6'		ND		ND			ND		ND	
Endrin	N		ND		ND			ND		ND		1	0.020	0.020	0.020	SB-16, 0' - 6'
Methoxychlor	N		ND		ND			ND		ND			ND		ND	
Endrin ketone		1	0.0074 J	0.0074	0.0074 J	SS-12, 0' - 6'		ND		ND		1	0.0039 J	0.0039	0.0039 J	SB-16, 0' - 6'
Endrin aldehyde			ND		ND		1	0.13 J	0.13	0.13 J	SS-05, 0' - 6'		ND		ND	
alpha-Chlordane	N		ND		ND			ND		ND		2	0.0019 J	0.0036	0.0052 J	SB-11, 0' - 6'
gamma-Chlordane	N		ND		ND			ND		ND		3	0.0011 J	0.010	0.019	SS-06, 0' - 6'
Aroclor-1254	Y		ND		ND			ND		ND		13	0.049 J	0.77	7.5	SB-14, 0' - 6'
HERBICIDE COMPOUNDS																
2,4-D			ND		ND			ND		ND			ND		ND	
2,4-DB			ND		ND			ND		ND			ND		ND	
2,4,5-T			ND		ND		1	0.0083 J	0.0083	0.0083 J	SS-01, 0' - 6'	1	0.0002 J	0.0002	0.0002 J	SB-08, 0' - 6'
2,4,5-TP (Silvex)			ND		ND			ND		ND		1	0.00038 J	0.00038	0.00038 J	SB-11, 0' - 6'
Dalapon		1	0.0029 J	0.0029	0.0029 J	SS-13, 0' - 6'		ND		ND			ND		ND	
Dicamba			ND		ND			ND		ND			ND		ND	
Dichloroprop			ND		ND			ND		ND			ND		ND	
Dinoseb			ND		ND			ND		ND			ND		ND	
MCPA			ND		ND			ND		ND			ND		ND	
MCPP			ND		ND			ND		ND			ND		ND	
DIOXIN AND FURAN																
Total HxCDD			NA		NA			ND		ND			NA		NA	
1234678-HpCDD			NA		NA		2	0.00004	0.00007	0.00010	SS-01, 0' - 6'		NA		NA	
Total HpCDD			NA		NA		2	0.00004	0.00013	0.00021	SS-01, 0' - 6'		NA		NA	
OCDD			NA		NA		1	0.00082	0.00082	0.00082	SS-01, 0' - 6'		NA		NA	
Total TCDF			NA		NA		2	0.00003	0.00004	0.00004	SS-01, 0' - 6'		NA		NA	
Total PeCDF			NA		NA		2	0.00014	0.00027	0.00039	SS-03, 0' - 6'		NA		NA	
234678-HxCDF			NA		NA		1	0.00001 J	0.00001	0.00001 J	SS-03, 0' - 6'		NA		NA	
Total HxCDF			NA		NA		2	0.00015 J	0.00017	0.00018 J	SS-01, 0' - 6'		NA		NA	
1234678-HpCDF			NA		NA		2	0.00001 M	0.00002	0.00002	SS-01, 0' - 6'		NA		NA	
Total HpCDF			NA		NA		2	0.00004	0.00008	0.00012	SS-01, 0' - 6'		NA		NA	
OCDF			NA		NA		1	0.00008	0.00008	0.00008	SS-01, 0' - 6'		NA		NA	
TPH-IR																
TPH-IR		1	34	34	34	SS-13, 0' - 6'	5	190	1140	4000	SS-05, 0' - 6'	10	33	87	360	SB-09, 0' - 6'

TABLE 1
(Page 3 of 3)
WILLIAMS PIPE LINE COMPANY 12TH ST TERMINAL
BURN POND SUPERFUND SITE

Summary of Concentrations of Site Contaminants Detected in Surface Soils During Phase I RI
(Results in milligrams/kilogram)

	Previous C of C	Background Surface Soils (n = 2)					Burn Pond Surface Soils (n = 5)					Surface Soils Outside Burn Pond (n = 16)				
		Number of Detections	Minimum Concen- tration	Average Concen- tration	Maximum Concen- tration	Location of Maximum Detection	Number of Detections	Minimum Concen- tration	Average Concen- tration	Maximum Concen- tration	Location of Maximum Detection	Number of Detections	Minimum Concen- tration	Average Concen- tration	Maximum Concen- tration	Location of Maximum Detection
TOTAL METALS																
Aluminum		2	9230	10400	11500 J	SS-13, 0' - 6"	5	7990	10800	13200	SS-01, 0' - 6"	16	2080	8550	17700	SS-11, 0' - 6"
Antimony	Y		ND		ND			ND		ND			ND		ND	
Arsenic	Y	2	5.9	6.6	7.2 J	SS-12, 0' - 6"	5	5.5 J	13	22.9 J	SS-03, 0' - 6"	16	5.1 J	26	119 J	SS-06, 0' - 6"
Barium	N	2	161	183	205	SS-12, 0' - 6"	5	134	153	178	SS-01, 0' - 6"	16	74.9 J	201	430J	SB-10, 0' - 6"
Beryllium	N	1	0.58	0.58	0.58	SS-13, 0' - 6"		ND		ND		2	0.13 J	0.28	0.4	SB-12, 0' - 6"
Cadmium	N						2	0.87 J	0.99	1.1 J	SS-04, 0' - 6"	11	0.29 J	0.7	2.2	
Calcium		2	7360 J	9680	12000	SS-12, 0' - 6"	5	4380	18100	55900	SS-03, 0' - 6"	16	6800	25500	71600 J	SB-06, 0' - 6"
Chromium	N	2	12.4	13.7	14.9	SS-13, 0' - 6"	5	20.5	23	27.2	SS-01, 0' - 6"	16	5 J	14	26.8	SB-10, 0' - 6"
Cobalt	N	2	7.6	9.7	11.8	SS-13, 0' - 6"	5	8.3	10	11.8	SS-04, 0' - 6"	16	3.7	9	13.7	SS-11, 0' - 6"
Copper	N	2	14.7	14.9	15	SS-12, 0' - 6"	5	22.2	30.8	38.3	SS-04, 0' - 6"	16	4.8 J	16.2	49.6	SS-11, 0' - 6"
Iron		2	15300	15600	15900	SS-13, 0' - 6"	5	14200	23300	51800	SS-04, 0' - 6"	16	75300 J	15800	28300	SS-11, 0' - 6"
Lead	N	2	21.2	22.4	23.6 J	SS-12, 0' - 6"	5	148	222	436	SS-04, 0' - 6"	16	9.4 J	48.8	122	SS-11, 0' - 6"
Magnesium		2	3550	3790	4030 J	SS-13, 0' - 6"	5	3050 J	3840	4690 J	SS-03, 0' - 6"	16	3260	7600	21500 J	SS-06, 0' - 6"
Manganese	Y	2	839	940	1040 J	SS-13, 0' - 6"	5	543	934	1450	SS-03, 0' - 6"	16	823 J	1910	8130 J	SB-10, 0' - 6"
Mercury	N	2	ND		ND		1	0.39	0.39	0.39	SS-04, 0' - 6"	1	0.13	0.13	0.13	SB-06, 0' - 6"
Molybdenum		2	1.5	1.75	2	SS-12, 0' - 6"	5	1.1	2.3	5	SS-04, 0' - 6"	16	0.87	1.9	3.9 J	SB-10, 0' - 6"
Nickel	N	2	17.1	19.5	21.8	SS-13, 0' - 6"	5	17.4	22.4	26.5	SS-04, 0' - 6"	16	11	20.2	32.5 J	SB-10, 0' - 6"
Potassium		2	1730	1930	2130	SS-12, 0' - 6"	5	958	1290	1810	SS-01, 0' - 6"	16	432	1470	3030	SS-11, 0' - 6"
Selenium	N	1	0.4	0.4	0.4	SS-12, 0' - 6"	3	0.28	0.38	0.53	SS-01, 0' - 6"	9	0.2 J	0.5	1.2	SS-11, 0' - 6"
Silver	N		ND		ND			ND		ND			ND		ND	
Sodium		1	304	304	304	SS-12, 0' - 6"	5	186	219	316	SS-01, 0' - 6"	10	80.2	181	359	SS-11, 0' - 6"
Thallium	N		ND		ND			ND		ND		1	0.29	0.29	0.29	SS-10, 0' - 6"
Vanadium	N	2	19.9	24.1	28.3	SS-13, 0' - 6"	5	20.1	24.2	29	SS-01, 0' - 6"	16	7.4 J	22.5	44.7	SS-11, 0' - 6"
Zinc	N	2	62 J	70.1	78.1	SS-12, 0' - 6"	5	91	112	135	SS-01, 0' - 6"	16	25.7 J	104	388	SS-11, 0' - 6"

Only detect compounds are listed. Minimum detections reported are above the analysis detection limit.

ND = Not Detected

J = Estimated Concentration

JN = Numerical Value Represents Approximate Concentration

M = Estimated Maximum Concentration

n = number of samples

Previous C of C = Previous chemical of concern as reported in the EPA Conceptual Site Model, April 16, 1992. Blanks indicate that the compound was not included in the April 16, 1992 report. Y = yes, N = no
Duplicate samples were collected during the Phase I RI. Duplicate detections were not included in the Number of Detections, however, duplicate results were used to calculate the Average Detection.

TABLE 2
(Page 1 of 2)
WILLIAMS PIPE LINE COMPANY 12TH ST TERMINAL
BURN POND SUPERFUND SITE

Summary of Concentrations of Site Contaminants Detected in Subsurface Soils During Phase I RI
(Results in milligrams/kilogram)

	Previous C or C	Background Subsurface Soils (n = 21)					Burn Pond Subsurface Soils (n = 15)					Subsurface Soils Outside Burn Pond (n = 109)				
		Number of Detections	Minimum Concen- tration	Average Concen- tration	Maximum Concen- tration	Location of Maximum Concentration	Number of Detections	Minimum Concen- tration	Average Concen- tration	Maximum Concen- tration	Location of Maximum Concentration	Number of Detections	Minimum Concen- tration	Average Concen- tration	Maximum Concen- tration	Location of Maximum Concentration
VOLATILE COMPOUNDS																
Methylene Chloride	N		ND		ND		6	0.18 J	6.4	43 J	SB-04, 3.0' - 3.4'	25,000	0.002 J	0.930	21	SB-07, 10' - 15'
Acetone	N	9	0.008 J	0.011	0.024 J	SB-26, 48' - 50'	1	32 J	32	32 J	SB-01, 02' - 04'	20,000	0.001 J	1.500	19 J	SB-11, 10' - 15'
Carbon Disulfide	N	1	0.005 J	0.005	0.005 J	SB-26, 58' - 60'		ND		ND		1,000	0.003 J	0.003	0.003 J	SB-11, 45' - 50'
1,1-Dichloroethane			ND		ND			ND		ND		1,000	0.002 J	0.002	0.002 J	SB-13, 05' - 10'
trans-1,2-Dichloroethane			ND		ND			ND		ND		2,000	0.13 J	0.140	0.14 J	SB-09, 05' - 10'
2-Butanone	N	4	0.029 J	0.053	0.075 J	SB-27, 48' - 50'	4	6.6 J	24	72 J	SB-01, 02' - 04'	13,000	0.029 J	7.000	11	SB-11, 05' - 10'
																SB-11, 30' - 35'
Vinyl acetate			ND		ND		1	36 J	36	36 J	SB-01, 04' - 06'		ND		ND	
1,1,1-Trichloroethane			ND		ND			ND		ND		1,000	0.005 J	0.005	0.005 J	SB-13, 05' - 10'
Bromodichloromethane			ND		ND			ND		ND		1,000	0.14 J	0.140	0.14 J	SB-09, 05' - 10'
1,2-Dichloropropane			ND		ND			ND		ND		2,000	0.14 J	0.150	0.16 J	SB-09, 15' - 20'
cis-1,3-Dichloropropane			ND		ND			ND		ND		2,000	0.14 J	0.220	0.26 J	SB-09, 15' - 20'
Trichloroethane	N		ND		ND			ND		ND		2,000	0.14 J	0.150	0.16 J	SB-09, 15' - 20'
1,1,2-Trichloroethane			ND		ND			ND		ND		1,000	0.16 J	0.180	0.20 J	SB-09, 15' - 20'
Benzene	N		ND		ND		11	0.28 J	6.7	23 J	SB-01, 04' - 06'	7,000	0.14 J	0.740	3.7 J	SB-07, 10' - 15'
Bromofom			ND		ND			ND		ND		1,000	0.21 J	0.210	0.21 J	SB-09, 15' - 20'
4-Methyl-2-Pentanone			ND		ND		1	2.1 J	2.1	2.1 J	SB-05, 01' - 01.5'	2,000	0.002 J	0.005	0.007 J	SB-13, 00' - 05'
2-Hexanone			ND		ND			ND		ND		1,000	0.022	0.022	0.022	SB-15, 00' - 05'
Tetrachloroethane			ND		ND			ND		ND		1,000	0.16 J	0.160	0.16 J	SB-09, 15' - 20'
Toluene	N	2	0.001 J	0.002	0.002 J	SB-26, 54' - 55'	15	3.2 J	52	200 J	SB-01, 04' - 06'	22,000	0.22 J	4.900	44,000	SB-07, 10' - 15'
Chlorobenzene	N	1	0.001 J	0.001	0.001 J	SB-27, 15' - 30'		ND		ND		2,000	0.17 J	0.180	0.20 J	SB-09, 15' - 20'
Ethylbenzene	N	1	0.001 J	0.001	0.001 J	SB-27, 39' - 40'	15	2.2 J	22	57 J	SB-01, 04' - 06'	29,000	0.016 J	4.700	23,000	SB-16, 15' - 20'
Styrene			ND		ND			ND		ND		3,000	0.13 J	0.190	0.28 J	SB-09, 15' - 20'
Xylene (Total)	N	5	0.002 J	0.036	0.16 J	SB-26, 10' - 15'	15	5.3 J	69	240 J	SB-05, 03' - 03.5'	35,000	0.009 J	15,000	60,000	SB-06, 10' - 15'
trans-1,4-Dichloro-2-butene			ND		ND			ND		ND		2,000	7.2 J	9.100	11,000	SB-09, 20' - 25'
Ethyl methacrylate			ND		ND		6	0.66 J	1.8	2.8 J	SB-02, 04' - 05'	7,000	0.40 J	1.200	2,500	SB-09, 20' - 25'
1,2,3-Trichloropropane			ND		ND			ND		ND		1,000	0.16 J	0.160	0.16 J	SB-07, 00' - 05'
Ethanol		3	0.011 J	0.17	0.40 J	SB-26, 58' - 60'	1	10 J	10	10 J	SB-03, 00' - 02'	2,000	16 J	610,000	1200 J	SB-11, 30' - 35'
SEMIVOLATILE COMPOUNDS																
Phenol	N		ND		ND		3	8.9 J	19	32 J	SB-01, 00' - 02'		ND		ND	
4-Methylphenol	N		ND		ND			ND		ND			ND		ND	
Naphthalene	N		ND		ND		15	2.7 J	53	210,000	SB-01, 00' - 02'	28,000	0.000	6.900	44,000	SB-07, 10' - 15'
4-Chloro-3-methylphenol			ND		ND			ND		ND			ND		ND	
2-Methylnaphthalene	N		ND		ND		15	10,000	169	620,000	SB-01, 00' - 02'	33,000	0.039 J	23,000	110,000	SB-07, 10' - 15'
Acenaphthene	N		ND		ND		11	2.3	8.5	22 J	SB-01, 04' - 06'	29	0.052 J	1.0	4.6	SB-16, 20' - 25'
Dibenzofuran	N		ND		ND		11	2.8	9.7	28 J	SB-01, 02' - 04'	21	0.088	0.98	3.8	SB-16, 20' - 25'
2,4-Dinitrotoluene			ND		ND			ND		ND		1	1.7 J	1.7	1.7 J	SB-09, 10' - 15'
Diethylphthalate			ND		ND			ND		ND			ND		ND	
Fluorene	N		ND		ND		12	4.0	16	33 J	SB-01, 02' - 04'	31	0.080 J	1.6	7.9	SB-16, 20' - 25'
N-Nitrosodiphenylamine (1)			ND		ND			ND		ND		3	0.36 J	0.91	2.0 J	SB-09, 15' - 20'
Phenanthrene	N		ND		ND		15	5.1 J	61	190	SB-01, 00' - 02'	36	0.061	6.4	24 J	SB-07, 10' - 15'
Anthracene	N		ND		ND		1	7.3 J	7.3	7.3 J	SB-04, 02' - 04'	4	0.036 J	0.40	0.82	SB-15, 00' - 05'
Di-n-butylphthalate	N		ND		ND		3	3.9 J	10	19	SB-05, 02' - 04'	5	0.044	0.069	0.078	SB-15, 10' - 15'
																SB-15, 30' - 35'
Fluoranthene	N		ND		ND			ND		ND		5	0.062 J	1.1	6.3	SB-15, 00' - 05'
Pyrene	N		ND		ND		4	2.0	5.9	15 J	SB-01, 00' - 02'	17	0.043 J	0.66	5.2	SB-15, 00' - 05'
Benzo(a)anthracene			ND		ND			ND		ND		4	0.065	0.83	3.1	SB-15, 00' - 05'
Chrysene	Y		ND		ND			ND		ND		4	0.063	0.88	3.3	SB-15, 00' - 05'
bis(2-Ethylhexyl)phthalate	Y	13	0.041 J	0.8	2.7 J	SB-26, 50' - 55'		ND		ND		61	0.049 J	2.1	6.7	SB-15, 45' - 50'
Benzo(b)fluoranthene	Y		ND		ND			ND		ND		4	0.048 J	0.72	2.7	SB-15, 00' - 05'
Benzo(k)fluoranthene	Y		ND		ND			ND		ND		3	0.045 J	0.84	2.7	SB-15, 00' - 05'
Benzo(a)pyrene	Y		ND		ND			ND		ND		3	0.043	0.82	3.1	SB-15, 00' - 05'
Indeno(1,2,3-cd)pyrene	Y		ND		ND			ND		ND		2	0.047	0.72	1.4	SB-15, 00' - 05'
Dibenz(a,h)anthracene			ND		ND			ND		ND		1	0.88	0.88	0.88	SB-15, 00' - 05'
Benzo(g,h,i)perylene			ND		ND			ND		ND		1	1.4	1.4	1.4	SB-15, 00' - 05'
7,12-Dimethylbenzo(a)anthracene			ND		ND			ND		ND		1	0.26	0.26	0.26	SB-15, 00' - 05'
Diphenylamine			ND		ND			ND		ND		1	0.32 J	0.32	0.32 J	SB-14, 10' - 15'

TABLE 2
(Page 2 of 2)
WILLIAMS PIPE LINE COMPANY 12TH ST TERMINAL
BURN POND SUPERFUND SITE

Summary of Concentrations of Site Contaminants Detected in Subsurface Soils During Phase I RI
(Results in milligrams/kilogram)

Results in Micrograms/Kilogram (dry weight)																
	Previous C or C	Background Subsurface Soils (n = 21)					Burn Pond Subsurface Soils (n = 15)					Subsurface Soils Outside Burn Pond (n = 109)				
		Number of Detections	Minimum Concentration	Average Concentration	Maximum Concentration	Location of Maximum Concentration	Number of Detections	Minimum Concentration	Average Concentration	Maximum Concentration	Location of Maximum Concentration	Number of Detections	Minimum Concentration	Average Concentration	Maximum Concentration	Location of Maximum Concentration
PESTICIDE/AROCLOL COMPOUNDS																
Heptachlor epoxide	Y		ND		ND			ND		ND		1	0.0011 J	0.0011	0.0011 J	SB-08, 00' - 05'
Dieldrin	N		ND		ND			ND		ND			ND		ND	
Endrin	N		ND		ND			ND		ND		2	0.0038 J	0.0039	0.004 J	SB-06, 20' - 25'
Methoxychlor	N		ND		ND			ND		ND		1	0.0083 J	0.0083	0.0083 J	SB-09, 40' - 45'
Endrin ketone			ND		ND			ND		ND			ND		ND	
Endrin aldehyde			ND		ND			ND		ND			ND		ND	
alpha-Chlordane	N		ND		ND			ND		ND		1	0.00059 J	0.00059	0.00059 J	SB-08, 00' - 05'
gamma-Chlordane	N		ND		ND			ND		ND		1	0.00073 J	0.00073	0.00073 J	SB-08, 00' - 05'
Aroclor-1254	Y		ND		ND			ND		ND		4	0.036 J	0.06	0.084 J	SB-12, 00' - 05'
HERBICIDE COMPOUNDS																
2,4-D		1	0.0012 J	0.0012	0.0012 J	SB-27, 15' - 30'		ND		ND		8	0.0044 J	0.0131	0.019 J	SB-06, 05' - 10'
2,4-DB		1	0.0022 J	0.0022	0.0022 J	SB-26, 05' - 10'	3	0.021 J	0.053	0.070 J	SB-01, 00' - 02'	2	0.001 J	0.0015	0.0019 J	SB-13, 05' - 10'
2,4,5-T		4	0.0012 J	0.0015	0.0021 J	SB-27, 20' - 25'		ND		ND		9	0.0002 J	0.0007	0.0014 J	SB-14, 30' - 35'
2,4,5-TP (Silvex)		3	0.00037 J	0.00066	0.0012 J	SB-27, 20' - 25'		ND		ND		7	0.00013 J	0.00034	0.001 J	SB-07, 15' - 20'
Dalapon		2	0.0047 J	0.0055	0.0084 J	SB-26, 10' - 15'		ND		ND			ND		ND	
Dicamba		8	0.0002 J	0.0005	0.001 J	SB-26, 25' - 30'	3	0.0039 J	0.010	0.018 J	SB-03, 00' - 02'	1	0.0008 J	0.0008	0.0008 J	SB-15, 20' - 25'
Dichloroprop		8	0.0039 J	0.0073	0.011 J	SB-27, 05' - 10'		ND		ND		4	0.0016 J	0.0043	0.0097 J	SB-06, 15' - 20'
Dinoseb			ND		ND			ND		ND			ND		ND	
MCPA	1	0.20 J	0.20	0.20 J	SB-27, 05' - 10'	6	2.5 J	11	32 J	SB-04, 02' - 04'	10	0.12 J	0.97	2.5 J	SB-08, 20' - 25'	
MCPP			ND		ND			ND		ND			ND		ND	
DIOXIN AND FURAN																
Total HxCDD			NA		NA		1	0.00001	0.00001	0.00001	SB-03, 00' - 02'		NA		NA	
1234678-HpCDD			NA		NA		5	0.00001	0.00003	0.00005	SB-01, 02' - 04'	SB-01, 02'	NA		NA	
Total HpCDD			NA		NA		5	0.00001	0.00003	0.00005	SB-03, 00' - 02'		NA		NA	
OCDD			NA		NA			ND		ND			NA		NA	
Total TCDF		2	0.000005	0.00001	0.00003	SB-03, 00' - 02'		0.000005	0.00001	0.00003	SB-03, 00' - 02'		NA		NA	
Total PeCDF		1	0.00007	0.00007	0.00007	SB-03, 00' - 02'		ND		ND			NA		NA	
234678-HxCDF			NA		NA			ND		ND			NA		NA	
Total HxCDF		4	0.00001 J	0.00005	0.00008 J	SB-03, 00' - 02'		0.00001 J	0.00005	0.00008 J	SB-03, 00' - 02'		NA		NA	
1234678-HpCDF		4	0.000004	0.00005	0.00022	SB-01, 00' - 02'		0.000004	0.00005	0.00022	SB-01, 00' - 02'		NA		NA	
Total HpCDF		4	0.000004	0.00008	0.00022	SB-01, 00' - 02'		0.000004	0.00008	0.00022	SB-01, 00' - 02'		NA		NA	
OCDF		4	0.000007 M	0.00007	0.00024	SB-01, 00' - 02'		0.000007 M	0.00007	0.00024	SB-01, 00' - 02'		NA		NA	
TPH-IR			ND		ND		15	1900	37100	200000	SB-02, 02' - 04'	43	51	4080	23000	SB-07, 10' - 15'
TOTAL METALS																
Aluminum		21	1410 J	7250	19600 J	SB-26, 35' - 40'	15	3120 J	7080	11600	SB-01, 00' - 02'	109	812	3120	11600 J	SB-15, 45' - 50'
Antimony	Y	2	2.3 J	3.2	4.2 J	SB-27, 10' - 15'	1	6.3 J	8.3	6.3 J	SB-04, 00' - 02'	3	2.5 J	2.8	3 J	SB-16, 30' - 35'
Arsenic	Y	21	2	5.7	14.3	SB-26, 20' - 25'	15	1.5 J	10.9	26.7 J	SB-01, 00' - 02'	108	2	6.1	20.8 J	SB-13, 35' - 40'
Barium	N	21	54.4	130	284	SB-27, 05' - 10'	15	69.9	129	248	SB-01, 02' - 04'	109	13.3	108	1340 J	SB-07, 40' - 45'
Beryllium	N		ND		ND			ND		ND		11	0.08	0.24	0.52	SB-10, 00' - 05'
Cadmium	N	10	0.29	0.47	0.93 J	SB-26, 45' - 50'	13	0.19	1	2.9 J	SB-01, 00' - 02'	41	0.26 J	0.84	2.4	SB-16, 45' - 50'
Calcium		21	4880 J	42600	62100	SB-27, 30' - 35'	15	8540 J	24800	70100 J	SB-05, 04' - 08'	109	1700 J	49000	172000 J	SB-13, 05' - 10'
Chromium	N	21	4.9 J	13.8	20.6	SB-26, 35' - 40'	15	10.3	34	124	SB-01, 02' - 04'	109	1.9 J	8.2	23.8	SB-15, 45' - 50'
Cobalt	N	21	3.7 J	8.9	12.7	SB-26, 05' - 10'	15	4.4	8.6	16	SB-04, 00' - 02'	109	1.8	5.6	20	SB-10, 45' - 50'
Copper	N	21	4.7 J	12.6	29.7	SB-26, 45' - 50'	15	12.5	41.1	110	SB-01, 00' - 02'	109	2 J	8	21.3	SB-08, 45' - 50'
Iron		21	8290	12900	20200	SB-26, 05' - 10'	15	7570 J	23600	102000 J	SB-04, 00' - 02'	109	3790 J	10400	27000 J	SB-13, 45' - 50'
Lead	N	21	2.9 J	8.9	14.8 J	SB-26, 35' - 40'	15	81.5 J	378	1210	SB-01, 02' - 04'	102	1.5	7.2	31 J	SB-08, 00' - 05'
Magnesium		21	3300 J	10500	20400	SB-26, 10' - 15'	15	3160	6590	18700	SB-05, 04' - 08'	109	404	7380	31600 J	SB-10, 05' - 10'
Manganese	Y	21	163	751	2590 J	SB-26, 10' - 15'	15	671	1000	1500	SB-04, 04' - 08'	109	93.9	745	3200 J	SB-08, 30' - 35'
Mercury	N	2	0.11	0.12	0.12	SB-27, 10' - 15'	2	0.47	0.53	0.59	SB-01, 00' - 02'	2	0.17	0.27	0.37	SB-12, 45' - 50'
Molybdenum		21	0.59	1.5	4.1	SB-26, 40' - 45'	11	0.92	2.9	13	SB-04, 00' - 02'	87	0.85	2.0	6.0	SB-08, 40' - 45'
Nickel	N	21	9.4	17.2	28.6	SB-26, 05' - 10'	15	9.1 J	19.5	41.9	SB-04, 00' - 02'	105	4	13.2	39.6	SB-09, 45' - 50'
Potassium		21	314	1220	2910	SB-26, 35' - 40'	12	363	931	1530	SB-01, 00' - 02'	83	149	659	2040	SB-15, 45' - 50'
Selenium	N	8	0.26 J	0.94	2.9 J	SB-26, 45' - 50'	4	0.08	0.21	0.38	SB-01, 02' - 04'	38	0.11	2.3	28.9 J	SB-12, 45' - 50'
Silver			ND		ND			ND		ND		1	0.89	0.89	0.89	SB-07, 40' - 45'
Sodium		16	143	209	301	SB-27, 15' - 20'	5	79.9	147	253	SB-01, 02' - 04'	64	60.4	138	828	SB-13, 05' - 10'
Thallium	N	9	0.21	0.3	0.44	SB-27, 10' - 15'	2	0.22	0.28	0.29 J	SB-01, 02' - 04'	7	0.25	0.3	0.39	SB-16, 45' - 50'
Vanadium	N	21	7.3	27.1	54.9	SB-26, 40' - 45'	15	8.9 J	17.2	28.8	SB-01, 00' - 02'	109	4.6 J	18.1	54.5 J	SB-15, 45' - 50'
Zinc	N	18	19.6	40.4	59.2	SB-26, 05' - 10'	15	46.5	107	245	SB-01, 02' - 04'	109	10 J	28.6	62.4	SB-16, 40' - 45'

Only detect compounds are listed. Minimum detections reported are above the analysis detection limit.

ND = Not Detected

J = Estimated Concentration

M = Estimated Maximum Concentration

n = approximate number of samples

Previous C or C = Previous chemical of concern as reported in the EPA Conceptual Site Model, April 16, 1992. Blanks indicate that the compound was not included in the April 16, 1992 report. Y = yes, N = no

Duplicate samples were collected during the Phase I RI. Duplicate detections were not included in the Number of Detections, however, duplicate results were used to calculate the Average Detection.

TABLE 3
(page 1 of 2)
WILLIAMS PIPE LINE COMPANY 12th ST TERMINAL
BURN POND SUPERFUND SITE

Summary of Chemical Concentrations of Compounds Detected in Groundwater Samples Collected
During Phase I, Phase II, and Previous Investigations
(Results in micrograms/liter)

ANALYTES	Previous (Non-Validated) Ground-water Samples			RI (Validated) Ground-water Samples		
	Minimum Detection ug/L	Maximum Detection ug/L	Location of Maximum Detection	Minimum Detection ug/L	Maximum Detection ug/L	Location of Maximum Detection
VOLATILES						
Acetone	6 J	170	EPA-4, 2/90	41 B	2500	B-4, 11/87
Benzene	0.7 J	2900	I-12, 10/88	1	5400	P-06, 9/92
Bromochloromethane	NA	NA		12	12	EPA-3, 11/87
Bromodichloromethane	1	27	Cramers, 7/88	5	11	MW-49, 10/93
2-Butanone	ND	ND		57 B	57 B	B-1, 3/87
n-Butylbenzene	NA	NA		2	7 J	RW-5, 10/93
Carbon Disulfide	9	17	EPA-3, 8/88	ND	ND	
Chlorobenzene	3.5	1.732050	B-4, 3/87	ND	ND	
Chloroform	0.5 J	73	Cramers, 7/88	0.9 B	32	MW-49, 10/93
1,2-Dibromoethane				6J	6J	P-06, 9/92
Dibromochloromethane	0.4 J	15	Cramers, 7/88	1	6	EPA-3, 11/87
1,2-Dichlorobenzene	ND	ND		10 J	10 J	B-10, 11/87
1,1-Dichloroethane	0.7 J	0.7 J	DB-12R, 2/90	1	1	DB-12R, 9/92 MW-43D, 9/92
1,2-Dichloroethane	0.5 J	47 J	MW-44D, 2/90	2	86	P-06, 9/92
cis-1,2-Dichloroethene				2	2	MW-43D, 9/92
1,2-Dichloropropane	4	4	MW-44D, 2/90	ND	ND	
Ethylbenzene	8.8	2800	I-12, 10/88	1	2100	P-06, 9/92
Isopropylbenzene	ND	ND		1	66	P-06, 9/92
p-Isopropyltoluene	NA	NA		2	5 J	MW-43D, 10/93
Methylene Chloride	0.9 J	100	B-2, 3/87	1 B,J	78	B-12, 11/87
Naphthalene	NA	NA		2	8600	P-06, 9/92
n-Propylbenzene	NA	NA		1	180	P-06, 9/92
Tetrachloroethene	ND	ND		8 J	8 J	B-2, 11/87
Toluene	0.2 J	2900	I-12, 10/88	0.6 B,J	2200	P-06, 9/92
1,1,1-Trichloroethane	0.3 J	2 J	MW-57, 2/90	0.8	0.8	DB-12R, 9/92
1,2,3-Trichloropropane	ND	ND		1	270	P-06, 9/92
1,2,4-Trimethylbenzene	NA	NA		00.68	1400	P-06, 9/92
1,3,5-Trimethylbenzene	NA	NA		2	550	P-06, 9/92
Xylenes (total)	0.5 J	4500	I-12, 10/88	16	6900	P-06, 9/92
SEMIVOLATILES						
Acenaphthene	ND	ND		1	600 J	B-2, 11/87
Acenaphthylene	290	290	B-2, 3/87	ND	ND	
Benzoic Acid	ND	ND		1	50	PZ92-04, 10/93
bis(2-ethylhexyl)phthalate	3 J	1000	B-1, 3/87	4 J	63	EPA-4, 11/87
Cyclohexane (C6H12)	NA	NA		4 J	33 J	B-2, 3/87
Dibenzofuran	ND	ND		1	590 J	B-2, 11/87
Di-n-butyl phthalate	ND	ND		1	3	Burn Pond, 9/92
Ethyl methyl benzene	NA	NA		26 J	200 J	B-1, 3/87
Fluoranthene	ND	ND		130	130	B-1, 3/87
Fluorene	1	3600	B-1, 3/87	1	950 J	B-2, 11/87
2-Methylnaphthalene	33	48	I-12, 10/88	1	11000 J	B-2, 11/87
2-Methylphenol	ND	ND		1	130	B-1, 3/87
4-Methylphenol	ND	ND		2	120	PZ92-04, 10/93
Naphthalene	1 J	19000	B-1, 3/87	6	3700 J	B-2, 11/87
2-Nitrophenol	ND	ND		120	120	B-1, 3/87
Phenanthrene	1 J	11000	B-1, 3/87	1	2400 J	B-2, 11/87
Phenol	ND	ND		2 J	680	SW Tours, 11/87
Phthalate	NA	NA		360 J	390 J	B-1, 3/87
Pyrene	ND	ND		3 J	68	B-1, 3/87
Trimethyl benzene	NA	NA		300 J	300 J	B-1, 3/87

TABLE 3
(page 2 of 2)
WILLIAMS PIPE LINE COMPANY 12th ST TERMINAL
BURN POND SUPERFUND SITE

Summary of Chemical Concentrations of Compounds Detected in Groundwater Samples Collected
During Phase I, Phase II, and Previous Investigations
(Results in micrograms/liter)

ANALYTES	Non-Validated Ground-water Samples			Validated Ground-water Samples		
	Minimum Detection ug/L	Maximum Detection ug/L	Location of Maximum Detection	Minimum Detection ug/L	Maximum Detection ug/L	Location of Maximum Detection
PESTICIDES						
Aldrin	0.015	0.082	B-10, 7/88	0.3 J	1.0 J	B-2, 11/87
Alpha-BHC	ND	ND		0.09	0.09	EPA-4, 11/87
Beta-BHC	ND	ND		0.4 J	1.0 J	B-2, 11/87
Gamma-BHC	0.02	0.02	B-12, 7/88	1.0 J	1.0 J	B-2, 11/87
Gamma Chlordane	ND	ND		0.5	3	B-4/B-10, 11/87
4,4-DDD	ND	ND		3 J	3 J	B-2, 11/87
4,4-DDT	ND	ND		0.40 J	3 J	B-2, 11/87
Dieldrin	0.0064	0.1	B-10, 7/88	0.30 J	0.30 J	B-10/B-12, 11/87
Endosulfan I	0.087	0.18	B-10, 7/88	0.1	1	EPA-2, 11/87
Endosulfan Sulfate	ND	ND		0.10 J	1.0 J	B-2, 11/87
Endrin	0.085	0.085	B-10, 7/88	0.20 J	0.20 J	B-10, 11/87
Heptachlor	0.018	0.057	B-10, 7/88	0.05 J	0.90 J	B-2, 11/87
Heptachlor Epoxide	0.23	0.7	B-10, 7/88	ND	ND	
Methoxychlor	0.044	0.044	B-9, 7/88	ND	ND	
HERBICIDES						
2,4-DB	ND	ND		0.02 J	9.6 J	EPA-1, 9/92
Dicamba	NA	NA		0.02 J	0.02 J	DB-12R, 10/93
METALS						
Aluminum	9.80 J	5500	P-1, 1/89	324	47600 J	B-08, 9/92
Antimony	41.1	41.10 J	MW-44D, 2/90	42 J	90	B-4/B-12, 11/87
Arsenic	2.1 J	180	B-1, 3/87	1.8	394	MW-12, 10/93
Barium	88.4 J	6900	B-2, 3/87	35.4	22400 J	MW-58, 9/92
Beryllium	0.2	0.56 J	MW-44D, 2/90	ND	ND	
Cadmium	0.2	2.2	MW-3, 10/88	3.2 J	7 J	MW-58, 9/92
Calcium	78000	176000	MW-57, 2/90	24300	649000	P-4R, 9/92
Chromium	2	12000	P-1, 1/89	6	180	MW-58, 9/92
Cobalt	2.9 J	19	P-1, 1/89	11.7	125	MW-58, 9/92
Copper	2.2 J	57	P-1, 1/89	8.7 J	214	MW-58, 9/92
Iron	60	45000	P-1, 1/89	38 J	330000	DB-12R, 9/92
Lead	2	30	B-1, 3/87	0.64 J	176 J	MW-58, 9/92
Magnesium	20900	77300	MW-57, 2/90	3820	174000	P-4R, 9/92
Manganese	3.3 J	33000	P-1, 1/89	7.3 J	17200	MW-47, 9/92
Mercury	9.5	9.5	B-4, 3/87	0.24	0.8	B-2/MW-28, 11/87
Molybdenum	NA	NA		9.7	102	P-06, 9/92
Nickel	ND	3200	Westegaard, 10/88	12 J	268 J	MW-58, 9/92
Potassium	530	13000	P-1, 1/89	658 J	26200	Watson, C., 11/87
Selenium	2.2 J	7.40 J	MW-65, 2/90	2.2 J	13.8 J	P-06, 9/92
Silver	2.2 J	4.70 J	MW-57, 2/90	ND	ND	
Sodium	4900	61000	EPA-4, 8/88	1680	69100	EPA-4, 9/92
Vanadium	17	17	P-1, 1/89	7.3	396 J	MW-58, 9/92
Zinc	30	80	EPA-4, 8/88	5.7 J	29300	Watson, C., 11/87
FURANS/DIOXINS						
OCDF	NA	NA		0.072 J	0.072 J	MW-58, 10/93
TCDDs (Total)	NA	NA		0.2	0.2	B-8, 10/93
PeCDDs (Total)	NA	NA		0.49	0.49	B-8, 10/93
HxCDDs (Total)	NA	NA		0.23	0.23	B-8, 10/93
HpCDDs (Total)	NA	NA		0.13	0.13	MW-58, 10/93
1,2,3,4,6,7,8-HpCDD	NA	NA		0.097	0.097	MW-58, 10/93
OCDD	NA	NA		0.086 J	0.42	MW-58, 10/93

Only detected compounds listed

ug/l: Microgram per liter

Shading indicates results from Phase II RI

J: Quantitation estimated

ND: Not Detected

B: Compound detected in associated blank

NA: Not Analyzed

Source: Phase II Investigation Report

TABLE 4

**WILLIAMS PIPE LINE 12TH STREET TERMINAL
SUPERFUND SITE**

**Summary of Total Arsenic Detected in Groundwater
During the Phase I RI, Phase II RI, and Previous Investigations**

(Results in micrograms/liter)

MonitorWell	Mar-87	Nov-87	Aug-88	Oct-88	Jan-89	Feb-90	Jan-91	Sep-92	Oct-93
B-1	ND20S	NA	NA	NA	NA	NA	NA	NA	NA
B-2	ND20S	39	NA	NA	NA	NA	NA	NA	NA
B-3	ND20S	NA	NA	NA	NA	NA	NA	NA	NA
B-4	ND20S	39	NA	NA	NA	NA	NA	NA	NA
B-5	ND20S	NA	NA	NA	NA	NA	NA	NA	NA
B-8	NA	NA	NA	NA	NA	NA	NA	76	47.8
B-10	NA	19	NA	NA	NA	NA	NA	NA	NA
B-12	NA	18	NA	NA	NA	4.20*	NA	24.5	25.7J
DB-12R	NA	NA	NA	NA	NA	2.40*	NA	200	17.2
EPA-1	NA	4.4*	ND2.0	NA	NA	ND2.00	NA	ND2.0	1.8
EPA-2	NA	2.3*	ND2.0	NA	NA	NA	NA	NA	6.6
EPA-3	NA	2.8*	ND2.0	NA	NA	ND2.00	NA	20.8	40
EPA-4	NA	3.3*	ND2.0	NA	NA	NA	NA	2.6	ND3.6
EPA-5	NA	ND2.2	ND2.0	NA	NA	2.10*	NA	NA	NA
F-10	NA	NA	NA	ND2	NA	NA	NA	NA	NA
I-1	NA	NA	NA	NA	NA	NA	NA	NA	307
I-7	NA	NA	NA	NA	NA	NA	NA	NA	50.4
I-12	NA	NA	NA	ND2	NA	NA	NA	NA	NA
MW-3	NA	NA	NA	ND2	NA	NA	NA	NA	NA
MW-12	NA	NA	NA	NA	NA	NA	NA	NA	394
MW-39	NA	NA	NA	NA	NA	NA	NA	78.1	144
MW-42R	NA	NA	NA	NA	NA	NA	ND7	23.3	7.7
MW-43D	NA	NA	NA	NA	NA	3.10*	NA	24.9	24.4
MW-44D	NA	NA	NA	NA	NA	ND2.00	NA	NA	NA
MW-47	NA	NA	NA	NA	NA	NA	NA	167	368
MW-48	NA	NA	NA	NA	NA	NA	NA	ND2.0	66.2
MW-49	NA	NA	NA	NA	NA	NA	NA	19.3	159
MW-57	NA	NA	NA	NA	NA	4.90*	NA	64.5	3.5
MW-58	NA	NA	NA	NA	NA	NA	NA	16.4J	182
MW-65	NA	NA	NA	NA	NA	ND2.00	NA	30.8	25.8
MW-66	NA	NA	NA	NA	NA	2.20*	NA	7.7	67.0
P-1	NA	NA	NA	NA	ND50	NA	NA	NA	36.5
P-4R	NA	NA	NA	NA	NA	NA	NA	51.2	75.7
P-6	NA	NA	NA	NA	NA	NA	NA	108	108
P-11	NA	NA	NA	NA	NA	NA	NA	NA	198
P-13	NA	NA	NA	NA	NA	NA	NA	NA	90.4
P-14R	NA	NA	NA	NA	NA	NA	NA	NA	20.0
PZ92-04	NA	NA	NA	NA	NA	NA	NA	NA	60.6
EST	NA	NA	NA	NA	NA	NA	NA	21.1	29.9
RW-5	NA	NA	NA	NA	NA	NA	NA	11.3	30.9J

NA = Not Analyzed

ND = Not Detected, number refers to detection limit

J = Estimated Concentration

S = Indicates spike recovery is within control limits

* = compound was detected but below the contract detection limit

Source: Phase II Investigation Report

TABLE 5

**WILLIAMS PIPE LINE 12TH STREET TERMINAL
BURN POND SUPERFUND SITE**

**Summary of Arsenic Detected in Filtered Groundwater
During Phase I and Phase II RI**

(Results in micrograms/liter)

Monitor Well	Phase I Sep-92	Phase II Oct-93
B-8	ND2.0	ND1.0
B-12	2.5	ND2.4
DB-12R	ND2.0	3.6
EPA-1	ND2.0	ND1.0
EPA-2	NA	ND1.0
EPA-3	ND2.0	ND1.0
EPA-4	ND2.0	ND1.0
I-1	NA	ND2.6
I-7	NA	ND4.0
MW-12	NA	ND1.0
MW-39	ND2.0	ND1.0
MW-42R	ND2.0	ND1.0
MW-43D	19.5	22.3
MW-47	ND2.0	ND1.0
MW-48	ND2.0	ND1.0
MW-49	ND2.0	ND1.0
MW-57	2.2	ND1.0
MW-58	ND2.0	ND1.0
MW-65	ND2.0	ND1.0
MW-66	ND2.0	ND1.0
P-1	NA	7.5
P-4R	11.1	7.4
P-6	81.8	68.0J
P-11	NA	114
P-13	NA	64.2
P-14R	NA	15.6
PZ92-04	NA	45.7J
EST	21.5	27.0J
RW-5	11	39.9J

J = Estimated Concentration

ND = Not Detected; number following is the detection limit

NA = Not Analyzed

Source: Phase II Investigation Report

Table 6

WILLIAMS PIPE LINE TERMINAL SUPERFUND SITE

Contaminants of Concern (COCs) for
Phase I and II** Remedial Investigation

Soil	
VOCs: 2-methylnaphthalene* benzene dibenzofuran* Semivolatiles: acenaphthene anthracene benzo(a)anthracene benzo(a)pyrene benzo(b)fluoranthene benzo(g,h,i)perylene benzo(k)fluoranthene chrysene fluoranthene fluorene indeno(1,2,3-ed)pyrene phenanthrene pyrene	Dioxins/Furans: Total HxCDD 1234678-HpCDD Total HpCDD Total TCDF Total PeCDF 234678-HxCDF Total HxCDF 1234678-HpCDF Total HpCDF OCDF Metals: arsenic lead* PCBs: Aroclor-1254
Groundwater	
VOCs: 1,1-dichloroethane* 1,1,1-trichloroethane* 1,2-dibromoethane 1,2-dichloroethane 1,2,3-trichloropropane benzene bromodichloromethane chloroform dibromochloromethane naphthalene	Semivolatiles: 2-methylnaphthalene* 4-methylphenol* acenaphthene dibenzofuran* fluorene phenanthrene Metals: arsenic

* Qualitatively assessed in risk characterization

** Soils were addressed only in Phase I

Shaded chemicals were eliminated as COCs in Phase II BRA Screening

**TABLE 7
CANCER RISK ESTIMATES**

RECEPTOR	PATHWAY	CHEMICAL	AVERAGE EXPOSURE		REASONABLE MAXIMUM EXPOSURE	
			CHEMICAL-SPECIFIC RISK	TOTAL PATHWAY RISK	CHEMICAL-SPECIFIC RISK	TOTAL PATHWAY RISK
Current or future area resident	Ingestion of offsite groundwater	Arsenic (total)	2E-04	2E-04	1E-03	1E-03
Future onsite resident (adult)	Ingestion of onsite groundwater	Phenanthrene	0		2E-04	
		Benzene	3E-04		2E-03	
		Arsenic (total)	9E-05		6E-04	
		Arsenic (dissolved)	5E-05		4E-04	
				4E-04 (total As)		3E-03 (total As)
				4E-04 (dissolved As)		3E-03 (dissolved As)
Future onsite resident (child)	Inadvertent ingestion of burn pond surface soil	Benzo (a) anthracene	7E-05		1E-04	
		Benzo (b) fluoranthene	7E-05		1E-04	
		Benzo (k) fluoranthene	7E-05		1E-04	
		Indeno (1,2,3-cd) pyrene	6E-05		1E-04	
		Benzo (a) pyrene	7E-04		1E-04	
		Total PeCDF	2E-04		3E-04	
		Aroclor - 1254	1E-04		2E-04	
				1E-03		3E-03

Notes: 2E-04 = 2×10^{-4}

PeCDF = total pentachlorodibenzofuran

Total As = used unfiltered groundwater samples that included total analytical arsenic levels.

Dissolved As = used filtered groundwater samples that included dissolved analytical arsenic levels.

TABLE 8
CHRONIC NON-CANCER HAZARD QUOTIENT ESTIMATES

RECEPTOR	PATHWAY	CHEMICAL	AVERAGE EXPOSURE		REASONABLE MAXIMUM EXPOSURE	
			CHEMICAL-SPECIFIC HQ	TOTAL PATHWAY HQ	CHEMICAL-SPECIFIC HQ	TOTAL PATHWAY HQ
Current or future area resident	Ingestion of offsite groundwater	Arsenic (total)	24		167	
		Arsenic (dissolved)	0	24 (total As) 0.02 (dissolved As)	0	167 (total As) 0.1 (dissolved As)
Future onsite resident (adult)	Ingestion of onsite groundwater	Naphthalene	0.5		3.7	
		Arsenic (total)	12.7		89.8	
		Arsenic (dissolved)	7.3		51.7	
				13.6 (total As)		94 (total As)
				8.0 (dissolved As)		55 (dissolved As)
Future onsite resident (child)	Inadvertent ingestion of burn pond surface soil	Pyrene	0.2		0.4	
		Arsenic	5.3	5.5	10.7	11.1

Notes: HQ = Hazard Quotient

Total As = used unfiltered groundwater samples that included total analytical arsenic levels.

Dissolved As = used filtered groundwater samples that included dissolved analytical arsenic levels.

Dissolved Arsenic for this pathway is below the acceptable hazard quotient of 1 and is included for comparison purposes.

LETTER FROM THE STATE OF SOUTH DAKOTA



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

October 19, 1994

William P. Yellowtail, Regional Administrator
United States Environmental Protection Agency
Region VIII
999 18th Street - Suite 500
Denver, Colorado 80202-2466

Re: Record of Decision
Williams Pipe Line Disposal Pit Superfund Site
Sioux Falls, Minnehaha County, South Dakota

Dear Mr. Yellowtail:

This letter serves as official notice that the state of South Dakota, as represented by the Department of Environment and Natural Resources, concurs with the U.S. Environmental Protection Agency's Record of Decision concerning the Williams Pipe Line Disposal Pit Superfund Site. Under this Decision, the U.S. Environmental Protection Agency has decided that no further action is necessary at this Superfund site to protect human health and the environment. A minimum of two years of quarterly groundwater monitoring will be performed to verify that unacceptable exposure will not occur in the future. This Decision concerns only those contaminants regulated under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986.

Separate from this Decision is the ongoing assessment/ remediation of petroleum and nitrate contamination being performed at the site under the state's authority.

Sincerely,

A handwritten signature in dark ink, appearing to read "R. E. Roberts", is written over the typed name.

Robert E. Roberts
Secretary

cy: Tom Anderst, City Attorney's Office, Sioux Falls
Jerry Langley, Williams Pipe Line Company, Tulsa, OK

**RESPONSIVENESS SUMMARY FOR
WILLIAMS PIPE LINE DISPOSAL PIT SUPERFUND SITE
RECORD OF DECISION**

September 1994

**Environmental Protection Agency
Region VIII
Denver, Colorado**

**RESPONSIVENESS SUMMARY FOR
WILLIAMS PIPE LINE DISPOSAL PIT SUPERFUND SITE
RECORD OF DECISION**

This responsiveness summary provides an overview of public and the State of South Dakota's (State) reaction to the preferred alternative; background on community involvement; and summary of public comments and EPA's responses.

I. OVERVIEW

The preferred alternative stated in the Proposed Plan for the Williams Pipe Line Disposal Pit Superfund Site (Site) was "No Action with groundwater monitoring." The groundwater monitoring for 1 to 2 years was proposed to confirm that groundwater contamination from arsenic is not escaping from the Williams Pipe Line Terminal (Terminal) and presenting a potential drinking water risk. The Proposed Plan clearly stated that the No Action alternative pertained only to the Superfund work. It was assumed ongoing cleanup of groundwater petroleum contamination would continue under State authorities. Petroleum is exempt from regulation under the Superfund law.

The Proposed Plan was mailed to approximately 450 community residents, local officials, and interested parties. The public comment period ran from July 28 to August 27, 1994. No written comments were received.

A public meeting was held on August 16, 1994, at the Hayward Elementary School in Sioux Falls, South Dakota. The meeting was attended by numerous Williams Pipe Line Company representatives, several State employees, a county commissioner, a city attorney, and several local residents. During the meeting two citizens asked clarifying questions relating to the scope of the investigation and its findings.

Also on August 16, 1994, the EPA project manager, State project manager, and State hydrogeologist held a series of meetings with the staff of South Dakota national senators and representatives, one State representative, and city officials. The EPA project manager also met with one county commissioner on August 15th. The meetings were to answer questions these officials might have prior to the public meeting. Most of these people were unable to attend the public meeting.

The local officials appeared most concerned about continuing clean up of the petroleum related groundwater contamination at the Terminal. They appeared satisfied that the Proposed Plan stated that EPA's preferred alternative applied only to the Superfund Site and the petroleum clean up was and would continue to be handled under State authorities. The State also wanted to assure that Williams Pipe Line as well as the public understood the scope of the preferred remedy outlined in the Proposed Plan.

II. COMMUNITY INVOLVEMENT

More detail about past community involvement is provided in the Record of Decision. Several fact sheets were issued to keep the community informed during the Remedial Investigation (RI) process. In addition to the fact sheets issued during the RI, the Argus Leader newspaper published several articles that provided updates on the RI.

Inquiries about the investigation from citizens have been low to non-existent during the RI. This is in comparison to the considerable concern expressed by community and local officials when the Site was first discovered. Many of these early concerns were addressed when Williams Pipe Line and the State took steps to address the groundwater petroleum contamination that had spread beyond the Terminal boundaries.

III. SUMMARY OF PUBLIC COMMENTS AND EPA RESPONSES

COMMENT/QUESTION: Mr. Nelson Vollink asked whether groundwater samples were taken repeatedly farther away from the burn pond until no more contamination was found.

RESPONSE: No, the sampling was not designed as such. However, the sampling results did include a boundary of wells where no detection of contaminants was found. It should be noted that the investigation centered on areas to the north, east, and southeast of burn pond which is located in the eastern portion of the Terminal. Groundwater was sampled during two RI phases. A larger number of wells were sampled during the second phase. Dioxin and furans were only analyzed for during the second phase.

In most cases, no contamination was detected in the groundwater monitoring wells sampled outside the Terminal boundaries. The few exceptions are explained following.

- In one well north of the burn bond and Terminal a very low amount of 2,4-DB herbicide was found. This did not appear to be associated with the burn pond since several wells between the burn pond and the well were void of contamination. The levels also were low enough not to cause a health concern.
- Low levels of dioxin and furan compounds were found in two wells near the Terminal property. One well was located northeast of the burn pond and one southeast of the burn pond. No contaminants were found in a number of wells between each of these wells and between the wells and burn pond. Therefore, it was concluded that the contamination was not associated with the burn pond. Again, the levels and types of compounds found did not create a health threat.

- Total or unfiltered arsenic was found outside the Terminal boundaries. As explained in the Proposed Plan and Record of Decision (ROD), it is believed that no exposure to the total arsenic in groundwater is or will occur. This is mainly because the arsenic in these samples appears to be associated with sediment that was collected with the groundwater sample. Dissolved or filtered arsenic was not found outside of the Terminal boundaries.
- Several contaminants associated with petroleum were found in wells outside the Terminal property during the first phase of the RI. Additional wells were sampled during the second RI phase and only two contaminants associated with petroleum were found in one well southeast of the Terminal property. Again, a number of wells with no detection of these contaminants were located between the well and the burn pond. Petroleum is exempt from Superfund and the clean up of petroleum contamination is being addressed under State authorities.

COMMENT/QUESTION: Sue Brendon asked if there was any contamination found in the wells northeast of the burn pond and Terminal property near the residences.

RESPONSE: No contamination was found in the ground water monitoring wells during the RI in the area of the residences.

Contamination, mainly pesticides, were found in several of these wells during the listing investigation in 1987. Therefore, the ground water monitoring wells northeast of the Terminal property were sampled in both phases of the Remedial Investigation (RI).

Additionally, there is a groundwater recovery well located north of the burn pond which has influenced the direction of the groundwater flow. Data shows that the groundwater near the burn pond is being captured by the recovery well or groundwater interception trench located southeast of the burn pond. Groundwater is currently not moving from the burn pond to the area of concern northeast of the Terminal property.