3R - 001

Investigation & WORKPLANS

DATE: 2006-2007

Phase I

REVISED CONCEPTUAL REMEDIAL ACTION PLAN FORMER AEREX REFINERY BLOOMFIELD, NEW MEXICO KLEINFELDER PROJECT NO. 86181PROP

August 7, 2007

Prepared for: NEW MEXICO OIL CONSERVATION DIVISION
1200 SOUTH SAINT FRANCIS DRIVE
SANTA FE, NEW MEXICO 87505

Prepared by: KLEINFELDER
8300 Jefferson NE Suite B
Albuquerque, New Mexico 87113

KLEINFELDER
An employee owned company

August 7, 2007

Kleinfelder Project No. 86181 PROP
File No.: ALB07RP001

Mr. Wayne Price
New Mexico Oil Conservation Division
1200 South St. Francis Drive
Santa Fe, New Mexico 87505

Subject: Revised Conceptual Remedial Action Plan
Former Aerex Refinery
Bloomfield, New Mexico

Dear Mr. Price:

Kleinfelder West, Inc. (Kleinfelder) is pleased to present the Revised Conceptual Remedial Action Plan for the former Aerex Refinery Site in Bloomfield, New Mexico. This proposal modifies our technical approach and revises the costs found in Kleinfelder's Phase I Subsurface Assessment dated April 6, 2006 (Phase I). This proposal references data, figures, tables, and appendixes found in the Phase I and should be reviewed with a copy of the Phase I at hand. A schedule of activities has been developed for the site based on the City of Bloomfield's stated intention of building on the property starting at the end of March, 2008.

Should any questions arise concerning this proposal, we would be pleased to discuss them with you.

Respectfully submitted,

KLEINFELDER WEST, INC.

Justin D. Ball, P.G.
Project Manager

Reviewed by:

Fred T. Schelby, P.E.
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1.0 INTRODUCTION

This proposal updates the scope of work and costs presented in the conceptual remediation action plan, a section of Kleinfelder's Phase I Subsurface Assessment dated April 6, 2006, which was performed on a portion of the former Aerex Refinery (Site) located in Bloomfield, New Mexico. Data, Figures, Tables and Appendixes referenced in this proposal can be found in the Phase I report.

2.0 SUMMARY OF SITE ASSESSMENT DATA

2.1 Extent of Groundwater Contamination

Results of the groundwater sampling and analysis event revealed the presence of dissolved-phase petroleum-related hydrocarbons in two of the three wells sampled (MW-2 and MW-3K) (Tables 3 through 6, and on Figure 4). The highest concentrations of contaminants were observed in MW-3K. The groundwater sample collected from MW-3K contained total naphthalenes at concentrations exceeding the New Mexico Water Quality Control Commission (NMWQCC) standards.

2.2 Extent of Soil Contamination

The site was characterized on a grid pattern of borings. The horizontal extent of actionable contaminated soil is shown on Tables 1, 7, 8, and on Figure 8. Actionable contaminated soil is defined as soils which exhibited total TPH over 100 milligrams per kilogram (mg/kg) or heated headspace readings over 100 parts per million by volume (ppmv). The estimated lateral extent of actionable soil is shown as orthogonal blocks, extending equal distance between the impacted boring and the adjacent clean boring. In cases where adjacent clean borings heated headspace reading were between 50 and 99 ppmv, the blocks were extended three-quarters of the distance between the impacted boring and the adjacent boring. The actionable soil onsite is limited to four areas:

1. Within the southern zone of impact, boring D-1 encountered actionable soil from 4 to 6 feet below ground surface (ft bgs). This boring is located approximately 35 ft south of an area which according to the 1961 air photo, apparently contained two, twin 35 ft x10 ft horizontal above ground storage tanks (ASTs).

2. The central zone of impact contains the largest lateral extent of actionable soils as encountered in borings F-1, F-2, G-2, G-3, G-4, G-4, G-5, H-1, H-2, H-4 and I-2. These boring encountered actionable soils at depths ranging from the surface to approximately 8 ft bgs (F-2, G-2, G-3) to 10-12 ft bgs. Based on the 1961 air photo, this area formerly contained portions of four ASTs, a building, and what appears to be aboveground piping. Foundations observed during field activities indicated that boring G-2 was near a bulk product loading area. The central portion of the site contains the only area of impact predominantly of gasoline range organics (borings G-2 and H-2).

3. Boring I-6 in the northeast zone of impact encountered actionable soil from 4-6 ft bgs. Foundations observed during field activities indicate that boring I-6 was near a bulk product loading area. The 1961 air photo shows a building and pad at that location.

4. The northern zone of impact contains the second largest area of actionable soil as encountered in borings K-3, K-4 and K-5. These borings encountered actionable soil at depths ranging from 4-8 ft bgs in K-3 to 2-16 ft bgs in K-4 and K-5. The 1961 air photo shows refining processing equipment and open space in that area.

As can be seen in the north-south cross section (Figure 5), the vertical extent of actionable, contaminated soil, as defined by heated headspace screening levels above 100 ppm, is generally not limited to the soil type or unit. Groundwater at the Site exists at depths ranging from approximately 6 to 9 ft bgs. Of the four identified areas of impacted soil, two areas include a vertical extent of impacted soil that extends between 4.5 to 7.5 ft into the saturated zone. These two areas include portions of the central zone of impact (borings F-1, H-2 and I-2) and the northern zone of impact (borings K-4 and K-5).

The thickness of actionable soil is illustrated on Figure 8, and an estimated volume of in-place actionable soil is calculated for each of the four areas. An estimated 7,600 cubic yards (cyds) of actionable soil is located in place on Site.

2.3 Extent of Overburden Soils

Figure 9, revised for this proposal, illustrates the thickness of soil above the actionable soil zones. Isopachs illustrate the thickness of clean overburden to be removed prior to revealing and excavating actionable soil. Figure 9 lists an estimated volume of overburden for each block within each zone of impact. Approximately 3,000 cyds of overburden is located on Site. The overburden thickness ranges from 2 ft near I-6 and G-3 to approximately 6 ft by borings G-4. Based on preliminary physical soil characterization, most of the overburden material can be re-used as compacted fill material. Some blending of the overburden material with import fill material may be required.

3.0 REVISED CONCEPTUAL REMEDIAL ACTION PLAN

3.0 Conceptual Remedial Action Plan

Various remedial action technologies were considered for addressing on-Site soil and groundwater contamination including soil vapor extraction, groundwater pump and treat, air sparge/air venting, in-site chemical reagent application, and excavation with offsite disposal of soil. These remedial methods were evaluated based on the following criteria: 1) the Site-specific applicability of each technology for remediation of impacted soil and groundwater, 2) duration and costs required for system design and permitting,

3) duration and costs required for system installation, 3) costs required for system operation and maintenance, 4) costs associated with long-term system and groundwater monitoring, and 5) time interval required between system implementation and readiness of the site to be available for new construction.

Based on the information obtained during our Phase I Assessment and Kleinfelder's Site-specific evaluation, we have determined that excavation and off-site disposal combined with in-Situ chemical reagent application to be the most time and cost effective remedial approach for the Site. Excavation and off-site disposal combined with in-Situ chemical reagent application of the contaminated source materials is the most advantageous due to the following Site-specific characteristics: 1) the Site is currently undeveloped, allowing for the space required for large equipment and staging of clean and impacted soil; 2) the Site is located relatively close to a facility permitted to accept petroleum impacted soil for land farming; 3) the contaminated areas are situated within easily excavatable soils; 4) the onsite availability of backfill material (Appendix A); 5) the reduced timeframe between remedial implementation and readiness of the site to be available for new construction; 6) chemical agent application can address the impacted, non-readily excavatable soils situated below the water table; 7) chemical agent application can address the impacted groundwater within in the central portion of the Site; and 8) the proposed, combined remedial techniques aggressively target the sources of petroleum impact at the Site.

Kleinfelder proposes to address the remediation of onsite petroleum hydrocarbon impacted soil by three methods: 1) limiting the excavation of impacted soil to the vadose zone and where necessary, slightly below the water table (<2 ft), 2) applying a chemical reagent to open excavations prior to backfilling to remediate residual amounts of remaining impact in the soil and groundwater, and 3) insitu injection of a chemical reagent into the subsurface in areas of impact significantly below the water table (> 2 ft). The chemical reagent will be applied at concentrations necessary to reduce the mass of petroleum hydrocarbons.

3.1 Pre-FRP Activities

Geophysical Survey

Given the foundations and stubbed off steel pipes observed during the site visits, it is likely that subsurface portions of the refining facility were not removed during dismantling of the facility (Appendix A). In order to identify underground items prior to excavation, Kleinfelder proposed to conduct a geophysical survey of the Site. The geophysical survey of the Site will provide valuable shallow subsurface information prior to implementing the contaminant soil removal activities. Should significant burial debris be identified during the geographical survey, removal and disposal of the debris will be factored into the final remediation scope of services.

Baseline Groundwater Sampling Event

The monitoring of the three existing site monitoring wells will be conducted prior to application to establish background conditions. Geochemical monitoring and sampling will be necessary to gauge the effects of the application of the peroxygen compounds.

Waste Pre-Characterization

The proposed disposal facility (Envirotech) has requested additional analysis for RCRA 8 metals based on the planned volume of soil to be landfarmed. A soil sampling event using GeoProbe™ is planned to collect 15 samples to be analyzed for total RCRA 8 metals. We have budgeted 5 samples for analysis by TCLP RCRA 8 metals.

Excavation Pilot Study (Optional)

If recharge to the excavation occurs at a sufficiently slow rate, it may be feasible to excavate the impacted soil at depths > 2 ft below the water table. As an option, Kleinfelder can evaluate whether dewatering of the excavation is a feasible by conducting a 24-hour pilot test. A 15x15x10 ft. test hole in the southern portion of the site will be excavated. A pump will be used to pump water from the excavation into a frac tank. Extracted groundwater will be sampled and tested to determine the necessary disposal options. Groundwater will be disposed of at Envirotech's NMOCD Permitted Landfarm #2 in Hilltop, New Mexico.

Former Lagoon Assessment Remediation (Optional)

Kleinfelder discussed the lagoon feature shown on the 1961 air photo (Figure 2) with the NMOCD during the field activities of this investigation. The former lagoon is located immediately west of the southwest corner of the Site. The NMOCD expressed interest in characterizing petroleum impact to soil and groundwater associated with this feature. Kleinfelder proposes to obtain access to the property from Clayton Investments, Inc., install 12 soil borings in the vicinity of and down gradient from the former lagoon, install a single groundwater monitoring well in the center of the former lagoon, and collect soil and groundwater samples similarly to section 2.0.

Should remedial action be deemed necessary at the lagoon location, remediation of the former lagoon will be incorporated into the FRP.

3.2 Final Remediation Plan

Kleinfelder will prepare and submit to the NMOCD project manager a draft final remediation plan (FRP). Within 10 working days of receiving NMOCD comments, Kleinfelder will submit the final FRP. The design and engineering of the FRP will be conducted under the supervision of a licensed professional engineer registered in New Mexico. The drawings, plans, and diagrams will be signed and sealed by the same professional engineer who supervises the design of the FRP. A final cost estimate will be submitted concurrently with the FRP.

3.3 FRP Implementation

3.3.1 Pre-Field Activities

Public Notice

Kleinfelder will publish legal notice at least twice in a newspaper of appropriate circulation. The date of the second publication shall be no later than 7 days after submitting the final remediation plan to NMOCD. An Affidavit of Publication shall be submitted to NMOCD no later than 21 days from the date of final remediation plan submittal.

Permitting

An Underground Injection Control Permit for the chemical reagent in-Situ injection will be sought from the NMED. Kleinfelder will contact local governments to determine if traffic or construction permits will be required. In addition, dust suppression will be conducted by water spraying during the course of the excavation. Since the planned area of excavation of 0.78 acres is less than the 1.0 acre EPA threshold value, an EPA Storm Water Management Plan (SWMP) is not required; however, Kleinfelder proposes to prepare and implement a SWMP as an optional task in the event that the excavation exceeds the 1.0 acre EPA threshold. A SWMP will also assist in reducing impact to the nearby community caused by site excavation activities and will avoid unnecessary delays and associated costs. At a minimum, a silt fence will be installed along the west side (down slope) of the site abutting Fifth Street.

Site Preparation

Kleinfelder will contact local utility operators to discuss the necessity of temporally capping or disconnecting utilities adjacent to the proposed excavations. Kleinfelder will conduct a construction Kick-off meeting with stakeholds, including representatives from NMOCD, City of Bloomfield, the excavation subcontractor, the chemical oxidation subcontractor, and utilities operators. Kleinfelder also proposes to assist the NMOCD with a Public Information Session to inform local residents of planned onsite activities.

On-Site Traffic Control Plan/Site Controls

Personal safety is Kleinfelder's highest priority. An On-Site Traffic Control Plan (TCP) will be implemented to route haul truck and excavation equipment traffic. The TCP will also control access to the site and protect the safety of the public, site occupants, and on-site workers. Security fencing shall be placed around the work area perimeter before excavation begins and remain in place until after site restoration is completed. Site gates will be locked at the end of each work day and remain locked until the next workday begins.

Competent Person Designation / Health and Safety Plan

A Kleinfelder construction manager, experienced with the excavation of petroleum-contaminated soils, will oversee excavation activities. The construction manager will document material excavated, field screening results, amount of soil removed, and will serve as the OSHA-excavation competent person and on-site health and safety officer. The Site specific Health and Safety Plan will be updated for hazards associated with excavation, backfilling and chemical reagent application.

3.3.2 Excavation, Soil Disposal, and Site Restoration

Excavation

The excavation volumes discussed in section 2.2 are based upon projecting the available data assuming homogeneous conditions. Actual excavated volume will be based upon results of soil screening by the heated headspace method and visual and olfactory observations. Additionally, Kleinfelder has assumed a soil expansion factor of 1.3. The excavation, backfilling and compaction portion of the project is expected to take 18 working days.

Heavy equipment on-site to excavate, load trucks, and provide backfilling will be a track hoe and a front-end loader. During the excavation, the soils will be field screened by Kleinfelder using heated-headspace techniques with a photoionization detector (PID) as described in Appendix D of the Phase I report. The excavation work will proceed until the contamination in the remaining soils has been lowered to less than 100 ppmv as determined by the heated-headspace method, until the property boundaries are encountered (using safe set backs) or until a depth of 2 ft below the water table is reached. For temporary storage, field-screened, contaminated soil will be placed in a secure area of the Site, on 40-milliliter (mL) plastic, and bermed with clean soil. The soils will be covered with plastic sheeting at the end of each day to minimize weather impacts. As a result of the shallow groundwater table, the final 1 to 2 ft of soils to be excavated from F-1, G-2, G-3 and G-4 may be water saturated. Saturated soils will be segregated in a separate lined and bermed stockpile and if possible will be direct loaded into transport trucks with bed liners to prevent water from leaking during transport. Air quality will be monitored for VOCs near the excavation and soil stockpiles. Monitoring activities are described in the HASP. If VOC levels approach a threshold above those specified in the HASP, the fieldwork will cease and the field conditions will be reassessed. Air monitoring will determine if an upgrade in PPE to modified Level D or C is necessary.

Soil-slope stability and excavation entry will be evaluated by the construction manager and options for shoring, use of engineered fill, and sloping will be considered. To avoid conditions subject to 29 CFR 1926 Part P, no unsupported walls in excess of 5 ft deep will be left open overnight.

Conversations with local residents suggests that the potentiometric surface rises approximately 2 ft beginning early May due to irrigation upgradient from the Site and

remains high throughout the growing season. The rise of the water table will decrease the volume of impacted soil onsite suitable for remediation by excavation.

Soil Removal

When possible, excavated soil will be loaded directly into transport trucks. If necessary, impacted soil will be staged on lined, bermed stockpiles. Trucks leaving the site shall pass over a cobble shakedown zone to minimize soil adhering to the bottom or sides of the truck or between or on the tires.

Waste Management

Disposed soil will be transported to Envirotech's NMOCD Permitted Landfarm #2 in Hilltop, New Mexico. Waste shall be removed in accordance with NMOCD, NMED, and NMDOT requirements. In consideration to nearby residences, soil hauling will only be conducted between business hours. Soil treatment and disposal will be done in accordance with the landfill permit. Kleinfelder's on-site representative will document soil quantities before leaving the Site.

The loading, excavation, transportation and disposal of impacted soils can be priced on two ways, by volume or weight. The industry standard for the area is by volume. The amount of material in each load is dependant upon how the material is loaded, moisture content and soil density. Volume based loads are determined by visual inspection. Weight based loads can be determined with a scale. It is Kleinfelder's experience that variations in volume loads can be upwards of 10%. Since soil disposal is a significant pay item, we want accuracy in determining the amount of soil removed from the site. Therefore, with NMOCD's approval, Kleinfelder will work with our subcontractor to price the soil removal activities in the FRP on a weight basis.

Sidewall Stability

Due to the expected nature of the aquifer material (flowing sand), unsupported excavation of more than 1-2 ft beneath the water table may result in slumping/subsidence of the soils near the excavation walls. With the proposed excavation in close proximity to Fifth Street, subsidence of subsurface soils may occur. Should Kleinfelder's geotechnical engineer along with our OSHA-competent person determine that there is insufficient soil cohesion to achieve required depths without sidewall sloping or shoring, the NMOCD project manager will be contacted, advised of the conditions, and provided recommendations to mitigate. Kleinfelder will not implement engineered sidewall stability measures without first receiving approval from the NMOCD project manager.

Confirmatory Soil Sampling

To document that available impacted soil mass has been removed, confirmatory soil samples will be collected from the sidewalls of the excavations at a frequency of one every 20 ft. Additionally, a bottom samples will be collected every 400 ft^2. Soil samples will be collected using the excavator bucket or hand auger as discussed in Appendix D

of the Phase I report. Soil samples will be collected and analyzed as discussed in Section 2.2. Kleinfelder will use the services of Hall Environmental Analytical Laboratory in Albuquerque, NM in order to receive results within 24 hours. Excavations will not be completely backfill until clean confirmatory sampling has been received from the laboratory.

Excavation Backfill/Compaction

Pit-run gravel will be used in excavations that extend below the water table where necessary. Excavations will be backfilled with the overburden material present onsite with additional soil imported to the site. Specific compaction requirements will be presented in the FRP and based on site specific requirements provided by the NMOCD; our cost estimates assumes heavy equipment wheel rolled compaction without geotechnical testing.

Site Restoration

Kleinfelder proposes to remove foundation and subsurface materials remaining onsite from the operations of the refinery as identified during the geophysical survey and soil removal excavation. Following the backfilling and compaction of the excavation zones, the site will be restored to approximately the original grade and drainage pattern.

Site Constructability

If directed by NMOCD, Kleinfelder will work with the City of Bloomfield and their design team on how the site will be left following construction, including final site elevations, grading, and compaction. Site disposition will be detailed in the FRP.

3.3.3 Chemical Reagent Application

Chemical Reagent Application to Excavation

The chemical reagent chosen for the in-Situ application and overspray to the excavations is an aqueous suspension of solid peroxygen compounds. This reagent was chosen over potassium permanganate. Both chemicals have the ability to consume petroleum constituents, but the peroxygen compounds also have the ability to consume benzene, the primary carcinogen in petroleum products. Although benzene has not been detected at the Site at significant levels, use of a reagent capable of destroying benzene present is a conservative choice for the benefit of the future users of the Site. Subcontractor supplied information concerning the specific peroxygen compounds are included as Appendix I. Applying peroxygen compounds to excavations prior to backfilling will destroy residual amounts of remaining impact in the soil and groundwater.

Chemical Reagent In-Situ Application

Insitu injection of peroxygen compounds will destroy petroleum compounds areas of soil impact below the water table. The insitu chemical injection will be conducted using a

direct push rig. A boring will be advanced to the impacted soil at which point the peroxygen solution will be injected via high-pressure hose. The addition of peroxygen compounds causes a significant increase of secondary aerobic biological activity due to the increase of dissolved oxygen following the primary chemical degradation of petroleum hydrocarbons.

Chemical Reagent In-Situ Application – Second Event

Based on subcontractor experience at similar sites, a second mobilization for insitu chemical injection may be required to address hydrocarbon sources not consumed during the initial application. While Kleinfelder has proposed an aggressive Insitu chemical reagent application, unidentified contamination may be present beneath the site. Therefore, Kleinfelder has included a second insitu chemical reagent application event for planning and costing purposes. The timing of the second event is discussed below.

3.3.4 Groundwater Monitoring

Monitoring Well Installation

After completion of excavation and backfilling activities, eight shallow, additional groundwater monitoring wells will be necessary to delineate groundwater in the interior of the Site and along the western boundary for petroleum hydrocarbon impact. A monitoring well will be installed down gradient from each of the identified areas of soil impact. The down gradient distance between the sources and monitoring wells will be calculated from site specific hydrogeologic data in order to intercept groundwater flowing through the source area.

Additionally, if directed by NMOCD, Kleinfelder will work with the City of Bloomfield and their design team on the location of site monitoring wells to minimize impact to future site use. Locations will be coordinated such that monitoring wells will not be located within the boundaries of future building footprints or other planned site improvements.

Groundwater Monitoring

Geochemical monitoring and sampling will be necessary to gauge the effects of the application of the peroxygen compounds. The monitoring should be conducted at one week, one month and two months following application. Recommended geochemical parameters are included in Appendix I. Due to construction activities, Kleinfelder does not anticipate the opportunity of installing groundwater monitoring wells immediately following application and therefore the one week following application will not be conducted.

If a second insitu chemical application be required, a second round of monitoring should be conducted at one week, one month and two months following application.

Kleinfelder proposes to continue quarterly groundwater monitoring at the site for a period of two years following remediation to assess whether petroleum concentrations in groundwater exceed NMWQCC standards.

3.4 Reporting

As-Built Report and Drawings

Kleinfelder will submit an As-Built Report following completion of the excavation, backfilling, and chemical injections. This report will be a comprehensive description of activities conducted at the Site under the FRP.

Modifications to or variances from the drawings and specifications included in the final remediation plan will be discussed. Significant modifications or variances will not be made without receiving prior written approval from NMOCD. A New Mexico Professional Engineer shall sign and seal all drawings, plans, and diagrams submitted with this report.

Initial Insitu Chemical Reagent Application Efficacy Groundwater Monitoring Report

Kleinfelder will prepare a groundwater monitoring report to document groundwater conditions onsite following the initial insitu chemical reagent application. This report will compare current (one and two months post application) and historical groundwater analytical laboratory results to NMWQCC standards and included a discussion of data (spatial and temporal trends of potentiometric surface and contaminant concentrations) and conclusions addressing plume stability, threat to receptors, delineation, qualitative natural attenuation trends, and recommendations. The primary purpose of this report will be to evaluate the necessity of a second insitu chemical reagent application event.

Second Insitu Chemical Reagent Application Efficacy Groundwater Monitoring Report

Kleinfelder will prepare a groundwater monitoring report to document groundwater conditions onsite following the second insitu chemical reagent application. This report will compare current (one week, one and two months post second application) and historical groundwater analytical laboratory results to NMWQCC standards and included a discussion of data (spatial and temporal trends of potentiometric surface and contaminant concentrations) and conclusions addressing plume stability, threat to receptors, delineation, qualitative natural attenuation trends, and recommendations.

3.5 Cost Estimate Table

To assist the NMOCD with a budget estimate for the proposed activities, Kleinfelder presents the following:

Development and Implementation of Final Remedial Action Plan

SUMMARY OF ESTIMATED TIME AND MATERIAL COSTS		ESTIMATED COST		WITH NMGRT
TASK				
TASK 1: FINAL REMEDIATION WORK PLAN AND PROJECT PREPARATION	$	33,012.84	$	35,274.22
TASK 2: PERMITTING, PUBLIC NOTICE	$	14,006.00	$	14,965.41
• TASK 3: GROUNDWATER MONITORING EVENT	$	4,876.90	$	5,210.97
TASK 4: EXCAVATION - CHEMICAL OVERSPRAY - BACKFILLING OVERSIGHT	$	711,574.74	$	760,317.61
TASK 5: CHEM-OX IN-SITU APPLICATION AND OVERSIGHT	$	328,417.60	$	350,914.21
• TASK 6: MONITORING WELL INSTALLATION (8 wells)	$	16,054.52	$	17,154.25
TASK 7: REMEDIATION REPORTING - AS-BUILD REPORT AND DRAWINGS	$	15,510.00	$	16,572.44
• TASK 8: POST CHEM-OX GROUNDWATER MONITORING (for 2 events)	$	19,119.40	$	20,429.08
• TASK 9: POST CHEM-OX CONFIRMATORY SOIL SAMPLING	$	9,037.22	$	9,656.27
•• TASK 10: INSITU CHEMICAL REAGENT APPLICATION EFFICACY REPORTING	$	7,507.50	$	8,021.76
TOTAL FRP, Implementation and Reporting	**$**	**1,159,116.72**	**$**	**1,238,516.21**

Optional Tasks

SUMMARY OF ESTIMATED TIME AND MATERIAL COSTS	ESTIMATED COST		WITH NMGRT
TASK			
OPTIONS - PREPARATION			
OPTION 1: EXCAVATION PILOT TEST	18,606.24	$	19,880.77
OPTION 2: STORM WATER MANAGEMENT PLAN	4,493.50	$	4,801.30
OPTION 3: LAGOON CHARACTERIZATION	13,969.57	$	14,926.49
SUBTOTAL Options 1-3	**37,069.31**	**$**	**39,608.56**
OPTIONS - SECOND CHEM-OX APPLICATION (IF NECESSARY)			
OPTION 4: CHEM-OX IN-SITU APPLICATION AND OVERSIGHT - 2ND EVENT	134,027.64	$	143,208.53
OPTION 5: POST CHEM-OX GROUNDWATER MONITORING, for 3 EVENTS	28,679.10	$	30,643.62
OPTION 6: INSITU CHEMICAL REAGENT APPLICATION EFFICACY REPORTING	6,360.00	$	6,795.66
SUBTOTAL Options 4-6	**169,066.74**	**$**	**180,647.81**
OPTIONS - COMPLIANCE GROUNDWATER MONITORING		$	-
OPTION 7: QUARTERLY GROUNDWATER MONITORING, for 7 EVENTS	35,395.50	$	37,820.09
OPTION 8: QUARTERLY GROUNDWATER MONITORING, for 7 REPORTS	29,337.00	$	31,346.58
SUBTOTAL Options 7-8	**64,732.50**	**$**	**69,166.68**
TOTAL OPTIONAL TASKS	**$ 270,868.55**	**$**	**289,423.05**

• Defined as Optional Tasks in the April 06 cost estimate
•• Additional Task to support decision making for a second injection event

A detailed cost breakdown is also included as Table 9.

3.6 Schedule

To assist the NMOCD's planning of proposed activities, Kleinfelder presents Figure 10 – Proposed Schedule of Activities. Due to the potential of inclement weather and the reduction in productivity it causes, Kleinfelder suggests the OCD take steps necessary to ensure excavation and insitu chemical reagent application field activities be conducted by mid October, 2007.

To meet the target completion date of March 31, 2008, Kleinfelder respectfully requests NMOCD issue a purchase order for the pre-remediation work, Task 1: Final Remediation Work Plan and Project Preparation; Task 2: Permitting, Public Notice, and Task 3: Groundwater Monitoring – Baseline Geochemical Monitoring. The prompt completion of Tasks 1 through 3 will 1) allow for an improved cost estimate for the major field work; and 2) allow for the completion of major remediation work (Tasks 4 through 10) in time for a second insitu chemical application if necessary. NMOCD should prepare for issuing the PO for Tasks 4 through 10 upon approval of the FRP

FIGURES

BORING	PLAN DIMENSION	AREA (ft)	CLEAN OVERBURDEN SOIL THICKNESS	VOL. (ft³)	VOL. (yd³)
D-1	65'x44'	2,860	4'	11,440	424
G-3	57'x46'	2,622	2'	5,244	194
G-4	57'x49'	2,793	6'	16,758	621
G-5	57'x51'	2,907	2'	5,814	215
H-1	49'x36'	1,764	4'	7,056	261
H-4	57'x49'	2,793	2'	5,586	207
I-6	61'x43'	2,623	2'	5,246	194
K-3	63'x54'	3,402	4'	13,608	504
K-4, K-5	63'x103'	6,489	2'	12,978	480
TOTAL	-	28,253	-	83,730	3,100

Aerial Source: NMDOT, Bloomfield refinery 06-21-61.jpg

NOTE: All dimensions, depths, and volumes are estimated.

= Monitoring well

= Soil boring

= Survey control point

= Property boundary

= Isopach outline

= Suitable for excavation

2' = Thickness of soil contamination zone

50 0 25 50

SCALE: 1 inch = 50 ft

KLEINFELDER

Drawn By: C. Landon	Date: February 2006
Project No.: 64110	Filename: 64110_09_0.dwg
Scale: 1" = 50'	Revision: -

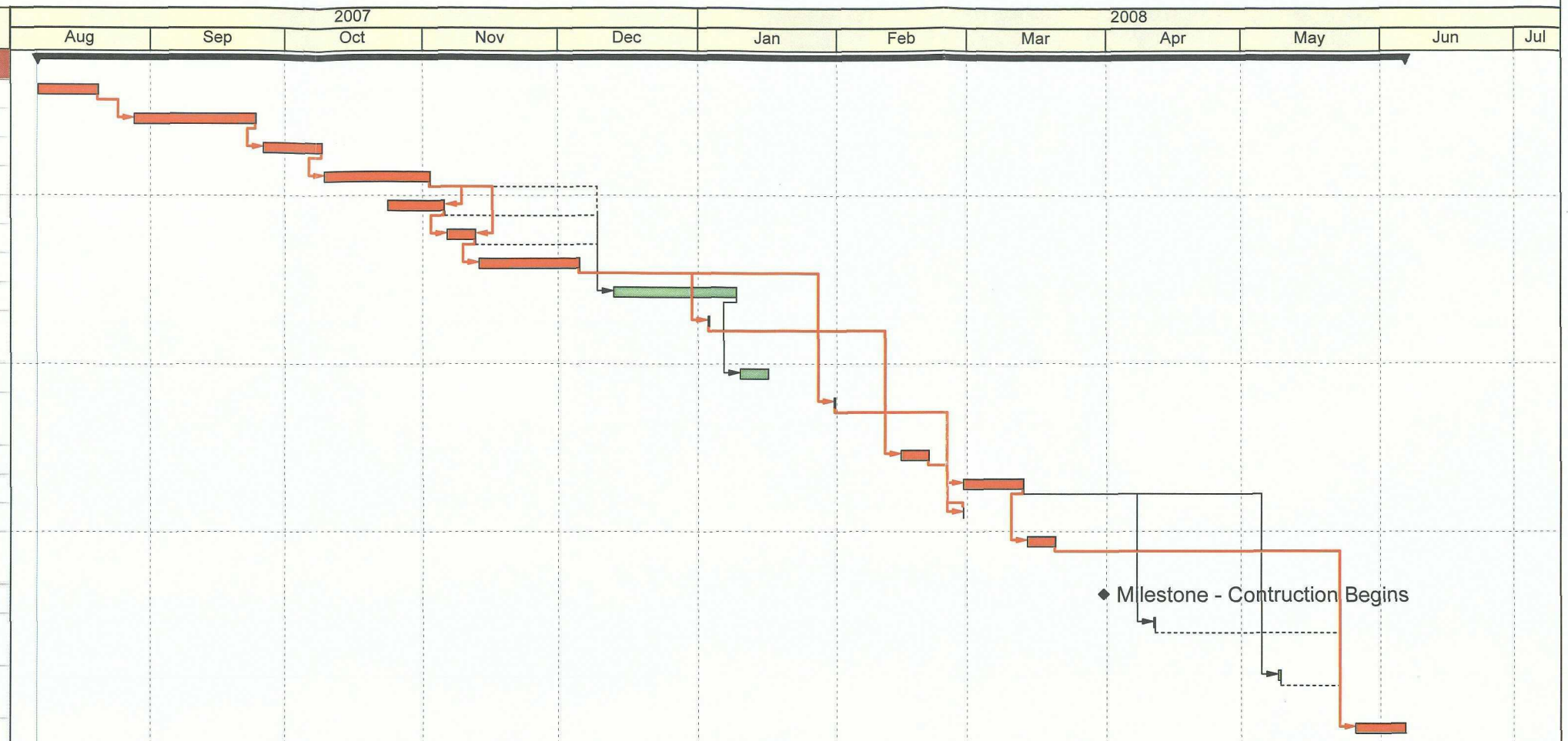
ISOPACH MAP OF CLEAN OVERBURDEN SOIL (<100ppmv)
(Overlaid on 1961 aerial photograph)
Former Aerex Refinery
Bloomfield, New Mexico

FIGURE
9

G:\Environ\Current Work Folder\64110 Former Aerex Refinery\4.0 Technical Information\Figures\Revision\64110_09_0.dwg

FIGURE 10 - SUMMARY OF PROPOSED SCHEDULE OF ACTIVITIES

Original Duration	Activity Name	Planned Start	Planned Finish
AX-1	**AEREX-SUMMARY**	07-Aug-07	06-Jun-08
10.0d	OCD Review of Conceptual RAP	07-Aug-07	20-Aug-07
20.0d	Prepare Final RAP	28-Aug-07	24-Sep-07
10.0d	NMOCD Review of Final RAP	26-Sep-07	09-Oct-07
18.0d	Site excavation (18 working days)	10-Oct-07	02-Nov-07
9.0d	Excavation overspray	24-Oct-07	05-Nov-07
5.0d	Fill excavated sites	06-Nov-07	12-Nov-07
17.0d	ISCO injection	13-Nov-07	05-Dec-07
20.0d	FRP As-build Report and Drawings	13-Dec-07	09-Jan-08
1.0d	Geochemical sampling (1 month post injection)	03-Jan-08	03-Jan-08
5.0d	NMOCD FRP Report review	10-Jan-08	16-Jan-08
1.0d	Geochemical sampling (2 months post injection)	31-Jan-08	31-Jan-08
5.0d	ISCO Efficacy Report	15-Feb-08	21-Feb-08
10.0d	Second ISCO treatment	29-Feb-08	13-Mar-08
0.0d	Go, No go for Second ISCO Injection	29-Feb-08	29-Feb-08
5.0d	Geochemical sampling (1 week post injection)	14-Mar-08	20-Mar-08
0.0d	Milestone - Contruction Begins	31-Mar-08	
1.0d	Geochemical sampling (1 month post injection)	11-Apr-08	11-Apr-08
1.0d	Geochemical sampling (2 months post injection)	09-May-08	09-May-08
10.0d	Prepare 2nd ISCO Efficacy Report	26-May-08	06-Jun-08



Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

TABLES

Table 9

Detailed Cost Breakdown

FORMER AREX REFINERY, BLOOMFIELD, NM

PROJECT:	**FORMER AREX REFINERY, BLOOMFIELD, NM**
PROJECT NO:	
SITE ADDRESS:	**Fifth Street and Blanco Boulevard, Bloomfield, NM**
CLIENT:	**New Mexico Oil Conservation Division**

TASK 1: FINAL REMEDIATION WORK PLAN AND PROJECT PREPARATION

PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	40	$ 5,000.00	
Senior Scientist	$ 104.50	Hour	40	$ 4,180.00	
Project Scientist II	$ 90.00	Hour	60	$ 5,400.00	
Project Scientist I	$ 78.00	Hour	34	$ 2,652.00	
Draftsperson	$ 60.00	Hour	30	$ 1,800.00	
Administrator	$ 50.00	Hour	30	$ 1,500.00	
Clerk	$ 35.00	Hour	30	$ 1,050.00	
Per Diem	$ 91.00	Per Day	2	$ 182.00	
Photoionization Detector	$ 75.00	Per Day	2	$ 150.00	
Vehicle	$ 65.00	Per Day	6	$ 390.00	
Miscellaneous Field Equipment	$ 75.00	Per Day	3	$ 225.00	
Mileage	$ 0.65	Per Mile	700	$ 455.00	
Geoprobe - Earth Worx	$ 4,617.13	Lump Sum	1.1	$ 5,078.84	
Geophysical Survey Services	$ 4,500.00	Lump Sum	1.1	$ 4,950.00	
Subtotal				$ 33,012.84	$ 35,274.22

TASK 2: PERMITTING, PUBLIC NOTICE

PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	15	$ 1,875.00	
Senior Scientist	$ 104.50	Hour	25	$ 2,612.50	
Project Scientist I	$ 78.00	Hour	30	$ 2,340.00	
Draftsperson	$ 60.00	Hour	30	$ 1,800.00	
Administrator	$ 50.00	Hour	20	$ 1,000.00	
Per Diem	$ 91.00	Per Day	6	$ 546.00	
Mileage	$ 0.65	Per Mile	1050	$ 682.50	
Vehicle	$ 65.00	Per Day	6	$ 390.00	
Miscellaneous Field Equipment	$ 75.00	Per Day	2	$ 150.00	
EPA 6010 Metals (Soil)	$ 99.00	Per Sample	15	$ 1,485.00	
EPA 6010 Metals (Soil) TCLP	$ 165.00	Per Sample	5	$ 825.00	
Public Notification	$ 300.00	Lump Sum	1	$ 300.00	
Subtotal				$ 14,006.00	$ 14,965.41

TASK 3: GROUNDWATER MONITORING EVENT
Pre Chem Ox Application - 3 samples collected

PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	UNITS	TOTAL COST	WITH NMGRT
Senior Scientist	$ 104.50	Hour	8	$ 836.00	
Staff Scientist	$ 66.00	Hour	20	$ 1,320.00	
Per Diem	$ 91.00	Per Day	2	$ 182.00	
Mileage	$ 0.65	Per Mile	350	$ 227.50	
Vehicle	$ 65.00	Per Day	3	$ 195.00	
Ground Water Quality Meter	$ 50.00	Per Day	2	$ 100.00	
Interface Probe	$ 65.00	Per Day	2	$ 130.00	
Bailers and Rope	$ 15.00	Per Well	3	$ 45.00	
EPA 8021BTEX (water)	$ 33.00	Per Sample	3	$ 99.00	
Geochemical monitoring (Water) for Chem Ox	$ 382.80	Per Sample	3	$ 1,148.40	
EPA 8310 PAH (Water)	$ 99.00	Per Sample	3	$ 297.00	
EPA 6010 Metals (Water)	$ 99.00	Per Sample	3	$ 297.00	
Subtotal				$ 4,876.90	$ 5,210.97

TASK 4: EXCAVATION - CHEMICAL OVERSPRAY - BACKFILLING OVERSIGHT

PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	36	$ 4,500.00	
Senior Scientist	$ 104.50	Hour	106	$ 11,077.00	
Project Scientist II - Excavation	$ 90.00	Hour	40	$ 3,600.00	
Project Scientist I - Excavation (Two people)	$ 78.00	Hour	496	$ 38,688.00	
Per Diem	$ 91.00	Per Day	41	$ 3,731.00	
Mileage	$ 0.65	Per Mile	4100	$ 2,665.00	
Vehicle	$ 65.00	Per Day	41	$ 2,665.00	
Photoionization Detector	$ 75.00	Per Day	18	$ 1,350.00	
O2/LEL Meter	$ 50.00	Per Day	18	$ 900.00	
Ground Water Quality Meter	$ 50.00	Per Day	18	$ 900.00	
Bailers and Rope	$ 15.00	Per Well	3	$ 45.00	
Miscellaneous Materials and Supplies	$ 100.00	Each	18	$ 1,800.00	
EPA 8021 BTEX (Soil) with RUSH surcharge	$ 77.00	Per Sample	155	$ 11,935.00	
EPA 8015B GRP, DRO, ORO (Soil) with RUSH surcharge	$ 77.00	Per Sample	155	$ 11,935.00	
Excavation Subcontractor - Excavation	$ 370,807.40	Lump Sum	1.1	$ 407,888.14	
Chem-ox contractor	$ 188,996.00	Lump Sum	1.1	$ 207,895.60	
Subtotal				$ 711,574.74	$ 760,317.61

TASK 5: CHEM-OX IN-SITU APPLICATION AND OVERSIGHT					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	 UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	34	$ 4,250.00	
Senior Scientist	$ 104.50	Hour	104	$ 10,868.00	
Project Scientist I	$ 78.00	Hour	236	$ 18,408.00	
Per Diem	$ 91.00	Per Day	20	$ 1,820.00	
Mileage	$ 0.65	Per Mile	2800	$ 1,820.00	
Vehicle	$ 65.00	Per Day	20	$ 1,300.00	
Photoionization Detector	$ 75.00	Per Day	15	$ 1,125.00	
O2/LEL Meter	$ 50.00	Per Day	15	$ 750.00	
Ground Water Quality Meter	$ 50.00	Per Day	15	$ 750.00	
Bailers and Rope	$ 15.00	Per Well	10	$ 150.00	
Miscellaneous Materials and Supplies	$ 100.00	Each	15	$ 1,500.00	
Chem-ox contractor	$259,706	Lump Sum	1.1	$ 285,676.60	
Subtotal				$ 328,417.60	$ 350,914.21
TASK 6: MONITORING WELL INSTALLATION (8 wells)					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	 UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	2	$ 250.00	
Senior Scientist	$ 104.50	Hour	10	$ 1,045.00	
Project Scientist I	$ 78.00	Hour	40	$ 3,120.00	
Per Diem	$ 91.00	Per Day	3	$ 273.00	
Mileage	$ 0.65	Per Mile	350	$ 227.50	
Vehicle	$ 65.00	Per Day	4	$ 260.00	
Miscellaneous Field Equipment	$ 75.00	Per Day	3	$ 225.00	
Photoionization Detector	$ 75.00	Per Day	3	$ 225.00	
Miscellaneous Materials	$ 100.00	Each	3	$ 300.00	
Surveyor	$ 1,300.00	Lump Sum	1.1	$ 1,430.00	
Drilling Services Earth Tec	$ 7,908.20	Lump Sum	1.1	$ 8,699.02	
Subtotal				$ 16,054.52	$ 17,154.25
TASK 7: REMEDIATION REPORTING - AS-BUILD REPORT AND DRAWINGS Completed one month after excavation and injection					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	 UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	20	$ 2,500.00	
Senior Scientist	$ 104.50	Hour	10	$ 1,045.00	
Project Scientist II	$ 90.00	Hour	40	$ 3,600.00	
Staff Scientist	$ 66.00	Hour	40	$ 2,640.00	
Draftsperson	$ 60.00	Hour	60	$ 3,600.00	
Administrator	$ 50.00	Hour	25	$ 1,250.00	
Clerk	$ 35.00	Hour	25	$ 875.00	
Subtotal				$ 15,510.00	$ 16,572.44
TASK 8: POST CHEM-OX GROUNDWATER MONITORING **Cost for 1 EVENT (see roll up for 2 events) - 9 samples collected**					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	 UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	2	$ 250.00	
Senior Scientist	$ 104.50	Hour	8	$ 836.00	
Staff Scientist	$ 66.00	Hour	30	$ 1,980.00	
Per Diem	$ 91.00	Per Day	2	$ 182.00	
Mileage	$ 0.65	Per Mile	350	$ 227.50	
Vehicle	$ 65.00	Per Day	3	$ 195.00	
Ground Water Quality Meter	$ 50.00	Per Day	2	$ 100.00	
Interface Probe	$ 65.00	Per Day	2	$ 130.00	
Bailers and Rope	$ 15.00	Per Well	9	$ 135.00	
EPA 8021BTEX (water)	$ 33.00	Per Sample	9	$ 297.00	
Geochemical monitoring (Water)	$ 382.80	Per Sample	9	$ 3,445.20	
EPA 8310 PAH (Water)	$ 99.00	Per Sample	9	$ 891.00	
EPA 6010 Metals (Water)	$ 99.00	Per Sample	9	$ 891.00	
Subtotal				$ 9,559.70	$ 10,214.54
TASK 9: POST CHEM-OX CONFIRMATORY SOIL SAMPLING **10 samples collected**					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	 UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	2	$ 250.00	
Senior Scientist	$ 104.50	Hour	8	$ 836.00	
Project Scientist I	$ 78.00	Hour	21	$ 1,638.00	
Per Diem	$ 91.00	Per Day	2	$ 182.00	
Mileage	$ 0.65	Per Mile	350	$ 227.50	
Vehicle	$ 65.00	Per Day	2	$ 130.00	
Miscellaneous Field Equipment	$ 75.00	Per Day	2	$ 150.00	
Photoionization Detector	$ 75.00	Per Day	2	$ 150.00	
Miscellaneous Materials	$ 100.00	Each	1	$ 100.00	
EPA 8021 BTEX (Soil)	$ 33.00	Per Sample	10	$ 330.00	
EPA 8015B GRP, DRO, ORO (Soil)	$ 66.00	Per Sample	10	$ 660.00	
Surveyor	$ 1,300.00	Lump Sum	1.1	$ 1,430.00	
Geoprobe - Earth Worx	$ 2,685.20	Lump Sum	1.1	$ 2,953.72	
Subtotal				$ 9,037.22	$ 9,656.27

TASK 10: INSITU CHEMICAL REAGENT APPLICATION EFFICACY REPORTING Completed three months after injection event					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	10	$ 1,250.00	
Senior Scientist	$ 104.50	Hour	15	$ 1,567.50	
Project Scientist II	$ 90.00	Hour	20	$ 1,800.00	
Staff Scientist	$ 66.00	Hour	20	$ 1,320.00	
Draftsperson	$ 60.00	Hour	12	$ 720.00	
Administrator	$ 50.00	Hour	10	$ 500.00	
Clerk	$ 35.00	Hour	10	$ 350.00	
Subtotal				$ 7,507.50	$ 8,021.76
Total FRP, Implementation and Reporting				$ 1,159,116.72	$ 1,238,516.21
OPTION 1: EXCAVATION PILOT TEST					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	2	$ 250.00	
Senior Scientist	$ 104.50	Hour	14	$ 1,463.00	
Project Scientist I - Excavation	$ 78.00	Hour	30	$ 2,340.00	
Staff Scientist - Excavation	$ 66.00	Hour	22	$ 1,452.00	
Per Diem	$ 91.00	Per Day	4	$ 364.00	
Mileage	$ 0.65	Per Mile	1150	$ 747.50	
Vehicle	$ 65.00	Per Day	4	$ 260.00	
Miscellaneous Field Equipment	$ 75.00	Per Day	4	$ 300.00	
Photoionization Detector	$ 75.00	Per Day	2	$ 150.00	
O2/LEL Meter	$ 50.00	Per Day	2	$ 100.00	
Ground Water Quality Meter	$ 50.00	Per Day	2	$ 100.00	
Interface Probe	$ 65.00	Per Day	2	$ 130.00	
Bailers and Rope	$ 15.00	Per Well	6	$ 90.00	
Hand Auger System	$ 50.00	Per Day	2	$ 100.00	
Miscellaneous Materials	$ 100.00	Each	2	$ 200.00	
EPA 8021BTEX (water)	$ 33.00	Per Sample	4	$ 132.00	
Cations. Anions (Water)	$ 154.00	Per Sample	1	$ 154.00	
EPA 8310 PAH (3 Water)	$ 99.00	Per Sample	4	$ 396.00	
EPA 6010 Metals (3 Water)	$ 99.00	Per Sample	4	$ 396.00	
Excavation Subcontractor - Pilot test - 1 Frac tank	$ 8,619.77	Lump Sum	1.1	$ 9,481.74	
Subtotal				$ 18,606.24	$ 19,880.77
OPTION 2: STORM WATER MANAGEMENT PLAN					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	4	$ 500.00	
Senior Scientist	$ 104.50	Hour	10	$ 1,045.00	
Project Scientist I	$ 78.00	Hour	25	$ 1,950.00	
Administrator	$ 50.00	Hour	8	$ 400.00	
Per Diem	$ 91.00	Per Day	1	$ 91.00	
Mileage	$ 0.65	Per Mile	350	$ 227.50	
Vehicle	$ 65.00	Per Day	2	$ 130.00	
Miscellaneous Field Equipment	$ 75.00	Per Day	2	$ 150.00	
Subtotal				$ 4,493.50	$ 4,801.30
OPTION 3: LAGOON CHARACTERIZATION Two site visits					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	6	$ 750.00	
Senior Scientist	$ 104.50	Hour	20	$ 2,090.00	
Project Scientist I	$ 78.00	Hour	30	$ 2,340.00	
Per Diem	$ 91.00	Per Day	4	$ 364.00	
Mileage	$ 0.65	Per Mile	350	$ 227.50	
Vehicle	$ 65.00	Per Day	4	$ 260.00	
Miscellaneous Field Equipment	$ 75.00	Per Day	4	$ 300.00	
Photoionization Detector	$ 75.00	Per Day	3	$ 225.00	
Ground Water Quality Meter	$ 50.00	Per Day	1	$ 50.00	
Interface Probe	$ 65.00	Per Day	1	$ 65.00	
Bailers and Rope	$ 15.00	Per Well	1	$ 15.00	
Miscellaneous Materials	$ 100.00	Each	2	$ 200.00	
EPA 8021 BTEX (Soil)	$ 33.00	Per Sample	12	$ 396.00	
EPA 8021BTEX (water)	$ 33.00	Per Sample	1	$ 33.00	
EPA 8015B GRP, DRO, ORO (Soil)	$ 66.00	Per Sample	12	$ 792.00	
Cations. Anions (Water)	$ 154.00	Per Sample	1	$ 154.00	
EPA 8270 PAH (3 Water)	$ 85.00	Per Sample	1	$ 85.00	
EPA 6010 Metals (3 Water)	$ 65.00	Per Sample	1	$ 65.00	
EPA 6010 Metals (3 Soil)	$ 65.00	Per Sample	1	$ 65.00	
Surveyor	$ 1,300.00	Lump Sum	1.1	$ 1,430.00	
Geoprobe - Earth Worx	$ 3,693.70	Lump Sum	1.1	$ 4,063.07	
Subtotal				$ 13,969.57	$ 14,926.49

OPTION 4: CHEM-OX IN-SITU APPLICATION AND OVERSIGHT - 2ND EVENT					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	 UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	14	$ 1,750.00	
Senior Scientist	$ 104.50	Hour	42	$ 4,389.00	
Project Scientist I	$ 78.00	Hour	100	$ 7,800.00	
Per Diem	$ 91.00	Per Day	8	$ 728.00	
Mileage	$ 0.65	Per Mile	1400	$ 910.00	
Vehicle	$ 65.00	Per Day	12	$ 780.00	
Miscellaneous Field Equipment	$ 75.00	Per Day	7	$ 525.00	
Photoionization Detector	$ 75.00	Per Day	7	$ 525.00	
O2/LEL Meter	$ 50.00	Per Day	7	$ 350.00	
Ground Water Quality Meter	$ 50.00	Per Day	7	$ 350.00	
Bailers and Rope	$ 15.00	Per Well	10	$ 150.00	
Miscellaneous Materials	$ 100.00	Each	15	$ 1,500.00	
Chem-ox contractor	$ 103,882.40	Lump Sum	1.1	$ 114,270.64	
Subtotal				$ 134,027.64	$ 143,208.53
OPTION 5: POST CHEM-OX GROUNDWATER MONITORING, 3 EVENTS **9 samples collected**					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	 UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	2	$ 250.00	
Senior Scientist	$ 104.50	Hour	8	$ 836.00	
Staff Scientist	$ 66.00	Hour	30	$ 1,980.00	
Per Diem	$ 91.00	Per Day	2	$ 182.00	
Mileage	$ 0.65	Per Mile	350	$ 227.50	
Vehicle	$ 65.00	Per Day	3	$ 195.00	
Ground Water Quality Meter	$ 50.00	Per Day	2	$ 100.00	
Interface Probe	$ 65.00	Per Day	2	$ 130.00	
Bailers and Rope	$ 15.00	Per Well	9	$ 135.00	
EPA 8021BTEX (water)	$ 33.00	Per Sample	9	$ 297.00	
Geochemical monitoring (Water)	$ 382.80	Per Sample	9	$ 3,445.20	
EPA 8270 PAH (Water)	$ 99.00	Per Sample	9	$ 891.00	
EPA 6010 Metals (Water)	$ 99.00	Per Sample	9	$ 891.00	
Subtotal				$ 9,559.70	$ 10,214.54
OPTION 6: INSITU CHEMICAL REAGENT APPLICATION EFFICACY REPORTING Completed three months after injection event					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	 UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	5	$ 625.00	
Senior Scientist	$ 104.50	Hour	10	$ 1,045.00	
Project Scientist II	$ 90.00	Hour	20	$ 1,800.00	
Staff Scientist	$ 66.00	Hour	20	$ 1,320.00	
Draftsperson	$ 60.00	Hour	12	$ 720.00	
Administrator	$ 50.00	Hour	10	$ 500.00	
Clerk	$ 35.00	Hour	10	$ 350.00	
Subtotal				$ 6,360.00	$ 6,795.66
OPTION 7: QUARTERLY GROUNDWATER MONITORING, 7 EVENTS Assumes 9 wells sampled, petroleum only, compliance monitoring					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	 UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	2	$ 250.00	
Senior Scientist	$ 104.50	Hour	8	$ 836.00	
Staff Scientist	$ 66.00	Hour	30	$ 1,980.00	
Per Diem	$ 91.00	Per Day	2	$ 182.00	
Mileage	$ 0.65	Per Mile	350	$ 227.50	
Vehicle	$ 65.00	Per Day	5	$ 325.00	
Ground Water Quality Meter	$ 50.00	Per Day	2	$ 100.00	
Interface Probe	$ 65.00	Per Day	2	$ 130.00	
Bailers and Rope	$ 15.00	Per Well	9	$ 135.00	
EPA 8021BTEX (water)	$ 33.00	Per Sample	9	$ 297.00	
EPA 8015B GRP, DRO, ORO (Soil)	$ 66.00	Per Sample	9	$ 594.00	
Subtotal				$ 5,056.50	$ 5,402.87
OPTION 8: QUARTERLY GROUNDWATER MONITORING, 7 REPORTS					
PROFESSIONAL SERVICES LABOR CATEGORY	UNIT RATE	NUMBER OF UNITS	 UNITS	TOTAL COST	WITH NMGRT
Principal	$ 125.00	Hour	3	$ 375.00	
Senior Scientist	$ 104.50	Hour	8	$ 836.00	
Project Scientist II	$ 90.00	Hour	20	$ 1,800.00	
Draftsperson	$ 60.00	Hour	10	$ 600.00	
Administrator	$ 50.00	Hour	6	$ 300.00	
Clerk	$ 35.00	Hour	8	$ 280.00	
Subtotal				$ 4,191.00	$ 4,478.08
Total Optional Costs				$ 270,868.55	$ 289,423.05

PHASE 1
SUBSURFACE ASSESSMENT
FORMER AEREX REFINERY
BLOOMFIELD, NEW MEXICO
KLEINFELDER PROJECT NO. 64110

April 6, 2006

Prepared for: NEW MEXICO OIL CONSERVATION DIVISION
1200 SOUTH SAINT FRANCIS DRIVE
SANTA FE, NEW MEXICO 87505

Prepared by: KLEINFELDER

8300 Jefferson NE Suite B
Albuquerque, New Mexico 87113

April 6, 2006

Kleinfelder Project No. 64110
File No.: 64110.3-ALB06RP001

Mr. Ben Stone
New Mexico Oil Conservation Division
1200 South St. Francis Drive
Santa Fe, New Mexico 87505

Subject: **Phase I Subsurface Assessment**
Former Aerex Refinery
Bloomfield, New Mexico

Dear Mr. Stone:

Kleinfelder is pleased to present the results of the Phase I Subsurface Assessment performed at the former Aerex Refinery Site in Bloomfield, New Mexico. This report includes a description of sampling procedures, sample results, conclusions, and recommendations.

Should any questions arise concerning this report, we would be pleased to discuss them with you.

Respectfully submitted,

KLEINFELDER, INC.

Justin D. Ball, P.G.
Project Geologist

Reviewed by:

Bob Wilcox, P.G.
Senior Project Manager

JDB:ylw

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APPENDICES

1.0 INTRODUCTION

This report presents the results of the Phase I Subsurface Assessment performed on a portion of the former Aerex Refinery (Site) located in Bloomfield, New Mexico (Figure 1). The scope of work for this sampling event was detailed in Kleinfelder, Inc.'s (Kleinfelder's) Work Plan No. ALB05WP001 dated December 14, 2005. The New Mexico Oil Conservation Division (NMOCD) reviewed and approved Kleinfelder's Work Plan. Field work for this event was performed between January 9 through February 2, 2006.

1.1 Project Description

The Site is located in the NW1/4 of Section 22 Township 29 North, Range 11 West, in Bloomfield, San Juan County, New Mexico. After the facility was abandoned, the property was subdivided; a portion of the property west of Fifth Street is currently owned by Giant Industries, and was not included as a part of this assessment. The 3.5-acre vacant property located at the southeast of the corner of Blanco Boulevard and Fifth Street is the subject of the Phase I Subsurface Assessment (Figure 2). This parcel is currently owned by Clayton Investments and is not considered by the NMOCD as the responsible party for environmental liabilities associated with the former refinery. Kleinfelder has determined that vacant portions of the former Aerex facility south and west of the Giant Property are also owned by Clayton Investments. Current property use in the Site vicinity includes residential to the east, south, and across Blanco Boulevard to the north. Salmon Park is located at the intersection of Fifth Street and Larch Street, approximately 1000 feet (ft) south of the Site. Central Primary School is located at 310 W Sycamore Ave, approximately 2000 ft southeast of the Site.

The Site is currently vacant; aboveground structures have been removed from the property, although numerous concrete foundations from the former refining operations are visible. The land surface is relative flat with drainage trending towards the south. Numerous piles of fill dirt have been imported to the Site and have covered approximately one-quarter of the surface of the Site. Conversations with Mr. Denny Faust of the NMOCD indicate the fill dirt is not the subject of this assessment since the material was not related to the former Aerex facility.

To the west across Fifth Street is the portion of the former Aerex property now owned by Giant Industries. A number of aboveground storage tanks (ASTs) are located on the Giant Industries property, but the facility is not in operation. Groundwater monitoring is currently being conducted by Giant Industries; the NMOCD provides regulatory oversight of these monitoring activities.

Selected photographs obtained at the project Site are shown in Appendix A.

1.2 Site History

The former Aerex Refinery operated from approximately 1932 to the 1960's and was dismantled in the 1980's. The facility refined crude oil from wells in the Bloomfield area utilizing fractional distillation to produce gasoline, kerosene, and other petroleum

products. Additional data collected during an initial file review and Site visit indicate the following:

(1) The Site was investigated by the New Mexico Environmental Improvement Department (NMEID) Superfund Bureau in 1989 and 1990 to assess the property for possible hazardous materials. A soil vapor survey and three monitoring wells, ARMW-1, ARMW-2, and ARMW-3, were installed to assess soil and groundwater contamination at the Site. Kleinfelder has redesignated ARMW-1, ARMW-2, and ARMW-3 as MW-1, MW-2 and MW-3, respectively (Figure 2). MW-1 and MW-2 were recently observed at the Site by Kleinfelder personnel. MW-3 was not observed during our initial Site visit and may be buried by fill materials imported to the property.

(2) The monitoring wells were drilled to a depth between 15 to 25 feet (ft) below ground surface (bgs) (NMEID, 1990). Soils encountered during drilling generally were brown silty clay and clay and fine to coarse sands; very little gravel was observed. Soils with hydrocarbon staining were noted in MW-2 and heavy crude oil-stained soils, sheen, and odor were observed in MW-3.

(3) Depth to groundwater from ground surface during the 1990 investigation ranged from 5.17 ft bgs in MW-1 to 6.34 ft bgs in MW-2 (NMEID, 1990). Groundwater flow direction was determined to be towards the south-southwest. During Kleinfelder's initial Site visit depth to groundwater was measured between 6 to 7 ft bgs.

(4) Hydrocarbon concentrations in soils were detected in MW-3 from a sample obtained from 13-15 ft bgs during the NMEID investigation (NMEID, 1990). Concentrations of benzene were 0.185 parts per million (ppm), toluene concentrations were 0.345 ppm, ethylbenzene concentrations were 0.650 ppm, and total xylenes concentrations were 0.685 ppm. The sample was not tested for total petroleum hydrocarbons (TPH).

(5) Dissolved-phase hydrocarbons were also detected in groundwater obtained from MW-3 (NMEID, 1990). Benzene concentrations were 15.3 parts per billion (ppb) and naphthalenes concentrations were 25 ppb. Total dissolved solids were 680 ppm.

(6) While light non-aqueous phase liquid (LNAPL) was not observed during the 1990 project, review of the monitor well construction details from MW-3 indicate the well screen was submerged by approximately 5.1 ft (NMEID, 1990). A LNAPL sheen was noted in MW-1.

(7) In 1994, Fluor Daniel Arcs Team Inc. (FDAT), under direction of the United States Environmental Protection Agency (USEPA), performed a Site Inspection Prioritization at the property. FDAT concluded that since an oil refinery operated at the Site, the onsite source of contamination and associated wastes were excluded from the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) definition of hazardous substances under the

Petroleum Exclusion Act. Since no CERCLA eligible wastes were present or potentially present at the Site, no further remedial action was planned under CERCLA. FDAT estimated that 70,000 cubic ft of soils were potentially contaminated by petroleum-related compounds. During the mid 1990's, the Site was referred to the State of New Mexico and was placed under the regulatory jurisdiction of the NMOCD.

1.3 Proposed Scope of Work

The scope of work specified in the approved work plan included the following key elements:

- Perform a Site visit and extensive file review to obtain relevant information for developing a work plan for future assessment activities.
- Research available records at the State Engineer's Office to locate groundwater supply wells in the vicinity.
- Characterize source area soils using Direct Push Technologies (DPT).
- Obtain groundwater samples from existing monitoring wells and install an additional well, if necessary, to assess groundwater contamination.
- Prepare a report summarizing our findings and prepare a Conceptual Remedial Plan (CRP) and cost estimate to implement the CRP.

1.4 Work Plan Deviations

There were no significant deviations from the proposed work plan.

2.0 FIELD ACTIVITIES

2.1 Project Preparation

Upon receipt of authorization to proceed, Kleinfelder performed the following tasks prior to commencing field activities:

- Secure property access from Clayton Investments, Inc.
- Obtain copies of NMED and NMOCD files and research available Site information.
- Perform a records search to assess whether private water supply wells are located within 200 ft of the Site or if there are water sources within 1000 ft of the Site.
- Development of work orders for subcontractors.
- Notify New Mexico One-Call to facilitate location of underground utilities.
- Notified the Client representatives, Mr. Ben Stone and Mr. Denny Faust; and Mr. Bob Moss, agent of the current property owner Clayton Investments, a minimum of 96 hours prior to the commencement of onsite activities.
- Generated a Health and Safety Plan (HASP) for the project.
- Secured and checked field supplies for workability.
- Obtained analytical sample containers from Environmental Science Corp. (ESC).

2.2 Direct Push Boring Advancement

Prior to mobilizing to the Site, access to the Site was obtained from Clayton Investments, Inc. A copy of the access agreement is included in Appendix B. Field activities were conducted on January 9, 16 through 20, and 26, 2006. Upon arriving on site, the HASP was reviewed. The signatory HASP pages are included in Appendix C.

The subsurface soil conditions were explored by advancing 69 direct push (DP) soil borings at the Site. The locations of soil borings A-1 through L-6 are provided on Figure 2. At each sampling location, soil samples were collected continuously from surface to depths ranging from 12 to 20 ft bgs using a 4-ft-long, 1.25-inch-diameter acetate-lined continuous sampler. Each boring was advanced until the vertical extent of contamination was established by the field screening methods described below or until conditions precluded collection of reliable data. Boring L-3 was attempted but not completed due to a widespread shallow obstruction at that location, perhaps a former building foundation. Once collected, soils were visually classified and logged in accordance to Kleinfelder's Field Operating Procedures (Appendix D).

Field screening of soil samples was conducted using a Rae Systems Inc. Model PGM-761S Photo-ionization Detector (PID) and the highest (peak) measurement was recorded in accordance with Kleinfelder's Field Operating Procedures (Appendix D). The PID was calibrated daily using isobutylene span gas to a concentration of 100 parts per million by volume (ppmv). Field screening results are provided on the log of borings (Appendix E), tabulated in Table 1 and discussed in Section 3.5.

A second soil sample was placed in laboratory-provided glassware and preserved on ice for possible laboratory analyses. Soil samples were chosen for laboratory analysis, based on field screening results and field observations. Twenty soil samples were then placed on ice and delivered overnight via Federal Express under standard chain-of-custody procedures to ESC in Mt. Juliet, Tennessee. Soil samples were submitted for laboratory analysis for benzene, toluene, ethlylbenzene, total xylenes, and methy tertiary-butyl ether (MTBE) by EPA Method 8021 and gasoline, diesel, and oil range total petroleum hydrocarbons (TPH-GRO, DRO, and ORO) by EPA method 8015B. Three soil samples containing the highest concentrations of volatile organic compounds (VOCs) as determined by headspace readings (from F-2, I-2, and K-3) were also submitted for analysis for dissolved metals by EPA method 6010B. Sample intervals, sampling methods, and soil classifications are outlined in Kleinfelder's field operating procedures in Appendix D and illustrated on the boring logs provided in Appendix E.

2.3 Well Installation

On January 26, 2006, soil boring MW-3K was advanced on the northern section of the site, near the location of MW-3, a previously installed well presumably destroyed during construction associated with Blanco Boulevard (Figure 2). The drilling was performed using a 7 3/4-inch outside diameter hollow-stem auger (HSA) to a total depth of 16 ft bgs.

As illustrated in Appendix E, soil boring MW-3K was converted to a groundwater monitoring well. The well was constructed with 2-inch inside diameter (ID), schedule 40, flush-joint threaded polyvinyl chloride (PVC) casing, screen, and bottom sump. Well construction consisted of a threaded PVC bottom plug and 10 ft. of flush-joint, threaded, factory-slotted (0.010 machine-slot), well screen. The remaining construction and development procedures are outlined in Appendix D.

2.4 Fluid Level Gauging and Groundwater Sampling

Groundwater monitoring related field activities were conducted on January 26 and February 2, 2006. Well caps were partially removed from monitoring wells proposed for fluid level gauging so pressure caused by a fluctuating water table could be relieved. Fluid level gauging data was then collected using a properly decontaminated interface meter. The monitoring wells were also checked for the presence of LNAPL using dedicated disposable bailers. The data collected was documented in a field book and is summarized in Table 2. A copy of the field notes is provided in Appendix F and the procedures used to collect the data are provided in Appendix D.

Monitoring wells were sampled on January 26, 2006 after fluid levels were measured and documented. Prior to sampling, the wells were purged by bailing either three-casing volumes or the well was purged to near dryness. The temperature, pH, and conductivity of the purged groundwater were measured using an YSI-556 water quality meter and the data was datalogged within the instrument. Final measurements were recorded in the field book. A copy of Kleinfelder's field notes, including measured groundwater quality field parameters, is included in Appendix F. The procedures used to purge and sample the wells are detailed in Appendix D.

Following purging, a groundwater sample was collected from each monitoring well with a dedicated disposable bailer equipped with a bottom-emptying device and placed in laboratory-prepared glassware. For VOC analysis, groundwater samples were placed in 40-milliliter (mL) vials and were preserved with hydrochloric acid. For Polynuclear Aromatic Hydrocarbons (PAH) analysis, groundwater samples were placed in 1 Liter (L) amber bottles. For metals analysis, groundwater samples were placed in one 250 and one 500 mL unpreserved, plastic bottle for filtering and preservation by the laboratory. For geochemical parameter analysis, groundwater samples were placed in one 125, one 250, and one 500 mL unpreserved, plastic bottle. The samples were then placed on ice and delivered overnight via Federal Express under standard chain-of-custody procedures to ESC. Laboratory results are provided in Appendix G.

Purged groundwater was disposed of at the Site on an impermeable surface and allowed to evaporate.

3.0 SUMMARY OF DATA

3.1 Fluid Level Gauging

The depth to groundwater at the Site ranged from 7.90 ft below top of casing (TOC) in MW-2 to 10.66 ft below TOC in MW-3K. Potentiometric surface elevations (PSEs) ranged from 5,477.27 ft above mean sea level (amsl) at MW-3 to 5,469.82 ft amsl at MW-1 (Table 2). The gradient was calculated to have a magnitude of 0.0136 ft/ft with groundwater flow to the south-southwest (Figure 3). Gauging data collected on January 26, 2006 was not considered due to potential localized disturbances due to drilling activities. Final depth to groundwater measurements were recorded on February 2, 2006.

3.2 Light Non-Aqueous Phase Hydrocarbons

During the development of MW-3K on January 26, 2006, globules of LNAPL were observed in the purge water. LNAPL was not detected in the other two Site monitoring wells during the gauging events on January 26 and February 2, 2006.

LNAPL was observed in the soil samples collected from K-4 during the direct push investigation; subsaturation volumes of LNAPL were observed at depths of 7.8-8, 14-14.5 and 15.5-16 ft bgs, respectively. LNAPL was not observed in the remaining direct push borings.

3.3 Groundwater Quality Parameters

Groundwater quality parameters were recorded during monitoring well purging. These parameters were recorded using a YSI-556 groundwater quality meter. Measured parameters are provided in the field notes presented in Appendix F. The recorded parameters include temperature, pH, and specific conductance. Stabilized recorded temperature values ranged from 13.5 to 14.0 degrees Celsius. Stabilized recorded pH values ranged from 6.64 to 7.08. Stabilized specific conductance values range from 968 to 1,339 microSiemens per centimeter.

3.4 Groundwater Analytical Results

Results of the analytical testing performed on groundwater samples revealed concentrations of petroleum related analytes above the laboratory practical quantitation limit (PQL) in water samples from two of the three monitoring wells sampled. A summary of the laboratory test results for groundwater samples collected and analyzed from monitoring wells MW-1, MW-2, and MW-3K is presented in Tables 3 through 5 and concentrations of contaminants of concern (COC) are presented on Figure 4. New Mexico Water Quality Control Commission (NMWQCC) regulatory limits are also presented in Tables 3 through 6. Analytes exceeding the NMWQCC standards are given in boldface. As shown on Table 3, total naphthalenes were detected at a concentration of 180 micrograms per liter (µg/L) in MW-3K. The NMWQCC standard for total naphthalenes is 30 µg/L. The remaining analytes in each of the three wells

samples were reported by the analytical laboratory as being below the NMWQCC standards. A copy of the laboratory analytical report is provided in Appendix G.

Results of the analytical testing for geochemical parameters from the samples collected from MW-3K are summarized in Table 6. NMWQCC regulatory limits are also presented in Table 6. Analytes exceeding the NMWQCC standards are given in boldface. As shown on Table 6, dissolved magnesium was detected at a concentration of 9.8 milligrams per liter (mg/L) in MW-3K. The NMWQCC standard for dissolved magnesium is 0.2 mg/L for domestic water wells. All remaining geochemical analytes in the samples collected from MW-3K were reported by the analytical laboratory as being below the NMWQCC standards. A copy of the laboratory analytical report is provided in Appendix G.

3.5 Site Stratigraphy

Based on soil samples collected from the boring locations indicated on Figure 2, the upper 20 ft of the Site's subsurface consists of predominantly silty sands, clayey sands with clay layers. A cross section (A-A') oriented south to north, parallel to Fifth Street across the site is presented as Figure 5. A second cross section (B-B') running southwest to northeast across the site is presented as Figure 6. Referring to Figure 5, the southern portion of the site has approximately 6 ft of clayey sand and clays over silty sand. The clayey sand layer extends across the site but has two characteristics. The southern portion of the site, the clayey sand unit also includes 2 ft thick clay layers at approximately 4-6 ft bgs. In the northern portion of the site, the clayey sand is interlayered with a silty sand layer at 2-8 f t bgs (Figure 6) with some 1-2 ft thick clay layers (Figure 5). The clayey sand layer is interrupted in the central portion of site in the vicinity of E-2. The surfical silty sand layer encountered in borings J-2, K-2, and L-2 (Figure 5) likely represents fill material graded onto the site during construction of Fifth Avenue. The lower silty sand from approximately 6-12 ft bgs layer extends across the site, with the exception of the L series of borings on the northern boundary of the site. These borings were likely terminated before encountering the lower silty sand layer.

3.6 Soil Screening Results

Soil VOC field screening results for each boring are provided on the boring log presented in Appendix E and summarized in Table 1. Results that exceed the NMOCD Remediation Action Level of 100 ppm-v are shaded on Table 1. The samples screened for the presence of VOCs were collected from the continuous samplers as discussed in Section 2.2. Field screening results ranged from non detect (ND) in A-6 to 1376 ppm-v in I-2. The concentration of 1376 ppm-v represents the maximum reading of the instrument based upon its calibration. Regulatory actionable levels based on heated headspace readings (maximum) were noted in samples collected from D-1 (191 ppm-v), F-1 (1248 ppm-v), F-2 (1248 ppm-v), G-2 (1248 ppm-v), G-3 (287 ppm-v), G-4 (152 ppm-v), G-5 (143 ppm-v), H-1 (437 ppm-v), H-2 (898 ppm-v), H-4 (174 ppm-v), I-2 (1376 ppm-v) I-6 (315 ppm-v), K-3 (551 ppm-v), K-4 (461 ppm-v) and K-5 (210 ppm-v). Field screening results are also noted on the cross sections (Figures 5 and 6).

3.7 Soil Analytical Results

Soil analytical laboratory results for the 20 soil samples collected are summarized in Tables 7 and 8 and presented graphically as Figure 7.

Field screening and soil analytical results were used to create an isopach map for estimated thickness of regulatory actionable contaminated soil (Figure 8) and an isopach map for estimated overburden thickness (Figure 9).

3.7.1 Volatile Organic Compound and TPH Soil Analytical Results

Benzene concentrations in soils ranged from < 0.0026 (H-1) to 2.1 mg/kg (H-2). The NMOCD Remediation Action Level for benzene in soils is 10 ppm (equivalent to mg/kg) with a depth of groundwater less than 50 ft bgs.

Total BTEX results ranged from <0.0085 (G-5) to 30 mg/kg (F-2). The NMOCD Remediation Action Level for total BTEX is 50 ppm (equivalent to mg/kg) with groundwater at a depth less than 50 ft bgs. MtBE results were less than the detection limit with the exception of 0.028 mg/kg (K-4). The NMOCD has not established standards for MtBE in soil.

The total TPH values presented in Table 7 represent the sum of GRO, DRO and ORO values reported for each sample. The total TPH results ranged from <4.6 (A-2) to 5,500 mg/kg (F-2). Thirteen of the twenty samples analyzed exceed the total TPH concentration of 100 ppm NMOCD Remediation Action Level for soils for sites with groundwater at a depth less than 50 ft bgs. These exceedances are shaded on Table 7 and Figure 8. TPH-GRO results ranged from <0.58 (A-2) to 1,400 milligrams per kilogram (mg/kg) (F-2). The NMOCD has not established standards for TPH-GRO in soil. TPH-DRO results ranged from <4.6 to 4,100 mg/kg (F-2). The NMOCD has not established standards for TPH-DRO in soil. TPH-ORO results ranged from <4.6 to 900 mg/kg (K-4). The NMOCD has not established standards for TPH-ORO in soil. Copies of the laboratory analytical reports are provided in Appendix G.

3.7.2 Inorganic Compound Soil Analytical Results

Mercury results ranged from <0.021 ppm (K-3) to <0.025 ppm (F-2). Arsenic results ranged from <1.2 (F-2) to 1.9 ppm (I-2). Barium results ranged from 130 (K-3) to 220 ppm (I-2). Cadmium results ranged from 0.33 (I-2) to 0.79 ppm (F-2). Chromium results ranged from 1.8 (I-2) to 4.8 ppm (F-2). Lead results ranged from 1.5 (I-2) to 10 ppm (F-2). Selenium results ranged from <1.1 (I-2, K-3) to <6.3 ppm (F-2). Silver results ranged from <0.54 (K-3) to <0.63 ppm (F-2). Copies of the laboratory analytical reports are provided in Appendix G.

Soil inorganic analytical laboratory results for the 20 soil samples collected are summarized in Table 8. Regulatory standards for inorganic compounds in soil have not been established by NMOCD.

3.8 Water Well Search Results

An online water well search was conducted on March 7, 2006 on the Water Administration Technical Engineering Resource System (WATERS) of the New Mexico Office of the State Engineer website located at

http://iwaters.ose.state.nm.us:7001/iWATERS/. The database was searched using the "Water column report" function based on township and range location information of the Site. Since the location information of the WATERS database utilizes the township and range system, a precise radial search is not possible. The area prescribed by the 200 ft radius around the Site includes the southern and northern quarter-quarter of Sections 15 and 22 respectively of Township 29 North, Range 11 West. The results of the search are included in Appendix H. Nine domestic wells located within these four quarter-quarter sections are listed in the WATERS database. Additionally, three domestic wells whose location information does not specify down to the quarter-quarter section and therefore may be located in one of these four quarter-quarter sections. None of the 12 domestic wells are identified as located within 200 ft of the Site. The neared domestic supply well to the Site is located near the intersection of Blanco Boulevard and 3rd Street, approximately 1200 ft to the east of the Site.

The City of Bloomfield was contacted to confirm that the public water supply is diverted from the San Juan River, which is not located within 1000 ft of the Site.

4.0 DISCUSSION

4.1 Extent of Groundwater Contamination

Results of the groundwater sampling and analysis event revealed the presence of dissolved-phase petroleum-related hydrocarbons in two of the three wells sampled (MW-2 and MW-3K) (Tables 3 through 6). The highest concentrations of contaminants were observed in MW-3K. The groundwater sample collected from MW-3K contained total naphthalenes at concentrations exceeding the NMWQCC standards.

4.2 Extent of Soil Contamination

The site was characterized on a grid pattern of borings. The horizontal extent of actionable contaminated soil is shown on Figure 8. Actionable contaminated soil is defined as soils which exhibited total TPH over 100 mg/kg or heated headspace readings over 100 ppm-v. The estimated lateral extent of actionable soil is shown as orthogonal blocks, extending equal distance between the impacted boring and the adjacent clean boring. In cases where adjacent clean borings heated headspace reading were between 50 and 99 ppm-v, the blocks were extended three-quarters of the distance between the impacted boring and the adjacent boring. The actionable soil onsite is limited to four areas:

1. Within the southern zone of impact, boring D-1 encountered actionable soil from 4 to 6 ft bgs. This boring is located approximately 35 ft south of an area which according to the 1961 air photo, apparently contained two, twin 35'x10' horizontal above ground storage tanks (ASTs).

2. The central zone of impact contains the largest lateral extent of actionable soils as encountered in borings F-1, F-2, G-2, G-3, G-4, G-4, G-5, H-1, H-2, H-4 and I-2. These boring encountered actionable soils at depths ranging from the surface to approximately 8 ft bgs (F-2, G-2, G-3) to 10-12 ft bgs. Based on the 1961 air photo, this area formerly contained portions of four ASTs, a building, and what appears to be aboveground piping. Foundations observed during field activities indicated that boring G-2 was near a bulk product loading area. The central portion of the site contains the only area of impact predominantly of gasoline range organics (borings G-2 and H-2).

3. Boring I-6 in the northeast zone of impact encountered actionable soil from 4-6 ft bgs. Foundations observed during field activities indicate that boring I-6 was near a bulk product loading area. The 1961 air photo shows a building and pad at that location.

4. The northern zone of impact contains the second largest area of actionable soil as encountered in borings K-3, K-4 and K-5. These borings encountered actionable soil at depths ranging from 4-8 ft bgs in K-3 to 2-16 ft bgs in K-4 and K-5. The 1961 air photo shows refining processing equipment and open space in that area.

As can be seen in the north-south cross section (Figure 5), the vertical extent of actionable, contaminated soil, as defined by heated headspace screening levels above 100 ppm, is generally not limited to the soil type or unit. Groundwater at the Site exists at depths ranging from approximately 6 to 9 ft bgs. Of the four identified areas of impacted soil, two areas include a vertical extent of impacted soil that extends between 4.5 to 7.5 ft into the saturated zone. These two areas include portions of the central zone of impact (borings F-1, H-2 and I-2) and the northern zone of impact (borings K-4 and K-5).

The thickness of actionable soil is illustrated on Figure 8, and an estimated volume of in-place actionable soil is calculated for each of the four areas. An estimated 7,600 cubic yards of actionable soil is located in place on Site.

4.3 Extent of Overburden Soils

Figure 9 illustrates the thickness of soil above the actionable soil zones. Isopachs illustrate the thickness of clean overburden to be removed prior to revealing and excavating actionable soil. Figure 9 lists an estimated volume of overburden for each block within each zone of impact. Approximately 3,100 cubic yards of overburden is located on Site. The overburden thickness ranges from 2 ft near I-6 and G-3 to approximately 6 ft by borings G-4. Based on preliminary physical soil characterization, most of the overburden material can be re-used as compacted fill material. Some blending of the overburden material with import fill material may be required.

4.4 Conceptual Remedial Action Plan

Various remedial action technologies were considered for addressing on-Site soil and groundwater contamination including soil vapor extraction, groundwater pump and treat, air sparge/air venting, in-site chemical reagent application, and excavation with offsite disposal of soil. These remedial methods were evaluated based on the following criteria: 1) the Site-specific applicability of each technology for remediation of impacted soil and groundwater, 2) duration and costs required for system design and permitting, 3) duration and costs required for system installation, 3) costs required for system operation and maintenance, 4) costs associated with long-term system and groundwater monitoring, and 5) time interval required between system implementation and obtaining regulatory closure.

Based on the information obtained during our Phase I Assessment and Kleinfelder's Site-specific evaluation, we have determined that excavation and off-site disposal combined with in-Situ chemical reagent application to be the most time and cost effective remedial approach for the Site. Excavation and off-site disposal combined with in-Situ chemical reagent application of the contaminated source materials is the most advantageous due to the following Site-specific characteristics: 1) the Site is currently undeveloped, allowing for the space required for large equipment and staging of clean and impacted soil; 2) the Site is located relatively close to a facility permitted to accept petroleum impacted soil for land farming; 3) the contaminated areas are situated within easily excavatable soils; 4) the onsite availability of backfill material (Appendix A; 5) the

reduced timeframe between remedial implementation and environmental closure; 6) chemical agent application can address the impacted, non-readily excavatable soils situated below the water table; 7) chemical agent application can address the impacted groundwater within in the central portion of the Site; and 8) the proposed, combined remedial techniques aggressively target the sources of petroleum impact at the Site.

Kleinfelder proposes to address the remediation of onsite petroleum hydrocarbon impacted soil by three methods: 1) limiting the excavation of impacted soil to the vadose zone and where necessary, slightly below the water table (<2 ft), 2) applying a chemical reagent to open excavations prior to backfilling to remediate residual amounts of remaining impact in the soil and groundwater, and 3) insitu injection of a chemical reagent into the subsurface in areas of impact significantly below the water table (> 2 ft). The chemical reagent will be applied at concentrations necessary to reduce the mass of petroleum hydrocarbons.

Geophysical Survey

Given the foundations and stubbed off steel pipes observed during the site visits, it is likely that subsurface portions of the refining facility were not removed during dismantling of the facility (Appendix A. In order to identify underground items prior to excavation (such as piping, etc), Kleinfelder proposed to conduct a geophysical survey of the Site. The geophysical survey of the Site will provide valuable shallow subsurface information prior to implementing the contaminant soil removal activities. Should significant burial debris be identified during the geographical survey, removal of the debris can be factored into the final remediation scope of services.

4.4.1 Final Remediation Plan

Kleinfelder will prepare and submit to the NMOCD project manager a draft final remediation plan (FRP). Within 30 days of receiving NMOCD comments, Kleinfelder will submit the final FRP. The design and engineering of the FRP will be conducted under the supervision of a licensed professional engineer registered in New Mexico. The drawings, plans, and diagrams will be signed and sealed by the same professional engineer who supervises the design of the FRP. A final cost estimate will be submitted concurrently with the FRP.

4.4.2 FRP Implementation

4.4.2.1 Pre-Field Activities

Public Notice

Kleinfelder will publish legal notice at least twice in a newspaper of appropriate circulation. The date of the second publication shall be no later than 7 days after submitting the final remediation plan to NMOCD. An Affidavit of Publication shall be submitted to NMOCD no later than 21 days from the date of final remediation plan submittal.

Permitting

An Underground Injection Control Permit for the chemical reagent in-Situ injection will be sought from the NMED. Since the planned area of excavation of 0.78 acres is less than the 1.0 acre EPA threshold value, an EPA Storm Water Management Plan (SWMP) is not required; however, Kleinfelder proposes to prepare and implement a SWMP in the event that the excavation exceeds the 1.0 acre EPA threshold. A SWMP will also assist in reducing impact to the nearby community caused by site excavation activities and will avoid unnecessary delays and associated costs. Kleinfelder will contact local governments to determine if traffic or construction permits will be required. In addition, dust suppression will be conducted by water spraying during the course of the excavation.

Site Preparation

Kleinfelder will contact local utility operators to discuss the necessity of temporally capping or disconnecting utilities adjacent to the proposed excavations.

On-Site Traffic Control Plan/Site Controls

Personal safety is Kleinfelder's highest priority. An On-Site Traffic Control Plan will be implemented to accommodate truck traffic and excavation equipment. The plan will also control access to the site and protect the safety of the public, site occupants, and on-site workers. Security fencing shall be placed around the work area perimeter before excavation begins and remain in place until after site restoration is accomplished. All site gates will be locked at the end of each work day and remain locked until the next workday begins.

Competent Person Designation / Health and Safety Plan

A Kleinfelder engineer, experienced with the excavation of petroleum-contaminated soils, will oversee excavation activities. The engineer will document material excavated, field screening results, volumes of soil removed, and will serve as the OSHA-excavation competent person and on-site health and safety officer. The Site specific Health and Safety Plan will be updated for hazards associated with excavation and chemical reagent application.

4.4.2.2 Excavation, Soil Disposal, and Site Restoration

Excavation

The excavation volumes discussed in section 4.2 are based upon projecting the available data assuming homogeneous conditions. Actual excavated volume will be based upon results of soil screening by the heated headspace method and visual and olfactory observations. Additionally, Kleinfelder has assumed a soil expansion factor of 1.3. The excavation, backfilling and compaction portion of the project is expected to take 20 working days.

Heavy equipment on-site to excavate, load trucks, and provide backfilling will be a track hoe and a front-end loader. During the excavation, the soils will be field screened by Kleinfelder using heated-headspace techniques with a photoionization detector (PID) as described in Appendix D. The excavation work will proceed until the contamination in the remaining soils has been lowered to less than 100 ppmv as determined by the heated-headspace method. For temporary storage, field-screened, contaminated soil will be placed in a secure area of the Site, on 40-milliliter (mL) plastic, and bermed with clean soil. The soils will be covered with plastic sheeting at the end of each day to prevent weather impacts. As a result of the shallow groundwater table, the final 1 to 2 ft of soils to be excavated from F-1, G-2, G-3 and G-4 may be water saturated. Saturated soils will be segregated in a separate lined and bermed stockpile and if possible will be direct loaded into transport trucks with bed liners to prevent water from leaking during transport. Air quality will be monitored for VOCs near the excavation and soil stockpiles. Monitoring activities are described in the HASP. If VOC levels approach a threshold above those specified in the HASP, the fieldwork will cease and the field conditions will be reassessed. Air monitoring will determine if an upgrade in PPE to modified Level D or C is necessary.

For this discussion, we have assumed that it is safe for personnel to entry the excavation; however, soil-slope stability and excavation entry will be evaluated by the professional engineer and options for shoring, use of engineered fill, and sloping will be considered. To avoid conditions subject to 29 CFR 1926 Part P, no unsupported walls in excess of 5 ft deep will be left open overnight.

Soil Removal

When possible, excavated soil will be loaded directly into transport trucks. If necessary, impacted soil will be staged on lined, bermed stockpiles. Trucks leaving the site shall pass over a cobble shakedown zone to minimize soil adhering to the bottom or sides of the truck or between or on the tires.

Waste Management

Disposed soil will be transported to Envirotech's NMOCD Permitted Landfarm #2 in Hilltop, New Mexico. Waste shall be removed in accordance with NMOCD, NMED, and NMDOT requirements. In consideration to nearby residences, soil hauling will only be conducted between business hours. All soil treatment and disposal will be done in accordance with the landfill permit. Kleinfelder's on-site representative will document and verify all soil quantities before leaving the Site.

Sidewall Stability

Due to the expected nature of the aquifer material (flowing sand), unsupported excavation of more than 1-2 ft beneath the water table may result in slumping/subsidence of the soils near the excavation walls. With the proposed excavation in close proximity to Fifth Street, subsidence of subsurface soils may occur. Should Kleinfelder's OSHA-competent person determines that there is insufficient soil

cohesion to achieve required depths without sidewall sloping or shoring, the OCD manager will be contacted, advised of the conditions, and provided recommendations to mitigate. Kleinfelder will not implement engineered sidewall stability measures without first receiving approval from the OCD project manager.

Confirmatory Soil Sampling

In order to document all available impacted soil mass has been removed, confirmatory soil samples will be collected from the sidewalls of the excavations at a frequency of one every 20 ft. Additionally, a bottom samples will be collected for every 400 ft^2. Soil samples will be collected using the excavator bucket or hand auger as discussed in Appendix D. Soil samples will be collected and analyzed as discussed in Section 2.2. Kleinfelder will use the services of Hall Environmental Analytical Laboratory in Albuquerque, NM in order to receive results within 24 hours. Excavations will not be completely backfill until clean confirmatory sampling has been received from the laboratory.

Excavation Backfill/Compaction

Excavations will be backfilled with the overburden material present onsite with additional soil imported to the site. Pit-run gravel will be used in excavations that extend below the water table where necessary. Specific compaction requirements will be assessed in the FRP based on estimates of the future use of the Site; our cost estimates assumes heavy equipment wheel rolled compaction and no geotechnical testing. The FRP will provide the appropriate backfill/compaction specifications.

Site Restoration

Kleinfelder proposes to remove all foundation and subsurface materials remaining onsite from the operations of the refinery as identified during the geophysical survey and soil removal excavation. Following the backfilling and compaction of the excavation zones, the site will be restored to approximately the original grade and drainage pattern.

4.4.2.3 Chemical Reagent Application

Chemical Reagent Application to Excavation

The chemical reagent chosen for the in-Situ application and overspray to the excavations is an aqueous suspension of solid peroxygen compounds. This reagent was chosen over potassium permanganate. Both chemicals have the ability to consume petroleum constituents, but the peroxygen compounds also has the ability to consume benzene, the primary carcinogen in petroleum products. Although benzene has not been detected at the Site at significant levels, use of a reagent capable of destroying any benzene present is a conservative choice for the benefit of the future users of the Site. Subcontractor supplied information concerning the specific peroxygen compounds are included as Appendix I. Applying peroxygen compounds to excavations prior to backfilling will destroy residual amounts of remaining impact in the soil and groundwater.

Chemical Reagent In-Situ Application (Optional)

Insitu injection of peroxygen compounds will destroy petroleum compounds areas of soil impact below the water table. The insitu chemical injection will be conducted using a direct push rig. A boring will be advanced to the impacted soil at which point the peroxygen solution will be injected via highpressure hose. The addition of peroxygen compounds causes a significant increase of secondary aerobic biological activity due to the increase of dissolved oxygen following the primary chemical degradation of petroleum hydrocarbons.

Excavation Pilot Study (Optional)

As an option, Kleinfelder can determine if dewatering of an excavation is a feasible option for localized depression of the water table by conducting a 24-hour pilot test. A 15x15x10 ft. test hole in the southern portion of the site will be excavated. A pump will be used to pump water from the excavation into a frac tank. A light tower will be used for safe nighttime operations during the pilot test. Extracted groundwater will be sampled and tested to determine the necessary disposal options. Groundwater will be disposed of at Envirotech's NMOCD Permitted Landfarm #2 in Hilltop, New Mexico. If recharge to the excavation occurs at a sufficiently slow rate, it may be feasible to excavate the impacted soil at depths > 2 ft below the water table.

Baseline Groundwater Sampling Event (Optional)

Geochemical monitoring and sampling will be necessary to gauge the effects of the application of the peroxygen compounds. The monitoring should be conducted prior to application to establish background conditions.

4.4.2.4 Groundwater Monitoring

Monitoring Well Installation-Lagoon Assesment (Optional)

Following remedial activities, eight additional groundwater monitoring wells will be necessary to delineate groundwater in the interior of the Site and along the western boundary for petroleum hydrocarbon impact. A monitoring well will be installed downgradient from each of the identified areas of soil impact. These monitoring wells will be installed and construction as discussed in section 2.3.

Kleinfelder discussed the lagoon feature shown on the 1961 air photo (Figure 2) with Mr. Denny Faust of the NMOCD during the field activities of this investigation. The former lagoon is located immediately west of the southwest corner of the Site. Mr. Faust expressed interest in characterizing any petroleum impact to soil and groundwater associated with this feature. Clayton Investments, Inc, owns this property as well as the Site. Kleinfelder proposes to obtain access to the property from Clayton Investments, Inc., install 12 soil borings in the vicinity of and downgradient of the former lagoon, install a single groundwater monitoring well in the center of the former lagoon, and collect soil and groundwater samples similarly to section 2.0. The results will be included in the proposed excavation remediation report. This task could also be

completed prior to beginning remedial activities at the Site. If remedial action was deemed necessary at the lagoon location, remediation could be incorporated into the FRP.

Groundwater Monitoring (Optional)

Geochemical monitoring and sampling will be necessary to gauge the effects of the application of the perxoygen compounds. The monitoring should be conducted prior to application to establish background conditions and at one week, one month and two months following application. Recommended geochemical parameters are included in Appendix I. Kleinfelder proposes to continue quarterly groundwater monitoring at the site for a period of one year following remediation in order to assess if petroleum concentrations in groundwater exceed NMWQCC standards.

Quarterly Groundwater Monitoring Reports

Kleinfelder will prepare four quarterly groundwater monitoring reports. These reports will compare current and historical groundwater analytical laboratory results to NMWQCC standards and included a discussion of data (spatial and temporal trends of potentiometric surface and contaminant concentrations) and conclusions addressing plume stability, threat to receptors, delineation, qualitative natural attenuation trends, and recommendations.

Conversations with local residents suggests that the potentiometric surface rises approximately 2 ft beginning early May due to irrigation upgradient from the Site and remains high throughout the growing season. The rise of the water table will decrease the volume of impacted soil onsite suitable for remediation by excavation.

4.4.3 Reporting

As-Built Report and Drawings

Kleinfelder will submit an As-Built Report following completion of the FRP. This report will be a comprehensive description of activities conducted at the Site under the contract. Kleinfelder will discuss and compare current and historical laboratory analyses collected and provide a table to include analytical results.

Modifications to or variances from the drawings and specifications included in the final remediation plan will be discussed. Significant modifications or variances will not be made without receiving prior written approval from NMOCD. A New Mexico Professional Engineer shall sign and seal all drawings, plans, and diagrams submitted with this report.

4.4.4 Cost Estimate Table

To assist the NMOCD with a budget estimate for the proposed activities, Kleinfelder presents the following table

SUMMARY OF LUMP SUM COST	LUMP SUM COST	WITH NMGRT
TASK		
TASK 1: REMEDIATION WORK PLAN AND PROJECT PREPARATION	$ 20,022.00	21,373.49
TASK 2: STORM WATER MANAGEMENT PLAN, PERMITTING, PUBLIC NOTICE	$ 12,768.50	13,630.37
TASK 3: EXCAVATION AND OVERSIGHT	$ 669,151.37	714,319.09
TASK 4: REMEDIATION REPORTING	$ 16,500.00	17,613.75
SUBTOTAL FRP. Implementation and Reporting (Lump Sum)	**$ 718,441.87**	**766,936.70**
OPTIONS		
Option 1: EXCAVATION PILOT TEST	$ 18,781.29	20,049.03
Option 2: BACKFILL COMPACTION PROCTOR AND TESTING	$ 11,000.00	11,742.50
Option 3: CHEM-OX IN_SITU APPLICATION AND OVERSIGHT	$ 254,438.90	271,613.53
Option 4: GROUNDWATER MONITORING EVENT (4 events) (Pre and Post Chem Ox Application)	$ 34,578.00	36,912.02
SUBTOTAL Options 1-4 (Lump Sum)	**$ 318,798.19**	**$ 340,317.07**
GW MONITORING		
Option 5: MONITORING WELL INSTALLATION, LAGOON CHARACTERIZATION	$ 29,144.50	31,111.75
Option 6: GROUNDWATER MONITORING EVENT (4 events)	$ 36,664.00	39,138.82
Option 7: QUARTERLY GROUNDWATER MONITORING REPORTING (4 events)	$ 14,480.00	15,457.40
SUBTOTAL Options 5-7 (Lump Sum)	**$ 80,288.50**	**$ 54,596.22**
Total Lump Sum Cost	**$ 1,117,528.56**	**$ 1,161,849.99**

ESTIMATED REMEDIATION COSTS				
FRP. Implementation and Reporting (Lump Sum)	$	718,441.87		766,936.70
Cyds Removed/Disposed		7,600		7,600
Price per Cyds	**$**	**94.53**	**$**	**100.91**
Chem Ox Treatment	$	318,798.19	$	340,317.07
Treated Area (sq ft)		40,948		40,948
Price per Sq Ft	**$**	**7.79**	**$**	**8.31**

5.0 LIMITATIONS

The scope of work for this report was intended to provide a limited investigation related to the presence of hazardous materials at the referenced site. This assessment was not intended to be comprehensive, identify all potential concerns, or eliminate the possibility of using this information with some degree of risk.

This report may be used only by the client and only for the purposes stated, and within a reasonable time from its issuance, but in no event later than one year from the date of the report. Land use, site conditions (both off and on site), or other factors may change over time and additional work may be required with the passage of time. Any party other than the client who wishes to use this report shall notify Kleinfelder of such intended use. Non-compliance with any of these requirements by the client or anyone else will release Kleinfelder from any liability resulting from the use of this report by any unauthorized party and client agrees to defend, indemnify, and hold harmless Kleinfelder from any claim or liability associated with such unauthorized use or non-compliance.

It should be recognized that definition and evaluation of environmental conditions is a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the conditions present. More extensive studies may reduce the inherent uncertainties associated with environmental conditions. If the client wishes to further reduce the uncertainty associated with this study, Kleinfelder should be notified for additional consultation. No warranty, expressed or implied, is made.

6.0 REFERENCES

Fluor Daniel Arcs Team, 1994. Letter Memorandum, Aerex Refinery, EPA ID No. NM980622765, Bloomfield, San Juan County, New Mexico, Site Inspection Prioritization, Work Assignment No. 33-6JZZ. August 30, 1994.

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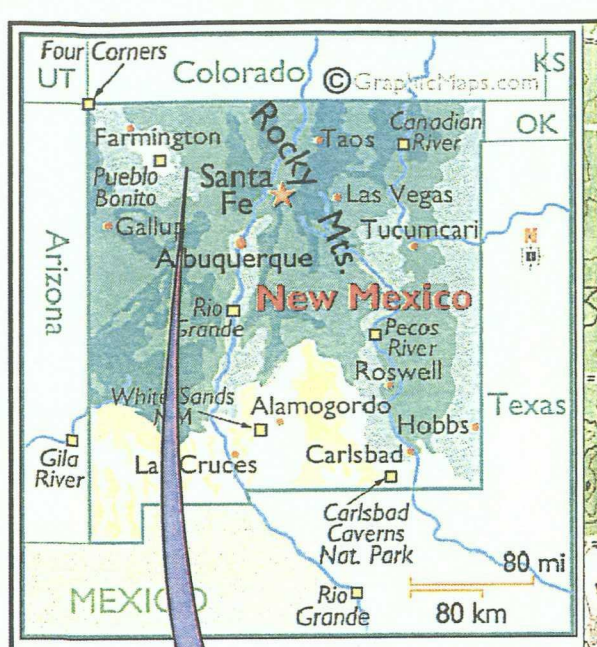
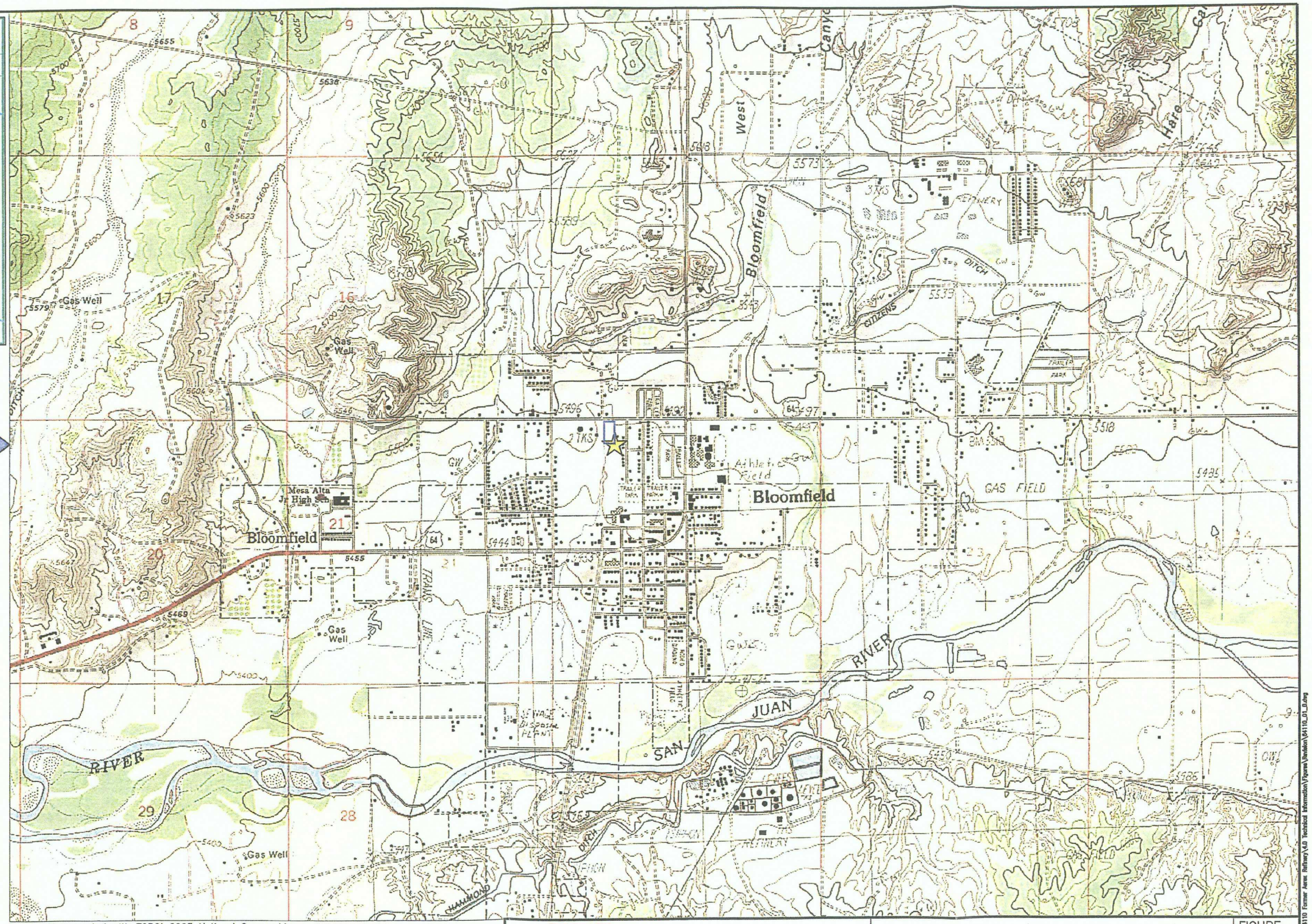
New Mexico Oil Conservation Division. 1993. Guidelines for Remediation of Leaks, Spills and Releases. August 13, 1993.

State of New Mexico. 2002. New Mexico Water Quality Control Commission Regulations. New Mexico Administrative Code, 2002.

FIGURES





= SITE LOCATION
NW 1/4, T.29N, R.11W, S.22

= PROPERTY BOUNDARY

2,000 0 1,000 2,000

SCALE: 1 inch = 2,000 ft

Source: Map created with TOPO! 2003 National Geographic

KLEINFELDER

Drawn By: C. Landon	Date: February 2006
Project No.: 64110	Filename: 64110_01_0.dwg
Scale: 1" = 2,000'	Revision: –

SITE LOCATION MAP
Former Aerex Refinery
Bloomfield, New Mexico

FIGURE
1

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Aerial Source: NMDOT, Bloomfield refinery 06-21-61.jpg

= Monitoring well

A1 = Soil boring

= Survey control point

= Property boundary

= Shallow geologic cross section

50 0 25 50

SCALE: 1 inch = 50 ft

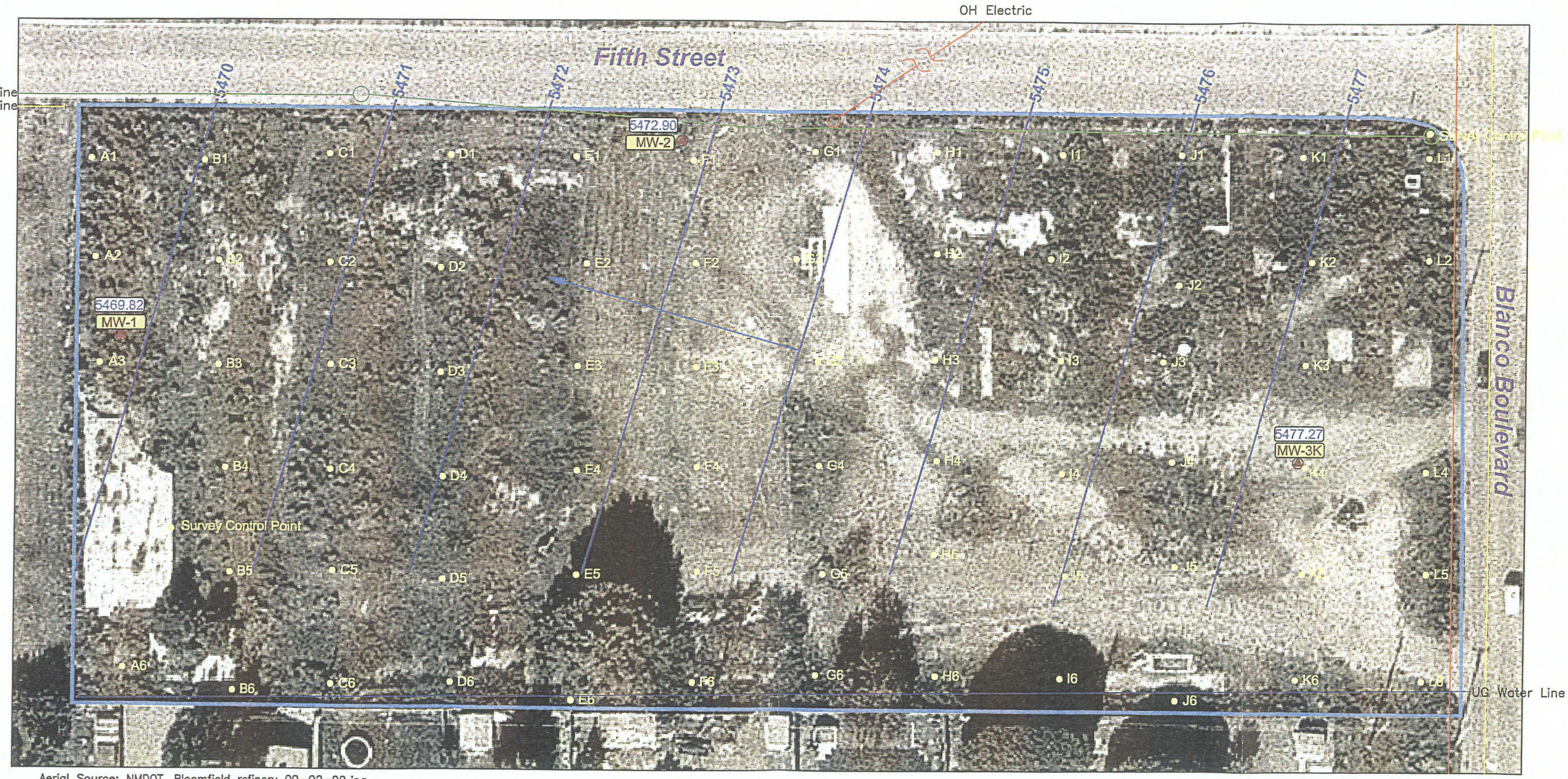
KLEINFELDER

Drawn By: C. Landon	Date: February 2006
Project No.: 64110	Filename: 64110_02_0.dwg
Scale: 1" = 50'	Revision: –

SOIL BORING LOCATIONS
(Overlaid on 1961 aerial photograph)
Former Aerex Refinery
Bloomfield, New Mexico

FIGURE
2

G:\Environ\Current Work Folder\V4110 Former Aerex Refinery\V4.0 Technical Information\Figures\Revision\V4110_02_0.dwg



Aerial Source: NMDOT, Bloomfield refinery 09-02-99.jpg

5469.82 = Monitoring well with potentiometric surface elevation (ft AMSL)

= Soil boring

= Survey control point

= Property boundary

= Potentiometric surface elevation

= Groundwater flow direction – February 2, 2006

50 0 25 50

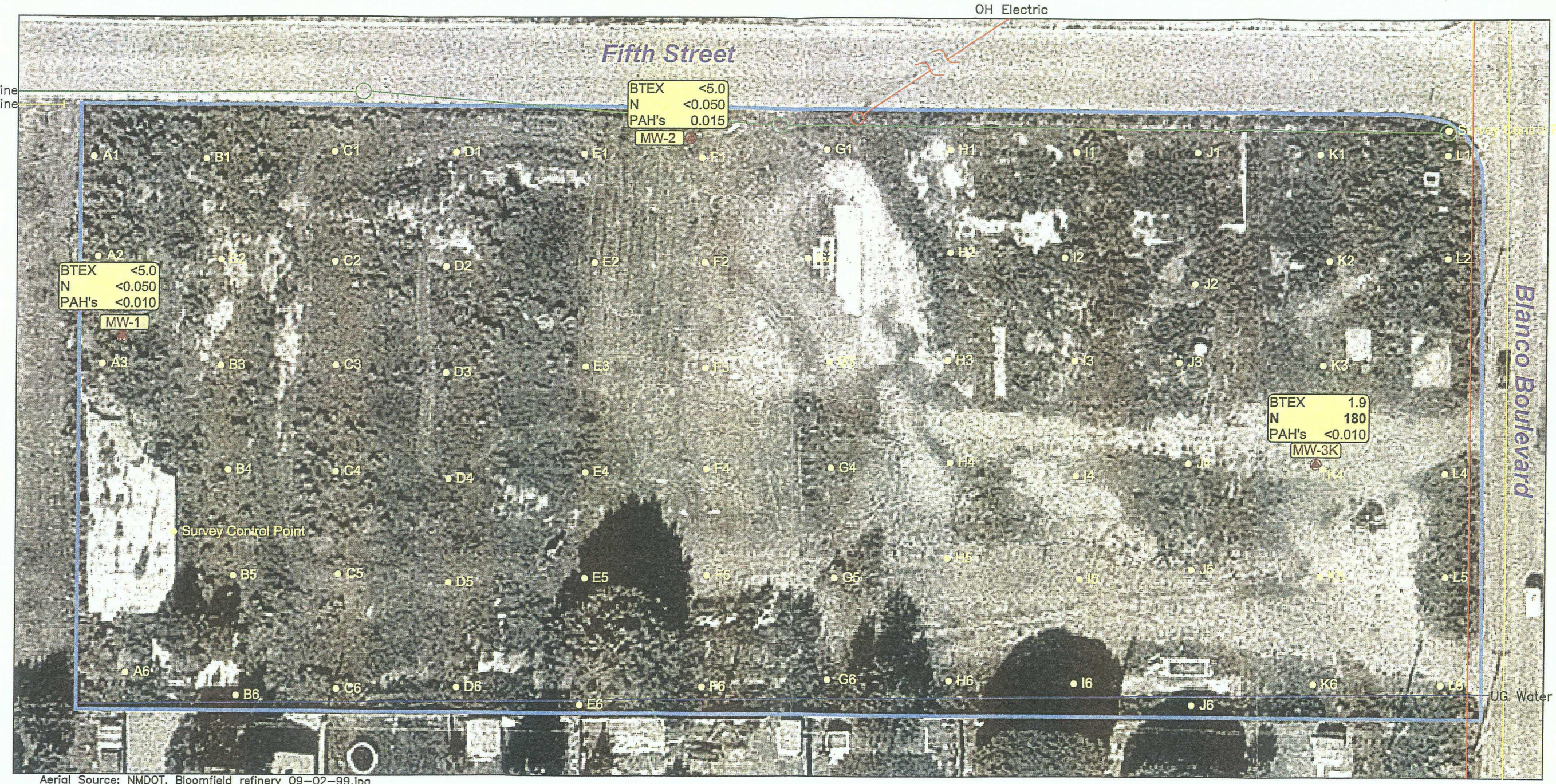
SCALE: 1 inch = 50 ft

KLEINFELDER	
Drawn By: C. Landon	Date: February 2006
Project No.: 64110	Filename: 64110_03_0.dwg
Scale: 1" = 50'	Revision: –

POTENTIOMETRIC SURFACE ELEVATION MAP
(Overlaid on 1999 aerial photograph)
February 2, 2006
Former Aerex Refinery
Bloomfield, New Mexico

FIGURE
3

G:\Environ\Current Work Folder\64110 Former Aerex Refinery\A0 Technical Information\Figures\64110_03_0.dwg



Aerial Source: NMDOT, Bloomfield refinery 09-02-99.jpg

● = Monitoring well

A1 = Soil boring

= Survey control point

= Property boundary

BTEX	<5.0
TPH	<0.050
PAH's	0.015

= Distribution of contaminants in groundwater (µg/L)

BTEX = Benzene+Toluene+Ethylbenzene+Total Xylenes
N = Naphthalene + 1-methylnaphthalene + 2-methylnaphthalene
PAH = Total Poly-aromatic Hydrocarbons

Note: Values in bold exceed the NMWQCC standard

50 0 25 50

SCALE: 1 inch = 50 ft

KLEINFELDER

Drawn By: C. Landon	Date: February 2006
Project No.: 64110	Filename: 64110_04_0.dwg
Scale: 1" = 50'	Revision: -

DISTRIBUTION OF HYDROCARBONS IN GROUNDWATER
(Overlaid on 1999 aerial photograph)
January 26, 2006
Former Aerex Refinery
Bloomfield, New Mexico

FIGURE
4

A

A'

SOUTH

NORTH

Elevation (ft)

5,488
5,486
5,484
5,482
5,480
5,478
5,476
5,474
5,472
5,470
5,468
5,466
5,464
5,462

0
50
100
150
200
250
300
350
400
450
500
550
600
650

Distance Along Baseline (ft)

A-2 B-2 C-2 D-2 E-2 F-2 G-2 H-2 I-2 J-2 K-2 L-2

?
0.0 ppm
0.0 ppm
?
0.0 ppm
?
1.0 ppm
0.4 ppm
0.0 ppm
?
96 ppm
1.2 ppm
0.5 ppm
0.1 ppm
0.0 ppm
0.0 ppm
0.5 ppm
6.9 ppm
6.2 ppm
0.1 ppm
1.5 ppm
0.9 ppm
0.6 ppm
1.3 ppm
0.8 ppm
0.2 ppm
0.0 ppm
0.2 ppm
0.0 ppm
0.0 ppm
1.0 ppm
0.5 ppm
1.5 ppm
1.7 ppm
2.8 ppm
1.0 ppm
758 ppm
1246* ppm
1246* ppm
1246* ppm
126 ppm
25 ppm
16 ppm
6.0 ppm
9.0 ppm
842 ppm
1248* ppm
1248* ppm
163 ppm
16 ppm
9.4 ppm
7.2 ppm
5.8 ppm
6.4 ppm
14.1 ppm
6.2 ppm
4.1 ppm
338 ppm
898 ppm
7.5 ppm
3.8 ppm
2.3 ppm
2.8 ppm
1.2 ppm
1.0 ppm
22 ppm
1376* ppm
13.4 ppm
7.2 ppm
1.1 ppm
5.0 ppm
1.7 ppm
3.0 ppm
0.6 ppm
1.7 ppm
4.0 ppm
2.3 ppm
2.6 ppm
3.8 ppm
2.8 ppm
0.7 ppm
4.7 ppm
1.4 ppm
1.3 ppm
1.0 ppm
1.7 ppm

Note: The strata lines are based upon interpolation between borings, and may not represent actual subsurface conditions.

LITHOLOGY EXPLANATION

- USCS High Plasticity Clay
- USCS Low Plasticity Clay
- USCS Clayey Sand
- Clay
- USCS Silty Sand
- Silty Sands
- Clayey sands
- = Groundwater potentiometric surface elevations based on extrapolation of adjacent onsite wells gauged on 02/02/06.
- 7.6 = VOC's in ppm as determined by heated headspace method
- * = upper limit of PID quantification
- Actionable soil as indicated by concentrations of VOC's greater than 100 ppm as determined by heated headspace method

KLEINFELDER

Drawn By: C. Landon	Date: February 2006
Project No.: 64110	Filename: 64110_05_0.dwg
Scale: not to scale	Revision: –

GEOLOGIC CROSS SECTION A - A'
Former Aerex Refinery
Bloomfield, New Mexico

FIGURE
5

G:\Environ\Current Work Folder\64110 Former Aerex Refinery\4.0 Technical Information\Figures\Revision\64110_05_0.dwg

B

B'

SW

NE

F-1

G-2

H-3

I-4

J-5

K-6

?

2.6 ppm

1.2 ppm

1.2 ppm

1.2 ppm

1.3 ppm

1248* ppm

35 ppm

10 ppm

842 ppm

1248* ppm

1248* ppm

163 ppm

16 ppm

9.4 ppm

7.2 ppm

5.8 ppm

5.2 ppm

2.6 ppm

3.3 ppm

1.8 ppm

1.9 ppm

1.7 ppm

6.1 ppm

1.5 ppm

2.3 ppm

1.3 ppm

5.6 ppm

2.4 ppm

1.2 ppm

1.1 ppm

7.9 ppm

4.2 ppm

2.0 ppm

4.6 ppm

2.1 ppm

1.4 ppm

1.2 ppm

1.7 ppm

0.2 ppm

0.2 ppm

Elevation (ft)

5,486
5,484
5,482
5,480
5,478
5,476
5,474
5,472
5,470
5,468
5,466
5,464

0
50
100
150
200
250
300
350
400

Distance Along Baseline (ft)

Note: The strata lines are based upon interpolation between borings, and may not represent actual subsurface conditions.

LITHOLOGY EXPLANATION

- USCS High Plasticity Clay
- USCS Clayey Sand
- USCS Low Plasticity Sandy Clay
- USCS Silty Sand
- USCS Low Plasticity Clay
- Silty Sands
- Clayey sands
- Clay
- Actionable soil as indicated by concentrations of VOC's greater than 100 ppm as determined by heated headspace method

= Groundwater potentiometric surface elevations based on extrapolation of adjacent onsite wells gauged on 02/02/06.

7.6 = VOC's in ppm as determined by heated headspace method

* = upper limit of PID quantification

KLEINFELDER

Drawn By: C. Landon	Date: February 2006
Project No.: 64110	Filename: 64110_06_0.dwg
Scale: not to scale	Revision: –

GEOLOGIC CROSS SECTION B - B'
Former Aerex Refinery
Bloomfield, New Mexico

FIGURE
6

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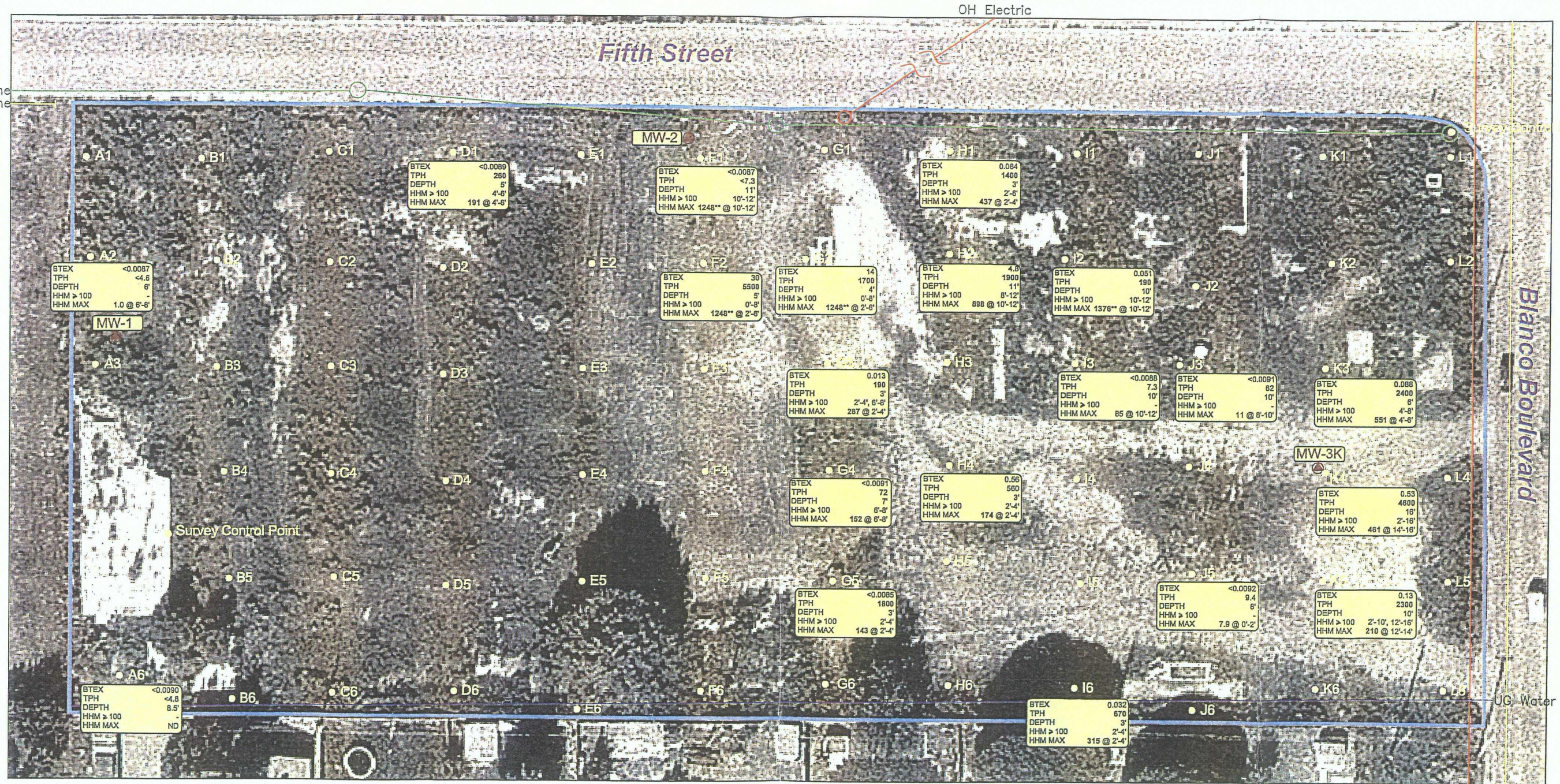


Aerial Source: NMDOT, Bloomfield refinery 09-02-99.jpg

* Samples collected between 1/16/06 and 1/26/06
** Upper limit of PID quantification

= Monitoring well
= Soil boring
= Survey control point
= Property boundary
= Distribution of hydrocarbons in soil (mg/kg)

BTEX = Benzene+Toluene+Ethylbenzene+Total Xylenes
TPH = Total Petroleum Hydrocarbons

HHM = Heated headspace screening method
> 100 = Soil interval, with PID readings greater than 100 ppm-v (ft bgs)
MAX = Highest PID reading detected in boring (ppm-v)
ND = Not detected
Bold = Concentrations above standards

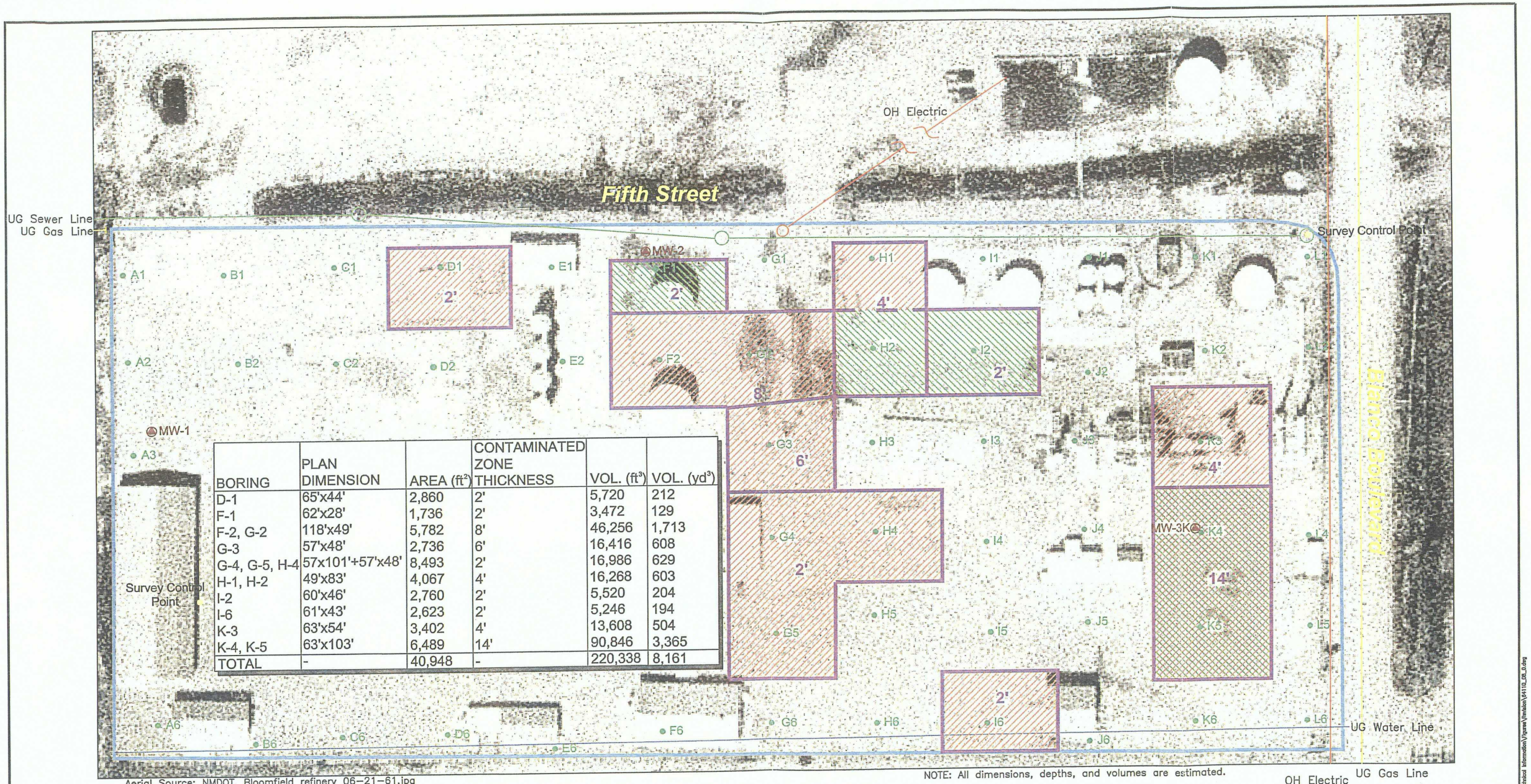
50 0 25 50
SCALE: 1 inch = 50 ft

KLEINFELDER	
Drawn By: C. Landon	Date: February 2006
Project No.: 64110	Filename: 64110_07_0.dwg
Scale: 1" = 50'	Revision: -

DISTRIBUTION OF HYDROCARBONS IN SOIL
(Overlaid on 1999 aerial photograph)
Former Aerex Refinery
Bloomfield, New Mexico

FIGURE 7

G:\Environ\Current Work Folder\64110 Former Aerex Refinery\4.0 Technical Information\Figures\Revision\64110_07_0.dwg



BORING	PLAN DIMENSION	AREA (ft^2)	CONTAMINATED ZONE THICKNESS	VOL. (ft^3)	VOL. (yd^3)
D-1	65'x44'	2,860	2'	5,720	212
F-1	62'x28'	1,736	2'	3,472	129
F-2, G-2	118'x49'	5,782	8'	46,256	1,713
G-3	57'x48'	2,736	6'	16,416	608
G-4, G-5, H-4	57x101'+57'x48'	8,493	2'	16,986	629
H-1, H-2	49'x83'	4,067	4'	16,268	603
I-2	60'x46'	2,760	2'	5,520	204
I-6	61'x43'	2,623	2'	5,246	194
K-3	63'x54'	3,402	4'	13,608	504
K-4, K-5	63'x103'	6,489	14'	90,846	3,365
TOTAL	-	40,948	-	220,338	8,161

Aerial Source: NMDOT, Bloomfield refinery 06-21-61.jpg

NOTE: All dimensions, depths, and volumes are estimated.

= Monitoring well
= Soil boring
= Survey control point
= Property boundary
= Isopach outline

= Suitable for excavation
= Suitable for insitu chemical oxidation
2' = Thickness of soil contamination zone

50 0 25 50
SCALE: 1 inch = 50 ft

KLEINFELDER

Drawn By: C. Landon	Date: February 2006
Project No.: 64110	Filename: 64110_08_0.dwg
Scale: 1" = 50'	Revision: -

ISOPACH MAP OF ACTIONABLE CONTAMINATED SOIL (>100ppmv)
(Overlaid on 1961 aerial photograph)
Former Aerex Refinery
Bloomfield, New Mexico

FIGURE 8

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BORING	PLAN DIMENSION	AREA (ft)	CLEAN OVERBURDEN SOIL THICKNESS	VOL. (ft^3)	VOL. (yd^3)
D-1	65'x44'	2,860	4'	11,440	424
G-3	57'x46'	2,622	2'	5,244	194
G-4	57'x49'	2,793	6'	16,758	621
G-5	57'x51'	2,907	2'	5,814	215
H-1	49'x36'	1,764	4'	7,056	261
H-4	57'x49'	2,793	2'	5,586	207
I-6	61'x43'	2,623	2'	5,246	194
K-3	63'x54'	3,402	4'	13,608	504
K-4, K-5	63'x103'	6,489	2'	12,978	480
TOTAL	-	28,253	-	83,730	3,100

Aerial Source: NMDOT, Bloomfield refinery 06-21-61.jpg

NOTE: All dimensions, depths, and volumes are estimated.

= Monitoring well
= Soil boring
= Survey control point
= Property boundary
= Isopach outline

= Suitable for excavation

2' = Thickness of soil contamination zone

50 0 25 50

SCALE: 1 inch = 50 ft

KLEINFELDER

Drawn By: C. Landon	Date: February 2006
Project No.: 64110	Filename: 64110_09_0.dwg
Scale: 1" = 50'	Revision: -

ISOPACH MAP OF CLEAN OVERBURDEN SOIL (<100ppmv)
(Overlaid on 1961 aerial photograph)
Former Aerex Refinery
Bloomfield, New Mexico

FIGURE
9

G:\Environ\Quemark Work Folder\64110 Former Aerex Refinery\1.0 Technical Information\Figures\Revision\64110_09_0.dwg

TABLES

Table 1
Soil Field Screening Results
Former Aerex Refinery
Bloomfield, NM

Boring Number	Date	Depth[1]	VOC[2]
A-1	10/11/2005	0-2	1.5
		2-4	0.4
		4-6	0.1
		6-8	0.0
		8-10	0.0
		10-12	0.0
A-2	10/11/2005	0-2	0.0
		2-4	0.0
		4-6	0.0
		6-8	1.0
		8-10	0.4
		10-12	0.0
A-3	10/11/2005	0-2	0.0
		2-4	0.0
		4-6	0.0
		6-8	0.0
		8-10	0.0
		10-12	0.0
A-6	10/11/2005	0-2	0.0
		2-4	0.0
		4-6	0.0
		6-8	0.0
		8-10	0.0
		10-12	0.0
B-1	10/11/2005	0-2	0.0
		2-4	0.0
		4-6	0.0
		6-8	0.0
		8-10	0.0
		10-12	0.0
B-2	10/11/2005	0-2	36
		2-4	1.2
		4-6	0.5
		6-8	0.2
		8-10	0.1
		10-12	0.0
B-3	10/11/2005	0-2	0.0
		2-4	0.0
		4-6	0.0
		6-8	0.0
		8-10	0.0
		10-12	0.0
B-4	10/11/2005	0-2	0.0
		2-4	0.4
		4-6	0.0
		6-8	0.0
		8-10	0.0
		10-12	0.0
B-5	10/11/2005	0-2	0.4
		2-4	0.1
		4-6	0.5
		6-8	0.2
		8-10	1.1
		10-12	0.1
B-6	10/11/2005	0-2	0.0
		2-4	0.0
		4-6	0.0
		6-8	0.0
		8-10	0.0
		10-12	0.0
C-1	10/11/2005	0-2	0.4
		2-4	0.1
		4-6	0.2
		6-8	1.7
		8-10	3.2
		10-12	1.6
		12-14	1.1
		14-16	0.7

[1] Depth measurements are provided in feet below ground surface

[2] Heated Headspace readings were taken with a Mini Rae organic vapor meter; the instrument was calibrated twice a day (at a minimum) with 100 parts per million concentration isobutylene. Heated Headspace readings of Volatile Organic Compounds (VOCs) are provided in parts per million by volume

*value that PID pegged at for that calibration
=PID Results > 100 ppm-v

Table 1
Soil Field Screening Results
Former Aerex Refinery
Bloomfield, NM

Boring Number	Date	Depth[1]	VOC[2]
C-2	10/11/2005	0-2	0.5
		2-4	0.1
		4-6	6.9
		6-8	1.5
		8-10	0.9
		10-12	0.6
C-3	10/12/2005	0-2	0.2
		2-4	0.5
		4-6	0.6
		6-8	0.5
		8-10	0.7
		10-12	0.1
C-4	10/12/2005	0-2	1.1
		2-4	0.6
		4-6	0.5
		6-8	0.8
		8-10	0.7
		10-12	0.8
C-5	10/12/2005	0-2	0.6
		2-4	0.7
		4-6	1.2
		6-8	0.9
		8-10	3.3
		10-12	0.8
C-6	10/12/2005	0-2	0.0
		2-4	0.0
		4-6	0.0
		6-8	0.0
		8-10	13.8
		10-12	0.0
D-1	10/12/2005	0-2	0.4
		2-4	92
		4-6	191
		6-8	12.9
		8-10	7.3
		10-12	3.9
		12-14	3.1
		14-16	2.5
D-2	10/12/2005	0-2	1.3
		2-4	0.8
		4-6	0.2
		6-8	0.0
		8-10	0.2
		10-12	0.0
D-3	10/12/2005	0-2	0.0
		2-4	0.0
		4-6	4.4
		6-8	0.8
		8-10	1.1
		10-12	0.7
D-4	10/12/2005	0-2	0.1
		2-4	0.6
		4-6	0.4
		6-8	0.2
		8-10	0.2
		10-12	0.2
D-5	10/12/2005	0-2	0.0
		2-4	0.4
		4-6	0.4
		6-8	0.2
		8-10	0.1
		10-12	0.1
D-6	10/12/2005	0-2	0.9
		2-4	0.6
		4-6	0.5
		6-8	0.4
		8-10	0.3
		10-12	0.2
E-1	10/13/2005	0-2	1.6
		2-4	1.3
		4-6	1.1
		6-8	80
		8-10	7.4
		10-12	47

[1] Depth measurements are provided in feet below ground surface

[2] Heated Headspace readings were taken with a Mini Rae organic vapor meter; the instrument was calibrated twice a day (at a minimum) with 100 parts per million concentration isobutylene. Heated Headspace readings of Volatile Organic Compounds (VOCs) are provided in parts per million by volume

*value that PID pegged at for that calibration

=PID Results > 100 ppm-v

Table 1
Soil Field Screening Results
Former Aerex Refinery
Bloomfield, NM

Boring Number	Date	Depth[1]	VOC[2]
E-2	10/13/2005	0-2	1.0
		2-4	0.5
		4-6	1.5
		6-8	1.7
		8-10	2.8
		10-12	1.0
E-3	10/13/2005	0-2	2.6
		2-4	1.3
		4-6	0.3
		6-8	0.6
		8-10	0.6
		10-12	0.7
E-4	10/13/2005	0-2	1.4
		2-4	0.6
		4-6	1.5
		6-8	0.9
		8-10	0.9
		10-12	1.0
E-5	10/13/2005	0-2	2.1
		2-4	2.5
		4-6	1.2
		6-8	0.5
		8-10	0.3
		10-12	0.4
E-6	10/13/2005	0-2	0.7
		2-4	0.2
		4-6	0.4
		6-8	0.4
		8-10	0.7
		10-12	0.7
F-1	10/13/2005	0-2	2.6
		2-4	1.2
		4-6	1.2
		6-8	1.2
		8-10	1.3
		10-12	1248*
		12-14	35
		14-16	10
F-2	10/13/2005	0-2	758
		2-4	1248*
		4-6	1248*
		6-8	126
		8-10	25
		10-12	16
		12-14	8
		14-16	9
F-3	10/13/2005	0-2	2.5
		2-4	3.8
		4-6	2.9
		6-8	6.7
		8-10	1.4
		10-12	0.9
F-4	10/13/2005	0-2	2.2
		2-4	1.5
		4-6	3.8
		6-8	3.7
		8-10	2.6
		10-12	1.4
F-5	10/13/2005	0-2	0.0
		2-4	19
		4-6	6.6
		6-8	2.5
		8-10	2.0
		10-12	1.2
F-6	10/13/2005	0-2	1.0
		2-4	1.7
		4-6	1.3
		6-8	1.1
		8-10	1.1
		10-12	0.9
G-1	10/13/2005	0-2	3.6
		2-4	3.2
		4-6	7.5
		6-8	4.5
		8-10	3.4
		10-12	2.3
		12-14	4.5
		14-16	3.3

[1] Depth measurements are provided in feet below ground surface

[2] Heated Headspace readings were taken with a Mini Rae organic vapor meter; the instrument was calibrated twice a day (at a minimum) with 100 parts per million concentration isobutylene. Heated Headspace readings of Volatile Organic Compounds (VOCs) are provided in parts per million by volume

*value that PID pegged at for that calibration
=PID Results > 100 ppm-v

Table 1
Soil Field Screening Results
Former Aerex Refinery
Bloomfield, NM

Boring Number	Date	Depth[1]	VOC[2]
G-2	10/27/2005	0-2	842
		2-4	1248*
		4-6	1248*
		6-8	163
		8-10	16
		10-12	9.4
		12-14	7.2
		14-16	5.8
G-3	10/27/2005	0-2	80
		2-4	287
		4-6	45
		6-8	266
		8-10	12
		10-12	7.7
G-4	10/27/2005	0-2	64
		2-4	96
		4-6	58
		6-8	152
		8-10	14
		10-12	6.6
G-5	10/27/2005	0-2	83
		2-4	143
		4-6	63
		6-8	17
		8-10	7.3
		10-12	7.8
G-6	10/27/2005	0-2	0.6
		2-4	0.9
		4-6	1.0
		6-8	0.7
		8-10	0.5
		10-12	0.4
H-1	10/27/2005	0-2	0.7
		2-4	437
		4-6	286
		6-8	19.9
		8-10	8.5
		10-12	6.6
H-2	10/27/2005	0-2	6.4
		2-4	14.1
		4-6	6.2
		6-8	4.1
		8-10	336
		10-12	898
		12-14	7.5
		14-16	3.8
H-3	10/27/2005	0-2	5.2
		2-4	2.8
		4-6	3.3
		6-8	1.8
		8-10	1.9
		10-12	1.7
H-4	10/27/2005	0-2	0.7
		2-4	174
		4-6	4.3
		6-8	2
		8-10	1.5
		10-12	1
H-5	10/27/2005	0-2	2.3
		2-4	1.2
		4-6	1.5
		6-8	1.6
		8-10	1.6
		10-12	0.9
H-6	10/27/2005	0-2	6.8
		2-4	5.9
		4-6	3.3
		6-8	2.4
		8-10	2.0
		10-12	2.2
I-1	10/27/2005	0-2	5.0
		2-4	4.4
		4-6	3.7
		6-8	0.9
		8-10	0.3
		10-12	0.6

[1] Depth measurements are provided in feet below ground surface

[2] Heated Headspace readings were taken with a Mini Rae organic vapor meter. the instrument was calibrated twice a day (at a minimum) with 100 parts per million concentration isobutylene. Heated Headspace readings of Volatile Organic Compounds (VOCs) are provided in parts per million by volume

*value that PID pegged at for that calibration
=PID Results > 100 ppm-v

Table 1
Soil Field Screening Results
Former Aerex Refinery
Bloomfield, NM

Boring Number	Date	Depth[1]	VOC[2]
I-2	10/27/2005	0-2	2.3
		2-4	2.8
		4-6	1.2
		6-8	1
		8-10	22
		10-12	1376*
		12-14	13.4
		14-16	7.2
I-3	10/11/2005	0-2	2.8
		2-4	2.2
		4-6	3.0
		6-8	7.7
		8-10	4.7
		10-12	85
		12-14	10.5
		14-16	35
I-4	10/11/2005	0-2	6.1
		2-4	1.5
		4-6	2.3
		6-8	1.3
		8-10	5.6
		10-12	2.4
		12-14	1.2
		14-16	1.1
I-5	10/11/2005	0-2	7.0
		2-4	3.0
		4-6	4.0
		6-8	2.2
		8-10	1.8
		10-12	2.4
I-6	10/11/2005	0-2	1.3
		2-4	315
		4-6	22
		6-8	12
		8-10	7.8
		10-12	5.7
J-1	10/11/2005	0-2	1.6
		2-4	1.3
		4-6	3.1
		6-8	0.7
		8-10	1.1
		10-12	0.4
J-2	10/11/2005	0-2	1.1
		2-4	5.0
		4-6	1.7
		6-8	3.0
		8-10	0.6
		10-12	1.7
J-3	10/11/2005	0-2	0.6
		2-4	3.6
		4-6	1.2
		6-8	3.3
		8-10	11
		10-12	3.3
		12-14	0.4
		14-16	2.5
J-4	10/11/2005	0-2	1.6
		2-4	6.6
		4-6	6.4
		6-8	4.5
		8-10	5.0
		10-12	10.5
J-5	10/11/2005	0-2	7.9
		2-4	4.2
		4-6	2.0
		6-8	4.8
		8-10	2.1
		10-12	1.4
J-6	10/11/2005	0-2	1.5
		2-4	0.5
		4-6	1.3
		6-8	1.6
		8-10	1.2
		10-12	1.8

[1] Depth measurements are provided in feet below ground surface

[2] Heated Headspace readings were taken with a Mini Rae organic vapor meter; the instrument was calibrated twice a day (at a minimum) with 100 parts per million concentration isobutylene. Heated Headspace readings of Volatile Organic Compounds (VOCs) are provided in parts per million by volume

*value that PID pegged at for that calibration

=PID Results > 100 ppm-v

Table 1
Soil Field Screening Results
Former Aerex Refinery
Bloomfield, NM

Boring Number	Date	Depth[1]	VOC[2]
K-1	10/11/2005	0-2	2.7
		2-4	0.7
		4-6	1.1
		6-8	0.7
		8-10	0.7
		10-12	0.3
K-2	10/11/2005	0-2	4.0
		2-4	2.3
		4-6	2.6
		6-8	3.8
		8-10	3.9
		10-12	2.8
K-3	10/12/2005	0-2	6.0
		2-4	58
		4-6	551
		6-8	425
		8-10	5.9
		10-12	27.0
		12-14	8.6
		14-16	3.2
K-4	10/12/2005	0-2	8.9
		2-4	115
		4-6	172
		6-8	153
		8-10	169
		10-12	149
		12-14	105
		14-16	461
		16-18	29
		18-20	6.9
K-5	10/12/2005	0-2	0.2
		2-4	103
		4-6	118
		6-8	106
		8-10	130
		10-12	92
		12-14	210
		14-16	157
		16-18	7.4
		18-20	7.4
K-6	10/12/2005	0-2	1.2
		2-4	1.7
		4-6	0.2
		6-8	0.2
L-1	10/12/2005	0-2	4.2
		2-4	3.0
		4-6	3.3
		6-8	1.2
		8-10	1.6
		10-12	1.1
L-2	10/12/2005	0-2	0.7
		2-4	4.7
		4-6	1.4
		6-8	1.3
		8-10	1.0
		10-12	1.7
L-4	10/12/2005	0-2	0.4
		2-4	1.2
		4-6	1.0
		6-8	0.5
		8-10	8.0
		10-12	6.8
L-5	10/12/2005	0-2	4.8
		2-4	4.8
		4-6	4.6
		6-8	3.5
		8-10	1.1
		10-12	0.3
L-6	10/12/2005	0-2	0.6
		2-4	4.2
		4-6	0.8
		6-8	2.6
		8-10	2.7
		10-12	4.0

[1] Depth measurements are provided in feet below ground surface

[2] Heated Headspace readings were taken with a Mini Rae organic vapor meter; the instrument was calibrated twice a day (at a minimum) with 100 parts per million concentration isobutylene. Heated Headspace readings of Volatile Organic Compounds (VOCs) are provided in parts per million by volume

*value that PID pegged at for that calibration

=PID Results > 100 ppm-v

Table 2
Fluid Level Data
Former Aerex Refinery
Bloomfield, NM

Well ID	Screened Interval[1]	TOC Elevation (A)[2]	Date	Depth to Product (B)[3]	DTW (C)[4]	LNAPL Thickness (D)[5]	Potentiometric Surface Elevation[6]
MW-1	6.7-16.7	5478.17	1/26/2006	---	8.37	---	5469.80
			2/2/2006	---	8.35	---	5469.82
MW-2	4-14	5480.8	1/26/2006	---	7.92	---	5472.88
			2/2/2006	---	7.90	---	5472.90
MW-3	4-14	5487.93	1/26/2006	---	10.81	---	5477.12
			2/2/2006	---	10.66	---	5477.27

[1] Screened intervals are provided in feet below ground surface.

[2] Top-of-casing (TOC) elevation values are provided in feet above mean sea level (NAVD 88 datum). Top of casing elevation data was provided by Kleinfelder's subcontractor, Johnson Mapping and Surveying,LLC. The survey was performed in January 2006.

[3] Depth-to-product measurements are provided in feet below top of casing.

[4] Depth-to-water measurements are provided in feet below top of casing.

[5] LNAPL thickness is provided in feet.

[6] Potentiometric surface elevation is calculated by (A-C) + [(0.79)(D)], where 0.79 is the asumed specific gravity of the LNAPL, and D = B-C.

Table 3

Groundwater Sample Laboratory Analytical Results - Volatile Organic Compounds[1]

Former Aerex Refinery

Bloomfield, NM

Well ID	Date Sampled	CONCENTRATION (µg/L)[2]					
		B	T	E	X	M	N
MW-1	1/26/2006	<0.50	<5.0	<0.50	<1.5	<1.0	<0.050
MW-2	1/26/2006	<0.50	<5.0	<0.50	<1.5	<1.0	<0.050
MW-3	1/26/2006	<0.50	<5.0	1.9	<1.5	<1.0	180
NMWQCC[3] Standard		*10*	*750*	*750*	*620*	*100*	*30*

[1] Refer to Appendix F for the complete list of laboratory analytical results

[2] *Units in micrograms per liter*

[3] New Mexico Water Quality Control Commission

Values in shaded boxes indicate that the result exceeds the NMWQCC standard

B = benzene

T = toluene

E = *ethylbenzene*

X = total xylenes

M = Methyl pert butyl ether

N = naphthalene + 1-methylnaphthalene + 2-methylnaphthalene

B,T,E,X, and M by EPA Method 8021

N by EPA *Method* 8310

Table 4

Groundwater Sample Laboratory Analytical Results - Polynuclear Aromatic Hydrocarbons[1]

Former Aerex Refinery

Bloomfield, NM

Well ID	Date Sampled	CONCENTRATION (µg/L)[2]														
		Anthracene	Acenaphthene	Acenaphthylene	Benzo(a)-anthracene	Benzo(a)-pyrene	Benzo(b)-fluoranthene	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene
MW-1	1/26/2006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.010
MW-2	1/26/2006	<0.010	0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.010
MW-3	1/26/2006	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.010
NMWQCC[3] Standard		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[1] Refer to Appendix F for the complete list of laboratory analytical results.

[2] Units in micrograms per liter

[3] New Mexico Water Quality Control Commission has not established a standard for the listed analytes

All analysis by EPA Method 8310

Table 5
Groundwater Sample Laboratory Analytical Results - Dissolved Metals[1]
Former Aerex Refinery
Bloomfield, NM

Well ID	Date Sampled	CONCENTRATION (mg/L)[2]							
		Mercury	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver
MW-1	1/26/2006	<0.00020	<0.020	0.11	<0.0050	<0.010	<0.0050	<0.020	<0.010
MW-2	1/26/2006	<0.00020	<0.020	0.12	<0.0050	<0.010	<0.0050	<0.020	<0.010
MW-3	1/26/2006	<0.00020	<0.020	0.99	<0.0050	<0.010	<0.0050	<0.020	<0.010
NMWQCC[3] Standard		*0.002*	*0.1*	*1.0*	*0.01*	*0.05*	*0.05*	*0.05*	*0.05*

[1] Refer to Appendix F for the complete list of laboratory analytical results.

[2] Units in milligrams per liter

[3] New Mexico Water Quality Control Commission

Values in shaded boxes indicate that the result exceeds the NMWQCC standard

All analysis by EPA Method 6010B

Table 6
Groundwater Sample Laboratory Analytical Results - Geochemical Parameters [1]
Former Aerex Refinery
Bloomfield, NM

Well ID	Date Sampled	CONCENTRATION (mg/L) [2]													
		Bromide	Chloride	Fluoride	Nitrate	Nitrite	Sulfate	Alkalinity	Ortho Phosphate	Specific Conductance	Dissolved Solids	Calcium	Magnesium	Potassium	Sodium
MW-3	1/26/2006	<1.0	7.8	0.45	<0.10	<0.10	7.2	570	<0.025	980	570	130	9.8	2.2	83
NMWQCC [3] Standard		-	*250.0 [a]*	*1.6*	*10.0*	-	*600.0 [a]*	-	-	-	*1000.0 [a]*	-	*0.2 [a]*	-	-
EPA Method		*9056*	*9056*	*9056*	*9056*	*9056*	*9056*	*310.2*	*4500P-E*	*9050A*	*160.1*	*6010B*	*6010B*	*6010B*	*6010B*

[1] Refer to Appendix F for the complete list of laboratory analytical results.
[2] Units in milligrams per liter
[3] New Mexico Water Quality Control Commission
[a] Standards for Domestic Water Supply
Values in shaded boxes indicate that the result exceeds the NMWQCC standard
Method = EPA Method Number
-=NMQCC has not established standards for the listed analytes

Table 7

Soil Sample Laboratory Analytical Results - Volatile Organic Compounds[1]

Former Aerex Refinery

Bloomfield, NM

BORING NUMBER	SAMPLE NAME	DATE	DEPTH[4]	CONCENTRATION (mg/kg)[2]									
				B	T	E	X	Total BTEX	M	TPH-GRO	TPH-DRO	TPH-ORO	Total TPH
A-2	A2-6'	1/26/2006	6	<0.0029	<0.029	<0.0029	<0.0087	<0.0087	<0.0058	<0.58	<4.6	<4.6	<4.6
A-6	A6-8.5'	1/26/2006	8.5	<0.0030	<0.030	<0.0030	<0.0090	<0.0090	<0.0060	<0.60	<4.8	<4.8	<4.8
D-1	D1-5'	1/19/2006	5	<0.0030	<0.030	<0.0030	<0.0089	<0.0089	<0.0059	<0.59	230	30	260
F-1	F1-11'	1/18/2006	11	<0.0029	<0.029	<0.0029	<0.0087	<0.0087	<0.0058	1.6	5.7	<4.6	7.3
F-2	F2-5'	1/18/2006	5	0.14	<0.63	2.5	27	30	<0.12	1400	4100	<1000	5500
G-2	G2-4'	1/18/2006	4	0.066	<0.57	1.5	12	14	<0.11	1200	410	42	1700
G-3	G3-3'	1/18/2006	3	<0.0029	<0.029	0.0037	0.0091	0.013	<0.0057	0.71	150	40	190
G-4	G4-7'	1/18/2006	7	<0.0030	<0.030	<0.0030	<0.0091	<0.0091	<0.0061	0.7	71	<4.8	72
G-5	G5-3'	1/18/2006	3	<0.0028	<0.028	<0.0028	<0.0085	<0.0085	<0.0057	2.1	1800	<91	1800
H-1	H1-3'	1/17/2006	3	<0.0026	<0.026	<0.0026	0.084	0.084	<0.0052	20	1300	92	1400
H-2	H2-11'	1/17/2006	11	2.1	<1.5	<0.15	2.7	4.8	<0.30	1100	680	120	1900
H-4	H4-3'	1/18/2006	3	0.0033	<0.028	0.049	0.51	0.56	<0.0055	100	330	130	560
I-2	I2-10'	1/17/2006	10	0.012	<0.028	0.0046	0.034	0.051	<0.0057	10	150	33	190
I-3	I3-10'	1/17/2006	10	<0.0030	<0.030	<0.0030	<0.0088	<0.0088	<0.0059	0.81	6.5	<4.7	7.3
I-6	I6-3'	1/17/2006	3	<0.0029	<0.029	<0.0029	0.032	0.032	<0.0058	11	620	36	670
J-3	J3-10'	1/17/2006	10	<0.0030	<0.030	<0.0030	<0.0091	<0.0091	<0.0060	6.7	44	11	62
J-5	J5-8'	1/17/2006	8	<0.0031	<0.031	<0.0031	<0.0092	<0.0092	<0.0062	<0.62	9.4	<4.9	9.4
K-3	K3-6'	1/16/2006	6	<0.0027	<0.027	<0.0027	0.088	0.088	<0.0054	160	2100	150	2400
K-4	K4-16'	1/16/2006	16	0.098	<0.030	0.14	0.29	0.53	0.028	170	3500	900	4600
K-5	k5-10'	1/16/2006	10	0.0039	<0.029	<0.0029	0.13	0.13	<0.0058	55	1800	430	2300
NMOCD[3] Standard				*10*	-	-	-	*50*	-	-	-	-	*100*

[1] Refer to Appendix F for the complete list of laboratory analytical results

[2] Units in milligrams per kilograms

[3] New Mexico Oil Conservation District Remediation Action Levels for sites with groundwater < 50 ft below ground surface

[4] Depth measurements are provided in feet below ground surface

Values in shaded boxes indicate that the result exceeds the NMWOCD standard

B = benzene

T = toluene

E = ethylbenzene

X = total xylenes

Total BTEX = B+T+E+X

M = Methyl Tertiary Butyl Ether

TPH = Total Petroleum Hydrocarbons

TPH-GRO = Gasoline Range Organics

TPH-DRO = Diesel Range Organics

TPH-ORO = Oil Range Organics

Total TPH = sum of GRO, DRO, and ORO

B,T,E,X, and M by EPA Method 8021

TPH-GRO, DRO, and ORO by EPA Method 8015

-=NMOCD has not established standards for the listed analyte

Table 8
Soil Sample Laboratory Analytical Data - Inorganic Compounds[1]
Former Aerex Refinery
Bloomfield, NM

BORING NUMBER	SAMPLE NAME	DATE	DEPTH[3]	CONCENTRATION (mg/kg)[2]							
				Mercury	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver
A-2	A2-6'	1/26/2006	6	NA	NA	NA	NA	NA	NA	NA	NA
A-6	A6-8.5'	1/26/2006	8.5	NA	NA	NA	NA	NA	NA	NA	NA
D-1	D1-5'	1/19/2006	5	NA	NA	NA	NA	NA	NA	NA	NA
F-1	F1-11'	1/18/2006	11	NA	NA	NA	NA	NA	NA	NA	NA
F-2	F2-5'	1/18/2006	5	<0.025	<1.2	160	0.79	4.8	10	<6.3	<0.63
G-2	G2-4'	1/18/2006	4	NA	NA	NA	NA	NA	NA	NA	NA
G-3	G3-3'	1/18/2006	3	NA	NA	NA	NA	NA	NA	NA	NA
G-4	G4-7'	1/18/2006	7	NA	NA	NA	NA	NA	NA	NA	NA
G-5	G5-3'	1/18/2006	3	NA	NA	NA	NA	NA	NA	NA	NA
H-1	H1-3'	1/17/2006	3	NA	NA	NA	NA	NA	NA	NA	NA
H-2	H2-11'	1/17/2006	11	NA	NA	NA	NA	NA	NA	NA	NA
H-4	H4-3'	1/18/2006	3	NA	NA	NA	NA	NA	NA	NA	NA
I-2	I2-10'	1/17/2006	10	<0.023	1.9	220	0.33	1.8	1.5	<1.1	<0.57
I-3	I3-10'	1/17/2006	10	NA	NA	NA	NA	NA	NA	NA	NA
I-6	I6-3'	1/17/2006	3	NA	NA	NA	NA	NA	NA	NA	NA
J-3	J3-10'	1/17/2006	10	NA	NA	NA	NA	NA	NA	NA	NA
J-5	J5-8'	1/17/2006	8	NA	NA	NA	NA	NA	NA	NA	NA
K-3	K3-6'	1/16/2006	6	<0.021	1.5	130	0.52	3.4	2.7	<1.1	<0.54
K-4	K4-16'	1/16/2006	16	NA	NA	NA	NA	NA	NA	NA	NA
K-5	K5-10'	1/16/2006	10	NA	NA	NA	NA	NA	NA	NA	NA

[1]Refer to Appendix F for the complete list of laboratory analytical results
[2] Units in milligrams per kilograms
3 Depth measurements are provided in feet below ground surface
NA - not analyzed
Analyzed by EPA Method 6010B

APPENDIX A

Site Photographs

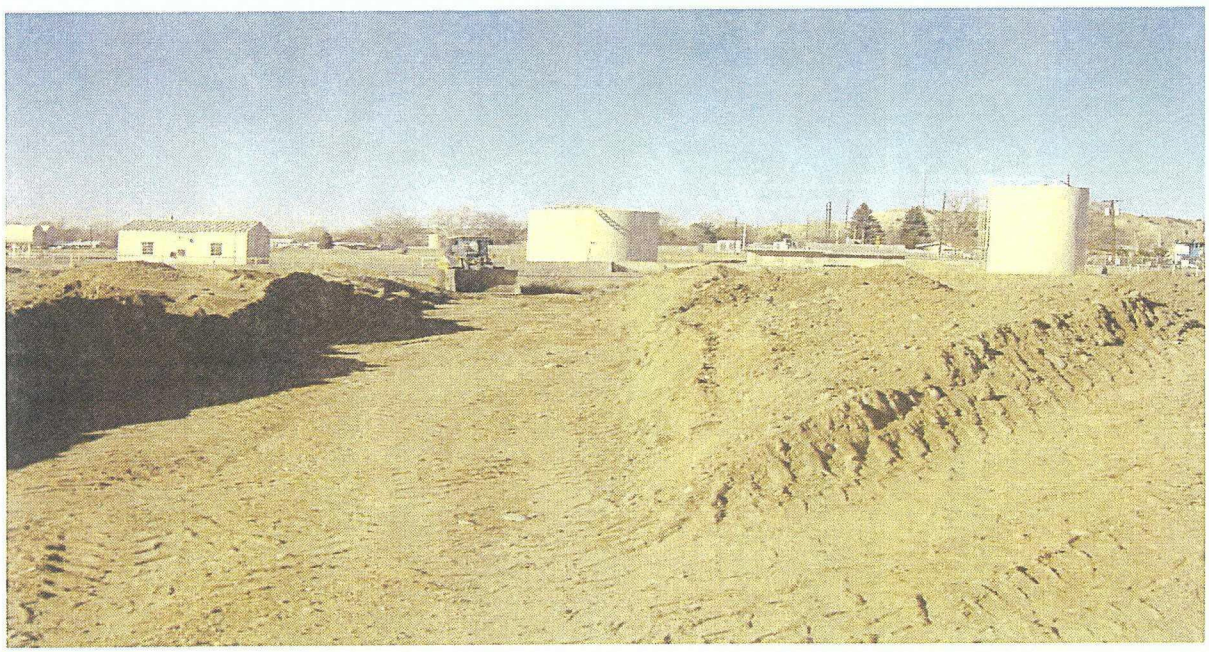
Viewing south from northeast corner of former Aerex Refinery property. Exposed foundation is from a former bulk product loading facility.

Viewing east across central potion of former Aerex Refinery. Exposed foundation is from a former bulk product loading facility.

Viewing south across central portion of the former Aerex facility.

Viewing east from the southwest corner of former Aerex Refinery property. MW-1 well cover is evident in the distance.

Viewing east near central portion of the former Aerex site. Soil stockpiles were moved to allow access for direct push grid locations. Stockpiled soils apparently were placed onsite from excavation for road construction along adjacent Blanco Boulevard.



Viewing west near central potion of the former Aerex facility. Former Aerex tank farm facilities are in the background across Fifth Street. These facilities are now owned by Giant Refining.

APPENDIX B

Site Access Agreement

CONSENT FOR ACCESS TO PROPERTY

Name of Property Owner: Clayton Investments, Inc.
Location of Property: Southeast corner of Blanco Blvd. and Fifth St., Bloomfield, New Mexico, Former Aerex Refinery Site

This is my consent to Kleinfelder, Inc., the State of New Mexico Oil Conservation Division, and its authorized officers, employees, contractors, and representatives for access to the above-described Property for a period of two (2) years for the following possible purposes:

- **Inspect property for presence of preexisting monitoring wells, measure groundwater levels, obtain utility clearance, and observe Site conditions.**
- **Move soil piles to allow access for drilling locations.**
- **Install soil borings and obtain soil samples for analytical testing.**
- **Drill and construct monitoring wells and obtain groundwater samples for analytical testing.**
- **Survey for elevations of soil boring locations and monitoring well casing and ground elevations.**
- **Periodically measure groundwater levels and collect groundwater samples from onsite monitoring wells.**

Kleinfelder, the New Mexico Oil Conservation Division, or its representative will provide the Property Owner oral notice prior to each entrance onto Property. This notice shall be given to:

Owner:
Clayton Investments
501 Airport Drive, Suite 100
Farmington, New Mexico 87401
Attn: Mr. Bob Moss (Owner's Agent)
(505) 326-5571

Conditions
Property Owner may observe activities on the Property, consistent with Occupational Health and Safety Regulations (29 CFR § 1910.120). Surface finishing of the wells would include installing above ground completions with traffic bollards with concrete aprons (2-foot square minimum) installed at the wellheads.

Project activity on the Property will be designed to minimize interference with the movement of vehicles and regular activities on the Property. Following completion of the project, Kleinfelder or its representative will remove equipment, all materials, trash, and other items associated with Kleinfelder's activities. Kleinfelder or its representative will otherwise return the property as close as possible to the pre-entrance condition.

Indemnification
Allocation of Risk Neither party shall be responsible to the other for any special, incidental, indirect, penal or consequential damages (including lost profits) incurred by either KLEINFELDER or CLAYTON INVESTMENTS or for which either party may be liable to any

third party. The indemnity obligations and the limitation of liability established below shall survive the expiration or termination of this Agreement.

(a) **Indemnification of CLAYTON INVESTMENTS. Subject to the provisions and Limitation of Liability of this Agreement, KLEINFELDER agrees to indemnify and hold harmless CLAYTON INVESTMENTS, its shareholders, officers directors, employees, and agents from and against any claims, suits, damages, expenses, including reasonable attorneys' fees, or other losses (collectively "Losses") to the extent caused by KLEINFELDER's negligent performance of Services under this Agreement.**

(b) **Indemnification of KLEINFELDER. CLAYTON INVESTMENTS will indemnify and hold harmless KLEINFELDER, its shareholders, officers, directors, employees, and agents from and against Losses to the extent caused by the active negligence of CLAYTON INVESTMENTS, its employees, agents, and contractors.**

I give this permission voluntarily, without expectation of monetary compensation, and with knowledge of my right to refuse and without coercion. I have had an opportunity to ask questions and my questions have been answered to my satisfaction.

Signature- Property Owner **Date** 12/22/05

Signature- Kleinfelder **Date** 1/6/06

APPENDIX C

Health and Safety Plan Signatory Pages

ACKNOWLEDGMENT OF INSTRUCTION

All Kleinfelder personnel, subcontractor personnel, and Site Visitors are required to sign the following acknowledgment of instruction form prior to conducting project activities. This acknowledgment is not a waiver. It is the primary method used in compiling environmental experience and contaminant exposure records for Kleinfelder personnel. Upon written request, a copy of your environmental work record will be provided by the Corporate Safety and Health Manager.

I understand that this project involves the investigation of a project site with potential petroleum hydrocarbon contamination. I have read this Safety and Health Plan and have received instructions for safe work practices, personal protective equipment, and air monitoring requirements. I further understand that if I encounter unanticipated contamination I am to leave the Site and immediately notify the Project Manager and Corporate Safety and Health Manager of conditions discovered.

PROJECT NAME: NMOCD Former Aerex Refinery, Bloomfield, San Juan County, New Mexico

KLEINFELDER PROJECT NO. 64110

PERSONAL PROTECTIVE EQUIPMENT UTILIZED:

✓ LEVEL D **_____ LEVEL D MODIFIED** **_____ LEVEL C**

SAFETY BRIEFING PERFORMED BY: Justin Ball **DATE:** 1/6/06

PETROLEUM CONTAMINANT(S): Crude oil / Diesel / Gasoline / Motor Oil

AIR MONITORING RESULTS (Attach separate page if required.):_____

SIGNATURE FORM

I have read, understand, and agreed to abide by this site-specific safety and health plan.

COMPANY	PERSONNEL	SIGNATURE	DATE
Kleinfelder	Justin Ball	Justin Ball	1/9/06
Kleinfelder	Bob Wilcox	Bob Wilcox	1/9/06

ACKNOWLEDGMENT OF INSTRUCTION

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PROJECT NAME: NMOCD Former Aerex Refinery, Bloomfield, San Juan County, New Mexico

KLEINFELDER PROJECT NO. 64110

PERSONAL PROTECTIVE EQUIPMENT UTILIZED:

X **LEVEL D** ____ **LEVEL D MODIFIED** ____ **LEVEL C**

SAFETY BRIEFING PERFORMED BY: Bob Wilcox **DATE:** 1/10/06

PETROLEUM CONTAMINANT(S): _____

AIR MONITORING RESULTS (Attach separate page if required.): _____

SIGNATURE FORM

I have read, understand, and agreed to abide by this site-specific safety and health plan.

COMPANY	PERSONNEL	SIGNATURE	DATE
Kleinfelder	Bob Wilcox	Bob Wilcox	1/10/06
E.W. Protech	Russ Johnson	Russ Johnson	1-10-06

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PROJECT NAME: NMOCD Former Aerex Refinery, Bloomfield, San Juan County, New Mexico

KLEINFELDER PROJECT NO. 64110

PERSONAL PROTECTIVE EQUIPMENT UTILIZED:

✓ **LEVEL D** _____ **LEVEL D MODIFIED** _____ **LEVEL C**

SAFETY BRIEFING PERFORMED BY: Justin Ball **DATE:** 1/16/~~05~~ 06

PETROLEUM CONTAMINANT(S): Crude Oil

AIR MONITORING RESULTS (Attach separate page if required.): _____

SIGNATURE FORM

I have read, understand, and agreed to abide by this site-specific safety and health plan.

COMPANY	PERSONNEL	SIGNATURE	DATE
Kleinfelder	Justin Ball	Justin Ball	1/16/05
ESN-SW	Louis Trujillo	[signature]	1/16/05
KA	L. Dalton	L. Dalton	1-16-05
NMOCD	Denny Foust	Denny Foust	1/17/05

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PROJECT NAME: NMOCD Former Aerex Refinery, Bloomfield, San Juan County, New Mexico

KLEINFELDER PROJECT NO. 64110

PERSONAL PROTECTIVE EQUIPMENT UTILIZED:

✓ **LEVEL D** ____ **LEVEL D MODIFIED** ____ **LEVEL C**

SAFETY BRIEFING PERFORMED BY: Justin Ball **DATE:** 1/17/06

PETROLEUM CONTAMINANT(S): Crude oil, gasoline diesel

AIR MONITORING RESULTS (Attach separate page if required.): ____

SIGNATURE FORM

I have read, understand, and agreed to abide by this site-specific safety and health plan.

COMPANY	PERSONNEL	SIGNATURE	DATE
Kleinfelder	Justin Ball	Justin Ball	1/17/06
ERC	LOUIS TRUJILLO		1/17/06
KA	L. Dalton		1-17-06

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PROJECT NAME: NMOCD Former Aerex Refinery, Bloomfield, San Juan County, New Mexico

KLEINFELDER PROJECT NO. 64110

PERSONAL PROTECTIVE EQUIPMENT UTILIZED:

/ LEVEL D **____ LEVEL D MODIFIED** **____ LEVEL C**

SAFETY BRIEFING PERFORMED BY: Justin Ball **DATE:** 1/18/06

PETROLEUM CONTAMINANT(S): Crude Oil, gasoline, diesel

AIR MONITORING RESULTS (Attach separate page if required.): _____

SIGNATURE FORM

I have read, understand, and agreed to abide by this site-specific safety and health plan.

COMPANY	PERSONNEL	SIGNATURE	DATE
Kleinfelder	Justin Ball	Justin Ball	1/18/06
ESN-SW	Louis Trujillo		1/18/06
KA	L. Dalton		1-18-06
NMOCD	Denny Foust	Denny L. Foust	1-18-06

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PROJECT NAME: NMOCD Former Aerex Refinery, Bloomfield, San Juan County, New Mexico

KLEINFELDER PROJECT NO. 64110

PERSONAL PROTECTIVE EQUIPMENT UTILIZED:

✓ **LEVEL D** _____ **LEVEL D MODIFIED** _____ **LEVEL C**

SAFETY BRIEFING PERFORMED BY: Justin Ball **DATE:** 1/19/06

PETROLEUM CONTAMINANT(S): Crude Oil, diesel, gasoline

AIR MONITORING RESULTS (Attach separate page if required.): _____

SIGNATURE FORM

I have read, understand, and agreed to abide by this site-specific safety and health plan.

COMPANY	PERSONNEL	SIGNATURE	DATE
Kleinfelder	Justin Ball	Justin Ball	1/19/06
KA	L. Dalton	L. Dalton	1-19-06
ESN SW	L Trujillo	L Trujillo	1-19-06
NMOCD	Denny Foust	Denny Foust	1-19-06

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PROJECT NAME: NMOCD Former Aerex Refinery, Bloomfield, San Juan County, New Mexico

KLEINFELDER PROJECT NO. 64110

PERSONAL PROTECTIVE EQUIPMENT UTILIZED:

✓ **LEVEL D** _____ **LEVEL D MODIFIED** _____ **LEVEL C**

SAFETY BRIEFING PERFORMED BY: Justin Ball **DATE:** 1/20/06

PETROLEUM CONTAMINANT(S): Crude Oil

AIR MONITORING RESULTS (Attach separate page if required.): _____

SIGNATURE FORM

I have read, understand, and agreed to abide by this site-specific safety and health plan.

COMPANY	PERSONNEL	SIGNATURE	DATE
Kleinfelder	Justin Ball	Justin Ball	1/20/06
ESJ-SW	Louis Trujillo		1/20/05
KA	L. Dalton	L. Dalton	1/20/05

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PROJECT NAME: NMOCD Former Aerex Refinery, Bloomfield, San Juan County, New Mexico

KLEINFELDER PROJECT NO. 64110

PERSONAL PROTECTIVE EQUIPMENT UTILIZED:

__X__ **LEVEL D** _____ **LEVEL D MODIFIED** _____ **LEVEL C**

SAFETY BRIEFING PERFORMED BY: L. Dalton **DATE:** 1/26/06

PETROLEUM CONTAMINANT(S): Petroleum Hydrocabons

AIR MONITORING RESULTS (Attach separate page if required.): _____

SIGNATURE FORM

I have read, understand, and agreed to abide by this site-specific safety and health plan.

COMPANY	PERSONNEL	SIGNATURE	DATE
KA	L. Dalton	L. Dalton	1/26/06
ESN-SW	L Trujillo		1/26/06
KA			1/26/06
Envirotech	Forrest Chee		1/26/06
Envirotech	Heber Richards		1/26/06
Envirotech	Kelly Padilla		1/26/06

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PROJECT NAME: NMOCD Former Aerex Refinery, Bloomfield, San Juan County, New Mexico

KLEINFELDER PROJECT NO. 64110

PERSONAL PROTECTIVE EQUIPMENT UTILIZED:

X **LEVEL D** ____ **LEVEL D MODIFIED** ____ **LEVEL C**

SAFETY BRIEFING PERFORMED BY: Bob Wilcox **DATE:** 2/2/06

PETROLEUM CONTAMINANT(S): Petroleum Hydrocarbons - Crude Oil

AIR MONITORING RESULTS (Attach separate page if required.): ____

SIGNATURE FORM

I have read, understand, and agreed to abide by this site-specific safety and health plan.

COMPANY	PERSONNEL	SIGNATURE	DATE
Kleinfelder	Bob Wilcox	Bob Wilcox	2/2/06

APPENDIX D

Field Operating Procedures

Soil Sampling Procedure – Before collecting each soil sample, the continuous sampler or split-spoon sampler and other soil sampling tools will be cleaned using a solution of Alconox and clean tap water. The sampler will then be rinsed with additional distilled water. New disposable latex gloves will be used for all soil sampling procedures to minimize the potential for cross contamination.

Upon retrieval of the sampler, a degreed geologist will first collect samples for field screening and laboratory analysis. Once these samples have been secured and preserved as required, the geologist will document percent recovery of the interval targeted for sampling and log the sample in accordance with American Society Testing and Materials (ASTM) standard D 2488-00 (ASTM 2000) for the description and identification of soils, visual-manual procedure.

Soil samples collected for field screening by the heated-headspace method will be collected in accordance with the SOP below and analyzed with a Rae Systems, Model PGM-761S Photo-Ionization Detector (PID), or equivalent. The PID will be calibrated daily to 100-parts per million (ppmv) using isobutylene span gas as specified in the users' manual. The samples used for field-screening purposes will be collected from each distinct lithologic unit and obviously stained areas. At a minimum, one field-screen sample will be obtained from each 5-foot (ft) section of soil, where the quantity of soil obtained during sampling allows.

The second soil sample or samples will be collected for possible laboratory analyses in laboratory-supplied glassware. Each sample will be placed on ice in a cooler until selection of samples for laboratory analyses is made. Selected samples will remain in the cooler, which will be maintained at a temperature of 4 degrees Celsius or less and under the custody of the sampler until properly relinquished. Chain-of custody documentation will follow the samples until delivered to the laboratory analysis.

Heated Headspace Screening Method (per NMED, 2000) – Equipment needed for soil screening includes clean 0.5- to 1-liter or 16-ounce jars, aluminum foil, and a Flame Ionization Detector (FID), Photo-Ionization Detector (PID), detector tubes, or other acceptable field instruments. Use best judgment in choosing a field instrument. Factors to consider include, but are not limited to, the age of the underground storage tank system, soil characteristics, and extent of contaminant degradation. Instruments for field screening should be calibrated in the field following the manufacturer's instructions. If the temperature is below 60° Fahrenheit or 15° Celsius, a thermometer and water bath will also be needed. The container for the water bath must be large enough to hold the sample jar, heat source, and deionized water. It is also acceptable to warm up the sample using heated air from the interior of a vehicle. However, care should be taken to keep the sample out of direct sunlight since hydrocarbons can be oxidized by ultraviolet radiation. The use of a portable gas chromatograph is optional.

The steps for the heated headspace method are:

Step 1: Fill a 0.5-liter/16-ounce or larger clean glass jar half full of soil sample. Plastic bags or other non-glass containers are not acceptable.

Step 2: Seal top of jar with clean aluminum foil and lid ring or equivalent.

Step 3: Ensure sample is at 15° C to 25°C, or approximately 60°F to 80°F. A warm water bath or heated air from the interior of a vehicle should be used if necessary to raise sample temperature to the acceptable range. Samples are to be protected from direct sunlight in order to prevent photo-destruction of the volatiles.

Step 4: Aromatic hydrocarbon vapor concentrations should be allowed to develop in the headspace of the sample jar for 5-10 minutes. During the initial stages of headspace development, the sample is to be shaken vigorously for one minute.

Step 5: Immediately pierce the foil seal with the probe of an FID, a PID, or colorimetric tubes, and record the highest (peak) measurement. The instrument should be able to accurately detect total aromatic hydrocarbons (TAH) between 0 and 1000 parts per million (ppm).

Sample Collection for Methanol Extraction (per NMED, 2000) – This section applies to samples collection for analysis of volatile constituents.

Step 1: Soil samples can be collected from a backhoe bucket (for tank removals) or from a split-spoon sampler (for soil borings or monitoring wells). Avoid placing pebbles or other large particles in the sample.

If soil samples are collected from a backhoe bucket, ensure that the samples are representative of the area being sampled. Scrape off the top six inches of soil in the bucket and fill the syringe supplied by the laboratory with 10-15 cm^3 of soil. The syringe should be marked to indicate whether the correct amount of soil has been collected.

For soil borings or monitoring well installations, soil samples should be collected from a split-spoon sampler using a syringe.

Step 2: Extract the soil sample with methanol using one of the two extraction procedures described below. In both procedures, work should be completed quickly to avoid losses of volatile compounds from the sample. In addition, sample bottles should be labeled, chain-of-custody documentation filled out, and sample bottles placed on ice for transport to the laboratory. For each sample, two bottles should be collected and extracted for volatile analysis.

Unscrew the cap on the sample bottle and quickly push the sample into the bottle with the syringe plunger, being careful not to get soil particles on the rim of the bottle. Quickly replace the cap and tighten securely.

If the methanol is provided in a vial separate from the sample bottle, unscrew the cap on the sample bottle and quickly push the sample into the bottle with the syringe plunger, being careful not to get soil particles on the rim of the bottle. Open the vial containing the methanol and pour it into the sample bottle, being careful not to spill any methanol.

Quickly replace the cap and tighten securely. Gently agitate the sample to immerse the soil in the methanol. Excessive agitation may cause undue volatilization.

Step 3: For each sampling location at the site, collect a dry-weight sample in a bottle supplied by the laboratory. At least 20 grams of soil should be collected (the bottle must be at least half full with soil). Label the sample to correspond with the labeling on the matching field-preserved sample. This sample is used to measure moisture content and does not need any special preservation. Fill out the necessary chain-of-custody documentation indicating that the soil sample is for moisture analysis only.

Monitoring well Installation – Groundwater monitoring wells will be constructed with 2-inch outer diameter, Schedule 40, flush-joint, threaded polyvinyl chloride (PVC) casing and screen. The well construction will consist of a threaded PVC bottom plug and flush-joint, threaded, 0.010 or 0.020 inch factory-slotted, well screen. The remainder of the well will be constructed with the appropriate length of flush-joint, threaded PVC blank casing to the ground surface. A 2-inch-diameter PVC expanding, locking top plug will be placed at the top of the well. Care will be taken to keep the PVC in the center of the hollow-stem auger (HSA) as the HSA is being removed and annular materials are emplaced.

The sand filter pack, consisting of Colorado silica sand, No. 10-20 or equivalent, will be placed approximately 1-2 ft above the top of the screened interval. The sand pack will be followed by a ⅜-inch bentonite chip seal for a minimum thickness of approximately two ft, with the remainder of the annulus backfilled with a Portland cement/bentonite grout. The casing, sand filter pack, and bentonite seal and cement grout will be placed inside the annulus as the augers are withdrawn from the boring. Surface finishing of the wells will include installing a traffic-rated utility bolt-down manholes with a concrete apron (2-foot minimum diameter) installed at each wellhead.

Monitoring Well Development - Development of monitoring wells shall be conducted in accordance with the following procedures:

Monitoring well development equipment will be decontaminated (in accordance with our decontamination SOP) before any development activities are initiated.

Water level measurements will be collected in accordance with our groundwater sampling SOP

Well volumes will be calculated

Well development equipment will be assembled, depending on the development method used (e.g., bailer or pump), and development activities will be initiated

Field parameters will be measured (e.g., temperature, pH, specific conductance) after each well volume and recorded in a field log book or field data sheet

As the purge water clears, a weighted bailer will be placed in the well and lowered until it is near the top of the screen or water surface, the bailer will be alternately raised and

lowered through the vertical distance of one to two ft; the velocity of the motion will depend upon the tightness of the formation in which the well is installed

After surging the well a few times at a given depth, the bailer will be moved deeper by one or two ft; steps 6 and 7 will be repeated until the bailer has been lowered to the bottom of the screened section of the well

The bailer will be raised out of the well and the well will be purged of sediment that may have accumulated due to the surging

Steps 5 through 8 will be repeated until the purge water remains clear and field parameters have stabilized

If the well is pumped to dryness or near dryness, the water level will be allowed to sufficiently recover (to the static level) before the next development period is initiated

All field decisions will be document in a field logbook

Groundwater Sampling by Bailing – Before sampling groundwater, the interface probe will be used to measure the depth to groundwater and to check for the presence of LNAPL. After the depth to groundwater is measured, each groundwater monitoring well will be purged to allow fresh groundwater from the aquifer to enter the well. Kleinfelder will attempt to remove a minimum of three well volumes of groundwater from each well using either disposable bailers or a small electric pump until either the parameters of temperature, conductivity, pH, and turbidity have stabilized, or the well becomes dry.

New disposable latex gloves will be worn for each sampling event to minimize the possibility of cross contamination. Groundwater samples will be collected in laboratory-prepared glassware using the appropriate preservative and kept on ice until laboratory submittal. Submittal of groundwater samples will be performed under chain-of-custody procedures to the selected laboratory. Kleinfelder will submit the collected samples under chain-of-custody.

Groundwater Sampling using Low Flow Techniques –

Low-flow Purging <L/min (0.26gpm), Low-flow Sampling <300ml/min (0.3L/min or 0.1 gpm) and Monitoring Indicator Parameters for Stability in a Closed Flow-through Cell

1. SLOWLY lower the pump to the *middle* of the well's screened area. (A dedicated system is recommended.) Securely fasten the power cable and sample tubing at the top of the well. Connect the power source, controller box, gas source, etc., to the pumping equipment.

2. Connect the sample tubing to the water entry point of the closed flow-through cell.

   Closed Flow-Through Cell

Air pockets may exist in the upper neck of each port hole that has a probe inserted into it – this is not a problem. Just make sure the probe's sensors are completely submerged in water during use.

Avoid exposing the flow-through cell to extreme heat and sun in the summer and freezing temperatures in the winter.

3. Set up and calibrate all indicator parameter instruments and place each probe into its respective port of the closed flow-through cell.

4. Set the pump controller to the desired purging rate (i.e., <1L/min). Do *not* use a valve to reduce the flow from a pump; valves can cause an "orfice" effect that can cause a sample agitation and alteration.

5. Record the "purging time start," and start purging the well at a rate of 1 L/min or less. During purging, the water level in the well should not decrease significantly and should stabilize after purging for a few minutes. If the water level continues to decline while purging, decrease the purging rate if possible. Record the "purging flow rate" as an average. Use a graduated beaker, cylinder, calibrated bucket or other device to measure the flow rate while purging and sampling.

6a. Purge the well until you have taken at least three consecutive readings that are within the following ranges for the following indicator parameters:

Dissolved Oxygen	+/- 0.2 mg/L
Specific Conductance	+/- 5.0µmhos/ cm for values <1000 µmhos/ cm +/- 10.0 µmhos/ cm for values >1000 µmhos/ cm
pH	+/- 0.1 pH units
Temperature	+/- 0.1 °C
Turbidity	<5 NTUs (*Required* if metals samples will not be filtered. *Recommended* if sorptive compounds or elements are collected. *Optional*, but recommended, if other compounds or elements are collected).
Eh (*optional)*	+/- 30 mv

Readings should be collected every ~2 minutes or ~0.5 well volumes or more apart.

..... Stable dissolved oxygen, specific conductance and turbidity readings are considered the most reliable parameters for indicating that stagnant water has been replaced by formation water. You may adjust the +/- ranges and which indicator parameters you use to indicate that stagnant water has been replaced by formation water to reflect site-specific data, geochemistry, and hydrogeologic conditions.

..... Turbidity stabilization and NTU readings below 5 are required if you will not be filtering metals samples. In addition, monitor turbidity stabilization when collecting sorptive, hydrophobic, or high octanol-water partition coefficient (Kow) compounds or elements.

OR

6b..... Purge the well until the readings for indicator parameters listed above (or well-specific indicator parameters) vary within +/-10% over three or more consecutive readings, spaced ~2 minutes or ~0.5 well volumes or more apart. .....

7..... Record the final three stable readings for each indicator parameter on the "Well Specific Field Sheet – Monitoring Wells" (Appendix B, or use the project specific data sheet.

8. ..... Record the "volume purged," "purging time stop," "purged dry (Y/N)," and any problems purging.

9..... Collect samples as described in the sample collection procedure. Record "sample flow rate" as an average, "time sample collected," and any other pertinent information related to the sampling event.

Investigation-Derived Waste Management – Cuttings from the soil borings identified through field-screening procedures as containing 100 ppm or greater volatile organic compounds (VOCs) will be placed in 55-gallon drums and disposed of at a regulated disposal facility. Assuming there is adequate physical space located onsite, cuttings that are identified as containing less than 100 ppm VOCs will be thin-spread onsite. Should there not be sufficient space to dispose of cutting onsite, they will be containerized, manifested, and transported to an off-site regulated facility.

Groundwater not containing LNAPLs generated from well development and purging will be placed on an impervious surface and allowed to evaporate. Groundwater containing LNAPLs will be placed in 55-gallon drums and disposed of at a regulated disposal facility.

Documentation – Fieldwork will be documented in a field book and photographed. Soil will be described in accordance with ASTM standard D 2488-00 (ASTM, 2000) and will be documented on a boring log. An as-built drawing of the monitoring well(s) will be included in the field book. If available, contaminant screening results and groundwater quality results obtained in the field may be stored in automatic data loggers contained within the field instrumentation.

Decontamination – The drill rig and down-hole drilling equipment will be decontaminated with a steam cleaner before mobilizing to the Site. The down-hole equipment will also be decontaminated between boring locations. All sampling and measuring equipment that will or may come in contact with the sample will be decontaminated between samples with a water/detergent wash, tap water rinse, and deionized water rinse.

References

ASTM, 2000. Designation D 2488-00, "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)."

NMED, 2000. "Guidelines for Corrective Action," March 13, 2000.

APPENDIX E

Boring Logs

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date				Well No.
Started: 1/20/2006	Rig Type: Strata Probe	Project: Former Aerex Refinery		A-1
Completed: 1/20/2006	Driller: Louis Trujillo			
Backfilled: 1/20/2006	Weather:	Surface Elevation: 5475.1'	Logged By: Lee Dalton	
Northing: 2080208.13	Easting: 2678801.24	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
5.5		1/20/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, moist to dry, fine to coarse sand (subangular to subrounded).	
						1.5		1.7' El. 5473.4'	
				CS				CLAYEY SAND (SC) - brown, moist, fine grained sand, medium plasticity.	
						0.4		4.0' El. 5471.1'	
5	▽					0.1		FAT CLAY (CH) - brown, moist, high plasticity, trace fine sand.	
								5.5' El. 5469.6'	
				CS		0.0		SILTY SAND (SM) - red-brown, wet, no odor, fine to medium (subangular to subrounded). Fine to coarse sand from 6.5 to 7 ft. Change in color to gray from 7 to 11.7 ft. With some clay from 7 to 8 ft, low plasticity.	
						0.0		Fine to coarse sand from 9 to 10.3 ft.	
10				CS					
						0.0		Change in color to red-brown from 11.7 to 12 ft, with some clay, low plasticity.	
								12.0' El. 5463.1'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/20/2006	Rig Type: Strata Probe	Former Aerex Refinery	A-2
Completed: 1/20/2006	Driller: Louis Trujillo		
Backfilled: 1/20/2006	Weather:	Surface Elevation: 5476.2'	Logged By: Lee Dalton
Northing: 2080210.33	Easting: 2678848.28	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
6		1/20/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, low plasticity, trace quartzite gravel (subrounded, 2 cm).	
						0.0			
				CS					
						0.0			
								3.5' El. 5472.7'	
								LEAN CLAY (CL) - brown, moist, medium plasticity, with fine sand.	
5						0.0			
				CS			A2-6'	6.0' El. 5470.2'	
						1.0		SILTY SAND (SM) - gray, wet, no odor, fine to medium sand. Color change to light brown from 6.3 to 7.5 ft. Color change to gray from 7.5 to 8 ft. Color change to light brown from 8 to 12 ft, with clay from 8 to 9 ft, low plasticity to non-plastic.	
						0.4			
10				CS					
						0.0			
								12.0' With clay from 11.5 to 12 ft, low plasticity to non-plasti El. 5464.2'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/26/2006	Rig Type: Strata Probe	Former Aerex Refinery	A-3
Completed: 1/26/2006	Driller: Louis Trujillo		
Backfilled: 1/26/2006	Weather:	Surface Elevation: 5477.6'	Logged By: Lee Dalton
Northing: 2080212.67	Easting: 2678898.60	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/26/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0				CS		0.0		SILTY SAND (SM) - light brown, moist to dry, fine to medium sand (subangular to subrounded).	
								2.5' El. 5475.1'	
						0.0		LEAN CLAY (CL) - light brown, dry to moist, medium plasticity, few fine sand.	
5				CS		0.0		6.5' El. 5471.1'	
						0.0		CLAYEY SAND (SC) - light brown, moist, fine to medium (subangular to subrounded), low plasticity.	
						0.0		7.5' El. 5470.1'	
10				CS		0.0		SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded). Fine to coarse sand from 9 to 10.5 ft. With clay from 10.5 to 11.5 ft, low plasticity.	
								12.0' El. 5465.6'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date		Rig Type: Strata Probe	Project: Former Aerex Refinery	Well No. A-6
	Started: 1/26/2006			
	Completed: 1/26/2006	Driller: Louis Trujillo		
	Backfilled: 1/26/2006	Weather:	Surface Elevation: 5479.1'	Logged By: Lee Dalton
Northing: 2080224.53		Easting: 2679044.06	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8.5		1/26/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0						0.0		SILTY SAND (SM) - brown, moist to dry, fine to medium sand, some clay, with quartzite gravels (subrounded, 1-2 cm).	
				CS		0.0		4.0' El. 5475.1'	
5						0.0		FAT CLAY (CH) - brown, moist, high plasticity.	
				CS		0.0		6.5' El. 5472.6'	
						0.0	A6-8.5'	CLAYEY SAND (SC) - light brown, moist, fine grained sand, low plasticity.	
						0.0		8.5' El. 5470.6'	
10				CS		0.0		SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded). With some clay from 9 to 9.5 ft, low plasticity.	
						0.0		12.0' El. 5467.1'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Date		Rig Type: Strata Probe	Project: Former Aerex Refinery	Well No. B-1
	Started: 1/20/2006			
	Completed: 1/20/2006	Driller: Louis Trujillo		
	Backfilled: 1/20/2006	Weather:	Surface Elevation: 5476.2'	Logged By: Lee Dalton
Northing: 2080261.41		Easting: 2678802.15	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7		1/20/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0									
				CS		0.0		0.7' SILTY SAND (SM) - light brown, moist, fine to medium sand (subangular to subrounded), some quarzite gravel (subrounded, 1-2 cm). El. 5475.5'	
						0.0		CLAYEY SAND (SC) - green-gray, moist, fine grained sand, medium plasticity.	
								Change in color to red-brown from 3 to 6 ft.	
5						0.0			
				CS				6.0' El. 5470.2'	
	▽					0.0		SILTY SAND (SM) - red-brown, moist, fine to medium sand (subangular to subrounded). Wet at 7 ft, change in color to gray below 7 ft.	
						0.0		Slight odor between 8 to 10 ft. With some clay from 8 to 8.7 ft, medium plasticity. Fine to coarse sand from 9 to 10.5 ft.	
10				CS					
						0.0		Fine to coarse sand from 11 to 11.5 ft.	
								12.0' El. 5464.2'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date			Project	Well No.
Started: 1/20/2006	Rig Type: Strata Probe		Former Aerex Refinery	B-2
Completed: 1/20/2006	Driller: Louis Trujillo			
Backfilled: 1/20/2006	Weather:	Surface Elevation: 5477.3'	Logged By: Lee Dalton	
Northing: 2080268.80	Easting: 2678849.80	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8.3		1/20/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, moist, fine to coarse sand (subangular to subrounded). 1.0' El. 5476.3'	
				CS		36		CLAYEY SAND (SC) - light brown, dry, fine grained sand, medium plasticity.	
						1.2			
5						0.5		5.5' El. 5471.8'	
				CS				CLAYEY SAND (SC) - red-brown, moist, fine to medium sand (subangular to subrounded), medium plasticity.	
						0.2		7.3' El. 5470.0'	
								SILTY SAND (SM) - red-brown, moist to wet, fine to medium sand (subangular to subrounded). Change of color to light brown below 8 ft. Fine to coarse sand at 8.3 to 9.7 ft and 11 to 12 ft.	
						0.1			
10				CS				With some clay at 7.3 to 8.3 ft and 9.7 to 10.3 ft, low plasticity.	
						0.0		12.0' El. 5465.3'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date		Rig Type: Strata Probe	Project: Former Aerex Refinery	Well No. B-3
	Started: 1/20/2006			
	Completed: 1/20/2006	Driller: Louis Trujillo		
	Backfilled: 1/20/2006	Weather:	Surface Elevation: 5478.0'	Logged By: Lee Dalton
Northing: 2080268.98		Easting: 2678899.52	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8.5		1/20/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - brown, moist, fine to coarse sand (subangular to subrounded), low plasticity.	
1.0'								El. 5477.0'	
				CS		0.0		CLAYEY SAND (SC) - green-gray, dry, fine grained sand, medium plasticity.	
						0.0			
3.5'								El. 5474.5'	
								FAT CLAY (CH) - red-brown, moist, high plasticity, some fine sand.	
4.5'								El. 5473.5'	
5						0.0		CLAYEY SAND (SC) - red-brown, moist, fine grained sand, medium plasticity, [few areas of gray staining, no odor].	
				CS					
						0.0			
8.5'								El. 5469.5'	
						0.0		SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded). Fine to coarse sand at 9 to 10 ft and 10.5 to 11 ft.	
10				CS					
						0.0		With clay at 8.5 to 9 ft and 11 to 11.3 ft, low plasticity.	
12.0'								El. 5466.0'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/20/2006	Rig Type: Strata Probe	Former Aerex Refinery	B-4
Completed: 1/20/2006	Driller: Louis Trujillo		
Backfilled: 1/20/2006	Weather:	Surface Elevation: 5478.6'	Logged By: Lee Dalton
Northing: 2080272.67	Easting: 2678948.70	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8		1/20/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								0.3' CLAYEY SAND (SC) - brown, moist, fine grained sand, with quartzite gravels (subrounded, 2-3 cm), medium plasticity. El. 5478.3'	
				CS		0.0		1.0' SILTY SAND (SM) - light brown, moist, fine to medium sand (subangular to subrounded). El. 5477.6'	
						0.4		CLAYEY SAND (SC) - brown, dry to moist, fine grained sand, medium plasticity.	
5				CS		0.0		5.0' FAT CLAY (CH) - light brown, moist, high plasticity, trace fine sand. El. 5473.6'	
						0.0		7.5' El. 5471.1'	
						0.0		8.0' CLAYEY SAND (SC) - red-brown, moist, fine to medium sand (subangular to subrounded), medium plasticity. El. 5470.6'	
10				CS		0.0		SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded). Fine to coarse sand from 9 to 10 ft. Some clay from 10 to 12 ft.	
						0.0		12.0' El. 5466.6'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Date		Project	Well No.
Started: 1/19/2006	Rig Type: Strata Probe	Former Aerex Refinery	B-5
Completed: 1/19/2006	Driller: Louis Trujillo		
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5479.1'	Logged By: Lee Dalton
Northing: 2080275.24	Easting: 2678998.52	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - brown, moist, fine to coarse sand, with quartzite gravel (subrounded, 1-2 cm). El. 5478.1'	
				CS		0.4		CLAYEY SAND (SC) - brown, moist, fine to medium sand, trace quartzite gravels (subrounded, 1-2 cm), medium plasticity.	
						0.1			
5						0.5		5.5' El. 5473.6'	
				CS		0.2		LEAN CLAY (CL) - brown, moist, medium plasticity, trace fine sand.	
								7.5' El. 5471.6'	
						1.1		SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded). Fine to coarse sand at 8.7 to 9.7 ft and 11.2 to 11.5 ft. Change in color to gray at 9 to 11.5 ft, no odor.	
10				CS		0.1		With clay at 10 to 11.2 ft, low plasticity.	
								12.0' El. 5467.1'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date		Project	Well No.
Started: 1/26/2006	Rig Type: Strata Probe	Former Aerex Refinery	B-6
Completed: 1/26/2006	Driller: Louis Trujillo		
Backfilled: 1/26/2006	Weather:	Surface Elevation: 5478.3'	Logged By: Lee Dalton
Northing: 2080277.14	Easting: 2679054.81	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/26/2006

Depth (ft)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, moist, fine to medium sand (subangular to subrounded), with clay, low plasticity.	
1.5'								El. 5476.8'	
				CS		0.0		LEAN CLAY (CL) - light brown, moist, medium plasticity, trace fine sand.	
						0.0			
5						0.0			
5.0'								El. 5473.3'	
				CS				CLAYEY SAND (SC) - light brown, moist, fine to medium sand (subangular to subrounded), low plasticity.	
						0.0			
7.5'								El. 5470.8'	
						0.0		SILTY SAND (SM) - light brown, wet, fine to coarse sand (subangular to subrounded).	
10				CS				Fine to medium sand at 9 to 12 ft. With clay from 9 to 11 ft, low plasticity.	
						0.0			
12.0'								El. 5466.3'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/19/2006	Rig Type: Strata Probe	Former Aerex Refinery	C-1
Completed: 1/19/2006	Driller: Louis Trujillo		
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5476.9'	Logged By: Lee Dalton
Northing: 2080321.02	Easting: 2678798.83	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, medium plasticity.	
						0.4			
				CS					
						0.1			
5						0.2		5.0' El. 5471.9' FAT CLAY (CH) - light brown, moist, high plasticity, trace fine sand.	
				CS				6.3' El. 5470.6' CLAYEY SAND (SC) - gray, moist, fine grained sand, medium plasticity, no odor.	
	▽					1.7		7.5' El. 5469.4' SILTY SAND (SM) - gray, wet, fine to medium sand (subangular to subrounded). Fine to coarse sand at 8.5 to 11 ft and 14.3 to 15.1 ft.	
						3.2			
10				CS					
						1.6			
						1.1			
				CS					
15						0.7		15.1' El. 5461.8' LEAN CLAY (CL) - light brown, moist, medium plasticity, trace fine sand. 16.0' El. 5460.9'	

Total Depth 16.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date				
Started: 1/19/2006	Rig Type: Strata Probe	Project: Former Aerex Refinery	Well No. C-2	
Completed: 1/19/2006	Driller: Louis Trujillo			
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5476.7'	Logged By: Lee Dalton	
Northing: 2080321.68	Easting: 2678850.55	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
6.5		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, dry, fine grained sand, medium plasticity.	
				CS		0.5			
						0.1			
								3.5' El. 5473.2'	
								LEAN CLAY (CL) - light brown, moist, medium plasticity, with fine sand.	
5						6.9		5.0' El. 5471.7'	
				CS				CLAYEY SAND (SC) - red-brown, moist, fine to medium sand (subangular to subrounded), medium plasticity.	
						1.5		6.5' El. 5470.2'	
								SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
						0.9		Fine to coarse sand at 9 to 10.5 ft and 11.7 to 12 ft.	
10				CS					
						0.6		12.0' El. 5464.7'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/19/2006	Rig Type: Strata Probe	Former Aerex Refinery	C-3
Completed: 1/19/2006	Driller: Louis Trujillo		
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5477.4'	Logged By: Lee Dalton
Northing: 2080322.36	Easting: 2678899.28	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, medium plasticity.	
						0.2		1.5' El. 5475.9'	
				CS				LEAN CLAY (CL) - light brown, moist, medium plasticity, trace fine sand.	
						0.5			
								4.5' El. 5472.9'	
5						0.6		CLAYEY SAND (SC) - red-brown, moist, fine grained sand, medium plasticity.	
				GS					
						0.5		7.5' El. 5469.9'	
	▽							SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
						0.7			
10				CS				Fine to coarse sand at 9 to 10 ft and 11.5 to 12 ft.	
						0.1			
								12.0' El. 5465.4'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/19/2006	Rig Type: Strata Probe	Former Aerex Refinery	C-4
Completed: 1/19/2006	Driller: Louis Trujillo		
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5477.7'	Logged By: Lee Dalton
Northing: 2080322.77	Easting: 2678949.37	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
6.5		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0				CS		1.1		CLAYEY SAND (SC) - green-brown, dry to moist, fine grained sand, medium plasticity.	
								2.0' El. 5475.7'	
				CS		0.6		LEAN CLAY (CL) - light brown, moist, medium plasticity, trace fine sand.	
5				CS		0.5		5.0' El. 5472.7'	
								CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity.	
						0.8		6.5' El. 5471.2'	
								SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
						0.7		Change in color to gray at 8.5 to 9.2 ft, no odor.	
10				CS		0.8		Fine to coarse sand at 9.5 to 10.5.	
								12.0' El. 5465.7'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date			
Started: 1/19/2006	Rig Type: Strata Probe	Project: Former Aerex Refinery	Well No.: C-5
Completed: 1/19/2006	Driller: Louis Trujillo		
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5479.3'	Logged By: Lee Dalton
Northing: 2080324.16	Easting: 2678997.66	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - brown, moist, fine to medium sand, with quartzite gravel (subrounded, 1-3 cm).	
				CS		0.6			
						0.7		3.0' El. 5476.3'	
								LEAN CLAY (CL) - brown, moist, medium plasticity, trace fine sand.	
5						1.2		5.5' El. 5473.8'	
				CS				CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity.	
						0.9		7.5' El. 5471.8'	
								SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
						3.3		Change in color to gray-black at 8.5 to 11.5 ft, no odor.	
10				CS					
						0.8		12.0' El. 5467.3'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date			Project	Well No.
Started: 1/19/2006	Rig Type: Strata Probe		Former Aerex Refinery	C-6
Completed: 1/19/2006	Driller: Louis Trujillo			
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5479.3'	Logged By: Lee Dalton	
Northing: 2080323.77	Easting: 2679051.52	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0									
				CS		0.0		SILTY SAND (SM) - brown, dry, fine to medium sand (subangular to subrounded), few quartzite gravels (subrounded, 1-2 cm).	
1.0'								El. 5478.3'	
				CS		0.0		CLAYEY SAND (SC) - green-gray, moist, fine grained sand, medium plasticity.	
3.0'								El. 5476.3'	
						0.0		LEAN CLAY (CL) - red-brown, moist, medium plasticity, trace fine sand.	
5.0'								El. 5474.3'	
5				CS		0.0		SILTY SAND (SM) - red-brown, moist to wet, fine to medium sand (subangular to subrounded). With clay at 5 to 7.5 ft and 10 to 10.8 ft, low plasticity.	
						13.8		Fine to coarse sand at 8.7 to 9.5 ft and 10.8 to 11.5 ft.	
10				CS		0.0			
12.0'								El. 5467.3'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date: Started: 1/19/2006	Rig Type: Strata Probe	Project: Former Aerex Refinery		Well No.: D-1
Completed: 1/19/2006	Driller: Louis Trujillo			
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5477.7'	Logged By: Lee Dalton	
Northing: 2080377.77	Easting: 2678799.19	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.4		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, medium plasticity.	
				CS		0.4			
						92			
								4.0' Black, with hydrocarbon odor at 3.5 to 4 ft. El. 5473.7'	
								SILTY SAND (SM) - yellow, moist, fine to medium sand (subangular to subrounded).	
5						191	D1-5'	5.0' El. 5472.7'	
				CS				CLAYEY SAND (SC) - gray, moist, fine grained sand, medium plasticity, strong odor.	
	▽					12.9		7.4' El. 5470.3'	
								SILTY SAND (SM) - gray, wet, fine to medium sand (subangular to subrounded), with odor.	
						7.3			
10				CS				Fine to coarse sand at 9.8 to 11.6 ft and 12.7 to 13.1 ft.	
						3.9			
						3.1		13.1' Change in color to light brown below 12.4 ft. El. 5464.6'	
								SANDY LEAN CLAY (CL) - light brown, wet, fine grained sand, medium plasticity.	
15						2.5			
								16.0' El. 5461.7'	

Total Depth 16.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/19/2006	Rig Type: Strata Probe	Former Aerex Refinery	D-2
Completed: 1/19/2006	Driller: Louis Trujillo		
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5477.2'	Logged By: Lee Dalton
Northing: 2080373.55	Easting: 2678852.92	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
6		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								0.5' SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded). 5476.7'	
						1.3		1.0' El. 5476.2' CLAYEY SAND (SC) - light brown, dry, fine grained sand, medium plasticity.	
				CS				CLAYEY SAND (SC) - light brown, moist, fine to medium sand, low plasticity.	
						0.8		3.0' El. 5474.2' CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity.	
								Fine to medium sand lens at 4.4 to 4.6 ft.	
5						0.2		6.0' El. 5471.2'	
				CS				SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
						0.0		Change in color to gray at 7.5 to 10 ft, no odor.	
								Fine to coarse sand at 7.7 to 8.4 ft and 10 to 11.6 ft.	
						0.2			
10				CS					
						0.0			
								12.0' As above, with clay at 11.6 to 12 ft, low plasticity. El. 5465.2'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date					
Started: 1/19/2006	Rig Type: Strata Probe	Project: Former Aerex Refinery		Well No.: D-3	
Completed: 1/19/2006	Driller: Louis Trujillo				
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5477.6'	Logged By: Lee Dalton		
Northing: 2080373.78	Easting: 2678902.73	Location: Bloomfield, NM			

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
9		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded).	
				CS		0.0		2.0' El. 5475.6'	
						0.0		CLAYEY SAND (SC) - red-brown, moist, fine to medium sand (subangular to subrounded), medium plasticity.	
5						4.4			
				CS				Fine to medium sand lens at 6 to 6.2 ft, wet, subangular to subrounded. Change in color to light brown from 6.2 to 9 ft.	
						0.8			
	▽					1.1		9.0' El. 5468.6'	
10				CS				SILTY SAND (SM) - light brown, wet, fine to coarse sand (subangular to subrounded). With clay at 10 to 10.2 ft.	
						0.7			
								12.0' El. 5465.6'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date			Project	Well No.
Started: 1/19/2006	Rig Type: Strata Probe		Former Aerex Refinery	D-4
Completed: 1/19/2006	Driller: Louis Trujillo			
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5478.2'	Logged By: Lee Dalton	
Northing: 2080375.39	Easting: 2678952.74	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
6.8		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded).	
						0.1		1.0' El. 5477.2'	
				CS				CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity.	
						0.6		As above, with clayey fine to medium sand at 1.5 to 2 ft, low plasticity.	
								Fine sandy fat clay at 3.8 to 4 ft, high plasticity.	
5						0.4			
				CS				6.4' El. 5471.8'	
	▽					0.2		SILTY SAND (SM) - light brown, moist to wet, fine to medium sand (subangular to subrounded), with clay. Wet below 6.8 ft.	
								8.0' Change in color to gray at 7.6 to 8 ft, no odor. El. 5470.2'	
						0.2		SILTY SAND (SM) - gray, wet, fine to coarse sand (subangular to subrounded), no odor. Change in color to light brown below 9 ft.	
10				CS					
						0.2			
								12.0' El. 5466.2'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/19/2006	Rig Type: Strata Probe	Former Aerex Refinery	D-5
Completed: 1/19/2006	Driller: Louis Trujillo		
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5479.9'	Logged By: Lee Dalton
Northing: 2080375.66	Easting: 2679001.43	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.8		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded), with quartzite gravel (subrounded, 1-3 cm). Interbedded clayey fine sand zones between 1 to 3 ft, dry to moist, low plasticity.	
				CS		0.0			
						0.4		3.0' El. 5476.9'	
								CLAYEY SAND (SC) - light brown, moist, fine to medium sand, medium plasticity.	
5						0.4			
				CS				Change in color to gray at 6 to 6.3 ft and 7.4 to 7.6 ft, no odor.	
						0.2		7.8' El. 5472.1'	
								SILTY SAND (SM) - gray, wet, fine to medium sand (subangular to subrounded), no odor.	
						0.1			
10				CS				Change in color to light brown below 10.2 ft. With clayey fine sand at 10.2 to 11.4 ft, medium plasticity.	
						0.1		12.0' El. 5467.9'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/19/2006	Rig Type: Strata Probe	Former Aerex Refinery	D-6
Completed: 1/19/2006	Driller: Louis Trujillo		
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5479.9'	Logged By: Lee Dalton
Northing: 2080379.86	Easting: 2679050.66	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.8		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0				CS		0.9		SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded). Interbedded clayey fine sand zones between 1 to 3 ft, dry to moist, low plasticity.	
						0.6		3.0' El. 5476.9' SAND (SP) - light brown, dry to moist, fine to medium sand (subangular to subrounded), with clay, non-plastic 4.0' El. 5475.9'	
5				CS		0.5		CLAYEY SAND (SC) - light brown, moist, fine to medium sand (subangular to subrounded), medium plasticity.	
						0.4		7.8' El. 5472.1' SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
						0.3			
10				CS		0.2		As above, with clay at 9.8 to 10 ft and 10.5 to 11.3 ft, low plasticity.	
								12.0' El. 5467.9'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	E-1
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5478.5'	Logged By: Lee Dalton
Northing: 2080436.58	Easting: 2678799.92	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/18/2006

Depth (ft)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, moist, fine to medium sand (subangular to subrounded), some quartzite gravels (subrounded, 1-3 cm), medium plasticity.	
				CS		1.6			
						1.3			
5						1.1		Gray, with odor at 5 to 7.5 ft.	
				CS					
						80			
								7.5' El. 5471.0' SILTY SAND (SM) - gray, wet, fine to coarse sand (subangular to subrounded), with odor.	
						7.4			
10				CS					
						47		Fine to medium sand at 8 to 9 ft and 10.7 to 11.5 ft. Change in color to light brown below 11.7 ft, fine to medium sand, some clay.	
								12.0' El. 5466.5'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date			Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe		Former Aerex Refinery	E-2
Completed: 1/18/2006	Driller: Louis Trujillo			
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5478.5'	Logged By: Lee Dalton	
Northing: 2080441.97	Easting: 2678850.81	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.4		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), few quartzite gravels (subrounded, 1 cm).	
				CS		1.0			
						0.5		Interlaminated clayey fine sand layers at 3 to 6 ft.	
5				CS		1.5		6.0' El. 5472.5'	
						1.7		6.7' CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity. El. 5471.8'	
	▽							SILTY SAND (SM) - gray, moist to wet, fine to coarse sand (subangular to subrounded), slight odor. Wet below 7.4 ft.	
						2.8		Fine to medium sand at 6.7 to 8 ft and 10 to 11 ft.	
10				CS		1.0			
								11.8' El. 5466.7'	
								12.0' CLAYEY SAND (SC) - light brown, wet, fine grained sand, non-plastic. El. 5466.5'	
								Total Depth 12.0'	

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	E-3
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5479.0'	Logged By: Lee Dalton
Northing: 2080438.16	Easting: 2678899.75	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
9		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), some quartzite gravel (subrounded, 1-2 cm).	
1.0'								El. 5478.0'	
				CS		2.6		CLAYEY SAND (SC) - yellow-brown, moist, fine to medium sand (subangular to subrounded), low plasticity to non-plastic.	
						1.3			
3.6'								El. 5475.4'	
								SILTY SAND (SM) - yellow, moist, fine to medium sand (subangular to subrounded), few quartzite gravels (subrounded, 1-2 cm).	
5						0.3			
5.0'								El. 5474.0'	
				CS				CLAYEY SAND (SC) - red-brown, moist, fine to medium sand (subangular to subrounded), low plasticity to non-plastic.	
						0.6			
								Gray, with slight odor at 7.8 to 11.6 ft.	
	▽					0.6		Wet below 9 ft.	
10				CS					
						0.7			
11.6'								El. 5467.4'	
12.0'								SILTY SAND (SM) - light brown, wet, fine to coarse sand (subangular to subrounded), few clay. El. 5467.0'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	E-4
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5479.6'	Logged By: Lee Dalton
Northing: 2080438.40	Easting: 2678949.56	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0									
				CS		1.4		SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded), some quartzite gravel (subrounded, 1-2 cm).	
1.0'								El. 5478.6'	
				CS		0.6		CLAYEY SAND (SC) - light brown, moist, fine to medium sand (subangular to subrounded), non-plastic.	
3.6'								El. 5476.0'	
								SILTY SAND (SM) - yellow, moist, fine grained sand.	
5.0'								El. 5474.6'	
5						1.5		CLAYEY SAND (SC) - brown, moist, fine grained sand, medium plasticity.	
				CS					
7.0'								El. 5472.6'	
	▽					0.9		SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
8.5'								El. 5471.1'	
						0.9		CLAYEY SAND (SC) - light brown, wet, fine to medium sand, low plasticity to non-plastic.	
10				CS					
						1.0			
11.5'								El. 5468.1'	
11.9'								SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
12.0'								El. 5467.7' El. 5467.6'	
								CLAYEY SAND (SC) - light brown, wet, fine to medium sand, low plasticity.	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date			Project	Well No.
Started: 1/19/2006	Rig Type: Strata Probe		Former Aerex Refinery	E-5
Completed: 1/19/2006	Driller: Louis Trujillo			
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5480.6'	Logged By: Lee Dalton	
Northing: 2080438.58	Easting: 2678999.29	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.8		1/19/2006

Depth (ft)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								0.5' SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded, with quartzite gravel (subrounded, 1-3 cm). El. 5480.1'	
				CS		2.1		CLAYEY SAND (SC) - light brown to red-brown, moist, fine grained sand, medium plasticity.	
						2.5		Clayey fine to coarse sand (subangular to subrounded) at 3 to 3.2 ft and 4 to 4.5 ft.	
5						1.2			
				CS					
						0.5		Fat clayey fine sand at 6.8 to 7.5 ft.	
	▽							7.8' El. 5472.8'	
						0.3		SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded). As above with silty fine to coarse sand at 8 to 9.5 ft.	
10				CS					
						0.4		12.0' El. 5468.6'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/19/2006	Rig Type: Strata Probe	Former Aerex Refinery	E-6
Completed: 1/19/2006	Driller: Louis Trujillo		
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5480.6'	Logged By: Lee Dalton
Northing: 2,080,436.67	Easting: 2,679,058.83	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/19/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded), few quartzite gravels (subrounded, 1-2 cm).	
				CS		0.7			
						0.2		Interbedded clayey fine sand layers between 2 to 4 ft, dry to moist.	
								4.0' El. 5476.6'	
5						0.4		CLAYEY SAND (SC) - light brown to red-brown, moist, fine to medium sand (subangular to subrounded), medium plasticity.	
				CS					
						0.4		7.0' El. 5473.6'	
	▽							SILTY SAND (SM) - light brown, moist to wet, fine to medium sand (subangular to subrounded). Wet below 7.5 ft. Fine to medium sand at 8 to 8.7 ft.	
						0.7			
10				CS					
						0.7		As above with clayey fine to medium sand at 10.2 to 11.7 ft, medium plasticity.	
								12.0' El. 5468.6'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date		Rig Type: Strata Probe	Project: Former Aerex Refinery	Well No. F-1
	Started: 1/18/2006			
	Completed: 1/18/2006	Driller: Louis Trujillo		
	Backfilled: 1/18/2006	Weather:	Surface Elevation: 5480.5'	Logged By: Lee Dalton
Northing: 2080491.97		Easting: 2678801.41	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
9		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0									
						2.6		0.8' SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), few quartzite gravels (subrounded, 1 cm). El. 5479.7'	
				CS				2.0' CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, medium plasticity. El. 5478.5'	
						1.2		CLAYEY SAND (SC) - light brown, moist, fine grained sand, low plasticity.	
5						1.2			
				CS					
						1.2		Wet at 6.8 to 7 ft.	
								8.2' Gray at 7.8 to 8.2 ft. with slight odor. El. 5472.3'	
						1.3		SILTY SAND (SM) - gray, moist to wet, strong odor, fine to medium sand. Wet below 9 ft.	
10				CS					
						1248*	F1-11'		
						35		Fine to coarse sand at 13 to 14.5 ft.	
				CS					
15						10		Change in color to light brown at 15 to 15.8 ft.	
								15.8' El. 5464.7'	
								16.0' CLAYEY SAND (SC) - light brown, wet to moist, fine grained sand, medium plasticity. El. 5464.5'	

Total Depth 16.0'

* = Value that PID pegged at that calibration.

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date			Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe		Former Aerex Refinery	F-2
Completed: 1/18/2006	Driller: Louis Trujillo			
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5479.8'	Logged By: Lee Dalton	
Northing: 2080493.71	Easting: 2678850.41	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8.5		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0				CS		758		CLAYEY SAND (SC) - light brown, dry to moist, fine to medium sand (subangular to subrounded), with quartzite gravels (subrounded, 1-3 cm), medium plasticity.	
								2.0' El. 5477.8'	
						1248*		CLAYEY SAND (SC) - black, moist, strong odor, fine grained sand, medium plasticity.	
5						1248*	F2-5'	5.0' El. 5474.8'	
				CS				SILTY SAND (SM) - gray, moist, fine to medium sand (subangular to subrounded), with strong odor.	
						126			
								7.5' El. 5472.3'	
								With clay, wet at 7.3 to 7.5 ft, low plasticity.	
								8.5' El. 5471.3'	
						25		CLAYEY SAND (SC) - gray, moist, fine grained sand, with odor, medium plasticity.	
10				CS				SILTY SAND (SM) - gray, wet, fine to medium sand (subangular to subrounded), odor concentration decreasing down the section.	
						16			
						8.0		Fine to coarse sand at13 to 15.5 ft.	
				CS					
15						9.0			
								15.5' El. 5464.3'	
								16.0' CLAYEY SAND (SC) - light brown, wet, fine to medium sand (subangular to subrounded), non-plastic. El. 5463.8'	

Total Depth 16.0'

* = Value that PID pegged at that calibration.

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	F-3
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5480.5'	Logged By: Lee Dalton
Northing: 2080494.39	Easting: 2678900.08	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8.2		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, dry to moist, fine to medium sand (subangular to subrounded), trace quartzite gravel (subrounded, 1 cm).	
						2.5			
				CS					
						3.8			
								3.5' Change in color to gray at 3 to 3.5 ft, no odor, clay lense at 3 to 3.2 ft. El. 5477.0'	
								SILTY SAND (SM) - gray, moist, fine grained sand, no odor.	
5						2.9		5.5' El. 5475.0'	
				CS				CLAYEY SAND (SC) - gray, moist, fine grained sand, medium plasticity, no odor.	
						6.7		Wet, fine to medium sand at 7 to 7.2 ft.	
								8.2' Change in color to brown at 7.5 to 8.2 ft. El. 5472.3'	
								SILTY SAND (SM) - gray, wet, fine to medium sand (subangular to subrounded), no odor.	
						1.4			
10				CS					
						0.9		With clay at 10.7 to 11.3 ft, medium plasticity.	
								12.0' El. 5468.5'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Rig Type: Strata Probe	Project: Former Aerex Refinery	Well No.: F-4
	Started: 1/18/2006			
	Completed: 1/18/2006	Driller: Louis Trujillo		
	Backfilled: 1/18/2006	Weather:	Surface Elevation: 5480.8'	Logged By: Lee Dalton
Northing: 2080495.32		Easting: 2678947.85	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
9		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Hented Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0				CS		2.2		CLAYAY SAND (SC) - light brown, moist, fine to medium sand, few quartizte gravels (subrounded, 1-2 cm), medium plasticity.	
				CS		1.5		3.0' El. 5477.8' SILTY SAND (SM) - light brown, moist, fine to medium sand (subangular to subrounded). 4.0' El. 5476.8'	
5				CS		3.8		CLAYAY SAND (SC) - gray, moist to wet, slight odor, fine grained sand, medium plasticity.	
				CS		3.7		Change in color to light brown from 6.8 to 9 ft.	
	▽			CS		2.6		9.0' El. 5471.8' SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
10				CS		1.4		12.0' El. 5468.8' Fine to coarse sand at 11.8 to 12 ft.	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	F-5
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5481.4'	Logged By: Lee Dalton
Northing: 2080495.85	Easting: 2678997.89	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
9		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded), with quartzite gravels (subrounded, 1-3 cm). 1.0' El. 5480.4'	
				CS		0.0		CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, low plasticity. 2.0' El. 5479.4'	
						19		CLAYEY SAND (SC) - light brown, moist, fine to medium sand (subangular to subrounded), medium plasticity.	
5				CS		6.6			
						2.5			
						2.0		9.0' El. 5472.4'	
10				CS		1.2		SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
								12.0' El. 5469.4'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/19/2006	Rig Type: Strata Probe	Former Aerex Refinery	F-6
Completed: 1/19/2006	Driller: Louis Trujillo		
Backfilled: 1/19/2006	Weather:	Surface Elevation: 5481.7'	Logged By: Lee Dalton
Northing: 2080493.97	Easting: 2679050.29	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/19/2006

Depth (ft)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded), few quartzite gravels (subrounded, 1 cm).	
				CS		1.0		2.0' El. 5479.7'	
				CS		1.7		CLAYEY SAND (SC) - light brown, moist, fine to medium sand (subangular to subrounded), low plasticity.	
5						1.3		5.0' El. 5476.7'	
	▽			CS		1.1		SILTY SAND (SM) - yellow-light brown, moist to wet, fine to medium sand (subangular to subrounded). Fine to coarse sand at 7 to 9 ft. Wet below 7.5 ft.	
						1.1			
10				CS		0.9		As above, with clayey fine to medium sand interbeds at 10 to 11 ft and 11.2 to 11.5 ft, low plasticity.	
								12.0' El. 5469.7'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date			Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe		Former Aerex Refinery	G-1
Completed: 1/18/2006	Driller: Louis Trujillo			
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5481.0'	Logged By: Lee Dalton	
Northing: 2080549.67	Easting: 2678797.16	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater		
Depth (ft)	Hour	Date
9.6		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, few quartzite gravels (subrounded, 1-2 cm), low plasticity.	
						3.8		1.7' El. 5479.3'	
				CS				CLAYEY SAND (SC) - light brown, moist, fine to medium sand (subangular to subrounded), some silt. Clay content at 1.7 to 2 ft, 3 to 3.4 ft, 4.6 to 5.2 ft and 7.4 to 7.6 ft (wet).	
						3.2			
5						7.5			
				CS					
						4.5		7.6' El. 5473.4'	
								CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity.	
						3.4		9.0' El. 5472.0'	
10				CS				SILTY SAND (SM) - light brown, moist to wet, fine to medium sand (subangular to subrounded). Wet, color change to gray from 9.6 to 12 ft, with some odor at 9.6 to 10 ft.	
						2.3			
								Color change to light brown below 12 ft.	
						4.5		Fine to coarse sand from 13 to 14.6 ft.	
				CS					
15						3.3		Increasing clay content below 14.6 ft.	
								16.0' El. 5465.0'	

Total Depth 16.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	G-2
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5480.8'	Logged By: Lee Dalton
Northing: 2080541.27	Easting: 2678848.21	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8.2		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0									
						842		CLAYEY SAND (SC) - light brown, moist, fine to medium sand (subangular to subrounded), low to medium plasticity.	
1.0'								El. 5479.8'	
				CS				CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity. Black with strong odor at 1.3 to 3.4 ft, with wood fibers at 3.2 to 3.4 ft.	
						1248*			
							G2-4'	Change in color to gray from 3.4 to 6.8 ft, strong odor. Decreasing clay content from 4 to 5 ft, low plasticity.	
5						1248*			
				CS				Increasing clay content from 5 to 5.8 ft, medium plasticity. Decreasing clay content from 5.8 to 6.8 ft, low plasticity.	
6.8'								El. 5474.0'	
						163		FAT CLAY (CH) - gray, moist, no odor, high plasticity, trace fine sand.	
8.2'								El. 5472.6'	
						16		SILTY SAND (SM) - gray, wet, fine to medium sand (subangular to subrounded sand), some odor.	
10				CS				Clay zone at 10 to 10.5 ft, with odor.	
						9.4			
						7.2			
				CS					
15						5.8		Color change to light brown from 14.4 to 15.4 ft, no odor.	
15.4'								El. 5465.4'	
16.0'								LEAN CLAY (CL) - light brown, moist, medium plasticity, with trace sand. El. 5464.8'	

Total Depth 16.0'

* = Value that PID pegged at that calibration.

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	G-3
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5481.0'	Logged By: Lee Dalton
Northing: 2080551.69	Easting: 2678897.03	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater		
Depth (ft)	Hour	Date
8.2		1/18/2006

Depth (ft.) Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0					80		SILTY SAND (SM) - light brown, dry, fine to coarse sand, with quartzite gravels (subrounded, 1-2 cm).	
1.0'							El. 5480.0'	
			CS				CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, trace gravels, medium plasticity.	
					287	G3-3'	Black with strong odor at 2.5 to 2.9 and 3.4 to 3.6.	
3.6'							El. 5477.4'	
							SILTY SAND (SM) - gray, dry to moist, fine grained sand, with clay.	
5					45		Gray to black with slight odor at 3.6 to 4 ft, low plasticity at 3.6 to 4.6 ft, non-plastic at 4.6 to 6.6 ft.	
5.6'							El. 5475.4'	
			CS				Decreasing clay content.	
							CLAYEY SAND (SC) - gray, moist, slight odor, fine grained sand, medium plasticity.	
7.0'					266		El. 5474.0'	
8.2'							FAT CLAY (CH) - gray, moist, no odor, trace fine sand, high plasticity.	
							El. 5472.8'	
					12		SILTY SAND (SM) - gray, wet, no odor, fine to medium sand (subangular to subrounded).	
10			CS					
					7.7			
12.0'							Decreasing silt content.	
							El. 5469.0'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	G-4
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5481.2'	Logged By: Lee Dalton
Northing: 2080552.77	Easting: 2678947.03	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8.8		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, moist, fine grained sand, few quartzite gravels (subrounded, 1-2 cm), medium plasticity.	
				CS		64			
						96		3.0' Wood fibers and black staining at 2.5 to 3 ft with odor. El. 5478.2'	
								SILTY SAND (SM) - yellow, moist, fine to medium sand (subangular to subrounded). Color change to gray from 3.5 to 6.4 ft, with some odor.	
5						58			
				CS				6.4' El. 5474.8'	
						152	G4-7'	FAT CLAY (CH) - gray, moist, high plasticity, trace fine sand, with some odor.	
								7.8' El. 5473.4'	
								8.4' CLAYEY SAND (SC) - gray, moist, fine to medium sand, low plasticity, with some odor. El. 5472.8'	
	▽					14		SILTY SAND (SM) - gray, moist to wet, no odor, fine to medium sand (subangular to subrounded).	
10				CS				Clay zones at 8.6 to 8.8 ft and 9.2 to 9.6 ft, non-plastic. Wet below 8.8 ft.	
						6.6			
								12.0' El. 5469.2'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	G-5
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5482.1'	Logged By: Lee Dalton
Northing: 2080554.83	Easting: 2678998.78	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
9		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, subangular to subrounded, with quartzite gravel (subrounded, 1-4 cm).	
						83		1.0' El. 5481.1'	
				CS				CLAYEY SAND (SC) - green-brown, moist, fine grained sand, medium plasticity.	
						143	G5-3'	2.8' Gray intermix zone at 2 to 2.3 ft, some odor. El. 5479.3'	
								SILTY SAND (SM) - light brown, moist, fine grained sand. With clay at 2.8 to 3.2 ft and 3.6 to 3.8 ft, low plasticity.	
5						63		5.6' El. 5476.5'	
				CS				SILTY SAND (SM) - light brown, moist, fine grained sand, with clay, low plasticity.	
						17		7.0' El. 5475.1'	
	▽							FAT CLAY (CH) - light brown, moist, high plasticity, trace fine sand.	
						7.3		9.0' El. 5473.1'	
10				CS				SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded). Few clay zones at 9.4 to 9.6 ft, 10.3 to 10.5 ft and 11.8 to 12 ft, low plasticity.	
						7.8		12.0' El. 5470.1'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	G-6
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5482.7'	Logged By: Lee Dalton
Northing: 2080552.09	Easting: 2679046.72	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater		
Depth (ft)	Hour	Date
7.8		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, moist, fine grained sand, few quartzite gravel (subrounded, 1-2 cm), medium plasticity.	
				CS		0.6			
						0.9			
								3.5' El. 5479.2'	
								CLAYEY SAND (SC) - light brown, moist, fine to medium sand (subangular to subrounded), low plasticity to non-plastic.	
5						1.0		5.0' El. 5477.7' Clay content decreasing down the section.	
				CS				SANDY FAT CLAY (CH) - red-brown, moist, high plasticity, fine grained sand.	
						0.7		7.0' El. 5475.7'	
	▽							CLAYEY SAND (SC) - light brown, moist to wet, fine to medium sand (subangular to subrounded), non-plastic.	
								8.5' Wet below 7.8 ft. El. 5474.2'	
						0.5		SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
10				CS					
						0.4		Increasing silt content below 11 ft.	
								12.0' El. 5470.7'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Date		Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe	Former Acrex Refinery	H-1
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5481.6'	Logged By: Lee Dalton
Northing: 2080607.21	Easting: 2678797.28	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
9.5		1/17/2006

Depth (ft)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, with quartzite gravels (subrounded, 1 cm), medium plasticity.	
				CS		0.7			
						437	H1-3'		
								3.0' El. 5478.6'	
								SILTY SAND (SM) - yellow, dry to moist, fine to medium sand (subangular to subrounded).	
5						286			
				CS					
								6.5' El. 5475.1'	
						19.9		CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity. Hydrocarbon staining at 6.6 to 8.2 ft, with odor.	
						8.5			
								9.5' El. 5472.1'	
10				CS				SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
						6.6			
								12.0' El. 5469.6'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe	Former Aerex Refinery	H-2
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5481.1'	Logged By: Lee Dalton
Northing: 2080607.47	Easting: 2678845.54	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
9		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, medium plasticity.	
				CS		6.4			
						14.1			
								3.5' El. 5477.6'	
								SILTY SAND (SM) - light brown, moist, fine to medium sand (subangular to subrounded).	
								5.0' El. 5476.1'	
5						6.2		CLAYEY SAND (SC) - light brown, moist, fine to medium sand (subangular to subrounded), medium to low plasticity.	
				CS					
						4.1			
								8.0' Hydrocarbon staining at 7.5 ft, no odor. El. 5473.1'	
	▽					338		SILTY SAND (SC) - gray, moist to wet, fine to coarse sand, few clay zones, with odor. Wet below 9 ft.	
10				CS				Fine to medium sand at 8 to 12 ft and 15 to 16 ft.	
						898	H2-11'		
								Fine to coarse sand at 12 to 15 ft.	
						7.5			
				CS					
15						3.8		Change in color to light brown below 15 ft.	
								16.0' El. 5465.1'	

Total Depth 16.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date			Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe		Former Aerex Refinery	H-3
Completed: 1/17/2006	Driller: Louis Trujillo			
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5481.1'	Logged By: Lee Dalton	
Northing: 2080606.75	Easting: 2678896.32	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater		
Depth (ft)	Hour	Date
9.1		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0						5.2		CLAYEY SAND (SC) - light brown, dry, fine grained sand, few quartzite gravels (subrounded, 1-2 cm), medium plasticity.	
				CS		2.8		1.7' El. 5479.4' SILTY SAND (SM) - light brown, dry to moist, fine grained sand.	
								4.0' El. 5477.1' CLAYEY SAND (SC) - light brown, moist to wet, fine grained sand, medium plasticity.	
5						3.3		Hydrocarbon staining at 5 ft, down through the section, no odor.	
				CS		1.8		7.8' El. 5473.3' SILTY SAND (SM) - gray with hydrocarbon staining, moist to wet, fine to medium sand, no odor.	
	▽					1.9		9.0' El. 5472.1' 9.1' El. 5472.0' CLAYEY SAND (SC) - gray, moist to wet, fine grained sand, medium plasticity.	
10				CS				SILTY SAND (SM) - gray, wet, fine to medium sand (subangular to subrounded).	
						1.7		Change in color to light brown below 10.1 ft.	
								12.0' El. 5469.1'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	H-4
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5481.7'	Logged By: Lee Dalton
Northing: 2080608.15	Easting: 2678944.36	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8.5		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, moist, fine to medium sand, some quartzite gravel (subrounded, 1-3 cm).	
						0.7			
				CS				Black with strong odor and wood fibers from 2 to 2.5 ft.	
						174	H4-3'	3.0' Gray with strong odor from 2.5 to 3 ft. El. 5478.7'	
								SILTY SAND (SM) - gray, moist, no odor, fine to medium sand (subangular to subrounded). Color change to yellow from 3.5 to 5 ft.	
5						4.3		5.3' Color change to gray from 5 to 5.3 ft. El. 5476.4'	
				CS				FAT CLAY (CH) - gray, moist, no odor, high plasticity, trace fine sand, hydrocarbon staining. Color change to light brown from 6 to 8 ft.	
						2.0		8.0' El. 5473.7'	
								SILTY SAND (SM) - gray, moist to wet, no odor, fine to medium sand (subangular to subrounded). Wet below 8.5 ft. Hydrocarbon staining from 8 to 11.5 ft.	
						1.5			
10				CS					
						1.0		12.0' Color change to light brown below 11.5 ft. El. 5469.7'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	H-5
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5482.5'	Logged By: Lee Dalton
Northing: 2080607.28	Easting: 2678989.36	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
9		1/18/2006

Depth (ft)	Groundwater Depth (ft)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								0.7' El. 5481.8' CLAYEY SAND (SC) - light brown, moist, fine to coarse sand (subangular to subrounded), with gravel (quartzite, subrounded, 1-3 cm), medium plasticity.	
				CS		2.3		CLAYEY SAND (SC) - light brown, moist, fine to medium sand (subangular to subrounded), low plasticity. Clay content deccreasing down the section.	
						1.2		3.6' El. 5478.9' SILTY SAND (SM) - yellow, moist, fine to medium sand (subangular to subrounded).	
5				CS		1.5			
						1.6		7.0' El. 5475.5' CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity.	
	▽					1.6		9.0' El. 5473.5' SILTY SAND (SM) - light brown-gray, wet, no odor, fine to medium sand (subangular to subrounded), few clay. Color change to light brown below 10 ft.	
10				CS		0.9			
								12.0' El. 5470.5'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/18/2006	Rig Type: Strata Probe	Former Aerex Refinery	H-6
Completed: 1/18/2006	Driller: Louis Trujillo		
Backfilled: 1/18/2006	Weather:	Surface Elevation: 5483.2'	Logged By: Lee Dalton
Northing: 2080608.51	Easting: 2679047.09	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8.8		1/18/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), few gravels (quartzite, subrounded, 1 cm). 1.0' El. 5482.2'	
								CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, medium plasticity. 1.5' El. 5481.7'	
				CS		6.8		SILTY SAND (SM) - light brown, moist, fine to medium sand (subangular to subrounded).	
						5.9			
5						3.3			
				CS				6.5' El. 5476.7'	
						2.4		FAT CLAY (CH) - brown, moist, high plasticity, trace fine sand.	
								CLAYEY SAND (SC) - same as 1 to 1.5 ft. 8.5' El. 5474.7'	
						2.0		SILTY SAND (SM) - gray, moist to wet, no odor, fine to medium sand (subangular to subrounded), few clay zones. Wet at 8.8 ft. Color change to light brown from 9 to 12 ft.	
10				CS					
						2.2		12.0' El. 5471.2'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Date		Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe	Former Aerex Refinery	I-1
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5482.2'	Logged By: Lee Dalton
Northing: 2080665.93	Easting: 2678798.03	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/17/2006

Depth (ft) / Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0							CLAYEY SAND (SC) - light brown, dry, fine grained sand, trace quartzite gravel (subrounded, 1 cm), medium plasticity.	
			CS		5.0			
					4.4			
							4.0' El. 5478.2'	
							SILTY SAND (SM) - yellow, dry to moist, fine grained sand.	
5					3.7			
			CS				6.5' El. 5475.7'	
					0.9		CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity.	
							7.5' El. 5474.7'	
							8.0' SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded). El. 5474.2'	
					0.3		SANDY FAT CLAY (CH) - light brown, moist, high plasticity, fine grained sand.	
10			CS				9.5' El. 5472.7'	
					0.6		CLAYEY SAND (SC) - light brown, wet, fine to medium sand (subangular to subrounded), low plasticity.	
							11.0' El. 5471.2'	
							SILTY SAND (SM) - light brown, wet, fine to coarse sand (subangular to subrounded).	
							12.0' El. 5470.2'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe	Former Aerex Refinery	I-2
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5481.6'	Logged By: Lee Dalton
Northing: 2080660.83	Easting: 2678847.61	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8.2		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Recovery	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, dry, fine grained sand, trace quartzite gravel (subrounded, 1 cm), medium plasticity.	
				CS		2.3			
						2.8			
								3.6' El. 5478.0'	
								SILTY SAND (SM) - yellow, dry to moist, fine to medium sand (subangular to subrounded).	
5						1.2			
				CS				6.0' El. 5475.6'	
								CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity. Gray hydrocarbon staining at 6.4 ft, slight odor.	
						1.0			
								8.2' El. 5473.4'	
						22		SILTY SAND (SM) - gray, wet, fine to medium sand (subangular to subrounded), strong odor.	
10				CS			12-10'		
						1376*			
						13.4			
				CS					
15						7.2			
								15.5' Below 14 ft, hydrocarbon staining clears-up to yellow and grain size increases to silty fine to coarse sand. El. 5466.1'	
								16.0' El. 5465.6'	
								SANDY FAT CLAY (CH) - light brown, moist, high plasticity, fine grained sand.	

Total Depth 16.0'

* = Value that PID pegged at that calibration.

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe	Former Aerex Refinery	I-3
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5482.2'	Logged By: Lee Dalton
Northing: 2080665.91	Easting: 2678896.41	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.7		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0				CS		2.8		SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded).	
								2.7' El. 5479.5'	
						2.2		3.2' CLAYEY SAND (SC) - light brown, dry, fine grained sand, medium plasticity. El. 5479.0'	
								SILTY SAND (SM) - yellow, dry to moist, fine to medium sand (subangular to subrounded).	
5						3.0			
				CS				6.2' El. 5476.0'	
						7.7		CLAYEY SAND (SC) - light brown, moist to wet, fine grained sand, medium plasticity. Gray hydrocarbon staining begining at 7 ft, slight odor. Wet below 7.7 ft.	
						4.7		9.0' El. 5473.2'	
10				CS			13-10'	CLAYEY SAND (SC) - gray, wet, fine to medium sand (subangular to subrounded), low plasticity, strong odor.	
						85			
								12.5' El. 5469.7'	
						10.5		SILTY SAND (SM) - gray, wet, fine to medium sand (subangular to subrounded), slight odor.	
				CS					
15						35.0		15.0' El. 5467.2'	
								SANDY FAT CLAY (CH) - light brown, wet to moist, high plasticity, fine grained sand.	
								16.0' El. 5466.2'	

Total Depth 16.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe	Former Aerex Refinery	I-4
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5482.7'	Logged By: Lee Dalton
Northing: 2080666.89	Easting: 2678950.46	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
10		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0				CS		6.1		CLAYEY SAND (SC) - light brown, moist, fine to medium sand (subangular to subrounded), low plasticity to non-plastic.	
				CS		1.5		3.0' El. 5479.7' SILTY SAND (SM) - yellow, moist to wet, fine to medium sand (subangular to subrounded).	
5				CS		2.3		6.5' El. 5476.2' CLAYEY SAND (SC) - light brown, moist to wet, fine grained sand, low to medium plasticity. Gray hydrocarbon staining at 7.9 ft, slight odor.	
				CS		1.3			
				CS		5.6		10.0' El. 5472.7' SILTY SAND (SM) - gray, wet, fine to medium sand (subangular to subrounded), strong odor. Slight hydrocarbon staining at 12 to 13 ft, disappears below 13 ft.	
10	▽			CS		2.4			
				CS		1.2		14.5' El. 5468.2' SANDY FAT CLAY (CH) - light brown, wet to moist, fine grained sand, high plasticity.	
15						1.1		16.0' El. 5466.7'	

Total Depth 16.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date		Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe	Former Aerex Refinery	1-5
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5483.2'	Logged By: Lee Dalton
Northing: 2080669.02	Easting: 2678999.12	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
10		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0				CS		7.0		CLAYEY SAND (SC) - light brown, dry to moist, fine to medium sand (subangular to subrounded), with quartzite gravel (subrounded. 1-2 cm), low plasticity to non-plastic.	
				CS		3.0		3.0' El. 5480.2' SILTY SAND (SM) - yellow, moist to dry, fine to medium sand (subangular to subrounded).	
5				CS		4.0			
						2.2		8.0' El. 5475.2' SANDY FAT CLAY (CH) - brown, moist, fine grained sand, (few areas of light gray hydrocarbon staining, no odor), high plasticity.	
						1.8		9.5' El. 5473.7' SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded). Wet at 10 ft.	
10	▽			CS		2.4		12.0' El. 5471.2'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe	Former Aerex Refinery	I-6
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5483.8'	Logged By: Lee Dalton
Northing: 2080667.03	Easting: 2679048.13	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
11		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0									
						1.3		SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), with quartzite gravels (subrounded, 1-3 cm).	El. 5482.8'
1.0'									
				CS				CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, with silt and gravels.	
2.5'									El. 5481.3'
						315	J6-3'	CLAYEY SAND (SC) - brown, moist, fine grained sand, medium plasticity.	
4.2'								Few zones of hydrocarbon staining at 4 ft, no odor.	El. 5479.6'
5						22		SILTY SAND (SM) - light brown, moist to dry, fine grained sand.	
				CS					
7.0'						12			El. 5476.8'
8.0'								CLAYEY SAND (SC) - brown, moist, fine grained sand, medium plasticity. Few zones of hydrocarbon staining at 8 ft, no odor.	El. 5475.8'
						7.8		CLAYEY SAND (SC) - brown, wet, fine to medium sand, medium plasticity.	
10				CS					
	▽					5.7			
11.5'									El. 5472.3'
12.0'								SILTY SAND (SM) - light brown, wet (saturated), fine to medium sand (subangular to subrounded).	El. 5471.8'

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date			
Started: 1/17/2006	Rig Type: Strata Probe	Project: Former Aerex Refinery	Well No.: J-1
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5482.8'	Logged By: Lee Dalton
Northing: 2080721.90	Easting: 2678797.82	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), some quartzite gravel (subrounded, 1 cm). El. 5481.8'	
1.0'									
				CS		1.6		CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, trace quartzite gravel (subrounded, 1 cm), medium plasticity.	
						1.3			
5						3.1			
5.5'								El. 5477.3'	
				CS				SILTY SAND (SM) - yellow, dry to moist, fine to medium sand (subangular to subrounded).	
						0.7			
7.5'								El. 5475.3'	
	▽							SANDY FAT CLAY (CH) - light brown, wet to moist, high plasticity, fine grained sand.	
						1.1			
9.8'								El. 5473.0'	
10				CS				CLAYEY SAND (SC) - light brown, wet, fine to medium sand (subangular to subrounded), low plasticity.	
						0.4			
11.4'								El. 5471.4'	
12.0'								SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded). El. 5470.8'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date: Started: 1/17/2006	Rig Type: Strata Probe	Project: Former Aerex Refinery	Well No.: J-2
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5483.0'	Logged By: Lee Dalton
Northing: 2080721.25	Easting: 2678859.88	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
9.5		1/17/2006

Depth (ft)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), some quartzite gravels (subrounded, 1-2 cm).	
				CS		1.1		2.0' El. 5481.0'	
						5.0		CLAYEY SAND (SC) - light brown, dry, fine grained sand, with silt.	
5						1.7		5.0' El. 5478.0'	
				CS				SILTY SAND (SM) - yellow, dry, fine to medium sand (subangular to subrounded).	
						3.0		7.5' El. 5475.5'	
								SANDY FAT CLAY (CH) - brown, moist, fine grained sand, high plasticity.	
								8.5' El. 5474.5'	
						0.6		CLAYEY SAND (SC) - brown, moist to wet, fine to medium sand (subangular to subrounded), medium plasticity..	
10				CS				9.5' El. 5473.5'	
						1.7		SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
								12.0' El. 5471.0'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe	Former Aerex Refinery	J-3
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5483.2'	Logged By: Lee Dalton
Northing: 2080714.22	Easting: 2678896.77	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
9.5		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0				CS		0.6		0.7' SILTY SAND (SM) - light brown, dry, fine grained sand. El. 5482.5'	
								CLAYEY SAND (SC) - light brown, dry, fine to medium sand (subangular to subrounded), non-plastic.	
						3.6		3.0' El. 5480.2'	
								SILTY SAND (SM) - light brown, dry to moist, fine grained sand.	
5				CS		1.2			
						3.3		7.0' El. 5476.2'	
								CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity. Gray, hydrocarbon staining begining at 7.7 ft.	
	▽					11		9.5' El. 5473.7'	
10				CS			13-10'	CLAYEY SAND (SC) - gray with hydrocarbon staining, wet to moist, fine to medium sand (subangular to subrounded), low plasticity.	
						3.3		11.7' El. 5471.5'	
								SAND (SW) - light brown, wet, fine to medium sand (subangular to subrounded).	
						0.4			
				CS					
15						2.5		15.0' El. 5468.2'	
								CLAYEY SAND (SC) - light brown, wet, fine to medium sand, low plasticity.	
								16.0' El. 5467.2'	

Total Depth 16.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe	Former Aerex Refinery	J-4
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5483.6'	Logged By: Lee Dalton
Northing: 2080718.85	Easting: 2678944.48	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
9.5		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0						1.6		SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded). 1.0' El. 5482.6'	
				CS		6.6		CLAYEY SAND (SC) - light brown, dry, fine to medium sand (subangular to subrounded), low plasticity. 3.8' El. 5479.8'	
								SILTY SAND (SM) - light brown, dry, fine grained sand. 4.8' El. 5478.8'	
5						6.4		CLAYEY SAND (SC) - light brown, dry to moist, fine to medium sand (subangular to subrounded), non-plastic, 6.2' with silt. El. 5477.4'	
				CS		4.5		CLAYEY SAND (SC) - light brown, moist to wet, fine grained sand, low to medium plasticity. Hydrocarbon staining begining at 6.5 ft. 9.5' El. 5474.1'	
						5.0			
10				CS		10.5		CLAYEY SAND (SC) - gray with hydrocarbon staining, wet, fine to medium sand (subangular to subrounded), non-plastic. 11.5' El. 5472.1'	
								12.0' SAND (SW) - gray with hydrocarbon staining, wet, fine coarse sand (subangular to subrounded). BD 5471.6'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date			Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe		Former Aerex Refinery	J-5
Completed: 1/17/2006	Driller: Louis Trujillo			
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5484.3'	Logged By: Lee Dalton	
Northing: 2080720.63	Easting: 2678994.53	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0									
				CS		7.9		CLAYEY SAND (SC) - light brown, dry, fine to medium sand (subangular to subrounded), some quartzite gravel (subrounded, 1-2 cm), low plasticity to non-plastic.	
1.2'								El. 5483.1'	
						4.2		CLAYEY SAND (SC) - light brown, dry to moist, fine to coarse sand (subangular to subrounded), low plasticity.	
3.5'								Hydrocarbon staining at 3 to 3.2 ft.	
								El. 5480.8'	
								SILTY SAND (SM) - light brown, moist, fine to medium sand (subangular to subrounded).	
5						2.0			
				CS					
7.0'								El. 5477.3'	
						4.8		CLAYEY SAND (SC) - light brown, moist to wet, fine grained sand, medium plasticity.	
	▽						J5-8'	Wet at 8 ft.	
						2.1			
10				CS					
10.0'								El. 5474.3'	
						1.4		CLAYEY SAND (SC) - light brown, wet to moist, fine to medium sand (subangular to subrounded), low plasticity to non-plastic.	
12.0'								El. 5472.3'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe	Former Aerex Refinery	J-6
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5484.5'	Logged By: Lee Dalton
Northing: 2080721.35	Easting: 2679058.31	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
10		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded).	
				CS		1.5		1.0' El. 5483.5'	
								CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, with silt, medium plasticity.	
						0.5		3.0' El. 5481.5'	
								SILTY SAND (SM) - light brown, dry to wet, fine grained sand, non-plastic, some clay.	
5						1.3			
				CS		1.6			
						1.2			
10	▽			CS				Wet below 10 ft.	
						1.8			
								12.0' El. 5472.5'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date: Started: 1/17/2006	Rig Type: Strata Probe	Project: Former Aerex Refinery	Well No.: K-1
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5486.0'	Logged By: Lee Dalton
Northing: 2080779.24	Easting: 2678798.66	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
10		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), with quartzite gravel (subangular to subrounded, 2-4 cm).	
				CS		2.7		1.0' El. 5485.0'	
						0.7		CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity.	
5						1.1		5.0' El. 5481.0'	
				CS				SILTY SAND (SM) - yellow, moist to wet, fine to medium sand (subangular to subrounded).	
						0.7			
						0.7			
10	▽			CS				10.4' Wet below 10 ft. El. 5475.6'	
						0.3		CLAYEY SAND (SC) - light brown, wet, fine grained sand, medium plasticity.	
								12.0' El. 5474.0'	
								Clayey fine to medium sand at 11.8 to 12 ft, low plasticity.	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/16/2006	Rig Type: Strata Probe	Former Aerex Refinery	K-2
Completed: 1/16/2006	Driller: Louis Trujillo		
Backfilled: 1/16/2006	Weather:	Surface Elevation: 5486.2'	Logged By: Lee Dalton
Northing: 2080783.82	Easting: 2678849.02	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
None		1/16/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded), wtih quartzite gravel (subrounded, 2-3 cm).	
				CS		4.0		2.5' El. 5483.7'	
						2.3		CLAYEY SAND (SC) - light brown, dry, fine grained sand, few quartzite gravels (subrounded, 1-2 cm), medium plasticity.	
5						2.6			
				CS				6.0' El. 5480.2'	
						3.8		SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), few clay.	
						3.9		9.0' El. 5477.2'	
10				CS				CLAYEY SAND (SC) - gray, moist, fine grained sand, medium plasticity. 10.0' El. 5476.2'	
						2.8		CLAYEY SAND (SC) - gray, moist, fine to coarse sand (subangular to subrounded), low plasticity, no odor.	
								12.0' El. 5474.2'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date		Project	Well No.
Started: 1/16/2006	Rig Type: Strata Probe	Former Aerex Refinery	K-3
Completed: 1/16/2006	Driller: Louis Trujillo		
Backfilled: 1/16/2006	Weather:	Surface Elevation: 5485.6'	Logged By: Lee Dalton
Northing: 2080781.28	Easting: 2678898.13	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8.5		1/16/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded), with quartzite gravels (subrounded, 2-3 cm).	
				CS		6.0		2.0' El. 5483.6'	
						58		CLAYEY SAND (SC) - red-brown, dry, fine to medium sand (subangular to subrounded), few quartzite gravels (subangular, 1-2 cm), low to medium plasticity.	
								3.8' El. 5481.8'	
5						551		SILTY SAND (SM) - gray HC staining, dry, fine to medium sand (subangular to subrounded), some clay.	
				CS			K3-6'		
						425		7.5' El. 5478.1'	
	▽							CLAYEY SAND (SC) - gray HC staining, dry to wet, fine to medium sand (subangular to subrounded), low to high plasticity, sand grain size decreasing down the section, plasticity increasing down the section. Wet below 8.5 ft.	
						5.9			
10				CS					
						27		11.6' El. 5474.0'	
								CLAYEY SAND (SC) - light brown, wet, fine to coarse sand (subangular to subrounded), low plasticity.	
								12.5' El. 5473.1'	
						8.6		SAND (SP) - light brown, wet, fine to coarse sand (subangular to subrounded, (flowing sand).	
				CS					
15						3.2			
								16.0' El. 5469.6'	

Total Depth 16.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/16/2006	Rig Type: Strata Probe	Former Aerex Refinery	K-4
Completed: 1/16/2006	Driller: Louis Trujillo		
Backfilled: 1/16/2006	Weather:	Surface Elevation: 5485.9'	Logged By: Lee Dalton
Northing: 2080781.40	Easting: 2678947.05	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
14		1/16/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded), some quartzite gravel (2-3 cm).	
				CS		8.9		1.0' El. 5484.9'	
				CS		41.5		SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded).	
								3.0' El. 5482.9'	
								CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, low plasticity.	
								4.0' El. 5481.9'	
								With gray hydrocarbon staining at 3.6 ft.	
5				CS		172		SILTY SAND (SM) - gray hydrocarbon staining, dry, fine to medium sand (subangular to subrounded), some clay.	
						153		7.4' El. 5478.5'	
								CLAYEY SAND (SC) - gray hydrocarbon staining, moist, fine grained sand, medium plasticity.	
						169		LNAPL at 7.8 to 8 ft.	
10				CS		149			
								11.8' El. 5474.1'	
						105		SILTY SAND (SM) - gray hydrocarbon staining, wet to moist, fine to coarse sand (subangular to subrounded).	
	▽			CS				LNAPL at 14 to 14.5 ft and 15.5 to 16 ft.	
15						461			
							K4-16'		
						29			
				CS					
						6.9		19.0' El. 5466.9'	
20								CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium to high plasticity.	
								20.0' El. 5465.9'	

Total Depth 20.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/16/2006	Rig Type: Strata Probe	Former Aerex Refinery	K-5
Completed: 1/16/2006	Driller: Louis Trujillo		
Backfilled: 1/16/2006	Weather:	Surface Elevation: 5486.2'	Logged By: Lee Dalton
Northing: 2080780.61	Easting: 2678997.72	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
10		1/16/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded), with quartzite gravel, (2-3 cm).	
0.8'								El. 5485.4'	
				CS		0.2		CLAYEY SAND (SC) - light brown, dry, fine to medium sand (subangular to subrounded), with silt.	
						103			
3.8'								Black/gray hydrocarbon staining at 3.6 ft. El. 5482.4'	
5						118		SILTY SAND (SM) - black/gray hydrocarbon staining, moist, fine to medium sand (subangular to subrounded).	
				CS					
						106			
7.5'								Some clay at 6.8 to 7.5 ft, low plasticity. El. 5478.7'	
								CLAYEY SAND (SC) - black/gray, moist to wet, fine grained sand, medium plasticity.	
						130			
10	▽			CS			K5-10'		
10.0'								El. 5476.2'	
						92		CLAYEY SAND (SC) - black/gray, wet, fine to medium sand (subangular to subrounded), low plasticity.	
12.0'								El. 5474.2'	
								SAND (SW) - black/gray, wet, fine to coarse sand (subangular to subrounded), few clay.	
						210			
				CS					
15						157			
16.0'								El. 5470.2'	
						7.4		SILTY SAND (SM) - light brown, wet, fine to medium sand (subangular to subrounded).	
18.0'								El. 5468.2'	
				CS				CLAYEY SAND (SC) - light brown, wet to moist, fine grained sand, medium plasticity.	
						7.4			
20									
20.0'								El. 5466.2'	

Total Depth 20.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/16/2006	Rig Type: Strata Probe	Former Aerex Refinery	K-6
Completed: 1/16/2006	Driller: Louis Trujillo		
Backfilled: 1/16/2006	Weather:	Surface Elevation: 5485.7'	Logged By: Lee Dalton
Northing: 2080777.98	Easting: 2679048.23	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7		1/16/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Hented Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								CLAYEY SAND (SC) - light brown, dry, fine grained sand (subangular to subrounded), high plasticity. 1.0' El. 5484.7'	
				CS		1.2		SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular and subrounded).	
						1.7			
5						0.2			
				CS					
	▽					0.2		7.0' El. 5478.7'	
								CLAYEY SAND (SC) - brown, wet, fine grained sand, medium plasticity.	
10				CS				10.0' El. 5475.7'	
								CLAYEY SAND (SC) - brown, wet, fine to medium sand, medium to low plasticity.	
								12.0' El. 5473.7'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/17/2006	Rig Type: Strata Probe	Former Aerex Refinery	L-1
Completed: 1/17/2006	Driller: Louis Trujillo		
Backfilled: 1/17/2006	Weather:	Surface Elevation: 5487.9'	Logged By: Lee Dalton
Northing: 2080838.41	Easting: 2678799.08	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3 " O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
None		1/17/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0									
				CS		4.2		CLAYEY SAND (SC) - light brown, moist, fine to medium sand, some quartzite gravel (subrounded, 2-3 cm), medium to low plasticity.	
						3.0			
5						3.3		5.0' El. 5482.9'	
				CS				SANDY FAT CLAY (CH) - brown, moist, high plasticity, fine grained sand.	
						1.2		6.5' El. 5481.4'	
								CLAYEY SAND (SC) - light brown, moist, fine grained sand, non-plastic.	
						1.6		8.0' El. 5479.9'	
10				CS				SILTY SAND (SM) - light brown, moist to wet, fine grained sand.	
						1.1		10.5' El. 5477.4'	
								CLAYEY SAND (SC) - light brown, moist, fine grained sand, medium plasticity.	
								12.0' El. 5475.9'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Date				
Started: 1/16/2006	Rig Type: Strata Probe	Project: Former Aerex Refinery		Well No.: L-2
Completed: 1/16/2006	Driller: Louis Trujillo			
Backfilled: 1/16/2006	Weather:	Surface Elevation: 5486.6'	Logged By: Lee Dalton	
Northing: 2080838.78	Easting: 2678848	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater		
Depth (ft)	Hour	Date
9		1/16/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded), with quartzite gravel, (<1 cm).	
				CS		0.7		2.0' El. 5484.6'	
						4.7		CLAYEY SAND (SC) - brown, moist, fine to coarse sand (subangular to subrounded), with quartzite gravel, (1-3 cm).	
								4.0' El. 5482.6'	
5						1.4		SANDY LEAN CLAY (CL) - brown, moist, medium plasticity, fine grained sand.	
				CS				6.0' El. 5480.6'	
						1.3		SILTY SAND (SM) - light brown, moist to wet, fine grained sand, some clay.	
	▽					1.0		9.0' El. 5477.6'	
10				CS				FAT CLAY (CH) - light brown, wet to moist, with fine sand.	
						1.7		12.0' El. 5474.6'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER

Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/16/2006	Rig Type: Strata Probe	Former Aerex Refinery	L-4
Completed: 1/16/2006	Driller: Louis Trujillo		
Backfilled: 1/16/2006	Weather:	Surface Elevation: 5486.8'	Logged By: Lee Dalton
Northing: 2080838.09	Easting: 2678949.03	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8		1/16/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), some quartzite gravel (subrounded, 1 cm).	
				CS		0.4		1.0' El. 5485.8'	
						1.2		CLAYEY SAND(SC) - light brown, dry to moist, fine grained sand. 2.0' El. 5484.8'	
								SILTY SAND (SM) - yellow, dry to moist, fine to medium sand (subangular to subrounded), few clay.	
5				CS		1.0			
						0.5		7.8' El. 5479.0'	
								CLAYEY SAND (SC) - light brown, moist to wet, fine to medium sand (subangular to subrounded).	
10				CS		8.0			
						6.8		12.0' El. 5474.8'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date			Project	Well No.
Started: 1/16/2006	Rig Type: Strata Probe		Former Aerex Refinery	L-5
Completed: 1/16/2006	Driller: Louis Trujillo			
Backfilled: 1/16/2006	Weather:	Surface Elevation: 5487.1'	Logged By: Lee Dalton	
Northing: 2080838.66	Easting: 2678997.66	Location: Bloomfield, NM		

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
7.5		1/16/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Heated Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine grained sand (subangular to subrounded), with quartzite gravel (2-3 cm).	
				CS		4.8		1.0' El. 5486.1'	
								CLAYEY SAND (SC) - light brown, dry, fine to medium sand (subangular to subrounded), some silt, low plasticity.	
						4.8		2.0' El. 5485.1'	
								SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), few clay.	
5						4.6			
				CS					
						3.5			
	▽							7.5' El. 5479.6'	
								CLAYEY SAND (SC) - brown, wet, fine to medium sand (subangular to subrounded), low plasticity.	
								8.5' El. 5478.6'	
						1.1		CLAYEY SAND (SC) - brown, wet, fine grained sand, low plasticity.	
10				CS				10.0' El. 5477.1'	
								CLAYEY SAND (SC) - brown, moist, fine grained sand, high plasticity.	
						0.3		11.0' El. 5476.1'	
								CLAYEY SAND (SC) - brown, moist, fine to coarse sand (subangular to subrounded), medium plasticity.	
								12.0' El. 5475.1'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date		Project	Well No.
Started: 1/16/2006	Rig Type: Strata Probe	Former Aerex Refinery	L-6
Completed: 1/16/2006	Driller: Louis Trujillo		
Backfilled: 1/16/2006	Weather:	Surface Elevation: 5487.9'	Logged By: Lee Dalton
Northing: 2080837.01	Easting: 2679048.59	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
8.5		1/16/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								0.5' SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), few quartzite gravels (2-3 cm). El. 5487.4'	
				CS		0.6		SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded), few clay.	
						4.2		4.5' El. 5483.4'	
5				CS		0.8		SILTY SAND (SM) - light brown, moist, fine to coarse sand (subangular to subrounded).	
						2.6		8.5' El. 5479.4'	
				CS		2.7		CLAYEY SAND (SC) - brown, wet to moist, fine to medium sand (subangular to subrounded), medium plasticity.	
10						4.0		12.0' El. 5475.9'	

Total Depth 12.0'

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

KLEINFELDER — Soil Boring/Monitoring Well Log

Sheet 1 of 1

Date: Started: 1/26/2006	Rig Type: CME 75	Project: Former Aerex Refinery	Well No.: MW-3k
Completed: 1/26/2006	Driller: Louis Trujillo		
Backfilled: 1/26/2006	Weather:	Surface Elevation: 5487.9'	Logged By: Lee Dalton
Northing: 2080778.19	Easting: 2678944.68	Location: Bloomfield, NM	

Sample Type: G - Grab Sample; CS - 3.5" I.D. Continuous Sampler; SPT - 2" O.D. 1.38" I.D. Tube Sample; U - 3" O.D. 2.42" I.D. Ring Sample; ST - 3" O.D. Thin-Walled Shelby Tube; NR - No Recovery

Groundwater

Depth (ft)	Hour	Date
10.81	4:57:00 PM	1/26/2006

Depth (ft.)	Groundwater Depth (ft.)	Graphical Log	Sample Taken	Sample Type	Penetration Resistance (Blows per foot)	PID Headspace Reading, ppm	Analytical Sample Number	Visual Classification	WELL CONSTRUCTION
0								SILTY SAND (SM) - light brown, dry, fine to coarse sand (subangular to subrounded), some quartzite gravel (2-3 cm).	Cement Cap (0-1')
						8.9		1.0' El. 5486.9'	
				CS				SILTY SAND (SM) - light brown, dry, fine to medium sand (subangular to subrounded).	Bentonite Seal (1'-2.5')
						115		3.0' El. 5484.9'	10/20 Colorado Silica Sand (2.5'-16')
								CLAYEY SAND (SC) - light brown, dry to moist, fine grained sand, low plasticity. With gray hydrocarbon staining at 3.6 ft.	
								4.0' El. 5483.9'	
5						172		SILTY SAND (SM) - gray hydrocarbon staining, dry, fine to medium sand (subangular to subrounded), some clay.	
				CS					
						153		7.4' El. 5480.5'	
								CLAYEY SAND (SC) - gray hydrocarbon staining, moist, fine grained sand, medium plasticity. LNAPL at 7.8 to 8 ft.	
						169			0.010" Slotted Screen (4'-14')
10				CS					
						149		11.8' El. 5476.1'	
								SILTY SAND (SM) - gray hydrocarbon staining, wet to moist, fine to coarse sand (subangular to subrounded).	
						105			
				CS				LNAPL at 14 to 14.5 ft and 15.5 to 16 ft.	
15						461			Sump/End Cap (14'-16')
								16.0' El. 5471.9'	

Total Depth 16.0'

Drilling Method HSA (7 3/4" OD)
Lithology taken from K-4 (nearest to MW-3K)
* 3.15' stickup encased in metal shroud with bollards.

Additional Groundwater Measurements

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

Depth (ft)	Hour	Date

APPENDIX F

Field Notes

1/16/06 LWD/JB

4

Drilling

0715: Meet J. Ball @ KA office
↳ load equipment.
0830: leave for site.
1115: J. Ball & L. Dalton on-site.
1125: L. Trujillo on-site.
↳ conduct Health & Safety Meeting.
↳ Calibrate PID. {100ppm Isobytlene gas}
1200: Begin DPT drilling. (L-2)
1220: Complete L-2.
↳ Begin L-3
1224: DPT refusal @ 1.5' will step over & retry L-3.
(↳ 5' south)
1228: DPT refusal @ 1.5' will postpone L-3 for now.
1235: Begin DPT L-4
1257: Complete L-4.
↳ Begin L-5.
1315: Complete L-5.
↳ Begin L-6
1715: All crew off-site
DPT Summary: L-2, L-4, L-5, L-6
K-6, K-5, K-4, K-3, K-2

LWD 1/16/06

1/17/06 LWD/JB

5

Drilling

0800: J. Ball & L. Dalton on-site.
↳ L. Trujillo already on-site.
↳ Conduct Health & Safety meeting.
↳ Calibrate PID {100ppm Isobytlene gas}.
0837: Begin DPT drilling @ J-2.
1220: L. Trujillo off-site for lunch
1238: J. Ball & L. Dalton off-site for lunch.
1256: J. Ball & L. Dalton on-site
↳ L. Trujillo already on-site
↳ Continue DPT drilling
1500: D. Faust on-site.
1520: D. Faust off-site.
1650: L. Trujillo off-site.
1705: J. Ball & L. Dalton off-site.
DPT summary: J-2, J-4, J-3, J-5, J-6, J-1
I-5, I-4, I-2, I-6, I-3, I-1
L-1,
K-1,
H-1, H-2, H-3

LWD 1/17/06

1/18/06 LwD/JB

6

Drilling

0800: J. Ball & L. Dalton on-site.
↳ L. Trujillo on-site.
↳ Conduct Health & Safety Meeting.
↳ Calibrate PID {100ppm Isobytlene gas}.
0820: Begin DPT drilling.
1000: H-5 ~~refusal~~ No recovery @ 2', step over 2' west. LwD 1/18/06
1210: L. Trujillo off-site for lunch.
1220: J. Ball & L. Dalton offsite for lunch.
1250: J. Ball & L. Dalton on-site.
1310: L. Trujillo on-site.
↳ Continue DPT - Drilling.
1420: D. Fawst on-site.
1440: D ~~Fawst~~ off-site.
1550: E-2 ~~refusal~~ No Recovery @ 4' will step over 2' south. LwD 1/18/06
1555: E-2 No recovery @ will step over 6' North.
1715: All crew off-site.
DPT Summary: H-4, H-5, H-6, G-6, G-5, G-4, G-3, G-1, G-2, F-1, F-2, F-3, F-4, E-1, E-2, E-3, E-4.

LwD
1/18/06

1/19/06 LwD/JB

7

Drilling

0800: J. Ball & L. Dalton on-site.
↳ L. Trujillo on-site.
↳ Conduct Health & Safety Meeting.
↳ Calibrate PID {100ppm Isobytlene gas}.
0815: Begin DPT drilling.
0920: E-6 No recovery @ 4' will step over 1' south.
1020: D-6 No recovery @ 4' will step over 1' south.
1125: D. Fawst on-site.
1145: D. Fawst off-site.
1210: All crew off-site for lunch.
1300: J. Ball & L. Dalton on-site.
↳ L Trujillo on-site.
↳ Continue DPT drilling.
1350: Snowing heavy & windy.
1650: L. Trujillo off-site.
1710: J. Ball & L. Dalton off-site.
DPT Summary: F-5, F-6, E-6, E-5, D-6, D-5, D-4, D-3, D-2, D-1, C-1, C-2, C-3, C-4, C-5, C-6, B-5.

LwD
1/19/06

11/20/06 LWD/JB

8

Drilling

0815: J. Ball & L. Dalton on-site
↳ L. Trujillo already on-site
↳ Conduct Health & Safety meeting.
↳ Calibrate PID {100ppm Isobytlene gas}
0840: Begin DPT drilling.
1030: L. Trujillo lost the shoe for DPT drilling. He is working to recover it from the boring. {A-1}
1105: B. Wilcox on-site.
1111: ~~A. Johnson A. Thon~~ LWD 11/26/06
↳ A. Johnson (Johnson survey) on-site.
↳ L. Trujillo cannot recover his shoe. Will have to continue DPT drilling on monday.
1130: A. Johnson off-site.
1140: L. Trujillo off-site.
1200: All crew off-site for Lunch.
1300: All crew on-site to tag borings.
1400: B. Wilcox off-site.
1533: J. Ball & L. Dalton off-site
DPT Summary: B-4, B-3, B-2, B-1, & A-1.

LWD 11/30/06

11/26/06 LWD

9

Drilling

1030: L. Dalton on-site
↳ L. Trujillo already on-site.
↳ Conduct Health & Safety meeting
↳ Calibrate PID MiniRAE Plus {100 ppm Isobytlene Gas}
1100: Begin DPT drilling.
1248: refusal (L-3) @ 1' bgs. Call B. Wilcox & he indicates to not attempt any more on L-3 b/c of the large slab beneath the location.
1320: L. Trujillo off-site
↳ Enviro-Tech on-site

LWD 11/26/06

↳ Note: B. Wilcox on-site @ 1310.
↳ Conduct Health & Safety meeting.
1400: Begin drilling {HSA (7 3/4" OD)} for MW-3K {CME-75}
- Notes by B. Willcox for MW-3K are on page 14.

LWD 11/26/06

11/26/06 LWD

10

GW-monitoring

1405: L. Dalton to sample MW-1 & MW-2.

Well ID	Time	DTP btoc*	DTW btoc	DTB btoc	column Ht.
MW-1	1408	—	8.37'	21.45'	13.08'
MW-2	1420	—	7.92'	19.66'	11.74'
MW-3	1657	—	10.81'	19.97'	9.16'

* stickup values:
MW-1 @ 1.58' ags.
MW-2 @ 0.55' ags.
MW-3 @ 3.15' ags.

1430: Calibrate YSI 556
↳ 1st check the calibration w/ YSI 5580 confidence soln.
T = 11.16°C
SP cond = 7769 µs/cm
ORP = 235.3
pH = 6.52
↳ will calibrate pH b/c the reading is low. (will use 4, 7, & 10 pH)
↳ 2nd check w/ YSI 5580

T = 11.85°C	13.00°C	O.K. (1527)
SP cond = 7680 µs/cm	7746 µs/cm	
ORP = 234.2	231.9	
pH = 6.60	6.81	

↳ Note the pH is still off by 0.20 (1520)

11/26/06 LWD

11

GW-monitoring

1525: MW-1 ; purge volume = 6.5 gallons
No Product / odor.

Time	Temp. (°C)	pH	SP. cond (µs/cm)	DO (mg/L)	ORP	Vol. gals.
1545	14.80	6.64	1048	3.61	-42.2	6.5

Note:
↳ Condition: cloudy + black
1600: Sampled MW-1 for BTEX by 8021 ~~8270~~ (2 x 40mL vials - amber), PAH's by 8270 (1L - Amber jar), & Dissolved metals by 6010 (1 x 500mL & 1 x 250mL plastic jar). LWD 11/26/06

↳ preservatives:
8021: w/ HCl
6010: w/o preservative & unfiltered.

LWD 11/26/06

1/26/06 LWD

12

GW-monitoring

1615 : MW-2 ; purge volume = 6 gallons.
No Product / Strong Sulfur odor.

Time	Temp. (°C)	pH	SP. Cond. (µs/cm)	DO (mg/L)	ORP	Vol. gals.
1634	13.54	7.08	1339	1.77	-226.6	6.0

Note:
↳ Condition: cloudy & black w/ black Floaties.
1644: Sampled MW-2 for BTEX by ~~8021~~ LWD 1/26 8021 (2x40mL Amber vials), PAH by 8270 (1L Amber Jar), & Dissolved metals by 6010 (1x500 mL & 1x250 mL plastic Jar). LWD 1/26/06
↳ preservatives:
8021 : w/ HCl
6010 : w/o preservative & unfiltered.

LWD 1/26/06

1/26/06

13

GW-monitoring

1705 : MW-3 ; purge volume = 4.5 gallons.
No Product / Yes HC odor.

Time	Temp. (°C)	pH	SP. Cond. (µs/cm)	DO (mg/L)	ORP	Vol gals.
1731	13.92	6.88	968	4.00	-95.2	4.5

Note:
↳ Condition: cloudy & black w/ oil sheen
1745: Sampled MW-3 for BTEX by 8021 (2x40mL Amber vials), PAH by 8270 (1L Amber Jar), & dissolved metals by 6010 (500mL & 250mL plastic Jar).
↳ preserved:
- 8021 w/ HCl.
- 6010 w/o preservative & unfiltered.

LWD 1/26/06

1/26/06 LWD

14

Drilling

MW-3R: significant soil contamination @ 2.5' (gray - dark gray stained, w/ strong crude oil odor)

1420: Drill to 16' bgs, pull rods & build well.

↳ 2' bottom sump w/ bottom cap, 10' 0.010 slot screen, 7.5' PVC blank, 10/20 sand ~6' bgs, 1 bag bentonite.

↳ pull augers

↳ sand to 2½' bgs, 1' bentonite 3/8" chips, stick up cover - 2" compressive cap

1455: build well pad, use 4 x 4" diameter steel pipes on-site as traffic bollards.

1610: surge + develop well, purge 15 gallons, cleared up pretty well, free product - oil in bucket.

1630: Enviro tech + B. Wilcox off-site.

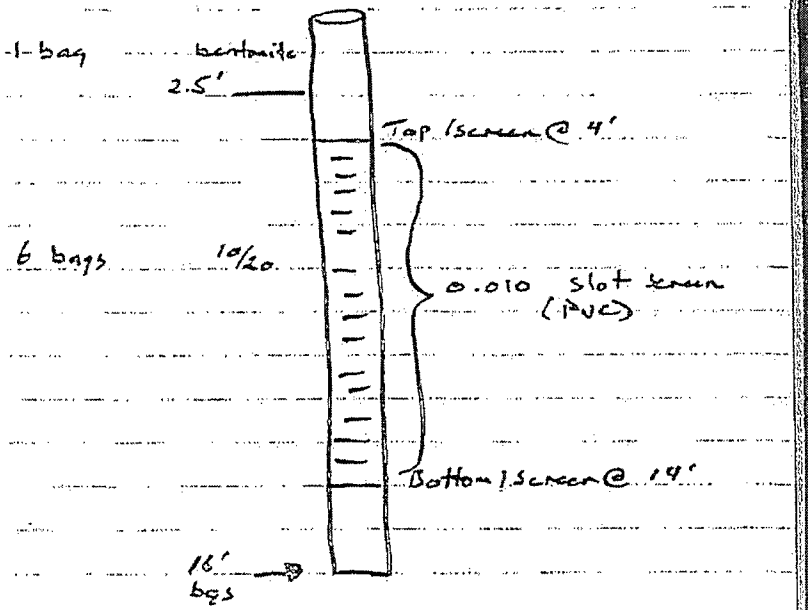
LWD
1/26/06

1/26/06 LWD

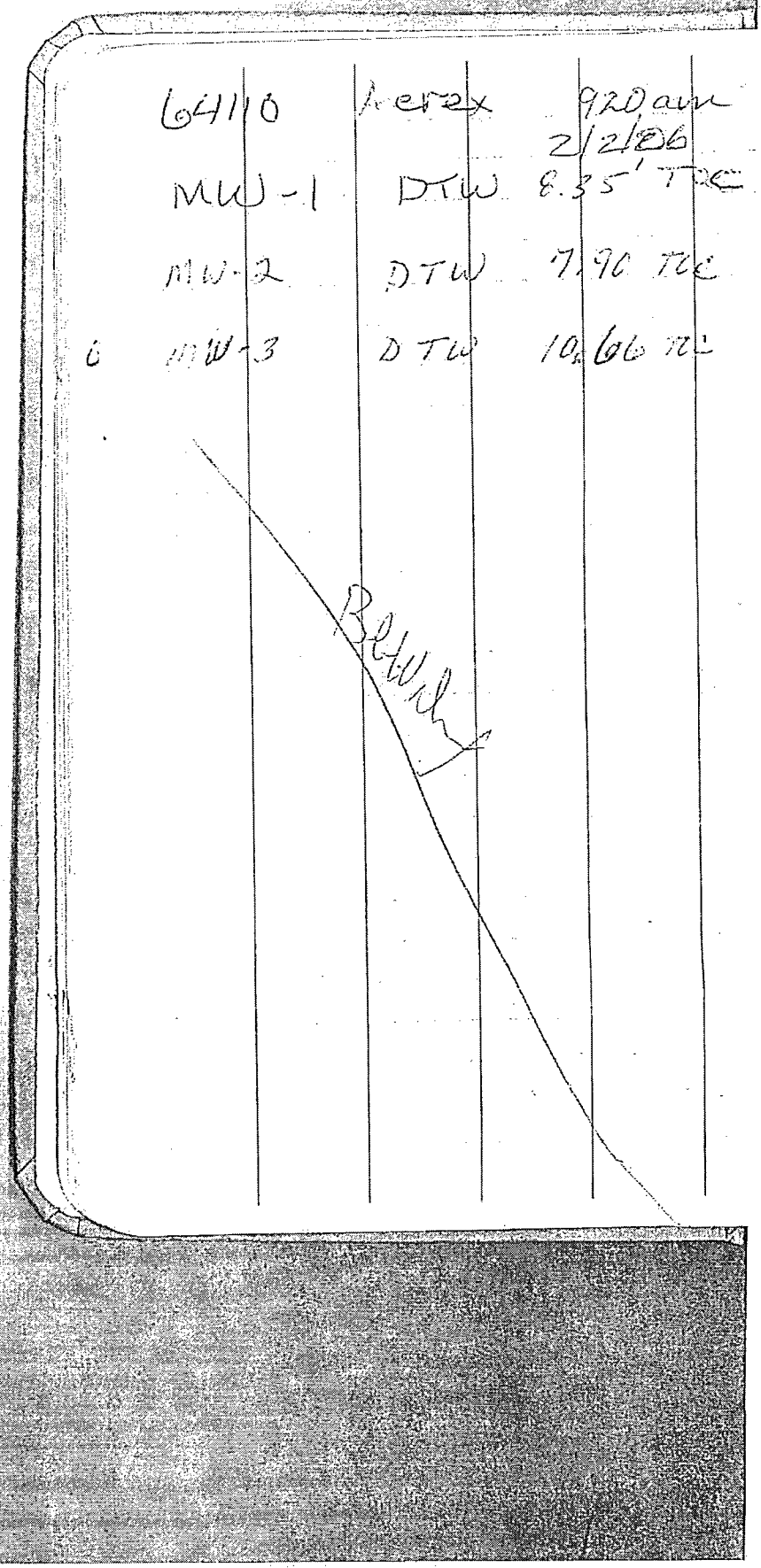
15

Drilling

As built well Diagram (MW-3R)



LWD
1/26/06


6410
Aerex
920 am
2/2/06
MW-1
DTW
8.35' TOC
MW-2
DTW
7.90 TOC
MW-3
DTW
10.66 TOC
RETURN

YSI MW-1B					
DateTime M/D/Y	Temp C	SpCond mS/cm	DO Conc mg/L	pH	ORP mV
1/26/2006 15:33:00 PM	14.67	1028	2.83	5.65	138.3
1/26/2006 15:35:00 PM	15.05	1027	2.58	6.01	36.7
1/26/2006 15:37:00 PM	15.03	1032	2.8	6.22	-13.7
1/26/2006 15:39:00 PM	14.99	1035	3.18	6.42	-34.9
1/26/2006 15:40:00 PM	14.83	1040	3.64	6.53	-40.3
1/26/2006 15:44:00 PM	14.89	1045	2.98	6.67	-41.9
1/26/2006 15:45:00 PM	14.8	1048	3.61	6.64	-42.2

YSI MW-2B					
DateTime M/D/Y	Temp C	SpCond mS/cm	DO Conc mg/L	pH	ORP mV
1/26/2006 16:23:00 PM	12.68	1151	4.51	7.59	-171.1
1/26/2006 16:25:00 PM	13.19	1313	3.33	7.17	-197.7
1/26/2006 16:27:00 PM	13.44	1330	2.71	7.18	-212.7
1/26/2006 16:29:00 PM	13.83	1378	2.7	7.24	-213.9
1/26/2006 16:31:00 PM	13.51	1356	2.41	7.21	-218.3
1/26/2006 16:34:00 PM	13.54	1339	1.77	7.08	-226.6

YSI MW-3B					
DateTime M/D/Y	Temp C	SpCond mS/cm	DO Conc mg/L	pH	ORP mV
1/26/2006 17:17:00 PM	13.37	953	6.37	7.26	-79.9
1/26/2006 17:22:00 PM	13.68	977	3.76	6.99	-80.8
1/26/2006 17:24:00 PM	13.74	979	4.49	7.04	-88
1/26/2006 17:28:00 PM	13.86	973	4.45	6.94	-92.4
1/26/2006 17:31:00 PM	13.92	968	4	6.88	-95

APPENDIX G

Laboratory Analytical Results, QA/QC, and Chain of Custody

ENVIRONMENTAL
SCIENCE CORP.

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

February 03,2006

ESC Sample # : L231523-01

Site ID :

Project # : 64110

Date Received : January 28, 2006
Description : Aerex

Sample ID : A-2 6 FT

Collected By :
Collection Date : 01/26/06 11:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	86.5		%	2540G	02/03/06	1
Benzene	BDL	0.0029	mg/kg	8021/8015	01/30/06	5
Toluene	BDL	0.029	mg/kg	8021/8015	01/30/06	5
Ethylbenzene	BDL	0.0029	mg/kg	8021/8015	01/30/06	5
Total Xylene	BDL	0.0087	mg/kg	8021/8015	01/30/06	5
Methyl tert-butyl ether	BDL	0.0058	mg/kg	8021/8015	01/30/06	5
TPH (GC/FID) Low Fraction	BDL	0.58	mg/kg	TNGRO	01/30/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	93.		% Rec.	8021/8015	01/30/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	BDL	4.6	mg/kg	8015	01/31/06	1
C28-C40 Oil Range	BDL	4.6	mg/kg	8015	01/31/06	1
Surrogate Recovery						
o-Terphenyl	91.3		% Rec.	8015	01/31/06	1

Mark W. Beasley, ESC Representative

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, NH - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Reported: 02/03/06 13:17 Printed: 02/03/06 13:17

ENVIRONMENTAL
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10626 Lebanon Rd.
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(615) 758-5858
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

February 03,2006

Date Received : January 28, 2006
Description : Aerex

ESC Sample # : L231523-02

Site ID :

Sample ID : A-6 8.5 FT

Project # : 64110

Collected By : Lee Dalton
Collection Date : 01/26/06 12:30

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	83.7		%	2540G	02/03/06	1
Benzene	BDL	0.0030	mg/kg	8021/8015	01/30/06	5
Toluene	BDL	0.030	mg/kg	8021/8015	01/30/06	5
Ethylbenzene	BDL	0.0030	mg/kg	8021/8015	01/30/06	5
Total Xylene	BDL	0.0090	mg/kg	8021/8015	01/30/06	5
Methyl tert-butyl ether	BDL	0.0060	mg/kg	8021/8015	01/30/06	5
TPH (GC/FID) Low Fraction	BDL	0.60	mg/kg	TNGRO	01/30/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	94.		% Rec.	8021/8015	01/30/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	BDL	4.8	mg/kg	8015	01/31/06	1
C28-C40 Oil Range	BDL	4.8	mg/kg	8015	01/31/06	1
Surrogate Recovery						
o-Terphenyl	78.9		% Rec.	8015	01/31/06	1

Mark W. Beasley, ESC Representative

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:

The reported analytical results relate only to the sample submitted
Reported: 02/03/06 13:17 Printed: 02/03/06 13:17

Summary of Remarks For Samples Printed
02/03/06 at 13:17:55

TSR Signing Reports: 134
R5 - Desired TAT

Report in PPB

Sample: L231523-01 Account: KLEINANM Received: 01/28/06 09:00 Due Date: 02/03/06 00:00 RPT Date: 02/03/06 13:17

Sample: L231523-02 Account: KLEINANM Received: 01/28/06 09:00 Due Date: 02/03/06 00:00 RPT Date: 02/03/06 13:17

GSC/Kleinfelder - New Mexico

8300 Jefferson NE. Suite B
Albuquerque,NM 87113

Alternate billing information:

Chain of Custody
Page 4 of 4

Prepared by:
ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Justin Ball
Email: jball@kleinfelder.com, rwilc

Project Description: Aerex
City/State Collected: Bloomfield, NM

Phone: (505) 344-7373
FAX:
Client Project #: 64110
Lab Project #: KLEINANM-AEREX

Collected by (print): Lee Dalton
Site/Facility ID#:
P.O.#:

Collected by (signature):
Packed on Ice N (Y)

Rush? (Lab MUST Be Notified)
__Same Day 200%
__ Next Day.....100%
__ Two Day.....50%

Date Results Needed

Email? __No X Yes
FAX? No Yes

Acctnum: KLEINANM (lab use only)
Template/Prelogin: T34649/P165616
Cooler #: 1/12/8
Shipped Via: FedEX Standard

Analysis/Container/Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	BTEXGROM 40ml VOA HCl Clear	DRO, MRO 4oz Clr-NoPres	MRCRA8 2oz Clr-NoPres	TS 2oz Clr-NoPres	VOC Screen 2oz Clr-NoPres			Remarks/Contaminant	Sample # (lab only)
~~Aerex~~ MA2 - 6'	Grab	SS	6'	1/26/06	1100	2	X	X	X	X	X				L23523-01
~~Aerex~~ MA6 - 8.5'	Grab	SS	8.5'	1/26/06	1230	2	X	X		X	X				-02

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

8557 1250 2898

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	1/27/06	0900	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	1/27/06	12:00	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐
Temp: 29° Bottles Received: 4-2oz + 1TB
Date: 1/28/06 Time: 09:00
Condition: (lab use only) OK
pH Checked: NCF:

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Est. 1970

REPORT OF ANALYSIS

January 30,2006

Justin Ball
GSC/Kleinfelder - New Mexico
8500 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L230663-01

Site ID :

Project # : 64110

Date Received : January 21, 2006
Description : Aerex

Sample ID : D1 5 FT

Collected By : Justin Ball
Collection Date : 01/19/06 13:15

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	84.4		%	2540G	01/25/06	1
Benzene	BDL	0.0030	mg/kg	8021/8015	01/26/06	5
Toluene	BDL	0.030	mg/kg	8021/8015	01/26/06	5
Ethylbenzene	BDL	0.0030	mg/kg	8021/8015	01/26/06	5
Total Xylene	BDL	0.0089	mg/kg	8021/8015	01/26/06	5
Methyl tert-butyl ether	BDL	0.0059	mg/kg	8021/8015	01/26/06	5
TPH (GC/FID) Low Fraction	BDL	0.59	mg/kg	TNGRO	01/26/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	90.		% Rec.	8021/8015	01/26/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	230	4.7	mg/kg	8015	01/24/06	1
C28-C40 Oil Range	30.	4.7	mg/kg	8015	01/24/06	1
Surrogate Recovery						
o-Terphenyl	102.		% Rec.	8015	01/24/06	1

Mark W. Beasley, ESC Representative

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Reported: 01/27/06 15:17 Revised: 01/30/06 12:53

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REPORT OF ANALYSIS

January 30,2006

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L230663-02

Site ID :

Project # : 64110

Date Received : January 21, 2006
Description : Aerex

Sample ID : F1 11 FT

Collected By : Justin Ball
Collection Date : 01/18/06 13:15

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	85.9		%	2540G	01/25/06	1
Benzene	BDL	0.0029	mg/kg	8021/8015	01/26/06	5
Toluene	BDL	0.029	mg/kg	8021/8015	01/26/06	5
Ethylbenzene	BDL	0.0029	mg/kg	8021/8015	01/26/06	5
Total Xylene	BDL	0.0087	mg/kg	8021/8015	01/26/06	5
Methyl tert-butyl ether	BDL	0.0058	mg/kg	8021/8015	01/26/06	5
TPH (GC/FID) Low Fraction	1.6	0.58	mg/kg	TNGRO	01/26/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	90.		% Rec.	8021/8015	01/26/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	5.7	4.6	mg/kg	8015	01/24/06	1
C28-C40 Oil Range	BDL	4.6	mg/kg	8015	01/24/06	1
Surrogate Recovery						
o-Terphenyl	75.8		% Rec.	8015	01/24/06	1

Mark W. Beasley, ESC Representative

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REPORT OF ANALYSIS

January 30,2006

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L230663-03

Date Received : January 21, 2006
Description : Aerex

Site ID :

Sample ID : F2 5 FT

Project # : 64110

Collected By : Justin Ball
Collection Date : 01/18/06 13:50

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	79.7		%	2540G	01/25/06	1
Mercury	BDL	0.025	mg/kg	7471	01/27/06	1
Arsenic	BDL	1.2	mg/kg	6010B	01/23/06	1
Barium	160	0.31	mg/kg	6010B	01/23/06	1
Cadmium	0.79	0.31	mg/kg	6010B	01/23/06	1
Chromium	4.8	0.63	mg/kg	6010B	01/23/06	1
Lead	10.	0.31	mg/kg	6010B	01/23/06	1
Selenium	BDL	6.3	mg/kg	6010B	01/24/06	5
Silver	BDL	0.63	mg/kg	6010B	01/23/06	1
Benzene	0.14	0.063	mg/kg	8021/8015	01/28/06	100
Toluene	BDL	0.63	mg/kg	8021/8015	01/28/06	100
Ethylbenzene	2.5	0.31	mg/kg	8021/8015	01/25/06	500
Total Xylene	27.	0.94	mg/kg	8021/8015	01/25/06	500
Methyl tert-butyl ether	BDL	0.12	mg/kg	8021/8015	01/28/06	100
TPH (GC/FID) Low Fraction	1400	63.	mg/kg	TNGRO	01/25/06	500
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	88.		% Rec.	8021/8015	01/28/06	100
Diesel and Oil Ranges						
C10-C28 Diesel Range	4100	1000	mg/kg	8015	01/25/06	200
C28-C40 Oil Range	BDL	1000	mg/kg	8015	01/25/06	200
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	01/25/06	200

Mark W. Beasley, ESC Representative

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REPORT OF ANALYSIS

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

January 30,2006

Date Received : January 21, 2006
Description : Aerex

Sample ID : G2 4 FT

Collected By : Justin Ball
Collection Date : 01/18/06 11:05

ESC Sample # : L230663-04

Site ID :

Project # : 64110

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	87.7		%	2540G	01/25/06	1
Benzene	0.066	0.057	mg/kg	8021/8015	01/28/06	100
Toluene	BDL	0.57	mg/kg	8021/8015	01/28/06	100
Ethylbenzene	1.5	0.28	mg/kg	8021/8015	01/25/06	500
Total Xylene	12.	0.86	mg/kg	8021/8015	01/25/06	500
Methyl tert-butyl ether	BDL	0.11	mg/kg	8021/8015	01/28/06	100
TPH (GC/FID) Low Fraction	1200	57.	mg/kg	TNGRO	01/25/06	500
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	86.		% Rec.	8021/8015	01/28/06	100
Diesel and Oil Ranges						
C10-C28 Diesel Range	410	4.6	mg/kg	8015	01/24/06	1
C28-C40 Oil Range	42.	4.6	mg/kg	8015	01/24/06	1
Surrogate Recovery						
o-Terphenyl	105.		% Rec.	8015	01/24/06	1

Mark W. Beasley, ESC Representative

Results listed are dry weight basis.
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Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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REPORT OF ANALYSIS

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

January 30,2006

ESC Sample # : L230663-05

Site ID :

Project # : 64110

Date Received : January 21, 2006
Description : Aerex

Sample ID : G3 3 FT

Collected By : Justin Ball
Collection Date : 01/18/06 10:47

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	87.3		%	2540G	01/25/06	1
Benzene	BDL	0.0029	mg/kg	8021/8015	01/26/06	5
Toluene	BDL	0.029	mg/kg	8021/8015	01/26/06	5
Ethylbenzene	0.0037	0.0029	mg/kg	8021/8015	01/26/06	5
Total Xylene	0.0091	0.0086	mg/kg	8021/8015	01/26/06	5
Methyl tert-butyl ether	BDL	0.0057	mg/kg	8021/8015	01/26/06	5
TPH (GC/FID) Low Fraction	0.71	0.57	mg/kg	TNGRO	01/26/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	96.		% Rec.	8021/8015	01/26/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	150	4.6	mg/kg	8015	01/24/06	1
C28-C40 Oil Range	40.	4.6	mg/kg	8015	01/24/06	1
Surrogate Recovery						
o-Terphenyl	81.6		% Rec.	8015	01/24/06	1

Mark W. Beasley, ESC Representative

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REPORT OF ANALYSIS

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

January 30,2006

ESC Sample # : L230663-06

Site ID :

Project # : 64110

Date Received : January 21, 2006
Description : Aerex

Sample ID : G4 7 FT

Collected By : Justin Ball
Collection Date : 01/18/06 10:30

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	82.5		%	2540G	01/25/06	1
Benzene	BDL	0.0030	mg/kg	8021/8015	01/26/06	5
Toluene	BDL	0.030	mg/kg	8021/8015	01/26/06	5
Ethylbenzene	BDL	0.0030	mg/kg	8021/8015	01/26/06	5
Total Xylene	BDL	0.0091	mg/kg	8021/8015	01/26/06	5
Methyl tert-butyl ether	BDL	0.0061	mg/kg	8021/8015	01/26/06	5
TPH (GC/FID) Low Fraction	0.70	0.61	mg/kg	TNGRO	01/26/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	96.		% Rec.	8021/8015	01/26/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	71.	4.8	mg/kg	8015	01/24/06	1
C28-C40 Oil Range	BDL	4.8	mg/kg	8015	01/24/06	1
Surrogate Recovery						
o-Terphenyl	63.8		% Rec.	8015	01/24/06	1

Mark W. Beasley, ESC Representative

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REPORT OF ANALYSIS

January 30, 2006

Justin Ball
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8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L230663-07

Date Received : January 21, 2006
Description : Aerex

Site ID :

Sample ID : G5 3 FT

Project # : 64110

Collected By :
Collection Date : 01/18/06 10:05

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	88.2		%	2540G	01/25/06	1
Benzene	BDL	0.0028	mg/kg	8021/8015	01/26/06	5
Toluene	BDL	0.028	mg/kg	8021/8015	01/26/06	5
Ethylbenzene	BDL	0.0028	mg/kg	8021/8015	01/26/06	5
Total Xylene	BDL	0.0085	mg/kg	8021/8015	01/26/06	5
Methyl tert-butyl ether	BDL	0.0057	mg/kg	8021/8015	01/26/06	5
TPH (GC/FID) Low Fraction	2.1	0.57	mg/kg	TNGRO	01/26/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	89.		% Rec.	8021/8015	01/26/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	1800	91.	mg/kg	8015	01/25/06	20
C28-C40 Oil Range	BDL	91.	mg/kg	8015	01/25/06	20
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	01/25/06	20

Mark W. Beasley, ESC Representative

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Reported: 01/27/06 15:17 Revised: 01/30/06 12:53

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REPORT OF ANALYSIS

January 30, 2006

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L230663-08

Site ID :

Project # : 64110

Date Received : January 21, 2006
Description : Aerex

Sample ID : H1 3 FT

Collected By : Justin Ball
Collection Date : 01/17/06 15:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	97.0		%	2540G	01/25/06	1
Benzene	BDL	0.0026	mg/kg	8021/8015	01/27/06	5
Toluene	BDL	0.026	mg/kg	8021/8015	01/27/06	5
Ethylbenzene	BDL	0.0026	mg/kg	8021/8015	01/27/06	5
Total Xylene	0.084	0.0077	mg/kg	8021/8015	01/27/06	5
Methyl tert-butyl ether	BDL	0.0052	mg/kg	8021/8015	01/27/06	5
TPH (GC/FID) Low Fraction	20.	0.52	mg/kg	TNGRO	01/27/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	95.		% Rec.	8021/8015	01/27/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	1300	82.	mg/kg	8015	01/25/06	20
C28-C40 Oil Range	92.	82.	mg/kg	8015	01/25/06	20
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	01/25/06	20

Mark W. Beasley, ESC Representative

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

January 30,2006

ESC Sample # : L230663-09

Date Received : January 21, 2006
Description : Aerex

Site ID :

Sample ID : H2 11 FT

Project # : 64110

Collected By : Justin Ball
Collection Date : 01/17/06 15:25

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	83.8		%	2540G	01/25/06	1
Benzene	2.1	0.15	mg/kg	8021/8015	01/26/06	250
Toluene	BDL	1.5	mg/kg	8021/8015	01/26/06	250
Ethylbenzene	BDL	0.15	mg/kg	8021/8015	01/26/06	250
Total Xylene	2.7	0.45	mg/kg	8021/8015	01/26/06	250
Methyl tert-butyl ether	BDL	0.30	mg/kg	8021/8015	01/26/06	250
TPH (GC/FID) Low Fraction	1100	30.	mg/kg	TNGRO	01/26/06	250
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	91.		% Rec.	8021/8015	01/26/06	250
Diesel and Oil Ranges						
C10-C28 Diesel Range	680	95.	mg/kg	8015	01/25/06	20
C28-C40 Oil Range	120	95.	mg/kg	8015	01/25/06	20
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	01/25/06	20

Mark W. Beasley, ESC Representative

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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Reported: 01/27/06 15:17 Revised: 01/30/06 12:53

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REPORT OF ANALYSIS

Justin Ball
GSC/Kleinfelder - New Mexico
9300 Jefferson NE, Suite B
Albuquerque, NM 87113

January 30,2006

ESC Sample # : L230663-10

Site ID :

Project # : 64110

Date Received : January 21, 2006
Description : Aerex

Sample ID : H4 3 FT

Collected By : Justin Ball
Collection Date : 01/18/06 08:20

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	90.7		%	2540G	01/25/06	1
Benzene	0.0033	0.0028	mg/kg	8021/8015	01/28/06	5
Toluene	BDL	0.028	mg/kg	8021/8015	01/28/06	5
Ethylbenzene	0.049	0.028	mg/kg	8021/8015	01/26/06	50
Total Xylene	0.51	0.083	mg/kg	8021/8015	01/26/06	50
Methyl tert-butyl ether	BDL	0.0055	mg/kg	8021/8015	01/28/06	5
TPH (GC/FID) Low Fraction	100	5.5	mg/kg	TNGRO	01/26/06	50
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	83.		% Rec.	8021/8015	01/28/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	330	22.	mg/kg	8015	01/25/06	5
C28-C40 Oil Range	130	22.	mg/kg	8015	01/25/06	5
Surrogate Recovery						
o-Terphenyl	103.		% Rec.	8015	01/25/06	5

Mark W. Beasley, ESC Representative

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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REPORT OF ANALYSIS

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

January 30,2006

ESC Sample # : L230663-11

Date Received : January 21, 2006
Description : Aerex

Site ID :

Sample ID : I2 10 FT

Project # : 64110

Collected By : Justin Ball
Collection Date : 01/17/06 11:20

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	88.1		%	2540G	01/26/06	1
Mercury	BDL	0.023	mg/kg	7471	01/27/06	1
Arsenic	1.9	1.1	mg/kg	6010B	01/23/06	1
Barium	220	0.28	mg/kg	6010B	01/23/06	1
Cadmium	0.33	0.28	mg/kg	6010B	01/23/06	1
Chromium	1.8	0.57	mg/kg	6010B	01/23/06	1
Lead	1.5	0.28	mg/kg	6010B	01/23/06	1
Selenium	BDL	1.1	mg/kg	6010B	01/23/06	1
Silver	BDL	0.57	mg/kg	6010B	01/23/06	1
Benzene	0.012	0.0028	mg/kg	8021/8015	01/26/06	5
Toluene	BDL	0.028	mg/kg	8021/8015	01/26/06	5
Ethylbenzene	0.0046	0.0028	mg/kg	8021/8015	01/26/06	5
Total Xylene	0.034	0.0085	mg/kg	8021/8015	01/26/06	5
Methyl tert-butyl ether	BDL	0.0057	mg/kg	8021/8015	01/26/06	5
TPH (GC/FID) Low Fraction	10.	0.57	mg/kg	TNGRO	01/26/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	91.		% Rec.	8021/8015	01/26/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	150	4.5	mg/kg	8015	01/24/06	1
C28-C40 Oil Range	33.	4.5	mg/kg	8015	01/24/06	1
Surrogate Recovery						
o-Terphenyl	92.9		% Rec.	8015	01/24/06	1

Mark W. Beasley, ESC Representative

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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REPORT OF ANALYSIS

January 30,2006

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L230663-12

Date Received : January 21, 2006
Description : Aerex

Site ID :

Sample ID : I3 10 FT

Project # : 64110

Collected By : Justin Ball
Collection Date : 01/17/06 12:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	84.7		%	2540G	01/26/06	1
Benzene	BDL	0.0030	mg/kg	8021/8015	01/26/06	5
Toluene	BDL	0.030	mg/kg	8021/8015	01/26/06	5
Ethylbenzene	BDL	0.0030	mg/kg	8021/8015	01/26/06	5
Total Xylene	BDL	0.0088	mg/kg	8021/8015	01/26/06	5
Methyl tert-butyl ether	BDL	0.0059	mg/kg	8021/8015	01/26/06	5
TPH (GC/FID) Low Fraction	0.81	0.59	mg/kg	TNGRO	01/26/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	95.		% Rec.	8021/8015	01/26/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	6.5	4.7	mg/kg	8015	01/24/06	1
C28-C40 Oil Range	BDL	4.7	mg/kg	8015	01/24/06	1
Surrogate Recovery						
o-Terphenyl	79.0		% Rec.	8015	01/24/06	1

Mark W. Beasley, ESC Representative

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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REPORT OF ANALYSIS

January 30,2006

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L230663-13

Date Received : January 21, 2006
Description : Aerex

Site ID :

Sample ID : I6 3 FT

Project # : 64110

Collected By :
Collection Date : 01/17/06 11:40

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	86.2		%	2540G	01/26/06	1
Benzene	BDL	0.0029	mg/kg	8021/8015	01/27/06	5
Toluene	BDL	0.029	mg/kg	8021/8015	01/27/06	5
Ethylbenzene	BDL	0.0029	mg/kg	8021/8015	01/27/06	5
Total Xylene	0.032	0.0087	mg/kg	8021/8015	01/27/06	5
Methyl tert-butyl ether	BDL	0.0058	mg/kg	8021/8015	01/27/06	5
TPH (GC/FID) Low Fraction	11.	0.58	mg/kg	TNGRO	01/27/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	95.		% Rec.	8021/8015	01/27/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	620	23.	mg/kg	8015	01/25/06	5
C28-C40 Oil Range	36.	23.	mg/kg	8015	01/25/06	5
Surrogate Recovery						
o-Terphenyl	102.		% Rec.	8015	01/25/06	5

Mark W. Beasley, ESC Representative

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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REPORT OF ANALYSIS

January 30,2006

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GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L230663-14

Date Received : January 21, 2006
Description : Aerex

Site ID :

Sample ID : J3 10 FT

Project # : 64110

Collected By : Justin Ball
Collection Date : 01/17/06 09:15

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	82.6		%	2540G	01/26/06	1
Benzene	BDL	0.0030	mg/kg	8021/8015	01/26/06	5
Toluene	BDL	0.030	mg/kg	8021/8015	01/26/06	5
Ethylbenzene	BDL	0.0030	mg/kg	8021/8015	01/26/06	5
Total Xylene	BDL	0.0091	mg/kg	8021/8015	01/26/06	5
Methyl tert-butyl ether	BDL	0.0060	mg/kg	8021/8015	01/26/06	5
TPH (GC/FID) Low Fraction	6.7	0.60	mg/kg	TNGRO	01/26/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	90.		% Rec.	8021/8015	01/26/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	44.	4.8	mg/kg	8015	01/26/06	1
C28-C40 Oil Range	11.	4.8	mg/kg	8015	01/26/06	1
Surrogate Recovery						
o-Terphenyl	68.9		% Rec.	8015	01/26/06	1

Mark W. Beasley, ESC Representative

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BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
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January 30,2006

ESC Sample # : L230663-15

Site ID :

Project # : 64110

Date Received : January 21, 2006
Description : Aerex

Sample ID : J5 8 FT

Collected By : Justin Ball
Collection Date : 01/17/06 09:40

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	81.0		%	2540G	01/26/06	1
Benzene	BDL	0.0031	mg/kg	8021/8015	01/26/06	5
Toluene	BDL	0.031	mg/kg	8021/8015	01/26/06	5
Ethylbenzene	BDL	0.0031	mg/kg	8021/8015	01/26/06	5
Total Xylene	BDL	0.0092	mg/kg	8021/8015	01/26/06	5
Methyl tert-butyl ether	BDL	0.0062	mg/kg	8021/8015	01/26/06	5
TPH (GC/FID) Low Fraction	BDL	0.62	mg/kg	TNGRO	01/26/06	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	85.		% Rec.	8021/8015	01/26/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	9.4	4.9	mg/kg	8015	01/26/06	1
C28-C40 Oil Range	BDL	4.9	mg/kg	8015	01/26/06	1
Surrogate Recovery						
o-Terphenyl	75.8		% Rec.	8015	01/26/06	1

Mark W. Beasley, ESC Representative

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Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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REPORT OF ANALYSIS

January 30,2006

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L230663-16

Date Received : January 21, 2006
Description : Aerex

Site ID :

Sample ID : K3 6 FT

Project # : 64110

Collected By : Justin Ball
Collection Date : 01/16/06 16:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	93.4		%	2540G	01/26/06	1
Mercury	BDL	0.021	mg/kg	7471	01/27/06	1
Arsenic	1.5	1.1	mg/kg	6010B	01/23/06	1
Barium	130	0.27	mg/kg	6010B	01/23/06	1
Cadmium	0.52	0.27	mg/kg	6010B	01/23/06	1
Chromium	3.4	0.54	mg/kg	6010B	01/23/06	1
Lead	2.7	0.27	mg/kg	6010B	01/23/06	1
Selenium	BDL	1.1	mg/kg	6010B	01/23/06	1
Silver	BDL	0.54	mg/kg	6010B	01/23/06	1
Benzene	BDL	0.0027	mg/kg	8021/8015	01/26/06	5
Toluene	BDL	0.027	mg/kg	8021/8015	01/26/06	5
Ethylbenzene	BDL	0.0027	mg/kg	8021/8015	01/26/06	5
Total Xylene	0.088	0.0080	mg/kg	8021/8015	01/26/06	5
Methyl tert-butyl ether	BDL	0.0054	mg/kg	8021/8015	01/26/06	5
TPH (GC/FID) Low Fraction	160	5.4	mg/kg	TNGRO	01/27/06	50
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	82.		% Rec.	8021/8015	01/26/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	2100	86.	mg/kg	8015	01/26/06	20
C28-C40 Oil Range	150	86.	mg/kg	8015	01/26/06	20
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	01/26/06	20

Mark W. Beasley, ESC Representative

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BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Justin Ball
GSC/Kleinfelder - New Mexico
6300 Jefferson NE, Suite B
Albuquerque, NM 87113

January 30,2006

ESC Sample # : L230663-17

Date Received : January 21, 2006
Description : Aerex

Site ID :

Sample ID : R4 16 FT

Project # : 64110

Collected By : Justin Ball
Collection Date : 01/16/06 14:40

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	84.3		%	2540G	01/26/06	1
Benzene	0.098	0.0030	mg/kg	8021/8015	01/26/06	5
Toluene	BDL	0.030	mg/kg	8021/8015	01/26/06	5
Ethylbenzene	0.14	0.030	mg/kg	8021/8015	01/27/06	50
Total Xylene	0.29	0.089	mg/kg	8021/8015	01/27/06	50
Methyl tert-butyl ether	0.028	0.0059	mg/kg	8021/8015	01/26/06	5
TPH (GC/FID) Low Fraction	170	5.9	mg/kg	TNGRO	01/27/06	50
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	100		% Rec.	8021/8015	01/27/06	50
Diesel and Oil Ranges						
C10-C28 Diesel Range	3500	95.	mg/kg	8015	01/26/06	20
C28-C40 Oil Range	900	95.	mg/kg	8015	01/26/06	20
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	01/26/06	20

Mark W. Beasley, ESC Representative

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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Reported: 01/27/06 15:17 Revised: 01/30/06 12:53

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REPORT OF ANALYSIS

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

January 30,2006

ESC Sample # : L230663-18

Site ID :

Project # : 64110

Date Received : January 21, 2006
Description : Aerex

Sample ID : K5 10 FT

Collected By : Justin Ball
Collection Date : 01/16/06 14:10

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	86.7		%	2540G	01/26/06	1
Benzene	0.0039	0.0029	mg/kg	8021/8015	01/29/06	5
Toluene	BDL	0.029	mg/kg	8021/8015	01/29/06	5
Ethylbenzene	BDL	0.0029	mg/kg	8021/8015	01/29/06	5
Total Xylene	0.13	0.086	mg/kg	8021/8015	01/26/06	50
Methyl tert-butyl ether	BDL	0.0058	mg/kg	8021/8015	01/29/06	5
TPH (GC/FID) Low Fraction	55.	5.8	mg/kg	TNGRO	01/26/06	50
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	83.		% Rec.	8021/8015	01/29/06	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	1800	92.	mg/kg	8015	01/26/06	20
C28-C40 Oil Range	430	92.	mg/kg	8015	01/26/06	20
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	01/26/06	20

Mark W. Beasley, ESC Representative

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:

The reported analytical results relate only to the sample submitted
Reported: 01/27/06 15:17 Revised: 01/30/06 12:53

Attachment A
List of Analytes with QC Qualifiers

Sample #	Analyte	Qualifier
L230663-03	o-Terphenyl	J7
	Selenium	O
L230663-07	o-Terphenyl	J7
L230663-08	o-Terphenyl	J7
L230663-09	o-Terphenyl	J7
L230663-16	o-Terphenyl	J7
L230663-17	o-Terphenyl	J7
L230663-18	o-Terphenyl	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J7	Surrogate recovery limits cannot be evaluated; surrogates were diluted out
Q	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

	Control Limits				(AQ)	(SS)
2-Fluorophenol	31-119	Nitrobenzene-d5	43-118	Dibromfluoromethane	68-128	64-125
Phenol-d5	12-134	2-Fluorobiphenyl	45-128	Toluene-d8	76-115	69-118
2,4,6-Tribromophenol	51-141	Terphenyl-d14	43-137	4-Bromofluorobenzene	79-127	61-134

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
01/30/06 at 12:53:49

TSR Signing Reports: 134
R5 - Desired TAT

Report in PPB

Sample: L230663-01 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-02 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-03 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-04 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-05 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-06 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-07 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-08 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-09 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-10 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-11 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-12 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-13 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-14 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-15 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-16 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-17 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.
Sample: L230663-18 Account: KLEINANM Received: 01/21/06 09:30 Due Date: 01/27/06 00:00 RPT Date: 01/27/06 15:17
No stirbars received. Run from soil jar.

GSC/Kleinfelder - New Mexico

8300 Jefferson NE. Suite B
Albuquerque,NM 87113

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody
Page 1 of 4

Prepared by:
ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Justin Ball
Email: jball@kleinfelder.com, rwilc

Project Description: Aerex
City/State Collected: Bloomfield, NM

Phone: (505) 344-7373
FAX:
Client Project #: 64110
Lab Project #: KLEINANM-AEREX

Collected by (print): Justin Ball
Site/Facility ID#:
P.O.#:

Collected by (signature):
Chilled on Ice N Y

Rush? (Lab MUST Be Notified)
___Same Day 200%
___ Next Day.....100%
___ Two Day 50%

Date Results Needed

Email? ___No X Yes
FAX? No Yes

Acctnum: KLEINANM (lab use only)
Template/Prelogin: T34649/P165616
Cooler #: 1/128
Shipped Via: FedEX Standard

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	BTEXGROM +0ml/NaHSO4/Sy.MeOH 4oz Clr-Nopres	DRO, MRO 4ozClr-NoPres	MRCRA8 4ozClr-NoPres	TS 4ozClr-NoPres	VOC Screen 4ozClr-NoPres			Remarks/Contaminant	Sample # (lab only)
A1-5'		~~Misc~~ SS	5'	1/19/06	1315	28	X	X		X	X				L23066501
F1-11'		SS	11'	1/18/06	1315	28	X	X		X	X				-02
F2-5'		SS	5'		1350	26	X	X	X	X	X				-03
G2-4'		SS	4'		1105	26	X	X		X	X				-04
G3-3'		SS	3'		1047	26	X	X		X	X				-05
G4-7'		SS	7'		1030	26	X	X		X	X				-06
G5-3'		SS	3'		1005	26	X	X		X	X				-07
H1-3'		SS	3'	1/17/06	1500	26	X	X		X	X				-08
H2-11'		SS	11'	1/17/06	1525	26	X	X		X	X				-09

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

8557 1250 6242

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐	Condition: (lab use only)
Justin Ball	1/20/06	1650	FedEx		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.0 Bottles Received: 18-402	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 1-21-06 Time: 0930	pH Checked: NCF: X
			Alissa Neal		

GSC/Kleinfelder - New Mexico

8300 Jefferson NE. Suite B
Albuquerque,NM 87113

Alternate billing information:

Report to: Justin Ball

Email: jball@kleinfelder.com, rwilc

Project Description: Aerex

City/State Collected: Bloomfield, NM

Phone: (505) 344-7373
FAX:

Client Project #: 64110

Lab Project #: KLEINANM-AEREX

Collected by (print): Justin Ball

Site/Facility ID#:

P.O.#:

Collected by (signature):

Packed on Ice N (Y)

Rush? (Lab MUST Be Notified)
___Same Day 200%
___ Next Day.....100%
___ Two Day.....50%

Date Results Needed

Email? __No X Yes
FAX? No Yes

Analysis/Container/Preservative

Chain of Custody
Page 2 of 4

Prepared by:
ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (800) 767-5859
FAX (615) 758-5859

Acctnum: KLEINANM (lab use only)
Template/Prelogin: T34649/P165616
Cooler #: 1/12 D8
Shipped Via: FedEX Standard

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	BTEXGROM 4oz Cl-NoPres	DRO, MRO 4ozClr-NoPres	MRCRA8 2ozClr-NoPres	TS 2ozClr-NoPres	VOC Screen 2ozClr-NoPres			Remarks/Contaminant	Sample # (lab only)
H4-3'		SS	3'	1/18/06	820	2	X	X		X	X				L2306603-10
I2-10'		SS	10'	1/17/06	1120	1	X	X	X	X	X				-11
I3-10'		SS	10'	1/17/06	1200	1	X	X		X	X				-12
I6-3'		SS	3'	1/17/06	1140	1	X	X		X	X				-13
J3-10'		SS	10'	1/17/06	915	1	X	X		X	X				-14
J5-8'		SS	8'	1/17/06	940	1	X	X		X	X				-15
K3-6' [illegible]		SS	6'	1/16/06	1600	1	X	X	X	X	X				-16
K4-[illegible] 16'		SS	16'	1/16/06	1440	1	X	X		X	X			time = 1440	-17
K5-10'		SS	10'	1/16/06	1410	1	X	X		X	X				-18

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

0557 1250 2902

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐	Condition: (lab use only)
Justin Ball	1/20/06	1650	FedEx		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.6 Bottles Received: 18-4oz	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 1.21.06 Time: 930	pH Checked: NCF: X

Mark

ENVIRONMENTAL SCIENCE CORP.

SAMPLE NON-CONFORMANCE FORM

Sample No.: L230663

Date: 1-23-06

Evaluated by: [signature]

Client: KLEINFELDER

Non-Conformance (check applicable items)

____	Chain of Custody is missing	X	Login Clarification Needed
____	Improper container type	____	Improper preservation
____	Chain of custody is incomplete	____	Container lid not in tact
____	Parameter(s) past holding time	____	Improper temperature
____	Broken container(s) see below	____	Broken container: sufficient sample volume remains for analysis requested

____ Insufficient packing material around container

____ Insufficient packing material inside cooler

____ Improper handling by carrier (FedEx / UPS / Courier)

____ Sample was frozen

Comments: Received 5 Encores Unused. Confirm analysis

Login Instructions: TSR Initials: MB

Client informed by call / email / fax / voice mail date: 1/23/06 time: 0845

Client contact:

- Analyze BTEXG-ROM from 4oz jar
- Log DRO/MRO as DRORLA

ENVIRONMENTAL SCIENCE CORP.

12065 Lebanon Rd.
Mt. Juliet, TN 3713...
(615) 758-5858
1-800-767-5859
Fax (615) 758-5860

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

February 07,2006

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L231439-01

Site ID :

Project # : 64110

Date Received : January 28, 2006
Description : Aerex

Sample ID : AEREX MW-1

Collected By :
Collection Date : 01/26/06 16:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury,Dissolved	BDL	0.20	ug/l	7470A	02/01/06	1
Arsenic,Dissolved	BDL	20.	ug/l	6010B	02/01/06	1
Barium,Dissolved	110	5.0	ug/l	6010B	02/01/06	1
Cadmium,Dissolved	BDL	5.0	ug/l	6010B	02/01/06	1
Chromium,Dissolved	BDL	10.	ug/l	6010B	02/01/06	1
Lead,Dissolved	BDL	5.0	ug/l	6010B	02/01/06	1
Selenium,Dissolved	BDL	20.	ug/l	6010B	02/01/06	1
Silver,Dissolved	BDL	10.	ug/l	6010B	02/01/06	1
Benzene	BDL	0.50	ug/l	8021	01/31/06	1
Toluene	BDL	5.0	ug/l	8021	01/31/06	1
Ethylbenzene	BDL	0.50	ug/l	8021	01/31/06	1
Total Xylene	BDL	1.5	ug/l	8021	01/31/06	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8021	01/31/06	1
Surrogate Recovery (77-118)						
a,a,a-Trifluorotoluene	93.		% Rec.	8021	01/31/06	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.010	ug/l	8310	02/03/06	1
Acenaphthene	BDL	0.010	ug/l	8310	02/03/06	1
Acenaphthylene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(a)anthracene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(a)pyrene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(b)fluoranthene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(g,h,i)perylene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(k)fluoranthene	BDL	0.010	ug/l	8310	02/03/06	1
Chrysene	BDL	0.010	ug/l	8310	02/03/06	1
Dibenz(a,h)anthracene	BDL	0.0050	ug/l	8310	02/03/06	1
Fluoranthene	BDL	0.010	ug/l	8310	02/03/06	1
Fluorene	BDL	0.010	ug/l	8310	02/03/06	1
Indeno(1,2,3-cd)pyrene	BDL	0.010	ug/l	8310	02/03/06	1
1-Methylnaphthalene	BDL	0.050	ug/l	8310	02/03/06	1
2-Methylnaphthalene	BDL	0.050	ug/l	8310	02/03/06	1
Naphthalene	BDL	0.050	ug/l	8310	02/03/06	1
Phenanthrene	BDL	0.010	ug/l	8310	02/03/06	1
Pyrene	BDL	0.010	ug/l	8310	02/03/06	1
Surrogate						

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00108, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

ENVIRONMENTAL
SCIENCE CORP.

1903 Lebanon Rd.
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(615) 758-5858
1-800-767-5859
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

February 07,2006

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L231439-01

Date Received : January 28, 2006
Description : Aerex

Site ID :

Sample ID : AEREX MW-1

Project # : 64110

Collected By : Lee Dalton
Collection Date : 01/26/06 16:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
p-Terphenyl-d14	81.9		% Rec.	8310	02/03/06	1

Mark W. Beasley, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 02/07/06 13:52 Printed: 02/07/06 13:52

ENVIRONMENTAL
SCIENCE CORP.

[illegible] LeBanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

February 07, 2006

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L231439-02

Site ID :

Project # : 64110

Date Received : January 28, 2006
Description : Aerex

Sample ID : AEREX MW-2

Collected By :
Collection Date : 01/26/06 16:44

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury,Dissolved	BDL	0.20	ug/l	7470A	02/01/06	1
Arsenic,Dissolved	BDL	20.	ug/l	6010B	02/01/06	1
Barium,Dissolved	120	5.0	ug/l	6010B	02/01/06	1
Cadmium,Dissolved	BDL	5.0	ug/l	6010B	02/01/06	1
Chromium,Dissolved	BDL	10.	ug/l	6010B	02/01/06	1
Lead,Dissolved	BDL	5.0	ug/l	6010B	02/01/06	1
Selenium,Dissolved	BDL	20.	ug/l	6010B	02/01/06	1
Silver,Dissolved	BDL	10.	ug/l	6010B	02/01/06	1
Benzene	BDL	0.50	ug/l	8021	01/31/06	1
Toluene	BDL	5.0	ug/l	8021	01/31/06	1
Ethylbenzene	BDL	0.50	ug/l	8021	01/31/06	1
Total Xylene	BDL	1.5	ug/l	8021	01/31/06	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8021	01/31/06	1
Surrogate Recovery (77-118)						
a,a,a-Trifluorotoluene	94.		% Rec.	8021	01/31/06	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.010	ug/l	8310	02/03/06	1
Acenaphthene	0.015	0.010	ug/l	8310	02/03/06	1
Acenaphthylene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(a)anthracene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(a)pyrene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(b)fluoranthene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(g,h,i)perylene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(k)fluoranthene	BDL	0.010	ug/l	8310	02/03/06	1
Chrysene	BDL	0.010	ug/l	8310	02/03/06	1
Dibenz(a,h)anthracene	BDL	0.0050	ug/l	8310	02/03/06	1
Fluoranthene	BDL	0.010	ug/l	8310	02/03/06	1
Fluorene	BDL	0.010	ug/l	8310	02/03/06	1
Indeno(1,2,3-cd)pyrene	BDL	0.010	ug/l	8310	02/03/06	1
1-Methylnaphthalene	BDL	0.050	ug/l	8310	02/03/06	1
2-Methylnaphthalene	BDL	0.050	ug/l	8310	02/03/06	1
Naphthalene	BDL	0.050	ug/l	8310	02/03/06	1
Phenanthrene	BDL	0.010	ug/l	8310	02/03/06	1
Pyrene	BDL	0.010	ug/l	8310	02/03/06	1
Surrogate						

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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SCIENCE CORP.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

February 07,2006

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L231439-02

Date Received : January 28, 2006
Description : Aerex

Site ID :

Sample ID : AEREX MW-2

Project # : 64110

Collected By : Lee Dalton
Collection Date : 01/26/06 16:44

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
p-Terphenyl-d14	75.5		% Rec.	8310	02/03/06	1

Mark W. Beasley, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.

Reported: 02/07/06 13:52 Printed: 02/07/06 13:52

ENVIRONMENTAL
SCIENCE CORP.

11065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

February 07,2006

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L231439-03

Site ID :

Project # : 64110

Date Received : January 28, 2006
Description : Aerex

Sample ID : AEREX MW-3K

Collected By :
Collection Date : 01/26/06 17:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury,Dissolved	BDL	0.20	ug/l	7470A	02/01/06	1
Arsenic,Dissolved	BDL	20.	ug/l	6010B	02/01/06	1
Barium,Dissolved	990	5.0	ug/l	6010B	02/01/06	1
Cadmium,Dissolved	BDL	5.0	ug/l	6010B	02/01/06	1
Chromium,Dissolved	BDL	10.	ug/l	6010B	02/01/06	1
Lead,Dissolved	BDL	5.0	ug/l	6010B	02/01/06	1
Selenium,Dissolved	BDL	20.	ug/l	6010B	02/01/06	1
Silver,Dissolved	BDL	10.	ug/l	6010B	02/01/06	1
Benzene	BDL	0.50	ug/l	8021	02/02/06	1
Toluene	BDL	5.0	ug/l	8021	02/02/06	1
Ethylbenzene	1.9	0.50	ug/l	8021	02/02/06	1
Total Xylene	BDL	1.5	ug/l	8021	02/02/06	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8021	02/02/06	1
Surrogate Recovery (77-118)						
a,a,a-Trifluorotoluene	95.		% Rec.	8021	02/02/06	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.010	ug/l	8310	02/03/06	1
Acenaphthene	BDL	0.010	ug/l	8310	02/03/06	1
Acenaphthylene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(a)anthracene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(a)pyrene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(b)fluoranthene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(g,h,i)perylene	BDL	0.010	ug/l	8310	02/03/06	1
Benzo(k)fluoranthene	BDL	0.010	ug/l	8310	02/03/06	1
Chrysene	BDL	0.010	ug/l	8310	02/03/06	1
Dibenz(a,h)anthracene	BDL	0.0050	ug/l	8310	02/03/06	1
Fluoranthene	BDL	0.010	ug/l	8310	02/03/06	1
Fluorene	BDL	0.010	ug/l	8310	02/03/06	1
Indeno(1,2,3-cd)pyrene	BDL	0.010	ug/l	8310	02/03/06	1
1-Methylnaphthalene	58.	0.50	ug/l	8310	02/03/06	10
2-Methylnaphthalene	60.	0.50	ug/l	8310	02/03/06	10
Naphthalene	63.	0.50	ug/l	8310	02/03/06	10
Phenanthrene	BDL	0.010	ug/l	8310	02/03/06	1
Pyrene	BDL	0.010	ug/l	8310	02/03/06	1
Surrogate						

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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SCIENCE CORP.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

February 07,2006

ESC Sample # : L231439-03

Site ID :

Project # : 64110

Date Received : January 28, 2006
Description : Aerex

Sample ID : AEREX MW-3R

Collected By : Lee Dalton
Collection Date : 01/26/06 17:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
p-Terphenyl-d14	94.9		% Rec.	8310	02/03/06	1

Mark W. Beasley, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.

Reported: 02/07/06 13:52 Printed: 02/07/06 13:52

ENVIRONMENTAL
SCIENCE CORP.

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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

February 07,2006

Justin Ball
GSC/Kleinfelder - New Mexico
8300 Jefferson NE, Suite B
Albuquerque, NM 87113

ESC Sample # : L231439-04

Date Received : January 28, 2006
Description : Aerex

Site ID :

Sample ID : AEREX MW-3K

Project # : 64110

Collected By :
Collection Date : 01/26/06 17:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromide	BDL	1000	ug/l	9056	01/28/06	1
Chloride	7800	1000	ug/l	9056	01/28/06	1
Fluoride	450	100	ug/l	9056	01/28/06	1
Nitrate	BDL	100	ug/l	9056	01/28/06	1
Nitrite	BDL	100	ug/l	9056	01/28/06	1
Sulfate	7200	5000	ug/l	9056	01/28/06	1
Alkalinity	570000	100000	ug/l	310.2	01/30/06	10
Phosphate,Ortho	BDL	25.	ug/l	4500P-E	01/28/06	1
Specific Conductance	980		umhos/cm	9050A	02/01/06	1
Dissolved Solids	570000	1000	ug/l	160.1	02/02/06	1
Calcium,Dissolved	130000	500	ug/l	6010B	02/01/06	1
Magnesium,Dissolved	9800	100	ug/l	6010B	02/01/06	1
Potassium,Dissolved	2200	500	ug/l	6010B	01/31/06	1
Sodium,Dissolved	83000	500	ug/l	6010B	01/31/06	1

Mark W. Beasley, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0015, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.

Reported: 02/07/06 13:52 Printed: 02/07/06 13:52

GSC/Kleinfelder - New Mexico

8300 Jefferson NE. Suite B
Albuquerque,NM 87113

Alternate billing information:

Chain of Custody
Page 1 of 1

Prepared by:

Environmental Science Corp.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Justin Ball
Email: jball@kleinfelder.com, rwilc

Project Description: Aerex
City/State Collected: Bloomfield, NM

Phone: (505) 344-7373
FAX:
Client Project #: 64110
Lab Project #: KLEINANM-AEREX

Collected by (print): Lee Dalton
Site/Facility ID#:
P.O.#:

Collected by (signature): Lee Dalton
Packed on Ice N (Y)

Rush? (Lab MUST Be Notified)
__ Same Day 200%
__ Next Day 100%
__ Two Day 50%

Date Results Needed
Email? __No X Yes
FAX? No Yes

Acctnum: KLEINANM (lab use only)
Template/Prelogin: T34650 P165617
Cooler #: 1/12 DS
Shipped Via: FedEX Standard

Analysis/Container/Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Alk,Br,Ophos,SC,TDS 250mlHDPE-NoPres	BTEXM 40mlAmb-HCl	Cl,F,NO2,NO3,SO4 125mlHDPE-NoPres	Dissolved Ca,Mg,Na,K 500mlHDPE-NoPres	MDRCRA8 250mlHDPE-HNO3	MDRCRA8 500mlHDPE-NoPres	SV8310LL 1L-Amb-No Pres	Remarks/Contaminant	Sample # (lab only)
Aerex / MW-1	Grab	GW	—	1/26/06	1600	5		X			X	X	X		L234390-01
Aerex / MW-2	Grab	GW	—	1/26/06	1644	5		X			X	X	X		-02
Aerex / MW-3K	Grab	GW	—	1/26/06	1745	5		X			X	X	X		-03
Aerex / MW-3K	Grab	GW	—	1/26/06	1745	3	X		X	X					-04

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other________

pH ________ Temp ________
Flow ________ Other ________

Remarks:

8557 1250 6231

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via:	Condition: (lab use only)
Lee Dalton	1/27/06	0900	Justin Ball	☒ FedEx ☐ Courier ☐ UPS ☐	[illegible]
Relinquished by: (Signature) Justin Ball	1/27/06	1200	Received by: (Signature) FedEx	Temp: 3.1° Bottles Received: 21	[illegible]
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 1/28/06 Time: 09:00	pH Checked: NCF: ✓

C231439

Darren Reeder

From: Mark Beasley
Sent: Friday, January 27, 2006 8:29 AM
To: Login; Ken Buckley; Due WetLab
Subject: *KLEINANM* short hold nitrates arriving Saturday 1/28/06

We will receive 1 GW for NITRATE, NITRITE, & PORTHO for project Aerex. Sample will go out of hold Saturday afternoon- get to wetlab ASAP.

Thanks
Mark Beasley
Environmental Science Corp
Phone: 800-767-5859 ext 176
Email: mbeasley@envsci.com

Mark

ENVIRONMENTAL SCIENCE CORP.

SAMPLE NON-CONFORMANCE FORM

Sample No.: L23143g

Date: 1-28-06

Evaluated by: Darren

Client: KLEINANM

Non-Conformance (check applicable items)

____	Chain of Custody is missing	(1)	Login Clarification Needed
____	Improper container type	____	Improper preservation
____	Chain of custody is incomplete	____	Container lid not in tact
____	Parameter(s) past holding time	____	Improper temperature
____	Broken container(s) see below	____	Broken container: sufficient sample volume remains for analysis requested

____ Insufficient packing material around container

____ Insufficient packing material inside cooler

____ Improper handling by carrier (FedEx / UPS / Courier)

____ Sample was frozen

Comments: (1) Received (3) 250ml plastic containers with unpreserved sample volume labeled AEREX / MW-3K not listed on the COC. Does the client need additional analysis? or is this just extra volume?

Login Instructions: TSR Initials: MB

Client informed by call / email / fax / voice mail date: 1/30/06 time: 0845

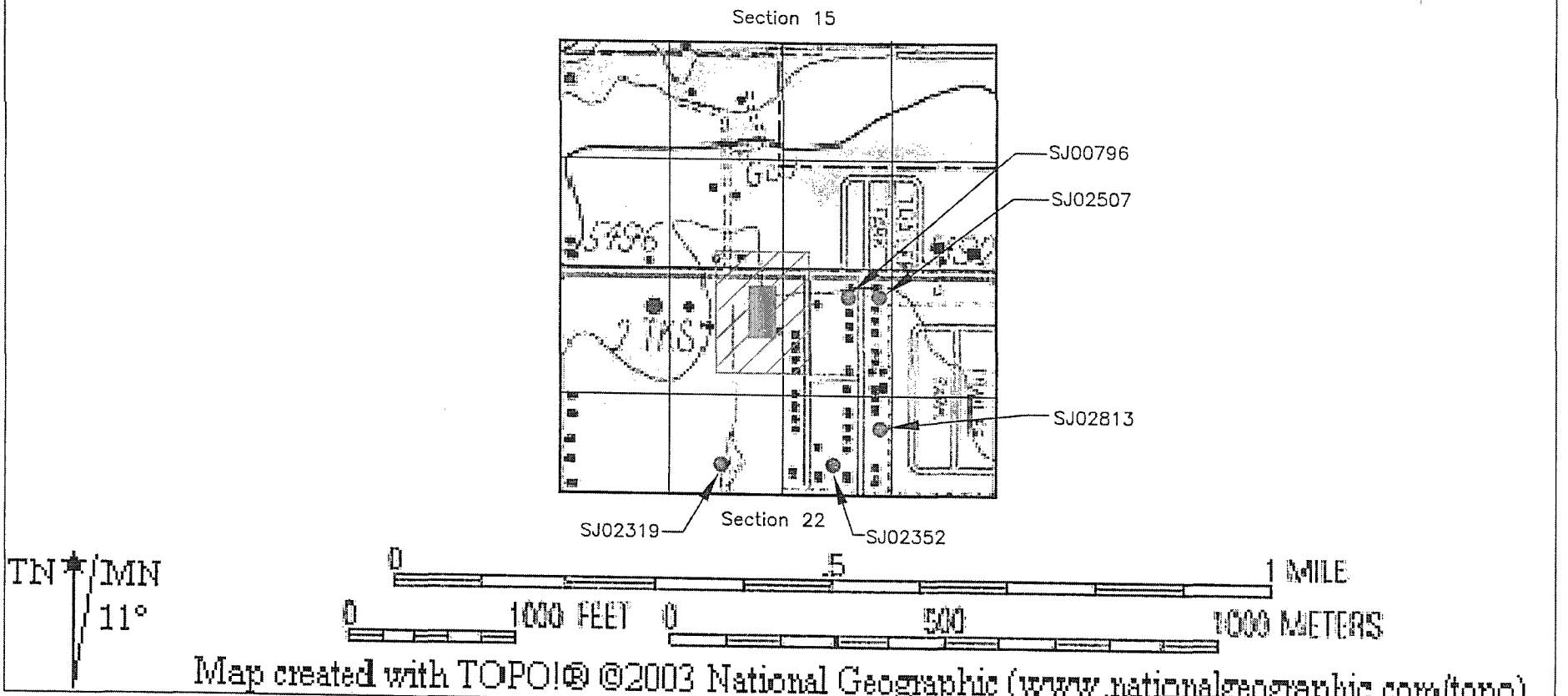
Client contact:

- extra volume

APPENDIX H

Water Well Search Results

TOPO! map printed on 03/17/06 from "New Mexico.tpo" and "Untitled.tpg"



LEGEND

= Site

= 200 foot radius

Section 15
No wells listed in target quarter, quarters.

Section 22
SJ01984 confined to NW quarter of section 22, could be located in area of interest.
SJ00704, SJ01557, SJ01698: confined to NE quarter of NW quarter of section 22 could be loacted in area of interest.
SJ01703: confined to SW and SE quarter of NE quarter of NW quarter of section 22 outside area of interest.

KLEINFELDER		WATER WELL SEARCH RESULTS Former Aerex Refinery Bloomfield, New Mexico	FIGURE 1
Drawn By: C. Bhongir	Date: March 2006		
Project No.: 64110	Filename: 64110_010_0.dwg		
Scale: As referenced	Revision: –		

Water Well Search Results
Former Aerex Refinery
Bloomfield NM

WATER COLUMN REPORT 03/07/2006

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are biggest to smallest)

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column	Comment
SJ 02256	29N	11W	22										Address located outside area of interest
SJ 02200	29N	11W	22					60	22		38		Address located outside area of interest
SJ 01984	29N	11W	22	1									potentially located in area of interest/address unknown
SJ 02319	29N	11W	22	1	1	4							Address located outside area of interest
SJ 00704	29N	11W	22	1	2			55	20		35		potentially located in area of interest/address unknown
SJ 00796	29N	11W	22	1	2			50	8		42		Address located outside area of interest
SJ 01703	29N	11W	22	1	2			68	3		65		Address located outside area of interest
SJ 02352	29N	11W	22	1	2								Address located outside area of interest
SJ 01557	29N	11W	22	1	2			70	11		59		potentially located in area of interest/address unknown
SJ 01698	29N	11W	22	1	2								potentially located in area of interest/address unknown
SJ 02507	29N	11W	22	1	2	1							Address located outside area of interest
SJ 02813	29N	11W	22	1	2	3		59	16		43		Address located outside area of interest
SJ 01214	29N	11W	22	1	3			49	12		37		
SJ 00320	29N	11W	22	1	3	1		38	10		28		
SJ 00484	29N	11W	22	1	3	1		37	10		27		
SJ 03532	29N	11W	22	1	3	3		49	14		35		
SJ 01280	29N	11W	22	1	3	3							
SJ 00160	29N	11W	22	1	3	3							
SJ 00151	29N	11W	22	1	3	4		45	18		27		
SJ 02721	29N	11W	22	1	4				59				
SJ 00476	29N	11W	22	2	3								
SJ 03503	29N	11W	22	2	3	3		72	18		54		
SJ 02578	29N	11W	22	2	3	3		58	24		34		
SJ 02379	29N	11W	22	2	3	3							
SJ 02372	29N	11W	22	2	3	4							
SJ 03093	29N	11W	22	2	3	4		42	22		20		
SJ 02368	29N	11W	22	2	4	3							
SJ 00623	29N	11W	22	3	1	4							
SJ 01320	29N	11W	22	3	2								
SJ 03189	29N	11W	22	3	2	1		45	20		25		
SJ 03188	29N	11W	22	3	2	2		45	11		34		
SJ 02777	29N	11W	22	3	2	2							
SJ 02020	29N	11W	22	3	3								
SJ 02138	29N	11W	22	4	2			40	7		33		
SJ 03479	29N	11W	22	4	2	3		43	4		39		
SJ 02529	29N	11W	22	4	2	3		30	9		21		
SJ 03049	29N	11W	22	4	2	4		33	10		23		
SJ 00696	29N	11W	22	4	3			34	12		22		
SJ 01974	29N	11W	22	4	3	3		47	11		36		
SJ 02630	29N	11W	22	4	3	3							
SJ 01732	29N	11W	22	4	3	4							

Record Count: 41

WATER COLUMN REPORT 03/07/2006

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are biggest to smallest)

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column
SJ 01839	29N	11W	15	4	2	4						
SJ 02378	29N	11W	15	4	3	2		75	12		63	
SJ 00409	29N	11W	15	4	4							
SJ 00395	29N	11W	15	4	4	1						
SJ 03579	29N	11W	15	4	4	1						
SJ 00670	29N	11W	15	4	4	1						
SJ 00909	29N	11W	15	4	4	1						
SJ 00229	29N	11W	15	4	4	3						
SP 02870 21	29N	11W	15	2	3							
SP 02870 1	29N	11W	15	3	2							

Record Count: 10

= Wells within or potentially in target quarter-quarters

New Mexico Office of the State Engineer
Water Right Summary

Back

DB File Nbr: SJ 02256
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: DAVID N. MOHLER

Documents on File

Doc	File/Act	Status	1	2	3	Trans_Desc	From/To	Acres
72121	01/18/1990	PMT	APR	ABS		SJ 02256	T	0

Point of Diversion	(qtr are 1=NW 2=NE 3=SW 4=SE) (qtr are biggest to smallest						X Y are in Feet	
POD Number	Source	Tws	Rng	Sec	q	q	q	Zone	X
SJ 02256		29N	11W	22					

#224453

HC-136754 - $5.00 READ INSTRUCTIONS ON BACK Revised March 1979

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

90 JAN 23 A 9:58

1. Name and Address of Applicant: File No. SJ-2256

DAVID N. MOHLER
115 N. MOHLER ST
BLOOMFIELD NM 87413

29.11.22.2431

2. Describe well location under one of the following subheadings:

a. ¼ ¼ NE ¼ of Sec. 22 Twp. 29 Rge. 11 N.M.P.M. in San Juan County.

b. Tract No. ____ of Map No. ____

c. Lot No. ____ of Block No. ____ Subdivision, recorded in ____

d. X = ____ feet, Y = ____ in the ____

ROPERTY DESCRIPTION NR SCHOOL DISTRICT 61N

BEG W 1075.98 FT & N1*06'W 394 FT FROM THE E1/4 COR THENCE W 246.79 FT N1*06' W 176 FT E 246.73 FT S1* 06'E 176 FT TO PT OF BEG. B.1054 P.170

BLK	TWP.	RGE
		0
22	29	11
		0
		0
		0

e. Give street address or route and box no. of property upon which well is to be located, or location by direction and distance from known landmarks 115 N. MOHLER STREET

3. Approximate depth (if known) ? feet; outside diameter of casing 7 inches.

Name of driller (if known) ____

4. Use of water (check appropriate box or boxes):

- [X] One household, non-commercial trees, lawn and garden not to exceed 1 acre.
- [ ] Livestock watering.
- [ ] More than one household, non-commercial trees, lawns and gardens not to exceed a total of 1 acre.
- [ ] Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawn in connection with a commercial operation.
- [ ] Prospecting, mining or drilling operations to discover or develop natural resources.
- [ ] Construction of public works, highways and roads.

If any of the last four were marked, give name and nature of business under Remarks. (Item 5)

90 JAN 23 A 8:11 STATE ENGINEER OFFICE SANTA FE, NEW MEXICO

5. Remarks: ____

I, DAVID N. MOHLER affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

David N. Mohler Applicant

By: ____ Date: 1-12-90

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to the specific conditions numbered 1(a) and 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before January 15, 1991.

S.E. Reynolds, State Engineer

By: C. A. Wohlenberg

Please refer to condition D on the reverse side of this permit.

Date: January 18, 1990

File No. SJ-2256

New Mexico Office of the State Engineer
Water Right Summary

Back

DB File Nbr: SJ 02200
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: JAMES T. STIFFLER

Documents on File

Doc	File/Act	Status 1 2 3	Trans_Desc	From/To	Acres
72121	08/29/1988	PMT LOG ABS	SJ 02200	T	0

Point of Diversion	(qtr are 1=NW 2=NE 3=SW 4=SE) (qtr are biggest to smallest						X Y are in Feet	
POD Number	Source	Tws	Rng	Sec	q	q	q	Zone	X
SJ 02200	Shallow	29N	11W	22					

HC-133344 -- $5.00

229289

READ INSTRUCTIONS ON BACK

Revised March 1979

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

88 AUG 30 PM 5:17

1. Name and Address of Applicant:

James T Stiffler
Box 335
Bloomfield New Mexico 87413

File No. SJ-2200

2. Describe well location under one of the following subheadings:

a. ____ ¼ ____ ¼ ____ ¼ of Sec. 22 Twp. 29N Rge. 11W N.M.P.M., in San Juan County.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. 10 of Block No. Two of the Turner subdivision (Bloomfield) Subdivision, recorded in San Juan County.

d. X = ____ feet, Y = ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

e. Give street address or route and box No. of property upon which well is to be located, or location by direction and distance from known landmarks 108 South First Street

3. Approximate depth (if known) 55 feet; outside diameter of casing 7" inches.

Name of driller (if known) ____

4. Use of water (check appropriate box or boxes):

- ☑ One household, non-commercial trees, lawn and garden not to exceed 1 acre.
- ☐ Livestock watering.
- ☐ More than one household, non-commercial trees, lawns and gardens not to exceed a total of 1 acre.
- ☐ Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.
- ☐ Prospecting, mining or drilling operations to discover or develop natural resources.
- ☐ Construction of public works, highways and roads.

If any of the last four were marked, give name and nature of business under Remarks. (Oil, gas, etc.)

88 AUG 29 PM 1:20
STATE ENGINEER OFFICE
DISTRICT I
ALBUQUERQUE, N. MEX.

5. Remarks: ____

I, James T. Stiffler, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

James T. Stiffler Applicant

By: James T. Stiffler Date: 8-25-88

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to the specific conditions numbered 1(a) and 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before August 15, 1989

S.E. Reynolds, State Engineer

By: C.A. Wohlenberg

C.A. Wohlenberg

Date: August 29, 1988

File No. SJ-2200

New Mexico Office of the State Engineer
Water Right Summary

Back

DB File Nbr: SJ 01984
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: RICHARD A. & MARTINEZ

Documents on File

Doc	File/Act	Status	1	2	3	Trans_Desc	From/To	Acres
72121	06/14/1985	PMT APR ABS				SJ 01984	T	0

(qtr are 1=NW 2=NE 3=SW 4=SE)

Point of Diversion POD Number	Source	Tws	Rng	Sec	q	q	q	X Y are in Feet Zone	X
SJ 01984		29N	11W	22	1				

HC 12530 $1.00 READ INSTRUCTIONS ON BACK Revised March 1979

SJ-1984

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

1. Name and Address of Applicant: File No. SJ-1984

Richard A Martinez & Juan F. Garcia
P.O. Box 2570
Bloomfield N.M. 87413

2. Describe well location under one of the following subheadings:

a. ____ ¼ ____ ¼ NW ¼ of Sec. 22 Twp. 29N Rge. 11N N.M.P.M., in ____ County.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. ____ of Block No. ____ of the ____ Subdivision, recorded in ____ County.

d. X = ____ feet, Y = ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

e. Give street address or route and box No. of property upon which well is to be located, or location by direction and distance from known landmarks La Sara Sub Lot 35
Bloomfield N.M. 87413

3. Approximate depth (if known) 40 feet; outside diameter of casing 6" 5/8" inches.

Name of driller (if known) Brad's Drilling Co. WD-1084

4. Use of water (check appropriate box or boxes):

- ☒ One household, non-commercial trees, lawn and garden not to exceed 1 acre.
- ☐ Livestock watering.
- ☐ More than one household, non-commercial trees, lawns and gardens not to exceed a total of 1 acre.
- ☐ Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.
- ☐ Prospecting, mining or drilling operations to discover or develop natural resources.
- ☐ Construction of public works, highways and roads.

If any of the last four were marked, give name and nature of business under Remarks. (Item 5)

85 JUN 13 P2:00
OFFICE
STATE ENGINEER
ALBUQUERQUE, N. MEX.

5. Remarks: ____

I, ____, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

Richard A Martinez, Applicant

By: ____ Date: 6/10/85

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to the specific conditions numbered 1(a) and 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before June 15, 1986.

S.E. Reynolds, State Engineer

By: C. A. Wohlenberg
C. A. Wohlenberg, District 1

Date: June 14, 1985 File No. SJ-1984

New Mexico Office of the State Engineer
Water Right Summary

Back

DB File Nbr: SJ 02319
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: DONALD C. GOODWIN

Documents on File

Doc	File/Act	Status 1 2 3	Trans_Desc	From/To	Acres
72121	04/11/1991	PMT APR ABS	SJ 02319	T	0

Point of Diversion (qtr are 1=NW 2=NE 3=SW 4=SE) (qtr are biggest to smallest) X Y are in Feet

POD Number	Source	Tws	Rng	Sec	q	q	q	Zone	X
SJ 02319		29N	11W	22	1	1	4		

HC - 4986 - $5.00

22882

READ INSTRUCTIONS ON BACK

Revised March 1979

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

1. Name and Address of Applicant: GOODWIN '91 APR 10 AM 9 50 File No. SJ-2319

Donald C Mardian

413 N 5 Lp

Bloom, N Mex 87413

Bloomfield

STATE ENGINEER OFFICE
SANTA FE NEW MEXICO

2. Describe well location under one of the following subheadings: 29N.11W.22.114 BE

a. ~~NE~~ SE ¼ NW ¼ NW ¼ of Sec. 22 Twp. 29N Rge. 11W N.M.P.M., in San Juan County.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. 20 of Block No. 5 of the TARPLEY Tarpley Subdivision, recorded in San Juan County.

d. X = _____ feet, Y = _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

e. Give street address or route and box No. of property upon which well is to be located, or location by direction and distance from known landmarks 413 N 5 Lp Bloom, N Mex

3. Approximate depth (if known) 40 feet; outside diameter of casing 6 5/8 inches.

Name of driller (if known) John C Vaught

4. Use of water (check appropriate box or boxes):

- [X] One household, non-commercial trees, lawn and garden not to exceed 1 acre.
- [ ] Livestock watering.
- [ ] More than one household, non-commercial trees, lawns and gardens not to exceed a total of 1 acre.
- [ ] Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.
- [ ] Prospecting, mining or drilling operations to discover or develop natural resources.
- [ ] Construction of public works, highways and roads.

If any of the last four were marked, give name and nature of business under Remarks. (Item 5)

'91 APR 10 AM 9 50 STATE ENGINEER OFFICE SANTA FE NEW MEXICO

5. Remarks: _____

I, Don Mardian, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

Don Mardian, Applicant

By: Don Mardian Date: 4-5-91

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to the specific conditions numbered 1(a) & 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before April 15, 1992.

Eluid L. Martinez, State Engineer

By: C. A. Wohlenberg

C. A. Wohlenberg

Date: April 11, 1991

File No. SJ-2319

New Mexico Office of the State Engineer
Water Right Summary

Back

DB File Nbr: SJ 00704
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: CARLOS W. JARAMILLO

Documents on File

Doc	File/Act	Status 1 2 3	Trans_Desc	From/To	Acres
72121	06/27/1978	PMT LOG ABS	SJ 00704	T	0

Point of Diversion (qtr are 1=NW 2=NE 3=SW 4=SE) (qtr are biggest to smallest) X Y are in Feet

POD Number	Source	Tws	Rng	Sec	q	q	q	Zone	X
SJ 00704	Shallow	29N	11W	22	1	2			

225809

READ INSTRUCTIONS ON BACK

Revised March 1972

704

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 75-11-1 NEW MEXICO STATUTES

'78 MAY 31 PM 1 13

STATE ENGINEER OFFICE
SANTA FE, N.M. 87501

File No. SJ-704

1. Name and Address of Applicant:

Carlos W. Jaramillo
P.O. Box 594
Bloomfield N. Mex.

2. Describe well location under one of the following subheadings:

a. ____ ¼ NE ¼ NW ¼ of Sec. 22 Twp. 29N. Rge. 11 W. N. M. P. M., in San Juan County.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. 243 of Block No. 4 of the LOMA VISTA Addition, Bloomfield N.Mex Subdivision, recorded in SAN JUAN County.

d. X = ____ feet, Y = ____ feet, N. M. Coordinate System ____ Zone in the ____ Grant.

e. Give street address or route and box No. of property upon which well is to be located, or location by direction and distance from known landmarks ____

3. Approximate depth (if known) 60' feet; outside diameter of casing 6" inches.

Name of driller (if known) MC DONALD'S

4. Use of water (check appropriate box or boxes):

☒ *Household, non-commercial trees, lawn and garden not to exceed 1 acre.*

☐ Livestock watering.

☐ Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.

☐ Prospecting, mining or drilling operations to discover or develop natural resources.

☐ Construction of public works, highways and roads.

If any of the last three were marked, give name and nature of business under Remarks. (Item 5)

5. Remarks: ____

I, Carlos Jaramillo, *affirm that the foregoing statements are true to the best of my knowledge* and belief and that development shall not commence until approval of the permit has been obtained.

Carlos W. Jaramillo, Applicant

By: ____ Date: 5-22-78

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to the specific conditions numbered 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before 6/30/79.

S. E. Reynolds, State Engineer

By: E. C. Barry

E. C. Barry, Engr-Tech. Water Rights Bureau

Date: 6/27/78 File No. SJ-704

New Mexico Office of the State Engineer
Water Right Summary

Back

DB File Nbr: SJ 00796
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: T. P. JOHNSON

Documents on File

Doc	File/Act	Status 1 2 3	Trans_Desc	From/To	Acres
72121	09/11/1978	PMT LOG ABS	SJ 00796	T	0

(qtr are 1=NW 2=NE 3=SW 4=SE)

Point of Diversion POD Number	(qtr are biggest to smallest Source	Tws	Rng	Sec	q	q	q	X Y are in Feet Zone	X
SJ 00796	Shallow	29N	11W	22	1	2			

READ INSTRUCTIONS ON BACK #226130

Revised March 1972

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 75-11-1 NEW MEXICO STATUTES

'78 SEP 8 PM 1 49

STATE ENGINEER OFFICE
SANTA FE, N.M. 87501

1. Name and Address of Applicant:

T.P. Johnson

Box 1027

Bloomfield, New Mexico 87413

File No. SJ-796

2. Describe well location under one of the following subheadings:

a. ____ ¼ NE ¼ NW ¼ of Sec. 22 Twp. 29N Rge. 11W. N. M. P. M., in San Juan County.

b. Tract No. N. 108' of A of Map No. ____ of the Loma Vista Addition, San Juan Co., Bloomfield

c. Lot No. ____ of Block No. 4 of the ____ Subdivision, recorded in San Juan County.

d. X = ____ feet, Y = ____ feet, N. M. Coordinate System ____ Zone in the ____ Grant.

e. Give street address or route and box No. of property upon which well is to be located, or location by direction and distance from known landmarks 3rd & Blanco, Bloomfield, N.M.

3. Approximate depth (if known) 60' feet; outside diameter of casing 7 inches.

Name of driller (if known) J. & D. Drilling Co.

4. Use of water (check appropriate box or boxes):

☒ Household, non-commercial trees, lawn and garden not to exceed 1 acre.

☐ Livestock watering.

☐ Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.

☐ Prospecting, mining or drilling operations to discover or develop natural resources.

☐ Construction of public works, highways and roads.

If any of the last three were marked, give name and nature of business under Remarks. (Item 5)

5. Remarks: ____

I, ____, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

T.P. Johnson, Applicant

By: ____ Date: 9 4 78

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to the specific conditions numbered 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before 9/30/79.

S. E. Reynolds, State Engineer

By: E. C. Barry

E. C. Barry, Engr. Tech, Water Rights Bureau

Date: Sept. 11, 1978 File No. SJ-796

New Mexico Office of the State Engineer
Water Right Summary

Back

DB File Nbr: SJ 01703
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: JAMES R. WEST

Documents on File

Doc	File/Act	Status 1 2 3	Trans_Desc	From/To	Acres
72121	04/27/1983	PMT LOG ABS	SJ 01703	T	0

(qtr are 1=NW 2=NE 3=SW 4=SE)

Point of Diversion POD Number	Source	Tws	Rng	Sec	q	q	q	(qtr are biggest to smallest)	X Y are in Feet Zone	X
SJ 01703	Shallow	29N	11W	22	1	2				

227880
STATE ENGINEER
SANTA FE, N.M.

Revised June 1972

STATE ENGINEER OFFICE

'83 MAY 11 AM 9 59

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well James R. West Owner's Well No. 1
Street or Post Office Address 425 North Street
City and State Bloomfield, N. M. 87413

Well was drilled under Permit No. S*J 1703 and is located in the:

a. ¼ NE ¼ NW ¼ ¼ of Section 22 Township 29N Range 11W N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. 1&2 of Block No. 1 of the Loma Vista Addition
Subdivision, recorded in San Juan County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor C. & C. Liquid Removers License No. W-D 809

Address P. O. Box 663, Bloomfield, N. M. 87413

Drilling Began 4-29-83 Completed 5-4-83 Type tools Cable Tools Size of hole 7" in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 68' ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 3' ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
63'	68'	5'	River Rock	10 gal. per min

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
6 5/8	15#	Welded	0	68'	68'	Standard Dbl Drive Shoe	64'	68'

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received May 11, 1983

Quad _____ FWL _____ FSL _____

File No. SJ-1703 Use dom. Location No. 29N.11W.22 12.

jts San Juan County

New Mexico Office of the State Engineer
Water Right Summary

Back

DB File Nbr: SJ 02352
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: RAY OR LORIENE PHELPS

Documents on File

Doc	File/Act	Status	1	2	3	Trans_Desc	From/To	Acres
72121	10/04/1991	PMT	APR	ABS		SJ 02352	T	0

Point of Diversion POD Number	(qtr are 1=NW 2=NE 3=SW 4=SE) (qtr are biggest to smallest) Source	Tws	Rng	Sec	q	q	q	X Y are in Feet Zone	X
SJ 02352		29N	11W	22	1	2			

HC - 160133 - $5.00

RI) INSTRUCTIONS ON BACK Revised March 1979

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

228907

'91 OCT 7 AM 10 59
STATE ENGINEER OFFICE
SANTA FE NEW MEXICO

File No. SJ-2352

1. Name and Address of Applicant:
Ray and /or
Loriene Phelps 632-2586
413 N. 4th St. B-14
Bloomfield N.M. 87413

2. Describe well location under one of the following subheadings:

a. ____ ¼ NE ¼ NW ¼ of Sec. 22 Twp. 29N Rge. 11W N.M.P.M., in San Juan County.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. 6, 7 of Block No. 1 of the McDaniel (Loma Vista Addition) Subdivision, recorded in San Juan County.

d. X = ____ feet, Y = ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

e. Give street address or route and box No. of property upon which well is to be located, or location by direction and distance from known landmarks 413 N. 4th St. B-14
Bloomfield N.M.

3. Approximate depth (if known) 70 feet; outside diameter of casing 7 inches.

Name of driller (if known) Bryce Chivers

4. Use of water (check appropriate box or boxes):

☒ One household, non-commercial trees, lawn and garden not to exceed 1 acre.

☐ Livestock watering.

☐ More than one household, non-commercial trees, lawns and gardens not to exceed a total of 1 acre.

☐ Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.

☐ Prospecting, mining or drilling operations to discover or develop natural resources.

☐ Construction of public works, highways and roads.

If any of the last four were marked, give name and nature of business under Remarks. (Item 5)

OCT 3 9 1 : 38

5. Remarks: ____

I, ____, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

Ray A. Phelps, Applicant

By: Ray A. Phelps Date: 10-2-91

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to the specific conditions numbered 1(a) and 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before October 15, 1992.

Eluid L. Martinez, State Engineer

By: C. A. Wohlenberg
C. A. Wohlenberg

Date: October 4, 1991

File No. SJ-2352

New Mexico Office of the State Engineer
Water Right Summary

Back

DB File Nbr: SJ 01557
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: EDWARD W. HUTTON

Documents on File

Doc	File/Act	Status	1	2	3	Trans_Desc	From/To	Acres
72121	04/23/1982	PMT	LOG	ABS		SJ 01557	T	0

Point of Diversion POD Number	Source	Tws	Rng	Sec	q	q	q	X Y are in Feet Zone	X
SJ 01557	Shallow	29N	11W	22	1	2			

(qtr are 1=NW 2=NE 3=SW 4=SE)
(qtr are biggest to smallest

227493

READ INSTRUCTIONS ON BACK

Revised March 1979

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

1. Name and Address of Applicant:

File No. SJ-1557

Edward W. Hutton, Jr.

P. O. Box 1273

Bloomfield, New Mexico 87413

2. Describe well location under one of the following subheadings:

a. ____ ¼ NE ¼ NW ¼ of Sec. 22 Twp. 29-N Rge. 11-W N.M.P.M., in San Juan County.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. 4 of Block No. ____ of the Loma Vista Subdivision, Bloomfield, NM Subdivision, recorded in ____ County.

d. X = ____ feet, Y = ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

e. Give street address or route and box No. of property upon which well is to be located, or location by direction and distance from known landmarks ____

3. Approximate depth (if known) 40-80 feet; outside diameter of casing 7 inches.

Name of driller (if known) uncontracted

4. Use of water (check appropriate box or boxes):

- [XX] One household, non-commercial trees, lawn and garden not to exceed 1 acre.
- [ ] Livestock watering.
- [ ] More than one household, non-commercial trees, lawns and gardens not to exceed a total of 1 acre.
- [ ] Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.
- [ ] Prospecting, mining or drilling operations to discover or develop natural resources.
- [ ] Construction of public works, highways and roads.

If any of the last four were marked, give name and nature of business under Remarks. (Item 5)

5. Remarks: ____

I, Edward Hutton, Jr., affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

Edward Hutton, Applicant

By: ____ Date: 4-20-82

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to the specific conditions numbered 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before April 30, 1983.

S.E. Reynolds, State Engineer

By: E.C. Barry

E.C. Barry, Water Resources Spec. 1

Date: 4/23/82 Water Rights Bureau

File No. SJ-1557

New Mexico Office of the State Engineer
Water Right Summary

Back

DB File Nbr: SJ 01698
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: ROBERT CASSIDAY

Documents on File

Doc	File/Act	Status	1	2	3	Trans_Desc	From/To	Acres
72121	04/25/1983	PMT APR ABS				SJ 01698	T	0

Point of Diversion POD Number	Source	Tws	Rng	Sec	(qtr are 1=NW 2=NE 3=SW 4=SE) (qtr are biggest to smallest) q	q	q	X Y are in Feet Zone	X
SJ 01698		29N	11W	22	1	2			

READ INSTRUCTIONS ON BACK Revised March 1979

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES 228177

STATE ENGINEER
SANTA FE, N.M.

'83 APR 20 AM 9 20

1. Name and Address of Applicant: File No. SJ-1698

Robert Cassiday

Box 735

Bloomfield, New Mexico 87413

2. Describe well location under one of the following subheadings:

a. ____ ¼ NE ¼ NW ¼ of Sec. 22 Twp. 29-N Rge. 11-W N.M.P.M., in San Juan County.

b. Tract No. ____ of Map No. ____ of the ____

c. Lot No. 20 of Block No. 3 of the Loma Vista Addition Subdivision, recorded in ____ County.

d. X = ____ feet, Y = ____ feet, N.M. Coordinate System ____ Zone in the ____ Grant.

e. Give street address or route and box No. of property upon which well is to be located, or location by direction and distance from known landmarks ____

3. Approximate depth (if known) 80-100 feet; outside diameter of casing 7 inches.

Name of driller (if known) McDonald

4. Use of water (check appropriate box or boxes):

- ☒ One household, non-commercial trees, lawn and garden not to exceed 1 acre.
- ☐ Livestock watering.
- ☐ More than one household, non-commercial trees, lawns and gardens not to exceed a total of 1 acre.
- ☐ Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.
- ☐ Prospecting, mining or drilling operations to discover or develop natural resources.
- ☐ Construction of public works, highways and roads.

If any of the last four were marked, give name and nature of business under Remarks. (Item 5)

5. Remarks: To re-enter old existing water well not of record in the State Engineer's Office

I, Robert Cassiday, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

Robert Cassiday, Applicant

By: ____ Date: 4/15/83

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to the specific conditions numbered 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before April 30, 1984.

S.E. Reynolds, State Engineer

By: E.C. Barry, Water Resource Spec. I, Water Rights Division

Date: 4/25/83 File No. SJ-1698

New Mexico Office of the State Engineer
Water Right Summary

Back

DB File Nbr: SJ 02813
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: GERHARD ZICHER

Documents on File

Doc	File/Act	Status	1	2	3	Trans_Desc	From/To	Acres
72121	07/24/1997	PMT LOG PRC				SJ 02813	T	0

Point of Diversion POD Number	Source	Tws	Rng	Sec	(qtr are 1=NW 2=NE 3=SW 4=SE) (qtr are biggest to smallest) q	q	q	X Y are in Feet Zone	X
SJ 02813	Shallow	29N	11W	22	1	2	3		

1576 216

READ INSTRUCTIONS ON BACK — Revised June 1991

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

1. Name and mailing address of applicant: File No. SJ-2813

Gerhard Zicher
430 N. 3rd
Bloomfield, NM 87413

2. Describe well location under one of the following subheadings:

a. SW ¼ NE ¼ NW ¼ of Sec. 22 Twp. 29N Rge. 11W NMPM, in SAN JUAN County.

b. X = N/A feet, Y = _____ feet, New Mexico Coordinate System _____ Zone in the _____ Grant.

3. Approximate depth (if known) Unknown feet; outside diameter of casing less than 7"00 inches.

Name of driller (if known) McDonald's Drilling

4. Use of water (check use applied for):

X One household, non-commercial trees, lawn and garden not to exceed one acre.

____ Livestock watering.

____ More than one household, non-commercial trees, lawns and gardens not to exceed a total of one acre.

____ Drill and test a well intended to be used for domestic, drinking and sanitary or stock water purposes in conjunction with the building or dwelling unit.

____ Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.

____ Prospecting, mining or drilling operations to discover or develop natural resources.

____ Construction of public works, highways and roads.

If any of the last three items were marked, give name and nature of business under Remarks (Item 5).

97 JUL 24 PM 1 84
OFFICE OF THE STATE ENGINEER AZTEC, NEW MEXICO

5. Remarks: _____

I, Gerhard Zicher, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

Gerhard Zicher, Applicant

By: _____ Date: 7-24-97

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to specific conditions numbered 1a & 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before July 15, 1998.

Thomas C. Turney, State Engineer

By: Robert E Oxford

Date: 7-24-97 File No. SJ-2813

New Mexico Office of the State Engineer
Water Right Summary

Back

DB File Nbr: SJ 02507
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT Permit
Total Acres: 0
Total Diversion: 3
Owner: BASIL O. PLEMONS

Documents on File

Doc	File/Act	Status	1	2	3	Trans_Desc	From/To	Acres
72121	09/24/1993	PMT APR ABS				SJ 02507	T	0

(qtr are 1=NW 2=NE 3=SW 4=SE)

Point of Diversion POD Number	Source	Tws	Rng	Sec	q	q	q	X Y are in Feet Zone	X
SJ 02507		29N	11W	22	1	2	1		

228979

NC-1-00826 (5.00) READ INSTRUCTIONS ON BACK Revised June 1991

APPLICATION TO APPROPRIATE UNDERGROUND WATERS IN ACCORDANCE WITH SECTION 72-12-1 NEW MEXICO STATUTES

File No. SJ-2507
Loma Vista Sub

1. Name and mailing address of applicant:

Basil O. Plemons
221 W. Blanco Blvd
Bloomfield NM 87413

2. Describe well location under one of the following subheadings:

a. NW ¼ NE ¼ NW ¼ of Sec. 22 Twp. 29 N Rge. 11 W NMPM, in San Juan County.

b. X = N/A feet, Y = _____ feet, New Mexico Coordinate System _____ Zone in the _____ Grant.

3. Approximate depth (if known) 10-20 feet; outside diameter of casing 2" or Under inches.

Name of driller (if known) Basil O. Plemons

4. Use of water (check use applied for):

X One household, non-commercial trees, lawn and garden not to exceed one acre.

___ Livestock watering.

___ More than one household, non-commercial trees, lawns and gardens not to exceed a total of one acre.

___ Drill and test a well intended to be used for domestic, drinking and sanitary or stock water purposes in conjunction with the building or dwelling unit.

___ Drinking and sanitary purposes and the irrigation of non-commercial trees, shrubs and lawns in conjunction with a commercial operation.

___ Prospecting, mining or drilling operations to discover or develop natural resources.

___ Construction of public works, highways and roads.

If any of the last three items were marked, give name and nature of business under Remarks (Item 5).

5. Remarks: _____

93 SEP 24 PM 1:16
STATE ENGINEER OFFICE SANTA FE, NEW MEX.

I, Basil O Plemons, affirm that the foregoing statements are true to the best of my knowledge and belief and that development shall not commence until approval of the permit has been obtained.

Basil O Plemons, Applicant

By: Basil O. Plemons Date: 9-22-93

93 SEP 27 AM 7:45
STATE ENGINEER OFFICE SANTA FE, NEW MEX.

ACTION OF STATE ENGINEER

This application is approved for the use indicated, subject to all general conditions and to specific conditions numbered 1(a) and 4 on the reverse side hereof. This permit will automatically expire unless this well is drilled or driven and the well record filed on or before September 15, 1994.

Eluid L. Martinez, State Engineer

By: C.A. Wohlenberg
C.A. WOHLENBERG

Please refer to condition 5 on the reverse side of this permit.

Date: Sept. 24, 1993 File No. SJ-2507

APPENDIX I

Technical Specifications – Cool-Ox® Copyright Technology

Exhibit I

Cool-Ox© Technology

The patented *Cool-Ox*™ Process* is an in-situ (and ex-situ) remediation technology that combines controlled chemical oxidation with accelerated biodegradation subsequent to the oxidation phase. The process is based upon using hydrogen peroxide as the generator of the oxidizing radicals. However, unlike the Fenton or Fenton like processes that use liquid hydrogen peroxide, the *Cool-Ox*™ Process generates hydrogen peroxide from solid peroxygens that are injected into the soil or groundwater in an aqueous suspension. Once in place, the peroxygens react with water to produce hydrogen peroxide. This reaction is widely understood.

In conventional Fenton or Fenton like processes, the liquid hydrogen peroxide reacts with iron salts introduced to produce the oxidizing radicals. This reaction is largely uncontrollable and usually produces excessive amounts of heat. Even where the iron is introduced in a separate injection sequence, the reaction can be robust. Similarly, other processes that have begun using solid peroxygens with introduced iron salts find it difficult to avoid volatilization of contaminants because of the heat produced. The *Cool-Ox*™ Process has eliminated these problems.

Because most peroxygens are only sparingly soluble in aqueous solutions, their dissolution rate is quite slow. Therefore, once injected they remain in the contaminated media for an extended period of time before they become soluble. This low solubility characteristic also allows peroxygens to be hydraulically distributed by the injection equipment thereby increasing the radius of influence from the injection point. This significantly increases the probability of the oxidizer contacting the contaminants. However, the greatest distinguishing feature of the *Cool-Ox*™ Process is that it does not require the introduction of iron salts to produce the radicals necessary for chemical oxidation.

The *Cool-Ox*™ formulations include compounds that activate the catalytic metals that are intrinsic in the soil matrix being treated. This eliminates the need to artificially introduce iron salts either into the oxidizing reagent or injected sequentially. The use of these reagents also imposes a second control factor (the first is the low solubility of the peroxygens) on the reaction rates of the oxidizers. Knowing how to manipulate these factors allows the oxidation reactions to proceed without producing heat. Therefore, the probability of volatilizing contaminants because of heat generation is eliminated when the *Cool-Ox*™ Process is employed. This increased control eliminates the risk associated with other oxidizing processes and there are no hazardous metals such as lead, chrome or arsenic in the *Cool-Ox*™ formulations.

An additional and extremely important characteristic of the *Cool-Ox*™ Process is the pH at which the oxidation reactions proceed. Unlike the Fenton or Fenton like reactions that require a low acidic pH, the optimum pH of the *Cool-Ox*™ Process is slightly basic at around pH 8. This is critical for treating contaminants found in limestone or soils containing high concentrations of carbonates where a low pH would be buffered toward neutrality. Equally important is the factor that almost all phenolic, chloro-phenolic and chlorinated organic compounds exhibit organic acid characteristics. In general, these compounds become increasing soluble in aqueous solutions as the pH is increased. Once soluble, they are quite susceptible to oxidation via the *Cool-Ox*™ Process. Thus, a broad family of troublesome recalcitrant compounds such as creosotes, PCP, PCBs, PAHs, fuel hydrocarbons, dioxins as well as a host of herbicides and pesticides are treatable using the *Cool-Ox*™ Process.

Exhibit II

The Cool-Ox™ Bio-Spunge™ Reactor

DTI has determined through experience gained by field applications, that a broad range of organic chemical contaminants are readily oxidized using the patented *Cool-Ox*™ Technology. Although the Technology has the capability of converting the contaminants completely to carbon dioxide, this total mineralization process would prove to be prohibitively expensive because of the amount of oxidizer required. However, it has been observed at nearly every site treated, using the *Cool-Ox*™ Technology, that significant contaminant reductions have been achieved with concentrations of *Cool-Ox*™ reagents that are significantly lower than the stoichiometric ratios one would predict necessary. A study of the oxidation mechanism provided the answer to this question.

It has been determined that a myriad of organic compounds (please refer to The *Cool-Ox*™ Technology) are readily oxidized (hydroxylated) by the addition of a hydroxyl group to the molecule or the substitution (replacement) of a halogen atom by a hydroxyl group onto the molecule. This chemical reaction has been illustrated in organic chemistry textbooks and has been successfully applied, under field conditions, by DTI and DTI principles on numerous occasions. Once this conversion is complete, the resultant compounds are quite biodegradable and the indigenous microbes complete the remedial work.

A second, and very important characteristic of the *Cool-Ox*™ Technology is that the chemical reaction is controllable. Virtually all hydrogen peroxide systems, or Fenton-type technologies, require the injection of iron salts either sequentially or as a co-injectant of the oxidation formula. It is the reaction of the liquid hydrogen peroxide with the iron salts that create the very robust exothermic reaction of the Fenton systems. The distinguishing feature of the *Cool-Ox*™ Technology is that it does not require the injection of metal catalysts to activate the production of oxidizing radicals in the substrata; thus, the creation of heat is eliminated.

It is vitally important to understand that the reaction does not create heat. This feature eliminates the volatilization of the VOCs and is an extremely important safety factor when dealing with compounds having low toxicity thresholds and/or the potential for flammability.

DTI works on a continuing basis with its academic associates and major clients to perfect the DTI in-situ application techniques for both soil and groundwater. This work has produced major breakthroughs in the understanding of bioactivity subsequent to the application of the *Cool-Ox*™ reagents. Cassidy[1] in his work with BTEX and PAH contaminated samples from Manufactured Gas Plant (MGP) sites, has stated that when conducting bench scale studies, "***a most significant finding is that enhanced biological activity begins even before the oxidation reactions are completed.*** This would indicate that the hydrogen peroxide produced by the *Cool-Ox*™ Process does not inhibit the activity of microbes indigenous in the samples."

Unlike Fenton chemistry where liquid hydrogen peroxide is used as the source of the oxidizing radicals, the *Cool-Ox*™ Technology injects an aqueous suspension of solid peroxygen compounds. These compounds hydrolyze in-situ to generate hydrogen peroxide in the proximity of the contaminants. A key to success of the technology is that the relative insolubility of these compounds allows the oxidizers to be produced over an extended period of time. This greatly enhances the probability of the oxidizing compounds contacting the contaminants as well as

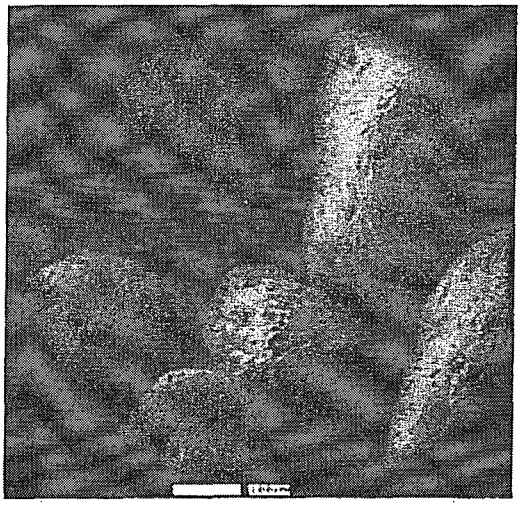
providing an ongoing source of molecular oxygen for the enhancement of aerobic microbial proliferation.

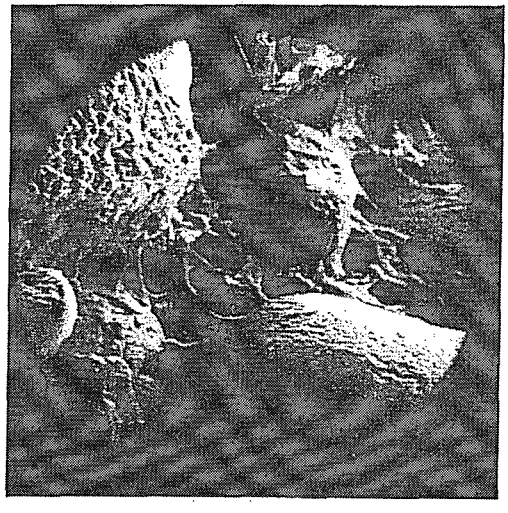
The keys to the development and successful application of the *Cool-Ox™ Bio-Spunge™ Reactor* for the in-situ remediation of groundwater contaminants are:

- **The extended life of the peroxygen compounds,**
- **The conversion of the contaminants to biodegradeable co-metabolites,**
- **The oxidation buffering systems conversion to nutrients subsequent to the oxidation phase, and**
- **The absence of heat produced from chemical reactions.**

With the development of the *Cool-Ox™* Process, DTI became aware that at nearly all sites treated with the *Cool-Ox™* reagents, the proliferation of indigenous aerobic microbes increased by as much as six orders of magnitude. Upon visual inspection of samples collected from numerous sites, it was obvious that the appearance of the soil had changed from a clean material to that resembling the type of natural sponges found in marine environments. It was also noted that contaminant concentrations found in groundwater down gradient from the injection zones, had significantly decreased – in most cases by orders of magnitude. Once this discovery was made, DTI developed *Cool-Ox™* reagent formulations to improve both the efficiency of the oxidation reactions and optimize indigenous microbial proliferation.

The scanning electron microscopic photographs[2] below depict clean sand particles (left) and the same soil after treatment (right). Note, the Extra-Cellular Polymeric Substances (ECPS), giving the appearance of the matrix seen in live sponges, hold the microbes in place while allowing the groundwater to flow through. This forms the matrix of the *Cool-Ox™ Bio-Spunge™ Reactor.* This configuration increases the surface area, thus increasing the probability of contact between contaminants and microbial degraders.

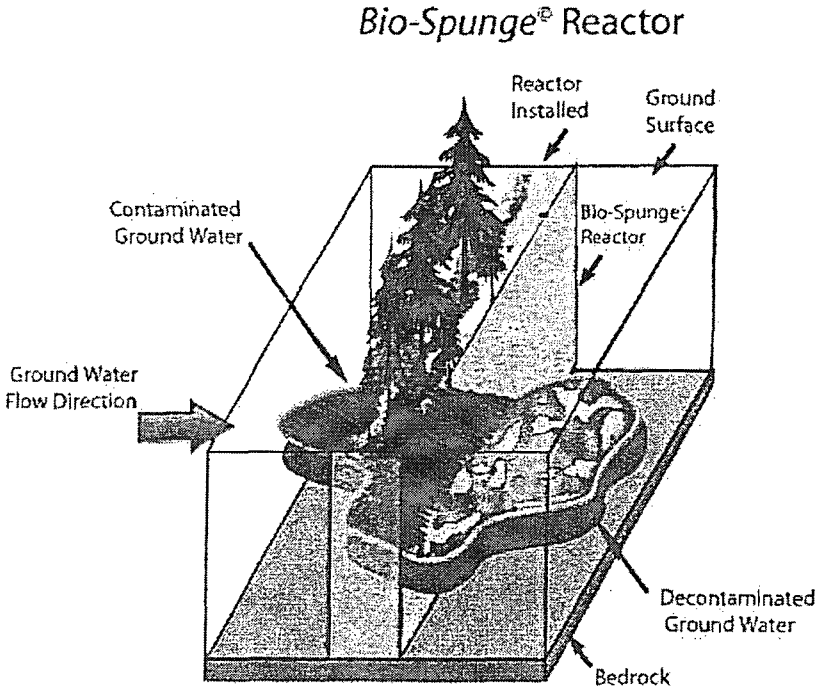




When the bio-fortified *Cool-Ox™* reagents are properly placed in the groundwater plume including the soil/groundwater interface, the indigenous microbes produce the ECPS biofilm depicted above. If the injection points are properly placed and the reagent contains the formulation necessary to encourage the proliferation of microbes as well as the production of the biofilm, a filtration system (such as that depicted in the drawing below) is produced that allows

the microbes to cleanse the groundwater as it passes through the formation. No other technology is presently available that ties chemical oxidation to subsequent bioremediation in the efficient manner as the *Cool-Ox*™ Process. DTI has proven through field applications, that this new technology concept is ideally suited for application where the contaminated groundwater plume is present in both permeable (sandy soil) and less permeable (clayey soils). The illustrations below depict these application concepts.

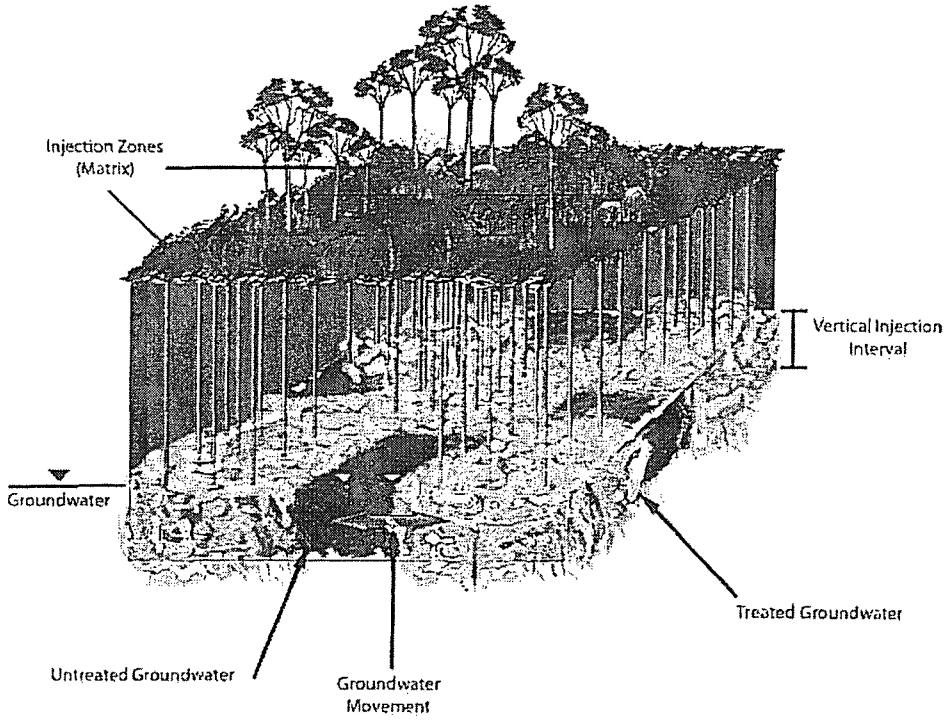
The Cool-Ox™ Bio-Spunge™ Reactor
(Groundwater Defined Flow (Streamline) Application)



The drawing above illustrates the *Cool-Ox*™ *Bio-Spunge*™ *Reactor* installation at a site where the soil consists of a permeable matrix and where the groundwater flow is defined. This installation technique calls for the placement of the *Cool-Ox*™ reagents in a configuration perpendicular to the direction of the groundwater flow. Contaminants located in the installation zone are rapidly oxidized while the microbial population indigenous to the treatment zone are stimulated by the bio-fortified *Cool-Ox*™ reagents and begin accelerated proliferation. This technique is especially economical because contaminated plumes can be mitigated by treating only a fraction of the area and volume of the overall mass of groundwater. For example, the developer of the *Cool-Ox*™ Process successfully remediated a BTEX contaminated groundwater plume over limestone bedrock underlain by hard clay. The groundwater area impacted was approximately three-hundred (300) feet long by sixty (60) feet wide (18,000 square feet). The scope of work consisted of placing six (6), twenty (20) feet wide by sixty (60) feet long injection zones (6,000 square feet) equally spaced and perpendicular to the length of the plume. The vertical injection interval extended from the bed rock surface, five (5) feet upwards into the clay. Decontamination of the groundwater plume was accomplished in approximately sixty (60) days with approximately only thirty percent (30%) of the entire area injected.

The Cool-Ox™ Bio-Spunge™ Reactor
(Static Groundwater (Matrix) Application)

While the Defined Flow Application technique works very well in the remediation of moving groundwater, it is less effective at sites where the groundwater is static, present in low permeable soils, doming or moving in different directions over a broad area. To meet the static groundwater treatment challenge, DTI has developed the matrix or checker-board injection technique. In the matrix technique, the area of the contaminant plume is subdivided into a series of squares resembling the configuration of a checker-board. The *Cool-Ox™ Bio-Spunge™ Reactor* is then injected into the alternating squares (for example, only the black squares of the checker-board). This injection technique immediately reduces the treatment area by one-half there-by, instantly offering significant cost savings.



As depicted in the above figure, the injection point spacing that would normally be required to deliver sufficient *Cool-Ox™* reagents to oxidize the contaminants in the low permeability soil/groundwater matrix is maintained only in the treated squares. This assures that contaminant reductions will be accomplished in these areas and that the bio-fortified *Cool-Ox™* reagents will stimulate the accelerated proliferation of indigenous microbial degraders. This technique establishes a matrix of so called "clean zones" within the contaminant plume. As the groundwater slowly moves about within the plume area the *Cool-Ox™ Bio-Spunge™ Reactors* ultimately facilitate the mitigation of the groundwater. Periodic analysis of the groundwater will reveal if supplemental *Cool-Ox™* reagent injections are required.

Exhibit VI

Suggested Sampling Protocol

The sampling protocol proposed for this site requires that samples be collected prior to injection to establish a baseline. Thereafter, it is suggested that samples be collected one week, one month and sixty (60) days post injection after which, the usual quarterly sampling program can be resumed. This protocol will establish a curve meaningful to the progress of the remediation program.

Recommended Sampling Parameters

Bio Analysis:	Degrader Plate Count		
Lab. Analysis:	Target Contaminants	BOD	COD
	Nitrogen	Nitrate	Nitrite
	Phosphorus	TDS	Total Iron
	Bicarbonate	Chloride	Sulfate
	Sodium	Potassium	Calcium
	Magnesium		
	Cation / Anion Balance		
Field Measurements In-situ:	pH	Conductivity	Temperature
	ORP	DO	Water Level

Please note: Field measurements should be collected immediately before injection, twice daily during injection, and immediately after injection.