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# REPORTS

DATE:
1990

# SCREENING SITE INSPECTION REPORT

# FOR

# AEREX REFINERY

# CITY OF BLOOMFIELD

# SAN JUAN COUNTY

NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION

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OCTOBER 1990

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# AEREX REFINERY
# SCREENING SITE INSPECTION

DATE: October 1990

PREPARED BY: Corazon M. Halasan, New Mexico Environmental Improvement Division

STREET ADDRESS: Southeast corner of Blanco Boulevard and Fifth Street

CITY: Bloomfield

COUNTY: San Juan

STATE: New Mexico

EPA ID #: NMD 980622765

## I. INTRODUCTION

The New Mexico Environmental Improvement Division (EID) conducted a Site Screening Inspection (SSI) of Aerex Refinery, an abandoned refinery in Bloomfield, New Mexico, in the summer and fall of 1990. This investigation was conducted to gather information needed to further evaluate the health and environmental threats posed by this site and to prepare a trial Hazardous Ranking System (HRS) package for the site. SSI work completed included sampling on-site soils, installing and sampling on-site monitor wells, conducting a neighborhood well survey, and gathering historical aerial photographs. This report presents the information collected during the SSI.

### A. Site Location

Aerex Refinery is located within the City of Bloomfield, San Juan County, in the northwestern corner of the state of New Mexico (Figures 1 and 2). Aerex Refinery is within the northwest 1/4 of Section 22 of Township 29 North, Range 11 West, and at latitute $36^0$ 46' 03" and longitude $107^0$ 59" 07". It is situated on the southeast corner of Fifth Street and Blanco Boulevard.

### B. Operations History

The source of limited information available about past operations at this site is a longtime Bloomfield resident, Bill Hare. The

Hare family owned and operated another refinery located about 1 1/2 miles east of the Aerex Refinery during the same time period. The information summarized below incorporates the interviews with Mr. Hare and aerial photography information.

According to Bill Hare, the original Aerex Refinery started operations at this location in 1931 or 1932. Aerial photographs taken in 1955, 1961, and 1981 show that the site was active until at least the 1960s and possibly up to early 1980s. The 1981 photograph shows that the eastern part of the site was dismantled. The original operations area involved roughly three times the acreage than the approximately 3.5 acres presently occupied by the ruins and debris. This SSI address only the abandoned eastern portion of the Aerex Refinery site. The western section is still actively occupied by an aboveground tank farm owned by Giant Refining Company.

Crude oil refining was only one type of operation that occurred at this site. Many different companies, including non-refinery concerns, have owned and/or operated businesses at this site. Aerex Refinery was simply the first operation at this location. Plateau Refining, Shell Oil Co., El Paso Products, and Malco are four companies known to have owned or operated refinery operations at this property. The current owner, Clayton Investment of Thriftway Marketing, is a gasoline and oil distributing company based in Farmington, NM. Little information about the operations under these companies is available. Plateau and Malco no longer exist as companies, and no record of this site is available in El Paso Products files according to company officials (Reference 8h, i). Thriftway acquired the property when the site was already vacant.

The original Aerex Refinery probably stopped operating in the 1950s. This refinery used fractional distillation to refine the crude oil produced from nearby wells (Reference 8b). The 1955 and 1961 aerial photographs clearly show that aboveground tanks, berms, surface impoundments and buildings were part of the facility. The 1955 photo shows the impoundments located immediately west of the western section of the original refinery. The 1961 photo shows the impoundments in the central and southern areas of the western section of the site. The distillation tower could not be readily identified in these aerial photos. Areas of stained soils can also be ascertained.

## C. Previous Investigations

The NMEID conducted a Preliminary Assessment of Aerex Refinery in the spring and summer of 1989. A PA Report was submitted to US EPA, Region VI, in June 1989. Stained and disturbed surface soils indicated that deposition of contaminants had occurred. The finding that depth to water was likely to be less than ten

feet indicated that groundwater was the major pathway of concern.

No other state or federal agency has conducted an investigation at this site.

## D. Geography

Bloomfield is located on the northern bank of the floodplain of the San Juan River valley. The city's population, according to the US Bureau of the Census 1988 estimate, is 6,550.

Aerex is located in the north central section of the city of Bloomfield. Within 1 1/4 miles of the site is the San Juan River. The site lies at an elevation of 5,480 to 5,470 feet above mean sea level.

## E. Climate

The climate in Bloomfield and vicinty is semi-arid to arid. The average annual precipitation along the San Juan River near Farmington, located about 12 miles east of Bloomfield, is 7 inches (Figure 1). At the Aztec Ruins National Monument, located approximately 10 miles north of Bloomfield, the average annual precipitation is 9.3 inches (Reference 3).

Keetch (1980) reports that precipitation totals are slightly greater in the winter than in the spring or fall in the eastern part of San Juan County (Reference 3). However, Stone et al. (1983) reports that approximately 60% of the total precipitation in the San Juan Basin occurs in the summer months as local thunderstorms (Reference 9). The net precipitation at the Aztec Ruins National Monument is 2.39 inches per year (Reference 10).

The predominant wind direction along the San Juan River is from the east and the west. Spring is the windiest season, with winds averaging 10 to 12 miles per hour (Reference 3).

## F. Hydrogeology

The San Juan River Valley is a relatively narrow floodplain, approximately 1 1/2 to 2 miles wide, in the vicinity of Bloomfield. Tertiary rocks, specifically the Nacimiento Formation, outcrop in the mesas located 1 1/2 miles north of the San Juan River in Bloomfield and approximately 3/4 mile north of Aerex Refinery (Figure 4).

Quaternary alluvium constitutes the San Juan River valley fill. Extensive terrace deposits of boulder gravel have also been documented in the San Juan River Valley. The alluvial deposits

derive from the Tertiary bedrock units and terrace deposits overlying these units. Both the Quaternary alluvial deposits and the sandstones of the Tertiary Nacimiento Formation are primary aquifers for this area (References 2, 4, and 9).

The alluvial deposits consist of gravel, sand, silt, clay, and mixtures thereof (Reference 9). Logs from on-site monitor wells at Aerex Refinery show the presence of silty clays, silty sands, and medium to fine-grained sands to a depth of 15 feet. Gravel was also encountered but at a much lower percentage than the above sediments. No site-specific data is available on the lithology at depths greater than 15 feet.

Stone (1983) reports that the alluvial deposits do not exceed 100 feet in thickness in the San Juan River Valley. A maximum thickness of 80 feet of alluvial fill of the San Juan River Valley is reported at Farmington (Reference 9). Lyford (1979) reports that valley fill thicknesses in the perennial stream channels in most areas of the San Juan Basin are generally less than 50 feet (Reference 4). A local driller, who has had experience in the Farmington and Bloomfield area for over 40 years, stated that the valley fill was about 75 to 80 feet in Bloomfield itself (Reference 8c).

The Nacimiento Formation consists of interbedded carbonaceous mudstones and medium to very coarse grained sandstones. The thickness of the underlying Nacimiento Formation ranges from 418 to 2,232 feet in the San Juan Basin. No data is available for the thickness of this formation near the site. Groundwater in the sandstones in the Nacimiento Formation may be locally confined and may also be locally interconnected with the Quaternary deposits. The Quaternary alluvium is recharged primarily by irrigation discharge and, to a lesser extent, by upward flow from the underlying Nacimiento Formation.

The regional hydraulic gradient in the alluvial aquifer generally follows the topography, that is, toward the river. Water level data from the three on-site monitor wells indicate that the local gradient in the alluvium is to the south (Reference 6, Figure 5).

Regional data indicate that the transmissivities of the valley fill varies widely. Hydraulic conductivities in the alluvium along the San Juan, Animas, and La Plata Rivers may exceed $7.06 \times 10^{-1}$ cm/sec in places (Reference 4). Hydraulic conductivities along ephemeral streams are generally lower than those along the perennial rivers in the San Juan Basin. Hydraulic conductivities at the El Paso Natural Gas (EPNG), Blanco Plant, located approximately 1 1/2 mile northeast of the site, ranges from $1.3 \times 10^{-4}$ to $6.6 \times 10^{-6}$ cm/sec (Reference 7). The EPNG, Blanco plant is located on alluvium, which fills a canyon cut into the Nacimiento Formation; accordingly, hydraulic conductivities in this area are expected to be lower than along the river. No

site-specific hydraulic conductivity or transmissivity data is available.

## II. SSI INVESTIGATION

The principal investigator of the Aerex Refinery site is Corazon Halasan, NMEID, Superfund Program. The SSI was conducted to gather site-specific hydrogeologic, chemical, and geographic information needed to further assess the potential human health and environmental hazards that the site presents. The SSI goals were to:

1) characterize CERCLA hazardous substances that may be present and determine the sources and volumes of such substances deposited or generated at the site;

2) ascertain if CERCLA hazardous substances have been released to the environment; and,

3) characterize the groundwater and surface water routes, including targets and uses of such waters, within a four-mile radius of the site.

### A. Methods

All SSI field activities were conducted according to the NMEID Superfund Standard Operating Procedures Manual (Reference 7).

Sediment and groundwater sampling, a neighborhood well survey, a soil gas survey, and monitor well drilling were the major field activities for this SSI. The samples taken were analyzed by the New Mexico Scientific Laboratory Division (SLD) in Albuquerque, NM, and/ or Analytical Laboratories, Inc. (ATI) in Tempe, AZ.

A total of 28 sediment and waste samples were taken in March and May 1990 (Figure 3). Three of these samples were background sediment samples taken within 1/2 mile north of the site. The March 1990 samples were of on-site surficial and subsurface sediments and waste. Samples of bottom sediments and spring water from a drainage segment located immediately south of the fenced site were also taken. Subsurface sediments were obtained from seven holes using a 4-inch hand auger from depths ranging from 3 feet to 18 feet. EID also conducted a soil gas survey with an HNU photoionization detector during this sampling visit. This detector was calibrated with a benzene equivalent to increase its sensitivity to aromatic gases that may be present in the soil pores. Soil gas was sampled to approximately three feet below the ground surface at eight sample locations (Figure 3).

The samples collected in May 1990 were split spoon and drill

cutting samples obtained during the drilling of the on-site monitor wells. These samples were taken from depths ranging from 5 feet to 15 feet. The locations of sediment sample points, soil gas survey points, and augerholes are shown in Figure 3.

Sediment samples were analyzed for semi-volatile organics (EPA method 8270), volatile organics (EPA method 624), and heavy metals. Tables 1 to 7 summarize the results of sediment and waste samples.

Three on-site monitor wells were installed on May 8 to 10, 1990 by EID personnel with a seven-inch hollow-stem auger drill rig. Figure 3 shows the locations of these wells. Five groundwater samples were taken on May 11 and May 12, 1990. Four samples were obtained from the on-site monitor wells and one sample was taken from the private well at the James West residence. The Wests' residence borders the southeast corner of the site. These samples were analyzed for volatile organics, semi-volatile organics, total heavy metals, and general chemistry (i.e., major anions and cations). Tables 8 to 11 summarizes the results of the groundwater analyses.

A door-to-door survey to identify private wells was conducted on May 5, 1990. EID asked well owners about groundwater use and well construction. Municipal and community wells were located using EID Drinking Water Section well location maps and inventory.

The surface water and air routes were evaluated through field checks of drainages, interpreting aerial photographs, obtaining local wind information, and checking topographical maps for drainages and population. No sampling was conducted for the air route. Two samples were taken for the surface water route. These were: 1) bottom sediments from a drainage segment located immediately south of the site fence; and 2) surface water from the bottom of the same trench. The locations of these samples are shown in Figure 3. Table 7 summarizes the results of the surface water analyses.

Aerial photographs dated September 1955, June 1961, and June 1981 were obtained through the University of New Mexico Technology Application Center and the NM State Highway Department.

## B. Waste Characterization

### 1. Description

Petroleum process wastes are the substances of concern at this site. These substances run the gamut from multi-ringed heavy-weight organic compounds to long-chained straight and branched

organic compounds and heavy metals. Impoundment ponds and aboveground tanks existed on-site for much of its history. Wastewater and fugitive spills from various parts of the different processes at this site were probably discharged to the ponds.

This property was used by various petroleum-related operations throughout its active history. The original business at this site was Aerex Refinery, which ran a crude oil refining operation. No firm details about subsequent businesses are available but they may have included petroleum operations other than crude oil refining. This conjecture is based upon the knowledge that Shell Oil Company, Plateau Inc., Malco, and El Paso Products had at varying times ownership and/or operational interests in this site.

EID started the SSI field investigation with a soil gas survey on May 5, 1990 to identify areas of waste disposal or deposition on-site . A photoionization detector (HNU model Pl 101) was used to detect the presence of organic gases in the vadose zone.

On May 6, 1990 EID augered seven augerholes from 5 to 18 feet deep (Figure 3). Except for Augerhole # 7, all holes were augered to the water table, which ranged from about 5 to 6 feet deep. EID staff attempted to auger further into the saturated zone in Augerhole #1, but were unable to go further than 4 feet below the water table due to caving in of the saturated unconsolidated sediments. Fill material was encountered in the first 12 to 18 inches of Augerholes # 4, 5, and 6. Underneath the fill, EID observed moderately to heavily contaminated soils down to the water table. Augerhole #7 was unique in that the soils were much more compacted than in the other holes. The surface soils for several feet around this hole were compacted and stained. The entire interval was heavily contaminated with hydrocarbon/ petroleum substances. Samples from the unsaturated and saturated zones were taken from Augerholes # 4 and 7; saturated samples were taken from Augerholes # 5 and 6.

## 2. Results

At five of the eight soil gas points, the HNU readings ranged from 43 to 120 parts per million of benzene equivalent. These levels indicate that contaminant gases are present in the upper vadose zone. The presence of such gases further indicate that organic wastes or substances were deposited at or near these sample points.

Laboratory analysis of the augerhole sediment samples clearly shows that volatile and semi-volatile organic compounds are present on-site at significant levels. These analyses results are summarized in Tables 1 to 4. Heavy metals were also detected in

these samples but not at significant concentrations (Table 3).

From aerial photographs, it can be surmised that aboveground tanks existed where Augerholes # 5 and 6 were located. The same might be true for Augerhole # 4. However, it is difficult to ascribe any specific activity or structure to the Augerhole # 7 location from any aerial photograph.

## 3. Waste Quantity

The waste quantity is calculated by using the results from the augerholes and monitor wells to determine depth and areas of contamination. Augerholes # 4 to # 6 and monitor well # 2 are located fairly close to each other in the northwestern portion of the site. These are considered to be in an area of contiguous contamination. Monitor wells 1 and 3 and augerhole 1 are, at present, considered to be in three separate areas of contamination. The waste quantity calculations are as follows:

1) augerholes 4 to 6:
6' deep X 50' wide x 225' wide = 67, 500 $feet^3$

2) augerhole 1:
10' deep X 2' wide X 2' long = 40 $feet^3$

3) monitor well 1:
12' deep X 2' wide X 2' long = 48 $feet^3$

4) monitor well 3:
25' deep X 10' wide X 10' long = 2500 $feet^3$

The total waste quantity is 70,088 $feet^3$ or 2,596 $yards^3$.

## 4. Conclusions

Contamination of surficial and subsurface sediments due to past operational practices is confirmed at Aerex Refinery. Waste and soil contamination exist along the north and west sections of the site. Although deposition of hazardous substances on-site has been confirmed by this data, the extent of three-dimensional contamination is still largely unknown.

EID has no analytical data to confirm the presence of wastewater ponds on-site. Detailed interpretation of available aerial photographs and sampling at the surmised locations of these ponds will be needed to obtain such information.

EID recognizes that this site may fall under the petroleum exclusion of CERCLA. Aerial photography interpretation has indicated the presence of impoundments and aboveground tanks. EID has no definitive evidence that indicates the presence of the

five listed non-exempt wastes (K048 to K052) from the petroleum refining industry. These wastes are:

1) K048 - dissolved air flotation float;

2) K049 - slop oil emulsion solids;

3) K050 - heat exchanger bundle cleaning sludge;

4) K051 - API separator sludge; and

5) K052 - leaded tank bottoms.

The organic compounds detected do not conclusively point to nor preclude the presence of these K wastes since both semi-volatile and volatile compounds are common to many refinery wastes.

## C. Groundwater Route

### 1. Description

The Quaternary alluvium is the primary aquifer of concern at this site. The impact of the site on the underlying bedrock aquifer was not addressed. The three monitor wells on-site are completed in this shallow aquifer and screened at the water table (Reference 6). The depth to water, as measured on June 12, 1990, at the Aerex site ranges from 6.4 feet to 7.8 feet. The James West well is also completed in the alluvial aquifer at a total depth of 58 feet (Reference 6) . The locations of these wells are shown in Figure 3.

Monitor well 1 is located at the southwest section of the fenced property. This location was chosen in order to intercept the southern and western components of the shallow alluvial groundwater flow. Monitor well 2 was installed at the western fence of the site. This well placement was chosen to intercept the flow of groundwater from the central portion of this property. The third well, # 3, was installed in the northeastern section of the property in an area of heavy soil contamination. Monitor well 3 was located here in order to determine if contamination was present in the northern part of the site.

### 2. Results

During the drilling of the monitor wells, EID personnel observed stained, contaminated drill cuttings in monitor wells 2 and 3. Monitor well 3 was a very dirty borehole, with oily drill cuttings and stained soils present through the total depth (18 feet) of the borehole. Strong hydrocarbon odors were observed

throughout the entire interval.

Tables 8 and 11 summarize the laboratory results of the groundwater samples. At least 10 base, neutral, and acid extractable compounds were detected in monitor wells 2 and 3 at concentrations ranging from 25 to 200 parts per billion. Volatile organic compounds, including benzene and toluene, were detected in monitor wells 2 and 3 at concentrations ranging from 1 to 15 parts per billion. No volatile organic compounds were detected in the James West well. The analysis for base, neutral, and acid extractables was not conducted for this well.

The total dissolved solids for the monitor wells range from 392 to 802 mg/l and for the West well is 1560 mg/l. The West well also had a high sulfate level of 935 mg/l. No significant levels of heavy metals were detected in any of these four wells.

3. Targets

Bloomfield residents are on the city water supply system, which is supplied by surface water. Therefore residents within the city limits are not considered groundwater targets for this site.

The city limits lie 1/2 mile north and west, and 1 1/2 miles south and east of the site. Residents living just outside the city limits are not on the city system. Rural residents divert water, via an wooden pipeline, from the main water conveyance (called Citizen's Ditch) for this area. Many, if not most of these residents, have private wells. Many of these well-owners probably do not drink their well water because groundwater from the alluvial and Nacimiento aquifers have high total dissolved solids. The NM State Engineer Office (SEO) and published sources indicate that groundwater is used for domestic, irrigation, and stock watering purposes (References 2 and 5). Rural residents obtain their drinking water from Citizen's Ditch, private wells, or bottled water.

The number of groundwater targets for this site is some percentage of the rural population. This population is estimated by counting the buildings located outside the city limits. The source of this data are USGS topographical maps for Bloomfield and Horn Canyon, 1985 provisional editions. The following table shows the breakdown within a three-mile radius of the site.

| DISTANCE (mile) | BUILDINGS | TARGETS |
|---|---|---|
| 0 - 1/2 | 7 | 26.6 |
| >1/2 - 1 | 14 | 53.2 |
| >1 - 2 | 113 | 429.4 |
| >2 - 3 | 75 | 285 |
| Total | 209 | 794.2 |

There are 209 buildings outside the city limits within three miles of the site. The number of groundwater targets for Aerex totals 794, which is the sum of 209 residences counted and 3.8 persons per residence. However, this is probably an over-estimate because not all rural residents drink their well water.

4. Conclusions

A release of hazardous substances to groundwater from Aerex Refinery as been documented. Polynuclear and volatile organic compounds have been detected at significant levels in sediments and wells on-site at levels. Many of these organic substances are listed CERCLA hazardous substances.

The northeastern and northwestern sections of the property seem to be the most heavily contaminated areas of the areas sampled during the SSI. Sediments in these areas are documented to be contaminated from the surface and into the water table. Thus, these areas are considered to be sources of hazardous substances to groundwater.

D. Surface Water Route

1. Description

A north-south trending small drainage segment is located within 25 feet south of the south property fence of the site (Figure 3). The drainage or ditch segment, which is lined with gravel, is approximately 4 to 5 feet deep, 20 to 25 feet wide, and 50 to 75 feet long. This ditch may be a remnant of the drainage that once existed here. An aerial photograph dated June 1981 indicates that this drainage remained at least until that date. The drainage divided the site into an eastern and western section and extended south towards the marshes bordering the San Juan River. Part of this drainage has been paved over and covered by Fifth Street, residences, and businesses.

During at least two sampling visits, EID has observed marsh vegetation and several sapling cottonwoods growing and spring water at the bottom of this trench. EID sampled the sediments and surface water from the trench on March 6, 1990. The bottom sediments were analyzed for semi-volatile organics, volatile organics, and heavy metals while the spring water was analyzed for volatile organics and heavy metals.

2. Results

Table 7 summarizes the results of the water sampling from the drainage remnant at Aerex. Six semi-volatile organic compounds were detected in the sediments at levels ranging from 1.9 to 0.83 parts per million. Lead was detected in the same sample at 17.0 ug/G. In the surface water sample the following compounds were detected: dichloroethane at 0.007 ppm, lead at 0.007 ppm, and chromium at 0.011 ppm.

3. Targets

Bloomfield residents are supplied by the city water supply system. The intake for this water supply system is located at least 15 miles upstream of the site (Reference 5). Therefore, Bloomfield residents living within the city limits are not considered surface water targets.

The nearest drinking water intake is located at a trailer park approximately 3 1/2 to 4 river miles downstream of Aerex Refinery (Figure 6). Thus, the trailer park residents are not included as targets.

Lastly, there are no irrigation targets within three downstream miles downstream of the site.

Because the new Hazard Ranking System considers recreational uses of surface water, EID has evaluated the recreational use of the San Juan River near the site. The San Juan River is designated for municipal and industrial water supply, irrigation, livestock and wildlife, secondary contact recreation, marginal coldwater fishery, and warmwater fishery (Reference 5). From Blanco (10 miles upstream of Bloomfield) downstream to the Colorado border, there is some recreational use of the San Juan River in the Farmington and Bloomfield area.

Most of the riverfront within 4 downstream miles of the site is privately owned so public access to the river is limited. However, two parks are located on the San Juan River within the city limits. A city park is located on the San Juan River approximately one mile almost directly south of the site. An estimated 5 to 7 persons per week fish and canoe there (Reference 5). A privately owned recreational vehicle campground is located 1 1/4 river miles downstream of Aerex and has 13 camping spaces available. People fish and canoe there but EID has no data on the frequency of these recreational uses (Reference 8m). Assuming a use rate of 10 people per week and multiplying by 52 weeks yields 520 people who use the river for recreational purposes. This number may be an overcount because residents who fish and/or canoe at the city park may be counted more than once.

The total number of people who use the San Juan River for recreation within three miles of the site, in the worst case scenario, is probably not more than 520.

4. Conclusions

EID has insufficient data to document a release to surface water. However, the laboratory analysis data and aerial photograph interpretation indicate that a surface water release is a possibility. More sediment and surface water samples from the trench should be taken. In addition, surface and subsurface sediment sampling along the old drainage should be taken. The logical places to sample would be in the vacant lot south and adjacent to the site.

E. Air Route

1. Description

East and west winds predominate along the San Juan River Valley (Reference 3). At the Farmington Airport, located approximately 12 miles from Bloomfield, the predominant wind direction is from the northeast in the morning and from the west in the afternoon. Sometimes the opposite is true: west winds predominate in the morning and northeast winds in the afternoon. Winds average 8 to 10 knots. The same situation applies to Bloomfield although the close surrounding mesas influence the wind directions (Reference 8a).

Hazardous substances have been documented to be present in on-site soils. The area of most concern is the bare area in the northeast section where monitor well 3 is located (Figure 1). The soils here, however, are compacted and not likely to contribute a signicant amount of organic particulates to wind dispersion. Most of the site has vegetation, concrete structures, and/ or fill material as cover.

During the installation of the on-site monitor wells and augerholes, EID personnel observed moderate to strong hydrocarbon odors in the surficial soils. Most of these odors were observed only when the soils were disturbed during sampling and therefore is not considered a valid release for this pathway.

2. Results

No air sampling for particulates or gaseous emissions has been conducted.

3. Targets and Conclusions

No air targets were calculated for this route because the air pathway is not considered a major route for migration of contaminants from Aerex Refinery. This pathway has not been further evaluated and further sampling is not recommended.

F. On-Site Route

1. Description

Physical access to the site is only minimally restricted by the fence around the property. The fence is broken in several places and the two entrances in the north no longer have gates.

Surficial sediments on-site are contaminated with organic compounds. Fortunately, a considerable portion of these soils are under some type of cover. Lastly, the concentrations of heavy metals detected on-site have been low. In addition, broken pipes, concrete structures, an uncovered concrete pit, and miscellaneous metal debris remain on-site.

2. Results

Tables 1 and 2 show the results of laboratory analysis of on-site sediments. These analyses and the results of the soil gas survey indicate that semi-volatile and volatile organic compounds are present in surficial sediments at significant levels (Reference 6). EID has not observed or sampled for any gaseous emissions from any area on-site.

3. Targets

The site seems to be used as a shortcut. During most of the site visits, EID personnel have observed people, usually children and teenagers, walking across the site. It is likely that children play on-site. EID observed children playing in the adjacent streets during each site visit. One nearby resident says he used to frequent the site looking for and picking up pieces of scrap metal.

Residences border or are located within 1500 feet of the site in all directions. A vacant unfenced lot immediately south of the site will probably be developed as a residential area given that water, electricity, and sewer lines have already been installed. Multiple home residences were recently constructed south of this unfenced lot. The drainage that drained Aerex Refinery was

located at the western edge of this lot and extended through or near the new multiple home residences. An elementary school, a city park, and businesses are located approximately 2000 to 2500 feet south of the site.

EID has no data on which to quantify how many people walk through and/or play on-site. The number of residents within one mile of the site is very roughly estimated from the Bloomfield topographical map. The number of buildings within one-mile radius on this map is 673; the number of targets is some multiple of this figure. This number does not include people within 1/2 mile radius: 1) who reside in the four trailer parks nearby; and 2) who attend the elementary school and the high school nearby. A second elementary school is located within one mile of the site.

4. Conclusions

There is no resident population at Aerex Refinery. The nearby population within one mile travel distance has been crudely quantified. The contaminated soils and debris present a hazard to people, especially children, who spend any significant amount of time on-site. The site should probably be fenced or cordoned off for safety considerations. The on-site route is not considered an important pathway for this site; thus, it has not been further evaluated.

## III. CONCLUSIONS

EID has documented the following:

1. there is a release of hazardous substances to sediments and groundwater from the Aerex Refinery site;

2. the total waste quantity is substantial (>2500 cubic yards);

3. there is a potential release to surface water from Aerex Refinery site.

Much more detailed investigation is needed to rule out the presence of the non-exempt K048 to K052 wastes at this site. The following activities are required:

1) a more intensive search for and rigorous interpretation of aerial photographs to pinpoint the locations of the impoundments and to identify any structures such as API separators;

2) sampling of the former locations of the tanks,

impoundments and API separators, if found;

3) ascertain, if possible, if analytical fingerprints of any of the non-exempt K wastes is different from the analytical fingerprints of the wastes on-site;

4) establish the actual processes and operations conducted at this site for the different owners and operators at this site.

## V. TABLES AND CHEMICAL DATA

AEREX REFINERY

TABLE 1: SEDIMENT SAMPLES, AUGERHOLES 1 to 7, MARCH 1990
ANALYSIS: SEMI-VOLATILE ORGANIC COMPOUNDS

| | AUGERHOLE LOCATION | | | |
|---|---|---|---|---|
| | #1 (9.5') | #5 (5') | #6 (5') | #7 (18') |
| Semi-Volatiles: | | | | |
| Bis(2-ethylhexyl) phthalate | 0.42 | | | |
| methylpentenone | 0.2 | | | |
| 2-hexanol acetate | trace | | | |
| methylhydroxypentanone | 0.33 | | | |
| trichloro-2-methylpropanol | 0.24 | | | |
| motor oil like hydrocarbons | 0.14 | | | |
| naphthalene | | 2.00 | 3.00 | |
| 2-methylnaphthalene | | 3.70 | 5.40 | 2.00 |
| 1-methylnaphthalene | | 2.40 | 3.80 | 4.00 |
| di-n-butylphthalate | | 4.50 | | |
| fluorene | | N.D. | | |
| phenanthrene | | N.D. | | |
| diesel-like hydrocarbons | | | | 5.70 |
| 3, 6-dimethyloctane | | 6.60 | 10.00 | |
| 1,3,5-trimethylbenzene | | 10.70 | 16.00 | |
| 2-methyldecane | | 4.50 | 7.00 | |
| 3-methylundecane | | 9.70 | 10.00 | |
| 7-methyltridecane | | 17.00 | 25.00 | |
| 2,6-dimethylheptadecane | | 11.80 | 15.00 | 26.00 |
| tetramethylpentadecane | | | | 10.00 |
| 1,6-dimethylpentadecane | | | | 10.00 |
| tetramethylhexadecane | | 9.00 | 17.00 | 25.00 |
| tetramethylheptadecane | | | | 8.00 |
| 1,3,6-trimethylnapthalene | | | | 10.00 |
| trimethyldodecane | | | | |

NOTES:

1. All samples were analyzed by NM Scientific Laboratory Division, Albuquerque, NM.
2. Units are parts per million.
3. ( ) denotes depth of sample.
4. No semi-volatiles were detected in augerhole #4.

AEREX REFINERY

TABLE 2: SEDIMENT SAMPLES, AUGERHOLES 4 to 7, MARCH 1990
ANALYSIS: AROMATIC AND HALOGENATED ORGANIC COMPOUNDS

| | AUGERHOLE LOCATION | | | |
|---|---|---|---|---|
| | #4 (3.5') | #5 (5') | #6 (5') | #7 (13') |
| Halogenated Purgeables: | N.D. | N.D. | N.D. | N.D. |
| Volatile Purgeables: | | | | |
| benzene | | 0.2 | 0.67 | |
| ethylbenzene | | 0.3 | 21 | 0.18 |
| 1,2-dimethylbenzene | | | | 1.1 |
| 1,4-dimethylbenzene | | 21 | 77 | |
| 3,4-dimethyl-1-hexene | | | | 2 |
| 1-ethyl-1-methyl-cyclopentane | | | | 6 |
| cis-1,2-diethylcyclobutane | | | 5 | |
| 2,2,3,4-tetramethylpentane | 1 | | | |
| 1,1,2-trimethylcyclopentane | 1 | | | |
| 3,4-dimethylhexane | 1 | | | |
| methylcyclohexane | | 50 | | |
| cis-1,3-dimethylcyclohexane | 2 | 25 | 50 | 3 |
| trans-1,2-dimethlycyclopentane | | 10 | 10 | |
| trans-1,2-dimethylcyclohexane | 2 | 10 | 15 | |
| 4-(1-methylethyl)heptane | | | 15 | 2 |
| 2-methyloctane | 2 | | | |
| 4,5-dimethyloctane | | | | 1 |
| trans-1,2-dimethyloctane | | | | 2 |
| 6-methylundecane | 2 | 10 | | |
| ethylcyclohexane | | 10 | 25 | |
| 7-methyl-6-tridecene | | | 15 | |
| 3-ethyl-2-methylhexane | | | | 1 |
| 1-ethyl-2,4-dimethylcyclohexane | | 10 | | |
| 1,3,5-trimethylcyclohexane | 3 | | | |
| 1-methyl-4,1-methylethyl-cyclohexane | | | 5 | |
| 1-methyl-2-propylcyclopentane | 2 | | 5 | |
| trans-1-ethyl-4-methylcyclohexane | 1 | | 25 | |
| 2,2,3-trimethylhexane | | | 2 | 3 |
| E-6-methyl-2-undecene | 1 | | | |
| E-3-methyl-2-undecene | 1 | | | |
| E-7-methyl-undecene | | 10 | | |
| 4-methyl-4-undecene | 8 | | | |
| 3-methylnonane | 20 | | | 2 |
| propylcyclohexane | | 10 | 15 | 3 |
| 1-methyl-2-propycyclopentane | 20 | 5 | | |
| 6-methyldodecane | 8 | 5 | | |
| 2,3,4-trimethylheptane | 10 | 5 | 10 | |

AEREX REFINERY

TABLE 2: SEDIMENT SAMPLES, AUGERHOLES 4 to 7, MARCH 1990 (continued)
ANALYSIS: AROMATIC AND HALOGENATED ORGANIC COMPOUNDS

| | AUGERHOLE LOCATION | | | |
|---|---|---|---|---|
| | #4 (3.5') | #5 (5') | #6 (5') | #7 (18') |
| Volatile Purgeables: | | | | |
| 3-ethyl-5-methyl-heptane | | 10 | | |
| Z-2,6-dimethylnonane | 10 | | | |
| 2,6-dimethylnonane | 20 | | | |
| 6-ethyl-2-methyloctane | 12 | | | |
| 1-butyl-1-methyl-2-propylcyclopropane | 5 | | | |
| E-7-methyl-4-decene | 5 | | | |
| 3,7-dimethylnonane | 1 | 5 | 8 | |
| trans-decahydronaphthalene | 5 | | | 1 |
| pentylcyclohexane | 5 | | | |
| 1,2-diethyl-1-methylcyclohexane | 10 | | | |
| 3-methyl-5-propylnonane | 5 | | | |
| 3,7-dimethylnonane | | 5 | | |
| 1,12-tridecadiene | 10 | | | |
| 1-methylethylbenzene | | 5 | 8 | |
| diethylbenzene | | 5 | | |
| 1,2,4-trimethylbenzene | | 35 | 120 | 9 |
| 1-ethyl-2-methylbenzene | | 5 | 15 | 9 |
| 1-ethyl-4-methylbenzene | | | 10 | |
| 1-methyl-3-propylbenzene | | 5 | | 4 |
| 1-ethyl-2-propylbenzene | | | 10 | |
| 1-methyl-4-(2-methylpropyl)benzene | | | | 4 |
| 1-ethyl-4-propylbenzene | | | | 1 |
| 1,3-diethyl-5-methylbenzene | | | 10 | 1 |
| 1-ethyl-2,4-dimethylbenzene | | 10 | 5 | |
| 1-ethyl-3-methylbenzene | | | 15 | |
| 1-ethyl-3,5-dimethylbenzene | | | 10 | |
| 3-methylundecane | | 5 | | |
| 2-ethyl-1,3-dimethylbenzene | 5 | | | 2 |
| propylbenzene | 10 | | 10 | |
| cyclododecane | 1 | | | |
| 6-methyldodecane | 2 | 10 | 8 | |
| 3,4-dimethyloctane | | 1 | | |
| butylcyclohexane | | 5 | 8 | |
| 3-(1-methylethenyl)cyclooctene | | | 3 | |
| 1,2,3,4-tetranapthalene | | | 8 | |
| hexylcyclohexane | | | 3 | |
| 2,3-dihydro-1,5,7-trimethyl-1H-indene | | | 1 | |

NOTES:
1. All samples were analyzed by NM Scientific Laboratory Division, Albuquerque, NM.
2. Units are parts per million.
3. ( ) denotes depth of sample.

AEREX REFINERY

TABLE 3: SEDIMENTS, AUGERHOLES 1 to 7, MARCH & APRIL 1990
ANALYSIS: HEAVY METALS

| | AUGERHOLE LOCATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | #1 (9.5') | #4 (3') | #4 (6') | #5 (5') | #6 (5') | #7 (18') | Background #1 | Background #2 | Background #3 |
| Barium | 77.0 | 95.0 | 94.0 | 100.0 | 93.0 | 99.0 | 140.0 | 150.0 | 130.0 |
| Chromium* | 2.6 | 4.6 | 6.4 | 3.0 | 2.3 | 3.9 | 6.4 | 9.9 | 6.6 |
| Copper | <5.0 | 7.0 | 8.0 | <5.0 | <5.0 | <5.0 | 7.0 | 9.0 | 7.0 |
| Lead* | 3.0 | 3.7 | 6.7 | 3.5 | 3.0 | 4.0 | 8.5 | 5.7 | 3.7 |
| Manganese | 120.0 | 210.0 | 190.0 | 140.0 | 140.00 | 180.0 | 220.0 | 270.0 | 210.0 |
| Strontium | 53.00 | 130.0 | 100.0 | 42.0 | 34.0 | 95.0 | 150.0 | 65.0 | 130.0 |
| Zinc | 10.0 | 19.0 | 25.0 | 11.0 | 9.0 | 16.0 | 27.0 | 21.0 | 19.0 |

NOTES:
1. All samples were analyzed by NM Scientific Laboratory Division, Albuquerque.
2. Units are in parts per million.
3. ( ) denotes depth of sample.
4. Background samples were surface soil samples, and taken within 1/4 mile north of the site.

AEREX REFINERY

TABLE 4: SEDIMENTS, MONITOR WELLS 1 TO 3, MAY 1990
ANALYSIS: SEMI-VOLATILE ORGANIC COMPOUNDS

| | MONITOR WELL | | | |
|---|---|---|---|---|
| | #1 (5-6') | #2 (5-7') | #2 (10-15') | #3 (13-25') |
| Semi-volatiles: | | | N.D. | |
| diethylphthlate | | 5.0 | | |
| bis(2-ethylhexyl)phthalate | trace | trace | | |
| undecane | | | | trace |
| dodecane | | | | trace |
| 2-methylnapthalene | | | | trace |
| tetradecane | | | | trace |
| pentadecane | | | | 60 |
| hexadecane | | | | 82 |
| tetramethylpentadecane | | | | 96 |
| 2,6-dimethylheptadecane | | | | 105 |
| octadecane | | | | 115 |
| tetramethylhexadecane | | | | trace |
| nonadecane | | | | 130 |
| eicosane | | | | 133 |
| heneicosane | | | | 138 |
| docosane | | | | 161 |
| tetracosane | | | | 180 |
| hexacosane | | | | 209 |

NOTES:
1. All samples were analyzed by NM Scientific Laboratory Division, Albuquerque.
2. Units are in parts per million.
3. The minimum detection limit (MDL) for monitor well 3 is 50 ppm. The sample was heavily contaminated and required dilution. The MDL for the other wells is 5 ppm.
4. ( ) denotes depth of sample.

AEREX REFINERY

TABLE 5: SEDIMENTS, MONITOR WELLS 1 to 3, MAY 1990
ANALYSIS: AROMATIC AND HALOGENATED ORGANIC COMPOUNDS

| | MONITOR WELL | | | |
|---|---|---|---|---|
| | #1 (5-6') | #2 (5-7') | #2 (10-15') | #3 (13-15') |
| Halogenated Purgeables: | | N.D. | N.D. | N.D. |
| chloroform | 0.250 | | | |
| Volatile Purgeables: | N.D. | N.D. | N.D. | |
| benzene | | | | 0.185 |
| toluene | | | | 0.345 |
| ethylbenzene | | | | 0.650 |
| p- & m-xylene | | | | 0.685 |
| 1,2-dimethylbenzene | | | | 0.255 |
| 5-(cyclhexylmethyl)-2-pyrolidione | | | | 7.00 |
| trans-1,2-dimethlycyclopentane | | | | 2.10 |
| 1-ethyl-1-methyl-cyclopentane | | | | 27.00 |
| 1,3-cis-cyclohexane | | | | 7.80 |
| 3-ethyl-3-heptane | | | | 4.90 |
| 1-methylethylbenzene | | | | 6.30 |
| 1,2,4-trimethylbenzene | | | | 22.00 |
| 1,2,5-trimethylbenzene | | | | 36.50 |
| 1-ethyl-4-methylbenzene | | | | 6.40 |
| 1-methyl-2-propylbenzene | | | | 12.80 |
| 1-methyl-4-propylbenzene | | | | 3.10 |
| 1-ethyl-2,4-dimethylbenzene | | | | 8.30 |
| alpha-methyl-diphenethylamine | | | | 8.50 |
| 1-ethyl-2,4-dimethylbenzene | | | | 6.60 |
| 1-ethyl-3,5-dimethylbenzene | | | | 15.60 |
| 1,2,4,5-tetramethylbenzene | | | | 2.60 |

NOTES:
1. All samples were analyzed by NM Scientific Laboratory Division, Albuquerque, NM.
2. Units are parts per million.
3. ( ) denotes depth of sample.

AEREX REFINERY

TABLE 6: SEDIMENTS, MONITOR WELLS 1 to 3, MAY 1990
ANALYSIS: HEAVY METALS

| | MONITOR WELL | | | |
|---|---|---|---|---|
| | #1 (5-6') | #2 (5-7') | #2 (10-15') | #3 (13-15') |
| Barium | 77.0 | 95.0 | 94.0 | 100.0 |
| Chromium* | 2.6 | 4.6 | 6.4 | 3.0 |
| Copper | <5.0 | 7.0 | 8.0 | <5.0 |
| Lead* | 3.0 | 3.7 | 6.7 | 3.5 |
| Manganese | 120.0 | 210.0 | 190.0 | 140.0 |
| Strontium | 53.00 | 130.0 | 100.0 | 42.0 |
| Zinc | 10.0 | 19.0 | 25.0 | 11.0 |

NOTES:
1. All samples were analyzed by NM Scientific Laboratory Division, Albuquerque.
2. Units are in parts per million.
3. ( ) denotes depth of sample.
4. Refer to Table 3 for background sample results.

AEREX REFINERY

TABLE 7: SEDIMENTS AND WATER, DRAINAGE REMNANT, MARCH 1990

| | SEDIMENTS | WATER |
|---|---|---|
| HEAVY METALS: | | |
| barium | 120.0 | 0.10 |
| chromium | 4.1 | 0.011 |
| copper | <5.0 | <0.10 |
| lead | 17.0 | 0.007 |
| manganese | 1500.0 | 4.90 |
| strontium | 360.0 | 4.10 |
| zinc | 360.0 | 0.20 |
| HALOGENATED PURGEABLES: | N.D. | |
| 1,2-dichloroethane | | 0.70 |
| AROMATIC PURGEABLES: | N.D. | N.D. |
| SEMI-VOLATILES: | | |
| bis(2-ethylhexyl)phthlate | 0.83 | |
| methylpentenone | 0.44 | |
| 2-hexanol acetate | 0.20 | |
| methylhydroxypentanone | 4.00 | |
| trichloro-2-methylpropanol | 0.40 | |
| motor oil-like hydrocarbons | 1.90 | |

NOTES:

1. All samples were analyzed by NM Scientific Laboratory Division, Albuquerque.
2. Units are in parts per million.

AEREX REFINERY

TABLE 8: GROUNDWATER, MONITOR WELLS 1 TO 3, JUNE 1990
ANALYSIS: SEMI-VOLATILE ORGANIC COMPOUNDS

| | MONITOR WELL | | |
|---|---|---|---|
| | #1 | #2 | #3 |
| Semi-volatiles: | | | |
| bis(2-ethylhexyl)phthalate | | trace | |
| napthalene | | | 25.00 |
| 1-methylnapthalene | | | trace |
| 2-methynaphthalene | | | 30.00 |
| phenanthrene | trace | | trace |
| tridecane | trace | | |
| 2,6,10-trimethyldodecane | trace | | |
| 2,5-dimethyldodecane | 100.00 | | |
| tetradecane | | | trace |
| pentadecane | 200.00 | | 50.00 |
| hexadecane | 200.00 | | 70.00 |
| 4,8-dimethyltridecane | 60.00 | | |
| heptadecane | 130.00 | | 90.00 |
| 2,6,10,14-tetramethylpentadecane | 50.00 | | 125.00 |
| octadecane | 60.00 | | 110.00 |
| 2,6,10,14-tetramethylhexadecane | | | trace |
| nonadecane | | | 120.00 |
| docosane | | | 120.00 |
| tetracosane | | | |

NOTES:
1. All samples were analyzed by NM Scientific Laboratory Division, Albuquerque.
2. Units are in parts per billion (ppb).

AEREX REFINERY

TABLE 9: GROUNDWATER, MONITOR WELLS 1 TO 3, JUNE 1990
ANALYSIS: AROMATIC AND HALOGENATED PURGEABLES

| | MONITOR WELL | | | PRIVATE WELL |
|---|---|---|---|---|
| | #1 | #2 | #3 | J. WEST |
| Halogenated Purgeables: | N.D. | N.D. | | N.D. |
| bromoform | | | 1.10 | |
| Aromatic Purgeables: | N.D. | * | ** | N.D. |
| benzene | | | 15.30 | |
| toluene | | | 3.30 | |
| ethylbenzene | | | 12.50 | |
| p- & m-xylene | | | 6.20 | |
| 1,2-dimethylbenzene | | | 5.20 | |

NOTES:
1. All samples were analyzed by NM Scientific Laboratory Division, Albuquerque.
2. Units are in parts per billion (ppb).

* Twenty-nine compounds at 1-2 ppb eluting between benzene and o-xylene and through the C3 substituted benzene region were detected but not identified.

** Twenty-nine compounds at 2-20 ppb eluting in the C3 substituted benzene region were detected but not identified.

AEREX REFINERY

TABLE 10: GROUNDWATER, MONITOR WELLS 1 TO 3, JUNE 1990
ANALYSIS: HEAVY METALS, DISSOLVED

| | MONITOR WELL | | |
|---|---|---|---|
| | #1 | #2 | #3 |
| barium | <0.10 | 0.10 | 0.30 |
| chromium | <0.005 | <0.005 | <0.005 |
| copper | <0.10 | <0.10 | <0.10 |
| lead | <0.005 | <0.005 | <0.005 |
| manganese | 2.90 | 1.80 | 13.00 |
| strontium | 3.60 | 5.90 | 6.90 |
| zinc | <0.10 | <0.10 | <0.10 |

NOTES:
1. All samples were analyzed by NM Scientific Laboratory Division.
2. Units are in parts per billion.

AEREX REFINERY

TABLE 11: GROUNDWATER, MONITOR WELLS 1 TO 3, JUNE 1990
ANALYSIS: MAJOR ANIONS AND CATIONS

| | MONITOR WELL | | | PRIVATE WELL |
|---|---|---|---|---|
| | #1 | #2 | #3 | J. WEST |
| calcium | 116.0 | 208.0 | 172.0 | 288.0 |
| magnesium | 16.0 | 18.0 | 18.0 | 30.0 |
| potassium | 2.0 | 3.0 | 3.0 | 4.0 |
| sodium | 44.0 | 48.0 | 62.0 | 147.0 |
| alkalinity | 326.0 | 366.0 | 420.0 | 199.0 |
| bicarbonate | 397.0 | 466.0 | 513.0 | 242.0 |
| chloride | 5.6 | 7.1 | 11.1 | <5.0 |
| sulfate | 160.0 | 460.0 | 279.0 | 935.0 |
| total dissolved residues | 392.0 | 802.0 | 680.0 | 1560 |

NOTES:
1. All samples were analyzed by NM Scientific Laboratory Division.
2. Units are in parts per million (ppm).

Aerex Refinery
NMEID, May 9, 1990

Photo 1: Split spoon sample taken from monitor well 1 from the 3 foot to 5 foot interval. Photographer: Cora Halasan

Aerex Refinery
NMEID, May 9, 1990

Photo 2: View southwest. Michael Sanders and Linda Fluk, NMEID, getting ready to drill monitor well 2. The NMEID hollow-stem auger drill rig is in the right background. Photographer: Cora Halasan

Photo 3: View west. M. Sanders and L. Fluk, at monitor well 2, are lowering the split spoon sampler down the hollow-stem auger. The raised concrete slab in the right background is one of the building foundations located at the south end of the property. Photographer: Cora Halasan

Photo 4: Linda Fluk, NMEID, removing clay from a split spoon sampler prior to obtaining sample. The split spoon sample is from the 5 to 7 foot interval of monitor well 2. Photographer: Cora Halasan

Aerex Refinery
NMEID, May 9, 1990

Photo 5: View to the southeast of L. Fluk at monitor well 3. She is driving out the pin from hollow flight extension in preparation to removing an auger flight from the drill stem. Photographer: Cora Halasan

Aerex Refinery
NMEID, May 9, 1990

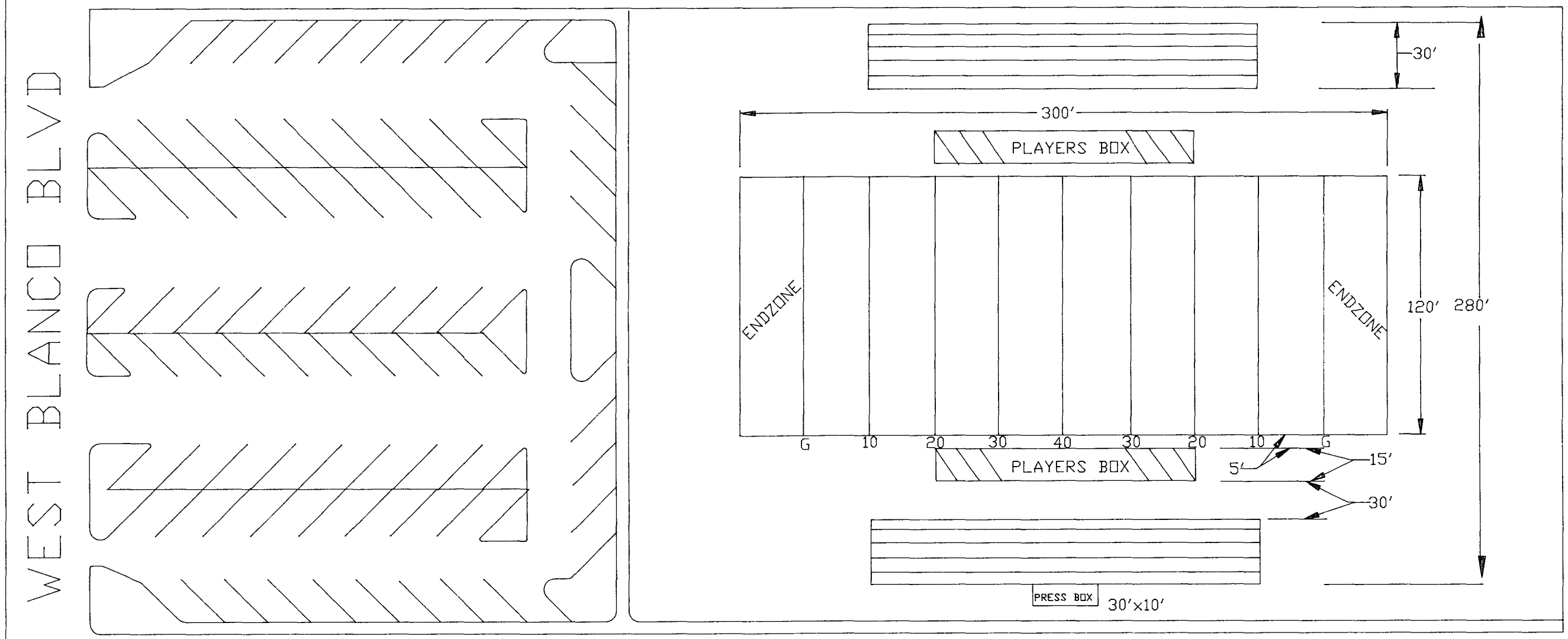
Photo 6: View west. L. Fluk & M. Sanders, at monitor well 3, removing thick wet clay from auger flights during the final withdrawal of the drill stem from the borehole. Note the contaminated sediments and oily water around the hole. Photographer: Cora Halasan

Aerex Refinery
NMEID, May 9, 1990

Photo 7: Close-up of monitor well-3, showing the thick slurry and oily water returns. Photographer: Cora Halasan

Aerex Refinery
NMEID, May 9, 1990

Photo 8: View east. Monitor well 3 is shown before final well completion. The thick clayey sediments and dark brown soils to the left of the PVC well casing are drill cuttings. This photo also shows the compacted contaminated surface sediments at this location. The active Giant Refining tank farm is in the left background, across Fifth Street. Photographer: Cora Halasan




NORTH FIFTH

| | | |
|---|---|---|
| BLOOMFIELD CITY | | |
| BLOOMFIELD YAFL STADIUM | | |
| BOB STALCUP | SCALE: | BC-YAFL |
| DATE: 2/17/95 | DRFT. | |

New Mexico Health and Environment Department

'90 MAR 19 AM 10 00



March 16, 1990

R.J. Dalley, Vice-President
Thriftway Corporation
710 East 20th
Farmington, NM 87401

Dear Mr. Dalley,

The New Mexico Environmental Improvement Division (NMEID) formally requests permission to drill monitor wells on Thriftway property, located on Fifth Street and Blanco Blvd. in Bloomfield. The purpose of these monitor wells is to investigate possible impact on local groundwater from the operations of Aerex Refinery, which was formerly located at this property. I made the same request to you during our telephone conversation of February 07, 1990; at that time, you gave verbal consent for the drilling. Enclosed is a consent for Access to Property Form for your signature. Your consent for permission to drill on your property in no way constitutes any wrong doing on your part. Copies of analytical results produced during the NMEID investigation of this property will be sent to you.

NMEID has the authority to enter property for the purposes of gathering information and obtaining samples. This authority is granted by Section 104 (e) (1) of the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, 42 U.S.C. Subsection 9604 (e) (1). The State of New Mexico entered into a cooperative agreement with the United States Environmental Protection Agency under Section 104 (d) (1), 42 U.S.C. Subsection 9604 (d) (1), to implement parts of this law. Sections 104 (e) (3) and (4) authorize EID to enter any property where hazardous substances may have been generated, to inspect the property, and to obtain samples therefrom. In addition, nearly identical authority is granted to EID by the New Mexico Hazardous Waste Act, (Subsection 74-4-4.3 NMSA 1978). The law provides EID authority to seek a search warrant if reasonable access has been denied. Relevant portions of the CERCLA and the NM Hazardous Waste Act are enclosed for your convenience.

Please return the signed form to me immediately in order to allow me sufficient time to complete the drilling preparations. I plan

— ENVIRONMENTAL IMPROVEMENT DIVISION —
Harold Runnels Building
1190 St. Francis Dr.
Santa Fe, New Mexico 87503

to drill three to five wells at this site during late April or early to mid- May, 1990. If you have any questions, please call me at 827-2901 in Santa Fe. I will be keeping in touch and look forward to hearing from you.

Sincerely,

Cora Halasan

Cora Halasan
Hazardous Waste Bureau

Enclosures

cc: David Tomko, Program Manager, EID Farmington
David Boyer, NM Oil Conservation Division, Santa Fe

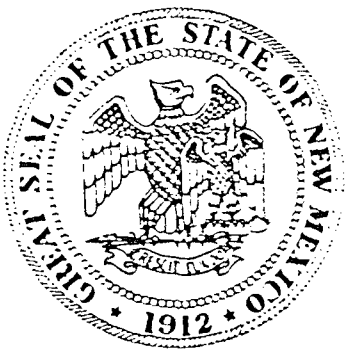
Tracy Hughes

# NEW MEXICO STATUTES 1978

## ANNOTATED

## Chapter 74
## Environmental Improvement

## Pamphlet 120




## 1988 REPLACEMENT PAMPHLET

This pamphlet includes laws enacted through the Second Special Session of the Thirty-Eighth Legislature (1988) and annotations through 748 P.2d 306, 108 S. Ct. 766, 836 F.2d 1348, 675 F. Supp. 1374, 118 F.R.D. 188, and 81 Bankr. 168.

THE MICHIE COMPANY

*Law Publishers*

CHARLOTTESVILLE, VIRGINIA

History: 1978 Comp., § 74-4-4.2, enacted by Laws 1981 (1st S.S.), ch. 8, § 6; 1987, ch. 179, § 4.

The 1987 amendment, effective April 8, 1987, substituted "for" for "or" in Subsection A, added present Subsection B while redesignating former Subsections B through G as present Subsections C through H, added the present first sentence of Subsection C and substituted all of the language of the second sentence thereof following "subject to" for "conditions for such facility", added Subsection D(4), added the proviso at the end of Subsection E, substituted the language beginning with "the state treasury" for "general fund" in the last sentence of Subsection F, and made minor stylistic changes throughout the section.

## 74-4-4.3. Entry; availability of records.

A. Any person who generates, stores, treats, transports, disposes of or otherwise handles or has handled hazardous wastes or who owns or operates an underground storage tank shall, upon request, furnish information relating to such wastes or underground storage tank and permit the director or his authorized representatives:

(1) to enter at reasonable times any establishment or other place maintained by any person where hazardous wastes are or have been generated, stored, treated, disposed of or transported from or where an underground storage tank is located; and

(2) to inspect and obtain samples from any person of any hazardous wastes or the condition and contents of underground storage tanks and samples of any containers or labeling for the wastes.

B. Each inspection shall be commenced and completed with reasonable promptness. If the director or his representative obtains any samples, prior to leaving the premises he shall give to the owner, operator or agent in charge a receipt describing the sample obtained and, if requested, a portion of each sample equal in volume or weight to the portion retained. If any analysis is made of the samples, a copy of the results of the analysis shall be furnished promptly to the owner, operator or agent in charge.

C. Any records, reports or information obtained by the agency under this section shall be available to the public, except that upon a showing satisfactory to the agency that records, reports or information, or a particular part thereof, to which the director or his authorized representatives have access under this section, if made public, would divulge information entitled to protection under Section 1905 of Title 18 of the United States Code, such information or particular portion thereof shall be considered confidential, except that such record, report, document or information may be disclosed to officers, employees or authorized representatives of the United States concerned with carrying out the Resource Conservation and Recovery Act, or when relevant in any proceedings under the Hazardous Waste Act [this article].

History: 1978 Comp., § 74-4-4.3, enacted by Laws 1981 (1st S.S.), ch. 8, § 7; 1987, ch. 179, § 5.

The 1987 amendment, effective April 8, 1987, inserted "or who owns or operates an underground storage tank" and "or underground storage tank" in the introductory paragraph of Subsection A, added "or where an underground storage tank is located" at the beginning of Subsection A(1), substituted "hazardous wastes or the condition and contents of underground storage tanks" for "such wastes" in Subsection A(2), and made minor stylistic changes throughout the section.

**Resource Conservation and Recovery Act.** — See 42 U.S.C. § 6901 et seq.

**Areas subject to inspection.** — Regardless of whether each specific part of the premises is subject to regulation, the statute clearly allows an inspection of all areas where the hazardous waste is being generated, whether it is in an enclosed facility or not. New Mexico Envtl. Imp. Div. v. Climax Chem. Co., N.M. , 733 P.2d 1322 (Ct. App. 1987).

**Search warrant required in absence of consent.** — In the event consent to enter and inspect premises for compliance with this article is denied, an administrative search warrant is required. New Mexico Envtl. Imp. Div. v. Climax Chem. Co., N.M. , 733 P.2d 1322 (Ct. App. 1987).

**Venue in action for search warrant.** — An action by which the environmental improvement division sought an administrative warrant for inspection under this article was a transitory action and venue was controlled by 38-3-1A NMSA 1978, which allows an action to be brought in a county where the plaintiff resides. New Mexico Envtl. Imp. Div. v. Climax Chem. Co., N.M. , 733 P.2d 1322 (Ct. App. 1987).

*period following the date of such contract or cooperative agreement and to be disposed of, treated, or destroyed,*

*"(B) are within the State or outside the State in accordance with an interstate agreement or regional agreement or authority,*

*"(C) are acceptable to the President, and*

*"(D) are in compliance with the requirements of subtitle C of the Solid Waste Disposal Act.".*

*(l) COOPERATIVE AGREEMENTS WITH STATES.—Section 104(d)(1) of CERCLA is amended to read as follows:*

*"(1) COOPERATIVE AGREEMENTS.—*

*"(A) STATE APPLICATIONS.—A State or political subdivision thereof or Indian tribe may apply to the President to carry out actions authorized in this section. If the President determines that the State or political subdivision or Indian tribe has the capability to carry out any or all of such actions in accordance with the criteria and priorities established pursuant to section 105(a)(8) and to carry out related enforcement actions, the President may enter into a contract or cooperative agreement with the State or political subdivision or Indian tribe to carry out such actions. The President shall make a determination regarding such an application within 90 days after the President receives the application.*

*"(B) TERMS AND CONDITIONS.—A contract or cooperative agreement under this paragraph shall be subject to such terms and conditions as the President may prescribe. The contract or cooperative agreement may cover a specific facility or specific facilities.*

*"(C) REIMBURSEMENTS.—Any State which expended funds during the period beginning September 30, 1985, and ending on the date of the enactment of this subparagraph for response actions at any site included on the National Priorities List and subject to a cooperative agreement under this Act shall be reimbursed for the share of costs of such actions for which the Federal Government is responsible under this Act.".*

*(m) INFORMATION GATHERING AND ACCESS AUTHORITIES.—Section 104(e) of CERCLA is amended by redesignating paragraph (2) as paragraph (7) and aligning the margin of such paragraph with paragraphs (1) through (6) of such subsection, by inserting "CONFIDENTIALITY OF INFORMATION.—" before "(A) Any records", by striking out paragraph (1), and by striking out "(e)" and inserting in lieu thereof the following:*

*"(e) INFORMATION GATHERING AND ACCESS.—*

*"(1) ACTION AUTHORIZED.—Any officer, employee, or representative of the President, duly designated by the President, is authorized to take action under paragraph (2), (3), or (4) (or any combination thereof) at a vessel, facility, establishment, place, property, or location or, in the case of paragraph (3) or (4), at any vessel, facility, establishment, place, property, or location which is adjacent to the vessel, facility, establishment, place, property, or location referred to in such paragraph (3) or (4). Any duly designated officer, employee, or representative of a State or political subdivision under a contract or cooperative agreement under subsection (d)(1) is also authorized to take*



*such action. The authority of paragraphs (3) and (4) may be exercised only if there is a reasonable basis to believe there may be a release or threat of release of a hazardous substance or pollutant or contaminant. The authority of this subsection may be exercised only for the purposes of determining the need for response, or choosing or taking any response action under this title, or otherwise enforcing the provisions of this title.*

*"(2) ACCESS TO INFORMATION.—Any officer, employee, or representative described in paragraph (1) may require any person who has or may have information relevant to any of the following to furnish, upon reasonable notice, information or documents relating to such matter:*

*"(A) The identification, nature, and quantity of materials which have been or are generated, treated, stored, or disposed of at a vessel or facility or transported to a vessel or facility.*

*"(B) The nature or extent of a release or threatened release of a hazardous substance or pollutant or contaminant at or from a vessel or facility.*

*"(C) Information relating to the ability of a person to pay for or to perform a cleanup.*

*In addition, upon reasonable notice, such person either (i) shall grant any such officer, employee, or representative access at all reasonable times to any vessel, facility, establishment, place, property, or location to inspect and copy all documents or records relating to such matters or (ii) shall copy and furnish to the officer, employee, or representative all such documents or records, at the option and expense of such person.*

*"(3) ENTRY.—Any officer, employee, or representative described in paragraph (1) is authorized to enter at reasonable times any of the following:*

*"(A) Any vessel, facility, establishment, or other place or property where any hazardous substance or pollutant or contaminant may be or has been generated, stored, treated, disposed of, or transported from.*

*"(B) Any vessel, facility, establishment, or other place or property from which or to which a hazardous substance or pollutant or contaminant has been or may have been released.*

*"(C) Any vessel, facility, establishment, or other place or property where such release is or may be threatened.*

*"(D) Any vessel, facility, establishment, or other place or property where entry is needed to determine the need for response or the appropriate response or to effectuate a response action under this title.*

*"(4) INSPECTION AND SAMPLES.—*

*"(A) AUTHORITY.—Any officer, employee or representative described in paragraph (1) is authorized to inspect and obtain samples from any vessel, facility, establishment, or other place or property referred to in paragraph (3) or from any location of any suspected hazardous substance or pollutant or contaminant. Any such officer, employee, or representative is authorized to inspect and obtain samples of any containers or labeling for suspected hazardous substances*

*or pollutants or contaminants. Each such inspection shall be completed with reasonable promptness.*

*"(B) SAMPLES.—If the officer, employee, or representative obtains any samples, before leaving the premises he shall give to the owner, operator, tenant, or other person in charge of the place from which the samples were obtained a receipt describing the sample obtained and, if requested, a portion of each such sample. A copy of the results of any analysis made of such samples shall be furnished promptly to the owner, operator, tenant, or other person in charge, if such person can be located.*

*"(5) COMPLIANCE ORDERS.—*

*"(A) ISSUANCE.—If consent is not granted regarding any request made by an officer, employee, or representative under paragraph (2), (3), or (4), the President may issue an order directing compliance with the request. The order may be issued after such notice and opportunity for consultation as is reasonably appropriate under the circumstances.*

*"(B) COMPLIANCE.—The President may ask the Attorney General to commence a civil action to compel compliance with a request or order referred to in subparagraph (A). Where there is a reasonable basis to believe there may be a release or threat of a release of a hazardous substance or pollutant or contaminant, the court shall take the following actions:*

*"(i) In the case of interference with entry or inspection, the court shall enjoin such interference or direct compliance with orders to prohibit interference with entry or inspection unless under the circumstances of the case the demand for entry or inspection is arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with law.*

*"(ii) In the case of information or document requests or orders, the court shall enjoin interference with such information or document requests or orders or direct compliance with the requests or orders to provide such information or documents unless under the circumstances of the case the demand for information or documents is arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with law.*

*The court may assess a civil penalty not to exceed $25,000 for each day of noncompliance against any person who unreasonably fails to comply with the provisions of paragraph (2), (3), or (4) or an order issued pursuant to subparagraph (A) of this paragraph.*

*"(6) OTHER AUTHORITY.—Nothing in this subsection shall preclude the President from securing access or obtaining information in any other lawful manner.".*

*(n) BASIS FOR WITHHOLDING INFORMATION.—Paragraph (7) of section 104(e) of CERCLA (formerly paragraph (2), as redesignated by subsection (l) of this section) is amended by adding the following new subparagraphs at the end thereof:*

*"(E) No person required to provide information under this Act may claim that the information is entitled to protection*



*under this paragraph unless such person shows each of the following:*

*"(i) Such person has not disclosed the information to any other person, other than a member of a local emergency planning committee established under title III of the Amendments and Reauthorization Act of 1986, an officer or employee of the United States or a State or local government, an employee of such person, or a person who is bound by a confidentiality agreement, and such person has taken reasonable measures to protect the confidentiality of such information and intends to continue to take such measures.*

*"(ii) The information is not required to be disclosed, or otherwise made available, to the public under any other Federal or State law.*

*"(iii) Disclosure of the information is likely to cause substantial harm to the competitive position of such person.*

*"(iv) The specific chemical identity, if sought to be protected, is not readily discoverable through reverse engineering.*

*"(F) The following information with respect to any hazardous substance at the facility or vessel shall not be entitled to protection under this paragraph:*

*"(i) The trade name, common name, or generic class or category of the hazardous substance.*

*"(ii) The physical properties of the substance, including its boiling point, melting point, flash point, specific gravity, vapor density, solubility in water, and vapor pressure at 20 degrees celsius.*

*"(iii) The hazards to health and the environment posed by the substance, including physical hazards (such as explosion) and potential acute and chronic health hazards.*

*"(iv) The potential routes of human exposure to the substance at the facility, establishment, place, or property being investigated, entered, or inspected under this subsection.*

*"(v) The location of disposal of any waste stream.*

*"(vi) Any monitoring data or analysis of monitoring data pertaining to disposal activities.*

*"(vii) Any hydrogeologic or geologic data.*

*"(viii) Any groundwater monitoring data.".*

*(o) ACQUISITION OF PROPERTY.—*

*(1) IN GENERAL.—Section 104 of CERCLA is amended by adding the following new subsection at the end thereof:*

*"(j) ACQUISITION OF PROPERTY.—*

*"(1) AUTHORITY.—The President is authorized to acquire, by purchase, lease, condemnation, donation, or otherwise, any real property or any interest in real property that the President in his discretion determines is needed to conduct a remedial action under this Act. There shall be no cause of action to compel the President to acquire any interest in real property under this*

*"(2) STATE ASSURANCE.—The President may use the auth of paragraph (1) for a remedial action only if, before an i in real estate is acquired under this subsection, the S which the interest to be acquired is located assures t*

*SEC. 2. CERCLA AND ADMINISTRATOR.*

*As used in this Act—*

*(1) CERCLA.—The term "CERCLA" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq.).*

*(2) ADMINISTRATOR.—The term "Administrator" means the Administrator of the Environmental Protection Agency.*

*SEC. 3. LIMITATION ON CONTRACT AND BORROWING AUTHORITY.*

*Any authority provided by this Act, including any amendment made by this Act, to enter into contracts to obligate the United States or to incur indebtedness for the repayment of which the United States is liable shall be effective only to such extent or in such amounts as are provided in appropriation Acts.*

*SEC. 4. EFFECTIVE DATE.*

*Except as otherwise specified in section 121(b) of this Act or in any other provision of titles I, II, III, and IV of this Act, the amendments made by titles I through IV of this Act shall take effect on the enactment of this Act.*

## *TITLE I—PROVISIONS RELATING PRIMARILY TO RESPONSE AND LIABILITY*

*SEC. 101. AMENDMENTS TO DEFINITIONS.*

*(a) INDIAN TRIBE.—Paragraph (16) of section 101 of CERCLA (defining "natural resources") is amended by striking "or" the last time it appears and inserting before the punctuation at the end thereof the following: ", any Indian tribe, or, if such resources are subject to a trust restriction on alienation, any member of an Indian tribe".*

*(b) STATE OR LOCAL GOVERNMENT LIMITATION.—Paragraph (20) of section 101 of CERCLA (defining "owner or operator") is amended as follows:*

*(1) Add the following new subparagraph at the end thereof:*

*"(D) The term 'owner or operator' does not include a unit of State or local government which acquired ownership or control involuntarily through bankruptcy, tax delinquency, abandonment, or other circumstances in which the government involuntarily acquires title by virtue of its function as sovereign. The exclusion provided under this paragraph shall not apply to any State or local government which has caused or contributed to the release or threatened release of a hazardous substance from the facility, and such a State or local government shall be subject to the provisions of this Act in the same manner and to the same extent, both procedurally and substantively, as any nongovernmental entity, including liability under section 107.".*

*(2) Amend clause (iii) of subparagraph (A) to read as follows: "(iii) in the case of any facility, title or control of which was conveyed due to bankruptcy, foreclosure, tax delinquency, abandonment, or similar means to a unit of State or local government, any person who owned, operated, or otherwise controlled activities at such facility immediately beforehand.".*

99TH CONGRESS
2d Session
HOUSE OF REPRESENTATIVES
REPORT
99-962

# SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986

OCTOBER 3, 1986.—Ordered to be printed

Mr. ECKART, from the committee of conference, submitted the following

## CONFERENCE REPORT

[To accompany H.R. 2005]

The committee of conference on the disagreeing votes of the two Houses on the amendment of the House to the amendment of the Senate to the bill (H.R. 2005) to amend title II of the Social Security Act and related provisions of law to make minor improvements and necessary technical changes, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the Senate recede from its disagreement to the amendment of the House to the amendment of the Senate and agree to the same with an amendment as follows:

In lieu of the matter proposed to be inserted by the House amendment insert the following:

*SECTION 1. SHORT TITLE AND TABLE OF CONTENTS.*

*This Act may be cited as the "Superfund Amendments and Reauthorization Act of 1986".*

*TABLE OF CONTENTS*



62-966 O

818

364

# QUITCLAIM DEED

Thriftway Marketing Corporation, a New Mexico corporation, for consideration paid, quitclaims to Clayton Investment Company, a New Mexico limited partnership, whose address is 710 East 20th Street, Farmington, New Mexico, the following described real property in San Juan County, State of New Mexico:

SEE EXHIBIT A ATTACHED HERETO AND MADE A PART HEREOF

SUBJECT to all Mortgages and liens of record.

WITNESS the execution hereof this 26 day of March, 1985.

THRIFTWAY MARKETING CORPORATION
A NEW MEXICO CORPORATION

Jerry D. Clayton, President

ATTEST:

Phyllis Jane Clayton
Secretary

3617E-2

FILED OR RECORDED
BOOK 1018 PAGE 364
SAN JUAN COUNTY, NEW MEXICO

MAY 08 1985

AT 12:20 O'CLOCK P. M
SANDRA TOWNSEND
COUNTY CLERK

DEPUTY

Rec #55467 Fee 8.00

EXHIBIT A

SHADY ACRES PARCEL

The North One-half of the Northwest Quarter of the Northwest Quarter of Section Twenty-two, in Township Twenty-nine North, Range Eleven West, N.M.P.M., New Mexico, SAVE AND EXCEPT a 5.5021 acre tract described as follows:

5.5021 acres, more or less, out of the North One-half of the Northwest Quarter of the Northwest Quarter of Section Twenty-two, Township twenty-nine North, Range Eleven West, N.M.P.M., New Mexico, the 5.5021 acre tract being described as follows:

BEGINNING at a point in a fence line located 19.5 feet South of the North line of Section Twenty-two being located 33 feet West from a fence corner and 9 feet West of the centerline of a ditch and being also located Easterly 1000.3 feet, more or less, from the West line of Section 22;

THENCE South parallel with and 33 feet West of the fence, a distance of 492.7 feet;

THENCE West 294.5 feet;

THENCE North 159.7 feet, more or less, to a point located 10 feet South of the toe of a firewall;

THENCE West parallel with and 10 feet South of the toe of the firewall a distance of 294 feet, more or less, to a point located 10 feet West of the prolongation of the toe of a North and South firewall;

THENCE North parallel with and 10 feet West of the toe of the North and South firewall, a distance of 333 feet, more or less, to a point in the fence line;

THENCE East along the fence a distance of 578.5 feet, more or less, to the place of beginning and containing 5.5021 acres, more or less.

AND SAVE AND EXCEPT

A tract of land in the North One-half of the Northwest Quarter of the Northwest Quarter of Section Twenty-two, Township Twenty-nine North, Range Eleven West, N.M.P.M., New Mexico, described as follows:

BEGINNING at a point which is South 89° 41' East 320.5 feet and South 19.5 feet from the Northwest corner of Section 22,

THENCE South 89° 41' East 100.00 feet;

THENCE South 333.00 feet;

THENCE North 89° 41' West 100.00 feet;

THENCE North 333.00 feet to the point of beginning, containing 0.764 acres, more or less, and being in the City of Bloomfield.

This Deed does not convey and reserves to previous owners all of the oil, gas and other minerals in, on, under and that may be produced from the above-described tract of land.

Grantor, by this conveyance, intends to convey, irrespective of the description otherwise appearing in this Deed, all of the property owned by Grantor contiguous to and abutting the described property, without any gap, or gaps, and no intervening space or spaces or other hiatus reserved by Grantor.

364-D

SUBJECT TO all rights-of-way, easements and reservations of record which affect the above-described tract of land.

AND

The north five feet of a ten foot strip of land adjacent to and adjoining the north line of Lots Eleven, Twelve, Thirteen, and Fourteen, Block Two, Triplett Subdivision No. 2 to the City of Farmington.

Grantor, by this conveyance, intends to convey, irrespective of the description otherwise appearing in this Deed, all of the property owned by Grantor contiguous to and abutting the described property, without any gap, or gaps, and no intervening space or spaces or other hiatus reserved by Grantor.

CORRECTIVE DEED

BLOOMFIELD REFINING COMPANY, a Delaware corporation ("Grantor"), for consideration paid, grants to THRIFTWAY MARKETING CORPORATION, a New Mexico corporation, whose address is 710 East 20th, P. O. Box 1367, Farmington, New Mexico 87401, the following-described real estate in San Juan County, New Mexico, with special warranty covenants:

SHADY ACRES PARCEL

The North One-half of the Northwest Quarter of the Northwest Quarter of Section Twenty-two, in Township Twenty-nine North, Range Eleven West, N.M.P.M., New Mexico, SAVE AND EXCEPT a 5.5021 acre tract described as follows:

5.5021 acres, more or less, out of the North One-half of the Northwest Quarter of the Northwest Quarter of Section Twenty-two, Township twenty-nine North, Range Eleven West, N.M.P.M., New Mexico, the 5.5021 acre tract being described as follows:

BEGINNING at a point in a fence line located 19.5 feet South of the North line of Section Twenty-two being located 33 feet West from a fence corner and 9 feet West of the centerline of a ditch and being also located Easterly 1000.3 feet, more or less, from the West line of Section 22;

SAN JUAN COUNTY CLERK STATE OF NEW MEXICO

FILED OR RECORDED
BOOK 1008 PAGE 199
SAN JUAN COUNTY, NEW MEXICO

JAN 8 1985
AT 2:05 O'CLOCK P M
SANDRA TOWNSEND
COUNTY CLERK
DEPUTY

Rec # 50582 Fee $7.00

THENCE South parallel with and 33 feet West of the fence, a distance of 492.7 feet;

THENCE West 294.5 feet;

THENCE North 159.7 feet, more or less, to a point located 10 feet South of the toe of a firewall;

THENCE West parallel with and 10 feet South of the toe of the firewall a distance of 294 feet, more or less, to a point located 10 feet West of the prolongation of the toe of a North and South firewall;

THENCE North parallel with and 10 feet West of the toe of the North and South firewall, a distance of 333 feet, more or less, to a point in the fence line;

THENCE East along the fence a distance of 578.5 feet, more or less, to the place of beginning and containing 5.5021 acres, more or less.

AND SAVE AND EXCEPT

A tract of land in the North One-half of the Northwest Quarter of the Northwest Quarter of Section Twenty-two, Township Twenty-nine North, Range Eleven West, N.M.P.M., New Mexico, described as follows:

BEGINNING at a point which is South 89° 41' East 320.5 feet and South 19.5 feet from the Northwest corner of Section 22,

THENCE South 89° 41' East 100.00 feet;

THENCE South 333.00 feet;

THENCE North 89° 41' West 100.00 feet;

THENCE North 333.00 feet to the point of beginning, containing 0.764 acres, more or less, and being in the City of Bloomfield.

This Deed does not convey and reserves to previous owners all of the oil, gas and other minerals in, on, under and that may be produced from the above-described tract of land.

Grantor, by this conveyance, intends to convey, irrespective of the description otherwise appearing in this Deed, all of the property owned by Grantor contiguous to and abutting the described property, without any gap, or gaps, and no intervening space or spaces or other hiatus reserved by Grantor.

Together with all the right, title and interest of Grantor forever in and to the benefit of all covenants of warranty, seisin, quiet enjoyment, and against encumbrances, and any claims based thereon, to which Grantor is or may be entitled by virtue of covenants in deeds given by prior grantors in the chain of title to the real estate if any covenant of prior grantors was broken by the prior grantors.

SUBJECT TO all rights-of-way, easements and reservations of record which affect the above-described tract of land.

AND

for consideration paid, quitclaims to THRIFTWAY MARKETING CORPORATION, a New Mexico corporation, the following-described real estate in San Juan County, New Mexico:

The north five feet of a ten foot strip of land adjacent to and adjoining the north line of Lots Eleven, Twelve, Thirteen, and Fourteen, Block Two, Triplett Subdivision No. 2 to the City of Farmington.

Grantor, by this conveyance, intends to convey, irrespective of the description otherwise appearing in this Deed, all of the property owned by Grantor contiguous to and abutting the described property, without any gap, or gaps, and no intervening space or spaces or other hiatus reserved by Grantor.

Together with all the right, title and interest of Grantor forever in and to the benefit of all covenants of warranty, seisin, quiet enjoyment, and against encumbrances, and any claims based thereon, to which Grantor is or may be entitled by virtue of covenants in deeds given by prior grantors in the chain of title to the real estate if any covenant of prior grantors was broken by the prior grantors.

On November 1, 1984, Bloomfield Refining Company, a Delawar corporation, conveyed to Thriftway Marketing Corporation, a New exico corporation, certain real property interests in San Juan ounty, New Mexico. The Deed was recorded on November 19, 1984 ith the San Juan County Clerk in Book 1005 Page 125. The Dee contained typographical errors which the Grantor wishes to cor by the filing of this Corrective Deed.

16 15
21

CITY OF FARMINGTON
CENTRAL ASSESSED
492-509
8-712-77
100.0'
100.0'
310'
330'

GIANT INDUSTRIES INC.
B-960 P 228
8-679-563
454-509
576.50'
294.0'
159.70'
294.50'
492.70'
484-478
1008
199

CLAYTON INVESTMENT COMPANY
B-1029 P 79

CLAYTON INVESTMENT COMPANY
B-1018 P 364
REFER TO CODE 484-478
1008
199
680'
680'
50'

GLADYS M.

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70' 1 BILLY W. BURKS 519-456 55' | 60' 2 SHERYL MILLER B-1107 P 540 511-456 60' | 70' 3 YOGI B. CHAVEZ 505-456 70' | 60' 4 TRUSY WERITO B-1104 P 921 499-456 60' | 70' 5 WILLIAMS ET AL B-1119 R96 492-456 70' | 60' 6 JOHN E. LINVILLE ET AL 485-456 60' | 7 CONNIE J. DYER 472-456 | 8 LANAE V. STEWART B-1129 P. 351 472-456 | 9 CONNIE M. GARCIA B-947 P 124 466-456 | 10R 459-456 SAMUEL MCKKUGALL 10/8 56 | 11R ERNEST 483-456 L. SHOOK B-1110 P 873 | 12R CHESTER 446-456 H. PHELPS B-1103 P. 921 | 13R DOROTHY 440-456 REED B-1022 P. 595 | 14R EDWARD 437-456 L. SANDERS 999 376 | 15R CALTON L. 431-458 KEELING 987 364 |

TARPLEY SUBDIVISION

HONEYLOCUST STREET

FRONTIER STREET

STREET TARPLEY SUB NO 1

| | | | |
|---|---|---|---|
| 518-442 1 ANN M. PERIER | PROST INTERPRISES INC SUB 1 102.51 | 1169 62 | |
| MILTON A. PLUME 2 518-435 | MICHAEL J. 13 508-435 BARBER | | |
| MILTON A. 3PLUME 518-428 | SHIRLEY Y. WOLFE 2 508-428 | | |
| ALEX R. 4 ABEYTA 518-422 | GERALD E. 508-422 REEVES | | |
| ALEX R. ABEYTA 5 518-415 | GENEWA C. FUNK 10 508-415 B-1126 P.794 | | |
| CLIO M. CHAVEZ 6 508-409 B-970 P 522 1N-21 | SUZY HOWARD 9 508-409 B-957 P 119 | | |
| DANA E. MOTTO 7 518-402 SAMUEL R. HARRIS | JOANN ATENCIO 8 B-1150 P.549 508-402 | | |
| 62 WINDELL D WILLIAMS 8731 P403 514-369 | | | 62 |
| KELLY JD JETTER 514-390 B-1062 P 162 | | | 68' |
| DAVID L. SCHAFER 514-384 B-1134 P 654 | | | 80' |
| GILBERT A CHACON 514-373 | | | 105' |
| B-730-210 210.0' | | | |

| | | | |
|---|---|---|---|
| GEORGE W. PENNINGTON 1 493-412 | ANGELO R. MARTINEZ B-1122 P. 710 24 483-442 | | |
| TRACY L. 2 493-434 MOORE B. 1084 P 265 | MIKE J. TALAMANTE 1008 411 23 483-434 | | |
| 493-428 3 ELAINE RAMER | JOEL M. JOHNSON 22 483-428 | | |
| KAREN L. CARUFE 4 493-420 B-1065 P 190 | RANDALL E. CROCKETT 21 483-420 B-1033 P 160 | | |
| CHESTER H. PHELPS 5 493-415 B.1106 P.363 | RICHARD PLUMMER JR. 20 483-415 Q.C. B.1096 P.93 | | |
| RICHARD B. ALEXANDER B.1102 P.968 493-408 | B.1162 P. 375 19 483-408 TOMMIE ARMENTA | | |
| RAY L. GRAHAM 7 493-401 TST | LORI J. MARQUEZ 18 483-401 B.1135 P 530 | | |
| IGNACIO A. GONZALEZ 6 493-394 B.1131 P. 79 | MICHAEL T. GARRETT 17 483-384 B. 1118 P 2 | | |
| PAUL J. DENTLER 9 493-387 B-1098 P.949 | TAMMY MAESTAS 16 483-387 B-1155 P.274 | | |
| 10 TRACY E. TRUJILLO 493-381 | LYNDA J. SOUTH 483-381 1139 578 15 | | |
| DEBRA BLADES 11 493-374 B.1164 P.173 | PERRY G. PHELPS % 14 HARVEY 483-374 WERITO ESC.126 P.27 | | |
| MANUEL ZEPEDA | DARREL BROWN | | |

STREET TARPLEY SUB NO 2

SIXTH STREET

| | | | |
|---|---|---|---|
| 1 LEU DANIELS B.1093 P.702 467-442 | 24 TAMMY J. BRICKEY 1001 457-442 K 74/147 | | |
| SCOTT MANON 2 467-434 B-1100 P.253 | TARPLEY % TARPLY & ASSOC. 23 457-434 B.469 P.392 E.462 P.75 | | |
| RICHARD W. PHELPS 3 467-428 B. 1108 P. 692 | VIANNA H. 22 457-428 WELCH B. 271 P 341 | | |
| LISA J. REID 4 467-420 | YVETTE D. DIAZ 1018 409 21 457-420 | | |
| 5 GARY W. COTTON 467-415 | R.1147 P. 709 20 457-415 SUSIE A. SANCHEZ | | |
| BENJIGNACIO JR. 6 467-408 B.1112 P.708 | 19 457-408 MARK A. BOWEN B.026 P.249 | | |
| SALVADOR GALLARDO 7 467-401 B.1164 P 484 | LORETTA M SANCHEZ 18 457 401 1018 344 | | |
| SALVADOR GALLARDO 8 467-394 ET AL | LARRY C. CHARLEY 17 B.1126 P. 506 457-344 | | |
| BARBARA J. WILLIAMS 9 467-387 1029/367 | JOY A. 1139 512 457-387 WALDEN | | |
| JAMES TARPLEY 10 467-381 1012 77 % TARPLEY ASSOC. 805 392 11 467-374 | RALPH D. CARBERRY 13 457-381 B. 1155 P. 57 | | |
| ANTHONY BRADY | RANDI E. LEDFORD ET AL 14 457-374 B.1160 P.776 | | |
| | EANNA M. CHACON | | |

MOORE STREET TARPLEY SUB NO 3

| | | | |
|---|---|---|---|
| ROBERT T. BOUREN B.1035 P101 442-442 | 24 JIMI ARMSTRONG B.1107 P.974 436-443 | | |
| GEORGE C. GURULE B. 112 P.288 442-434 | 23 DINAH M. LARGO 436-437 B.1056 R170-347 | | |
| WINIFRED I. 3 442-428 TIMMS B.1109 P.253 | 22 WILMA GOODWIN 436-430 | | |
| ROBERT D. BRITTON 4 442-420 Q.C. B.1119 P621 | 21 WILMA 436-423 GOODWIN | | |
| YOLANDA 5 442-415 GONZALES B-1033 P.417 | 20 WILMA 436-417 GOODWIN | | |
| 6 ANGELA M. PLATERO 442-408 | 19 CHAVELA 436-410 B-1079 P.722 | | |
| JUDITH C. 7 442-401 RODRIQUEZ B.1143 P.953 | 18 MARC A. BOUGEANT 436-403 | | |
| 8 PAULA M. MIZE 442-394 | 17 SHIRLEY A. GLOVER 436-396 | | |
| VIKI L. BROOKS 9 B-1091 P.460 442-387 | 16 CHRIS G. GONZALES 436-389 B.1165 P.369 | | |
| DEBORAH MONTOYA 10 442-381 B.1157 P. 541 | 15 GERALD E. REEVES 436-385 | | |
| LINDA M. HARPER 11 442-374 B.1022 P.481 | 14 WENDY L. SMITH 436-376 B-1071 P 59 | | |
| JEFFERY R. ALLISON 442-368 | 13 MICHAEL GRANT 436-369 | | |

BLOCK FIVE

- STREET

S 0° 04' 22" W 211.44'
S 2° 31' 34" W 680.66'

| | | | |
|---|---|---|---|
| 1 TARPLEY % RICHARD D. HOSTETLER 418-457 | 2 417 457 462-75 | 3 % 413 457 869 | 4 1160 410 457 392 |
| 5 400-447 | 6 400-443 | 7 400-440 | 8 400-436 |
| 9 400-433 | 10 400-429 | 11 400-426 | 12 400-422 |
| 13 400-419 | 14 400-415 | 15 400-412 | 16 400-409 |
| 17 400-405 | 18 400-402 | 19 TRES RIO HABITAT FOR HUMANITY 400-398 | |
| 20 1057/869 400-395 | 21 1058/860 400-391 CARRI CLINE | 22 AUGUSTINE 4411-388 SALAZAR | |
| 23 400-384 SHERRY A. NELSON B.1128 R352 | 24 HARGH A. 400-380 DRIEVER | 27A BLOOMFIELD SCHOOLS B.1154 P 36 | |

KITTELL LOOP TARPLEY TOWNHOUSE SUBD.

| | | | |
|---|---|---|---|
| 1 414-443 TARPLEY % RICHARD D. HOSTETLER 1160 775 B.462 P.75 | 2 869 392 | 3 63.90 414-430 100.0 | 4 63.90 414-423 100.0 |
| 5 63.90 414-417 100.0 | 6 63.90 414-410 100.0 | 7 63.90 414-404 100.0 | 8 63.90 414-397 100.0 |
| 9 63.90 414-391 RICHARD D. HOSTETLER | 10 63.90 414-384 % TARPLEY ET AL 75.0 | | |

SOLOMAN
456.28'

CHARLES DAVIS
% MANFRED OLESHKO

3.46 AC

| | | | |
|---|---|---|---|
| ROBERT RAMSEY B-865-423 388 1 524 | LYNN H. MILTON B.1125 P.540 1 370-520 | ROBERT D. CHENAULT A 355-520 | RUBY A HICKS % BASIL O PLEMONS 335-523 B 8-785-290 ESC.1139 P829 |
| 388-518 RAYNA A. ATENCIO 130.0 | | | SHIRLEY A. HAUN 335-514 B.1114 P 819 |
| HELEN BLEVINS 2 388-511 B-886-388 | CARLOS JARAMILLO 2 370-511 B-717-248 | VALENTINE R. GOMEZ 355-511. B.1142 P.137 | |
| GARY R. MCFARLAND B.1098 P.850 3 388-505 | CARLOS JARAMILLO 3 370-505 B-757-487 | W. H. PAGE 355-506 B-1115 P 609 140.0' | ROBERT D. CHENAULT % AARON S. VIGIL 335-504 150.0' |
| THOMAS CHECKETTS 4 388-499 | ROSIE MONTANO 4 370-499 B-888-233 | 10 355-499 | DENNIE O. STAHLE 335-1499 % JOSEPH L. |
| 5 388-493 ELDON E. A ESTES | LUCY R GONZALES 5 370-493 B-890-90 | ELISEO VALDEZ 11 355-493 B-941-293 | SIGNORET CT CHARLES M. COLE 335-493 B. 1094 P. |
| B-1099 P. 521 6 388-488 (2) | 6 370-488 KELLY A. JONES | ELZA 12 STUART % 355-488 (4) ALBERT L. MARRUFO B-717-341-342 | 3 335-468 (6) |
| CARLOS 7 LUCERO JR 388-481 B-792-131 | CONALD B. 7 370-481 COLEMAN B.957 P.54 | B.1121 P.671 13. | 4 DOUGLAS A. WADE |
| HENRY J. NEASON 8 388-475 B-802-422 | HENRY CAFFERTUN 8 370-475 B1111 P.724 | CHAD E. REEVES 1160 619 355-475 14 | MELVIN GRIMM 5 335-475 B-868-546 |
| DEWAYNE ROBERTS % LEROY SR LARRUBAS 388-469 ESC.1115 P 213 | CYNTHIA BLAKESLEY 9 370-469 | 15 355-469 KATHLEEN BENALLY | JOE T ROWELL TRUSTEE 396 335-458 6 TRUSTEE 566 335-469 |
| | | | 335-463 Z |

McDANIEL PLACE

| | | | |
|---|---|---|---|
| 1 388-458 GEORGE | PAUL J. DENTLER 1 370-458 B.1119 P.509 | RICK D. FLIPPEN 11 355-458 B.1136 P. 831 | |
| VALDEZ JR. 2 LOMA 388-442 | PAUL J. DENTLER 2 VISTA 370-452 B.1119 P.508 | 12 SUBDIVISION 443-432 | |
| ERIC J. PETERS 3 388-446 | 3 370-446 | ANDREW FARIAN 355-446 B-861-339 13 | IRVIN SAM B.1133 2 P.484 335-452 |
| RICHARD 4 GRANADO 388-440 1162 (1) 786 | PAUL J. DENTLER 4 370-440 B-1119 P.508 | 14 355-440 | GERHARD H. ZICHER 335-446 |
| PERRY G. PHELPS % CLARENCE N. WMS 388-434 B.1127 P.86C | CLYDE A. WARD 5 370-434 | 15 355-434 JAMES KERN | GERHARD H. ZICHER 335-440 (5) |
| 6 388-428 RAYMOND G. | CLA MAE GENRES 6 ET AL 370-428 B-957 B-782-302 P.385 | B-1151 16 P 274 335-428 | 5 335-434 DOROTHY A. RANDOLPH |
| PHELPS 7 383-432 1074 343 | B.1169 7 R 425 370-429 KURT L. VANAUKEN | CHARLES G. CROOKS JR. 17 355-422 B. 1127 P. 248 | 6 |
| H. DARRELL BOGART 8 388 4lb B.1130 P 416 % CARL PETERS | NORMAN GIOVANINI 8 370-416 B-1048 P.104 | NORMAN D. 18 355-416 GIOVANINNI B-328-572 | 7 |
| H. DARRELL BOGART 9 388-406 | B. GIOVANINI 9 370-410 B.1144 P.456 | Q.C. B.128 P.841 9 335-410 | ALBERT W NICHOLS 8 335-416 B-735-269 |
| B.1159 P.157 130.0' | BILLY G. BAKER 10 370-402 B.1135 P.080 130.0' | H. FREEMAN DAVIS 20 355-402 140.0' | ALBERT W NICHOLS 9 335-410 B-730-16 |
| | | | MANUEL J. ARMENTA 10 335-402 B-720-599 A 150.0' |

CITY OF

U.S.
.76 A.

STREET

CHARLES
% MANFRED OL

325-3